INTERNATIONAL MONETARY FUND

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PEOPLE'S REPUBLIC OF CHINA

FINANCIAL SYSTEM STABILITY ASSESSMENT—PRESS RELEASE AND STATEMENT BY THE EXECUTIVE DIRECTOR FOR PEOPLE'S REPUBLIC OF CHINA

December, 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 November 10, 2017 consideration of the FSSA.
- The **Financial System Stability Assessment** (FSSA) for the People's Republic of China, prepared by a staff team of the IMF for the Executive Board's consideration on November 10, 2017. This report is based on the work of a Joint IMF/WB Financial Sector Assessment Program (FSAP) mission to the People's Republic of China during October 2015; January, June, and December 2016; and February, April, May, and September 2017. The FSSA report was completed on October 24, 2017.
- A **Statement by the Executive Director** for the People's Republic of China.

The IMF's transparency policy allows for the deletion of market-sensitive information and premature disclosure of the authorities' policy intentions in published staff reports and other documents.

The document listed below has been or will be separately released:

- Detailed Assessment of Observance of Standards and Codes

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IMF Executive Board Concludes Financial Sector Stability Assessment with China

On November 10, 2017, the Executive Board of the International Monetary Fund (IMF) discussed the IMF's latest Financial System Stability Assessment (FSSA) of the People's Republic of China.[1]

Since the 2011 Financial Sector Assessment Program (FSAP), China's impressive economic growth has continued, and it is now undertaking a necessary but prolonged economic and financial transformation. While the financial system has facilitated this high growth rate, it has developed rapidly in size and complexity, and it has emerged as one of the world's largest with financial assets at nearly 470 percent of GDP.

Tensions, however, have emerged in various areas of the Chinese financial system. First, monetary and fiscal policies aimed at supporting employment and growth have, in recent years, been expansionary. Pressures to keep non-viable firms open—rather than allowing them to fail—are strong, particularly at the local government level, where these objectives, at times, conflict with financial stability. As a result, the credit needed to generate additional GDP growth has led to a substantial credit expansion resulting in high corporate debt and household indebtedness rising at a fast pace, albeit from a low base.

Second, demand for high-yield investment products coupled with strengthening oversight of the banking sector has led to regulatory arbitrage and the growth of increasingly complex investment vehicles. Risky lending has thus moved away from banks toward the less-well-supervised parts of the financial system. Non-bank financial institutions, including asset managers and insurance companies, which offer a proliferation of investment products, have

[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

grown even faster than the banking sector. Banks continue to be positioned at the core of this highly interconnected system of indirect lending, with uncertain linkages among numerous institutions constituting a challenge for supervision.

Third, widespread implicit guarantees have added to these risks. A reluctance among financial institutions to allow retail investors to take losses; the expectation that the government stands behind debt issued by state-owned enterprises and local government financing vehicles; efforts to stabilize stock and bond markets in times of volatility; and protection funds for various financial institutions, have all contributed to moral hazard and excessive risk-taking.

The system's increasing complexity has sown financial stability risks. Given the centrality of banks to the financial system, the FSAP team recommended a gradual and targeted increase in bank capital. The authorities have recognized these risks, including at the highest level, and are proactively taking important measures to address them. These include the strengthening of systemic risk oversight, further improving regulation, and moving toward functional supervision.

Executive Board Assessment

Executive Directors broadly agreed with the findings and recommendations of the FSSA. They welcomed the significant steps taken by the People's Bank of China and regulatory agencies to strengthen financial sector supervision against a background of rapid financial sector growth and deepening. Directors commended the authorities for major reforms undertaken since the 2011 FSAP, notably in introducing Basel III standards, a risk-oriented solvency standard for insurers and improving oversight of securities market products. They encouraged the authorities to implement the recommendations of the FSSA to further strengthen systemic risk analysis and oversight, data quality and collection, and information sharing.

Directors noted the tension between sound microprudential oversight and significant risks posed by credit overhang and "shadow banking". They noted that unresolved tensions between policies promoting the economic and financial transition and concerns to smooth the effects of adjustment—notably by maintaining GDP growth and protecting employment—could give rise to financial stability risks. In this context, they encouraged the authorities to align incentives at the national and regional levels to ensure that due priority is given to financial stability. For this, enhancing supervision of financial conglomerates and carefully sequenced reforms to tackle implicit guarantees, including for financial institutions and state-owned enterprises, will be important. Directors also recommended further efforts to ensure credible loan classification and uniform treatment of similar financial market products.

Directors stressed the importance of adequate legal protection, clear institutional mandates and accountability to ensure sufficient independence and resources for oversight agencies to act effectively and foster interagency cooperation. Clear prioritization of financial stability over development objectives at the agency and cross-sectoral levels—including in the proposed Financial Stability Sub-Committee—will be crucial to ensure that risks outside the regulatory perimeter are monitored. There is also a need for increased emphasis on functional supervision in addition to the current institution-based approach. Strengthening the financial safety net and the legal framework for bank resolution would improve incentives and reduce the potential risks to public resources that could arise from the failure of financial institutions.

Directors noted the significant expansion of fintech in the Chinese market and its benefits for financial inclusion and urged the authorities to further develop the oversight framework for digital finance, balancing innovation with safety and soundness.

Directors welcomed the progress in enhancing the AML/CFT framework. They called on the authorities to overcome remaining deficiencies and continue with efforts to align the framework with the revised Financial Action Task Force standard.

INTERNATIONAL MONETARY FUND

PEOPLE'S REPUBLIC OF CHINA

FINANCIAL SYSTEM STABILITY ASSESSMENT

October 24, 2017

Approved By
Ratna Sahay and Markus Rodlauer

Prepared By
Monetary and Capital Markets Department

This report is based on the work of the Financial Sector Assessment Program (FSAP) mission that visited the People's Republic of China in October 2015; January, June, and December 2016; and February, April, May, and September 2017. The FSAP findings were also discussed with the authorities during the Article IV Consultation mission in June 2017.

- The FSAP team was led by Ratna Sahay, Simon Gray, and Carlos Medeiros and included IMF deputy mission chiefs Alvaro Piris and James P. Walsh, with Pierre Albert, Chikako Baba, Noémie Choiset, Maria Zenaida De Mesa, Ian Carrington DeVere, Mario Catalan, Ding Ding, Yara Esquivel, Olivier Frécaut, Neri Gomes, Naomi Griffin, Shaoyu Guo, David Jutrsa, Purva Khera, Dinah Knight, Hui Miao, Angelin Oey, Katharine Seal, Froukelien Wendt, and Kai Yan (IMF); Miquel Dijkman (WB Mission Chief), Haocong Ren and Roberto Rocha, with Ana Carvajal, Jennifer Chien, Anderson Caputo Silva, Serap Gonulal, Jose Antonio Gragnani, Barend Jansen, Andres Martinez, Nan Zhou, Valeria Salomão Garcia, Gynedi Srinivas, Sau Ngan Wong, Luisa Zanforlin, and Luan Zhao (World Bank); and external experts Richard Comotto, Jonathan Fiechter, Ruth Neyens, Malcolm Rodgers, Yee Theng Tan, Ian Tower, and Thomas Yee.
- FSAPs assess the stability of the financial system as a whole and not that of individual institutions. They are intended to help countries identify key sources of systemic risk in the financial sector and implement policies to enhance its resilience to shocks and contagion. Certain categories of risk affecting financial institutions, such as operational or legal risk, or risk related to fraud, are not covered in FSAPs.
- People's Republic of China is deemed by the Fund to have a systemically important financial sector according to Mandatory Financial Stability Assessments Under the Financial Sector Assessment Program—Update (11/18/2013), and the stability assessment under this FSAP is part of bilateral surveillance under Article IV Consultation of the Fund's Articles of Agreement.
- This report was prepared by Ratna Sahay, Simon Gray, Alvaro Piris, and James P. Walsh.

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AMCs	Asset Management Companies
AML/CFT	Anti-Money Laundering/Combating the Financing of Terrorism
AMP	Assets Management Plan
BCBS	Basel Committee on Banking Supervision
BCP	Basel Core Principles for Effective Banking Supervision
CBRC	China Banking Regulatory Commission
CCB	City Commercial Bank
CCDC	China Central Depository and Clearing Corporation
CCPs	Central Counterparties
CCyB	Counter-cyclical capital buffer
CDD	Customer due diligence
CET1	Common equity tier 1 capital
CIS	Collective Investment Schemes
CIRC	China Insurance Regulatory Commission
C-ROSS	China Risk-Oriented Solvency System for insurers
CSDC	China Securities Depository and Clearing Corporation Limited
CSRC	China Securities Regulatory Commission
DNFBP	Designated nonfinancial businesses and professions
D-SIB	Domestic Systemically Important Bank
ELA	Emergency Lending Assistance
FHCs	Financial Holding Companies
FIs	Financial institutions
FMIs	Financial Market Infrastructures
FSAP	Financial Sector Assessment Program
FSS-C	Financial Stability Sub-Committee
FSB	Financial Stability Board
G-SIB	Globally Systemically Important Bank
G-SIFI	Globally Systemically Important Financial Institution
G-SII	Globally Systemically Important Insurer
JMC	Financial Regulatory Coordination Joint Ministerial Committee
JSB	Joint-Stock Banks
LCR	Liquidity coverage ratio
LGFV	Local Government Financing Vehicle
LTV	Loan-to-value ratio
MoF	Ministry of Finance
MPA	Macroprudential Assessment
NBFI	Nonbank Financial Institution
NBS	National Bureau of Statistics
NPLs	Nonperforming Loans
NSCAs	Nonstandard Credit Assets

PBC	People's Bank of China
PFMI	CPSS-IOSCO Principles for FMIs
RMB	Chinese renminbi
SAFE	State Administration of Foreign Exchange
SOEs	State-Owned Enterprises
WMPs	Wealth Management Products

PREFACE

The mission met with senior leaders and officials from a number of regulatory and government agencies, including the People's Bank of China (PBC), China Banking Regulatory Commission (CBRC), China Securities Regulatory Commission (CSRC), China Insurance Regulatory Commission (CIRC), National Development and Reform Commission, the Ministry of Finance (MoF), the Ministry of Human Resources and Social Security, the State Administration of Foreign Exchange (SAFE), and the Legislative Affairs Office of the State Council, as well as the National Bureau of Statistics (NBS). It also met with representatives from financial institutions (FIs), industry organizations, academics, and the private sector.

The IMF and World Bank FSAP team would like to extend its deepest gratitude to the authorities for their impeccable preparation, constructive dialogue and excellent cooperation, and substantive contributions to the FSAP process. The PBC, CBRC, CIRC, and CSRC provided answers to hundreds of questions, translated innumerable pages of regulation and legislation, and patiently responded to questions and clarifications. Counterparts across the country were, without exception, well prepared. We would like to extend a special mention of appreciation to the FSAP offices of the PBC and the regulatory agencies for their responsiveness in efficiently organizing and facilitating many meetings. The challenge of understanding the complex Chinese financial system would have been impossible without the continued support of the Chinese authorities at the national level, but also at the local level with FSAP meetings held in Changchun, Chengdu, Chongqing, Fuzhou, Guangzhou, Hangzhou, Shanghai, Shenzhen, Shijiazhuang, Wenzhou, and Hong Kong SAR.

The scope of this Financial Sector Stability Assessment is broad, but does not cover all topics related to the financial sector. The FSAP assesses the risks and development prospects of a country's financial system, and provides recommendations to improve stability and facilitate development. In the Chinese case, financial stability covers a very wide range of topics. Other topics of relevance for the financial sector are covered in the IMF's annual Article IV Consultation reports (the most recent is IMF Country Report 17/247), and are thus not addressed here. These include the conduct and stance of monetary policy, capital account and exchange rate liberalization, reform and governance of state-owned enterprises (SOEs), and reforms in social safety nets.

EXECUTIVE SUMMARY

Since the 2011 FSAP, China's impressive economic growth has continued, and it is now undertaking a necessary but prolonged economic transformation. China is transitioning from an economic model based on exports and investment to a more sustainable one based on services and consumption. The financial system has facilitated this high growth rate and the consequent sharp decline in poverty rates. The sector now reaches most of the population, as evidenced in financial inclusion measures, and permeates virtually all aspects of economic activity.

The economic transformation requires a fundamental change in the role of the financial system. Historically its role was to channel China's high savings at low cost to strategic sectors. Looking ahead, the policy objective for the financial sector should be to facilitate China's economic transformation to a more demand-driven system, in which markets play an increasingly dominant role in resource allocation and where consequences of risk-taking are well-understood and accepted.

Unresolved tensions between policies promoting the transition and concerns to smooth the effects of adjustment could give rise to financial stability risks. Monetary and fiscal policies aimed at supporting employment and growth have, in recent years, been expansionary. Pressures to keep non-viable firms open—rather than allowing them to fail—are strong, particularly at the local government level where these objectives, at times, conflict with financial stability. There are widespread perceptions of implicit guarantees: banks often compensate retail investors for losses, while lenders assume that loss-making SOEs or financial intermediaries will be bailed out. The planned further progress in exchange rate and capital account liberalization will be difficult in the near term in the face of these tensions, as it could exacerbate run-risk on financial intermediaries.

Liberalization of financial markets and a high savings rate have resulted in a large, dynamic, and interconnected financial system. Bank assets have increased to 300 percent of GDP; equity and bond markets are now the second and third largest, respectively, in the world; and the insurance industry is growing fast. Medium- and smaller-sized banks have grown rapidly, as has the significance of wealth management products (WMPs), short-term wholesale funding, and nonstandard credit assets (NSCAs). Some corporate borrowings appear to be migrating to nonbank financial institutions (NBFIs), some of which are opaque and highly interconnected—including to banks—through common ownership or financing and distribution channels. Much of the proliferation in entities and products appears to be driven by regulatory arbitrage, as it has been difficult for the authorities to keep pace with the rapid changes.

Credit growth has outpaced GDP growth, leading to a large credit overhang. The credit-to-GDP ratio is now about 25 percent above the long-term trend, very high by international standards and consistent with a high probability of financial distress. As a result, corporate debt has reached 165 percent of GDP, and household debt—while still low—has risen by 15 percentage points of GDP over the past five years and is increasingly linked to asset-price speculation. The buildup of credit in traditional sectors has gone hand-in-hand with a slowdown of productivity growth and pressures on asset quality. The low nonperforming loan (NPL) ratio may understate credit quality problems, as banks have exposures to opaque NSCAs, and retain risk on off-balance sheet products. While banks aggressively write-off and dispose of problem assets to state-owned asset management companies (AMCs), operational restructuring of distressed but potentially viable corporates is rare, and timely exit of unviable corporates even more so.

Authorities, including at the highest level, have made financial stability a top priority this year, and are taking steps to address vulnerabilities. In April 2017, President Xi noted that financial security is an important part of national security, and a key foundation for the stable and healthy development of the economy. The authorities have addressed many of the recommendations of the last FSAP in 2011 (Annex VI), in particular on improving microprudential supervision, and continue to take numerous measures under challenging circumstances. In the FSAP meetings, the authorities responded positively to the FSAP team's findings and recommendations, which were presented to them through the course of the FSAP's work.

However, some of the underlying causes of risks are yet to be fully addressed, reflecting policy tensions. These are: first, the overriding objective, especially at the local government level, to achieve high growth rates that encourages credit expansion, particularly in the shadow banking sector; second, complexity and opacity of the financial system—reflecting rapid growth and development, as well as regulatory arbitrage—undermine the authorities' ability to measure asset quality, and to assess and mitigate risk; and third, the existence of implicit guarantees encourages moral hazard and excessive risk taking on the part of households, corporates, local governments, and financial institutions. Key recommendations include:

- **Reducing excessive credit expansion and debt overhang will require de-emphasizing high GDP projections in national plans that motivate setting high growth targets at the local level.** This would be consistent with the shift to more robust, sustainable and high-quality growth in the medium and long term. But the near-term prioritization of social stability appears to rely on credit expansion to continue financing firms even when they are not viable, and on stabilizing asset markets to prevent losses for households. Microprudential regulation and supervision will struggle to mitigate risks and deliver financial sector stability if the macroeconomic context—notably, monetary, fiscal, and development policies—is not supportive.
- **Supervision of financial groups needs to be enhanced, and forward-looking integrated risk analysis strengthened.** Addressing the rate of growth in scale and complexity of the system has complicated the task of oversight. Some of this complexity is driven by regulatory arbitrage, with similar products subject to different supervision, while in some cases risk transformations are taking place that are hard for regulators (and investors) to "look through." China is also witnessing strong development in the fintech sector, with inevitable tensions between encouraging innovation and promoting safety and soundness.
- **Careful sequencing of reforms can mitigate risks arising from moral hazard and implicit guarantees.** The first steps should include improving data quality, increasing capital, tightening regulations for asset quality and group supervision, strengthening the legal framework for insolvency and resolution, reducing reliance on short-term funding, and increasing investor awareness of risks. These steps should go hand-in-hand with strengthening the social safety net so that, as incentives to keep non-viable firms open are eliminated, hardships on the population are minimized. These policies would mitigate systemic risks—including investor runs—that might

otherwise arise when removing implicit guarantees by allowing non-viable firms to fail and investors to lose money. Operational restructuring of distressed but viable firms, and ensuring a timely exit of unviable ones, should become a focus of policy.

The regulatory and supervisory assessments of the banking, insurance, and securities sectors show a high degree of compliance with international standards, but critical gaps need to be filled. While most compliance indicators are impressive, three critical gaps common across China's regulatory agencies exist: lack of independence; insufficient resources for supervising a large and increasingly complex financial sector; and inadequate interagency coordination and systemic risk analysis. These gaps have been fundamental in contributing to the build-up of financial risks. At the same time, when distress in specific markets or institutions arises, regulators take swift and coordinated action. Regulators should reinforce the primacy of financial stability over development objectives. A Financial Stability Sub-Committee (FSS-C), reporting to the new Financial Stability and Development Committee (FSDC), should be established and charged with the sole mandate of maintaining financial stability. It should comprise the PBC and the three regulatory agencies, and have the technical capacity to regularly monitor and assess overall systemic risk, as well as to recommend macroprudential policy actions. This body should be accountable via the FSDC to the State Council.

Even though the banking system meets the Basel requirements, current circumstances warrant a targeted increase in capital. This would create a buffer to absorb potential losses that can be expected during the economic transition as credit is tightened and implicit guarantees are removed, as well as to better reflect the potential underestimation of risks from complex and opaque transactions. More capital is justified for the largest banks because of their systemic importance and interconnectedness, while the FSAP's analysis, including the stress tests, suggests vulnerabilities in a significant number of mid-tier banks. Increasing capital would enhance the resilience and credibility of the financial system, as well as reassure markets.

Enhanced assessment of asset quality is warranted to mitigate risk. To better manage credit risks, loan classification should be tightened and the "look-through" principle (whereby the quality of the underlying assets is considered), should be strictly enforced. SOEs should be included under large exposure limits, and government guarantees either removed or made explicit.

Liquidity risks and maturity mismatches should be reduced in several ways. Haircuts used for repo collateral should be reviewed to take more account of uncertainties in pricing and liquidity. The liquidity coverage ratio for interbank products and off-balance sheet wealth management products (WMPs) marketed by banks should be increased. The supervision and legal basis of financial market infrastructures (FMIs) should be strengthened, in particular to ensure full delivery-versus-payment and a sound legal basis for settlement finality.

Further progress should be made in other areas. The crisis management framework should be strengthened, notably by establishing a special resolution regime. The availability and quality of financial sector data should be enhanced. A comprehensive legal framework for data protection should be established and implemented. An oversight framework for digital finance that balances innovation with safety and soundness should be developed. The broad and expanding mandates of policy banks should be reexamined. Further progress in deepening capital markets should include measures to develop a solid institutional investor base to help build resilience. Remaining deficiencies in the Anti-Money Laundering/Combating the Financing of Terrorism (AML/CFT) framework should be addressed, including enhancing transparency of legal persons, applying enhanced customer due diligence (CDD) on a risk-sensitive basis, ensuring that self-laundering is more effectively investigated and prosecuted as a stand-alone offence, and extending preventive measures to cover nonfinancial businesses and professions.

Some policy recommendations that also impact the financial sector are covered in Article IV Consultation reports, rather than in the FSAP. These include monetary and exchange rate policies, capital account liberalization, SOE reform, and strengthening social safety nets.

Table 1. China: Main Recommendations

Recommendation	Priority[1]
Macroeconomic Recommendations	
De-emphasize high GDP growth projections in national plans that motivate setting high-growth targets at the local level. (¶45–47)	H, NT
Systemic Risk, Macroprudential Policy, and Strengthening Oversight	
Create a new Financial Stability Sub-Committee (FSS-C) with the sole function of preserving financial stability. (¶55–58)	H, NT
Establish robust mechanisms for cooperation, coordination, and exchange of information—including granular financial data—with domestic and foreign safety-net participants. (¶39)	H, NT
Trigger the countercyclical capital buffer, and review banks' capital requirements with a view to a targeted— and in some cases substantial—increase in capital. (¶64, Box 6)	H, NT
Amend primary laws to strengthen operational and budgetary autonomy of the People's Bank of China (PBC) and the regulatory agencies, and increase their resources. (¶62)	H, MT
Address data gaps that impede systemic risk monitoring and effective financial regulation and supervision. (¶21, Box 5)	H, MT
Review purpose and structure of the PBC's macroprudential assessment (MPA) with a view to simplifying, and use it solely as an input to the deliberations of the FSS-C and its working-level sub-groups. (Box 5)	M
Regulation and Supervision: Banks	
Enhance group risk supervision and the ability to supervise banking and wider financial groups, as well as ownership structures, including the identification of ultimate beneficial owners. (¶76–78)	H, MT
Eliminate the use of collateral in loan classification, constrain banks' ability to roll-over credit to non-small and medium enterprise corporate borrowers, and classify all loans overdue by more than 90 days as nonperforming. (¶80)	H, MT
Strengthen enforcement of the "look-through" principle. (¶21, Box 6)	M
Increase liquidity coverage ratio (LCR) coverage for interbank products and for off-balance sheet Wealth Management Products (WMPs). (¶69)	M
Enhance regulatory reporting requirements to collect more granular supervisory data on banks' investment holdings and provisioning. (¶79)	M
The China Banking Regulatory Commission (CBRC) should enhance forward-looking integrated risk analysis to identify vulnerabilities, challenge banks, and facilitate ex ante intervention. (¶103)	M
Stress Testing	
Substantially enhance and systematize data and information sharing across the three regulatory agencies and the PBC for stress testing and systemic risk assessment purposes. Use more granular supervisory data in stress tests. (¶59)	H, MT
Expand the coverage of nonbanks and interconnections significantly for systemic risk assessment, developing and integrating stress testing of collective investment schemes (CIS). (¶59)	M
Enhance inter-agency coordination and analytical capacity of the stress testing teams. (¶60)	M
Shadow Banking and Implicit Guarantees	
Make legal and regulatory changes to ensure the bankruptcy remoteness of CIS, including WMPs, in the event of insolvency of the manager or the custodian. (¶68)	H, MT
Move towards eliminating limits on lending to specific sectors, conditional on eliminating implicit guarantees. (¶67)	M
Interventions in asset markets, including housing and the equity market, should be limited to episodes of systemic risk. (¶Box 4)	M
Regulation and Supervision: Securities Markets	
Improve disclosure of CIS; prohibit specifying expected returns in the prospectus of WMPs. (¶82)	H, NT

Table 1. China: Main Recommendations (concluded)	
Recommendation	**Priority**[1]
Introduce a functional overlay to supervision to ensure that similar products issued by differing financial firms are supervised and regulated similarly. (¶50, 62)	H, MT
Tighten eligibility and enhance haircut methodology for repo collateral. (¶71)	M
Strengthen systemic risk monitoring mechanisms to ensure a holistic view of securities markets and their financial sector interconnectedness. (¶84)	M
Regulation and Supervision: Insurance	
Develop plans for risk-based supervision, bringing together all issues and actions of each insurer, including market conduct. (¶88)	M
Establish a plan to move valuation to a more market-consistent basis. (¶88)	M
Supervision of Financial FMIs	
Adopt full delivery-versus-payment in the China Securities Depository and Clearing Corporation (CSDC). (¶90)	H, NT
Strengthen resilience of financial market infrastructures (FMIs) through: full implementation of the CPSS-IOSCO Principles; and strengthening of the legal framework (¶90–92)	H, MT
Expand provision of central bank services to all systemically-important central counterparties (CCPs). (¶94)	M
AML/CFT	
Mandate enhanced customer due diligence (CDD) for domestic politically-exposed persons on a risk sensitive basis. (¶98)	M
Ensure that self-laundering is more effectively investigated and prosecuted as a stand-alone offense. (¶98)	M
Crisis Management	
Triggers for activating a government-led crisis response should be more clearly defined, and limited to systemic cases that may require public resources. (¶102)	H, NT
Develop a special resolution regime for banks and systemically important insurance companies. (¶106)	H, MT
Develop a formal framework for emergency liquidity assistance by the PBC. (¶109)	H, MT
Enhance the design of the protection funds to limit moral hazard. (¶107–108)	M
Financial Inclusion	
Enhance the legal, regulatory, and supervisory frameworks for fintech. (¶117)	M

[1] Priority: Highest, near-term action (H, NT); Highest, medium-term action (H, MT); Medium (M).

MACROFINANCIAL CONTEXT

A. Macroeconomic Context

1. **Since the 2011 FSAP, China's economic growth has continued and a necessary economic transformation is now underway.** In dollar terms, GDP has grown by more than 60 percent, and in PPP terms China's GDP is now the world's largest.[1] Poverty rates have fallen, and financial inclusion has improved. But limits to a strategy focused on attaining high growth through investment and exports of manufactured goods, waning dividends from past reforms, and a changing external economic environment have affected the long-term viability of a wide range of firms and industries. The authorities recognize this. Transformation to a more market-oriented, demand-driven, higher value-added, and services-focused economy will inevitably involve difficult choices, and a decline in growth rates over the short term.

2. **Ensuring financial stability is central to this broader economic transformation.** While there has been rapid growth and extensive liberalization across banking, insurance, and equity and bond markets, the government is smoothing the transition by only gradually allowing more volatility and by minimizing dislocations in the financial markets as well as in the real economy. But maintaining social stability through this strategy is proving costly, as noted below:

- **Monetary and fiscal policies** have been expansionary in recent years, contributing to a rapid growth in credit and debt. Asset prices—notably equities and real estate—have seen bubble-like price increases and leveraged exposures. Contingent fiscal liabilities, including those of local governments, have grown rapidly.[2]
- **Pressures to keep weak SOEs in operation** (to support employment), and the low tolerance for financial volatility and losses suffered by retail investors, have led to a widespread perception of implicit state guarantees.
- **Tensions at the local government level** are even more visible: the apparent primary goals of preventing large falls in local jobs and reaching regional growth targets have conflicted with other policy objectives, such as financial stability.

3. **Saving rates remain elevated and in constant search for high-yielding returns.** Capital controls restrict opportunities to invest abroad. The large pool of investible funds—along with implicit guarantees—pushes down term yields and leads to risk-seeking behavior.

4. **Financial market liberalization, rapid credit growth, and the high savings rate have proved fertile ground for financial innovation, but also for risks and a buildup of leverage.** There is a large and growing debt overhang from borrowing by weak corporates and local government entities, and overleveraged NBFIs. Wholesale and short-term market funding has grown

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[1] Annex IV provides macroeconomic and financial stability indicators.

[2] Given the very wide range of formal and informal tools used to guide monetary policy, it is not straightforward to assess empirically the stance of monetary policy. Similarly, fiscal impulse is also hard to estimate in China given large quasi-fiscal spending, but public and public-guaranteed debt have risen rapidly since 2012, suggesting that demand management has been expansionary.

in importance: credit growth has outstripped bank deposit growth, as savers' preference for investments over lower-yielding deposits has increased. And banks and other financial intermediaries have responded to tightened controls with the creation of a range of complex and opaque instruments that place riskier activities in off-balance sheet vehicles or in NBFIs.

5. **At the same time, major advances have been made by the authorities in financial sector regulation and supervision.** The regulatory authorities have actively engaged with international forums in the development of improved standards, and devoted significant efforts to upgrading the regulatory and supervisory systems as the financial sector in China has grown (Box 1).

Box 1. Five Major Achievements since the last FSAP in 2011[1]

The monetary and macroprudential policy frameworks have been upgraded. Key progress has been made on the liberalization of interest rates and the implementation of the market-based interest rate reform: crucially for financial stability, this has been conducted in a measured way, giving a more decisive role to the market in allocating resources while minimizing volatility and instability. The People's Bank of China (PBC) deregulation of the floor for the lending rates and the cap for deposit interest rates in July 2013 and October 2015, respectively, were key steps. Interagency cooperation has been enhanced in addressing macroprudential risks, including deflating a housing-market bubble in 2013, and the PBC and regulatory agencies are strengthening systemic risk monitoring.

A deposit insurance system was established. This enhances the financial safety net and is important in helping to tackle implicit guarantees. The system was officially established with the implementation of the Deposit Insurance Regulations on May 1, 2015.

The Basel III regulatory framework has been implemented. Since 2010, the China Banking Regulatory Commission (CBRC) has issued a range of banking rules and regulations implementing the Basel III standards on capital, leverage ratio, and liquidity. It has developed guidelines on banks' corporate governance, compensation, comprehensive risk management, consolidated supervision, internal control, and audit. These support implementation of the enhanced requirements for banks' corporate governance and risk management practices in the international post-crisis reforms developed by the Financial Stability Board (FSB) and the Basel Committee on Banking Supervision (BCBS). More recently, in 2017, the CBRC has conducted examinations targeting inter-bank finance, wealth management and off-balance-sheet activities to address regulatory arbitrage and misconduct, especially in the cross-sector businesses of banks.

Investor protection has been enhanced, laying the basis for further market development. Several initiatives over the past five years or more aim at protecting China's very large retail investor population. This includes strengthening the China Securities Regulatory Commission's (CSRC) suitability requirements for intermediaries, investors' ability to exercise their rights, and its investor education program. The CSRC has also expanded authorized activities for some categories of securities intermediaries with the objective of developing an investment banking culture to help capital markets serve the real economy better. At the same time, the prudential and capital requirements applicable to some participants have been reviewed and strengthened. Following the market volatility of 2015, the CSRC has taken actions to curb excess leverage in the market, with some of these actions undertaken jointly with other public authorities.

A sound framework for growth of the insurance industry is being put in place. The China Insurance Regulatory Commission (CIRC) began in March 2012 to develop China Risk-Oriented Solvency System (C- ROSS). The CIRC has finished the 17 core regulatory rules under the C-ROSS framework and formally issued these rules in February 2015, triggering an industry-wide transitional period for the implementation of the new solvency standards. After one year of testing, C-ROSS officially entered into force on January 1, 2016.

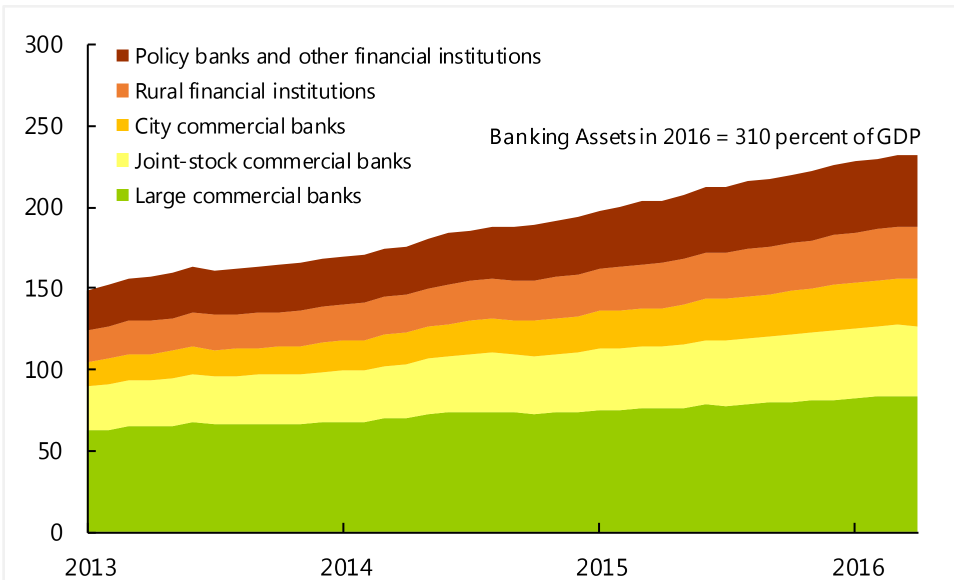
[1] See Annex VI on the status of implementation of the previous FSAP recommendations.

B. The Financial System

6. China's financial system has grown dramatically in size and complexity since 2011. Financial assets grew from 263 percent of GDP to more than 467 percent in 2016 (Annex III, and Annex V Figure 1). Within the banking sector, growth has been driven by joint stock, city, and rural commercial banks, while the assets of the four large state-owned banks have remained stable as a share of GDP.[3] NBFIs, from insurance companies to trust companies, continue to grow rapidly.

Figure 1. China: Growth of Bank Assets, 2013–2016

(In trillions of renminbi)



Source: CEIC Data (2016) and IMF staff calculations.

7. The evolution of the financial system since 2011 reflects a conflict between maintaining GDP growth rates and containing financial risks. The authorities have frequently engaged in a difficult balancing act, promoting credit activity to preserve high growth, proceeding with financial liberalization (including the gradual relaxation of interest-rate controls), while periodically clamping down on products and sectors perceived to be risky. Credit growth has vastly exceeded GDP growth, as interest rate and prudential controls have been circumvented by continuous financial innovation. The system has grown in interconnectedness and complexity.

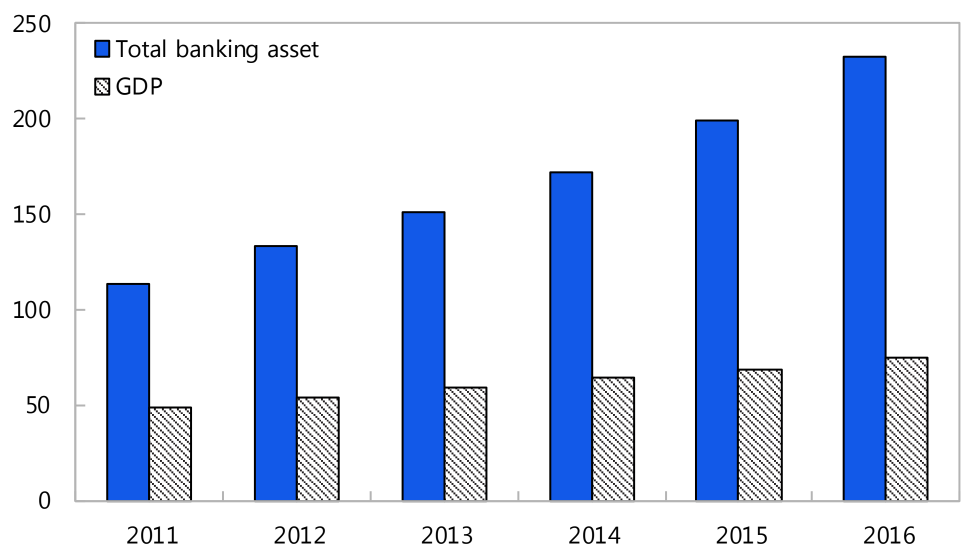
8. Banks continue to dominate. At end-2016, bank assets amounted to nearly 310 percent of GDP (Figure 2). Banks' structures have become more complex on both liability and asset sides (Annex V), while their off-balance sheet activities have grown rapidly. These on- and off-balance sheet channels of intermediation entail strong connections within the banking system, and between banks

[3] The four large banks are Industrial and Commercial Bank of China, Bank of China, China Construction Bank, and Agricultural Bank of China. All are state-owned G-SIFIs and are collectively referred to as the Big Four banks (technically, the Big Four banks are all joint-stock banks and are not 100 percent state-owned).

and NBFIs such as trust, insurance, securities, and AMCs. The "Big Four" banks, with larger and more stable deposit bases, benefit from lower funding costs. They have traditionally dominated lending to large SOEs, but recently have also diversified towards households. The 12 joint-stock banks (JSBs) lend more to small- and medium-sized enterprises, and have moved aggressively into NSCAs, such as, trust loans, entrusted loans, bankers' acceptances, and other relatively illiquid assets. City-commercial banks (CCBs) are more focused on regional SOEs and projects. Profitability has declined with the slowing economy, but remains positive: by 2016: Q2 return on assets was 1.1 percent.

Figure 2. China: Gross Domestic Product and Total Banking Assets, 2011–2016

(In trillions of renminbi)



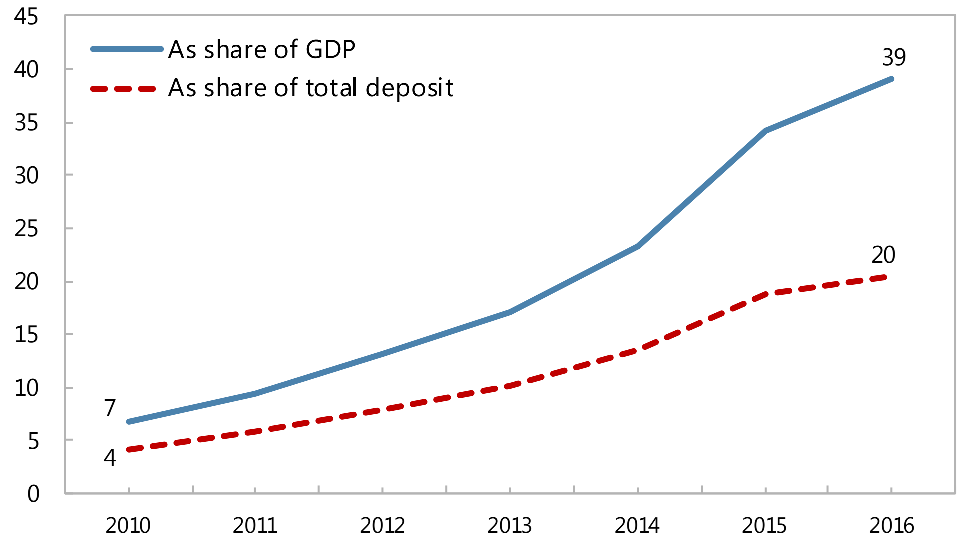
Source: CEIC Data (2016).

9. Bank and NBFI liability structures have become more complex and funding maturities have shortened considerably. Liabilities increasingly have a wholesale structure. The growth of small- and medium-sized banks and NBFIs has, to an important extent, been financed by short-term interbank credit and structures such as WMPs (Figure 3).

10. Asset structures have also become more complex, and banks are at the core of a large system of indirect lending. Loans account for under half of bank assets (40 percent when the Big Four banks are excluded). Banks, seeking to satisfy savers' search for yield while deposit interest rates were still controlled, pioneered Wealth Management Products (WMPs), where funds raised are invested in debt securities and NSCAs. Asset management products issued by securities firms are regulated and supervised differently from otherwise similar products (such as WMPs) issued by banks. For many medium-sized banks, the investment portfolio now accounts for half of total assets. These investments often include NSCAs held either directly or indirectly.

Figure 3. China: Wealth Management Products (WMPs)—Balance Outstanding, 2010–2016

(In percent)



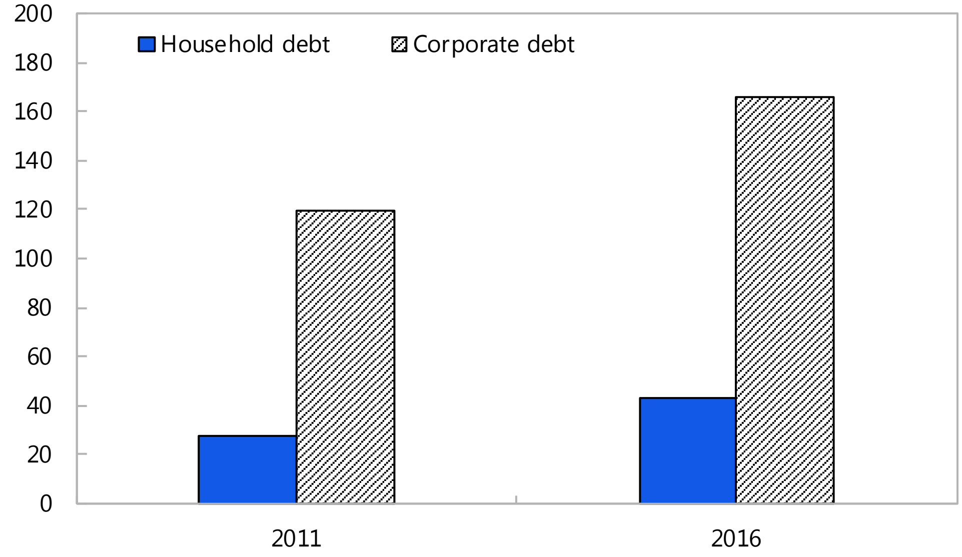
Sources: Wind Info (2016) and IMF staff calculations.

11. Much of the nonbank credit has been directed to segments or borrowers (particularly overcapacity or weak sectors) where regulators have set limits on credit from the banking sector. While credit to infrastructure, construction, and real estate sectors declined as a share of total bank credit, this seems to have been compensated by lending through other channels, including trusts, WMPs, and bonds. This process has extended the life of the old growth model, contributing to a decline in productivity growth, and the build-up of corporate debt and risks (Figure 4).

12. Returns from financial sector development appear now to be weakening. A panel data IMF study including 128 countries over 30 years shows that contributions to GDP growth tend to decline when the financial sector becomes too large. The figure shows that China is moving past the turning point: declining returns from financial sector growth appear related to the limited entry of new, and exit of inefficient, firms—indicating misallocation of resources. This evidence reinforces the point that a slowdown in financial development is warranted to meet financial stability objectives without harming long-term growth (Figure 5).

Figure 4. China: Household and Corporate Debt, 2011 and 2016

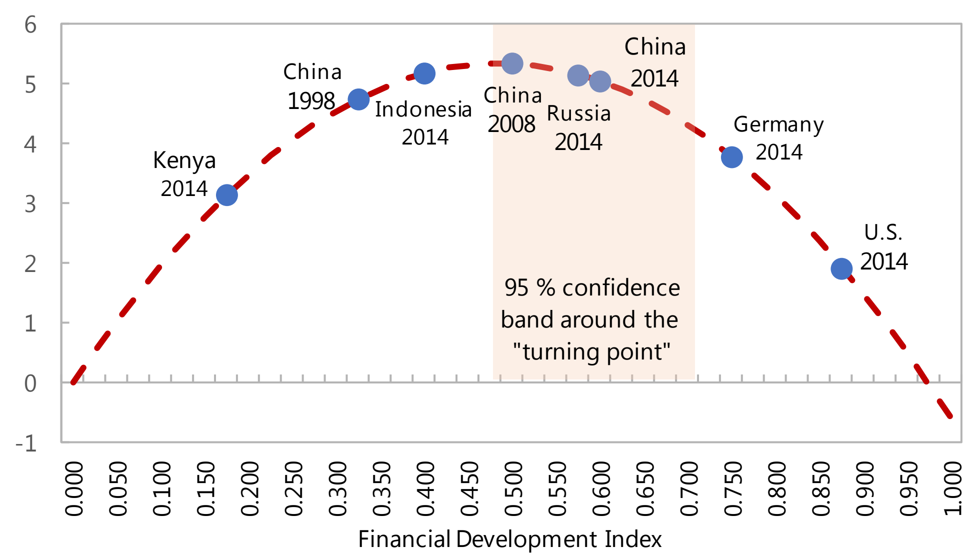
(In percent of GDP)



Source: Bank for International Settlements (2016: Q3).

Figure 5. China: Financial Development and GDP Growth, 1998–2014

(In percent)



Sources: Sahay et al (2015), "Rethinking Financial Deepening: Stability and Growth in Emerging Markets," International Monetary Fund; updates by IMF staff.

13. Comparing China's financial development with peer countries[4] shows:

- China remains bank-dominated. Credit to GDP exceeds the benchmarks by wide margins. In absolute terms, China already has the largest banking system in the world.
- The bond market is the world's third largest but remains a relatively small source of finance for the private corporate sector.[5]
- The equity market is large and volatile. After the United States, China has the world's largest stock market. Retail investors account for the majority of trades, significantly higher than in most other countries.
- Insurance companies have only recently grown in size and activity.
- Mutual funds have grown rapidly, boosted by the tightening of regulation in WMPs, but remain underdeveloped.[6]
- Pension funds remain the least-developed traditional NBFI—despite tax incentives, the demographic profile, and China's very high savings rate.
- Non-traditional savings and investment products, including trusts and WMPs, cannot be benchmarked given their unique Chinese characteristics.

14. Finally, the financial system is characterized by a high degree of government ownership and control, which significantly complicates valuation of assets and risk pricing. The Big Four are majority state-owned, while local governments have important ownership stakes in lower tier banks and—in many cases—exercise control. There is thus no substantial competition between fully private and publicly owned banks. Local government-affiliated entities own nonbank subsidiaries and other intermediaries such as AMCs, though these holdings are rarely transparent. The state also controls a large share of other segments of the financial system, such as insurance companies, trusts, and securities companies, as well as the financial sector's largest borrowers: the pervasive nature of state control inevitably influences credit allocation. Potential conflicts of interest between the state as controlling or major shareholder and as regulator limit the scope for markets to operate efficiently and to reveal accurate pricing of assets and liabilities.

RISK ASSESSMENT

15. Concerns about the stability of China's financial system and growing tensions between different policy goals can be organized around three main questions:

A. What are the implications for systemic risk of maintaining current levels of GDP and credit growth?

[4] China's financial development is benchmarked following the World Bank's Finstats methodology (Beck, Feyen, Ize, and Moizeszowicz (2008)).

[5] In 2016, private corporations issued less than RMB 700 billion of bonds, while bank lending to private corporations rose by RMB 5 trillion.

[6] WMPs enjoy certain regulatory advantages, e.g., the right to offer expected returns in prospectuses and marketing material.

B. What are the threats to financial stability from a dynamic and increasingly complex financial sector?

C. Can sequenced reforms help mitigate social stability risks if implicit guarantees are removed?

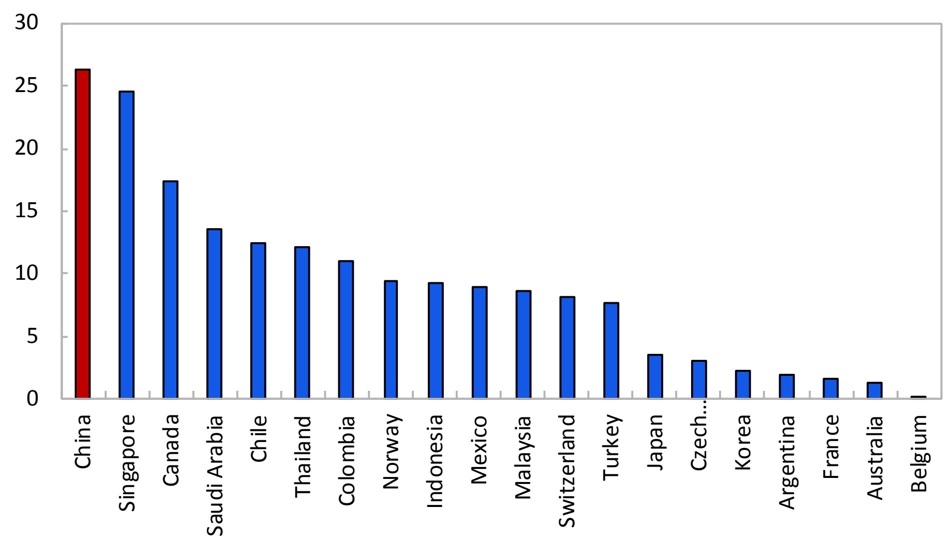
A. The Economic Transition and Financial Stability

16. In recent years, the amount of credit needed to generate additional GDP growth has risen (known as "credit intensity"), so that the financial sector has grown rapidly despite a slowing economy. The largest banks appear better capitalized, but vulnerabilities at the lower tiers are higher, and there is an increasingly large pool of potentially risky corporate debt. Credit still flows to unprofitable enterprises, and potential losses at banks are obscured by financial engineering. Mortgage borrowing by households has also recently grown rapidly, even though home ownership in China has been high, at over 90 percent. This reflects urbanization, demand for better-quality housing and rising prices in the large cities.

17. Credit intensity has increased. Over the past 10 years, the credit to GDP ratio has risen above its long-run trend, and this "credit gap" now reaches about 25 percent of GDP, according to the Bank for International Settlements (BIS). This level is very high by international comparison, and already above levels consistent with a high probability of financial distress (Figure 6).

Figure 6. China: Credit to GDP Gap, 2016[1]

(In percent)



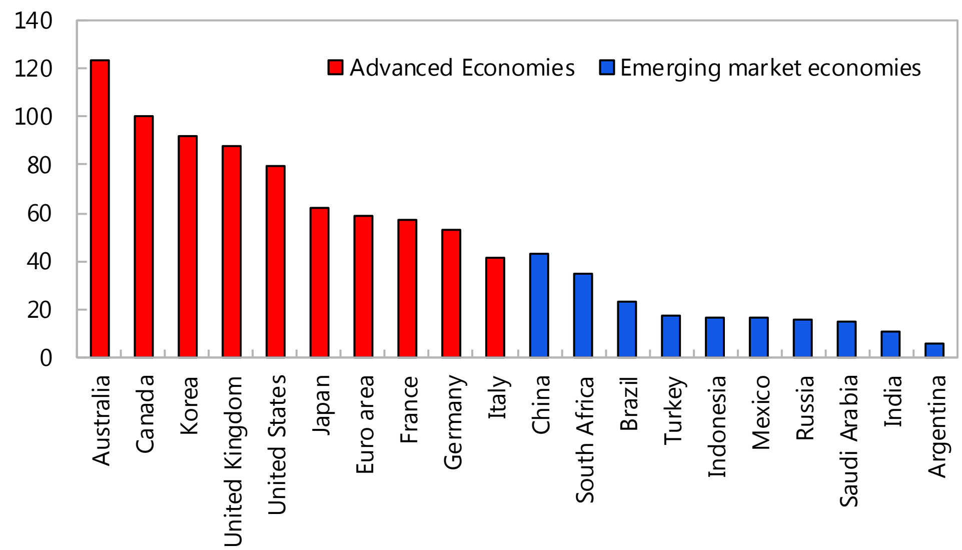
Source: Bank for International Settlements (2016: Q3).

[1] Bank for International Settlements (BIS) definition of credit. Only countries with positive credit to GDP gap are included.

18. As a result, the outstanding stock of corporate debt is large and risky. Corporate debt has been growing rapidly, and by end-2015 amounted to 165 percent of GDP. Credit intensity has risen faster in regions where traditional and declining industries are concentrated, and many indebted sectors (real estate and construction, steel and cement, solar panels, utilities and mining) suffer from excess capacity. Some SOEs use low-cost loans to invest in real estate projects or investment products, raising questions about how the financial system measures credit risk in lending decisions.

Figure 7. China: Household Debt-to-GDP of G20 Countries, 2016

(In percent)



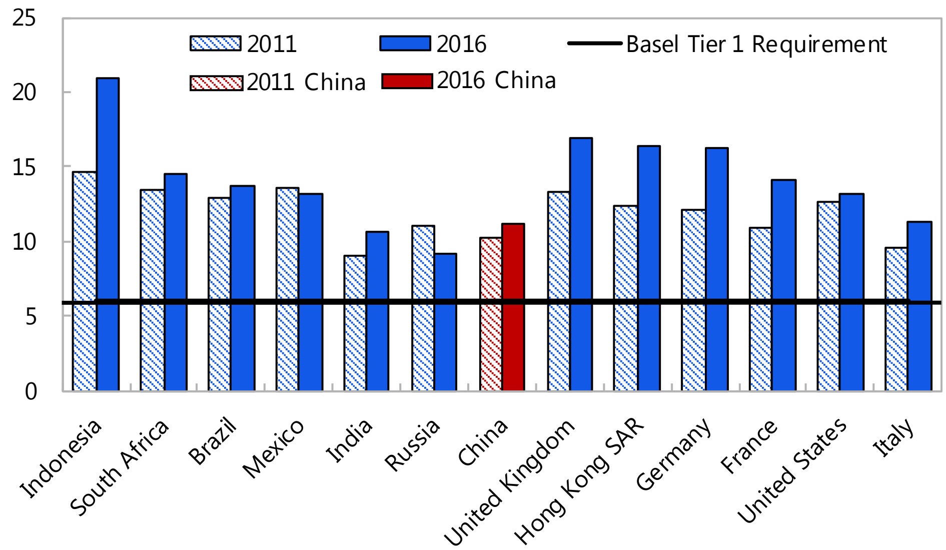
Source: Bank for International Settlements (2016: Q3).

19. Despite low loan-to-value ratios, the rapid pace of growth of household debt also presents concerns, and is now at the high end for emerging markets (Figure 7). Since 2015, much of the new household debt has been in housing loans. Loan-to-value (LTV) ratios are generally low (the average LTV on new mortgages was estimated at about 40 percent in 2016), but financial innovation has been used to circumvent LTV rules.[7] Data gaps—such as consistent debt-service-to-income and debt-to-income information—preclude an accurate analysis of the degree of systemic risk, but debt-at-risk estimates by sectors indicates vulnerabilities in the real estate sector (Annex V, Figure 4).

[7] For example, home buyers use consumer credit and peer-to-peer services to borrow money for mortgage down-payments, circumventing LTV rules, although the authorities are trying to crack down on such practices.

Figure 8. Tier 1 Capital Ratios, 2011 and 2016[1]

(In percent)



Sources: Financial Soundness Indicators; International Monetary Fund (2016); and China Banking Regulatory Commission (2016).

[1] Minimum Tier 1 Capital Requirement as of January 1, 2019.

Pressures on Capital

20. The capital positions of banks differ by size, though profitability and liquidity positions vary less. The average regulatory capital ratio in 2016: Q2 was 13.1 percent (11.1 percent Tier 1 capital), lower than many advanced and emerging market countries which—with less complexity, smaller credit gaps, and more market-based risk pricing—would appear to have lower risks. Liquidity across the banking system appears to be ample: liquid assets have accounted for about 20 percent of total assets since 2013, and liquid liabilities slightly less than half of total liabilities. Within these average numbers, the conservative business models of the large publicly owned banks are offset by the weaker positions that are concentrated in the large number of middle- and small-sized banks. The banking system has minimal foreign currency lending or deposits, and gross open positions are only about 3 percent of capital.

21. Credit quality has been deteriorating and other risks are rising, but data gaps preclude a thorough analysis. The reported NPL ratio has increased only moderately from about 1 percent in 2013 to 1.7 percent in 2017: Q2 as banks have aggressively disposed nonperforming loans (NPLs) through write-offs and large volumes of asset sales, and—to a limited extent—recovery.[8] This has contributed to a steep decline in banks' provisions against NPLs from 290 percent in early 2013 to about 180 percent. Despite the introduction of the "look-through" principle, risk weights on some banks' investment products appear to be too low, and the credit risk of some loans is underestimated. Lack of sufficiently granular data prevented a quantitative assessment of such risks

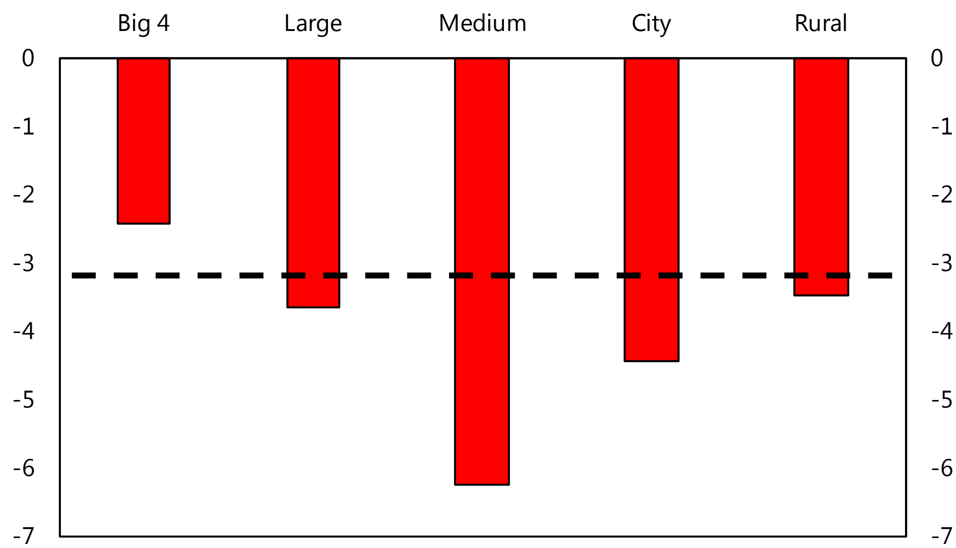
[8] Special mention loans—the category above NPLs—peaked at 4.1 percent of loans in 2016: Q3 and now stand at 3.8 percent.

by the FSAP mission. Off-balance sheet WMPs also represent a significant risk to capital. They are not guaranteed, but banks almost always compensate retail investors for principal losses. In a stress scenario, the costs to the banks of supporting WMPs could be substantial and could, in case of a run, place the liquidity position of some banks under strain.

22. Medium- and smaller sized-banks have grown rapidly, as has the significance of wealth management products, wholesale funding, and riskier lending—especially, investment in NSCAs. Joint stock, city, and rural commercial banks have been expanding their balance sheets aggressively, amid strong market competition and pressure to support local industries. Medium and smaller banks have increasingly funded their operations off-balance sheet, through higher-cost WMPs and—more recently—through short-term wholesale financing (Annex V, Figure 1).

Figure 9. China: Impact on Capital from Stresses in Off-Balance Sheet WMPs

(Change in common equity tier 1 (CET1) ratio)



Source: IMF staff estimates.

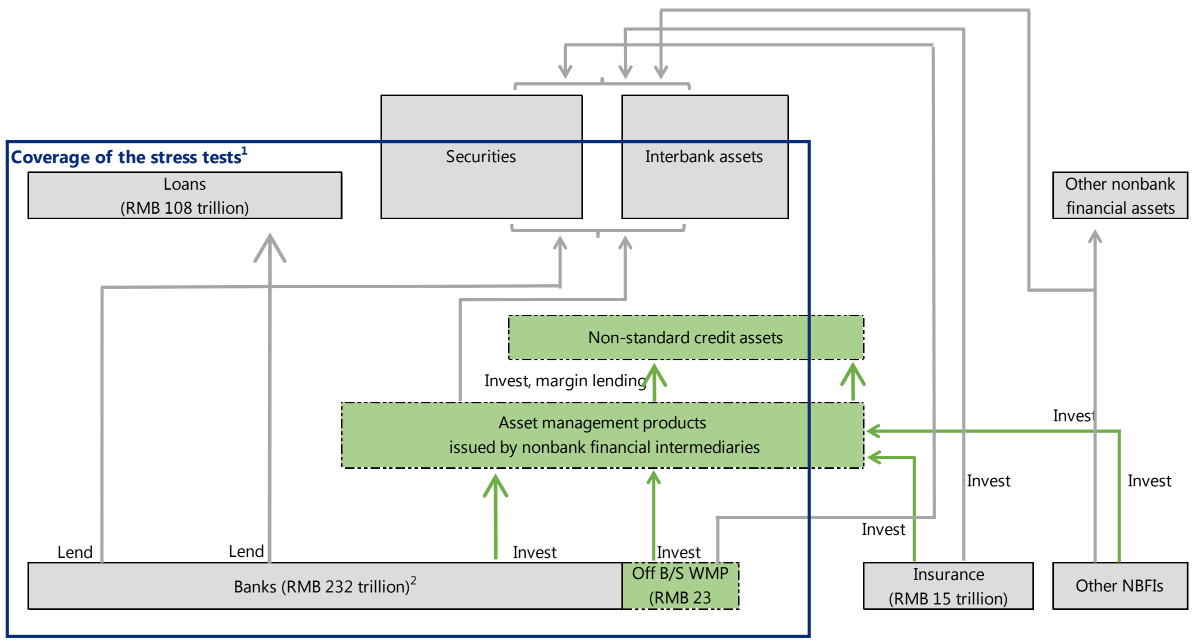
23. Stress test results reveal widespread undercapitalization of banks other than the Big Four banks under a severely adverse scenario.[9] Under this scenario (described in Annex II) combining both domestic and external shocks, real GDP declines by two standard deviations relative to the baseline over a two-year horizon (a cumulative 7.3 percentage points over 2017–18). As a consequence of macroeconomic conditions and partial migration of special-mention loans (SMLs), the NPL ratio rises sharply to 9.1 percent in 2018. Due to credit and market losses, and reduced net interest income, the CET1 capital ratio in the system declines to 7.2 percent from 10.3 percent—even though assumed relaxation of the required provisioning coverage ratio (from 150 percent to

[9] The FSAP team carried out the stress tests using as input some supervisory data provided in a physical data room located at PBC premises. However, only part of the data available for supervisory purposes was made available to the team.

50 percent in the severe scenario) offsets a significant part of the credit losses.[10,11] The impact for different bank groups is in Box 2.

24. The impact of the shocks is highly uneven across banks. Capital at the Big four banks remains adequate, but large, medium, and city-commercial banks appear vulnerable (Annex II provides the groupings of banks; see also Figure 10 for coverage of the tests). Overall, 27 out of 33 banks included in the tests are undercapitalized relative to at least one of the minimum requirements (which include the capital conservation buffer). The number of banks that fall below the 7 percent CET1 capital threshold (also including the capital conservation buffer) is 23.

Figure 10. China: Coverage of Stress Tests in a Map of China's Financial System



Sources: Authorities and IMF staff.

[1] The stress tests cover 33 banks with RMB 171 trillion in total assets and RMB 20 trillion in off-balance sheet WMPs.
[2] The number reflects the total assets of banking institutions as of December 2016.

[10] From 2011 to 2016, commercial banks used RMB 1.4 trillion to absorb NPLs—about half the current level of provisions.

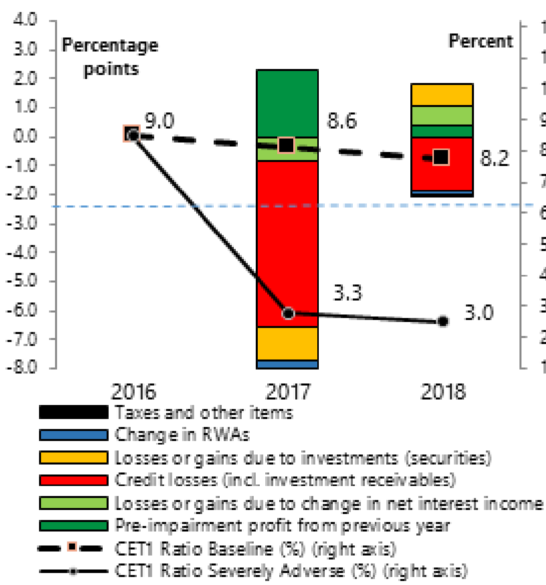
[11] A rise in interest rates or cost of funding shocks would reduce banks' net interest income. Interest payments would surge as banks roll over maturing short-term liabilities at higher rates, while interest income would only adjust gradually over time and only to the extent banks choose to pass the cost of funding shock on to borrowers. They may choose not to do so for fear of exacerbating credit risks. Higher interest rates would also lead to downward repricing of securities—particularly those impacted by widening of credit spreads (e.g., corporate bonds)—and thus market losses.

Box 2. Stress Testing Results

Solvency tests were undertaken on 33 banks that account for 74 percent of banking system assets. The tests **pointed to widespread and large undercapitalization among joint-stock and city-commercial banks under a severely adverse scenario.** These banks represent roughly 37 percent of assets in the banking system. Under a severely adverse macroeconomic scenario, the NPL ratio (for the 33 banks included in the stress tests) rises sharply from 1.5 percent to 9.1 percent as Special Mention Loans (SMLs) are assumed to migrate into NPLs, and the CET1 ratio for these banks would fall by 4.2 percentage points. Twenty-three out of 24 banks would face capital shortfalls, equivalent to 2.5 percent of GDP. Credit losses from loans and investment receivables in these banks are substantially larger than in the Big Four banks.[1]

Severely Adverse Scenario: Contribution to Changes in the CET1 Ratio

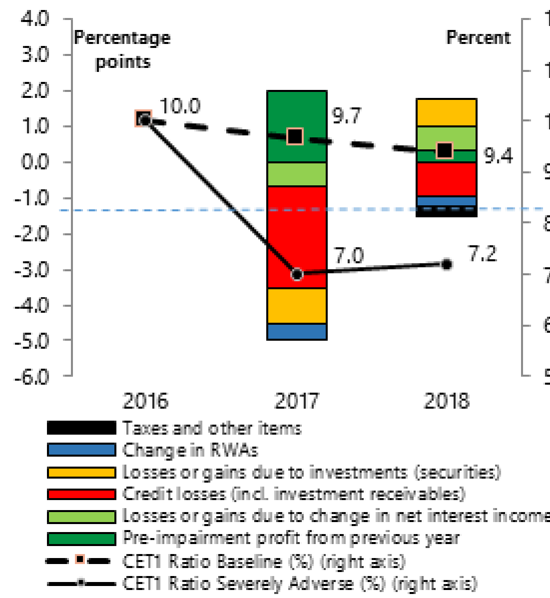
(City Commercial)



Sources: Authorities and IMF staff calculations.

Severely Adverse Scenario: Contribution to Changes in the CET1 Ratio

(Rural)



Sources: Authorities and IMF staff calculations.

Bank Capitalization Ratios

(In percent)

	Aggregate	Big 4	Large	Medium	City	Rural
	Baseline (2016)					
Common Equity Tier 1 Capital Ratio	10.3	11.8	9.3	8.2	9.0	10.0
Tier 1 Capital Ratio	10.9	12.4	9.7	9.0	9.6	10.0
Total Capital Ratio	13.0	14.3	11.9	11.2	12.3	12.9
Leverage Ratio	6.1	6.8	5.7	5.0	5.3	5.4
	Severely Adverse Scenario (2017)					
Common Equity Tier 1 Capital Ratio	7.2	9.9	5.7	3.0	3.3	7.0
Tier 1 Capital Ratio	7.8	10.5	6.1	3.8	3.9	7.0
Total Capital Ratio	9.8	12.2	8.3	5.9	6.5	9.8
Leverage Ratio	4.5	6.0	3.7	2.1	2.2	3.9

Sources: Authorities and IMF staff calculations.
Note: These results assume no absorption of off balance sheet WMPs by sponsoring banks.

Box 2. Stress Testing Results (continued)

Bank sponsored off-balance sheet WMPs are particularly large at the medium-sized joint-stock banks (JSBs) and city commercial banks (CCBs) (25 percent and 17 percent of total assets, respectively). Banks have in the past partially covered losses in their sponsored off-balance sheet WMPs. Stress tests assessed the impact on bank capital of purchasing 25 percent of sponsored off-balance sheet WMPs at face value, with recovery values of 40 percent. The results show a significant system-wide additional fall in the CET1 capital, equivalent to 4.5 percent of GDP.

In the adverse scenario, shifts in the sovereign yield curve and sizable and persistent widening in corporate credit spreads could lead to a significant fall in corporate bond prices. Most banks could face large loss in their bond investment portfolio and contingent liabilities from bank-sponsored shadow banking products, which are major holders of corporate bonds.

Liquidity stress tests based on a maturity ladder analysis are undertaken to assess the capacity of banks to withstand severe funding pressures. Cash-flow based liquidity stress tests were implemented through a top-down (TD) approach using supervisory data. The tests assess resilience to strong shocks characterized by run-off rates on funding sources, calibrated by type, and liquidation of assets subject to valuation haircuts. Specifically, the exercise captures (i) a bank's liquidity needs derived from outflows; (ii) its available stand-by liquidity from inflows; and (iii) its buffers available to counterbalance liquidity gaps. A key assumption in assessing liquidity shortfalls was that banks could use securities as collateral to obtain liquidity through standard PBC facilities. Only when banks had no eligible collateral to access the standard PBC facilities, would they fail the test.

The liquidity tests reveal that, if funding shocks materialized, the damage would broadly be contained. Four banks would experience liquidity shortfalls within a 30-day period and three banks would have insufficient liquidity within a 90-day horizon, but liquidity positions at the Big Four banks are strong. In the corporate bond market, debt is most commonly issued with a 2–3 year maturity. As credit quality deteriorates and demand by NBFIs wanes under ongoing regulatory tightening, rollover risks are likely to rise. As these markets are closely connected with banks via WMPs, interbank borrowing, and sometimes through financial group exposures, this could easily spill over into the banking system. However, even in the context of substantial runoff of off-balance sheet WMPs and interbank products, most banks' liquidity positions would remain strong, given the wide range of collateral accepted by the PBC.

Bank Liquidity Stress Tests Results: Number of Banks (out of 33) that Fail the Test

Bank Type and Group	Time period				
	Overnight	2d-7d	8d-30d	31d-90d	91d-1y
Big 4	0	0	0	0	0
Large	0	0	2	3	3
Medium	0	0	0	1	1
City	0	0	2	3	3
Rural	0	0	0	0	0
Total	**0**	**0**	**4**	**7**	**7**

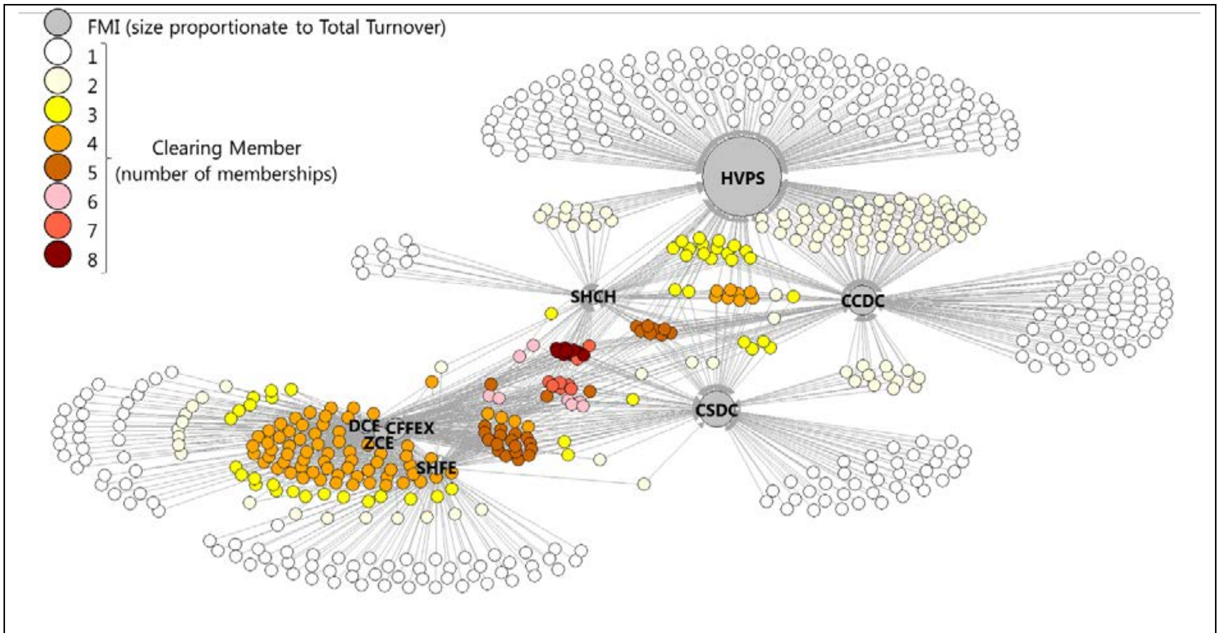
Sources: Authorities and IMF staff calculations.

Box 2. Stress Testing Results (concluded)

The contagion (balance-sheet-based network) analysis indicates that the Big Four banks are the most systemically important in terms of triggering defaults of other banks. Smaller banks risk higher losses in capital through interbank contagion. The contagion analysis based on stock-market data shows that Chinese banks are highly interconnected. The JSBs and CCBs are found to be important net contributors to financial stress—measured by the volatility of equity returns' co-movement—in the banking system. NBFIs are increasingly becoming relevant as sources and conduits of financial shocks: net spillovers from them to the banks are on the rise.

Membership of FMIs is highly clustered. About 80 percent of members of the futures exchanges belong to all the exchanges, while member overlap in the China Central Depository & Clearing Corporation (CCDC) and Shanghai Clearing House—active in the interbank market—is more than 50 percent. Data for CSDC shows, for example, that a default of the largest two participants in CSDC coincides with the default of these participants in other FMIs, including several central counterparties (CCPs). The largest eight banks are connected to all eight FMIs, constituting a wide-ranging source of vulnerability.

Network Graph for the Main FMIs in China and their Members



Sources: Authorities and IMF staff calculations.

25. Capital shortfalls appear manageable, but deleveraging and other second-round effects could amplify the fiscal and re-capitalization costs in a stress scenario. Under a severely adverse scenario, the capital shortfall for the 33 tested banks amounts to 2.5 percent of GDP. The reduction in capital buffers and provisioning coverage ratios under the adverse scenario would lead to banks being unable or unwilling to sustain the current pace of credit growth. Consequent deleveraging could lead to a slowdown in output growth that is stronger than assumed in the scenario—with the fiscal impact possibly exceeding the direct recapitalization needs for the banking system by a wide margin.

Pressures on Liquidity

26. **Many small- and medium-sized banks are increasingly reliant on short-term funding, including overnight interbank and repo.** Deposit growth has been high, but bank asset growth has been even higher, with increasingly short-term repo funding filling the gap. The ratio of interbank funding to total funding has increased from 11 percent in 2010, to 17 percent in 2016, and 22 percent for JSB and CCBs. Repos are the main wholesale funding instrument, but the average repo tenor is only 2.7 days, down from 4.2 days at end-2010. Most repo is collateralized with government or policy-bank debt, but the use of non-government assets is increasing, particularly among small to medium-sized banks. Intermediation chains are lengthening with increasing opacity about the ultimate credit risk.

27. **In addition, there appear to be mismatches between the maturity of shadow banking investment assets, and investors' expectations for liquidity.** Similar to Money Market Mutual Funds in the United States, investors can often receive funds on the same-day when selling their shares in collective investment schemes (CIS) such as WMPs. But since the intermediaries have thin financial buffers, they may be unable to respond to widespread withdrawals without outside support. China Securities Regulatory Commission (CSRC) rules stipulate that this would come from shareholders in the funds' intermediaries—largely banks and insurance companies. While liquidity coverage ratio (LCR) implementation is on track at the large and medium-sized banks, it is not clear that sufficient provision has been made to compensate for potential runs on banks' investment products.

28. **Liquidity is poor in the bond markets, and a combination of deteriorating credit quality, regulatory tightening, and higher interest rates raise potential risks.** Most corporate bonds issued on the exchanges and the interbank market are held by shadow banking vehicles, and are often repo'd (using the China Securities Depository and Clearing Corporation Limited—CSDC—as a CCP) to add leverage to investment portfolios. In the interbank market, commercial paper, medium-term notes and enterprise bonds held by banks are mostly under hold-to-maturity accounts. In addition, differences in tax treatment between banks and CIS related to bond investments and trading potentially reduce liquidity. The lack of ratings differentiation—there are very few bonds rated below AA—further reduces incentives to trade. Rollover risks in the bond market are rising.

29. **However, the PBC accepts a broad range of securities as collateral.** It offers generous access to liquidity under moderate but differentiated haircuts and no pre-established quantitative limits. These factors boost banks' resilience to funding shocks.

30. **China would be able to draw on substantial resources in the event of a crisis.** Fiscal space should be sufficient to smooth the economy through the transition and the international reserves position remains strong, though in both cases, buffers are shrinking. In addition, the Chinese authorities have a formidable array of administrative levers that can be used in a crisis. These buffers would mitigate the consequences of a crisis rather than preventing one, while their availability may breed complacency about rising risks.

B. Complexity of the Financial System and Risks

31. Three main factors have driven the growth of an increasingly complex nonbank financial sector. Aiming to achieve high GDP growth, especially at the regional level, requires credit expansion; demand has grown rapidly for high-yield investment products; and stronger oversight of the banking sector relative to the nonbank sector has led to regulatory arbitrage. At the same time, the nonbank sector retains close links to banks. On the liability side, an increasing use of short-term funding suggests substantial liquidity risks. Inadequate coordination among regulators has hampered effective systemic risk oversight and active use of macroprudential measures, and there are important gaps in functional supervision, particularly of some investment products.

Innovation, Arbitrage, and Complexity

32. The financial system has proved to be highly creative, with risks migrating across businesses. The tension between credit-supported growth, often with pressure from local governments, and supervisors concerned about financial stability has led to regulatory arbitrage. Risky lending has moved away from the banking system toward less well-supervised sectors. Trusts, insurance companies, securities firms, and fund management companies have an increasing share in the system but banks remain linked to almost all this activity (see Box 3). Banks and NBFIs repackage loans to weak corporate sectors, and into complex, often structured, financial products. These products are often sold to investment vehicles that attract investors seeking returns above bank deposit rates.

33. The pricing of risk is distorted. While the growth of nonbank finance and investment products in part represents a move toward more market-based instruments and a de facto liberalization of loan pricing, in practice much is driven by banks' incentives to transfer credit risk from the loan book and by regulatory arbitrage. The lack of clarity regarding the extent to which banks stand behind off-balance sheet vehicles that they sponsor or create, as well as the perception of de facto public guarantees for various underlying firms or projects, contribute to weaken market discipline and accurate pricing of products.[12]

34. Local governments use indirect financing that may circumvent controls on borrowing. Borrowing by local governments has grown by some 25 percent a year since 2007—2.5 times as fast as central government borrowing—driven by local imperatives to meet growth, employment, and social welfare objectives. Local government financing vehicles (LGFVs) help in circumventing rules against direct borrowing. A 2015 budget law aims at preventing LGFVs from borrowing from banks. However, the flow of new LGFV borrowing has not yet been replaced by municipal bonds, and some local government infrastructure projects are still financed through informal channels or in new forms (e.g., "Government Guided Funds").[13]

[12] These include government support provided by the bank bailouts of the early 2000s, as well as banks reportedly providing principal payments on failed WMPs to retail investors.

[13] Local government borrowing may be viewed as a fiscal rather than financial sector (potential) risk.

35. China is the global center of fintech, and the authorities have begun to draw it within the regulatory perimeter. During 2016, the stock of peer-to-peer lending doubled (though only to about 0.5 percent of the banking sector assets) while Alibaba, China's largest internet retailer and effectively a competitor to the payments system, allows customers to invest money held in its escrow accounts in financial assets. China's ubiquitous smartphone app WeChat has moved into lending with WeBank, exerting competitive pressure on the banking system. These developments do not yet appear to be of systemic importance, and the authorities are already working to limit risks, requiring lending products sold by internet firms to be supervised by China Bank Regulatory Commission (CBRC) and securities products by the CSRC.[14] To promote the healthy development of internet finance, in 2016 the State Council launched an overhaul of internet finance oversight.[15]

Box 3. Financial Engineering of Credit Risk in China[1]

The apparent disconnect between Chinese banks' relatively low level of NPLs and the large stock of debt owed by corporations with low prospects of repayment raises questions.[2] Banks have developed strategies for moving assets out of their loan books, while retaining some risks, to create capital headroom for new lending. These strategies include:

Trust loans. A bank channels funds from investors via a Wealth Management Product (WMP) into a trust product. The trust can then lend (sometimes with implicit credit enhancement by the bank or a local government) to a troubled company, allowing it to pay off a bank loan.

Securitization. Banks can securitize packages of loans and keep the senior tranche as an investment product. These carry high ratings and thus have minimal capital requirements (and no provisioning), and sell the mezzanine and equity tranches to off-balance sheet WMPs.

Asset management plans (AMPs). Similar to WMPs but issued by a wide range of NBFIs, AMPs can buy nonstandard credit assets (NSCAs) sold by banks with funds raised from investors, often brought in by banks. A regulatory clampdown in 2016 reduced the amount of leverage they could take on.

Entrusted lending. Intercompany loans are largely within conglomerates, but sometimes between unrelated firms. Companies, particularly SOEs, borrow from banks and on-lend to a troubled company, brokered by the bank, often with the provision of informal credit enhancement.

Securitization with Chinese characteristics. Investment receivables on banks' balance sheets are investment products often composed of other financial products. These can include trust beneficiary rights—the income flows from trust products; targeted AMPs; or securitized products. CBRC supervisory rules apply a "look-through" principle for capital and liquidity held against these products, but this is difficult to enforce.

Debt-equity swaps. Direct bank holdings of equity are not permitted, except as allowed by the State. One such exception has recently been granted for debt/equity swaps (some of which have buyback options).

[1] This Box is a summary of a broader discussion of these issues in N. Griffin and J.P. Walsh, "A Rapidly Changing Financial System," in W.R. Lam and others, eds., *Modernizing China: Investing in Soft Infrastructure,* IMF (2017).
[2] See Global Financial Stability Report, IMF (April 2016).

[14] The rapid growth of fintech in China has increased the sector's importance in the financial system. For instance, Yu'E Bao, a money market fund established in 2013 by Alipay—an affiliate of e-commence firm Alibaba—has grown to the world's largest money market fund with assets of RMB 1.4 trillion (June 2017). The fund alone accounts for a quarter of the total size of the money market in China.

[15] China has recently banned the trading of cryptocurrencies.

Contagion

36. There are increasingly complex linkages across financial intermediaries:

- Banks have large contingent exposures to products they sponsor, as well as indirect exposure to bonds and equities (and real estate) as collateral.[16]
- Insurance companies have also diversified, holding complex financial products on balance sheets. They also sell products that contain a substantial investment component.
- Complex structures have emerged, with corporate groups—not necessarily under financial holding companies (FHCs)—owning banks, as well as insurance, securities, trust, and fund management companies.

37. China's large number of FMIs are also highly interconnected and a potential source of vulnerability. Eight Chinese banks, among the largest in the country, have a membership in all eight of China's FMIs. This high interconnectivity suggests that losses following a financial or operational failure at an FMI or member could quickly spread through the financial system if proper safeguards are not in place.

38. Stress tests suggest direct spillover effects through the interbank market are relatively limited (Box 2), but connections to G-SIBs are substantial. The analysis of spillovers across the Chinese globally systemically important banks (G-SIBs—the Big Four banks) and G-SIBs in other countries indicates that mid-tier and small Chinese banks are a key recipient of shocks from G-SIBs.

39. China has an important impact on global asset prices, and the global interconnectedness of Chinese banks is rising. A financial sector shock would reduce domestic demand, giving a contractionary impulse to the global economy via lower commodity prices, reduced import demand, and lower outward investment. Cross-border capital flows are substantial, despite capital controls, and have been rising.[17]

- ***Recipients of spillovers.*** Commodity exporters mostly receive credit or FDI from China, while advanced economies tend to see portfolio and long-term asset flows. Spillovers are largest to countries, such as ASEAN, with strong trade links to China.
- ***Asset prices.*** A financial shock in China that led to lower GDP growth would impact global asset and commodity prices. Global assets would largely be affected via shifts in risk aversion and commodity prices.[18]
- ***Chinese Globally Systemically Important Financial Institutions (G-SIFIs).*** The Big Four banks are active internationally, and Chinese banks have become important creditors in many countries

[16] For example, Sealand Securities structured a highly leveraged bilateral repo with city-commercial banks under the innovative form of "entrusted bond holding" to circumvent the regulatory prudential limits on repo haircuts. As the PBC began to raise rates, Sealand in December 2016 failed to meet obligations, raising fears about widespread counterparty risk. Markets normalized only with liquidity support from the PBC.

[17] IMF: World Economic Outlook, October 2016, Chapter 4.

[18] IMF: Spillover Notes, September 2016.

in sub-Saharan Africa and the Caribbean, beyond what direct trade linkages might imply. The CBRC has worked with other supervisors to address cross-border banking concerns; but improved cooperation, especially to mitigate potential risks at Chinese banks, is needed. In line with the FSB requirements, Crisis Management Groups and recovery and resolution plans are in place for all five of China's G-SIFIs, and resolvability assessments and cross-border cooperation agreements are in progress.

C. Investment, Guarantees, and Bubbles

40. **While investors can and do take losses in China, much of the financial system, from local government and SOE debt to bank-issued investment vehicles, is seen by investors as being ultimately guaranteed by the central government.** Implicit guarantees, combined with a high saving rate, the predominance of retail investors, restrictions on capital outflows, and a paucity of long-term investment products have led to periodic volatility in asset markets. Leverage in financial markets raises the probability of a serious dislocation.

41. **Retail investors play a dominant role in many of China's financial markets.** Products such as life insurance, mutual funds, and private pensions are not yet widespread: investment in standard assets managed by institutional investors is estimated to be roughly RMB 20–25 trillion (about one-third of GDP) for 2016. Retail investors hold 30 percent of A-share stocks, but account for three-quarters of turnover. Institutional investors, who tend to be less active traders, are thus unable to play the stabilizing role they do in other large capital markets. The dominance of retail investors—especially in an equity market where free float is relatively small—affects market behavior and raises volatility.

42. **Widespread perceptions of implicit guarantees foster moral hazard and distort risk pricing.** These perceptions operate in several ways:

- **Investment products.** Financial institutions (FIs) have frequently honored liabilities of non-guaranteed products that they have marketed (most notably, bank-sponsored WMPs).[19]
- **Domestic rating agencies.** Ratings of large SOE bonds are very close to sovereign levels. Local governments use vehicles such as LGFVs and, more recently, Government Guided Funds to channel funds to projects. FIs market these products to investors, or lend directly to the projects, on the assumption that local governments will not let them default. These products are almost all rated AAA by domestic rating agencies, implying a full government backstop.
- **Asset markets.** In response to retail investors' expectations and to stabilize financial markets, the authorities' actions have, at times, implied a preference for setting floors under asset markets. Numerous measures (subsequently unwound) were taken to bolster the stock market following corrections in mid-2015 and early 2016. In late 2016, counterparty risk concerns led to a freezing

[19] The first WMP to default was one issued by Huaxia Bank in 2012; investors were compensated by an anonymous third party. Since then, various WMPs—issued by among others, Industrial and Commercial Bank of China, Bank of Communications, and CITIC Securities—have defaulted, with retail investors generally made whole after a lengthy and nontransparent process.

of part of the money market, and policy banks lent to NBFIs to address the immediate liquidity shortage.[20] Policy statements and action in response to market events further built impressions that the government stands behind financial markets.

- **Liquidity support.** In times of market dislocation, the PBC as well as some policy banks have supported markets to preclude large downward price movements.
- **Protection funds**. Criteria for using the existing safety nets—different kinds of protection funds—are not fully clear, giving rise to moral hazard.

43. Given China's macroeconomic context, these factors have led to a financial system prone to periodic large adjustments. Underpriced risk leads to excessive credit creation and leverage. The high savings rate depresses returns and term premia, raising risk appetite, while the lack of outward capital mobility prevents diversification. The large and confined pool of savings chases yield in a relatively illiquid market where moral hazard from government interventions and guarantees is widespread, leading to repeated bouts of asset price inflation and instability. The market's response to asset-price shocks can feed through to exchange rate pressures, as observed at times in 2015 and early 2016.

44. These concerns are particularly prevalent in China's housing market. Local governments control the supply of land for development and depend largely on the proceeds for revenue. Governments thus manage the supply of newly developed land to ensure adequate revenue flows. For this reason, homeowners do not anticipate significant price falls. Real estate, both commercial and residential, is the most common form of collateral in China, accounting for two-thirds of the collateral underlying banks' loan books, and raising the stakes for potential price volatility. Finally, as in all large countries, China's housing market is highly diverse: in the largest ("Tier 1") cities, both house prices and price inflation are high; but in smaller cities, particularly in less-developed areas, prices are significantly lower and more stable.

D. The Macroeconomic Policy Challenge

45. Reducing excessive credit expansion and the debt overhang will require de-emphasizing high GDP projections in national plans that motivate setting high growth targets at the regional and local levels.[21] Regardless of the macro-policy mix and economic plans that emphasize the quality and not just the pace of growth, credit growth is seen by local governments as essential to maintaining employment and social stability, and by central authorities as a tool for responding to negative shocks. As supervisors crack down on risk in the areas they monitor, this creates powerful incentives for financial innovation and finding imaginative ways to finance firms despite their lack of economic viability. Higher interest rates—justified in any case if core inflation continues to tick up—could help reduce excess credit demand and financial risks.

[20] Policy banks account together for 10 percent of total banking assets; they lend predominantly to infrastructure and construction projects, occasionally with a short-term objective of providing countercyclical support to the economy.

[21] The authorities noted in the July 13, 2017, Article IV Consultation Report that "their projected growth targets were anticipatory and not binding," and that the quality of growth was more important than the quantity.

46. The authorities are aiming to move the focus from headline GDP growth to the quality of economic development. This involves advancing supply-side structural reforms, encouraging corporate mergers and restructuring, promoting the exit of zombie firms, addressing high leverage.

47. A slower pace of medium-term credit growth is contingent on reforming non-viable SOEs and, crucially, allowing failure, as well as strengthening the social safety net. A more efficient flow of credit will mean that weaker SOEs' ability to borrow is constrained. Better governance of SOEs, including addressing their social functions, to ensure budget constraints are enforced will thus be necessary, but a policy choice must also be made to allow non-viable SOEs to fail. This in turn will require: a strategy that includes identification of companies in long-term difficulties; insolvency reform; initiatives to organize corporate debt restructuring for viable but overindebted firms; and facilitating market entry of private firms.[22] Importantly, central policies that reduce the emphasis on growth will not be successful unless the incentives of local governments can be aligned with this goal, notably by improving social safety nets to reduce the social costs of higher unemployment.

E. The Macrofinancial Regulatory Challenge

48. The authorities are aware of financial stability risks and continue to take measures to bring them under control. In April 2017, President Xi noted that financial security is "an important part of national security and a key foundation for the stable and healthy development of the economy." This theme was developed in the National Financial Work Conference in July 2017.[23] During the current FSAP process, the authorities have also responded positively to the FSAP team's findings and recommendations. Moreover, the vast majority of the recommendations of the 2011 FSAP have either been largely or fully addressed (Annex VI). In a number of areas, microprudential supervision has been improved. The CBRC and the PBC have tightened the rules on complex financial products.[24] The CBRC has stepped up scrutiny of NPLs. The CSRC has overhauled its systemic risk monitoring, and the China Insurance Regulatory Commission (CIRC) has reined in reliance on short-term products among small- and medium-sized insurers.[25]

49. Recent coordinated efforts amongst the regulatory agencies have been increasingly visible. In particular, the PBC and CBRC have worked together to reduce WMP risks and the proposed regulations on asset management business across the jurisdictions of individual supervisors.

50. But oversight of risks is hampered by a regulatory architecture that can leave significant gaps in functional supervision, and can provide strong incentives for innovation and regulatory arbitrage. Supervision is conducted almost exclusively on an institutional rather than a functional

[22] IMF Working Paper 16/203, "Resolving China's Corporate Debt Problem," Law and others, 2016.

[23] This Conference called for enhanced systemic risk oversight, improved supervision, a focus on functional supervision, reduced leverage and better management of SOEs.

[24] For example, in early May, 2017 local CBRC offices in Beijing and Nanjing raised risk weights on senior tranches of ABS. The authorities are also strengthening supervision of off balance-sheet and innovative financial activities by promoting a "look-through" principle, harmonizing supervisory standards and "resolving the rigid repayment dilemma" (i.e., tackling implicit guarantees).

[25] For instance, with the establishment in 2012 of the Capital Market Statistics & Monitoring Center Corporation (CMSMC) to collect, aggregate, and analyze data and information across the market and sectors.

basis, with substantial gaps in areas where the supervisors have a different emphasis. Importantly, investment products sponsored by banks (many, but not all, WMPs fall under the CIS rubric) and insurance companies are not directly supervised by the CSRC. Pressures to continue lending can lead to a rapid redirection, rather than reduction, in risky credit provision. For example, in 2013, the CBRC limited the share of NSCAs to the lower of 35 percent of total WMPs or 4 percent of total assets of a bank. This spurred the development of new instruments, including trust beneficiary receipts and asset management plans, by a range of NBFIs.

51. To the extent, the regulatory measures do not tackle the incentives for banks and NBFIs to generate credit and the implicit guarantees that give investors comfort, risks will continue to build and migrate into the shadows. Non-market pressures to lend prevent a fully market-determined allocation of capital. Others incentives include: internal NPL targets set by bank managers that encourage bank staff to move credit risk away from the loan book before payments are missed; employment practices that hold loan officers accountable for NPLs even when the loan was granted under bank rules; and guidelines for on balance-sheet credit to certain sectors, such as overcapacity industries (where pressure from local governments to support the companies encourages lending by NBFIs).

52. The complexity of these challenges underscores the need for careful consideration of the impact and spillovers of individual reform measures on wider financial stability. Sequencing of reforms is essential to mitigate the risk of unintended, adverse consequences of the reforms undertaken (Box 4).

OVERARCHING POLICY RECOMMENDATIONS

A. Systemic Risk Oversight and Macroprudential Policy

53. Since the last FSAP, China's framework for monitoring and responding to systemic risk has been tested and improved. Macroprudential tools were key to the successful containment of risks related to rising housing prices in 2012–13. The PBC and CBRC have also collaborated to monitor and update regulations for WMPs and other financial products. The Joint Ministerial Committee (JMC) was created in 2013 to facilitate policy coordination, in particular among the PBC and three regulatory commissions. Following an episode of high stock market volatility in mid-2015, the CSRC has notably improved its capacity for systemic risk monitoring and taken measures to reduce vulnerabilities. The authorities are creating a uniform data platform to facilitate inter-agency information sharing. At the individual agency level, various efforts have been made to improve financial stability monitoring and assessments, including creation of new macroprudential tools.

54. Despite the progress, the authorities face many challenges in containing systemic risk:

- **Regulatory gaps.** Understanding of systemic risks may be weak when no regulator has a clear mandate to supervise new or cross-sectoral products.
- **Weak coordination mechanism.** The JMC focuses on coordination of specific regulatory policies rather than collaborating on systemic risk analysis. Decisions on technical or nonsystemic issues are, in some cases, elevated too rapidly to the State Council rather than decided by the JMC.

- **Conflicting objectives.** Regulators in principle give priority to their financial stability mandate over their growth goals, but gaps and weaknesses in coordination may mean that insufficient account is taken of the impact of growth on financial stability in areas that fall under another regulatory agency or outside the regulatory perimeter.

Box 4. Implicit Guarantees and Sequencing of Reforms

Dismantling implicit guarantees is a necessary component of reform, but also poses risks. A radical change to the perception that guarantees are in place could lead to disruptive withdrawals—such as by retail investors from investment products, or by short-term repo lenders—and could quickly undermine the solvency of some financial institutions (FIs) and corporates. Even a gradual reevaluation of expected returns, including the possibility of retail investors taking principal losses, may create uncertainty and trigger capital flight. Implementing reforms, suggested below, before lifting implicit guarantees could mitigate risks.

- Oversight can be strengthened through more rigorous classification criteria for loans; stronger and uniform disclosure requirements for non-guaranteed investment products; and, where FIs might compensate investors for non-guaranteed products, requiring them to hold the same capital and liquidity buffers as for on-balance sheet products.
- Raising capital requirements as discussed in Box 6.
- Lengthening maturities and reducing reliance on short-term wholesale funding would reduce risks from creditor runs.
- Establishing more efficient insolvency and debtor workout regimes can maximize recovery values. Central and local government should clarify the extent to which they will stand behind SOEs.
- Reducing property market interventions will over time help tackle overinvestment and underpricing of risk in real estate. Reducing local government dependence on revenue from land sales would allow interventions to be limited to macroprudential measures (Box 5).
- Liquidity buffers at FIs should be built up, while in the longer run consumer education and strong consumer protection rules should help bolster resilience.
- A more comprehensive social safety net would allow unprofitable companies to be shut down, facilitate structural transformation, and allow the financial sector to lend to profitable ventures. Such reforms include a more portable pension system and "hukou" reform, and are discussed in the IMF's recent Article IV Consultation Staff Report.

55. A more effective macroprudential policy-making structure is needed. A recently announced high-level interagency committee under the State Council—the Financial Stability and Development Committee (FSDC)—could be a positive step in this direction (details are yet to be disclosed, except that the PBC will perform a secretariat role). The FSDC includes both a financial stability and a development mandate, and it is important for the highest level of authorities in China to be able to consider these two objectives together. But to ensure that the FSDC can make well-informed decisions, a separate body should be created with the sole mandate of ensuring financial stability. Such a body might be a FSS-C.[26] The FSS-C members should have joint accountability to the FSDC and, thus, to the State Council to ensure effective work.

[26] A separate sub-committee on development could also be created, with the goal of supporting sound economic and financial market development.

56. The FSS-C should be a permanent body, and meet regularly and frequently. Such bodies often meet quarterly, but China's fast-evolving system suggests more frequent meetings may be needed. The FSS-C should regularly discuss the joint assessment of macroprudential risks, and develop early cross-agency understanding of issues, focusing on the preparation of systemic risk analysis and macroprudential policy proposals. It would be supported by interagency working groups, set up at technical staff level and on a permanent or an ad hoc basis depending on the topic. This work would require adequate (additional) resourcing of the PBC and the regulatory agencies to be able to function effectively.

57. Regular systemic risk analysis should be undertaken on a collaborative, cross-agency basis between relevant experts of the PBC and regulatory agencies. They would provide technically informed recommendations to be evaluated by the FSS-C. Currently, systemic risk analysis is performed on a sectoral basis, and no institution conducts comprehensive monitoring or an in-depth study of cross-sectoral and macrofinancial risks. Additional specific analyses might include, for instance, developments in the housing market. The FSS-C and sub-groups work should be facilitated by interagency communication at all levels, including full access to internal systemic risk analysis of members' reports. The secretariat at the PBC, including staff seconded from the other regulatory institutions, would prepare meeting agendas and briefing materials, and ensure regular functioning of the FSS-C and the working groups.

58. The FSS-C should be an advisory rather than an executive body: macroprudential tools (Box 5) should remain in the hands of relevant supervisory agencies and the PBC.[27] The FSS-C should play an important role in coordination and recommending the use of macroprudential tools. Supervisory agencies should take its recommendation into account in formulating and activating policies. The full range of tools, including those related to systemic credit, liquidity, and foreign exchange risks should be available for the FSS-C to recommend.

59. The authorities should enhance their stress testing tools, and implement stress tests in a coordinated framework for systemic risk assessment and policy decision-making. The authorities' current stress testing framework falls short of being a useful tool to provide inputs into macroprudential policy decisions. For the exercises to be useful, more detailed information needs to be used, including on: bank-specific loan portfolios; securities portfolios; various categories of investment products and their corresponding underlying assets; different types of interbank exposures (both within the banking system as well as vis-à-vis nonbanks); and asset and maturity structures of bank-sponsored off-balance sheet WMPs. Further, data and information sharing across entities (the three regulatory agencies and the PBC) for stress testing and systemic risk assessment purposes needs to be substantially enhanced and systematized. Moreover, stress tests are credible only when they capture all the main tail risks in the entire financial system. The coverage of the stress testing exercises should be expanded to include NBFIs—such as insurance companies and AMCs—and integrate it into the broader risk assessment framework.

60. Analytical capacity within the stress testing teams should be enhanced significantly. The stress testing teams should have capacity to continuously adopt new techniques and innovate to

[27] By contrast with the Financial Crisis Response Group (see ¶100).

strengthen the analysis of systemic risks (as state-of-art systemic risk analysis is in constant evolution worldwide). Unless the teams' skills and capacities are adequate and progress over time, stress tests and contagion analysis will not be able to capture developments in the financial system, and key sources of systemic risks could be missed out or improperly quantified. Interagency coordination in this work is also important.

Box 5. Macroprudential Policy in the Real Estate Market

The counter-cyclical capital buffer (CCyB) is an important macroprudential instrument. The FSS-C could review this regularly, and make proposals for its activation. Activation/adjustment should also be considered jointly with measures to further rein in shadow banking, and possible increases in capital requirements for other reasons (Box 6).

The PBC's macroprudential assessment (MPA) has been a useful monitoring tool but its purpose and structure would now benefit from review. The MPA monitors seven categories of financial stability indicators (recently broadened to cover off-balance sheet credit expansion) on a bank-by-bank basis, some of which are key macroprudential indicators. Assessments under MPA, such as compliance with interest rate or credit policy, involve some PBC discretion, as do the administrative penalties applied informally to banks failing the MPA. Currently the MPA is used to determine access to PBC facilities and remuneration of reserves, rather than being tailored to address systemic risk. MPA results should not determine access to PBC facilities. Moreover, the purpose of the MPA should be reviewed and clarified, its structure simplified, and the methodology published. To ensure close interagency coordination, any macroprudential action recommended on the basis of the MPA should be discussed by the proposed FSS-C, for action by individual regulators.

Tighter liquidity requirements are warranted on macroprudential grounds. At the entity level, negotiable certificates of deposit have recently been included in the limit on interbank liabilities. However, the Liquidity Coverage Ratio (LCR) should also be extended to smaller banks, and at the product level, rules on asset allocation and redemption should be tightened, and valuation rules should be revised.

Data gaps, including insufficient interagency information sharing, should be addressed. Collection of loan-book related data by the CBRC appears to be strong, but supervisory access to data has not kept pace as risks have migrated to investment books and off-balance sheet products. Priorities are (i) better granular data on banks' investments and interbank exposures; (ii) empowering the FSS-C to require institutions, including nonfinancial institutions that provide financial services, to report data related to financial stability; and (iii) adopting common accounting standards across financial institutions to facilitate monitoring risks. Ongoing plans to develop a joint regulatory financial data platform should be prioritized. The quality and scope of the credit registry system should be strengthened by capturing individual indebtedness to nonbanks (such as P2P). Fuller coverage and centralization of property market indicators across all regions is desirable.

Property market risks have risen, while the tools for managing them are predominantly local. Homebuyers are more leveraged than during the last episode of rising market risk, and the rising share of high-LTV mortgages is a concern. Refinements to the calibration of housing market measures—such as the use of stressed interest rate assumptions in debt-service-to-income limits—would be useful.

Property market policies that are decentralized and implemented at the municipal level should be standardized. While measures are enacted in consultation with local branches of the PBC, CBRC, and other relevant authorities, local governments' GDP growth targets and social stability and fiscal objectives may prevent timely tightening or lead to premature relaxation of some measures. There are sound reasons for local government involvement in these decisions. But local-level committees, involving local governments and local PBC and CBRC offices, should be formalized and meetings held regularly, using risk analysis provided by the PBC, to help ensure comparable treatment across cities and reduce the scope for belated tightening or premature relaxation.

OVERSIGHT: INDEPENDENCE, COORDINATION, AND RESOURCES OF AGENCIES

61. Assessments of banking, insurance, and securities supervision show a high degree of compliance with international standards, but critical gaps remain. There have been significant improvements since the last FSAP, even as the scope and rigor of the revised standards and assessment methodologies has increased. Some areas of common strength emerged, such as the adequacy of supervisory powers, nimble rulemaking abilities, and a clear emphasis on bringing rules into line with international standards. The authorities have shown themselves able to act quickly in the event of market dislocations.

62. Three critical gaps common across China's regulatory agencies need addressing:

- **Over time, the State Council should empower the regulatory agencies to take independent decisions, and should increase budget autonomy.** This long-standing recommendation would aim to ensure that supervisory decisions cannot be overruled, that key staff have secure tenure (grounds for dismissal should be both fair and transparent), and that safety and soundness mandates prevail over other considerations such as growth, employment, or market development. Achieving these objectives will be essential to bolstering efforts to maintain financial stability in accordance with the authorities' broader policy goals.[28] Supportive legal reform, with broad consultation to assist in building consensus within the government, is recommended.
- **Coordination should shift from an ex post discussion of developments toward an ex ante collaboration on sharing data, assessing risks, curtailing regulatory arbitrage, and crisis prevention and preparedness.** Coordination should also be improved within agencies, including via the proposed FSS-C. In addition, functional oversight of similar products and services is needed.
- **Resources are insufficient to adequately oversee a large and complex financial system, and need to be substantially increased.** The staff count at headquarters of the PBC and the regulatory agencies has not risen in 10 years, while the financial sector has doubled in size. Maintaining adequate intensity of onsite supervision, effective supervision of complex groups and innovative products, and keeping pace with international regulatory reforms have become increasingly difficult. Regulators cannot hire or reallocate staff resources toward priority areas without prior government approval. In addition, a larger resource envelope would facilitate retention of highly qualified staff. It is essential that the regulators expand their range and depth of skills before industry developments leave them unable to maintain meaningful oversight and authority (Figure 11). Finally, budget autonomy—within a given budget envelope—should be increased.

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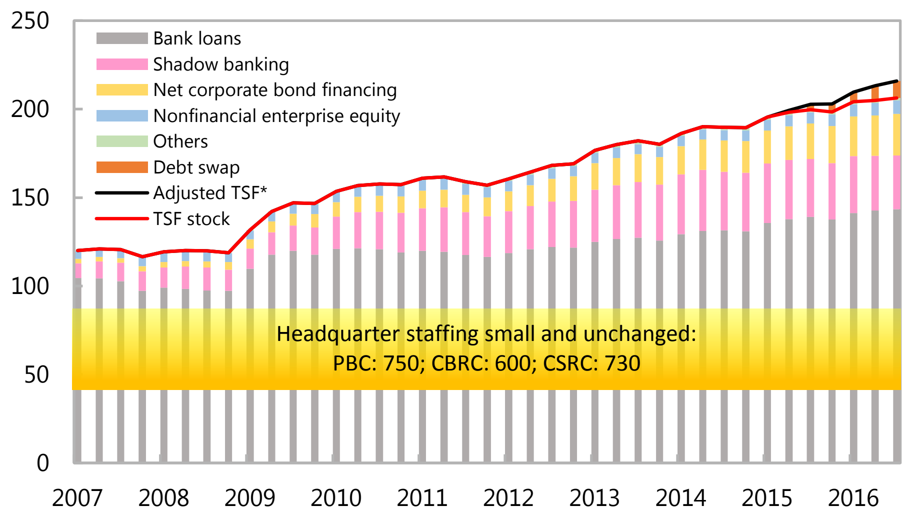
[28] This does not mean that the authorities should not give due weight to market development and growth; but that this goal may be best given to agencies other than financial sector regulators, to avoid conflicts of interest or priority for the agencies primarily responsible for financial sector stability.

Figure 11. China: Financial System Development and Headquarters Staffing, 2007–2016

(Total social financing in percent of GDP)



Sources: Haver Analytics (2016) and IMF staff estimates.

- CBRC: With four G-SIBs, many mid-sized banks with increasingly risky investment and funding profiles, and a very large number of smaller banks, the CBRC faces a heavy and rising demand for onsite resources and specialist skills to ensure that standards are being maintained in the field, and that it has a good understanding of risks in each bank.
- CSRC: The large presence of retail investors requires a much more intensive approach to supervision compared to other large jurisdictions, limiting the scope to which improvements in offsite monitoring and the use of big data can help.
- FMIs**:** Despite increased responsibilities, the number of staff at the PBC and CSRC has not increased in line with new tasks under the CPSS-IOSCO Principles for FMIs (PFMI) and new market developments. An increase in staff with good knowledge of international standards and risk management practices—including knowledge of quantitative risk models for CCPs—is required.

63. Better communication with markets can reduce volatility in markets. While communication from supervisors to FIs, especially at the CBRC, is strong, communication with markets is less effective. More clear and upfront communication of policy and supervisory goals, schedules for implementation of changes, and potential risks from implementation can help markets prepare for change and absorb regulatory changes more quickly.

A. Bank Capital

64. The mission recommends a targeted increase in bank capital during the current economic transition. Capital is a critical component of the overall macro-and microprudential toolkit, alongside other instruments and actions recommended. While the banking system meets Basel III *minimum* requirements—and in some areas China is 'super-equivalent'—risks in the sector are high and uncertain, supporting the case for building additional buffers. In particular, the counter-cyclical capital buffer (CCyB) and domestic systemically important bank (D-SIB) charge should be activated now (see Box 6). This will help enhance the credibility of the financial system and reassure markets that an additional line of defense has been established to protect the highly interconnected core of the financial system. Enhanced supervision will also lead to an endogenous increase in capital.

Box 6. Raising Bank Capital: How and Why?

Holding more capital would strengthen the banking system and bolster financial stability. Recognizing the short-term costs of raising capital levels, the FSAP recommends raising requirements gradually, with partial introduction of counter-cyclical capital buffer (CCyB) and domestic systemically important bank (D-SIB) charges from 2018, a presumption of full implementation of the D-SIB charge by end-2019, and consideration given to a range of other factors—many of which are institution or sector specific—that point to higher capital needs. Outlined below are three areas:

- ***CCyB***. As a BCBS member, China has endorsed the CCyB, though the modalities for its implementation in China have yet to be decided. The size of the credit gap in China, and continued buildup of potential credit risk as indicated in rising asset prices and exposure to nonstandard credit assets (NSCAs), amongst other factors, call for triggering of the CCyB now. Targeting a CCyB to be applied to all banks and set at 0.5–1.0 percent risk-weighted assets over the coming 12 months may be an appropriate initial step, with subsequent changes reflecting developments in the economy and the banks' response to this regulatory tightening.[1]
- ***Systemic risk***. China's four G-SIBs are already subject to capital surcharges, but other potentially systemic banks are not. The D-SIB methodology should be finalized and the framework implemented to include any potentially systemic banks. The 'bucket approach'—differentiated according to the systemic importance of each bank—might see a 0.25 to 1 percent D-SIB charge phased in by end-2019, in addition to other regulatory measures (including tightened liquidity and large exposure limits) for designated D-SIBs.
- ***Domestic conditions call for Basel tailoring.*** Basel's minimum-based capital framework offers adaptability to jurisdictions dealing with idiosyncratic pressures that arise in phases of economic transition and transformation. A number of countries have raised capital levels based on domestic conditions; this may also be warranted in China. While the elimination of widespread implicit guarantees has important benefits of increased transparency, facilitating better pricing of risks, and building resilience, it could lead to rising defaults (if government support is removed) and funding pressures (if bank support for investment products is withdrawn), as retail investors' perceptions of guarantees on off-balance sheets products change. Major changes, including ongoing exchange rate and capital account liberalization, could also increase volatility. Such a collection of risks implies the need to consider super-equivalence to Basel, as China has already done in some areas. Country-specific capital adjustments, whether system-wide or focused on sectoral weaknesses—e.g., via adjustments of risk weightings or credit-conversion factors based on the authorities' judgments—would have to be calibrated based on a comprehensive assessment of risks. This 'uncertainty and transition buffer' could be reduced later as China completes its economic transition phase.

Enhanced supervision will require more capital even without changes in regulatory ratios. Enhanced Supervisory Review Process (Pillar 2)—through additional resources for onsite supervision, greater scope for independent action, tighter rules on loan classification, and stronger enforcement of the "look-through" principle—will raise the risk density of assets and contingent liabilities and ensure individual banks hold capital reflecting their risk profile and management capacity. This will, thus, require higher capital even without a change in regulatory ratios.

Compliance with higher capital requirements is feasible via a number of channels. These will include raising capital—both equity and by the development of other capital instruments—in the markets. Given that the Big Four will have to implement TLAC requirements in the coming years, the market for these instruments will need to develop safely and soundly, with a strong institutional investor base. Some banks currently hold capital in excess of minimum requirements: a temporary reduction in excess capital and increased profit retention could facilitate meeting the higher capital requirements. The Big Four banks, and to a lesser extent the medium-sized banks, appear to have more scope for building capital through profit retention than the large banks and the City Commercial banks.

[1] 2.5 percent is the maximum CCyB level under the Chinese regulation and for mandatory reciprocation by other BCBS members.

65. Asset quality reviews could be used to provide greater clarity about troubled exposures. Ideally, once regulatory gaps and the status of implicit guarantees (which complicate the accounting treatment of asset valuations) have been addressed, a review of credit quality at banks most at risk considering their regional and sectoral exposures, would be an important step towards greater transparency. Asset quality reviews should make a comprehensive and independent assessment including the investment book, as well as whether transfers of assets have been conducted at arms' length. Targeted examinations and stress tests on credit risk, which the CBRC already conducts, can provide a useful indication of FIs that are most exposed. Planning for the reviews, to clarify what the authorities want to achieve with them, can start early.

B. Nonbank Finance

66. The control of complex investment products has had some important successes. Separate accounting for WMPs, limiting leverage in bond funds, ceilings on WMP holdings of NSCAs, and other measures, have reduced the riskiness of these products. Other measures seek to address the financial engineering described in Box 3, though more needs to be done to strengthen financial sector resilience by requiring greater transparency, simplicity of structure, and standardization of products, as well as minimizing the extent of institutional interconnectedness.

67. However, underlying incentives to prevent a proliferation of these products still need to be addressed. The current strategy focuses on curtailing the supply route of certain products from the banking sector, but does not address the demand by banks and NBFIs to originate and sell risky assets. Measures to address those incentives might include:

- Ease limits on lending to infrastructure, construction and real estate, and overcapacity sectors, but only after implicit guarantees are lifted, pressures to lend are reduced, and lending decisions are made on a market basis.
- Shift the focus of enhanced regulatory scrutiny of banks towards credit and risk management policies and practices. Banks report a perceived trigger point for intensified scrutiny if NPLs reach 2 percent. Enhanced scrutiny of banks evidencing weak credit risk management is warranted; perverse incentives to evergreen loans or hide losses should be avoided.
- Focus on compliance with lending policies instead of loan performance. Holding loan officers personally accountable encourages rolling over loans and shifting risky borrowing off-balance sheet.
- Move local government incentives further away from headline growth (and thus credit extension) and pressures to invest in infrastructure funded by shadow banking credit. This will be facilitated as a more comprehensive social safety net is developed.
- Increase investors' awareness of risks in high-return assets, by stepping up financial literacy as part of the process to eliminate implicit guarantees.
- Other reforms related to consolidated supervision, credit risk, and supervision of securities are discussed in the section below on microprudential oversight.

68. Legal and regulatory changes are required to ensure the bankruptcy remoteness of CIS, including WMPs, in the event of insolvency of the manager or custodian. Ownership of the assets in most investment products is ambiguous, including whether investors have a separate claim on the issuing financial firm. Stand-alone legal identity and balance sheets would facilitate risk pricing and clarity.

C. Liquidity

69. Reforms to the LCR should be considered, to reflect rising liquidity risks. Although the CBRC is compliant with Basel in its implementation of the LCR, it is a minimum standard. Stress testing implies current buffers for off-balance sheet WMPs could be too small. Run-off rates for WMPs under the LCR should be raised to levels commensurate with other retail products. Similarly, run-off rates for interbank liabilities should be reconsidered, particularly the allocation between operational and non-operational deposits.[29]

70. Smaller banks and NBFIs increasingly finance themselves in the exchange-traded repo market, in which illiquid collateral presents a stability risk. About one-third of collateral in the market is corporate bonds, for which secondary markets are largely inactive and insufficiently deep to cope with even modest liquidation (see ¶28). Given the scale of repo in funding fixed income investment, downward pressure on prices from rising defaults and deleveraging could be amplified by illiquidity in the credit market and provoke fire sales, a downward spiral in asset prices, and contagion across the financial markets. Stability of the CSDC (as a CCP that guarantees much of the repo trading on its platform) would be jeopardized. Relatedly, the provision of liquidity by policy banks to NBFIs during periods of stress (¶42) creates moral hazard and discourages NBFIs from holding sufficient liquid assets to deal with distress.

71. Collateral reforms and clarifying the legal framework would reduce moral hazard and systemic risk in the repo market. Additional haircuts, for example based on the number of days to liquidate a holding, should be applied. Securities should not be eligible for repo unless they meet a minimum monthly turnover requirement. Retail investors, who add volatility to the market, should gradually be excluded from trading in the repo market. To enhance risk differentiation, the CSDC should be encouraged to develop internal ratings. The authorities also need to address the legal risk of conveying collateral by pledge, perhaps by moving toward true repo with title transfer. Repo collateral should be covered under a fast track-type arrangement that places it outside the formal insolvency process. In addition, participants should be able to use set-off (netting) in insolvency.

72. Liquidity pressures leading to runs on banks or asset markets can be associated with capital outflows and exchange rate pressures. In addition to liquidity support measures—which can have knock-on effects on the implementation of the central bank's monetary policy—there might be a need to consider interest rate or foreign exchange measures to ensure a coherent overall policy stance. Liquidity support in the stress test scenario would be somewhat smaller than current PBC lending to commercial banks and so, in principle, could be offset by reducing other loans, without expanding the PBC's balance sheet. But the long maturity of the bulk of existing loans would require

[29] Operational deposits are typically more stable, allowing for lower assumed run-off rates.

interim liquidity-management measures. Advance planning for such a scenario could be part of the authorities' crisis preparedness planning.

MICROPRUDENTIAL OVERSIGHT

A. Modernizing the Bank Supervisory Framework

73. Growth in the scale and complexity of the banking system, coupled with the demands of the international regulatory reform agenda, are key challenges with which the CBRC has contended with since the last FSAP. Overall, the CBRC has maintained momentum and has a highly credible track record, with progress in almost all aspects of banking supervision. Recent organizational reforms in 2015, building on other internal reforms, will serve the CBRC well in delivering its supervisory mandate. Supervisory communication with the banks is a particular strength of the CBRC and will be needed in support of continued supervisory development. Nevertheless, there are vulnerabilities in some key areas which will require more attention and intervention.

74. The CBRC has an effective suite of powers, but there are some gaps that play into areas of rising vulnerabilities.

- **Group supervision.** The CBRC must ensure banks are capable of fully identifying and managing risky interactions across complex groups. The regulatory framework for corporate governance of banks should be rationalized into a single coherent and comprehensive legislative instrument.
- **Risk concentrations.** As noted in the previous FSAP, regulations on large and related-party exposures need to be strengthened—an increasingly urgent reform as conglomerates grow in importance. Exemptions when there are relationships between entities with common local government ownership represent significant sources of concentration risk and potential for governance standards to be undermined in the bank.
- **Loan classification and credit risks.** Loan classification standards appear insufficiently robust considering the mounting challenges of many borrowers in traditional and overcapacity industries.

75. The CBRC is in the process of implementing, or has already fully implemented, the international standards that apply to the largest and most complex banks. However, its work on the framework for D-SIBs needs to be given higher priority.[30] At the same time, there is a risk that the smaller banks receive inadequate oversight, despite often presenting riskier profiles, due to resource constraints and—in some cases—lower regulatory or supervisory standards than might be appropriate. For these banks, liquidity risk, interest rate risk in the banking book, and increased and better quality audit oversight warrant greater attention.

[30] More broadly, the PBC is leading efforts to formulate the identification principles and regulatory requirements for D- SIFIs.

B. Consolidated Supervision and FHCs

76. Complex groups undertaking cross-sectoral activities present significant challenges. There is no standard approach to the structure or regulation of FHCs.[31] Despite efforts to improve coordination through the JMC, detailed exchanges of information and effective cooperation at the level of individual groups and institutions have been insufficient. This has contributed to weaknesses in preventing abuses of financial services and a poorer understanding of the risks and vulnerabilities arising from more complex groups.

77. More complex banking group structures put a premium on effective consolidated supervision. The CBRC has gained experience and confidence in probing risk management, activities, and strategies of bank-led financial groups. However, the activities and entities of wider corporate groups—that already exist in various forms in China—could have an impact on the banking entity and its sub-group. Despite this, disclosure of ultimate beneficial ownership is deficient, complicating ensuring compliance with capital adequacy, large exposure and related-party transaction regulations. A better understanding of the nature and risks of and to banking groups is needed as a key component of consolidated supervision and in identifying intra-group risks to banking groups owned by mixed conglomerates.

78. Faced with such challenges, the lack of powers of approval—or even pre-notification—of changes of control or structure of groups including banks represents a major shortcoming. The CBRC has clear ex post powers of information gathering and intervention and would be able to identify inappropriate influence upon or transactions with a bank after the event. However, it is important to ensure the CBRC is also informed and can act *before* changes take place that could result in unfit shareholders gaining control, or compromise safety and soundness.

C. Asset Quality and Credit Risk

79. The full extent of asset quality challenges is not captured by the NPL ratio. Three areas of concern suggest the NPL ratio may understate system-wide credit quality problems:

- **Loan book.** Certain small- and medium-sized banks have large amounts of loans that are 90-days past due (dpd) but are not classified as NPLs. Rollover of overdue credit (within certain constraints) and generating repayments using bridge loans by other (sometimes connected) lenders are also observed in practice, although reliable data to verify such activities are not available.
- **Investment book.** Some banks have moved credit assets into their investment book, to circumvent credit quotas and restrictions, or to reduce capital charges and loss provisions.[32]

[31] The authorities recognize the need to coordinate FHC supervision, including for internet-based companies and cross-sectoral business.

[32] There is little disclosure on underlying assets of these investments in banks' financial reports. Claims of banks on other NBFIs have increased from 2 percent of banking assets at the end of 2010 to 12 percent at the end of March 2017. In large part, this reflects the transformation of credit assets to claims on similar assets held in investment vehicles set up by NBFIs.

- **Off-balance sheet exposures.** There are indications that some banks have transferred assets off-balance sheet but retained credit risk (through financial engineering and implicit guarantees).

80. Additional measures are needed to make credit risks more transparent. An orderly unwinding of complex and unsustainable financing structures will require action in:

- **Classification of "90 days past due" loans as NPLs.** Consistent with the 2016 Basel Committee's guidelines on NPLs, loans should be classified as NPLs once they are 90 days past due.
- **Collateral in loan classification.** Loan classification guidelines allow overdue loans with sufficient collateral or guarantees to be categorized as "Special Mention" or even performing. In keeping with best international practice, loan classification should be determined by cash flow, not collateral.
- **Implicit guarantees for SOEs.** Detecting and reducing rolling over of loans to weak SOEs (a significant part of troubled borrowers) is difficult. Important steps would include clearer definitions of acceptable guarantees and lending practices and formal guidance or risk alerts.
- **Credit risk management.** There is no comprehensive CBRC guidance on credit risk management, leading to circumvention of piecemeal rules.
- **Internal credit ratings.** Risk pricing could be improved through more focus on internal ratings, as well as increased competition and market access for foreign credit ratings agencies.

D. Supervision of Securities Markets

81. In the last three years, the CSRC has implemented initiatives aimed at protecting retail investors, strengthened systemic risk monitoring, and taken a firmer stance on enforcement. The CBRC has strengthened the regulatory framework for WMPs in several key aspects, including by introducing stronger distribution and sales rules, requiring full segregation and separate accounting for each WMP, and stricter rules on eligible investments. Overall, the regulatory framework and supervisory program for the securities markets is largely compliant with the International Organization of Securities Commissions (IOSCO) Principles.

82. Harmonizing regulation of similar products is a key challenge, with asset management services being a priority area. Rapid capital market development has resulted in many products and services fulfilling similar economic needs or being offered by entities that are regulated and supervised by different agencies, in line with the institutional supervisory architecture in place. Existing agreements on harmonizing the regulation of activities and products subject to more than one regulatory regime and supervisory authority should be fully implemented. Uniform regulatory rules are being developed forasset management products, and there is draft regulation on credit rating services. Improved disclosure requirements—ensuring investors receive comparable information across products and prohibiting the publication of expected returns in WMP prospectuses—will reduce the scope for unsafe competition and regulatory arbitrage. Eliminating the possibility of money-market funds to use amortized costs and maintain stable net asset value, or more strongly regulating the practice, would help ensure disclosure practices were better harmonized across instruments and better reflect risks to investors. The authorities should also consider developing harmonized regulations for asset-backed securities.

83. The recent strengthening in enforcement policy is welcome and should be continued and deepened. The CSRC has adopted a more vigorous approach to using administrative measures and sanctions through imposing larger monetary penalties and bans on market participation. Gaps and inconsistencies in the descriptions of some types of misconduct should be eliminated, and the level of fines and penalties available increased for both administrative sanctions and criminal offenses.

84. Systemic risk monitoring should ensure a holistic view of securities markets and their interconnectedness with the rest of the financial sector. The CSRC has made impressive progress in improving its tools and processes for systemic risk identification and monitoring, efforts that should continue, to ensure that the CSRC continues to have effective tools and expertise to monitor all relevant markets. Given the existence of multiple regulators for key products and markets, it is critical that information sharing, identification, and monitoring of systemic risk are implemented by the proposed FSS-C.

E. Insurance

85. Insurance sector growth has been very rapid and is expected to continue, posing challenges to effective supervision. New entrants, products, and distribution channels—as well as price liberalization—have increased competition, while slower economic growth and lower investment returns have increased risks. Many non-life companies are moving into new lines as margins on established lines erode. Some sell short-term products with limited insurance content that are similar to WMPs and bank deposits (this has now triggered regulatory reaction from the CIRC).

86. CIRC has undertaken far-reaching reforms, resulting in a high level of compliance with the Insurance Core Principles. While the Insurance Core Principles do not cover all aspects of an insurer's activities, there are extensive requirements on governance, reinsurance, disclosure, and conduct. The China Risk-Oriented Solvency Standards (C-ROSS) implemented in 2016 draw on international practices and Chinese experience to create both risk-based solvency standards and a framework for in-depth assessment of insurers' risk management. CIRC is the lead supervisor for a globally systemically important insurer (G-SII), and is preparing a regime for domestic SIIs. Enforcement powers are extensive, and there are full legal provisions and a funded insurance guarantee scheme to support orderly exit.

87. CIRC should do more to develop an overall view of the key risks of the large insurers across the range of its supervisory functions. Cooperation with other regulators could be strengthened—in particular, enhanced coordination with CSRC on asset management issues, and with foreign regulators.

88. Oversight and sound market development can be strengthened through:

- **The further development of C-ROSS.** CIRC can already plan for a more market-oriented valuation basis. It could expand the role of supervisory judgment. It should continue to keep investment limits under review while it seeks to improve standards on insurance-sector risk management.

- **Solvency control levels.** These should be reviewed and communicated to insurers, including the point above the minimum requirement where the CIRC will intervene, and below which no insurer may continue in business.
- **Liquidity risks.** Some insurers have been selling high volumes of short-term savings products, while investing in illiquid assets such as real estate and WMPs. Action to curb unusual liquidity risks or excessive declines in the duration of liabilities should be considered.
- **Crisis management and preparedness.** Frameworks should be enhanced for the larger insurance groups, building on recovery and resolution planning for the one G-SII.
- **Market conduct**. The CIRC should review consumer protection risks, including risks of mis-selling of complex products, and fill gaps, particularly in disclosure requirements, in the supervision of intermediaries.
- **Developing plans for risk-based supervision**. The supervisory framework should move to a fully risk-based approach, bringing together all the issues and actions for each insurer.

F. Supervision of FMIs

89. China's landscape for FMIs is one of the largest and most complex in the world. It consists of a range of payment, clearing and settlement systems, including several interbank payment systems, securities settlement systems, and CCPs. Many of the systems have high volumes by international comparison and are systemically important at a national level. Disruptions, both operational and financial, in one of these FMIs may significantly impact the economy. The landscape is changing, with the establishment of a cross-border interbank payment system, a CCP for over-the-counter derivatives, and the development of innovative products, for example in the area of internet payments.

90. The adoption of the PFMI in 2013, and the establishment of an interagency platform to assess FMIs (the "PFMI Office") are important achievements. Full implementation of the principles by FMIs is the next step and is expected to enhance resilience and stability. The level of implementation of the requirements varies greatly among the different systems. FMIs and their overseers are encouraged to actively reform risk management practices. Notably, the CSDC should adopt full delivery versus payment and modernize its credit and liquidity risk management.

91. The legal basis for FMI supervision needs to be strengthened, and various initiatives are underway. A main vulnerability relates to the lack of a statutory framework for futures markets, which could hamper CSRC's power to enforce change where needed. For example, when new cross-sector products are developed—such as in the over-the-counter derivatives markets—gaps or overlaps in regulation may appear. The authorities' initiatives—such as the development of the 'China Financial Infrastructure Supervisory Rules,' the drafting of a comprehensive Futures Market Law, amendments to the Securities Law, and the drafting of a dedicated National Payment System Law—should strengthen the supervisory framework and enhance clarity.

92. There are weaknesses in the legal framework for FMIs regarding finality and netting of transactions. It is recommended to enact a comprehensive statute, or otherwise adopt statutory provisions, to achieve a high degree of legal certainty for all relevant material aspects covering FMIs. This should provide for recognition of settlement finality in the event of insolvency of a participant, recognition of multilateral netting, provisions for bankruptcy remoteness of pledged collateral, and prescriptions to overcome any zero-hour rules.

93. Cyber risk has been identified by authorities as an important topic in relation to FMIs. A cyber security law was issued in 2016. The "Cyberspace at the Administration of China," a body under the State Council, conducts cyber security tests at a national level. With the promulgation of the cyber security law, cooperation between the PBC, CSRC, and FMIs may further improve insights and contribute to the awareness and assessments of cyber risks. Joint crisis coordination mechanisms and testing of crisis communication protocols can further improve the management and monitoring of these risks.

94. Finally, resilience can be strengthened through the provision of central bank services to all solvent, systemically important FMIs. The PBC currently provides settlement services to CCDC and Shanghai Clearing House. It may consider extending these services to the CSDC and other CCPs. Although private-sector liquidity must constitute the first line of defense for FMIs, there could be extreme circumstances in which these are insufficient or unavailable. Providing solvent FMIs with access to emergency central bank liquidity, against collateral, ensures that they can continue to make payments and thereby maintain market stability.[33] The provision of central bank accounts would reduce FMIs' exposure to commercial banks.

G. Anti-Money Laundering and Combatting the Financing of Terrorism (AML/CFT)

95. China was removed from the Financial Action Task Force enhanced follow-up process in 2012, following a substantial reform effort. The AML/CFT legislative and regulatory framework has been significantly enhanced since the 2007 Mutual Evaluation Report, money laundering has been criminalized, and all terrorist financing offenses are now covered. The securities and insurance sectors were brought into China's AML/CFT regime. Measures required to bring the legal framework into compliance with international standards include mandating the enhanced CDD(CDD) for domestic politically-exposed persons on a risk-sensitive basis. CDD and suspicious transaction reporting rules are now largely in line with international standards, except for designated nonfinancial businesses and professions (DNFBPs).

96. While China has taken steps to align its anti-corruption initiatives with its AML/CFT framework, there is room for more improvement. China has ratified the United Nations Convention against Corruption and incorporated it in the legal framework, and it actively participates in international anti-corruption efforts. As concealing the proceeds of one's own crime is viewed as an extension of the predicate offense, the laundering is not sanctioned as an independent action. Full

[33] This would require legislative change or specific State Council approval.

and comprehensive availability of information on ownership and control of legal persons, in line with the Financial Action Task Force Recommendations, is needed.

97. Group-wide supervision and cooperation mechanisms should be developed. The PBC is developing a risk-based approach to AML/CFT supervision by requiring institutions to undertake self-assessments and by developing its own methodology for prioritizing institutions. An increased focus on group-wide risk should be a supervisory priority and there is scope for regulatory agencies to strengthen their cooperation. Stronger sanctions for breaches of AML/CFT obligations should be considered.

98. Going forward, the authorities should:

- Ensure that self-laundering is more effectively investigated and prosecuted as a stand-alone offense.
- Mandate enhanced CDD for domestic politically exposed persons on a risk-sensitive basis.
- Ensure that the arrangements to record and maintain data on beneficial ownership are effective.
- Extend preventive measures to DNFBPs.
- Strengthen cooperation across all AML/CFT supervisory authorities.

CRISIS MANAGEMENT

99. While China has successfully managed weak FIs, significant reforms are needed to support a more market-oriented system and promote financial stability in the longer term. The authorities have relied on official financial support to manage failing FIs, regardless of the systemic importance of the firm. While this approach addresses any immediate risks, it encourages moral hazard which undermines financial stability in the longer term. Moreover, the size of the financial sector suggests this approach may no longer be viable, as the resources needed would be much larger than in the past (for example, in response to financial problems in the late 1990s). Establishing a framework that allows FIs to fail—and requires shareholders, creditors, and investors to bear the costs of those failures while mitigating financial stability risks—is a key part of the transition. Reforms are needed to repurpose the existing crisis management framework and to facilitate the operation of a special resolution regime.

A. Crisis Prevention and Preparedness

100. Some elements of an effective institutional framework for crisis management are in place. The regulatory agencies and the PBC have developed emergency-response frameworks that include monitoring and early warning systems, indicator-based action plans, and reporting rules that provide for timely communication between local and head offices, and with local government. At the discretion of the relevant regulatory commission or the PBC, serious matters are escalated to the State Council, which can activate the Financial Crisis Response Group to facilitate decision-making, inter-agency coordination, and crisis management.

101. But since nonsystemic problems are elevated rapidly to government level, policy decisions may not be made on technical grounds, and may be skewed towards addressing social—rather than financial—stability. In principle, until the Financial Crisis Response Group is activated (or the State Council intervenes directly), the regulatory commissions and the PBC may act within the full scope of their authority to respond to emerging problems. In practice, their actions appear to be influenced by local governments. While only serious matters are reported to the State Council, other incidents are reported to local governments as they have explicit statutory responsibilities to resolve risks posed by FIs operating in their jurisdiction. Local governments may convene and direct an interagency response to incidents as minor as supervisory actions against an individual, nonsystemic FI.

102. Triggers for activating a government-led crisis response should be limited to systemic cases where public resources may be required. Interagency coordination in responding to weak FIs or emerging threats to financial stability is mainly government-led—in the first instance, by local governments. Many countries include a role for government in crisis management; but good practice is for this role to be limited to incidents that have implications for the potential use of public funds.[34] Even in these cases, the crisis management strategy and execution should be designed with the technical advice of the safety net members in conformity with their mandates and with regard to preserving their regulatory autonomy. The PBC and the regulatory agencies can enhance their preparedness by conducting inter-agency crisis simulation exercises and updating their emergency-response frameworks, as needed. Consideration could also be given to establishing a dedicated forum for contingency planning and technical-level coordination for crisis management.

103. To enhance their ability to respond to emerging risks, regulators should be able to request corrective actions based on forward-looking assessments. The regulatory commissions have comprehensive systems of early warning indicators, which allow for the timely identification of weak institutions and for planning supervisory intensity, and have powers to request corrective actions and to impose sanctions. However, there is limited scope for any supervisor to act based on a forward-looking assessment. Delayed supervisory actions usually lead to further deterioration in the financial condition of the weak FI, and potentially reduce the recovery values in the event resolution becomes necessary. However, the authorities have requested recovery plans for the five G-SIFIs, in line with the FSB requirements, to ensure that the burden is placed on FIs to restore their financial condition in the event of distress; and the CBRC and CIRC plan to extend these requirements to domestic systemically-important banks and insurance companies. FSB guidance on recovery (and resolution) planning should be adapted to the Chinese circumstances, and local requirements and guidance for FIs developed accordingly.

B. Resolution Powers and Approaches

104. The authorities' ability to address the deep-rooted problems of overindebted, unviable borrowers is key to the future success of effective supervision. Effective NPL management and resolution will require political willingness to restructure overindebted sectors, including operational

[34] For example, as per the Key Attributes of Effective Resolution Regimes for Financial Institutions.

restructuring of viable corporates and exit of nonviable ones. Targeted social programs would help cushion the impact of operational restructuring.

105. Further work is needed to align approaches to resolving weak FIs with the Key Attributes of Effective Resolution Regimes. The bankruptcy law applies to FIs, but in practice has been rarely used. The current approach is designed to turn a weak FI into a stronger one, in order to protect shareholders and creditors. Typically, a local government will lead negotiations on the restructuring of a weak FI with its shareholders, creditors, and potential new investors, and sometimes it will also use public sector resources. The effectiveness of this approach has hinged on good growth prospects, difficulties in acquiring banking licenses through other routes, the search for high-return (albeit risky) investments, and the use of public funds—conditions that may not be available in future. By contrast, international good practice points to imposing losses on shareholders and unprotected creditors; facilitating the orderly exit of non-viable firms; relying on deposit insurance to protect depositors up to the insured limits; and minimizing the use of public funds.

106. Work to expand administrative powers to resolve banks and insurance companies should be accelerated, and a special resolution regime put in place for banks and systemic NBFIs. For the G-SIFIs, crisis management groups have been established, and resolution planning and resolvability assessments are underway. However, shortcomings in the legal framework for resolution limit the scope of resolution plans. Legal changes are needed to put in place a special resolution regime, empowering an administrative authority to require the recognition of losses in accordance with a clearly established hierarchy of claims and apply a broad set of powers to resolution. Resolution actions should not be subject to stay or reversal in court, with redress limited to monetary compensation if the authorities are found at fault. Resolution powers should include the ability to transfer part of the business or shares to a healthy firm or bridge institution, and bail-in powers. Adequate arrangements are in place—in the absence of financial stability concerns—for the application of the bankruptcy law to NBFIs, including requirements for the relevant authority to serve as "gatekeeper" for the commencement of bankruptcy proceedings.

C. Financial Safety Nets

107. An overly broad system of financial safety nets is in place, which poses a challenge for limiting moral hazard. The formal financial safety nets consist of: (i) the deposit insurance fund; (ii) the insurance protection fund; (iii) the securities investor protection fund; (iv) the recently established protection fund for trust companies; and (v) PBC liquidity assistance. Beyond this, state financial assets have been used—including resources of the China Finance Corporation, a margin lender that provided substantial market support in response to the 2015 disruptions. But application of the safety net does not currently require a distinction to be made between insolvency and illiquidity; there is no clear test of systemic importance; and there is no means to ensure shareholders and unprotected creditors bear losses before the safety nets are used, or that costs to the safety nets are minimized.

108. The resources of the protection funds should be used only after licenses are withdrawn, and to provide an appropriate level of protection for selected classes of creditors. This would prevent the use of protection fund resources for rehabilitating failing firms and protecting shareholders. A clear distinction between protected deposits and other investments must be made to all bank customers, and enforced. This will help erode perceptions of implicit guarantees. Protections in the trust and securities sector should be limited to cases of fraud or misappropriation of assets, and not used for recapitalization or to provide liquidity support. If public funds are required in situations of systemic risk, they should be provided by the government, with appropriate safeguards. Emergency liquidity assistance should be provided only by the PBC.

109. Funding for commercial banks outside normal monetary operations should be available only under a specific emergency liquidity arrangement, subject to strict conditions. The absence of a clear solvency requirement or supervisory opinion for institutions applying to the PBC for liquidity support may foster market perceptions that insolvency procedures will not be enforced, generating moral hazard.[35] A much stronger procedural framework is required, based on key principles, including that support is provided: (i) at the discretion of the PBC; (ii) to solvent, viable institutions; (iii) against collateral and at penalty rates; (iv) through triggering intensified supervisory measures; and (v) on provision of a clear repayment plan. Illiquidity constitutes adequate grounds for resolution, and support should only be provided based on an analysis of systemic risks that would justify putting public funds at risk.

D. Resolution of Bad Debts

110. The current set-up, with a dominant role for the four nationwide AMCs, facilitates disposal of problem bank assets. China's four nationwide AMCs, created in 1999, have absorbed significant amounts of bad assets from banks. AMCs bid for the loans and mostly offload NPLs through re-sale.[36] The AMCs have re-sold most of the acquired NPLs, while restructuring loans to companies that are potentially viable. In response to the current challenges, the authorities have taken steps to improve the functioning of the AMC-based disposal channel and to diversify the range of disposal options. Initiatives have also been taken to expand the range of resolution options, including through pilots for NPL securitization and debt relief for distressed borrowers (for instance, setting up creditor committees to support deleveraging via debt-to-equity swaps).[37]

111. The structural slowdown and rebalancing of the economy call for a rethink of current approaches that favor rapid disposal instead of recovery and restructuring. In the absence of thorough operational restructuring for distressed but potentially viable corporate borrowers—and a timely exit for unviable ones—losses will mount and potentially salvageable economic activity will erode.[38] Recovery and restructurings are currently discouraged by aspects of the legal and regulatory framework and its implementation. Collateral enforcement reportedly works well in large cities, but is

[35] Under current law, the PBC may only provide liquidity to NBFIs with the approval of the State Council.

[36] The more recent creation of regional AMCs has increased competition and pushed up prices paid for NPLs sold by banks, but it is difficult to assess whether transfer pricing is now closer to 'fair value' levels.

[37] Reportedly, creditor committees can help companies renegotiate loan terms with banks so that loans subject to creditor committees are not treated as NPLs.

[38] Operational restructuring involves fundamental changes in the company's operations, including through divestment or discontinuation of non-core activities, and reductions in staff, to restore financial sustainability and commercial viability.

less efficient elsewhere—sometimes due to social implications. There are few formal re-organization and liquidation cases, no out-of-court enforcement, and limited bankruptcy experience. The recent regulatory encouragement for creditors to pursue debt-to-equity swaps appears to focus too much on financial restructuring, and may end up capitalizing losses in overcapacity sectors, rather than being a part of an effective operational restructuring of distressed corporations

112. Many countries have formulated special programs to deal with SOE debt, but the introduction of regionally led programs in China poses challenges. Policymakers at the regional level may lack sufficiently strong incentives to push for meaningful operational restructuring as a quid pro quo for financial restructuring, and may lack resources for social programs designed to cushion the impact of restructuring and relocation of displaced workers.

DEVELOPMENT AND ACCESS

113. As part of the economic transition, the government has urged FIs to adjust their lending practices with greater emphasis on households, micro and small enterprises, and labor-intensive industry.[39]

114. The policy banks' mandates should be further reviewed. They have recently experienced another round of fast asset growth with substantially expanded mandates domestically and overseas, raising questions about their additionality vis-à-vis commercial sources of financing, and the economic impact of their interventions. The broad range of mandates reflects a mix of short-term growth-stabilizing strategies (centered around infrastructure and construction projects) and longer-term development priorities. The government should further clarify and define the mandates of the policy banks to ensure that they supplement and catalyze commercial financing, and to prevent excessive expansion of their business scope.

115. China has made significant progress in financial inclusion. High levels of account penetration, savings, and usage of payments services have been achieved. Remaining challenges include providing a wider range of financial services, in particular credit and insurance products, to individuals and micro and small enterprises that are technically banked, but still underserved. Financial literacy also needs to be improved, in particular in rural areas where investors are more likely to be misled by the promise of high returns from risky or fraudulent schemes.

116. A market-based approach based on improving the legal and regulatory framework would be the most sustainable way to improve access. Quantitative targets on physical outlets and the number of loans disbursed (and an emphasis on keeping interest rates low) contradict the principle of commercial sustainability and can—as an unintended consequence—set the stage for an unsustainable buildup of debt among mostly low-income households and small and medium enterprises, adversely impacting financial stability.

117. The expansion of fintech bodes well for financial inclusion, but presents challenges for regulation and supervision. Fintech has already played a very positive role in financial inclusion.

[39] The World Bank's FSA provides more detail on the developmental aspects of the FSAP's work.

Fintech companies—utilizing network effects, economies of scale, advanced information and communications technology, and big data analytics—have reached hundreds of millions of consumers with new financial products. These products have included investment vehicles for consumers without bank accounts, a cashless and disintermediated payments system, and loans to households and SMEs without sufficient credit history to access the formal banking system. However, this gives rise to risks: the authorities have already banned some P2P lending (used to evade housing down payment requirements), and the size and rapid growth of money market funds under management by fintech firms means they could eventually pose systemic risks. The legal, regulatory, and supervisory framework for fintech should continue to be strengthened to provide legal clarity and manage risks, allowing for healthy growth.

Annex I. Risk Assessment Matrix

Source of Risk	Likelihood	Impact on Financial Stability
Realization of domestic risks		
1. A shift in the perceived value of implicit guarantees leads to a sharp increase in risk premia (see Risk Assessment Section C).	**High**	**High** A shock to perceived implicit guarantees could lead to a repricing of risk across the system. Rolling over short-term funding would become more expensive or impossible; mortgage rates could rise, leading to falling prices in oversupplied regions (see Risk 3); demand would fall for investment products; and FIs could suffer mark-to-market losses.
2. A break in complex and short-term financial intermediation chains leads to a systemic liquidity crunch. Even under a short-term disruption of liquidity and rapid provision of emergency liquidity assistance (ELA) by the PBC, dislocation to short-term funding markets could lead to substantial liquidity shortages, particularly at medium-sized banks (see Risk Assessment Section B).	**High**	**Medium** Wholesale funding has risen rapidly: stress in smaller banks, triggered by corporate defaults (Risk 4), concerns on collateral valuation, or a shift in expectations of implicit guarantees. (Risk 1) could lead to defaults on interbank products. Outflows from WMPs and other off-balance sheet investment products could rise if risk premia rose (Risks 1 and 5). Banks may for reputational reasons bail out off-balance sheet products, depressing profitability and straining liquidity. The PBC would respond with ELA to banks (and potentially to nonbanks). But banks would suffer losses, and a dislocation to sectors dependent on wholesale funding could be substantial (see Risk 4).
3. A sustained decline in asset prices—most dangerously Tier 1 housing—leads to a decline in confidence and investment, potentially encouraging capital outflows (see Risk Assessment Section C).	**Medium**	**High** The rising importance of mortgage finance raises the risk of larger bank losses if housing prices fall. While loan-to-value (LTV) ratios are relatively low, a large fall in housing prices could lead to losses. It would also reduce the value of land that underlies much corporate lending, and depress real estate investment. In previous cases of housing market uncertainty, investment funds have moved into other markets. But if these are also seen as overvalued, capital outflows could be large (Risk 5).

Source of Risk	Likelihood	Impact on Financial Stability
4. Disorderly corporate deleveraging leads to a loss of confidence in the domestic economy, leading to credit losses at banks. This could strain local government finances, further depressing risk appetite and investment and raising risk premia (see Risk Assessment Section A).	**Medium**	**High** The pace of SOE debt creation appears unsustainable. But if new credit to unprofitable enterprises were cut off, defaults could trigger losses on bank loans, WMPs and securities products, and other debt products—with credit losses cascading across a complex and interconnected financial system. If local governments will step in, uncertainty about their ultimate capacity to backstop, or of the central government as second backstop, could further depress investor sentiment, harm liquidity (Risk 2) and credit to the economy, and lead to capital outflows (see Risk 3).
Realization of external risks		
5. Rise in protectionism in large economies could reverse international trade integration and policy coordination, weighing on global growth.	**Medium**	**High** China, as the world's largest trading nation, would be heavily affected. Slower-than-expected external demand would result from diminished confidence, investment, and growth in partner economies. Exchange rate pressure would be likely, which could fuel possible capital outflows. Lower domestic growth would exacerbate credit risks, with a negative impact on bank profitability and capitalization.
6. Sharp rise in global rates or relative risk premia leads to net capital outflows.	**Medium**	**Medium** Investors expect PBC to follow rises in global rates, but PBC could opt to keep policy loose and tighten capital controls. Conversely, a shift in retail investors' assessment of domestic (Risks 1–4) and foreign investment prospects could lead to substantial capital outflows. Tighter capital controls are difficult to sustain over time; reserve losses and pressure on the RMB would grow. Tighter controls and rising outflows could dent domestic confidence, depress asset prices, and slow growth.

Annex II. Stress Testing Assumptions

1. The authorities and the FSAP team conducted joint stress testing exercises in a physical data room located at PBC premises using supervisory data. The tests covered 33 banks that account for 74 percent of assets in the banking system and were based on selected supervisory data.[1]

2. These banks were divided into five categories:

- ***The Big Four banks:*** Agricultural Bank of China, Bank of China, China Construction Bank, and Industrial and Commercial Bank of China.
- ***Large:*** Five joint stock banks with assets over RMB 5 trillion, Bank of Communications, China Development Bank, and China Postal Bank.
- ***Medium***: Seven joint stock banks with assets below RMB 5 trillion.
- ***City Commercial Banks*** (9).
- ***Rural Banks*** (5).

3. The stress tests examined the resilience of the banking system to solvency, liquidity, and contagion risks, including those originated in WMPs and other (nonbank) segments of the financial system.

4. Solvency. Solvency tests based on macroeconomic scenarios assessed the impact of combined *external* and *domestic* shocks that result in cumulative declines of GDP equivalent to 1 and 2 standard deviations relative to the baseline over a two-year horizon (2017–18), while solvency tests based on sensitivity analysis assessed vulnerabilities of the banking system to individual shocks. The tests also assessed the impact on banks' solvency and liquidity of potential actions aimed at covering shortfalls in their sponsored off-balance sheet WMPs.

5. Liquidity. The liquidity tests assessed resilience to strong shocks characterized by reductions in funding that vary by type, and funding using a maturity ladder analysis (cash-flow analysis based on information corresponding to different maturity buckets). To cover the resulting liquidity gaps, banks must liquidate assets at a loss. Banks could use securities as collateral to obtain liquidity through the standard liquidity facilities of the PBC. Only when banks had no eligible collateral to access the standard facilities, banks would fail the test.

6. Contagion. The network stress test based on bank-by-bank balance-sheet information follows Espinosa-Vega and Solé (2010).[2] The analysis uses a matrix of bilateral bank-to-bank exposures including interbank assets and liabilities as well as on- and off-balance sheet WMPs

[1] China's three policy banks account for 10 percent of system assets. They are growing rapidly, and focus on infrastructure and construction projects, some of which appears to substitute for fiscal expenditure. However, as they are not deposit financed, and with business models different from those of commercial banks, they were not included in the stress tests.

[2] Espinosa-Vega and Solé (2010), "Cross-border Financial Surveillance: A Network Perspective," IMF Working Paper 10/105.

issued and invested by each bank. The market-data based contagion stress test uses data on daily volatility of equity returns and follows the methodology developed by Diebold and Yilmaz (2014).[3]

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[3] Diebold and Yilmaz (2014), "On the Network Topology of Variance Decompositions: Measuring the Connectedness of Financial Firms," The Economic Journal, 119 (January), pp. 158–171.

[4] Espinosa-Vega and Solé (2010), "Cross-border Financial Surveillance: A Network Perspective," IMF Working Paper 10/105.

[5] Diebold and Yilmaz (2014), "On the Network Topology of Variance Decompositions: Measuring the Connectedness of Financial Firms," The Economic Journal, 119 (January), pp. 158–171.

ANNEX III. SIZE AND GROWTH OF FIs

	Assets, billions of renminbi							Share of GDP, %							Share of system assets, %						
	2010	2011	2012	2013	2014	2015	2016	2010	2011	2012	2013	2014	2015	2016	2010	2011	2012	2013	2014	2015	2016
Banking institutions[1]	**95,305**	**113,288**	**133,605**	**151,333**	**172,310**	**199,238**	**232,253**	**230.7**	**231.5**	**247.2**	**254.2**	**267.6**	**289.1**	**309.4**	**84.6**	**84.1**	**82.2**	**80.6**	**75.5**	**69.5**	**68.4**
Commercial banks	74,160	88,404	104,570	118,799	134,798	155,746	181,506	179.6	180.7	193.5	199.6	209.3	226.0	241.8	65.8	65.7	64.3	63.3	59.1	54.3	53.5
Large commercial banks	46,894	53,634	60,040	65,601	71,014	78,163	86,598	113.5	109.6	111.1	110.2	110.3	113.4	115.4	41.6	39.8	36.9	35.0	31.1	27.3	25.5
Joint-stock commercial banks	14,904	18,379	23,527	26,936	31,380	36,988	43,473	36.1	37.6	43.5	45.3	48.7	53.7	57.9	13.2	13.7	14.5	14.4	13.7	12.9	12.8
City-commercial banks	7,853	9,985	12,347	15,178	18,084	22,680	28,238	19.0	20.4	22.8	25.5	28.1	32.9	37.6	7.0	7.4	7.6	8.1	7.9	7.9	8.3
Rural commercial banks	2,767	4,253	6,275	8,522	11,527	15,234	20,268	6.7	8.7	11.6	14.3	17.9	22.1	27.0	2.5	3.2	3.9	4.5	5.1	5.3	6.0
Foreign banks	1,742	2,154	2,380	2,563	2,792	2,681	2,929	4.2	4.4	4.4	4.3	4.3	3.9	3.9	1.5	1.6	1.5	1.4	1.2	0.9	0.9
Policy banks & China Development Bank	7,652	9,313	11,217	12,528	15,614	19,285	22,994	18.5	19.0	20.8	21.0	24.2	28.0	30.6	6.8	6.9	6.9	6.7	6.8	6.7	6.8
Cooperative financial institutions	7,894	8,610	9,237	9,827	9,788	9,417	8,386	19.1	17.6	17.1	16.5	15.2	13.7	11.2	7.0	6.4	5.7	5.2	4.3	3.3	2.5
New-type rural financial institutions & China Postal Savings Bank	3,510	4,354	5,351	6,211	7,098	8,302	9,507	8.5	8.9	9.9	10.4	11.0	12.0	12.7	3.1	3.2	3.3	3.3	3.1	2.9	2.8
Other nonbank financial institutions regulated by CBRC	2,090	2,607	3,230	3,968	5,012	6,488	7,931	5.1	5.3	6.0	6.7	7.8	9.4	10.6	1.9	1.9	2.0	2.1	2.2	2.3	2.3
Banking asset management companies[2]	...	...	...	...	1,464	1,991	3,392	...	...	...	...	2.3	2.9	4.5	...	...	...	...	0.6	0.7	1.0
Nonbank financial institutions	**10,670**	**11,010**	**13,454**	**15,093**	**21,033**	**30,041**	**33,216**	**25.8**	**22.5**	**24.9**	**25.4**	**32.7**	**43.6**	**44.2**	**9.5**	**8.2**	**8.3**	**8.0**	**9.2**	**10.5**	**9.8**
Insurance companies	5,054	5,983	7,355	8,289	10,159	12,360	15,117	12.2	12.2	13.6	13.9	15.8	17.9	20.1	4.5	4.4	4.5	4.4	4.5	4.3	4.5
Life	4,267	4,980	6,099	6,825	8,249	9,932	12,437	10.3	10.2	11.3	11.5	12.8	14.4	16.6	3.8	3.7	3.8	3.6	3.6	3.5	3.7
Non-life	584	792	948	1,094	1,406	1,848	2,374	1.4	1.6	1.8	1.8	2.2	2.7	3.2	0.5	0.6	0.6	0.6	0.6	0.6	0.7
Reinsurance	115	158	185	210	351	519	276	0.3	0.3	0.3	0.4	0.5	0.8	0.4	0.1	0.1	0.1	0.1	0.2	0.2	0.1
Captive and others	2	2	3	3	13	16	29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Securities companies	1,969	1,572	1,721	2,080	4,034	6,417	5,790	4.8	3.2	3.2	3.5	6.3	9.3	7.7	1.7	1.2	1.1	1.1	1.8	2.2	1.7
Pension funds	1,138	1,226	1,588	1,845	2,305	2,866	3,150	2.8	2.5	2.9	3.1	3.6	4.2	4.2	1.0	0.9	1.0	1.0	1.0	1.0	0.9
National Social Security Fund[3]	857	869	1,106	1,242	1,536	1,914	2,042	2.1	1.8	2.0	2.1	2.4	2.8	2.7	0.8	0.6	0.7	0.7	0.7	0.7	0.6
Enterprise annuities	281	357	482	604	769	953	1,108	0.7	0.7	0.9	1.0	1.2	1.4	1.5	0.2	0.3	0.3	0.3	0.3	0.3	0.3
Public funds by fund management companies[4]	2,510	2,229	2,790	2,879	4,535	8,397	9,159	6.1	4.6	5.2	4.8	7.0	12.2	12.2	2.2	1.7	1.7	1.5	2.0	2.9	2.7
Asset management businesses	**3,040**	**4,811**	**7,471**	**24,088**	**36,979**	**62,229**	**84,482**	**7.4**	**9.8**	**13.8**	**40.5**	**57.4**	**90.3**	**112.5**	**2.7**	**3.6**	**4.6**	**12.8**	**16.2**	**21.7**	**24.9**
Client-specific funds by fund management companies/subsidiaries	...	...	...	1,445	4,963	11,422	15,607	...	...	...	2.4	7.7	16.6	20.8	...	...	...	0.8	2.2	4.0	4.6
Bank off-balance sheet WMPs, AUM	...	...	...	6,530	10,090	17,430	23,110	...	...	...	11.0	15.7	25.3	30.8	...	...	...	3.5	4.4	6.1	6.8
Trust companies, AUM	3,040	4,811	7,471	10,907	13,980	16,304	20,219	7.4	9.8	13.8	18.3	21.7	23.7	26.9	2.7	3.6	4.6	5.8	6.1	5.7	6.0
Securities companies, AUM	...	...	...	5,206	7,946	11,895	17,376	...	...	...	...	12.3	17.3	23.1	...	...	...	...	3.5	4.1	5.1
Futures companies, AUM	...	...	...	...	...	106	279	...	...	...	...	...	0.2	0.4	...	...	...	...	...	0.0	0.1
Private equity[5]	...	...	...	...	...	5,072	7,891	...	...	...	...	...	7.4	10.5	...	...	...	...	...	1.8	2.3
Financial system, total	**109,016**	**129,109**	**154,530**	**190,514**	**230,323**	**291,508**	**349,952**	**263.9**	**263.9**	**286.0**	**320.1**	**357.7**	**423.1**	**466.2**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Sources: China Banking Regulatory Commission (2016); China Insurance Regulatory Commission (2016); China Securities Regulatory Commission (2016); Asset Management Association of China (2016); Securities Association of China (2016); Ministry of Human Resources and Social Security (2016); National Social Security Fund (2016); China Trustee Association (2016); and annual reports (2016).

[1] Calculated as the sum of individual components.

[2] Including the national AMCs of Cinda, Huarong, and Orient.

[3] 2016 NSSF total assets projected based on average annual growth rate during 2005–15.

[4] 2010–13 values including mutual funds only.

[5] Reported as "privately offered funds" by AMAC.

Annex IV. Selected Economic and Financial Indicators

Annex IV. Table 1. China: Selected Indicators

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
						Projections					
	(Annual percentage change, unless otherwise indicated)										
NATIONAL ACCOUNTS											
Real GDP (base=2015)	7.9	7.8	7.3	6.9	6.7	6.8	6.5	6.3	6.2	6.0	5.8
Total domestic demand	7.9	8.1	7.2	7.2	7.4	6.9	6.9	6.7	6.6	6.3	5.9
Consumption	8.7	7.2	7.2	8.3	8.4	8.0	7.9	7.4	7.0	6.6	6.2
Investment	7.1	9.1	7.1	6.1	6.3	5.7	5.6	5.8	6.0	5.8	5.6
Fixed	9.0	9.3	6.8	6.7	6.7	5.8	5.7	5.9	6.2	6.0	5.8
Inventories (contribution)	-0.6	0.1	0.2	-0.2	-0.1	0.1	0.0	0.0	0.0	0.0	0.0
Net exports (contribution)	0.3	0.1	0.4	-0.1	-0.5	0.0	-0.2	-0.3	-0.2	-0.2	-0.1
Total capital formation (percent of GDP)	47.2	47.3	46.8	44.7	44.2	44.0	43.3	42.8	42.4	42.1	41.8
Gross national saving (percent of GDP)[1]	49.7	48.8	49.0	47.5	45.9	45.4	44.5	43.7	43.0	42.5	42.0
LABOR MARKET											
Unemployment rate (annual average)[2]	...	5.0	5.1	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Wages (migrant workers)	33.1	12.9	10.0	9.5	7.1	7.0	6.8	6.7	6.6	6.5	6.5
PRICES											
Consumer prices (average)	2.6	2.6	2.0	1.4	2.0	1.8	2.4	2.5	2.6	2.6	2.6
GDP Deflator	3.2	2.4	1.0	1.1	0.0	1.8	1.9	2.0	2.1	2.1	2.0
FINANCIAL											
7-day repo rate (percent)	4.6	5.4	5.1	2.5	2.6	2.8	...	...	...	...	...
10-year government bond rate (percent)	3.6	4.6	3.7	2.9	3.1	3.6	...	...	...	...	...
Real effective exchange rate (average)	5.6	6.3	3.2	10.2	-5.6	...	...	...	...	...	...
Nominal effective exchange rate (average)	5.0	5.3	3.1	9.5	-6.5	...	...	...	...	...	...
MACROFINANCIAL											
Total social financing[3]	19.1	17.5	14.3	12.4	12.9	10.9	11.4	12.2	11.2	10.5	9.9
In percent of GDP	169.0	180.0	189.8	197.6	209.0	213.2	218.9	226.6	232.4	237.3	241.7
Total domestic nonfinancial sector debt	18.4	17.5	14.3	15.3	16.8	15.7	13.7	12.6	12.0	11.1	10.4
In percent of GDP	178.7	190.3	200.7	214.3	234.5	249.6	261.5	271.5	280.4	287.8	294.5
Domestic credit to the private sector	19.8	16.6	13.1	14.7	16.7	14.5	12.5	11.4	10.5	9.8	9.4
In percent of GDP	134.6	142.3	148.5	157.6	172.3	181.4	188.0	193.1	196.8	199.7	202.5
House price[4]	8.7	7.7	1.4	9.1	11.3	10.4	8.6	8.3	7.9	7.2	6.8
Household disposable income (percent of GDP)	59.4	60.0	60.7	61.0	61.4	61.7	62.0	62.0	62.1	62.2	62.5
Household savings (percent of disposable income)	38.1	38.5	38.0	37.6	36.1	35.3	34.1	33.0	32.0	31.3	31.0
Household debt (percent of GDP)	29.6	33.0	35.4	38.2	44.2	46.4	48.9	51.6	54.4	57.4	60.8
Nonfinancial corporate domestic debt (percent of GDP)	105.0	109.3	113.0	119.4	128.1	134.9	139.1	141.5	142.4	142.3	141.6
GENERAL GOVERNMENT (Percent of GDP)											
Net lending/borrowing[5]	-0.3	-0.8	-0.9	-2.8	-3.7	-3.7	-3.7	-3.9	-4.0	-4.1	-4.2
Revenue	27.8	27.7	28.1	28.5	28.2	27.5	27.5	27.4	27.1	27.0	26.8
Expenditure	28.1	28.5	29.0	31.3	31.9	31.2	31.2	31.2	31.1	31.1	31.0
Debt[6]	15.5	16.0	38.6	36.4	36.6	37.5	38.5	39.4	40.4	41.3	42.4
Structural balance	-0.1	-0.5	-0.5	-2.5	-3.6	-3.8	-3.8	-3.9	-4.0	-4.1	-4.1
BALANCE OF PAYMENTS (Percent of GDP)											
Current account balance	2.5	1.5	2.2	2.7	1.7	1.4	1.2	0.9	0.6	0.4	0.2
Trade balance	3.6	3.7	4.1	5.1	4.4	4.0	3.7	3.4	3.1	2.9	2.6
Services balance	-0.9	-1.3	-2.0	-1.9	-2.2	-2.2	-2.2	-2.3	-2.3	-2.3	-2.4
Net international investment position	21.8	20.7	15.2	14.9	16.0	16.5	16.2	15.9	15.2	14.4	13.4
Gross official reserves (in billions of U.S. dollars)	3,388	3,880	3,899	3,406	3,098	2,930	2,876	2,823	2,751	2,655	2,533
MEMORANDUM ITEMS											
Nominal GDP (in billions of renminbi)[7]	54,099	59,696	64,718	69,911	74,631	81,133	88,029	95,444	103,468	111,984	120,795
Augmented debt (percent of GDP) 8/	44.1	48.1	52.3	56.6	62.2	68.2	73.5	78.3	83.5	88.0	91.8
Augmented net lending/borrowing (percent of GDP)[8]	-5.1	-7.6	-7.2	-8.4	-10.4	-10.6	-10.8	-11.1	-11.2	-11.0	-10.8
Augmented fiscal balance (percent of GDP)[9]	-7.8	-10.3	-9.8	-10.2	-12.4	-12.6	-12.6	-12.6	-12.6	-12.3	-11.9

Sources: CEIC Data (2017); Information Notice System, International Monetary Fund (2017); and IMF staff estimates and projections.

[1] IMF staff estimates for 2015 and 2016.

[2] Surveyed unemployment rate.

[3] Not adjusted for local government debt swap.

[4] Average selling prices estimated by IMF staff based on housing price data (Commodity Building Residential Price) of 70 large and mid-sized cities published by National Bureau of Statistics (NBS).

[5] Adjustments are made to the authorities' fiscal budgetary balances to reflect consolidated general government balance, including government-managed funds, state-administered SOE funds, adjustment to the stabilization fund, and social security fund.

[6] Official government debt (narrow definition). Estimates of debt levels before 2015 include central government debt and explicit local government debt (identified by MoF and NPC in Sep 2015). The large increase in general government debt in 2014 reflects the authorities' recognition of the off-budget local government debt borrowed previously. The estimation of debt levels after 2015 assumes zero off-budget borrowing from 2015 to 2021.

[7] Expenditure side nominal GDP.

[8] Augmented fiscal data expand the perimeter of government to include local government financing vehicles and other off-budget activity.

[9] "Augmented fiscal balance" = "augmented net lending/borrowing" - "net land sales proceeds" (in percent of GDP), i.e., with land sales treated as financing.

Annex IV. Table 2. China: Core Financial Stability Indicators for Deposit Takers
(In percent, unless stated otherwise)

	2013	2014	2015: Q2	2015: Q4	2016: Q2
Regulatory Capital to Risk-Weighted Assets	12.2	13.2	13	13.5	13.1
Regulatory Tier 1 Capital to Risk-Weighted Assets	9.9	10.8	10.8	11.3	11.1
Non-performing Loans Net of Provisions to Capital	-11.6	-9.8	-8.9	-7.9	-7.9
Non-performing Loans to Total Gross Loans	1	1.2	1.5	1.7	1.7
Sectoral Distribution of Total Loans: Residents	99.4	99	98.9	98.9	98.9
Sectoral Distribution of Total Loans: Deposit-takers	11.2	8.8	8.6	7.1	3.4
Sectoral Distribution of Total Loans: Central bank	0.4	0	0	0	0
Sectoral Distribution of Total Loans: Other financial corporations	3.7	3.7	3.7	4.3	4.6
Sectoral Distribution of Total Loans: General government	-	-	-	-	-
Sectoral Distribution of Total Loans: Nonfinancial corporations	59.6	60	59.4	58.6	59.5
Sectoral Distribution of Total Loans: Other domestic sectors	24.5	26.6	27.1	28.9	31.4
Sectoral Distribution of Total Loans: Nonresidents	0.6	1	1.1	1.1	1.1
Return on Assets	1.3	1.2	1.2	1.1	1.1
Return on Equity	19.2	17.6	17.3	15	15.2
Interest Margin to Gross Income	78.9	78.5	75.4	76.3	74.3
Non-interest Expenses to Gross Income	32.9	31.6	27.2	30.6	26.7
Liquid Assets to Total Assets (Liquid Asset Ratio)	21.2	19.9	19.7	21.1	21.6
Liquid Assets to Short Term Liabilities	44	46.4	46.2	48	48.1
Net Open Position in Foreign Exchange to Capital	3.7	3.5	3	3.7	3.1

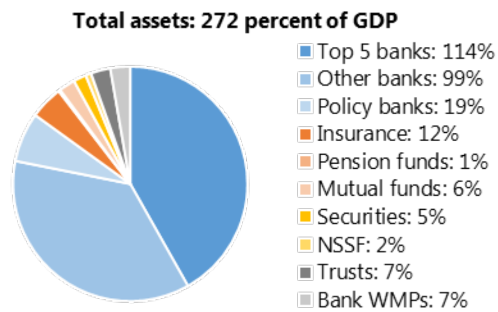
Source: Financial Soundness Indicators, International Monetary Fund (2016).

(-) Indicates that a figure is zero.
(...) Indicates a lack of statistical data that can be reported or calculated from underlying observations.

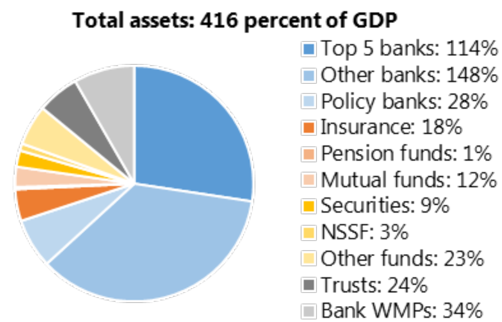
Annex V. Financial System Structure

Annex V. Figure 1. China: Financial System Structure

Financial System Structure, 2010

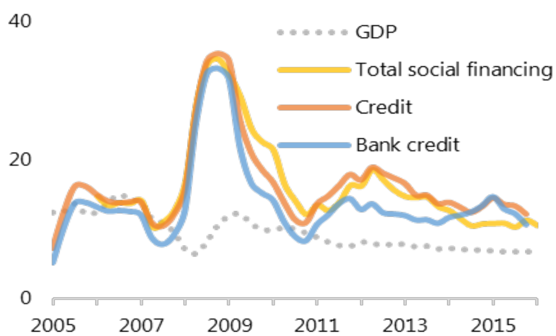


Financial System Structure, 2015

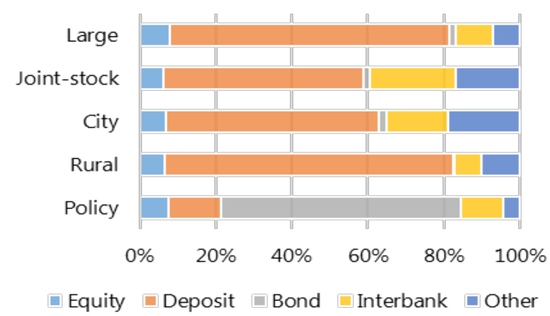


GDP and Credit to Private Nonfinancials, 2005–2015

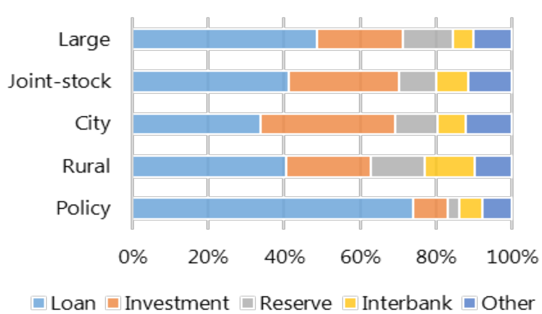
(Year-on-year, in percent)



Bank Funding Structure, 2015

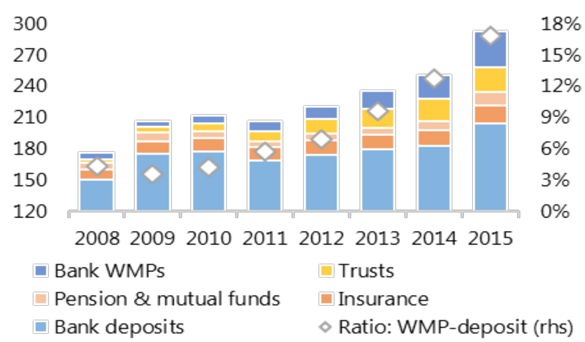


Bank Asset Structure, 2015



Bank Asset Structure, 2015

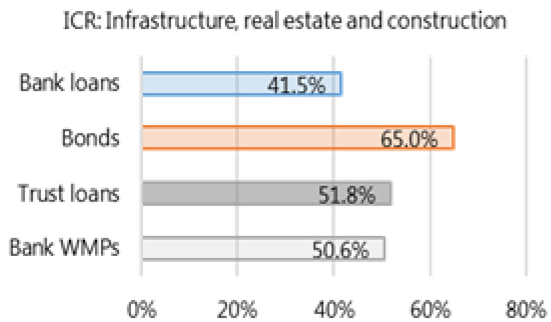
(In percent of GDP)



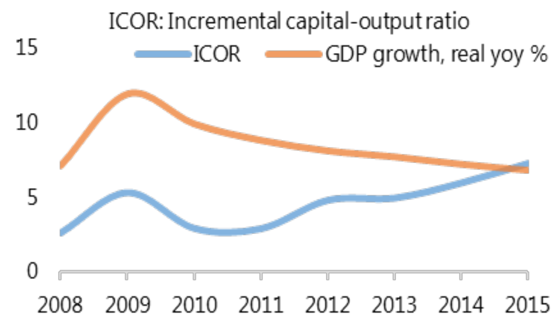
Sources: People's Bank of China (2015); China Banking Regulatory Commission (2015); National Social Security Fund (2015); China Trustee Association (2015); Bank for International Settlements (2015), and World Bank staff calculations.

Annex V. Figure 2. China: Direction of Credit by Sector

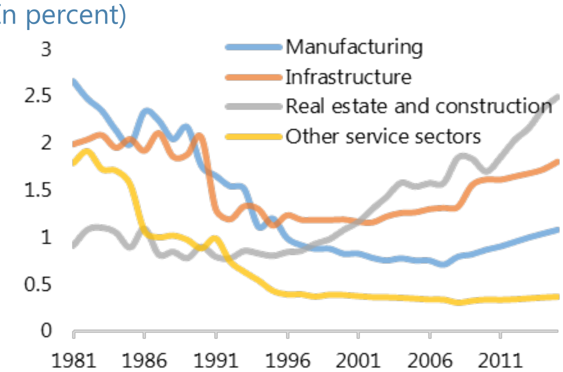
Share of Direct Credit Allocation to Infrastructure, Construction and Real Estate Sectors, 2015



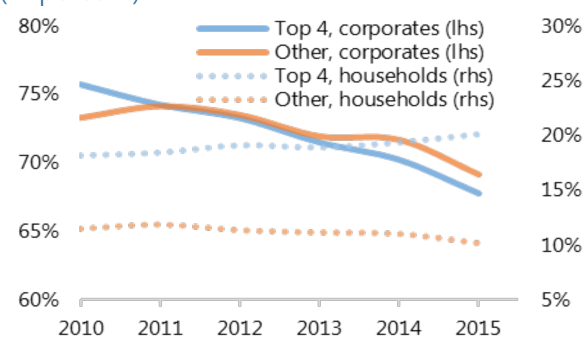
Incremental Capital Output Ratio and Real GDP Growth, 2008–2015



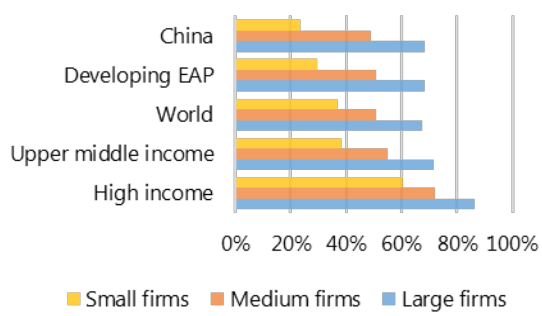
Sectoral Capital Stock to Value Added, 1981–2015
(In percent)



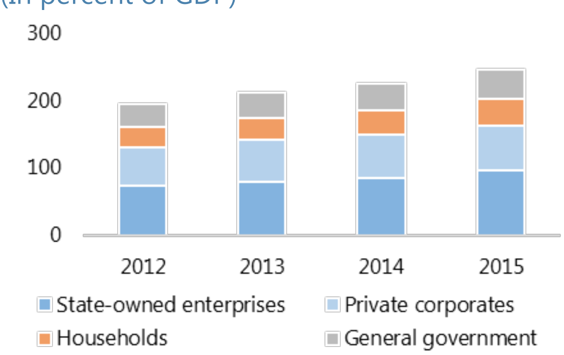
Share of Lending by Bank Tier and Borrower, 2010–2015
(In percent)



Share of Firms with Credit Access, 2015



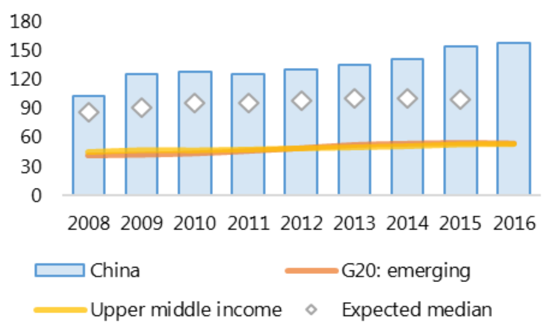
Decomposition of Nonfinancial Sector Debt, 2012–2015
(In percent of GDP)



Sources: China Banking Regulatory Commission (2015); China Trustee Association (2015); Wind Info (2015); China Industrial Productivity Database (2015); National Bureau of Statistics (2015); Jones, Nam, and Zhu (2016); Chien and Zhao (2017); China Central Depository and Clearing Company (2015); Gavekal (2017); Bank for International Settlements (2015); and World Bank staff calculations.

Annex V. Figure 3. China: NBFI Assets and Securities Markets

Bank Credit to Private Nonfinancials, 2008–2015

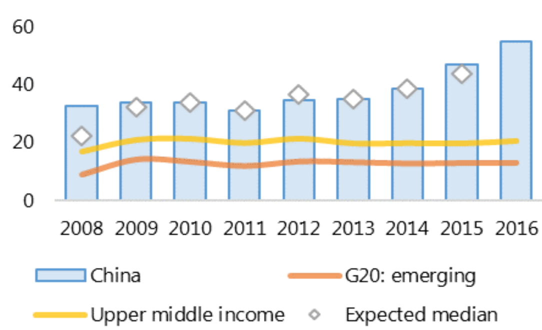


Insurance Company Assets, 2008–2015

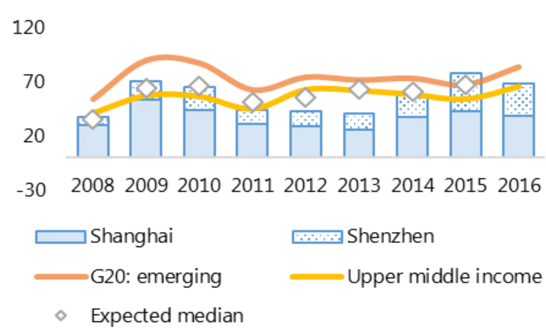
Mutual Fund Assets, 2008–2015

Pension Fund Assets, 2008–15

Nongovernment Bond Market Capitalization, 2008–2015



Stock Market Capitalization, 2008–15



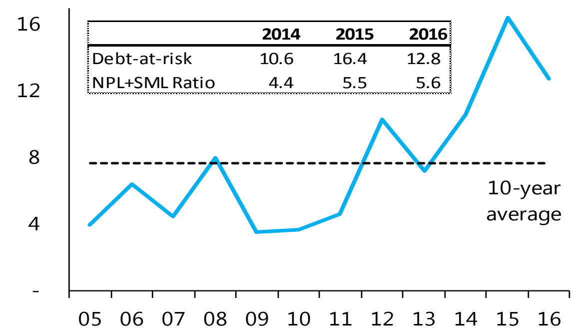
Sources: China Banking Regulatory Commission (2015); China Trustee Association (2015); Wind Info (2015); China Industrial Productivity Database (2015); National Bureau of Statistics (2015); Jones, Nam, and Zhu (2016); Chien and Zhao (2017); China Central Depository and Clearing Company (2015); Gavekal (2017); Bank for International Settlements (2015); and World Bank staff calculations.

Annex V. Figure 4. Chinese Corporate Sector: Debt-at-Risk, 2005–16

Chinese debt-at-risk (DR) has risen since 2005, but moderated in 2016…

China Debt-at-Risk, 2005–2016

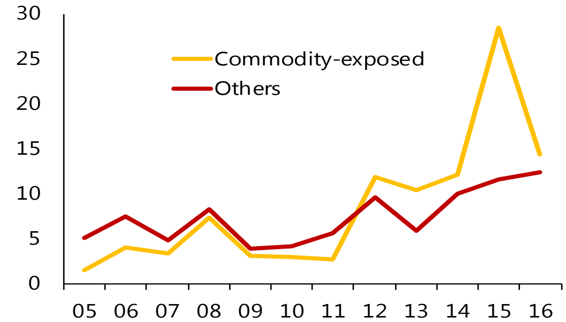
(In proportion of total debt with ICR < 1, percent)



…driven by an improvement in commodity sectors; Other sectors have continued to see a rise in DR.

China Debt-at-Risk, by sectors, 2005–2016

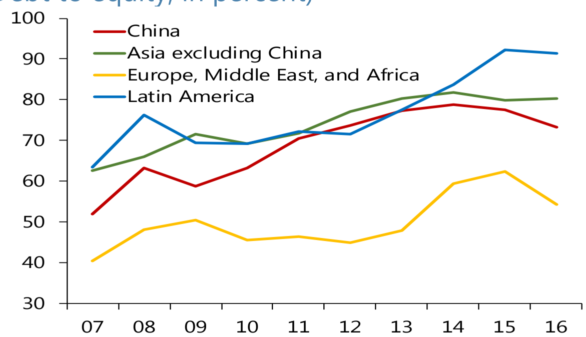
(In proportion of total debt with ICR < 1, percent)



Emerging market (EM) corporate leverage has moderated, though continues to remain high.

Emerging Market Economy Corporate Leverage, 2007–2016

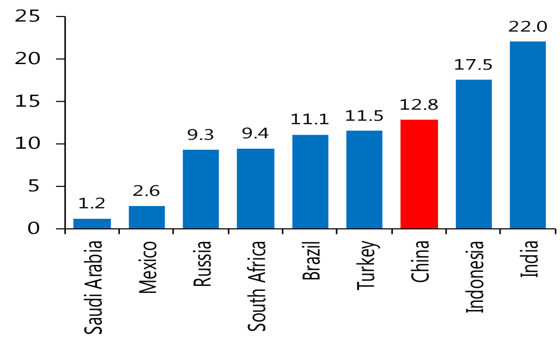
(Debt to equity, in percent)



Debt-at-risk in China is higher than the average for large EMs.

Debt-at-Risk for Key Emerging Markets, 2016

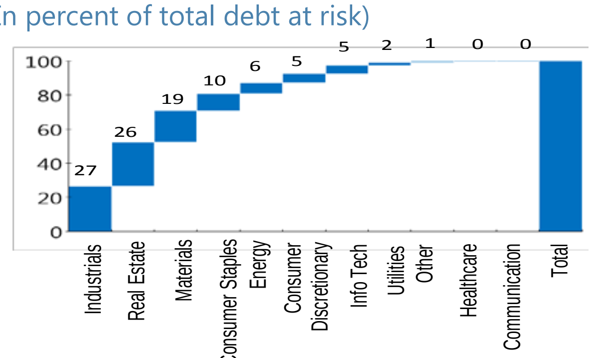
(In proportion of total debt with ICR < 1, percent)



Over 70 percent of the debt-at-risk is in industrials, real estate and materials sector…

Sectoral Composition of total Debt-at-Risk, 2016

(In percent of total debt at risk)



. . . affecting a significant proportion of firms in real estate and energy sectors.

Sectoral Debt-at-Risk

(In percent of total debt, percent of total firms)

Sources: Bloomberg L.P. (2016); China Banking Regulatory Commission (2016); S&P Capital IQ (2016); Haver Analytics (2016); and IMF staff calculations.

Notes: ICR = Interest Coverage Ratio, calculated as EBITDA/Interest Expense. NPL = Nonperforming Loan, SML = Special Mention Loan.

Annex VI. Implementation 2011 FSAP Recommendations

Key Recommendations	Status[1]
1. China should continue to carry out reforms on interest and exchange rates, while ensuring that FIs are able to provide appropriate credit risk management.	**LD**
2. Clear distinction should be made between the role and function of policy FIs and commercial FIs.	**LD** Revised articles of association for the three policy banks clarify their scope of business
3. The four AMCs should be transformed into commercial entities. As a first step, they will be required to regularly publish financial statements and management reports.	**PD** The four national AMCs have broadened their activities into more commercial areas, and regional AMCs have led to more competition. Two are now publicly listed and disclose information accordingly.
4. The People's Bank of China (PBC) and the three regulatory commissions should be given specialized mandates, operational autonomy and flexibility. They must also have adequate capital and skilled personnel, with increased inter-departmental collaboration, in order to address the challenges to the financial sector brought on by rapid development.	**PD** While regulatory mandates are clear, operational autonomy and flexibility have not been addressed. The PBC and other regulatory authorities are constrained in terms of headcount and budgets. The JMC facilitates some awareness and cross-sectoral policy discussion.
5. A regulatory framework should be set up for FHCs, financial group companies and informal financial enterprises. During the transition period, any M & A activity by the regulated institutions must be approved by their respective regulatory commission.	**PD** The regulatory regime for oversight of such FHCs and industrial conglomerates with financial subsidiaries in China is limited, and does not fully ensure that the regulators have comprehensive oversight and grip on the parent companies of FIs.
6. A more forward-looking assessment of credit risk should be practiced within the CBRC's risk rating system, in order to eliminate any gaps with regular credit risk ratings and the market risk capital framework.	**D**
7. A formal mechanism should be put in place for the Chinese Securities Regulatory Commission (CSRC) to conduct regular onsite inspections of securities exchanges for enhanced oversight.	**D** All exchanges are now subject to onsite inspections.
8. A risk capital solvency regime should be instituted for insurers, with an appropriate transitional period, that will prohibit insurance companies from developing new business if their solvency level is lower than 100 percent.	**D** CIRC's China Risk-Oriented Solvency Standards (C-ROSS) were implemented on January 1, 2016. Some insurers were not yet meeting the 100 percent requirement at the time of the assessment.

[1] D = Done; LD = Largely Done; PD = Partly Done; NA = No Action.

Key Recommendations	Status[1]
9. Clear and transparent regulations should be developed to facilitate the exit from market by insurance companies through termination at expiration or through transfer of assets.	**PD** The updated Insurance Law and regulations (e.g., on portfolio transfers) have helped address this issue. A clear point at which it is no longer permissible for an insurer to continue its business is still needed.
10. A law governing payment systems should be developed to provide comprehensive protection of the finality of payments and the settlement of derivatives and securities contracts.	**LD**
11. It is imperative that information on beneficial ownership and control is sufficient and accurate, and that such information is available to the competent authorities.	**PD** The Enterprise Information Disclosure Regime (2014) is a database for registration of business, but beneficial ownership information is not consistently captured or assessed for financial groups. Regulators can obtain information ex post.
12. Information sharing and collaborative arrangements must be improved between the PBC and other relevant agencies on anti-money laundering (AML) and other regulatory issues.	**LD** The PBC and the CBRC have announced plans for joint onsite AML/CFT inspections. The CIRC's AML/CFT onsite inspection plan does not include entities that were subject to a PBC onsite inspection.
13. The establishment of the Financial Stability Board (FSB), with the PBC as its secretariat.	**LD** The JMC was created in 2013 to facilitate interagency coordination with the PBC acting as a secretariat. The JMC's mandate and powers are not legally defined. The Central Committee of the Party and the State Council announced at the National Financial Work Conference in July 2017 that a Financial Stability and Development Committee (FSDC) under the State Council will be set up. The PBC will act as secretariat.
14. Improved data collection on FIs, including their leverage, liabilities, off-balance sheet positions, unregulated products, and cross-border and sectoral exposures.	**LD** CBRC overhauled prudential data and analytical systems for banks and banking groups. A uniform platform for interagency data sharing is under construction. Securities markets data is shared between CSRC and CBRC on trust plans, and CSRC, PBOC, and National Development and Reform Commission on bond markets.
15. The establishment of a macroprudential framework to measure and manage systemic risk, which should include increased resources at the PBC and the regulatory agencies, and their improved ability to monitor financial stability and regularly carry out stress tests.	**LD** The PBC and three regulatory agencies are all engaged in financial stability analysis and participate in macroprudential work.

Key Recommendations	Status[1]
16. Enhanced hedging of structural liquidity through market-based tools and managing spillovers from systemic liquidity through indirect monetary policy tools.	**LD** PBC reserve money management now stabilizes short-term rates, and provides a liquidity backstop to the banks.
17. The implementation of an average reserve system to facilitate liquidity management and to improve stability and efficiency.	**D**
18. Launching a trial run of the targeted short-term repo rate, as an experiment of indirect liquidity management, and starting daily open market operations.	**D**
19. Ensuring the deposit and lending operations at the PBC is on a real time and automatic basis, with uniform collateral requirements for all domestically registered entities.	**LD** PBC has introduced the Standing Lending Facility: lending operations are on a real time and automatic basis, with uniform collateral requirements for all domestically registered entities.
20. The implementation of a deposit insurance system to provide support for the orderly shutdown of FIs, and assistance for sorting out contingent liabilities.	**PD** The State Council issued the Deposit Insurance Regulation in 2015, and the new deposit insurance scheme is being operationalized, including by establishing single customer view. Since "deposits" are not clearly defined, coverage may extend to investment products.
21. Ensuring consistency of regulatory rules and assigning regulatory responsibilities in support of developing the fixed-income market.	**PD/LD** Agreements have been reached to develop a harmonized regime for bond markets.
22. Continued improvement of bond issuing strategies by the Ministry of Finance (MoF) and the PBC, to help improve the existing market-making activities in products of various maturities on the yield curve.	**LD** Instruments of several maturities are being regularly issued by the MoF; however, large instrument fragmentation requires further improvements in bond issuance strategies.
23. Enhancing the management and operational framework of the repo market, in order to improve market liquidity and risk management, in addition to strengthening the linkage between money market rates and bond market rates.	**PD** Measures have been taken to contain risks in the repo market, but critical risks still need to be managed (e.g., illiquidity of collateral) and other changes are required to improve the supporting role of repos for bond market development.
24. Relaxing the restriction that accumulated balance of market-issued bond of a company may not exceed 40 percent of net assets, in order to expand its capacity for direct financing.	**PD**
25. Improving the interoperability among the inter-bank bond market and the Shanghai and Shenzhen Stock Exchanges, by upgrading the linkage between the China Central Depository and Clearing Co., Ltd. (CCDC) and the China Securities Depository and Clearing Corporation	**LD** The PBC and CSRC are actively coordinating with relevant institutions in

Key Recommendations	Status[1]
Limited (SD&C), thus providing support for the further development of these three markets, and help improve their efficiency.	joint work such as cross-account opening, to support the market development.
26. Building a multi-pillared pension system, focusing on a basic pension system that is fully funded.	**PD**
27. Reviewing existing governmental programs to determine their effectiveness in terms of promoting financing for rural and small and micro-enterprises, and developing a comprehensive and coherent strategy on such financing.	**PD** There have been some improvements in design and targeting of government programs, but a comprehensive strategy and coordinated use of such programs should be strengthened, and data on impact and effectiveness is insufficient.
28. Further reforms of rural credit cooperatives, to enhance their efficiency and sustainability as commercial providers of financial products and services.	**LD** Reforms have been undertaken, but further reforms in the rural credit cooperative system are necessary to improve corporate governance and commercial orientation.
29. Completing the reform of the Postal Savings Bank by optimization of the ownership structure, marketization, and the establishment of effective corporate governance.	**LD** Reforms have been undertaken, including listing on the Hong Kong stock exchange in 2016, but further reforms are necessary to improve corporate governance and institutional capacity.

Statement by Zhongxia Jin, Executive Director for People's Republic of China
November 10, 2017

On behalf of the Chinese authorities, I thank the FSAP team for their hard work, candid assessment and valuable recommendations. We take this FSAP update as a good opportunity to comprehensively examine the health and soundness of our financial system, while at the same time for the outside world to better understand the progress of the financial reform and developments China has made since the last FSAP. The outcome of the stress tests under extreme scenarios has shown strong resilience of China's financial system. We generally concur with staff's assessment, and we are pleased to see that many recommendations are in line with the authorities' ongoing efforts and planned reform agenda. The 19th CCP congress has further underscored the high priority of the financial opening-up and reform.

When China and the Fund started to discuss how to conduct this FSAP, our authorities approved and supported a comprehensive assessment covering all possible areas instead of a selective assessment. That showed the authorities' confidence in both China itself and the professionalism of the Fund. In the past year, the Fund staff has made a very careful scrutiny of China's financial sector, with more than 500 meetings and the stress test using confidential regulatory data. The result I think is better than many people's original imagination. The stress test shows that the four largest commercial banks are sufficiently capitalized even under extreme scenarios. The medium sized commercial banks may face some liquidity stress and a significant erosion in capital, but they will all remain solvent. The central bank will not allow any liquidity stress to trigger systemic financial risks, and the newly established deposit insurance system will take care of any insolvency problem effectively.

I thank Ratna Sahay, Simon Gray, and the entire FSAP team for their diligent and excellent work in this FSAP mission. My authorities have been very supportive during the mission. We respect staff's independent assessment and policy recommendations. We also pay serious attention to the diagnosed challenges that we need to address with decisive actions.

Having read all the grays before the meeting and listened carefully to the EDs' remarks during today's meeting, I would like to thank all the EDs for their insightful observations and valuable comments. I will faithfully convey your views and comments to my authorities. While agreeing in general on the FSAP's assessment, I would make a few more comments for emphasis and supplements.

The Macro Financial Context for Assessing Financial Risks in China

Since the last FSAP in 2011, the financial sector has witnessed fast development along with further reform and opening up, supporting China's economic growth and transformation against the backdrop of highly volatile and uncertain global financial

conditions and capital flows. Significant progress has been made in the last 5 years in developing the financial markets, enhancing oversight and macroprudential regulation, and promoting financial inclusion. Full recognition of such positive developments can help better understand the associated risks against the dynamics and resilience of the financial system. We are pleased to see such progress being largely captured by the main text of the FSSA report.

We have some news from China. The authorities have just announced that it will relax the foreign ownership limit on banks while allowing overseas firms to take majority stakes in local security ventures, fund managers and insurers. Specifically, foreign firms will be allowed to raise their shares in securities ventures and fund managers to 51 percent, and foreign ownership limits will be removed three years after the new rule takes effect. The cap on life insurers will be lifted to 51 percent after three years and will be removed after five years. Non-discriminatory ownership limit rules will be applied on equity investment in Chinese banks (private banks excluded) and financial asset management companies I believe these new measures of openness will greatly increase the competition in China's financial sector and improve efficiency in the medium and long term.

China has already shifted its focus to the quality and efficiency of growth, rather than solely emphasizing the growth itself. The 19th CCP Congress stressed that our main policy target would be meeting the Chinese people's increasing demand for a better life, without mentioning any specific quantitative growth targets as before. China now sets its GDP growth as a forecast based on estimated potential growth, just like what the Fund does for its members. While decisively advancing with the transition, counter cyclical measures are warranted to avoid sharp slowdown and large volatilities. Such counter cyclical policy should not be regarded as a purely GDP motivated stance. China's inflation rate is now lower than 2 percent under current GDP growth. Attributing the financial risks to a GDP target may have oversimplified the complexity of the challenge. Cyclical factors, structural factors, and international factors all played their roles in affecting the financial system. A growth rate lower than its potential will generate its own risk.

Although the "credit gap" (deviation of credit growth from its long-term trend) deserves appropriate attention, it is to some extent counter cyclical and has been narrowed recently. As growth picked up since late 2016 and monetary policy shifted to a more neutral stance, the growth of the overall leverage of the economy in 2016 has seen a slower pace. In particular, the leverage of the corporate sector has dropped since the third quarter of 2016. In fact, the overall loose international monetary environment has also been one of the important factors behind China's rising debt issue. Thanks to China's flexible macroeconomic policy and structural adjustment, the risk of an ever-increasing credit gap has been alleviated.

The rapid increase of corporate debt in China during a period of time needs to be properly analyzed. Recently, there are discussions in China regarding the nature of the corporate sector's debt. Some believe that some part of the corporate debt actually is debt issued by the local government established entities. The purpose of raising these debt is to fulfill their responsibility to implement urbanization and infrastructure development. In China, the local governments take a lot of responsibilities, but their ability to mobilize resources through taxation or bond issuance is limited. In that case, part of the corporate debt is actually local government debt. As a result, we may need to revise the corporate debt ratio down, but increase the local government leverage ratio accordingly. Now the official public sector's debt over GDP is quite low, only 40 percent. If you add the hidden local government contingent debt, that may increase the total public debt over GDP ratio, and the corporate sector debt will decrease by the same amount. In the end, what really matters is the total leverage ratio in China, which includes the government debt, corporate debt, and the household debt. And the total leverage ratio in China is 260 percent of GDP, which is still lower than most of the advanced countries, and is comparable with many emerging market economies.

The perception of the government's implicit guarantee for SOEs does not have legal basis. In fact, there are some famous cases in China in recent decades that shows the government will not provide this guarantee, such as the case of the Guangdong International Trust & Investment Corp about 20 years ago. The government allowed the bankruptcy of that state-owned company without bailing out its debt, and that was well known to international investors ever since. This is a very important precedent, which shows that, actually, any perceived implicit government guarantee is not reliable if there is no legal basis.

We would appreciate the Fund's consistent support to exchange rate flexibility while reminding us of the importance of risk management. China has been moving determinedly toward the market-based exchange rate and greater exchange rate flexibility, aimed at achieving external and domestic balance and preventing financial risks. The capital outflow pressure largely arose from the changes in the global economic and financial developments, particularly the adjustments of monetary policies in major economies. In response, China has taken a few market based counter-cyclical macroprudential policies to mitigate potential financial risks and safeguard financial stability.

The Regulatory Framework

The authorities are fully aware of the need to fill the regulatory gaps in an increasingly complex and interconnected financial system. The Financial Work Conference in July 2017 has made a series of decisions to enhance financial oversight, including establishing the Financial Stability and Development Committee (FSDC), reinforcing the central bank's mandate on macroprudential regulation/supervision and prevention of systemic risks, enhancing accountability of the regulatory authorities, and strengthening regulation on a consolidated basis through functional and behavioral regulation. The policy recommendations raised in the report are largely consistent with these decisions and follow-up actions.

The macroprudential assessment framework works well in monitoring and preventing systemic risks. The People's Bank of China (PBC), the central bank, introduced the Macroprudential Assessment (MPA) framework to assess banks' key macroprudential indicators in a rule-based manner. The process is transparent for both the central bank and banks assessed, and the banks concerned are informed of the assessment outcome. The policy on the eligibility for accessing the PBC's facilities has provided needed incentives to encourage prudent operations of banks, and the policy on remuneration of reserves has never been enforced in practice.

Uniform regulatory requirements on Asset Management Products (AMPs) are in progress. We agree that similar products should be regulated in the same way with a function based rather than institution based approach. The booming AMPs have supplemented the traditional financing and supported the growth, while their risks have also accumulated during the fast expansion. The PBC and relevant regulatory authorities are formulating the regulatory policy for AMPs, aimed at eliminating discrepancies in regulating similar products by different regulators. Specifically, AMPs will be subject to uniformed regulatory standard to minimize regulatory arbitrage, and defined as off-balance sheet products with clear requirements of investor suitability and explicit removal of implicit guarantees. More importantly, the targeted macroprudential and functional regulation will be reinforced based on the "look-through" principle, with enhanced regulatory and statistical coordination.

The statistics of NPL ratio has generally reflected the asset quality appropriately. Some people expressed their concern that the low NPL ratio may be underestimated, and have covered some hidden risks. My authorities have worked together with staff to see any potential underestimation of the NPLs. Currently, loan classification system in China is generally in line with international standards on prudential regulation and accounting. Moreover, the regulatory authorities have paid great attention to the accuracy of loan classification, with reinforced monitoring of NPLs, tightened regulatory requirements on the investment book and the off-balance sheet exposure, and intensified on-site examination and punishment to contain illicit risk transfer that could blur the NPL picture. Banks have also reinforced provisioning and write-offs of NPLs in the past 5 years. The deposit insurance scheme was put in place in 2015, in compliance with international core principles on deposit insurance and disposal of financial institutions, providing a solid basis for market based resolution. There is one thing that is clear: The profitability of the corporate sector has improved significantly this year, as compared to that of last year. In most cases, local government borrowings have been backed by long-term, cash-generating assets. The room for any underestimation of NPL ratio is very limited and is shrinking.

Supervision of Financial Market Infrastructures (FMIs) should be well tailored to country specifics. China has made progress towards the full implementation of internationally accepted principles and practices of FMI supervision, while exploring best practices that are more feasible and operational in China’s context. For instance, the China Securities Depository and Clearing Corporation Limited (CSDC) has established adequate risk and liquidity management framework in securing the payment one day after the delivery of securities, including a contingent plan to directly compensate unsettled payment with debtors’ securities holdings, a 100 percent margin requirement and comprehensive regulations for risk control. Current practices are well functional in China and broadly in line with the FMI principles. Under extreme scenarios of liquidity shortage, the CSDC can have access to liquidity through collateral management. The central bank will provide ad hoc liquidity support to avoid liquidity shocks to clearing banks in case of extreme circumstances, while being cautious of potential risks, including moral hazard that could arise in directly using central bank clearing and liquidity facilities for securities transactions.

Lastly, I am pleased to inform the Board that my authorities have agreed to publish the FSSA report and the DAR report.