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INDONESIA

FINANCIAL SYSTEM STABILITY ASSESSMENT—PRESS RELEASE AND STATEMENT BY THE EXECUTIVE DIRECTOR FOR INDONESIA

June 2017

In the context of the Financial System Stability Assessment, the following documents have been released and are included in this package:

- A **Press Release** summarizing the views of the Executive Board as expressed during its May 24, 2017 consideration of the FSSA.
- The **Financial System Stability Assessment** (FSSA) for Indonesia, prepared by a staff team of the IMF for the Executive Board's consideration on May 24, 2017. This report is based on the work of a Joint IMF/WB Financial Sector Assessment Program (FSAP) mission to Indonesia during February 2017. The FSSA report was completed on May 9, 2017.
- A **Statement by the Executive Director** for Indonesia.

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IMF Executive Board Approves Indonesia's 2017 Financial System Stability Assessment

On May 24, 2017, the Executive Board of the International Monetary Fund (IMF) discussed the Financial System Stability Assessment (FSSA) of Indonesia.[1]

Since the 2010 Financial Sector Assessment Program (FSAP), Indonesia's macroeconomic performance has been robust and the financial system has been stable. The financial system has weathered well a simultaneous economic and credit deceleration. Corporate vulnerabilities have remained broadly in check, though debt at risk is elevated in some sectors and external refinancing risk persists. The banking system remains sound even though, as economic growth has slowed, banks' high profitability has fallen somewhat and problem loans have risen. Banks' capitalization remains strong and well above regulatory minima.

Indonesia's financial system is relatively shallow and dominated by banks belonging to financial conglomerates. Total financial system assets equal about 72 percent of GDP, three quarters of which reflect banks' assets. Financial conglomerates play a key role in the financial system and

[1] The Financial Sector Assessment Program (FSAP), established in 1999, is a comprehensive and in-depth assessment of a country's financial sector. FSAPs provide input for Article IV consultations and thus enhance Fund surveillance. FSAPs are mandatory for the 29 jurisdictions with systemically important financial sectors and otherwise conducted upon request from member countries. The key findings of an FSAP are summarized in a Financial System Stability Assessment (FSSA), which is discussed by the IMF Executive Board. In cases where the FSSA is discussed separately from the Article IV consultation, at the conclusion of the discussion, the Chairperson of the Board summarizes the views of Executive Directors and this summary is transmitted to the country's authorities. An explanation of any qualifiers used in a summing up can be found here: http://www.imf.org/external/np/sec/misc/qualifiers.htm.

pose a challenge for effective oversight. Capital markets are relatively thin, and external financing is important for long-term financing due to a small domestic investor base.

Systemic risk is low and the banking system appears generally resilient to severe shocks. Market based indicators point to relatively low levels of systemic risk. Under severe stress-test scenarios, banks experience sizable credit losses, particularly from corporate exposures, but high capital levels and strong profitability help to absorb most of these losses and the resulting capital shortfalls are modest. Many banks face relatively small shortfalls in liquidity stress tests, including in foreign currency, and these appear manageable for Bank Indonesia (BI).

The authorities have been pursuing an ambitious agenda to strengthen financial oversight and crisis management. Since the last FSAP, the authorities have implemented the Basel III capital framework, adopted a new insurance law, and improved supervisory practices across sectors. Importantly, in 2011, the Financial Services Authority (OJK) was established as an integrated regulator to oversee the entire financial sector. In addition, BI has developed analytical tools to assess systemic risk and has introduced several macroprudential instruments. The framework for crisis management and resolution, and safety nets was revamped in 2016 under the new Prevention and Resolution of Financial System Crisis Law (PPKSK Law).

The FSAP took stock of the progress that has been made and identified areas where further progress will be needed. Notably, the mandates for OJK supervision and BI's macroprudential policy do not give clear primacy to financial stability over developmental objectives and this can undermine timely actions. Further, although legal protection for staff and agencies involved in oversight and crisis management has been strengthened with recent reforms, it is not in line with best international practice and risks causing inaction bias. On supervision. the main remaining challenges to effective supervision stem from the complex structure and weak governance practices of financial conglomerates and OJK's capacity to supervise them, silos in OJK's internal structure, and an insufficiently intrusive supervisory approach across sectors. As for the improved crisis management framework, the role of the Financial System Stability Committee in designing resolution strategies and directing member agencies in implementing them as well as the important role envisaged for the President of Indonesia in crisis management risk diluting the responsibility of relevant agencies in taking swift action. Also, the new framework rules out the

use of public funding in resolution which can be overly constraining. Finally, the restrictive criteria for providing emergency liquidity assistance risk making it ineffective in crisis.

Executive Board Assessment[2]

Executive Directors agreed with the findings and the key recommendations of the FSSA. They commended the Indonesian authorities for undertaking major reforms since the 2010 assessment, notably the integration of financial sector supervision, the upgrading of the crisis management and resolution framework, and the implementation of Basel III. Directors encouraged the authorities to build on this progress by implementing the recommendations of the FSSA to further enhance financial sector resilience, while also promoting financial deepening and inclusion based on a clear roadmap.

Directors welcomed the findings that systemic risk is low and that the banking system appears generally resilient even to severe shocks. They nevertheless emphasized the need to closely monitor systemic risks and remain vigilant to events that can disrupt financial stability. Directors also recommended that the authorities implement liquidity requirements in foreign currency, carefully monitor special mention and restructured loans, and improve loan classification and provisioning.

Directors stressed the importance of interagency cooperation in financial oversight and crisis management, and welcomed in this regard the establishment of the OJK. They concurred that legislative amendments would be useful to clarify institutional responsibilities for OJK and BI that prioritize financial stability over development objectives, include a macroprudential mandate for BI, reduce overlap in supervisory activities, and improve legal protection for staff involved in supervision and crisis management.

Directors saw a need to strengthen the framework for supervising financial conglomerates given their systemic importance in Indonesia. Achieving effective, risk based supervision of

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[2] At the conclusion of the discussion, the Chairman of the Board, summarizes the views of Executive Directors, and this summary is transmitted to the country's authorities. An explanation of any qualifiers used in summing up can be found here: http://www.imf.org/external/np/sec/misc/qualifiers.htm.

conglomerates will require broad based efforts, including through legislative changes, improved corporate governance, and more integrated supervisory processes.

Directors noted that the adoption of the Prevention and Resolution of Financial System Crisis Law represents an important improvement to the framework for crisis management and resolution. Further efforts to enhance its effectiveness should include refining the emergency liquidity assistance framework, clearly defining the roles of the President and the Financial System Stability Committee in crisis management, and allowing for public funding of resolution in limited circumstances justified by systemic stability considerations and under appropriate safeguards.

Directors welcomed the progress in enhancing the framework for anti-money laundering and combating the financing of terrorism. They looked forward to continued efforts to address remaining deficiencies and align the framework with the revised Financial Action Task Force standard.

INTERNATIONAL MONETARY FUND

INDONESIA

FINANCIAL SYSTEM STABILITY ASSESSMENT

May 9, 2017

Approved By
James Morsink and Kenneth Kang

Prepared By
Monetary and Capital Markets Department

This report is based on the work of the Financial Sector Assessment Program (FSAP) mission that visited Indonesia in September-October 2016 and February 2017. The report is to be discussed at the Board as a standalone Financial System Stability Assessment in May 2017.

- The FSAP team was led by Ulric Eriksson von Allmen (International Monetary Fund (IMF), and Erik Feyen, World Bank (WB), and included Javier Hamann (IMF) and Mariano Cortes (WB) as deputy mission chiefs, Prasad Ananthakrishnan, Mariam El Hamiani Khatat, Caio Ferreira, Phakawa Jeasakul, Heedon Kang, Jonathan Pampolina, Jongsoon Shin, Nobu Sugimoto, and Daina Vasermane (all IMF); Geof Mortlock (IMF expert); John Laker (IMF-World Bank expert); Nagavalli Annamalai, Laura Ard, Ana Maria Aviles, Pietro Calice, Anderson Caputo Silva, Jose Antonio Gragnani, Harish Natarajan, Rajeev Swami, Mahesh Uttamchandani, and Igor Zuccardi (all WB); Stefanus Handoyo (International Finance Corporation); and Anthony Randle (WB expert).

- The mission met with Finance Minister Sri Mulyani Indrawati, then-Finance Minister Bambang Brodjonegoro, Bank Indonesia Governor Agus Martowardojo, Financial Services Authority (OJK) Chairman Muliaman Hadad, Deposit Insurance Corporation (LPS) Chairman Halim Alamsyah, and other officials, representatives from financial institutions, and market participants.

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

- This report was prepared by Ulric Eriksson von Allmen and Javier Hamann, with contributions from the members of the FSAP team.

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Glossary

ALM	Asset and Liability Mismatch
AML/CFT	Anti-Money Laundering/Combating the Financing of Terrorism
BI	Bank Indonesia (central bank)
BCP	Basel Core Principles for Effective Banking Supervision
BoC	Board of Commissioners
BoD	Board of Directors
BRP	Bank Restructuring Program
DFS	Digital Financial Services
D-SIB	Domestic Systemically Important Bank
ELA	Emergency Liquidity Assistance
EM	Emergency Market
EWI	Early Warning Indicators
FATF	Financial Action Task Force
FC	Financial conglomerate
FMI	Financial Market Infrastructure
FSAP	Financial Sector Assessment Program
FSB	Financial Stability Board
FSI	Financial Soundness Indicators
GDP	Gross Domestic Product
IAIS	International Association of Insurance Supervisors
ICP	Insurance Core Principles
Key Attributes	FSB Key Attributes of Effective Resolution Regimes for Financial Institutions
KSSK	Financial System Stability Committee
KUR	People's Business Loan Program
LCR	Liquidity Coverage Ratio
LPS	Lembaga Penjamin Simpanan (Indonesia Deposit Insurance Corporation and also the bank resolution agency)
LPS Law	Law of the Rep. of Indonesia Regarding Indonesia Deposit Insurance Corp., No. 24 2004
ML	Money Laundering
MoU	Memorandum of Understanding
MSME	Micro, Small, and Medium-sized Enterprises
NBFIs	Non-Bank Financial Institutions
NPL	Non-Performing Loans
OJK	Otoritas Jasa Keuangan (Financial Services Authority)
OJK Law	Law of the Republic of Indonesia on Financial Services Authority, No. 21 2011
RAM	Risk Assessment Matrix
RWA	Risk-Weighted Assets
PPKSK Law	Prevention and Resolution of Financial System Crisis Law, No. 9 2016
TF	Terrorism Financing

EXECUTIVE SUMMARY

Since the 2010 FSAP, Indonesia's macroeconomic performance has been robust and the financial system has been stable. Recently, the financial system has weathered well a simultaneous economic and credit deceleration. Corporate vulnerabilities have remained broadly in check, though debt-at-risk is elevated in some sectors and external refinancing risk persists. The banking system remains sound even though, as economic growth has slowed, banks' high profitability has fallen somewhat and problem loans have risen. Banks' capitalization remains strong and well above regulatory minima.

Indonesia's financial system is relatively shallow and dominated by banks belonging to financial conglomerates. Total financial system assets equal about 72 percent of GDP, three quarters of which reflect banks' assets. Financial conglomerates play a key role in the financial system and pose a challenge for effective oversight. Capital markets are relatively shallow, and external financing is important for long-term financing due to a small domestic investor base.

Systemic risk is low and the banking system appears generally resilient to severe shocks. Market based indicators point to relatively low levels of systemic risk. Under severe stress test scenarios, banks experience sizable credit losses, particularly from corporate exposures, but high capital and strong profitability help to absorb most of these losses and the resulting capital shortfalls are modest. Many banks face relatively small shortfalls in liquidity stress tests, including in foreign-currency, and these appear manageable for Bank Indonesia (BI).

The authorities have been pursuing an ambitious agenda to strengthen financial oversight and crisis management. Although the financial system is relatively shallow and appears resilient to shocks, it is likely to grow as the authorities are actively promoting financial deepening and inclusion and, in that context, it is important to strengthen further also the oversight and crisis management frameworks. Since the last FSAP, the authorities have implemented Basel III, adopted a new insurance law, and improved supervisory practices across sectors. Importantly, in 2011, the Financial Services Authority (OJK) was established as an integrated regulator to oversee the entire financial sector. In addition, BI has developed analytical tools to assess systemic risk and has introduced several macroprudential instruments. The framework for crisis management and resolution, and safety nets was revamped in 2016 under the new Prevention and Resolution of Financial System Crisis Law (PPKSK Law). In 2016, BI also started reforming its liquidity management framework to spur money market deepening.

The FSAP identified several areas where further improvements will be needed. The following are particularly important:

- **Mandates and legal protection.** The mandates for OJK and BI should be amended to give clear primacy to financial stability over developmental objectives. Clearer division of labor and responsibilities across agencies would also help reduce redundancies and foster collaboration across agencies. Furthermore, although legal protection for staff, agencies, and contractors

involved in oversight and crisis management has been strengthened with recent reforms, it still needs to be brought in line with best international practice.

- **Supervision**. OJK has managed its initial transition period well but further effort is needed to break internal silos in OJK and this will require a change in the structure of its Board of Commissioners. OJK also needs to promote a more intrusive supervisory approach across sectors, including rigorous evaluation of financial institutions' risk management and internal audit functions. For effective oversight of financial conglomerates, it needs to be able to oversee conglomerates regardless of their organizational structure. There is also a need to improve governance and risk management in financial conglomerates.

- **Safety nets.** The new crisis management and resolution framework, particularly the creation of a high-level Financial System Stability Committee (KSSK), is an important improvement. However, the KSSK should focus on coordination and it should not have the power to direct member agencies in their respective areas of responsibility. Also, the new framework rules out the use of public funding in resolution which might be overly constraining in certain circumstances. Further, the President of Indonesia has a central role in crisis management—the President decides whether Indonesia is experiencing a financial crisis and whether the deposit insurance corporation (LPS), which is also the bank resolution agency, should be allowed to use a broader set of resolution tools (e.g., bail-in). To avoid diluting the responsibility of LPS and the KSSK to deal swiftly with resolution, the authorities should consider revising the new law to narrow the role of the President to issues involving public funding. Finally, the emergency liquidity assistance framework needs to be adjusted to ensure its effectiveness.

The authorities' objective to deepen financial markets while protecting stability would be well served by an integrated roadmap. The roadmap could draw on the different plans that already exist, complemented with measures focusing on strengthening the institutional framework, such as creditor rights, tax issues, and debt restructuring practices. Such a roadmap would help coordination among the various agencies involved in promoting financial deepening and inclusion.

Table 1. FSAP Key Recommendations

Key Recommendations	Time
Institutional and legal arrangements	
Revise OJK Law to give primacy to objective of safeguarding stability, BI Law to include a financial stability and macroprudential policy mandate focused on systemic risk of the financial system, with access to data; and LPS Law to focus objectives on the maintenance of financial stability, continuity of critical functions, protection of insured deposits, and minimization of resolution costs. ¶32, 38, 43	Medium term (MT)
Amend the Insurance Law to specify policyholder protection as principal objective of OJK. ¶43	MT
Strengthen legal protection of supervisors and officials of all agencies involved in financial oversight and crisis management in line with global standards. ¶32, 43	MT
Systemic risk monitoring and prudential policy	
Strengthen BI's capacity for systemic risk analysis and macroprudential stress tests, and OJK's capacity for regulatory stress tests; OJK should do bottom-up stress tests for D-SIBs regularly. ¶24	Near term (NT)
Introduce a foreign currency liquidity coverage ratio. ¶23	NT
Financial sector oversight	
Reduce OJK's silo structure, including by revising the OJK Law to remove the responsibilities of individual Commissioners for the supervision of specific sectors. ¶31	MT
Strengthen the banking supervisory approach and continue enhancing supervisory practices for financial conglomerates. ¶34	NT
Further strengthen the enforcement of credit and risk management regulations. ¶35	MT
Revise the insurance supervisory framework (three strikes-approach) to allow prompt actions. ¶37	MT
Governance of financial conglomerates	
Strengthen corporate governance practices within the financial system, including the BoC's oversight roles and responsibilities. ¶29	MT
Introduce legal provisions for licensed non-operating financial holding companies. ¶28	MT
Crisis management and resolution, and safety nets	
Revise the PPKSK Law to clarify the role of the KSSK as solely a coordination body; limit the involvement of the President to approving public funding. ¶43	MT
Adjust the emergency liquidity assistance framework to ensure it is effective. ¶48	NT
Amend the relevant laws to ensure that resolution powers can be exercised over financial conglomerates. ¶45	MT
Develop resolution options and implementation guidelines for banks, and resolvability assessment and resolution planning frameworks for D-SIBs. ¶45	NT
Financial integrity	
Integrate key ML/TF risks in the priorities and operations of relevant agencies. ¶41	NT
Finalize and implement risk-based AML/CFT supervisory tools. ¶41	NT
Financial deepening and inclusion	
Develop an integrated roadmap for promoting financial deepening and inclusion. ¶50	MT
Enhance bond yield curve by consolidating debt issuance and improving secondary markets. ¶53	MT

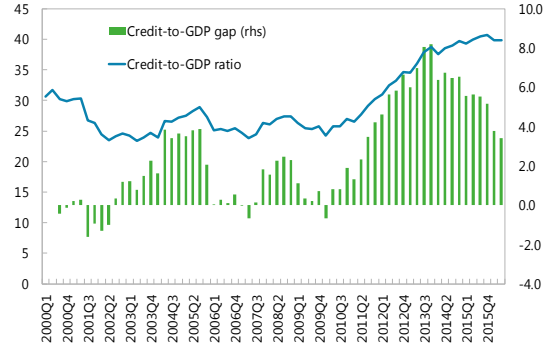
BACKGROUND

A. The Macrofinancial Context

1. Macroeconomic performance since the 2010 FSAP has been robust, supported by a sound policy framework. Growth has remained strong at around 5-6 percent. Macroeconomic imbalances have been kept in check, capital flows have remained generally supportive despite bouts of volatility, and financial stability has been preserved. The exchange rate and bond yields have been allowed to adjust broadly in line with market conditions but with Bank Indonesia (BI) occasionally intervening in foreign exchange and bond markets to prevent disorderly conditions. Monetary policy has responded to inflationary and balance of payments pressures, and macroprudential policy was tightened to contain rapid mortgage loan growth and moderate housing price increases. The government has kept the fiscal deficit below the statutory 3 percent of GDP ceiling.

2. In recent years, the economy has navigated well a simultaneous economic and financial cyclical deceleration. The slowdown began in 2013, led by a decline in commodity prices, and bottomed out in 2015; a small rebound in 2016 is projected to continue over the medium term (Appendix I). As inflationary pressures eased, BI relaxed monetary policy in 2016. Credit growth peaked in 2011, and the credit-to-GDP gap has been falling steadily since 2013 (Figure 1). In line with the easing credit cycle, housing prices have decelerated (and appear to be in line with fundamentals) and loan quality has deteriorated, and BI partly unwound the earlier macroprudential policy tightening. Household bank debt has remained low at 17 percent of GDP.

Figure 1. Credit-to-GDP Ratio and Gap
(in percent)



Sources: BIS and IMF staff calculations.

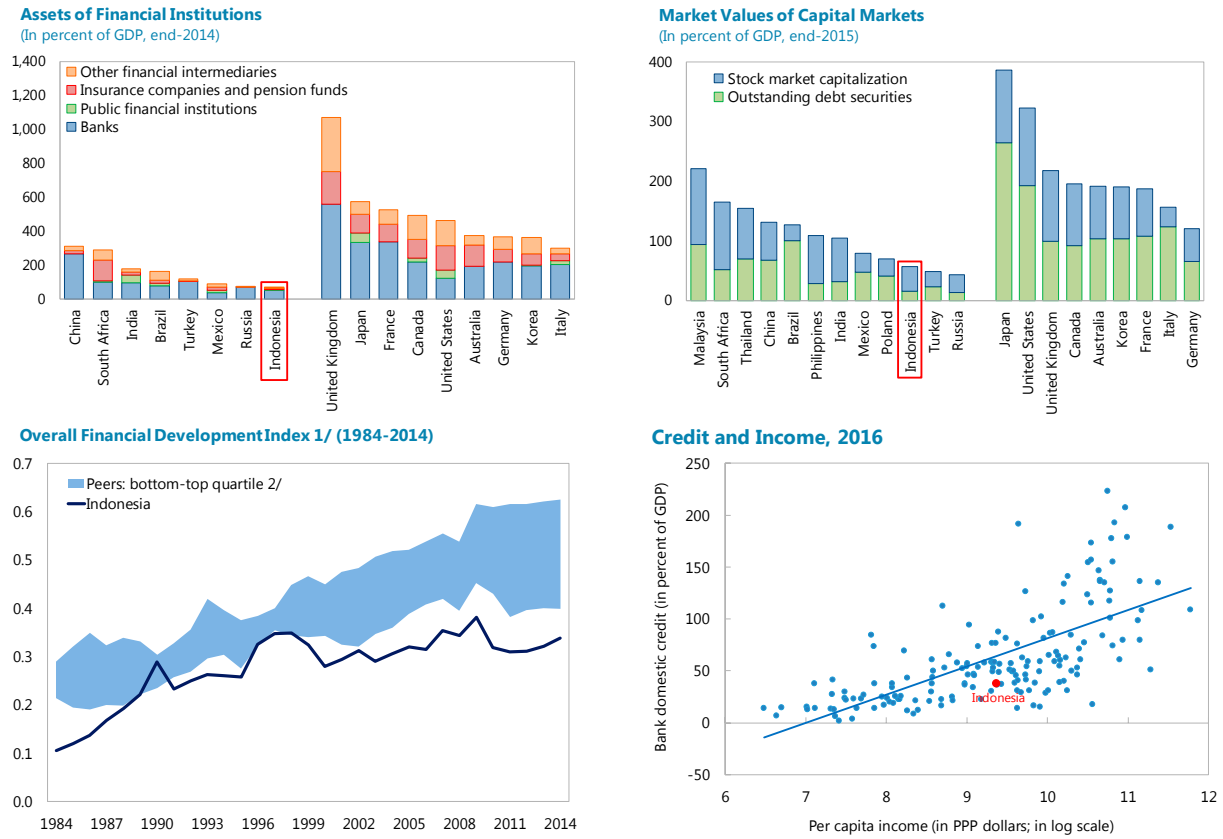
3. The government launched an ambitious infrastructure program in 2015 that will require substantial financing. The plan entails investments of roughly US$450 billion (about 50 percent of GDP) in 2015-19. To finance it, the government is seeking to mobilize a broad investor base, including domestic institutional investors, and introduce new financial instruments, e.g., long-term infrastructure bonds. Fostering financial deepening without compromising prudential standards is a key challenge for Indonesia.

B. Financial Sector Structure

4. The financial system is relatively small and dominated by banks. At end-2015, financial sector assets equaled 72 percent of GDP, smaller than in emerging market (EM) peers (Figure 2). Bank assets equal 55 percent of GDP, while assets of insurance companies, the second largest category, equal 7 percent of GDP (Table 2). However, nonbank financial institutions (NBFIs) are growing fast: in the ten years to 2015, total assets of financial institutions grew by some

8 percentage points of GDP, with more than half of the increase contributed by NBFIs, particularly insurance companies. Life insurance accounts for the largest share of the insurance market.

Figure 2. Selected Countries: Size of Financial System and Financial Development



Sources: BIS Debt Securities Statistics; Bloomberg; FSB 2015 Global Shadow Banking Report; IMF World Economic Outlook database; Statistics Indonesia; IMF Staff Discussion Note 15/08; and IMF staff estimates.

1/ Sahay and others (2015) developed two sets of three sub-indices that summarize how developed financial institutions and financial markets are in terms of their depth, access, and efficiency, culminating in a composite index of financial development, so called Financial Development Index. It is in the range between 0 and 1, with a higher value representing more advanced stages of financial development.

2/ Peers include Brazil, China, India, Malaysia, Mexico, the Philippines, Poland, Russia, South Africa, Thailand, and Turkey.

5. Financial conglomerates (FCs) play a key role in the financial system. Forty-nine FCs account for 70 percent of aggregate assets of financial institutions. Bank-led FCs hold over 90 percent of FC assets, and include insurance companies, securities firms, and finance companies. More than half of FCs have a horizontal structure with an unregulated holding company that controls the group.

Table 2. Financial System Structure

	Size								
	In percent of GDP			In percent of aggregated assets of financial institutions			Number of institutions		
	2005	2010	2015	2005	2010	2015	2005	2010	2015
Financial institutions: Total assets	**63.4**	**59.9**	**71.7**	**100.0**	**100.0**	**100.0**	**3,258**	**3,103**	**3,671**
Deposit-taking institutions	52.0	45.6	55.4	82.1	76.1	77.3	2,143	1,828	1,755
Of which, commercial banks	51.3	44.9	54.5	81.0	75.0	76.1	134	122	118[1/]
Of which, stated-owned banks	18.7	16.3	20.0	29.5	27.1	28.0	5	4	4
Other non-bank financial institutions	11.3	14.3	16.3	17.9	23.9	22.7	1,115	1,275	1,916
Insurance companies	4.4	5.9	7.2	6.9	9.9	10.0	157	142	137
Pension funds	2.2	1.9	1.8	3.5	3.2	2.5	312	272	260
Mutual funds	1.0	2.2	2.4	1.5	3.7	3.3	293	559	1,091
Financing intermediaries	3.2	3.4	4.1	5.0	5.7	5.7	236	194	266
Other non-bank financial institutions	0.7	0.9	0.8	1.1	1.5	1.2	117	108	162
Financial markets: Market values									
Outstanding debt securities	15.5	14.1	15.7	...	...	...	...	...	...
Stock market capitalization	26.0	47.2	40.8	...	...	...	...	...	...
Memo item:									
Sharia financing	0.7	1.4	2.6	1.1	2.4	3.6	21	34	34
Sharia banks	0.6	1.2	1.8	0.9	1.9	2.6	3	11	12
Conventional banks with Sharia financing units	0.1	0.3	0.7	0.2	0.4	1.0	18	23	22

Sources: OJK; Bloomberg; BIS Debt Securities Statistics; and IMF staff estimates.

1/ One foreign bank branch was closed at the end-February 2017, and the number of commercial banks is now 117.

6. Indonesia's banking system is not as highly concentrated as those in other EMs but it features large state-owned commercial banks. The four largest banks—three of which are majority-owned by the government—account for almost half of banking system assets, and most other banks are medium-sized or small (Table 3). Banks designated as domestic systemically important banks (D-SIBs) account for about 65 percent of banking system assets. It takes slightly more than 20 banks to account for a market share of 80 percent. Four state-owned banks and 26 regional development banks (partly owned by regional governments) account for nearly half of banking system assets. Private banks are diverse in terms of size, business models, and ownership, with nine foreign subsidiaries and 31 foreign branches.

Table 3. Structure of the Banking System

(In percent of banking system assets; as of 2016Q3)

	Top four	All D-SIBs	Medium-sized[1/]	Small-sized[1/]	Micro-sized[1/]	Total
Private bank	10.1	26.6	10.2	6.4	2.4	45.6
o/w: Foreign bank subsidiary	0.0	10.2	5.5	4.1	0.4	20.2
State-owned bank	35.4	38.5	0.0	0.0	0.0	38.5
Regional development bank	0.0	0.0	3.8	3.8	0.9	8.5
Foreign bank branch	0.0	0.0	5.8	1.5	0.1	7.4
Total	45.5	65.1	19.7	11.8	3.4	100.0

Sources: OJK; and IMF staff estimates.

1/ Medium-size, small-size, and micro-size banks comprise banks whose total assets are between 40 billion and 100 billion, 10 billion and 40 billion, and less than 10 billion rupiah as of 2016Q3, respectively.

7. Direct exposures across banks are limited, and the unsecured interbank and repo markets are thin. Banks manage their liquidity through operations in the unsecured interbank market and the repo market. Banks with licenses to operate in foreign currency rely on operations in the foreign exchange swap market (dominated by foreign banks). However, these markets are shallow (interbank market exposures amount only to 3 percent of banks' assets) and many (mostly smaller) banks lack the capacity to engage in repo transactions and lack access to the foreign exchange swap market. Banks also place excess liquidity in various BI instruments and facilities, and the volume of BI liquidity absorbing operations dwarfs interbank market turnover.

8. Local capital markets are relatively shallow and have a strong foreign presence, making them sensitive to shifts in global market sentiment. At end-2015, outstanding domestic debt securities and stock market capitalization equaled 16 and 41 percent of GDP. The local bond market is dominated by rupiah-denominated government securities and foreign investors hold 38 percent of government securities, higher than most EMs (the average for Asia is 26 percent). This combination of shallow markets and high foreign participation can act as an amplifier of financial market volatility.

SYSTEMIC RISK ASSESSMENT

A. Banks' Financial Health

9. Reported capital ratios have increased in recent years and are well above regulatory minima. The capital ratio for the system was 20.6 percent in the third quarter of 2016, comfortably above regulatory requirements (Table 4 and Appendix II). D-SIBs hold a similar level of regulatory capital and, despite being subject to higher regulatory requirements, still enjoy buffers of some 10 percentage points of risk-weighted assets (RWA). Over 90 percent of bank capital is in the form of high-quality common equity tier-1 capital.

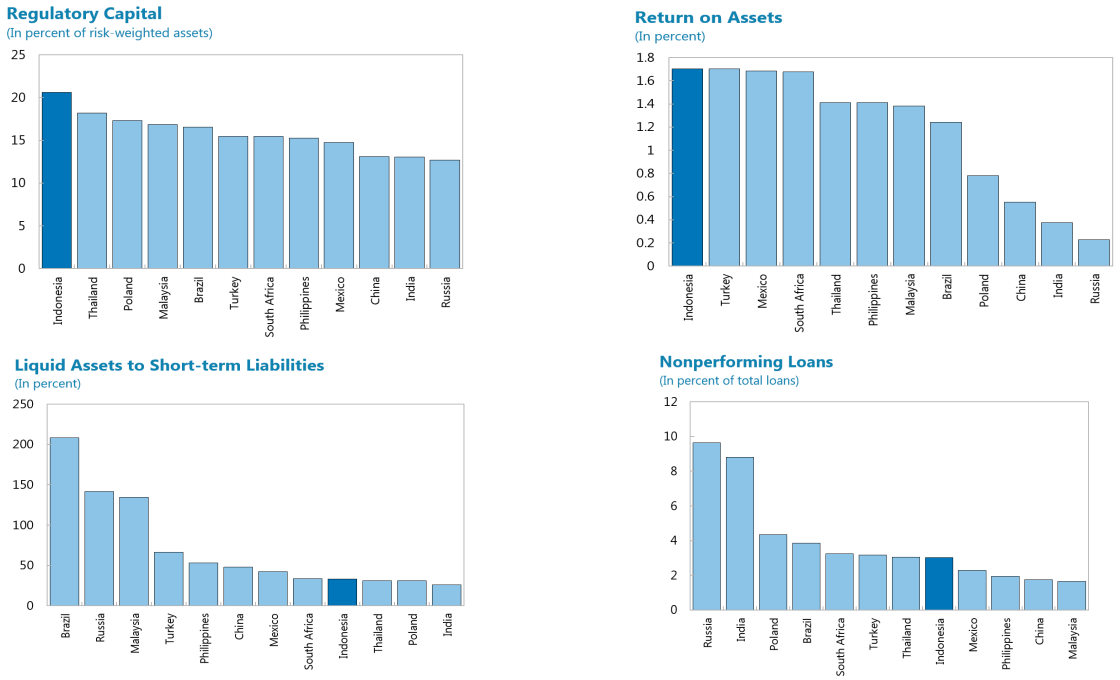
Table 4. Banking Financial Soundness Indicators
(In percent)

	2010	2011	2012	2013	2014	2015	2016Q3
Capital adequacy							
Regulatory capital to risk-weighted assets	16.2	16.1	17.3	19.8	18.7	21.3	20.6
Regulatory Tier-1 capital to risk-weighted assets	15.1	14.7	15.7	18.3	17.8	18.8	20.6
Capital to assets	10.7	11.0	12.2	12.5	12.8	13.6	15.0
Asset quality							
Nonperforming loans to total gross loans	2.5	2.1	1.8	1.7	2.1	2.4	3.0
Nonperforming loans net of provisions to capital	6.1	4.7	4.7	4.6	5.5	5.9	6.1
Earning and profitability							
Return on assets	2.7	2.9	3.1	3.1	2.7	2.2	1.7
Return on equity	25.9	25.4	25.3	24.5	21.3	17.3	11.7
Liquidity and funding							
Liquid assets to short-term liabilities	32.1	31.2	36.4	30.5	33.3	35.0	33.1
Non-interbank loans to customer deposits	81.6	85.5	94.1	100.5	99.9	100.4	99.2

Sources: IMF, Financial Soundness Indicator database; BI; and IMF staff estimates.

10. Profitability is high and has evolved in line with the economic cycle. With return on assets averaging 2.7 percent over the past decade, Indonesian banks are very profitable compared with banks in other EMs (Figure 3). Profits are driven largely by net interest income, and vary markedly across banks. The four largest banks and public regional banks are among the most profitable, likely reflecting the former's extensive banking network and the latter's business relations with regional governments. At the other end of the spectrum, some D-SIBs and a large group of micro-sized banks (about 50 banks accounting for 3½ percent of banking system assets) have low profitability. Profitability has declined recently as the economy has slowed; system-wide return of assets was 1.7 percent in 2016Q3, down by 0.5 percentage point from a year earlier.

Figure 3. Banking Financial Soundness Indicators among Emerging Market Peers[1]

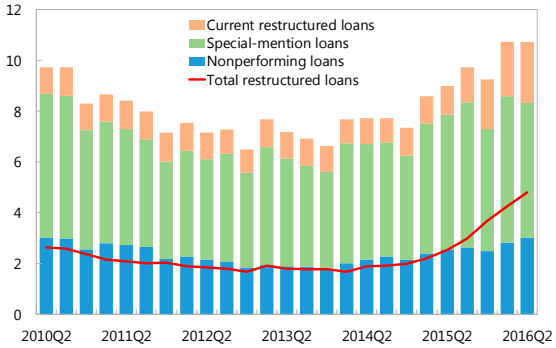


Sources: IMF, Financial Soundness Indicators database; and IMF staff estimates.

1/ As of 2016Q3, except Brazil (2016Q2), China (2016Q1), and Turkey (2016Q1).

11. Asset quality has deteriorated as economic activity decelerated, and headline numbers may understate the extent of the deterioration. Nonperforming loans (NPLs) have increased, particularly in the commodity-related and manufacturing sectors, from 1.7 percent in 2013 to 3 percent in late 2016. In addition, special-mention loans have remained high in recent years (around 4-5½ percent of total loans), and there has been an increase in restructured loans of about 2½ percent of total loans since June 2015, most of which are not classified as NPLs (Figure 4).

Figure 4. Problem Assets, 2010-16



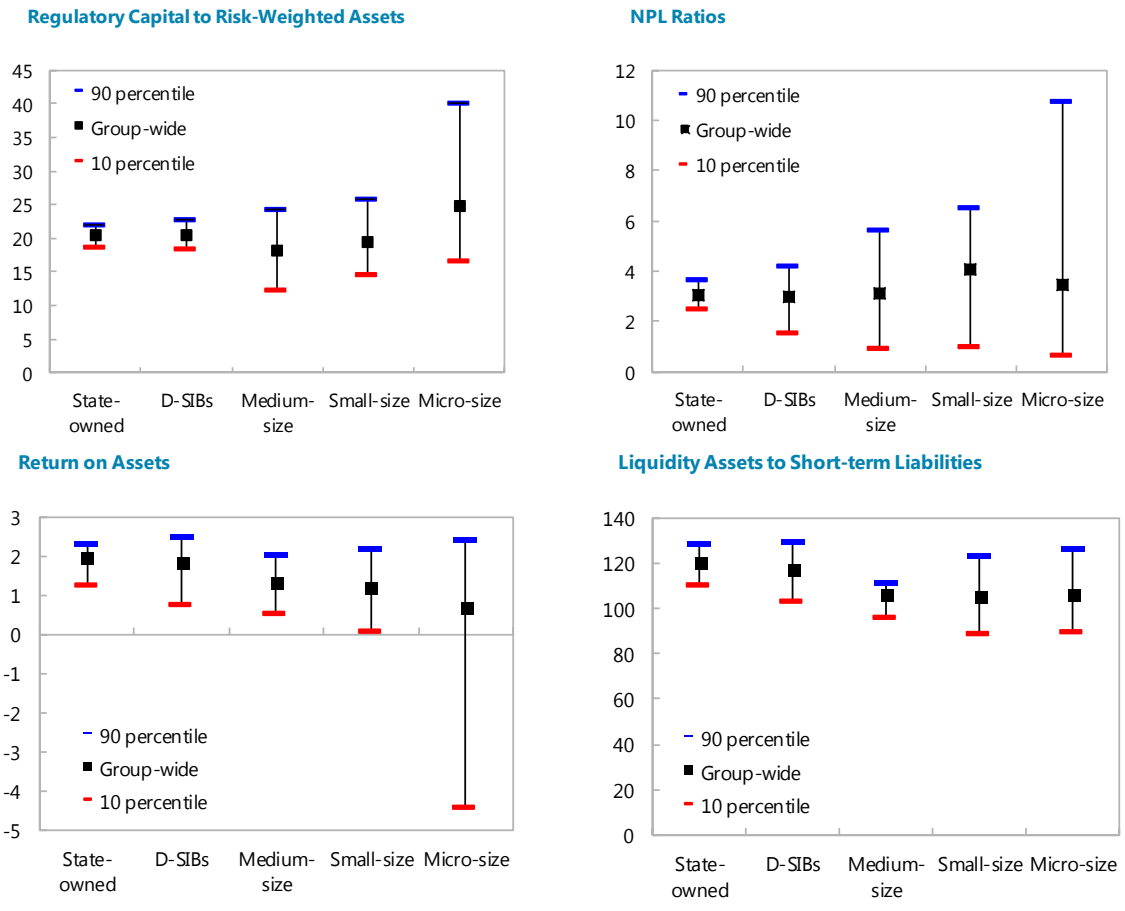
Sources: OJK and IMF staff estimates.

12. Bank's liquidity ratios have been largely stable through the economic and financial cycles. Liquid assets relative to short-term liabilities have fluctuated around 33 percent in recent years with no clear trend. The system-wide loan-to-deposit ratio has also been stable since mid-2013, reflecting banks' reliance on deposits for funding. Structurally, banks rely on short-term deposits for funding; nearly 90 percent of deposits have a maturity of less than 90 days.

13. There are important differences in financial soundness indicators (FSIs) across banks (Figure 5). Larger banks, on average, tend to have lower NPLs and stronger profits, although the profitability of some D-SIBs is relatively low. Liquidity indicators of the larger banks, including state-owned banks, also appear solid, while those of smaller banks look weaker on average (with a relatively large dispersion). Overall, the wider dispersion of FSIs among medium-sized and smaller banks points to potential pockets of vulnerability in those segments.

Figure 5. Banking Financial Soundness Indicators by Group of Banks

(In percent; as of 2016Q3)

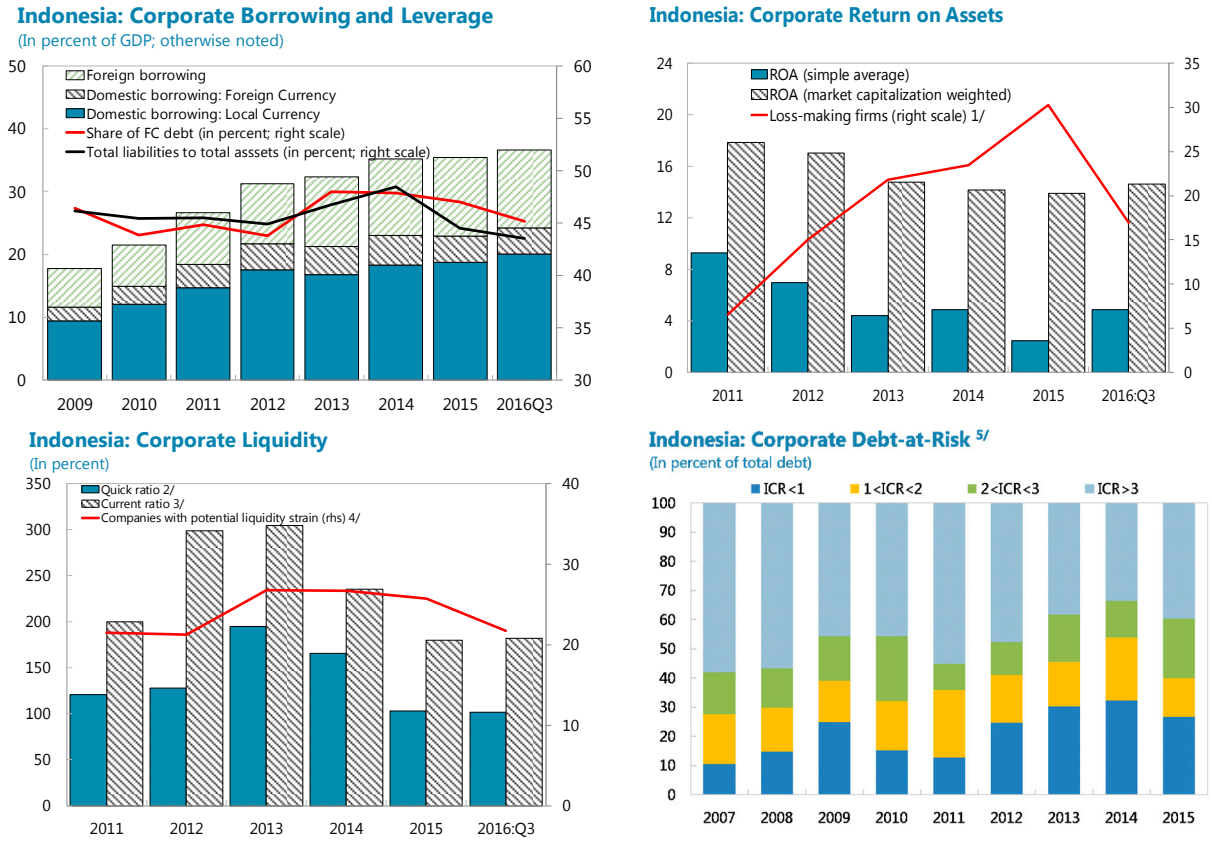


Sources: BI; and IMF staff calculation.

B. Corporate Vulnerabilities

14. Corporate vulnerabilities have remained broadly in check, but some risks remain. Corporate leverage remains moderate and has declined further in 2016, along with a slight decline in foreign-currency denominated debt, partly aided by the implementation of BI hedging regulations (Figure 6). Profitability has rebounded somewhat and the share of loss-making firms has declined. Still, important vulnerabilities remain in the form of relatively high debt-at-risk—particularly in the commodities, construction, and transportation sectors, a high share of foreign currency-denominated debt securities, and an increase in rollover needs in coming years.

Figure 6. Corporate Sector Performance



Sources: Bloomberg L.P.; CEIC; Orbis Database; and IMF staff estimates.

1/ In percent of assets

2/ Quick ratio = (Cash + Marketable Securities + Accounts Receivable)/Current Liabilties × 100.

3/ The ratio of current assets to current liabilities.

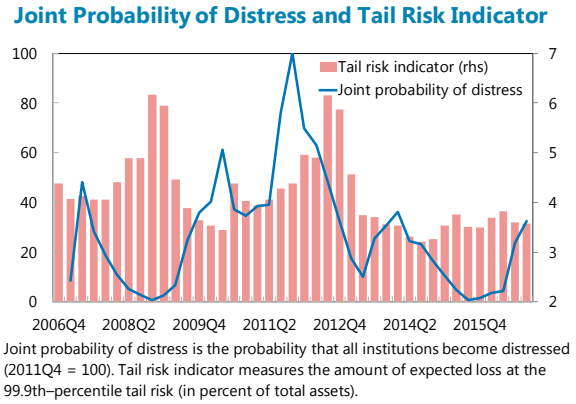
4/ In percent of assets; with the current ratio less than 100.

5/ Interest coverage ratio (ICR) = EBIT/interest expenses.

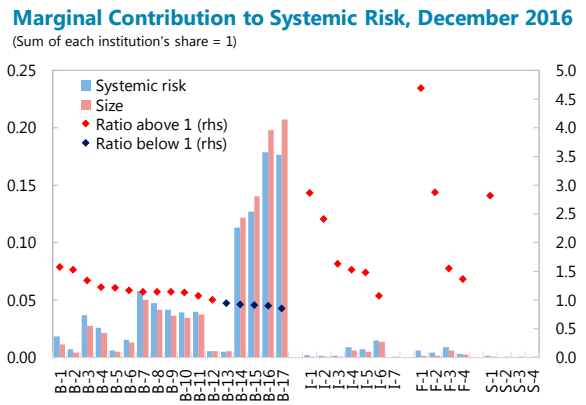
C. Market Perceptions of Systemic Risk

15. Market data suggest that systemic risk is low. Figure 7 shows indices of systemic risk and its main drivers calculated using market data for 32 financial institutions. While the probability that several financial institutions experience distress simultaneously has risen recently, the tail-risk indicator, which measures the magnitude of the expected losses in the event of distress, has remained broadly unchanged at a low level. These findings, which should be interpreted with caution given the shallowness of Indonesia's stock market and the low float rates of some financial institutions' shares, suggest that the financial institutions perceived as experiencing higher levels of stress are small.

Figure 7. A Bird's-Eye View on Systemic Risk[1]



Joint probability of distress is the probability that all institutions become distressed (2011Q4 = 100). Tail risk indicator measures the amount of expected loss at the 99.9th–percentile tail risk (in percent of total assets).



Sources: Bloomberg; Moody's KMV; and IMF staff estimates.
1/ The analysis is based on the "Surveillance of Systemic Risk and Interconnectedness" approach. See Segoviano and Goodhart (IMF WP/09/4) and Technical Note on Systemic Risk and Interconnectedness Analysis, 2016 United Kingdom FSAP (IMF Country Report No. 16/164). The sample includes 17 banks, 7 insurance companies, 4 finance companies, and 4 securities/investment companies.

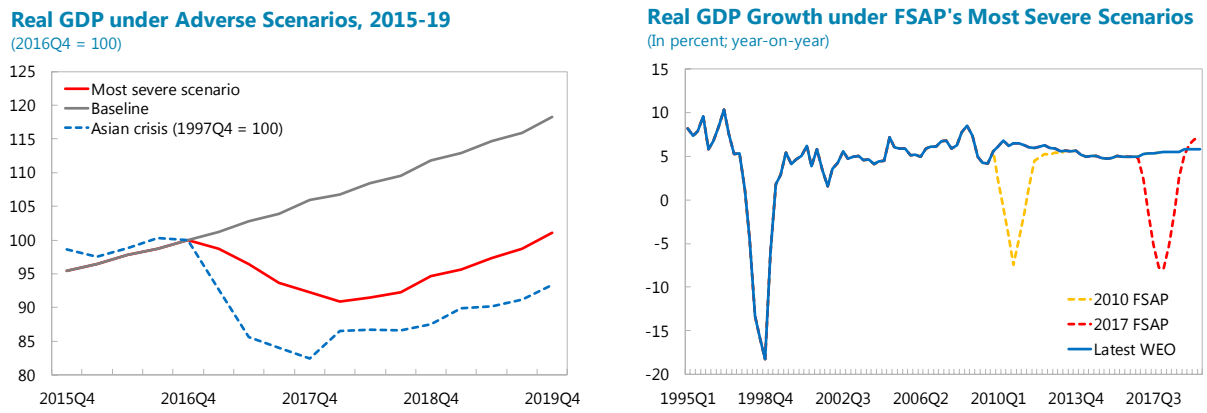
16. Large banks are the main drivers of systemic risk but some appear to play a stabilizing role in periods of stress. The systemic importance of the four largest banks is illustrated by their potential to generate stronger cascade effects (i.e., the ability to bring other institutions under distress) than other D-SIBs and nonbanks in absolute terms. While most banks' contributions to systemic risk are in line with their size, the contribution of the largest four banks is smaller than their size, suggesting that they tend to mitigate rather than amplify risks in times of stress. Spillovers from nonbanks to banks, though increasing over time, remain limited.

D. Banking Sector Stress Tests

17. The analysis of financial sector resilience focused on banks, given their dominant role in the financial system, and was underpinned by three adverse scenarios (Figure 8 and the Risk Assessment Matrix, Appendix III). Each scenario is driven mainly by external shocks, which may affect the Indonesian economy through cross-border trade and banking linkages and international financial markets. Their initial impacts are amplified by domestic structural factors (particularly shallow capital markets with a strong presence of large foreign investors) and existing vulnerabilities.

The analysis includes solvency stress tests (top-down covering all 117 banks and bottom-up administered by OJK for the D-SIBs), three types of liquidity stress tests, contagion and interconnectedness analyses, and corporate vulnerability analysis (Appendix IV). The stress test results presented below are based on the most severe scenario in which real GDP deviates by 17 percentage points from the baseline by 2018 (equal to 2.4 standard deviations).

Figure 8. Macrofinancial Scenarios for the Risk Analysis[1]



Sources: IMF, World Economic Outlook database; and IMF staff estimates.

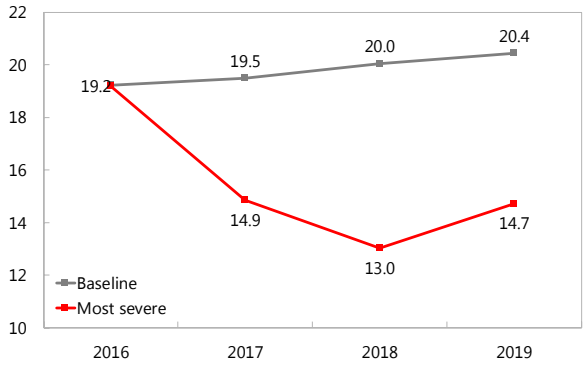
1/ The baseline scenario is based on October 2016 WEO projections. The adverse scenarios are simulated using the Global Macrofinancial Model.

18. The banking system is broadly resilient to the shocks even under the most adverse scenario (Figure 9). Under this scenario, and as analyzed later, the corporate sector would experience significant stress and contribute to an increase in the NPL ratio to almost 19 percent in 2018. The banking system would experience sizable losses (13 percent of RWA), driven by credit losses (12 percent of RWA). Thirty-eight banks accounting for a third of banking system assets would fail to meet the hurdle (minimum capital requirements, and Pillar II and D-SIB surcharges as relevant). However, the aggregate capital shortfall is relatively small at 0.7 percent of GDP.

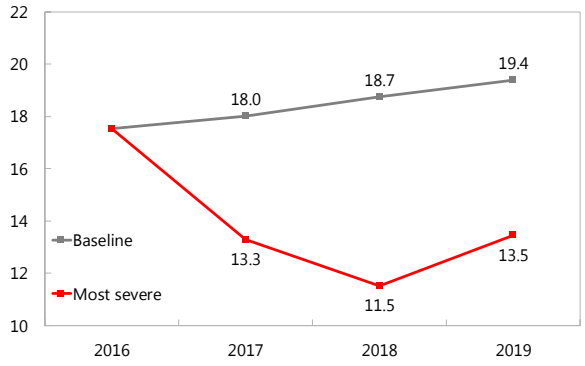
19. However, these results are sensitive to the stress tests' concept of problem loans and the assumption on net interest rate margins. As mentioned earlier, headline NPLs may understate the extent of asset quality deterioration. The FSAP team therefore ran an additional test (Table 5), which assumes that all restructured loans not classified as NPLs as well as all special-mention loans become NPLs, and brings the loan-loss reserve coverage of loans to the high level observed in 2009. With these assumptions, eight more banks would fail to meet the hurdles, and the capital shortfall would increase from 0.7 to 1.3 percent of GDP. Further, to test the sensitivity of the results to the assumption of continued high net interest margins, the FSAP team conducted a second test under which these margins narrow by 100 basis points throughout the forecast horizon. In this test, 12 additional banks (to the 38 in the previous paragraph) would fail to meet the hurdles, bringing the overall capital shortfall from 0.7 to 1.2 percent of GDP.

Figure 9. Solvency Stress Test Results

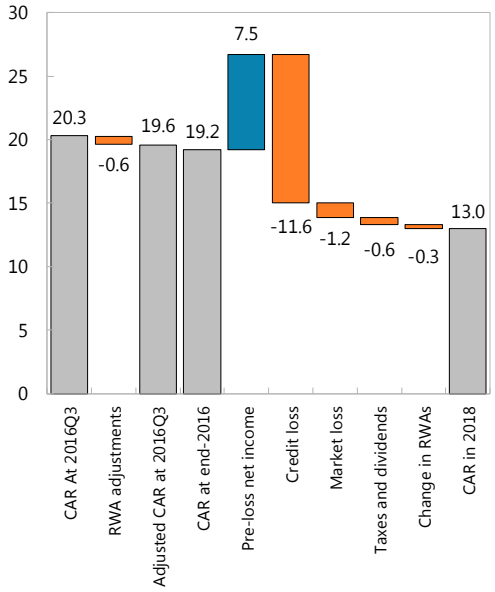
Total Capital Adequacy Ratio
(In percent)



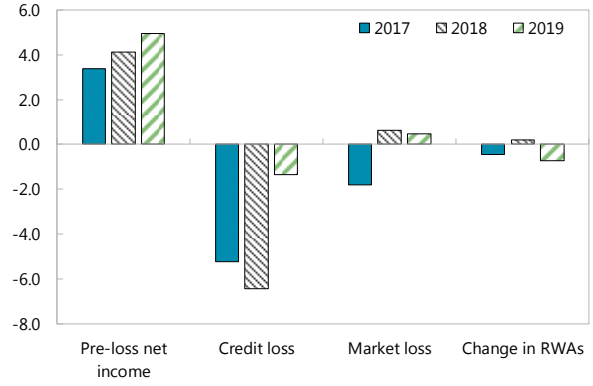
CET1 Capital Adequacy Ratio
(In percent)



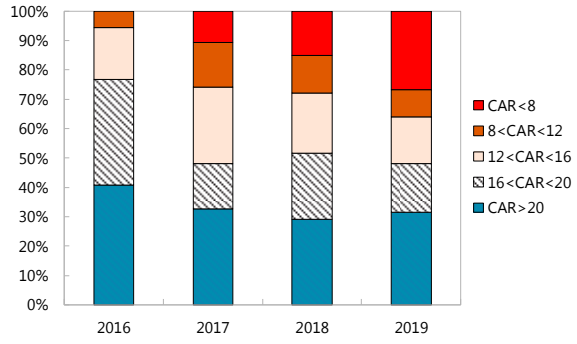
Contribution to Changes in Total CAR: Most Severe Scenario
(In percent and percentage points)



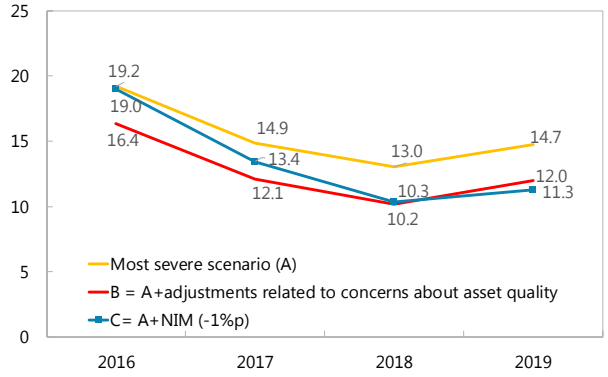
Contribution to Changes in Total CAR by Segments: Most Severe Scenario
(In percentage point of total CAR)



Distribution of Capital Adequacy Ratio: Most Severe Scenario
(Percent of banks)



Total Capital Adequacy Ratio: Most Severe Scenario
(In percent)



Source: IMF staff estimates.

Table 5. Sensitivity Test Results

	Banks that would fail to meet hurdle								
	Benchmark			Benchmark + Adjustment related to concerns about asset quality			Benchmark + NIM (-1%p)		
	Share of assets in each group	Share of assets in the system	Capital Shortfall	Share of assets in each group	Share of assets in the system	Capital Shortfall	Share of assets in each group	Share of assets in the system	Capital Shortfall
	Percent	Percent	Percent of GDP	Percent	Percent	Percent of GDP	Percent	Percent	Percent of GDP
Total	34.2	34.2	0.7	37.7	37.7	1.3	51.0	51.0	1.2
D-SIBs	34.9	22.7	0.4	34.9	22.7	0.7	56.1	36.5	0.7
Medium	30.9	6.1	0.1	40.2	7.9	0.3	37.6	7.4	0.2
Small	39.8	4.7	0.1	51.2	6.0	0.3	50.8	6.0	0.2
Micro	20.8	0.7	0.0	30.6	1.0	0.1	32.5	1.1	0.0

Source: IMF staff estimates.

20. Although at the system-wide level there is ample liquidity, stress tests show that many banks may experience liquidity shortfalls, including in foreign currency (Table 6). There are important differences across banks in their capacity to withstand significant liquidity shocks. The simplified liquidity coverage analysis, which covers all banks, shows that in a severe scenario many banks (most of them small) would face difficulties meeting a deposit withdrawal of 30 percent (comparable to the most severe idiosyncratic shocks experienced by some parts of the banking system over the past decade) but the aggregate liquidity shortfall would be small (5 percent of system assets). D-SIBs, for which three liquidity tests were conducted, would be able to manage overall liquidity stress but their foreign currency liquidity buffers may not be sufficiently large. Nonetheless, the aggregate foreign currency liquidity shortfall under stress would represent just 2.7 percent of system assets, or about only 6 percent of BI's foreign currency reserves.

Table 6. Liquidity Stress Test Results [1/]

	Banks with inadequate liquidity buffers			Liquidity shortfalls		
	(in percent of banking system total assets)			(In percent of total assets in each category)		
	Rupiah	FX	Overall	Rupiah	FX	Overall
Simplified liquidity coverage analysis						
Total	62.8	66.9	52.3	-3.1	-2.7	-5.2
D-SIBs	39.4	39.5	28.1	-1.0	-2.2	-2.8
Medium-sized banks	15.7	15.8	15.5	-8.2	-2.9	-10.6
Small-sized banks	5.9	9.3	6.6	-4.7	-4.7	-7.9
Micro-sized banks	1.7	2.4	2.0	-9.0	-3.0	-11.2
Banks subject to the LCR requirement	55.9	55.3	45.1	-2.8	-2.6	-4.9
Cash-flows-based analysis [2/]						
D-SIB	0.0	46.5	16.6	0.0	-2.8	-0.3
LCR-based analysis						
Total	...	...	9.1	...	...	-0.5
D-SIBs	...	...	5.0	...	...	-0.3

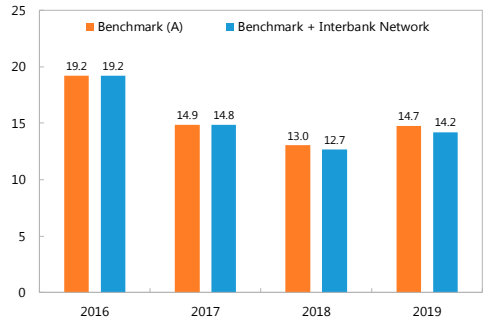
Source: IMF staff estimates.

1/ The FSAP conducted three liquidity tests. The cash-flows-based analysis, the most sophisticated test, captures all cash inflows and outflows. The LCR-based test while accounting for some cash inflows focuses on cash outflows based on overall liquidity with no currency differentiation up to 30 days. The simplified liquidity coverage analysis, which demands the least amount of data and could thus be carried out for all banks, only considers cash outflows as a proportion of outstanding liabilities.

2/ Up to a 6-month horizon.

21. Domestic contagion through interbank or common exposures is limited. Based on the interbank network analysis, the hypothetical failure of a large bank would have a rather limited impact on other banks. When credit losses related to interbank exposures are incorporated into the solvency stress test (the most severe scenario), the additional reduction in the total capital ratio is around 0.3 percentage points in 2018 (Figure 10). The banking system does not appear to be vulnerable to common exposures.

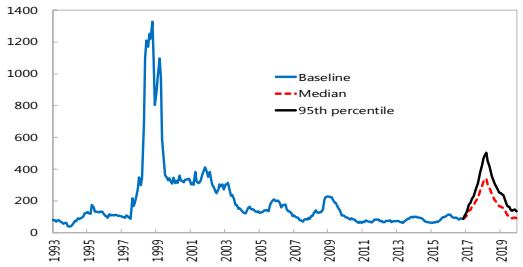
Figure 10. Capital Adequacy Ratio
(in percent)



Source: IMF staff calculations.

22. Corporate stress tests show that the sector would experience significant distress in an adverse scenario. Under the most severe scenario, the median default probability could rise above the levels observed during the global financial crisis (Figure 11). As in the bank stress tests, heightened financial volatility together with a decline in economic activity would have an adverse effect on corporates.

Figure 11. Corporate Probability of Default
(in basis points)



Sources: National University of Singapore; and IMF Staff estimates.

23. Overall, the banking system appears generally resilient under extreme events. Solvency resilience comes mostly from banks' high capital and strong profitability that allow them to absorb sizeable credit and market losses. Although aggregate capital shortfalls relative to the hurdles appear manageable, many banks (including some D-SIBs) would experience a significant reduction in capital, which could trigger a broad-based credit crunch if banks were to deleverage aggressively to re-build capital buffers. Under the most severe liquidity stress test, many (mostly smaller) banks may not have sufficient liquidity to meet potential deposit outflows, but, reassuringly, the tests show that the needed amounts, including in foreign currency, are manageable. Still, to contain liquidity risk, the authorities should consider introducing a liquidity coverage ratio (LCR) requirement by significant currencies. The authorities should also induce smaller banks to strengthen liquidity risk management capacity (see ¶51).

24. The authorities should continue strengthening their capacity to monitor systemic risk. BI should continue strengthening its capacity to conduct systemic risk analyses, and OJK should strengthen further the analytical basis of its supervisory stress tests. For stress tests, key priority areas are (i) strengthening data management systems to improve the timeliness of the exercises; (ii) adapting the stress testing models to an expected-loss-approach); (iii) continuing to strengthen its liquidity stress testing framework; and (iv) improving further the monitoring of the corporate sector, especially non-listed corporates of conglomerates.

FINANCIAL SECTOR OVERSIGHT

A. Main Institutional Challenges

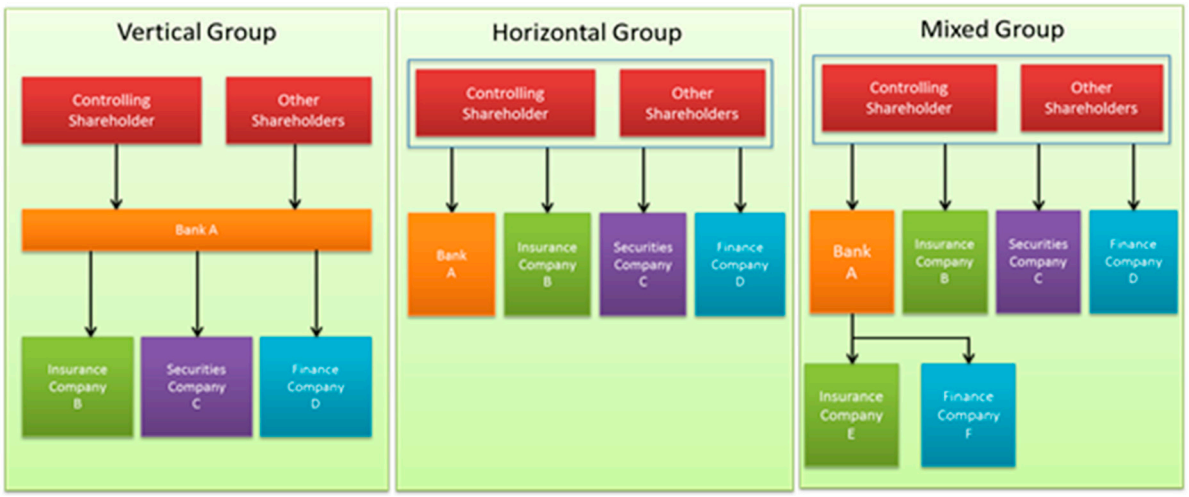
25. The authorities have made important changes in the supervisory architecture since the last FSAP. In 2011, OJK was established as an integrated regulator to oversee the entire financial sector. OJK assumed oversight responsibilities over capital markets and NBFIs at end-2012, and over banks at end-2013; previously these responsibilities were held by Bapepam-LK and BI, respectively. As the integrated financial sector supervisor, OJK's responsibilities include prudential and conduct oversight of banks, insurers, pension funds, finance companies, and securities firms. Furthermore, since the last FSAP, Basel III implementation has begun, a new insurance law has been adopted, and supervisory practices have been strengthened across sectors.

26. The FSAP's assessment of financial sector oversight covered several areas, including supervisory architecture and the supervision of FCs. The 2010 FSAP undertook a formal assessment against the *Basel Core Principles for Effective Banking Supervision* (BCP), which highlighted important areas for improvement. Relatively little progress was made in some of these areas, so the recommendations were followed up in the current FSAP (Appendix V). In addition, the current FSAP undertook a detailed assessment of the *Insurance Core Principles* (ICP), since none had been done before. The FSAP also assessed the framework for conglomerate supervision, since most banks belong to conglomerates and this area had not been assessed thoroughly before. To support this analysis, the FSAP also assessed the corporate governance of conglomerates, with attention to the quality of group-wide risk management practices. Further, the FSAP looked closely at the organizational arrangements of the newly created OJK and identified areas for improvement.

27. The main challenges to effective supervision stem from the complex structure and weak governance practices of FCs, and the still evolving organization of OJK. The size, complexity, and diversified activities of FCs, which span several financial sectors, make them difficult to manage and oversee. Further, while OJK has been making meaningful progress to improve conglomerate supervision, the processes required to assess FC risks are still evolving.

28. The structure of FCs inhibits OJK's ability to regulate them and understand their risk profile on a group-wide basis. Most FCs have a horizontal structure with an unregulated holding company controlling the group (Figure 12). The lack of a regulated entity with clear ascendance over all the entities that form the conglomerate poses important challenges to consolidated supervision. OJK has been trying to address this problem by nominating a financial institution, usually a bank, as the lead entity of such groups. However, this approach has limitations. The lead entity lacks legal authority to impose OJK's regulatory requirements on the group and company law requirements may hinder information flows. The law should be amended to provide OJK, in such cases, the power to require the establishment of, and to license and supervise, a non-operating financial holding company above the financial institutions to give it supervisory reach over the financial group.

Figure 12. Types of Financial Conglomerates



Source: OJK.

29. Weak governance of FCs further complicates the task of supervisors (Box 1). Despite the adoption of regulation establishing a minimum corporate governance framework for FCs and subjecting the entities to integrated risk and capital management, FCs do not yet have effective group-wide risk management structures. Also, the legal framework blurs the roles of the Board of Commissioners (BoC) and Board of Directors (BoD) of companies, thus weakening the responsibility and accountability of these bodies.[1] In practice, the BoC does not seem to be charged with or have the capacity to oversee the risk management framework. OJK should elevate and strengthen corporate governance practices within the financial system, including the BoC's oversight roles and responsibilities. FCs should be required to create plans to ensure integrated governance, risk management, and capital management across the group.

30. OJK has made good progress towards integrated supervision but transition challenges remain. OJK successfully managed the initial settling-in period and avoided the loss of supervisory continuity and clashes of cultures that can weaken supervisory efforts in transitions to integrated supervision. However, OJK has recently lost one-third of its bank supervisors as they exercised the option of returning to BI at end-2016, and although OJK has been active recruiting staff with industry experience, the departure implies a loss of important human resources. Furthermore, it will be important to reduce the current overlap in supervisory activities among OJK, BI, and the deposit insurance corporation (LPS) that risks straining resources and blurring accountability lines, and to agree on supervisory data management and sharing across agencies.

[1] The BoD is the organ responsible for managing the day-to-day operations of a company, thus akin to the senior management. The BoC is the organ responsible for supervising the BoD in performing its duties and responsibilities.

Box 1. Integrated Corporate Governance in Financial Conglomerates

OJK has made progress in promoting good governance within the banking industry. OJK regulations have accomplished the important objective of requiring FCs' BoC and BoD to reform how FC risks are governed, measured, and managed. Still, FCs have a long way to go to effectively implement consistent good governance.

The FSAP found governance shortcomings across several areas. Reputation, related party and intragroup transaction risks, for instance, are not well understood in many FCs and plans to address these risks remain unclear. Scenario analysis and contingency planning in the case of business interruption or failure in the group are also not well developed. Such analysis and planning are key for complex FCs. And they should consider how the financial arm of the group, or surviving companies, would respond and be safeguarded in case of failure of another entity.

These challenges are compounded by weaknesses in the legal framework:

- *Lack of regulated holding companies*. The lack of a regulated entity with clear legal ascendance over all the other financial institutions that form the conglomerate hinders the implementation of group-wide policies, creating challenges not only for supervisors but also for managers.
- *Blurring roles of administrative bodies*. The legal framework for companies introduces challenges regarding the responsibility and accountability of the administrative bodies (i.e., BoC, BoD, and shareholders) with the effect that their roles are blurred.

Specifically, the Company Law restricts the BoC's authority to appoint the BoD, to approve and supervise key BoD decisions, and to hold the BoD accountable. While the Law defines the duties of BoD and BoC members, in practice the role of BoCs is not in line with international best practice, particularly regarding the nomination, choice and performance evaluation of the BoD as well as holding the BoD accountable for the prudent day-to-day management of the entity.

Importantly, risk management functions and the Internal Auditor formally report to both the BoD and the BoC, but in practice their relations are stronger with the BoD than with the BoC. This compromises the independence of critical control functions and undermines the BoC's ability to independently evaluate management performance and be apprised of risk issues. Consequently, the capacity of both OJK and the FC itself to ensure consistent group-wide oversight and risk management is further diminished.

31. To become an effective integrated supervisor, OJK needs to tackle the silos in its organizational and governance structure. While OJK has aimed at developing an integrated supervisory approach, supervision is still effectively undertaken separately for banks, NBFIs, and securities, and this practice is rooted in the OJK Law, which gives responsibility for these three sectors to three different Commissioners. This approach shapes the organization of the agency, so that activities such as regulation, licensing, and supervisory framework development are performed mostly independently for banks and NBFIs. To become a more effective integrated supervisor, OJK needs to develop a supervisory approach that looks through the structure of financial entities. Fulfilling this objective and providing greater organizational flexibility requires the removal of the responsibilities of individual Commissioners for the supervision of specific sectors and the creation

of cross-sector teams, harmonized regulations, and integrated supervisory processes that treat similar risks in a similar manner across sectors.

32. OJK's mandate needs to be further clarified and legal protection strengthened to ensure timely supervisory action. OJK's mandate and practices place priorities on macroeconomic management, financial development, and financial stability goals. Financial sector supervisors should have financial stability clearly established as their primary goal to ensure timely action when needed. Moreover, inadequate legal protection of OJK and its staff undermines conditions for effective supervision. The OJK Law should be revised to establish financial stability as OJK's primary goal and to improve legal protection of supervisors in line with global standards.

B. Sectoral Supervision

Banks

33. Progress has been mixed in implementing the recommendations of the last FSAP on banking supervision. Important regulatory improvements include implementation of Basel III and a new set of regulations to improve risk management and corporate governance. Nevertheless, recommendations on issues such as related-party exposures, asset classification and provisioning regulation, legal protection of supervisors, and interest rate risk in the banking book were only partially implemented.

34. While the OJK's supervisory approach is broadly adequate, improvements are needed in following key areas:

- ***Intensity of supervision.*** There is scope for supervisors to further enforce regulations by challenging more consistently and rigorously industry practices in areas such as risk management, corporate governance, credit classification process, and capital adequacy.
- ***Holistic view of risk management controls***. In some cases, the results of supervisory reviews of the effectiveness of a bank's risk control systems are not adequately integrated into the conclusions about the adequacy of the control environment and the ability of the BoC and BoD to effectively oversee their firm's operations.
- ***Validation of banks' supervisory information***. The processes that generate such information should be more regularly reviewed during onsite examinations, and the information and risk control process explicitly tested and validated. The results of such testing and validation should feed into the supervisor's assessment of the adequacy of corporate governance oversight and the supervisory strategy for the institution.
- ***Focus of supervisory examinations.*** Examinations are not always clearly linked to the key risks identified in the risk assessment and do not consistently evaluate the bank's ability to identify and address emerging risks.

35. Regulation on credit risk is appropriate, but implementation and enforcement need to be strengthened. OJK regulations require banks to have all the elements of a sound system of risk

management. Nevertheless, review of implementation of the regulations by banks revealed shortcomings such as inadequate oversight by the BoC and weaknesses in the assessment of the accuracy and integrity of credit quality reports generated by business lines. In this regard, the function and organizational position of credit risk management within banks needs to be strengthened to guarantee accurate loan classification and provisioning. These shortcomings raise concerns about the accuracy of the current headline NPL numbers and the appropriate classification of the increased amount of restructured loans. Against this backdrop, the authorities should monitor closely restructured and special-mention loans and their proper classification to guard against evergreening.

Insurance

36. Insurance regulation and supervision have improved since the establishment of OJK and the enactment of the new Insurance Law in 2014. OJK has gradually introduced risk-based supervision through active use of its supervisory powers and it has taken decisive actions against several insurers with material deficits. OJK has also enhanced regulations for corporate governance and risk management (see the Report on the Observance of Standards and Codes: IAIS Core Principles for Effective Supervision in Annex I).

37. However, important weaknesses remain, particularly in the regulation and supervision of insurance companies that belong to FCs. Some deficiencies are due to the lack of effective group regulation and supervision of insurance groups discussed earlier. Given the interconnectedness and contagion risks through FCs and domestic reinsurance programs, the authorities are also encouraged to enhance macroprudential surveillance by integrating conglomerate analysis. Also, intra-group transactions need to be considered more comprehensively to preclude possible double gearing within FCs. Furthermore, to strengthen its supervisory capacity, OJK needs to address skills shortages in some areas, like actuarial assessments. In addition, the authorities will need to revise their supervisory framework to allow for corrective measures to be required more promptly and to ensure timely supervisory actions more broadly. Finally, suspending mark-to-market valuation, as the authorities did in 2015 for some companies, should have been allowed only under extreme conditions and accompanied by enhanced oversight. The authorities are encouraged to review what was done and develop strict criteria for suspension of mark-to-market valuation to strengthen credibility and certainty in the marketplace.

C. Macroprudential Oversight

38. The current macroprudential policy framework is broadly adequate but some aspects need to be strengthened. The current setup derives from the OJK Law of 2011, which makes BI responsible for macroprudential policy. BI has (i) issued regulations to guide macroprudential policy; (ii) made organizational changes, including creating a macroprudential policy department; (iii) developed analytical tools to assess systemic risk; and (iv) introduced macroprudential instruments, such as limits on loan-to-value ratios and loan-to-funding ratio-linked reserve requirements, over which it has direct control by regulation. It recently introduced a countercyclical capital buffer on banks, with value currently set at zero, in line with credit developments. However,

the framework has shortcomings that need to be addressed. Importantly, the BI Law should be amended to include a macroprudential mandate, focused on systemic risk and covering the entire financial system, not just banks. Provisions should be made to grant BI access to the nonbank financial data needed for systemic risk monitoring.

39. Closer cooperation between BI and OJK is needed. BI and OJK currently coordinate their operations in the context of a technical micro-macroprudential forum. Effective coordination between BI and OJK is required to ensure that the implementation of each institution's respective mandates and tools does not lead to conflicting or counterproductive policies. To this end, BI and OJK should finalize the operating procedures for carrying out their respective tasks and enhance coordination. Over the medium term, the authorities should consider elevating the micro-macroprudential forum to a policy level forum. BI would be responsible for providing regular assessments of systemic risks and proposing macroprudential policy actions. BI could have the power to issue recommendations on macroprudential policy on a comply-or-explain basis to OJK regarding prudential tools under OJK's authority. BI would report to the Financial Stability Committee (KSSK) periodically on macroprudential issues.

D. Financial Integrity

40. The authorities have made substantial progress in addressing AML/CFT deficiencies identified in the 2008 Mutual Evaluation Report of the Asia Pacific Group on Money Laundering (APG).[2] Amendments to the AML law in 2010 and passage of the CFT law in 2013 broadly addressed key deficiencies, including by criminalizing money laundering (ML) and terrorist financing (TF) in line with the revised Financial Action Task Force (FATF) standard, and extending AML/CFT requirements to money value transfers services (including remittance service providers). New procedures for freezing terrorist assets under United Nations Security Council Resolutions contributed to Indonesia's exit from the FATF's monitoring in 2015. The authorities also completed a comprehensive National ML/TF Risks Assessment in 2015 with broad participation from relevant stakeholders, and co-led a multi-country risk assessment on TF for the South-east Asian region. The APG is scheduled to assess Indonesia's AML/CFT regime in late 2017.

41. But some shortcomings remain, including aligning the AML/CFT framework more closely with the revised FATF standard. Specifically, AML/CFT supervision should be conducted on a risk basis and relevant agencies need to align their AML/CFT priorities according to the identified ML/TF risks. The authorities should enhance the capabilities of law enforcement agencies to conduct financial investigations and strengthen mechanisms for exchanging information with foreign counterparts. The authorities are also encouraged to introduce a legal requirement for reporting entities to identify, assess, and understand their broader ML/TF risks. Finally, the targeted financial sanctions-regime for terrorism and TF should be implemented without delay.

[2] See http://www.apgml.org/includes/handlers/get-document.ashx?d=58c99328-6e45-4238-b3af-670ac33f2689.

FINANCIAL SAFETY NET AND CRISIS MANAGEMENT

A. Institutional Setting

42. The authorities have revamped the framework for crisis management and resolution. In 2016, Parliament approved the Prevention and Resolution of Financial System Crisis Law (PPKSK Law), which clarifies the responsibilities of the agencies involved in crisis management. It also establishes the KSSK, comprising the Finance Minister (coordinator) and the heads of BI, OJK, and the LPS (as a non-voting member). The KSSK has responsibility for, among other matters, determining and coordinating the response to the distress or failure of D-SIBs and systemic banking crises, and recommending to the President of Indonesia to declare a status of financial system crisis that in turn would open a wider range of resolution powers (particularly bail-in). The framework is still work-in-progress, and at the time of the FSAP the authorities were working on regulations required under the new law, including on emergency liquidity assistance (ELA), recovery planning, systemic bank resolution, the Bank Restructuring Program (BRP), and non-systemic bank resolution.

43. The new framework represents a substantial improvement over previous arrangements but requires important adjustments to support its effectiveness in crisis management and resolution. To this end, the framework should be better aligned with international principles (particularly the Key Attributes for Effective Resolution Regimes for Financial Institutions):

- ***Mandates***. The agencies involved in crisis management and resolution should have strong and clear financial stability mandates established in their respective laws. To this end, the OJK Law should give unambiguous primacy to OJK's financial stability objective (consistent with the PPKSK Law); the LPS Law should specify more clearly LPS' statutory objectives, focusing on the maintenance of financial stability and continuity of critical functions, protection of insured depositors and minimization of the costs associated with resolution; and the BI Law should include financial stability assessment and macroprudential policy as part of BI mandates.

- ***Legal protection.*** Inadequate legal protection creates a risk of crisis management decisions being delayed or even avoided due to concerns over potential liability. Although the PPKSK Law has strengthened legal protection across the agencies involved in crisis management, further strengthening is needed, including in the relevant agencies' laws, to provide legal protection to the extent advocated in the Key Attributes (and BCP and ICP). The main shortcomings in the PPKSK Law are that the test for legal protection is "misuse of authority" rather than "good faith", that it applies only to actions taken in situations of near-crisis or crisis, and it does not extend to the institution itself and persons acting on its behalf.

- ***Role of the KSSK.*** The FSAP team understands that the KSSK is not only a coordination body but it also has the role of designing the resolution strategy and guiding and directing member agencies in their implementation of that strategy. This creates a risk of diluted responsibility and accountability for each agency and the potential for delays in decision-making. It is recommended that the Law be amended to limit the role of the KSSK to solely that of a

coordination body and remove its power to direct member agencies in their respective areas of responsibility. It would also be desirable to set out more detailed guidance on the role of KSSK and each agency in a decree, as the authorities have proposed.

- ***Role of the President.*** The PPKSK Law gives an important role to the President of Indonesia in crisis management. The President, on recommendation from the KSSK, decides whether Indonesia is experiencing a financial system crisis and whether the LPS should be allowed to use a broader set of resolution tools. Such an involvement of the President risks diluting the responsibility of LPS and the KSSK to deal swiftly and effectively with resolution issues, and could also create a risk of politicizing resolution decisions. Thus, the authorities should consider revising the PPKSK Law to focus the role of the President to decisions on the use of public funding (as discussed later).

B. Crisis Management and Resolution

44. OJK is able to respond promptly to emerging stress and it has new powers to implement regulations for D-SIB recovery planning. OJK has many of the elements needed to respond promptly to emerging stress in banks, insurers and financial market infrastructures (FMIs), including a range of corrective action powers (FMIs refer to central clearing counterparties and custodians). It has developed early warning indicators (EWIs) to detect emerging stress in banks and, to some degree, insurers and FMIs, and the FSAP team encourages further refinement of this framework, including further integration of EWIs into corrective action frameworks and extending EWIs to FCs. Furthermore, as required by the PPKSK Law, OJK has implemented the regulation on recovery planning for D-SIBs. The mission suggests that, over the medium term, recovery planning be extended to FCs and medium-sized banks and, in the longer term, also to large and medium-sized insurers, FMIs, and remaining banks.

45. The LPS has many of the powers needed for the resolution of banks, but the framework can be improved in several areas. The PPKSK Law and the LPS Law should be amended to specify triggers for invoking resolution, empower LPS to require banks to implement changes to facilitate resolution in accordance with resolution plans, and enable LPS to apply bail-in without Presidential approval. There is also a need to strengthen the resolution powers over FCs and to establish robust safeguards for the application of resolution powers (including compensation for creditors left worse off than under a winding up). Moreover, attention needs to be given to the framework for using bail-in. Currently, D-SIBs and medium-sized banks rely on deposits for funding, with only a small amount of market funding that would better support bail-in. This funding structure and the lack of a clear creditor hierarchy will make bail-in challenging to implement. The recovery planning regulation for D-SIBs will help reduce this problem by requiring D-SIBs to issue debt capable of contractual bail-in. Building on this, the authorities will need to develop guidance on how bail-in powers might be applied in respect of deposits and other instruments without bail-in clauses. More broadly, the authorities should develop guidance on resolution options applicable to banks (differentiating by size as appropriate), and develop policy and operational frameworks for implementing resolvability assessments and resolution plans for D-SIBs.

C. Safety Nets

46. Indonesia has an established system of deposit insurance, managed by LPS, but there is a need to improve the payout process and to reduce the high deposit insurance coverage ceiling. LPS has the power to make payouts to insured depositors. However, LPS needs stronger legal and technical capacity to be able to calculate reliably and quickly the eligible amounts for payout and to process the payouts rapidly. Moreover, at Rp 2 billion (about US$150,000), the deposit insurance limit is excessively high relative to average retail deposits and per capita GDP, giving rise to moral hazard risks and weakening market discipline on banks. The high limit also increases the risk of funding shortfalls relative to LPS obligations and reduces the scope for bail-in. The FSAP team recommends that the authorities reduce the deposit insurance limit to a level more consistent with international norms while still covering the vast majority of household deposits.

47. The authorities should consider changes to the framework for resolution funding of banks. The new crisis management framework rules out the use of public funding in resolution, other than in a limited context related to LPS funding. Instead, the new framework will involve a new LPS-administered funding mechanism (under development) that would be used for systemic bank resolution situations once the BRP has been triggered, and that would be based on a bank levy. While the FSAP team shares the moral hazard concerns that motivated precluding the use of public funds, eliminating this option altogether is overly constraining. Although the development of an industry-financed resolution funding mechanism is desirable, a public funding mechanism, subject to robust safeguards, recognizes that some systemic bank resolutions could require public funding or the provision of guarantees. The FSAP team therefore recommends that the PPKSK Law be amended to allow for the use of public funding in limited circumstances justified by systemic stability considerations and subject to the President's approval and robust safeguards, including preconditions for use and processes for recovery from the banking industry. In addition, to increase the practical feasibility of a levy-funded systemic resolution fund, the PPKSK Law should be amended to enable levies to be made on the banking industry to build up a systemic resolution fund without the need for the BRP to be invoked.

48. The ELA framework will need to be modified to ensure its effectiveness. An effective ELA framework is important given the liquidity risks discussed earlier. BI can, under the BI Law and the PPKSK Law, provide ELA to any solvent bank but the criteria for providing liquidity to banks experiencing funding difficulties are too restrictive and risk making it ineffective. Consideration needs to be given to the ELA eligibility criteria to allow extending emergency lending to a bank that is assessed by OJK as viable even if its capital is temporarily below minimum requirements. Further work is also needed on the coordination among agencies (OJK, BI, and LPS) on solvency assessment and on the eligible collateral to ensure that ELA is practicable when it is likely to be needed. In this connection, the framework should also enable BI, in situations where it is not satisfied with a bank's solvency and viability, or with the collateral, to request an indemnity from the government, subject to appropriate safeguards.

DEVELOPMENTAL CHALLENGES

A. Overview

49. A deepening of Indonesia's relatively small financial sector can help in tackling the country's large development needs. Promoting financial deepening is a priority of the government, and it has created a high-level committee to coordinate efforts across agencies. OJK is implementing a Financial Services Sector Master Plan (2015-19) and the government has also adopted an ambitious financial inclusion strategy with a steering committee chaired by the President.

50. Policies for achieving financial deepening and greater inclusion in a manner that does not give rise to undue stability risks should focus on fundamentals. Several recent policy initiatives are unlikely to be effective, however, and are likely to have unintended consequences. These include caps on deposit rates, allegedly to discourage aggressive pricing behavior by some banks; moral suasion to induce banks to lower lending rates to single digit levels, particularly for the corporate and mortgage segments; requirements for all banks to meet minimum lending exposures quotas to micro, small and medium-sized enterprises (MSMEs); and guarantees and interest rate subsidies as part of the "People's Business Loan" (KUR) program. Rather, the authorities are encouraged to develop an integrated roadmap for promoting financial deepening and inclusion in a manner that does not give rise to undue stability risks. The roadmap should be on improving fundamentals, such as creditor rights, efficiency, legal and regulatory frameworks, financial services taxation, and financial literacy. In this connection, the authorities should assess the effectiveness of the KUR program—the main instrument for promoting MSME loans—including its potential fiscal costs and whether it is achieving increased lending to new borrowers (deepening).

B. Financial Markets

51. The short-term funding markets are shallow and segmented. Segmentation, coupled with chronic excess liquidity, limits the effectiveness of monetary policy, complicates BI liquidity management, and constrains the development of money markets. In 2016, BI started reforming its liquidity management framework to spur money market deepening. A coordinated process of supporting smaller banks to develop their capacity to manage liquidity, stronger enforcement of prudential regulations in this segment, and continuation of ongoing efforts to improve the framework for repo and monetary operations would go a long way in improving the stability and efficiency of money markets.

52. Capital markets are relatively shallow and foreign presence is strong in some segments. Stock market capitalization has increased steadily in the last 6 years but remains small at 41 percent of GDP in 2016, well below the peer median of 74 percent. The government bond market—government debt equals about 27 percent of GDP, with nearly three-quarters denominated in rupiah—appears relatively developed but its liquidity still compares unfavorably with peers, reflecting the small size of issuance across a variety of diverse instruments (T-bills, T-bonds, Sukuk products) and large holdings by buy-and-hold investors. The corporate bond market, though

growing fast, remains small at only 2½ percent of GDP, two-thirds of which is accounted for by financial institutions. The domestic institutional investor base is also small compared to peers, with pension fund and insurance company assets at around 2 and 7 percent of GDP, compared to 5 and 15 percent in peer countries. Foreign investors have a strong presence in government bond (particularly long end) and equity markets, but limited participation in corporate bond markets.

53. The development of financial markets will require comprehensive efforts, including in legal, regulatory, and tax elements. Priorities would include: (i) improving the efficiency of the yield curve by consolidating the number of instruments issued and prioritizing the issuance (and re-issuance) of benchmark maturities for T-bonds and increasing the issuance of T-bills; (ii) removing legal obstacles to the development of structured non-recourse products, critical for infrastructure financing; (iii) reforming the taxation of financial products (including by replacing the tax applied to the gross value of transactions with one more closely linked with firms' performance, (iv) strengthen insolvency procedures and creditor rights to improve expected recovery rates; and (v) promoting the development of derivative instruments to enable risk hedging.[3]

C. Financial Inclusion

54. The authorities have launched an ambitious strategy to improve the low access to the formal financial system. According to the World Bank's Findex Survey, only 39 percent of adults have a transaction account with a formal financial institution, up from 20 percent in 2011, but significantly lower than the 69 percent average for the region. The National Financial Inclusion Strategy launched in November 2016 has set the ambitious goal of reaching 75 percent by end-2019. The development of digital financial services is a central element of this strategy.[4] E-money issuers (banks and nonbanks) and banks providing basic bank accounts and other financial services can engage agents to expand service delivery, and such agents are now present in all Indonesian provinces. They provide access to bill payments and transfers services, among other things, and can facilitate financial transactions. However, the cost of servicing these basic bank accounts, given the current volume of transactions and fee structure, exceeds receipts. Keeping costs in check will require eliminating regulatory barriers that require direct interaction between providers and consumers and leveraging the use of telecom and ecommerce companies to optimize the size of networks.

[3] Non-recourse financing allows investors to be paid with the proceeds from the project being financed, without recourse to other assets belonging to the borrower. It is used commonly for long-term infrastructure projects.

[4] In Indonesia, the digital financial services are defined as financial services and products delivered through channels other than traditional bank branches.

Appendix I. Selected Economic Indicators

	2014	2015 Est.	2016	2017 Proj.	2018	2019
Real GDP (percent change)	5.0	4.8	5.0	5.1	5.3	5.4
Domestic demand	5.0	4.4	4.7	5.1	5.2	5.4
Of which:						
Private consumption 1/	5.3	4.8	5.0	5.1	5.2	5.3
Gross fixed investment	4.6	5.1	4.6	5.4	5.7	6.0
Change in stocks 2/	0.4	-0.5	0.2	0.0	0.0	0.0
Net exports 2/	-0.3	0.9	0.0	0.1	0.2	0.2
Statistical discrepancy 2/	0.4	-0.4	0.4	0.0	0.0	0.0
Output gap	0.1	-0.1	-0.4	-0.2	-0.1	-0.1
Saving and investment (in percent of GDP)						
Gross investment 3/	34.6	34.6	35.0	35.0	35.1	35.2
Gross national saving	31.5	32.5	33.0	33.0	32.9	33.0
Foreign saving (external current account balance)	3.1	2.0	2.0	2.0	2.1	2.2
Prices (12-month percent change)						
Consumer prices (end period)	8.4	3.4	3.2	4.5	4.4	4.2
Consumer prices (period average)	6.4	6.4	3.5	4.4	4.5	4.3
Public finances (in percent of GDP)						
General governemnt revenue	16.5	14.9	14.5	14.3	14.2	14.2
General governemnt expenditure	18.6	17.4	17.2	16.7	16.7	16.7
General government balance	-2.1	-2.5	-2.7	-2.4	-2.5	-2.5
General governemnt primary balance	-0.9	-1.1	-1.2	-0.8	-0.8	-0.8
General government debt	24.7	26.8	28.0	28.4	28.7	29.2
Central government revenue	14.7	13.1	12.7	12.5	12.4	12.4
Of which : Non-oil and gas tax revenues	10.0	10.3	10.5	10.2	10.2	10.3
Central government expenditure	16.8	15.7	15.3	14.9	14.9	14.9
Of which : Energy subsidies	3.2	1.0	0.8	0.6	0.5	0.5
Development expenditure	2.3	2.7	2.3	1.5	1.5	1.5
Central government balance	-2.1	-2.6	-2.7	-2.4	-2.5	-2.5
Balance of payments (in billions of U.S. dollars)						
Current account balance	-27.5	-17.6	-18.1	-19.9	-23.4	-25.8
In percent of GDP	-3.1	-2.0	-2.0	-2.0	-2.1	-2.2
Trade balance	7.0	13.3	15.1	16.3	17.5	18.0
In percent of GDP	0.8	1.5	1.6	1.6	1.6	1.5
Of which : Oil and gas (net)	-11.8	-6.5	-5.6	-6.4	-6.4	-6.2
Service balance (in percent of GDP)	-1.1	-1.0	-0.8	-0.9	-0.9	-0.8
Overall balance	15.2	-1.1	11.8	5.1	4.7	5.2
Gross reserves						
In billions of U.S. dollars (end period)	111.9	105.9	117.8	122.9	127.6	132.8
In months of prospective imports	8.1	8.1	8.4	8.3	8.1	7.8
As a percent of short-term debt 4/	188.8	190.9	217.3	231.3	244.5	259.7
Total external debt						
In billions of U.S. dollars	293.3	310.1	317.3	325.1	337.7	351.0
In percent of GDP	32.9	36.1	34.1	32.3	30.6	29.3
Memorandum items:						
Oil production (thousands of barrels per day)	794	800	820	815	770	740
Indonesian oil price (period average, in U.S. dollars per barrel)	96.5	49.2	41.3	50.2	51.7	52.1
Nominal GDP (in trillions of rupiah)	10,566	11,541	12,401	13,612	14,971	16,456
Nominal GDP (in billions of U.S. dollars)	891	859	...	...	...	...

Sources: Data provided by the Indonesian authorities; and IMF staff estimates and projections.

Note: 1/ Includes NPISH consumption.
2/ Contribution to GDP growth.
3/ Includes changes in stocks.
4/ Short-term debt on a remaining maturity basis.

Appendix II. Detailed Financial Soundness Indicators

(In percent)

	2010	2011	2012	2013	2014	2015	2016Q3
Capital adequacy							
Regulatory capital to risk-weighted assets	16.2	16.1	17.3	19.8	18.7	21.3	20.6
Regulatory Tier-1 capital to risk-weighted assets	15.1	14.7	15.7	18.3	17.8	18.8	20.6
Capital to assets	10.7	11.0	12.2	12.5	12.8	13.6	15.0
Large exposures to capital	1.4	0.5	0.5	0.8	1.0	0.4	0.6
Net open position in foreign exchange to capital	3.0	3.0	3.3	1.7	2.4	0.9	1.8
Gross position in financial derivatives to capital	3.8	3.5	3.2	8.7	4.9	5.1	3.8
Asset quality							
Nonperforming loans to total gross loans	2.5	2.1	1.8	1.7	2.1	2.4	3.0
Specific provisions to nonperforming loans	57.1	60.7	52.0	50.9	50.8	51.5	51.8
Nonperforming loans net of provisions to capital	6.1	4.7	4.7	4.6	5.5	5.9	6.1
Sectoral distribution of total loans (in percent of total)							
Domestic economy	99.6	99.6	99.6	99.6	99.6	99.5	99.5
Depository institutions	1.4	1.2	1.1	1.3	1.6	1.5	1.4
Other financial institutions	4.4	4.8	4.7	5.0	4.9	4.9	4.5
Nonfinancial corporations	43.5	42.3	43.7	46.1	45.6	47.8	48.2
Other domestic entities	49.6	50.6	46.4	44.6	44.3	44.4	44.4
Earning and profitability							
Return on assets	2.7	2.9	3.1	3.1	2.7	2.2	1.7
Return on equity	25.9	25.4	25.3	24.5	21.3	17.3	11.7
Net interest income to gross income	60.5	59.8	65.0	68.8	69.0	70.3	68.4
Trading income to gross income	4.6	3.5	3.2	3.2	2.7	2.8	4.0
Noninterest expenses to gross income	49.2	49.0	48.8	49.2	50.3	50.0	46.3
Personnel expenses to noninterest expenses	37.3	36.0	40.5	41.3	40.0	40.7	44.4
Liquidity and funding							
Liquidity assets to total assets	27.2	26.2	25.7	23.5	22.9	23.9	22.1
Short-term liabilities to total liabilities	95.2	94.2	80.2	87.9	78.7	78.8	79.5
Liquid assets to short-term liabilities	32.1	31.2	36.4	30.5	33.3	35.0	33.1
Non-interbank loans to customer deposits	81.6	85.5	94.1	100.5	99.9	100.4	99.2
Sensitivity to market risk							
Foreign-currency loans to total loans	15.6	16.6	15.2	17.0	16.3	15.6	14.2
Foreign-currency liabilities to total liabilities	16.5	16.3	18.6	24.4	22.9	24.1	20.5
Exposure to real estate activity							
Real estate loans to total loans	13.8	14.2	13.8	14.3	15.1	15.6	16.2

Sources: IMF, Financial Soundness Indicator database; Bank Indonesia; and IMF staff estimates.

Appendix III. Risk Assessment Matrix (RAM)

Risk	Relative likelihood	Impact
Scenario 1. Global financial market disruption. Disorderly market adjustments induce tighter and more volatile financial conditions in systemic advanced economies, with effects reverberating to the rest of the world, precipitating credit cycle downturns in emerging market economies, and suppressing economic risk-taking worldwide. Domestic liquidity conditions become tighter following capital outflows, and heightened financial volatility impacts financial institutions through market risk and possibly liquidity risk (mainly through bank wholesale funding). Credit risk is escalated due to the recession and sharp exchange rate depreciation.	**Medium**	**Medium**
Scenario 2. Major downturn in China and an attendant decline in commodity prices. The downturn in China comes with a significant growth slowdown and widespread corporate defaults, triggering financial market turmoil particularly within the region and further reducing commodity prices. The prospect of low commodity prices for an extended period depresses investment in commodity producing economies. In the absence of additional domestic reforms to boost productivity and facilitate resources reallocation, growth becomes structurally weaker. The sustained slowdown impacts property markets and public finances.	**Low**	**Low/Medium**
Scenario 3. Significant financial stress triggered by external shocks and amplified by strong domestic contagion and financial market turmoil. Following tightening global financial conditions and falling commodity prices, some corporate groups unexpectedly default. The problem quickly spreads through contagion, and banks suddenly face large withdrawals of retail and wholesale funding. Financial market turmoil ensues, with higher government bond yields magnifying market risk. The economy enters a deep recession, resulting in substantial credit risk that is further compounded by sharp exchange rate depreciation and large capital outflows.	**Low**	**High**

Appendix IV. Banking Sector Stress Testing Matrix (STeM)

Domain		Assumptions		
		Bottom-up by banks	Top-down by Authorities	Top-down by FSAP Team
Banking Sector: Solvency Stress Test				
1. Institutional Perimeter	Institutions included	• All D-SIBs.	• All banks (117).	• All banks (117).
	Market share	• 66 percent of banking system assets.	• 100 percent of banking system assets.	• 100 percent of banking system assets.
	Data and starting position	• Bank proprietary data. • Starting position: September 2016. • Bank consolidated level data for banks having their headquarters in Indonesia and sub-consolidated level data for foreign bank branches.	• Supervisory data (balance sheet and income statements). • Starting position: September 2016. • Bank consolidated level data for banks having their headquarters in Indonesia and sub-consolidated level data for foreign bank branches.	• Supervisory data (balance sheet and income statements). • Starting position: September 2016. • Bank consolidated level data for banks having their headquarters in Indonesia and sub-consolidated level data for foreign bank branches.
2. Channels of Risk Propagation	Methodology	• Banks' own internal stress testing methodology constrained by guidelines provided by the FSAP team in collaboration with OJK.	• Satellite models and stress testing methodology, developed jointly by BI and the IMF technical assistance mission. • Balance sheet approach.	• Satellite models and stress testing methodology, developed by the FSAP team. • Balance sheet approach.
	Satellite models for macro-financial linkages	• Banks' own internal models to translate macro-financial conditions into pre-loss net income, credit and market losses, and regulatory capital.	• BI's satellite model to estimate credit losses, and methodology to calculate market losses in trading and available-for-sale accounts, using mark-to-market approach. • Method to market losses from holdings of debt instruments	• FSAP team's own model for credit losses from banks' lending portfolios and sovereign exposures. • Method to calculate market losses from holdings of debt instruments (sovereign and other issuers). Haircuts are calculated based on a modified duration approach.

Domain		Assumptions		
		Bottom-up by banks	Top-down by Authorities	Top-down by FSAP Team
			(sovereign issuers, AFS & Trading Portfolio). Haircuts are calculated based on modified duration approach.	• Method to integrate credit and funding losses from interbank cross-exposures into the solvency stress test. • Method to calculate risk-weighted assets. • Model to estimate pre-loss net income as a sum of net interest income and non-interest income. • No accrued income on NPL loans.
	Stress test horizon	• 3-years (2016Q4-2019Q4).		
3. Tail shocks	Scenario analysis	• Four macro-financial scenario analysis, agreed with the authorities. • The scenarios include domestic macro-financial variables (e.g., GDP, inflation, interest rates, unemployment rate, exchange rate, equity and house prices), and global variables (global GDP, interest rates, and commodity prices). • Baseline scenario based on the October 2016 WEO projections. Equity price is assumed to move in line with nominal GDP, and house prices is projected based on a regression analysis. • Adverse scenarios are simulated using the IMF's Global Macrofinancial Model. • Three adverse scenarios reflect three distinct macro-financial risks in the Risk Assessment Matrix, all of them are triggered by external factors but amplified by domestic characteristics, including existing vulnerabilities and policy constraints. - Scenario 1. Global financial market disruption. - Scenario 2. Sustained growth slowdown induced by a major downturn in China and the attendant decline in commodity prices. - Scenario 3. Significant financial stress triggered by external shocks and amplified by strong domestic contagion. • Under the three adverse scenarios, the Indonesian economy sets to suffer a V-shaped growth path, a protracted growth slowdown, or an L-shaped deep recession, with a cumulative decline of real GDP growth of 1.9, 1,1, or 2.4 standard deviations over the first two years which is broadly in line with recent emerging market FSAPs		

Domain		Assumptions		
		Bottom-up by banks	Top-down by Authorities	Top-down by FSAP Team
	Sensitivity analysis		N.A.	• Sensitivity analyses evaluate impacts of four different single risk factors on the existing capital buffers: - Exchange rate risk - Interest rate risk - Concentration risk • No additional buffers from pre-loss net income.
4.Risks and Buffers	Risks/ factors assessed	• Credit loss captures all exposures in on-balance sheet's loan portfolios and off-balance sheet' credit commitments. • Market loss captures the impact of interest rate risk on the holding of debt securities and exchange rate risk on the net open foreign exchange positions.	• Credit loss from banks' loan portfolios and sovereign exposures, excluding off-balance sheet credit commitments. • Market loss from valuation adjustments of banks' holding of debt securities and existing net open foreign exchange positions. • Credit and funding losses from interbank cross-exposures.	
	Behavioral adjustments	• Passive balance sheet assumption: (i) the balance sheet growth is identical to the overall credit growth, which is linked to nominal GDP growth; (ii) the balance sheet composition remain constant throughout the stress test horizon; (iii) banks build capital only through retained earnings; and (iv) maturing capital instruments are not renewed. • Banks are allowed to pay dividends only if net income after taxes are positive, with the dividend payout ratio at the 2015 level.		
5. Regulatory and Market-Based Standards and Parameters	Calibration of risk parameters	• Point-in-time credit risk proxies and parameters are calibrated by the FSAP team.		
	Regulatory Standards	• National regulatory framework. • Basel II standardized approach and fully-loaded Basel III definition. • The hurdle rate based on minimum capital requirements (4.5 and 8 percent for common equity tier-1 and total capital), and Pillar II and D-SIB surcharges as relevant.		
6. Reporting Format for Results	Output presentation	• System-wide capital shortfalls. • Number of banks and percentage of banking assets in the system that fall below a hurdle rate.		

Domain		Assumptions	
			Top-down by the authorities and FSAP team jointly
Banking Sector: Liquidity Stress Test			
1. Institutional Perimeter	Institutions included	N.A.	• Cash-flows-based analysis: all D-SIBs. • LCR-based analysis: 46 banks, currently subjected to the requirement. • Simplified liquidity coverage analysis: all 117 banks.
	Market share	N.A.	• Cash-flows-based analysis: 66 percent of banking system assets. • LCR-based analysis: 90 percent of banking system assets. • Simplified liquidity coverage analysis: 100 percent of banking system assets.
	Data and Starting position	N.A.	• Starting position: September 2016. • Supervisory data: OJK collects necessary data. • Scope of consolidation: individual banks.
2. Channels of Risk Propagation	Methodology	N.A.	• The FSAP liquidity stress testing comprises three types of tests: (i) cash-flows-based analysis; (ii) LCR-based analysis; and (iii) simplified liquidity coverage analysis. • The cash-flows-based analysis assesses banks' resilience based on the net cash balance after funding outflow shocks (i.e., up to six months), where the net cash balance is of all currencies with that in foreign currencies being converted at realistic exchange rates. • The LCR-based analysis measures bank's ability to manage short-term liquidity pressures for a period of 30 days is conducted in line with the regulatory framework, considering total liquidity (all in rupiah with no separate calculation by significant currencies) and stress parameters (i.e., higher haircuts and run-off rates). • The simplified liquidity coverage analysis is carried out to gauge potential liquidity gaps in both rupiah and foreign currency, using a liquidity-coverage metric (available liquid assets to potential funding outflows). Liquid assets are subject to haircuts, and funding outflows are based on outstanding funding and run-off rates. Liquid assets are subject to haircuts, and funding outflows are based on outstanding funding and run-off rates.
3. Risks and Buffers	Risks	N.A.	• Funding liquidity (short-term liquidity outflows). • Market liquidity (asset price shocks and fire-sales). • Haircuts required by BI.
	Buffers	N.A.	• The counterbalancing capacity in all types of tests includes liquidity obtained from markets through asset sales and from BI's standing facilities. • Expected cash inflows are also included in the cash-flows-based and LCR-based analyses.

Domain		Assumptions	
			Top-down by the authorities and FSAP team jointly
4. Tail shocks	Size of the shock	N.A.	• The haircuts are calibrated consistent with the increase in government bond yields in the solvency stress test. • The run-off rates are calibrated to reflect scenarios of system-wide deposit runs and dry up of wholesale funding. Parameters are chosen to match most severe idiosyncratic deposit withdrawals experienced by some banks in the past decade.
5. Regulatory Standards and Parameters	Regulatory standards	N.A.	• For the LCR-based analysis, based on the national regulatory framework. • While the minimum threshold of the LCR is 70 percent in 2017, the FSAP team used a fully-loaded threshold (100 percent).
6. Reporting Format for Results	Output presentation	N.A.	• From macroprudential perspectives, - System-wide liquidity ratio; and - System-wide liquidity shortfall. • From microprudential perspectives, - Number and share of banks with negative net cash balance after utilizing counterbalancing capacity; - Number and share of banks with LCR<100 percent and liquidity coverage metric<100 percent; - Bank-level survival period in days

Domain		Assumptions	
			Top-down by FSAP team
Banking Sector: Contagion Risk			
1. Institutional Perimeter	Institutions included	N.A.	• All banks (117).
	Market share	N.A.	• 100 percent of banking system assets.
	Data and Starting position	N.A.	• Starting position: September 2016. • Supervisory and market data. • Scope of consolidation: individual banks and nonbank financial institutions.
2. Channels of Risk Propagation	Methodology	N.A.	• Interbank and cross-border network model by Espinosa-Vega and Solé (2010). • Distress dependence framework by Segoviano and Goodhart (2009).

Domain		Assumptions	
			Top-down by FSAP team
3. Risks and Buffers	Risks	N.A.	• Credit and funding losses related to interbank cross-exposures [and cross-border banking exposures]. • Default of large borrowers (10 largest borrowers of each banks, and the 25 largest borrowers in the banking system). • Fire-sale of assets following sizeable withdrawals of deposits.
	Buffers	N.A.	• Banks' own capital and liquidity buffers.
4. Tail shocks	Size of the shock	N.A.	• Pure contagion: default of institutions (The resolution process would be triggered if banks' total capital ratio falls below 4 percent). • Default of large borrowers (10 largest borrowers of each banks, and 25 largest borrowers in the banking system).
5. Reporting Format for Results	Output Presentation	N.A.	• Network analyses with supervisory data - System-wide capital shortfall. - Bank-level capital shortfall. - Number of undercapitalized and failed institutions, and their shares of assets in the system. - Evolution and direction of spillovers. • Contagion analyses with market data - Systemic risk level. - Interconnectedness measures.

Appendix V. Implementation of 2010 FSAP Recommendations

Recommendations	Status
Banking Issues	
Issue revised regulation to strengthen the quality of capital by bringing risk weights to at least Basel I levels and tightening the accounting definition of Tier 1 capital.	I
Issue revised regulations to strengthen the regulatory definition of exposure, including related-party exposure.	PI
Issue revised regulation to strengthen asset classification and provisioning norms, including treatment of restructured loans.	PI
Issue regulations and supervise interest rate risk on banks' banking book.	PI
Establish regular contacts with domestic and foreign supervisors to strengthen consolidated supervision and home-host cooperation and information exchange relationships.	I
Submit to the House of Representatives (DPR) draft prompt corrective action legislation to achieve timely corrective measures, to remove discretion from the process, and limit the time banks can spend under intensive supervision.	I
Maintain capital adequacy requirement in line with the Basel I norms until Pillars 2 and 3 of the Basel II framework are operational; more generally, handle the transition to Basel II and new accounting standards carefully to ensure the right balance between various interactive elements.	I
Strengthen BI and banks' stress testing capability.	I
Revise the law to give SOCBs more flexibility in dividend payout, debt restructuring, and management of capital structure and business risks.	PI
Regulatory Structure	
Review financial sector supervision and regulation to ensure micro-macro prudential coordination while reforming the financial supervision framework.	PI
Central Banking	
Strengthen BI's balance sheet by agreement with the government to restructure zero interest government debt into market interest bearing debt.	PI
Improve the selection process of BI's Board members.	PI
Further clarify BI's policy objective and develop a mechanism to eliminate the discrepancy between the official inflation targets announced by the Ministry of Finance and the targets used by BI.	I
Disclose criteria for selecting counterparties in FOREX market.	I
Deposit Insurance	
Increase the deposit insurance fund commensurate with the increased size of deposits covered, through higher premiums or capital injection.	NI
Improve cooperation between BI and the LPS.	PI
Adopt more transparent market-based ceiling rates on insured deposits, with a plan to review the effectiveness of the system going forward.	NI

Capital Markets	
Amend the capital market law to augment regulators' independence and enforcement powers, including the power to assist foreign regulators and gain more expeditious access to bank accounts.	PI
Encourage SOEs to list in the stock market or issue fixed income instruments to help capital market development.	I
Expand the institutional investor base.	PI
Develop educational programs and professional training.	I
Improve the price discovery mechanism of government bond trading.	I
Insurance	
Pass an insurance law.	I
Deal with insolvent insurance companies to avoid systemic failure.	PI
Explore options to develop the insurance sector.	I
Develop micro and Sharia insurance products for low-income households.	I
Legal Protection Issues	
Amend the Bank Indonesia Act (BI Act) and the Capital Markets Law to enhance the scope and strength of legal protection of bank supervisors and securities regulators.	PI
Enact crisis management legislation including protection for officials involved.	PI
Market Infrastructure	
Consider measures to increase access to finance (A2F) and improve the quality of branch services.	I
Regulate and supervise Sharia finance to bring its capital requirement in line with those governing conventional commercial banks.	PI
Improve the national credit bureau; consider private credit bureaus.	PI
Improve the certainty and speed of execution of collateral and of bankruptcy proceedings.	NI
Strengthen and enforce registration of companies and filing of financial statements using unique identification.	I
Address weaknesses in laws governing payments systems, including finality of payments, delivery-versus-payment (DVP). Clarify who has access to the payment system and to enforce the regulatory and oversight responsibilities of BI and Bapepam-LK.	I
Promote efficient sharing of infrastructure and the adoption of standards and support sharing in BI's oversight of the payments system.	PI
Establish countrywide infrastructure that supports electronic payments and educates consumers about the benefits of electronic means of payment.	PI
Ensure banks' compliance with PSAK 55 (IAS 39).	I
Increase the number of qualified accountants and actuaries.	I
Transfer oversight of auditors and public accounts to Bapepam-LK.	PI
Enact new financial reporting and accountants' laws.	I
Build the capacity of accountancy organizations.	PI
Speed up convergence to International Financial Reporting Standards (IFRS) by an assessment of constraints and actions to deal with them.	I
Enforce the law requiring audited consolidated accounts for major corporations.	PI
Status: I = Implemented; PI = Partially Implemented; NI = Not Implemented; TBD = To Be Determined	

Annex I. Report on the Observance of Standards and Codes: IAIS Core Principles for Effective Supervision

Information and Methodology Used for Assessment

1. The assessment of insurance regulation in Indonesia was carried out as part of the 2016-17 FSAP. The assessment was made against the ICPs issued by the International Association of Insurance Supervisors (IAIS) in October 2011, as revised in November 2015. It was conducted by Nobuyasu Sugimoto (IMF) and Antony Randle (World Bank) from September 21 to October 4, 2016.

2. The assessment is based solely on the laws, regulations, and other supervisory requirements and practices that were in place at the time of the assessment in September 2016. While this assessment does not reflect new and on-going regulatory initiatives, key proposals for reforms are summarized by way of additional comments in this report. The authorities provided a full and comprehensive self-assessment, supported by examples of actual supervisory practices and assessments relating to unidentified insurance entities, which enhanced the robustness of the ICP assessment.

Institutional Framework and Arrangements

3. The OJK is responsible for the regulation and supervision of the entire financial sector, including banking, capital markets, insurance, and pension funds. OJK was established in 2011 to take over the role of Bapepam-LK (Supervisory Agency of Capital Market and Financial Institutions under the Ministry of Finance (MoF)) in regulating and supervising the capital markets and non-bank entities, as well as that of BI in regulating and supervising banks. OJK has three missions, 1) to ensure activities in the financial sector are fair, transparent, and accountable, 2) to promote growth in a sustainable and stable manner and 3) to protect the interests of consumers and the public.

4. The new insurance law became effective in October 2014, and since then OJK has made significant improvements to its insurance regulation and supervision. Since 2014, OJK has improved insurance regulation and supervision by adopting a number of new regulations. In the last three years, OJK has issued more than 100 new regulations, including those relating to risk based supervision, enhanced fit and proper requirements, governance and risk management requirements.

5. The financial sector regulatory framework is still in transition. Bank supervision and regulation were moved from BI to the OJK in 2014, while BI retained regulatory responsibility for macroprudential policy. There is a need to align the legislation pertaining to the financial sector agencies to the new institutional arrangement. In addition, there are some gaps in areas such as the bank liquidity assistance and resolution frameworks, and legal protection for supervisors for actions arising out of acts done in good faith. The authorities have submitted to Parliament a bill to remedy

these matters. OJK is developing a framework for consolidated supervision of banks and nonbanks (including insurance) and upgrading risk-based supervision.

6. The 2016 PPKSK Law established the KSSK. This Committee is tasked with the prevention and resolution of financial system crises. The membership of the Committee comprises the Minister of Finance, as coordinator, the Governor of BI, the Chairman of the Board of Commissioners of OJK, all with voting rights, and the Chairman of the Board of Commissioners of LPS, without voting rights. The Committee, among other things, has the authority to recommend to the President to declare a systemic crisis status in the financial system and on resolution measures.

Main Findings

7. The insurance sector is rapidly growing through conglomeration, bancassurance and increased sales of investment products. While the insurance sector is still smaller than the banking sector, it has grown rapidly at an average of 20 percent per year over the last 5 years. About the half of insurers belong to conglomerates, typically led by banks but with a number of other financial and non-financial entities within the group. Because of regulations on intra-group transactions from insurance entities, some insurance entities could have material exposures to the affiliates. Bancassurance plays a very important role in the insurance distribution, mainly in relation to investment products, such as unit-linked products.

8. The insurance sector is still vulnerable to a number of material risks. A number of insurers have failed in the last 10 years. After its establishment, OJK has taken prompt action to reduce the loss to policyholders by taking strong actions against four insurers with material deficits. OJK has monitored the capital adequacy of insurers through its risk based supervision scheme.

9. The recent economic slowdown and the current low interest rate environment also affected the insurance sector. The economic slowdown has affected the growth of the insurance sector through lower growth in premiums. As the life sector has a significant exposure to equity and mutual funds, the performance has been affected negatively. In addition, the low interest rate environment has reduced the insurance investment return. In 2015, OJK allowed insurers to abandon mark-to-market valuation for solvency purpose (RBC calculation) temporarily. OJK followed up with the firms that needed to use this temporary suspension to ensure that their treatment was, in fact, temporary. OJK has subsequently removed this suspension to avoid moral hazard in the industry and the expectation that it would accommodate further concessions in the future. There were a few insurers that utilized the policy and OJK stringently monitored these insurers.

10. The insurance industry is exposed to significant catastrophic risks with domestic concentrations through mandatory domestic reinsurance programs. Indonesia is prone to landslides, floods, storms, earthquakes, tsunamis, and volcanic eruptions. Insurers are required to set aside a catastrophe reserve and also have mandatory reinsurance arrangements with domestic reinsurers. One reinsurer is owned by all of general insurance companies, thus creating potential contagion in case of significant catastrophe events. According to the OJK, risk in excess of domestic reinsurer capacity is retroceded to international reinsurers.

11. Insurance regulation and supervision have been remarkably improved since the establishment of OJK and the enactment of the new Insurance Law. OJK was established in 2011 as an independent and integrated regulator. Since the new Insurance Law became effective in October 2014, OJK has made significant regulatory reforms, by issuing number of new regulations, introducing risk based supervision through the active usage of its supervisory powers including revocation of licenses, and by enhanced regulations for corporate governance and risk management.

12. However, the assessment has identified a significant number of shortfalls in observance with the Insurance Core Principles. Some deficiencies are due to the lack of effective group regulation and supervision of insurance groups. While OJK has implemented regulations related with risk management and group capital, intra-group transactions are not well taken into account and thus double gearing within the insurance entities and investment arbitrage between insurance entities and non-financial entities may be possible. Including a capital calculation for catastrophic risk and a framework for the imposition of capital add-ons can tighten the capital regime.

13. The FSAP team identified that the laws need to be amended to enhance the clarity of legal protection and the primary objective of the supervisor. ICP requires that primary objective of supervisors should be the protection of policyholders. However, OJK has other objectives and particularly the objective of market development seems to have caused conflict with the objective of policyholder protection. Setting the protection of policyholders as the primary objective of OJK will enhance the operational independence of OJK. The law also needs to provide clear and robust legal protection of OJK and its staff acting in good faith. Improvement of legal protection of OJK with clearer internal guidance for applying sanctions will help it to take more prompt and effective regulatory actions to problem insurers.

14. The FSAP team recommends that OJK improve the effectiveness of supervision. Thematic reviews of reserving practices will encourage more conservative reserving. Close dialogue with the industry and clearer guidance on adequacy, independence and reporting lines of key control functions will improve the effectiveness of corporate governance and risk management of insurance groups significantly. OJK is encouraged to increase the expertise of its human resources, in particular actuaries, and facilitate communication with the industry participants which will assist the industry and OJK itself to transition smoothly from a compliance based culture to more risk based supervision. OJK also needs to revise the "three strikes" approach to ensure timely supervisory actions. Given the possible high interconnectedness and contagion risks through conglomerates and domestic reinsurance programs, the authorities are encouraged to enhance macroprudential surveillance by integrating conglomerate analysis to identify possible contagion among conglomerates and sectors.

15. While OJK has introduced a risk-based capital and reserving framework, the framework still need some improvements. The capital framework covers a number of risks, such as default risk of investments, asset and liability mismatch (ALM), FX mismatch, premium and claim risk, operational risk and mutual fund related risk. OJK has introduced guarantee risk associated with

unit-linked products. However, some material risks (such as catastrophe risk addressed through reinsurance, and contagion risk from related parties) need further improvements. OJK has not conducted thematic reviews for each risk in RBC calculation.

16. There is a need for more focus on the regulation of insurance intermediaries and market conduct. OJK has made tremendous efforts to ensure efficiency and fairness in claims payment and complaints handling, which will continue to be important especially in the non-life sector. However, the rapidly increasing life insurance sector and complex unit-linked products make conduct regulations even more important. Enhanced disclosure requirements for intermediaries and close coordination with the insurance associations will improve the quality of intermediaries.

Summary Observance of Insurance Core Principles

Insurance Core Principle	Overall Comments
1 - Objectives, Powers and Responsibilities of the Supervisor	• The fact that the Law does not recognize the protection of policyholders as the **primary function** of the supervisor needs to be addressed. This ensures that if there is a conflict between the supervisor's role as the protector of policyholders and its other roles such as promoting the development of the insurance market, the protection of policyholders is the most important,
2 - Supervisor	OJK, its Commissioners and its staff do not have adequate protection from any actions brought by third parties against them for acts performed in the proper performance of their duties. The Law needs to provide that OJK, its Commissioners and staff are not liable for actions done within the scope of their power and done in good faith. Where any action is brought against Commissioners and staff for actions done in good faith, the Commissioners and staff should be indemnified for the cost of defending such actions.
3 - Information Exchange and Confidentiality Requirements	• In practice, the arrangements in OJK for the exchange of information and the protection of the confidentiality of any information exchanged are ad hoc. The Law should reflect that arrangements for the exchange of information should not be subject to reciprocity. OJK should develop processes and policies for the proper exchange of information.
4 - Licensing	The construction of the main Insurance Law poses some doubts as to which entities are subject to licensing. OJK does not appear to have adequate powers in law to impose conditions and limitations and restrictions on licenses, although in fact OJK does so. The Law could more properly define those entities that require a license, give OJK the explicit power to endorse licenses with the scope and to place conditions, restrictions, and limitations on licenses.
5 - Suitability of Persons	The suitability requirements are detailed and appear to be effective. However, the number of parties who are subject to the requirements is less than required by the ICP. The Law should extend the requirements to be fit and proper (suitable) to Senior Management. The Law should define the concept of "Key Persons in Control Functions" and extend the suitability requirements to these persons.
6 - Changes in Control and Portfolio Transfers	At present, the Law requires OJK approval to changes in ownership and deems persons with 25 percent or more of the shareholding of an insurer to be a "controller". The Law should reflect that the 25 percent can be held by the shareholder on his or her own or in conjunction with associates or related parties

Insurance Core Principle	Overall Comments
	as to be defined in Law no 40 of 2014.
7- Corporate Governance	Some reorganization and expansion of the regulation is needed to achieve greater compliance with the ICP. It would be helpful if the regulation set out in greater detail: the duties, functions, roles, obligations, and reporting lines for each party involved in setting the direction of the entity and in establishing and maintaining an appropriate risk management framework. In particular, the guide should look at: • The obligations of directors and commissioners to act in the interests of policyholders, to act in good faith and with due skill and care; • The functions of the directors and commissioners in setting the objectives, the corporate culture, risk appetite, and risk management framework; • The role of Senior Management, its function and its relationship with the Board; • The identification of Key Persons in Control Functions, their roles, duties, functions, and obligations; • The reporting lines of Key Persons in Control Functions to the Board of Directors or Commissioners; • The relationship of the Board and the external auditor; • Further details about the framework in place for reporting to the supervisor.
8 - Risk Management and Internal Controls	OJK recently introduced requirements designed to force insurers to adopt good corporate governance practices. It would be helpful if the regulation set out in greater detail, the duties, functions, roles, obligations and reporting lines for each party involved in setting the direction of the entity and in establishing and maintaining an appropriate risk management framework.
9 - Supervisory Review and Reporting	OJK has made significant progress in implementing an effective risk based supervision system. OJK collects information from insurers for supervisory purposes but needs to supplement the collection to ensure compliance. A more formal framework for risk rating will improve consistency and accuracy and therefore the usefulness of the ratings.
10 - Preventive and Corrective Measures	
11- Enforcement	Discussions with the supervisory staff revealed that OJK has, in some circumstances, a "three strikes and out" process where the supervisor will issue three sanctions before it takes final action to resolve dire issues. This practice should be reviewed to ensure that it does not hinder OJK in taking timely action to resolve issues. The timeliness of action is a requirement of the ICP.
12 - Winding-up and Exit from the Market	While OJK has sufficient powers to revoke a license and form a liquidation team, there is no clear timeline after an insurer breaches the minimum capital level (which is 40 percent). Policyholders of a recently failed company have experienced significant delays in having claims and other amounts owed to it settled.
13 - Reinsurance and Other Forms of Risk Transfer	
14 - Valuation	The methodology of the discount rates does not necessarily reflect the current

Insurance Core Principle	Overall Comments
	economic conditions. For example, the average of 3 years is meant to smooth short-term market fluctuations, but if it is applied to the current situation where the discount rate has continued to drop, the 3-year average deviates from the current condition materially. It also does not capture the characteristics of cash flows as one discount rate of the average duration of liabilities is applied. While other assumptions are generally principles based, there seems no active monitoring and challenges by OJK. MOCE is required only for the premium reserve and not for the claims reserves. Assets are generally valued by referring to market value, however mark to market was suspended for several months in 2015 while the market events in 2015 are not generally recognized as extreme. Therefore, it may have created a moral hazard if the industry expects another suspension of mark to market valuation in another instance of market turmoil.
15 - Investment	The investment limit is based on total investments and is so high that it does not prevent excessive concentration risk being taken above the insurer's capacity to absorb the risk. In particular, the limit for intragroup transactions is set at 20 percent of the portfolio and some insurance groups could have excessive concentration to the intra group affiliates.
16 - Enterprise Risk Management for Solvency Purposes	ORSA and part of ERM requirements have been recently implemented, thus actual implementation in practice is yet to be seen. Both some domestic and foreign owned insurers seem to have established the framework and thus the assessors don't have material concerns with the implementation.
17 - Capital Adequacy	An important risk component (catastrophe risk) is not yet included, while OJK is working to include it into the capital requirements. Capital add-on could be imposed without a transparent framework (add-on has been set only once in exceptional circumstances). Asset and liability component and the component related with guaranteed benefits associated with unit-linked products and premium risk need sophisticated calculation and judgment. However, the FSAP team does not see any evidence of validations conducted by OJK.
18 -Intermediaries	While intermediaries are required to provide certain information to policyholders, there is no disclosure requirement about terms and condition, relationship with the insurers, or information related to remuneration.
19 - Conduct of Business	OJK requires protection of private information about customers, focusing on prevention of the misuse or inappropriate communication of personal information to parties with no legitimate interest in the information. However, given the increasing share of internet and mobile sales, it is important for OJK to work closely with the industry to mitigate other type of operational risks, such as cyber risk.
20 - Public Disclosure	While OJK requires significant detailed disclosures of investments, those relating to technical provisions and ALM are not sufficient. There is no requirement about risk management practices and corporate governance. While assessors believe that those shortfalls are rather material, such shortfalls are considered in other related ICPs (such as ICP 14 and 17).
21 - Countering Fraud in Insurance	

Insurance Core Principle	Overall Comments
22 - Anti-Money Laundering and Combating the Financing of Terrorism	
23 - Group-wide Supervision	OJK has coordinated with home supervisors mainly through participation in supervisory colleges. However, the information exchange with home supervisors is not yet active enough to contribute effectively to defining the scope of group supervision through close cooperation with home and other involved supervisors.
24 -Macroprudential Surveillance and Insurance Supervision	While OJK has conducted vulnerability analyses, most of them are still focusing at individual entity or group level, and there is no exercise to capture the interconnectedness among sectors and among conglomerates. Given the interconnectedness between banks and insurers and through reinsurers in Indonesia, possible concentration and contagion could have systemic implication for the entire financial sector or the real economy.
25 - Supervisory Cooperation and Coordination	
26 - Cross-border Cooperation and Coordination on Crisis Management	MoUs with relevant regulators are still missing, which may prevent OJK coordinating cross-border supervision and crisis management effectively.

Recommended Actions

Insurance Core Principle	Recommendations
1 - Objectives, Powers and Responsibilities of the Supervisor	It is recommended that the principal Insurance Law specify that the principal objective of OJK is to promote the maintenance of a fair, safe, and stable insurance sector for the benefit and protection of policyholders.
2 - Supervisor	It is recommended that OJK: • work with MoF to amend Law no 21 of 2011 to ensure that OJK, its commissioners and staff are protected from legal actions for any acts done in good faith; • work with MoF to amend Law no 21 of 2011 to ensure that OJK has the power to meet the legal expenses of any commissioner or staff member who is defending an action where the commissioner or staff member has performed his or her duties in good faith; and • review the adequacy of its expert resources, in particular actuaries.
3 - Information Exchange and Confidentiality Requirements	It is recommended that: • the requirements for balanced reciprocity be removed from Law no 21 of 2011 or clarified to ensure appropriate and smooth exchange of information; • OJK develop policies and processes for the proper and safe exchange of information; and

Insurance Core Principle	Recommendations
	• OJK expand the scope of MoU, for example by joining in the IAIS MoU, and offering its analysis (such as key results of inspection results) to the home supervisors to enhance the cooperation with home supervisors.
4 -Licensing	It is recommended that OJK: • work with MoF to review the Insurance Law in order to provide transparent licensing requirements; and • work with MoF to review Insurance Law no 40 of 2014 in order to provide power to OJK to impose conditions, restrictions and limitations on licenses.
5 - Suitability of Persons	It is recommended that: • the suitability requirements be extended to Senior Management; and • "Key Persons in Control Functions" be defined and the suitability requirements be extended to these persons.
6 - Changes in Control and Portfolio Transfers	It is recommended that OJK regulation be amended to include definitions of "associate" or "related party".
7 -Corporate Governance	It is recommended that: • OJK revise and amend regulation no 02/POJK.05/2014 to reflect better the requirements of ICP 7.
8 - Risk Management and Internal Controls	It is recommended that: • OJK establish a dedicated risk management and internal control regulation that creates an obligation that an insurer must have adequately resourced, independent, risk management, compliance, internal audit, and actuarial functions.
9 -Supervisory Review and Reporting	It is recommended that: • OJK review the information required for quarterly reporting against the requirements of ICP 9.5 and require the lodgment of the information identified in this report as missing; and • OJK develop written policies and processes for the updating of risk ratings.
10 - Preventive and Corrective Measures	
11- Enforcement	It is recommended that OJK: • revise the "three strikes" approach to the imposition of sanctions to ensure that supervisory actions can be effected in a timely fashion.
12 -Winding-up and Exit from the Market	It is recommended that OJK: • develop and publish guidance to ensure timely revocation of a license. OJK should also clarify the roles of the two financial restructuring plans that are imposed when an insurer breaches the target capital level (120 percent) and the other which is imposed on an insurer the solvency level of which is below 40 percent; • establish policyholder protection (industry wide) funds with sufficient funds and flexibility, while avoiding moral hazard for insurers; • ensure that the procedures for the winding up and exit of an insurer from the market are clearly outlined in the law; and • identify and document a point at which it is no longer permissible for an insurer to continue operating in the law.

Insurance Core Principle	Recommendations
13 -Reinsurance and Other Forms of Risk Transfer	
14 - Valuation	It is recommended that OJK: • work closely with the actuarial association to establish more guidance around key assumptions; • impose enhanced prudential standards (such as stress testing and business continuity planning) on the firms which had to rely on the temporary suspension of the mark to market requirement in 2015 to eliminate the moral hazard which might have arisen among the industry; • apply more market consistent discount rates by applying the entire yield curve of the most relevant securities; and • apply MOCE consistently over all insurance reserves;
15 -Investment	It is recommended that OJK: • enhance investment requirements to mitigate excessive concentration and contagion risk from affiliates or closely related entities outside the group; • conduct thematic reviews on investment practices and effectively challenge the investment strategy of firms and groups which have a more aggressive investment strategy; and • monitor the concentration of single counterparties (including those within the group) by aggregating all exposures of one single counterparty through various investments, including equity, bond, mutual funds, loan, deposits, derivatives, receivables, etc.
16 -Enterprise Risk Management for Solvency Purposes	It is recommended that OJK: • enhance communication with the industry about objectives of the new regulations; • compare industry practices by conducting thematic reviews; and • formulate clear expectations of key requirements, such as stress tests, and risk tolerance statements.
17 -Capital Adequacy	It is recommended that OJK: • adjust capital adequacy ratios at the solo level if an insurance entity provides capital to financial entities within the group to mitigate the incentive to improve the capital positions of the solo entities; and • conduct thematic reviews of some schedules in the risk based capital requirement, such as B (ALM), E (premium) and H (minimum guarantee of unit link), to make sure that insurers calculate the capital charges appropriately.
18 -Intermediaries	It is recommended that OJK: • continue and enhance coordination with the insurance association to improve training and examination to meet the increasing sophistication of insurance products; and

Insurance Core Principle	Recommendations
	• require intermediaries to make disclosures to customers concerning their status, and how they are remunerated.
19 -Conduct of Business	It is recommended that OJK conduct informal exercises, such as horizontal self-assessment, and enhance dialogue with the industry and associations to encourage insurers to improve their resilience to cyber risk.
20 - Public Disclosure	It is recommended that OJK: • implement the recommendations related with ICPs (such as ICP 14 and 16) first before amending disclosure requirements; and • encourage insurers to improve disclosure of risk management and corporate governance voluntarily and find best practices with a good balance between cost and benefits;
22 -Anti-Money Laundering and Combating the Financing of Terrorism	
23 -Group-wide Supervision	It is recommended that OJK: • establish a relationship with home and other relevant supervisors through more active participation to supervisory colleges and IAIS activities (including IAIS MoU); • analyze intergroup transactions in detail so as to cooperate effectively with the home and other relevant supervisors to determine the scope of group wide supervision;
24 -Macroprudential Surveillance and Insurance Supervision	It is recommended that OJK: • integrate the conglomerate analysis conducted by each group level together to identify possible contagion among conglomerates and among sectors; • conduct contagion analysis caused by domestic concentration of reinsurance coverage, for example through stress testing with an assumption of catastrophe events and a failure of a large domestic reinsurance company; and • consider the suppression of mandatory reinsurance programs if that could cause contagion among domestic insurers and reinsurers.
25 - Supervisory Cooperation and Coordination	
26 - Cross-border Cooperation and Coordination on Crisis Management	It is recommended that: • OJK expand the scope of MoU, for example by joining in the IAIS MoU, and offering its analysis (such as key results of inspection results) to the home supervisors to enhance the cooperation with home supervisors.

Authorities' Responses to the Assessment

17. We thank the assessors for taking time to understand the non-bank financial sector in Indonesia and for the detailed assessment report.

18. While we are in agreement with many of the ICP comments, we feel that some of the comments do not fully reflect the proportionality principle given the nature and scale of the insurance sector which is still developing in Indonesia. At OJK, we have progressed significantly in adopting the risk-based supervisory regime, advancing good corporate governance requirements and internal control mechanisms. Furthermore, with OJK's integrated and strengthened regime for the financial conglomerates, we are well positioned to contribute to the continuing confidence of the financial sector in Indonesia.

19. We look forward to implementing most of the recommendations in due course.

Statement by Mr. Agung, Executive Director for Indonesia
and Mr. Machmud, Senior Advisor to Executive Director
May 24, 2017

The Indonesian authorities would like to express their sincere appreciation to the FSAP mission team for the constructive dialogue. The authorities welcome the encouraging results of the assessment as well as the constructive feedbacks and recommendations. These are deemed essential for further development of the financial sector and for maintaining financial system stability in Indonesia.

The Indonesian financial system has been resilient and stable. The Banking system is well capitalized, highly profitable, and comfortably liquid. Corporate sector vulnerabilities have been broadly in check, with a decline in leverage and foreign-currency denominated debt. The financial system has low systemic risk and has weathered global financial shocks, including the Global Financial Crisis (GFC) and heightened volatility, well. Stress tests that have been regularly conducted by the authorities indicate that banks are resilient under severe stress test scenarios particularly given their high capital and strong profitability positions.

Financial sector resilience has been supported by steadfast financial sector reforms. Following the 2010 FSAP, the Indonesian authorities have made further progress in strengthening financial sector oversight, financial safety net, and crisis management frameworks, as well as promoting financial deepening and inclusion. An important milestone is the establishment of the Financial Services Authority (OJK) in 2011 as an integrated regulator to oversee the entire financial sector. Since the last FSAP, the OJK has implemented Basel III, adopted a new insurance law, and improved supervisory practices across sectors. Bank Indonesia (BI), as the macroprudential authority, has issued regulations on the macroprudential framework, together with the introduction of several macroprudential instruments, and has developed analytical tools to assess systemic risk. The framework for crisis management and resolutions, and financial safety nets was significantly improved in 2016 under the new Prevention and Resolution of Financial System Crisis Law (PPKSK Law). BI also started reforming its liquidity management framework to promote money market deepening. In addition, BI has issued FX hedging and FX liquidity coverage regulation for corporate sectors to further strengthen financial stability.

Going forward, the Indonesian authorities are well aware that there is no room for complacency and are committed to undertaking further steps to strengthen financial sector. These include strengthening and clarifying the roles of statutory authorities by amending the laws of BI, OJK, and Indonesia Deposit Insurance Corporation (LPS) as well as efforts to advance financial market deepening, and promote further financial inclusion.

Financial Sector Oversight

The authorities broadly agree with staff's recommendations to amend several laws to further improve financial sector oversight. As the legal amendments requires considerable time, the authorities have taken interim measures to address some constraints arising from inadequate laws. On the issue of reducing OJK's silo structure, OJK continues to strengthen various initiatives to integrate the organization, including the establishment of the Integrated Regulatory Committee and Integrated Supervisory Department to promote greater harmonization of regulations and supervisory processes across sectors. On financial conglomerate oversight, the authorities are cognizant of the need to amend the law to provide the authorities with the power required for, licensing, establishing and supervising a non-

operating holding company. In this regard, OJK Regulation on the requirement of financial conglomerates to establish holding company is underway.

On the macroprudential policy framework, the authorities welcome staff comprehensive review of macroprudential policy framework in Indonesia. While using the current legal basis as stated in the OJK Law and the PPKSK Law is deemed sufficient to support the implementation of the macroprudential framework, further strengthening of macroprudential mandate in the BI Law is vital to improve the effectiveness of macroprudential policy implementation. The authorities share staff's view that the amendment of Bank Indonesia Law would further strengthen the central bank's macroprudential mandate and responsibilities following the transfer of banking supervision function from Bank Indonesia to OJK. With respect to staff recommendation of escalating Macro-Microprudential Coordination Forum to a policy level forum, the authorities view that the existing structure of the forum remains sufficient in facilitating technical and high level policy discussions.

Crisis Management and Resolution

The crisis management and resolution framework has strengthened coordination among authorities in a crisis management. The PPKSK law clarifies the responsibilities of the agencies involved in crisis management and strengthens the role of Financial System Stability Committee (KSSK). The KSSK play important role both in crisis prevention and resolution. KSSK role helps in strengthening the effectiveness of coordination mechanisms to ensure timely decision on crisis prevention and resolution, while the power to exercise the policy decisions remains under respective mandate of each institution. The authorities are of the view that this procedure should not dilute the accountability of member authorities. The law also gives an important role to the President of Indonesia in crisis management, especially in deciding the state of financial crisis and activating the systemic crisis resolution. The authorities believe that the President's involvement in a financial crisis is important and appropriate as the top-level decision would be critical in crisis resolution beyond the current legal arrangements.

On the issue of emergency liquidity assistant (ELA), the authorities believe that ELA design should not create an incentive problem. In this connection, the ELA is only provided to temporarily illiquid but solvent banks with adequate amount of high quality collateral, as stipulated in the PPKSK Law and Bank Indonesia Law. Committing ex-ante ELA for insolvent banks with insufficient collateral could increase the risk of moral hazard on the side of financial institutions or responsible authorities. The debate on this issue was highly intensive during the parliamentary discussion on the crisis management and resolution law as the international trend has been shifting towards a bail-in resolution as opposed to a bail-out resolution to reduce the risk of moral hazard.

Financial Development

On financial development, staff's recommendation to develop an integrated roadmap to promote financial deepening and inclusion is well taken. In this regard, the authorities have undertaken significant steps to integrate various initiatives encompassing financial market deepening and inclusion. At the national level, the Ministry of Finance, BI and OJK have established a Coordination Forum on Development Financing through Financial Markets. On financial inclusion, the authorities have developed a road map of national strategy that involves several relevant ministries and authorities under coordination of Coordinating Minister of Economic Affairs.