

A Tale of Two Moral Hazards

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Where Should We Focus?

- A) Ballooning Off-Balance-Sheet Activities
- B) Watch Out More Leveraged M&As

Section A:

Ballooning Off-Balance-Sheet Activities

Four Types of Off Balance-Sheet Activities in Commercial Banking System

■1) Guarantee business (担保类):

banker's acceptance bill, bank guarantee, letter of credit, sales and purchase agreements with credit risk on the banks, etc.

■2) Commitment business (承诺类):

commitments to provide credit or other services to clients on pre-specified dates in the future

■3) Entrusted investment and financing services business (代理投融资服务类):

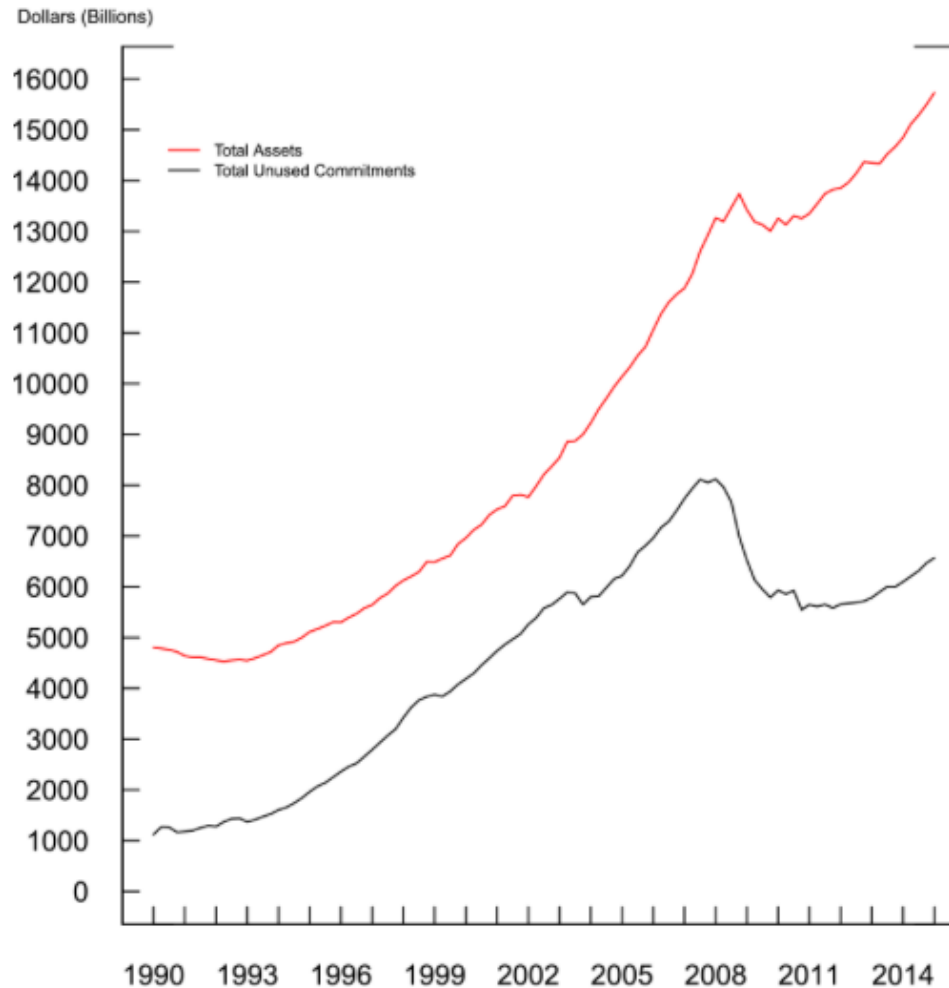
entrusted loans and investment, non-guaranteed wealth management products (yet with implicit guarantee), agency transactions, agency issuance and bond underwriting, etc.

■4) Intermediary services business (中介服务类):

agency collection and payments, financial advisory, asset custody, etc.

Off-Balance Sheet Items of Depository Institutions in the US

Total Assets and Total Unused Commitments

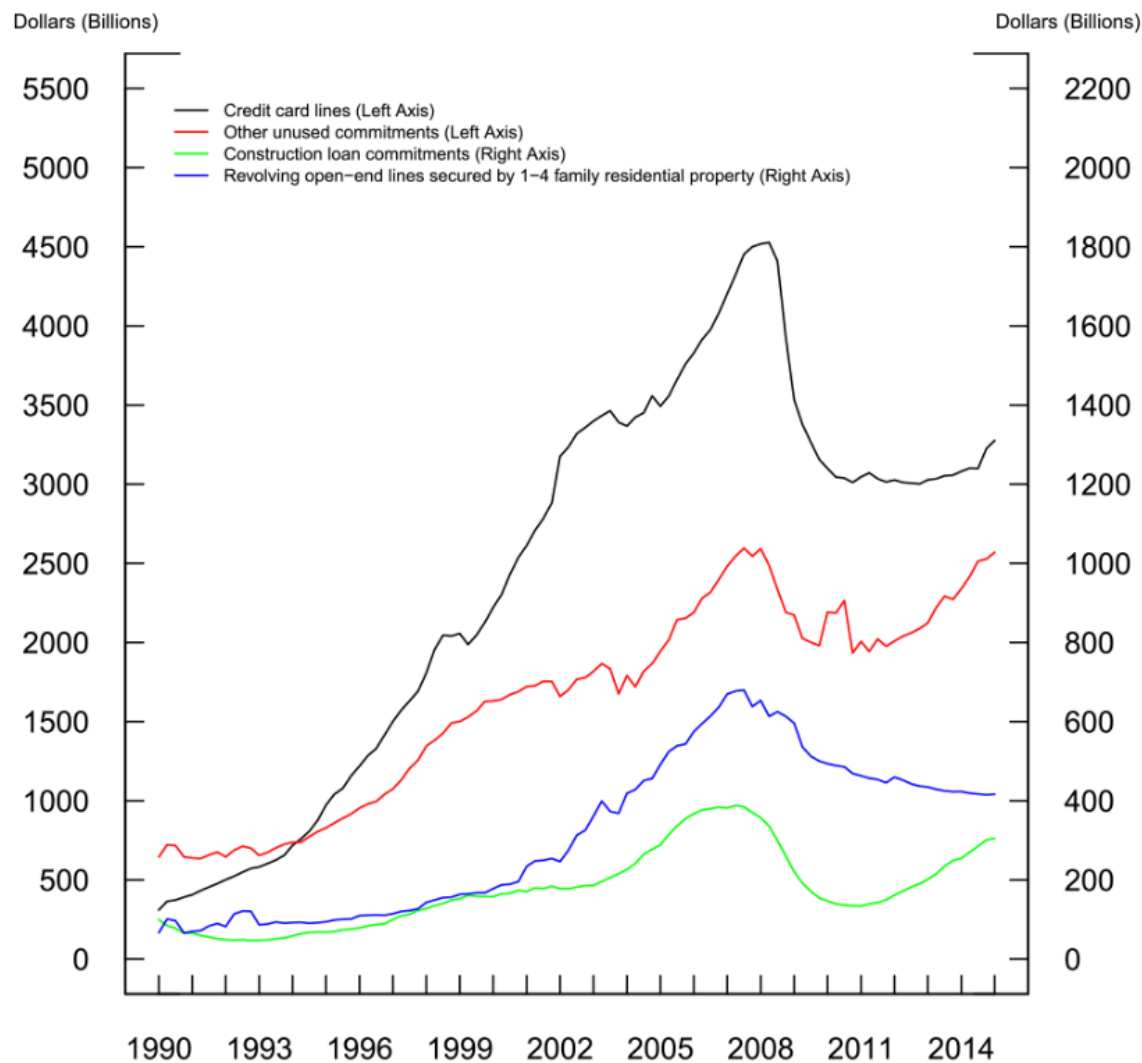


1. Total assets are taken from Depository Institutions: Consolidated Balance Sheet. Total unused commitments are taken from Depository Institutions: Off-Balance-Sheet Items. [Return to text.](#)

Source: Federal Reserve 2015

Off-Balance Sheet Items of Depository Institutions in the US

Unused Commitments by Category

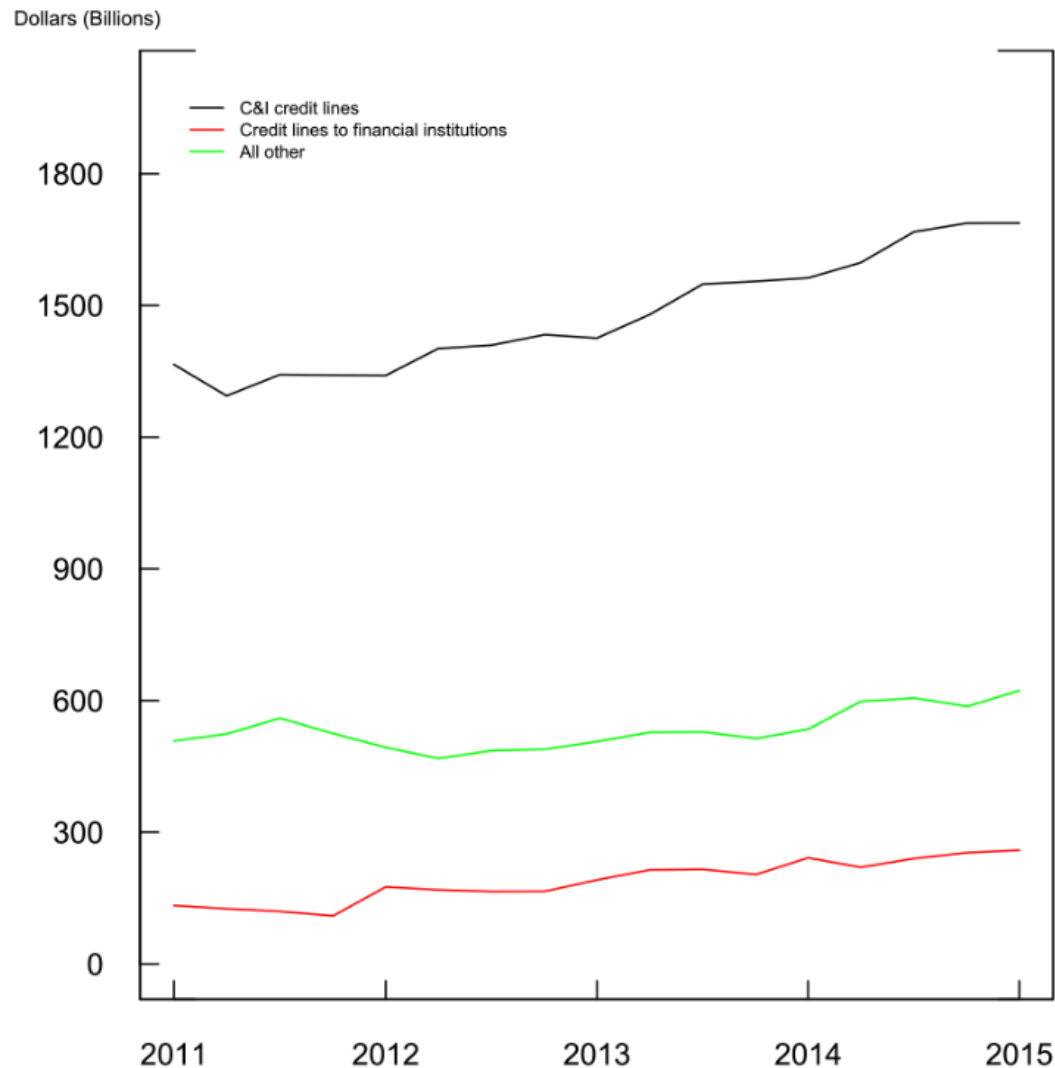


Source: Federal Reserve 2015

Off-Balance Sheet Items of Depository Institutions in the US

Unused Commitments of Financial and Nonfinancial Firms

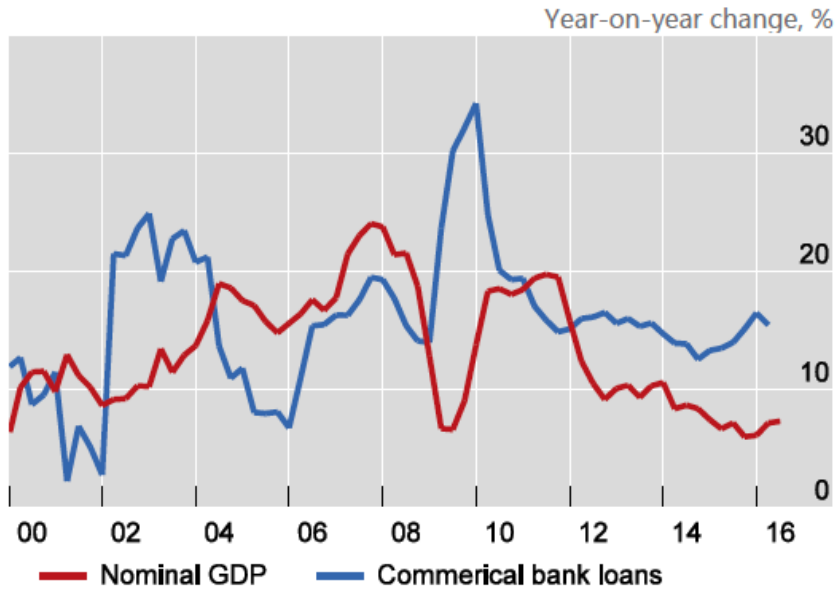
(C&I: commercial and industrial)



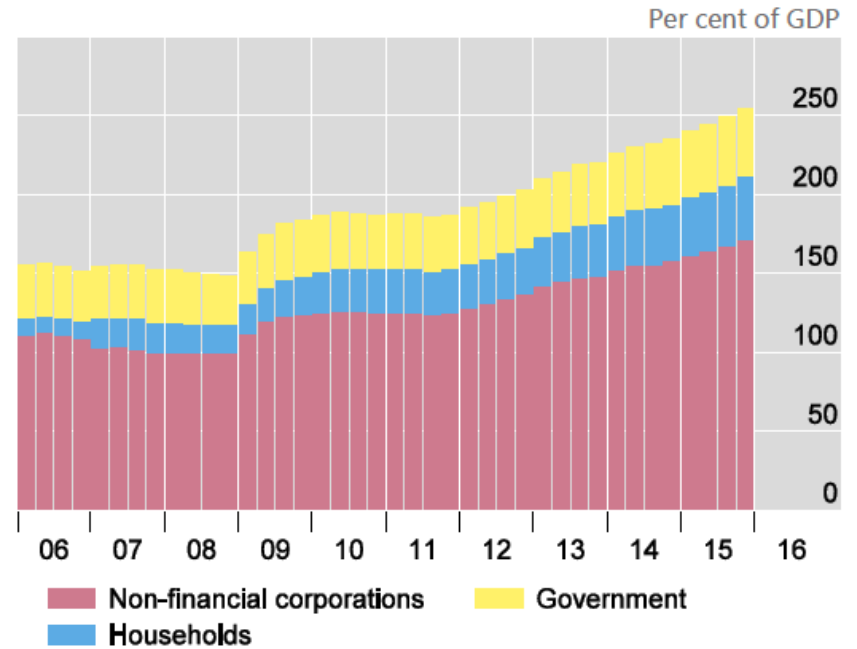
Source: Federal Reserve 2015

Credit Growth in China

Chinese credit and GDP growth



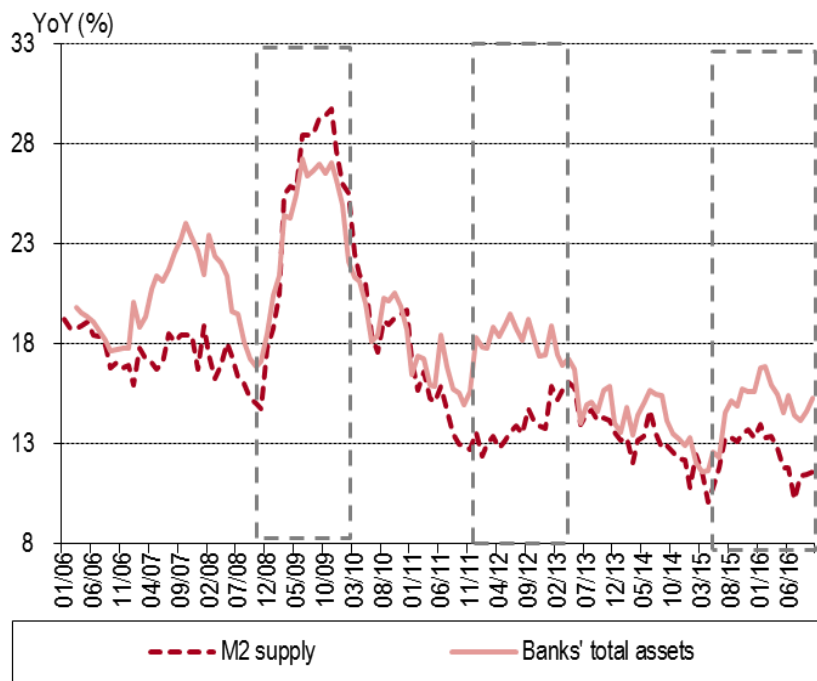
Credit to non-financial sector



Sources: National data; BIS.

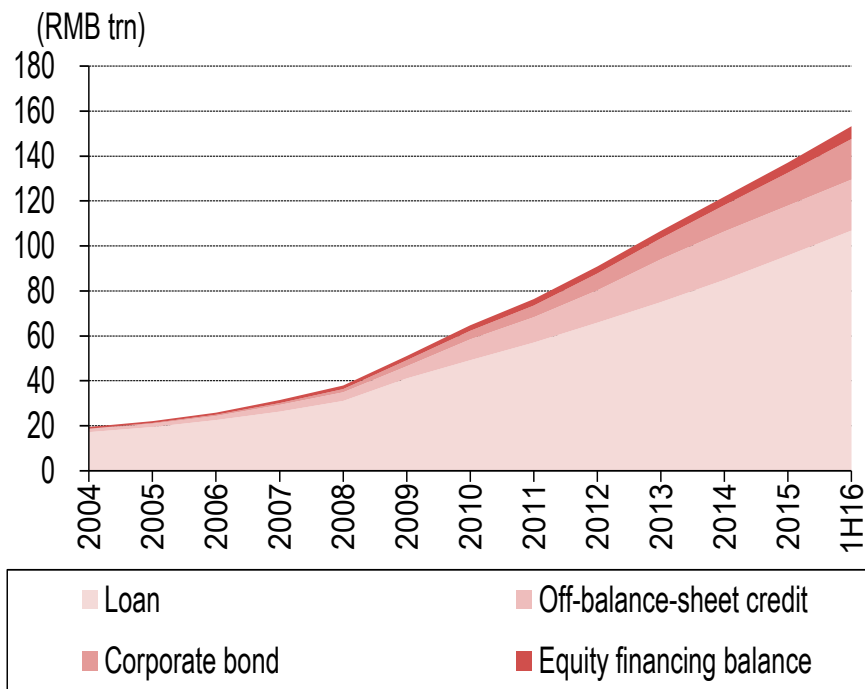
Rapid Credit Expansion: Incremental RMB Loans and Total Social Financing Reached New Record Peaks

M2 Supply and Banks' Total Assets



Source: CEIC, BOCI Research

Total Social Financing Balance



Source: CEIC, BOCI Research

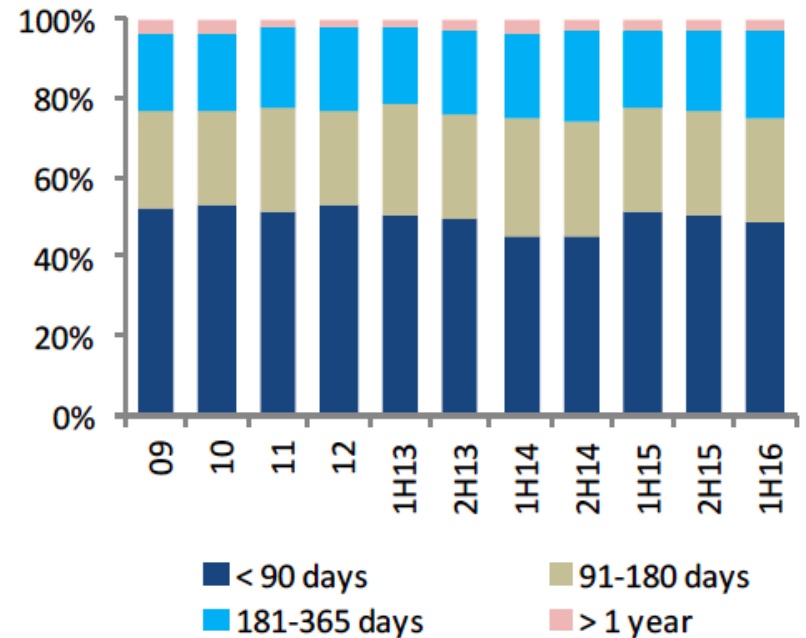
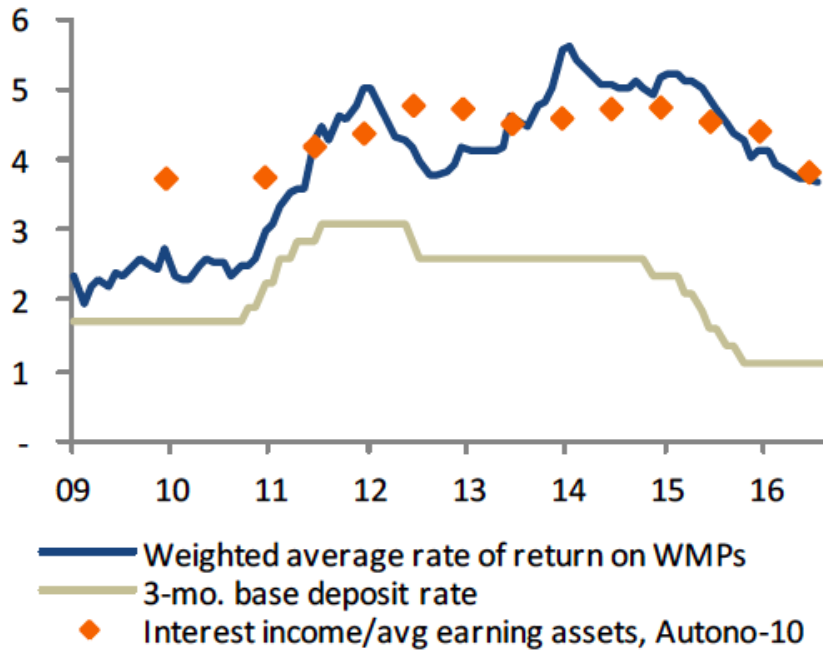
Rapid Growth of Bank Off Balance-Sheet Business and Shadow Banking in China

- The outstanding bank-issued wealth management products (WMPs) stood at 26.4 trillion yuan by the end of June 2016, equivalent to 37% of China's GDP.
- Among mid-tier banks, WMPs were equivalent to 43% of deposits at the end of June 2016, up from just 22 % at the end of June 2014.
- According to Fitch's estimates, around 20 trillion, or 77% of outstanding WMPs resided off the balance sheet.
- According to Moody's estimates, China's shadow banking assets grew around 19% in 2015-2016 and reached 58 trillion yuan, equivalent to over 50% of banks' on-balance sheet loans.

Implicit Guarantees for WMPs

- There is a widely held expectation that issuing banks are holding implicit guarantees for the principal and sometimes even returns of their WMPs.
- Fitch estimates that if non-guaranteed WMPs were accounted for as on-balance sheet assets, average common equity Tier 1 (CET1) regulatory capital ratios would drop by 1.4pp for state banks and by 2.5pp for mid-tier banks.
- China is enhancing the monitoring of commercial banks' off-balance-sheet business, by incorporating them under its macro-prudential assessment (MPA) system and “broad-based credit” (广义信贷) assessment.

Weighted Average Rates of Return and Maturity of WMPs

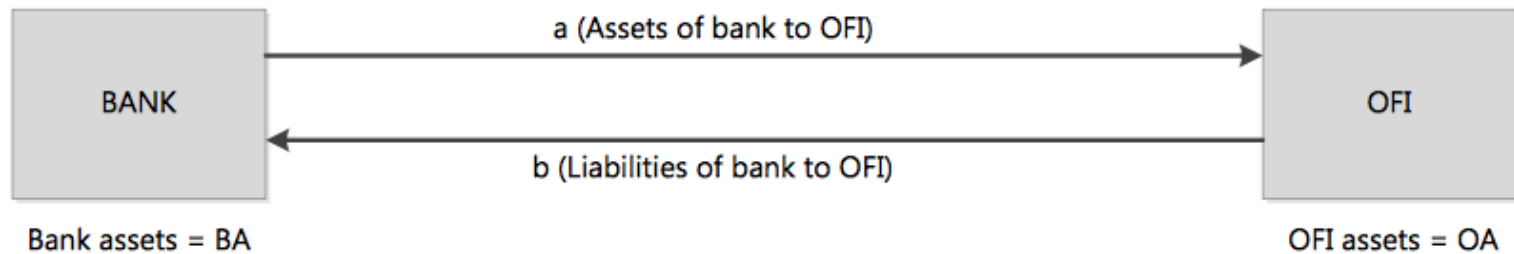


Source: CEIC, Wind, Autonomous Research

Increasing Interconnectedness between Banks and Non-Bank Financial Institutions through WMPs

- Banks increasingly cooperate with other financial institutions to invest the funds from WMPs.
- The rapid growth of “outsourced investment of wealth management funds” (委外投资), which refers to the banks’ practices to have non-bank financial institutions (on-shore and off-shore) such as trust companies, brokerage firms, fund managers to handle their wealth management funds.
- Shengwan Hongyuan Securities estimates that funds invested in this way reached around 8-9 trillion RMB in 2015.

Interconnected Risks between Banks and Other Financial Institutions (OFIs)



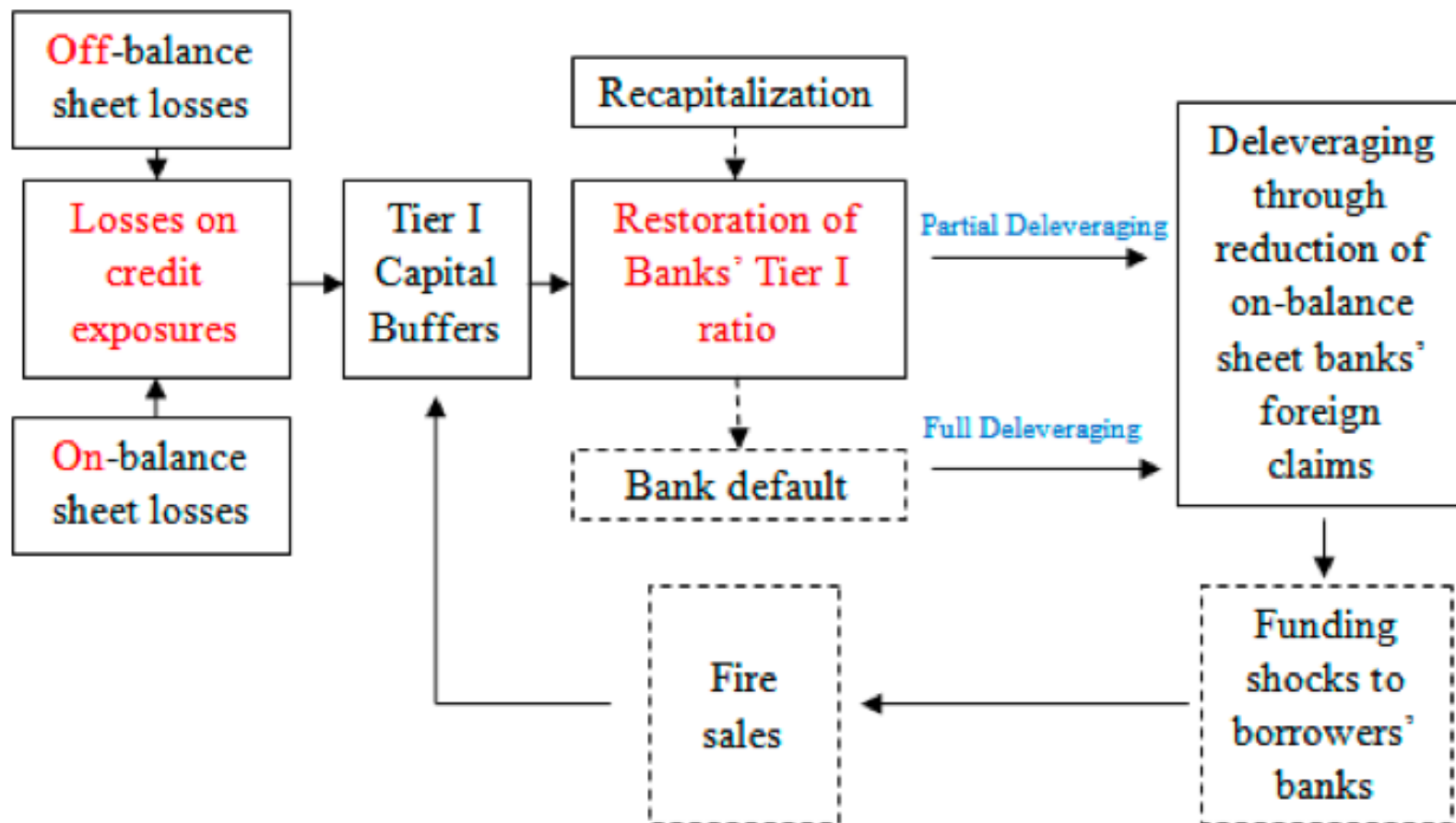
High-level risk measures:



Other Hidden Risks in the Banks' Off Balance-Sheet Business in China

- Cross-border credit guarantee business: many Mainland Chinese companies pledge their on-shore assets with Mainland banks for SBLC (Standby letter of credit); Then use overseas loans from SBLC to purchase foreign assets.
- Such guarantee businesses would become increasingly risky if RMB continues to depreciate and China's capital account control further tightens
- Other hidden risks and malpractices in agency issuance and bond underwriting as well as asset custodian business

Systemic Risks and Shock Propagation across Borders through Bank Losses and Deleveraging

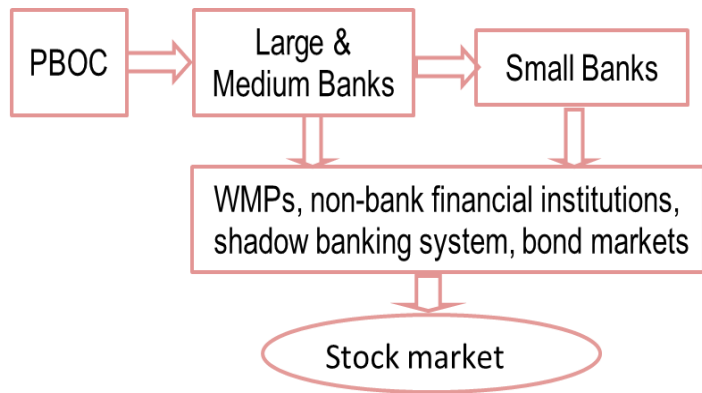


Rapid Growth of Interbank Market Business

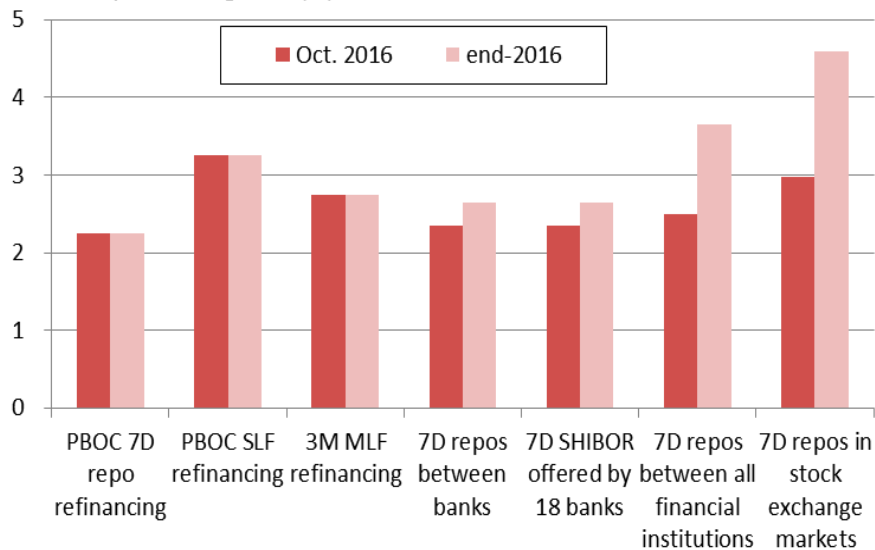
- Rapid growth of banks' interbank asset and liabilities (both on- and off-balance sheet), especially NCD (negotiable certificate of deposit, 同业存单) and interbank market WMPs (同业理财)
- Starting from a negligible size in 2013, interbank market WMPs have reached 4 trillion yuan in 2016, around 15% of the bank-issued WMPs.
- Interbank market WMPs are highly complex and opaque, often involving many layers of leverage and implicit guarantees. Their flows are very difficult to monitor and regulate.
- The rapid growth of interbank market WMPs may create bubbles in bank asset expansion and capital markets.

Rapid Expansion of China's Multi-layer Interbank Markets

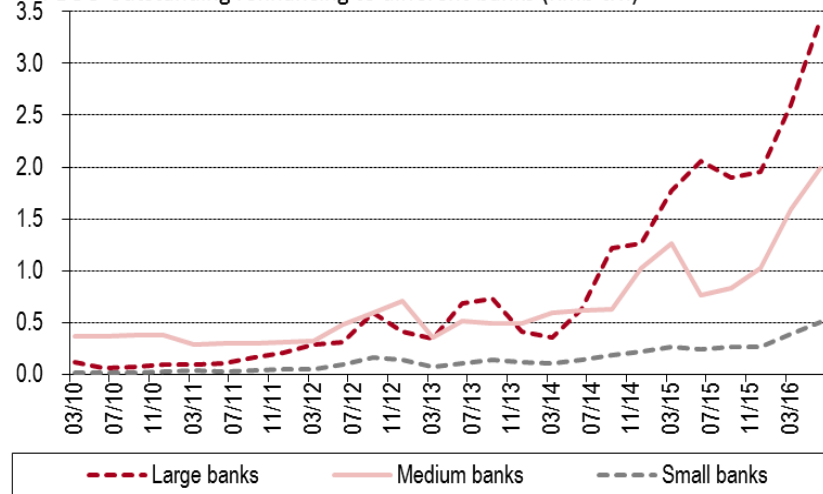
Liquidity Supply Channel



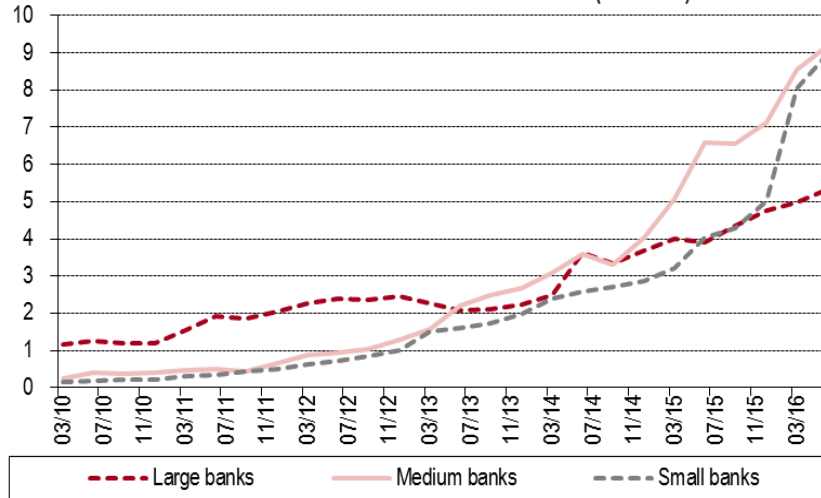
Multi-layer funding costs(%)



PBOC outstanding refinancing to different banks (Rmb trn)

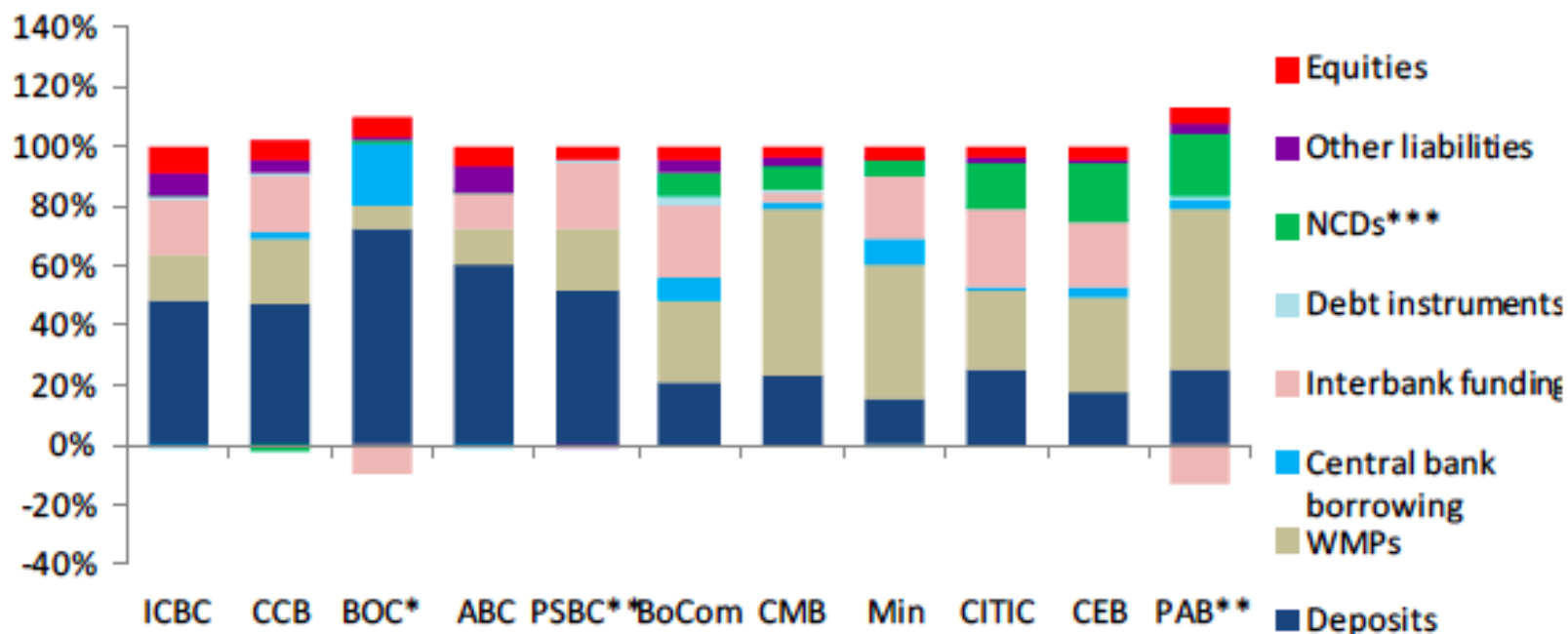


Different banks' claims on non-bank financial institutions (Rmb trn)



Breakdown of Funding for Asset Growth of Chinese Commercial Banks: Mid-tier Banks Increasingly Reliant on Non-Deposit Channels to Grow New Business

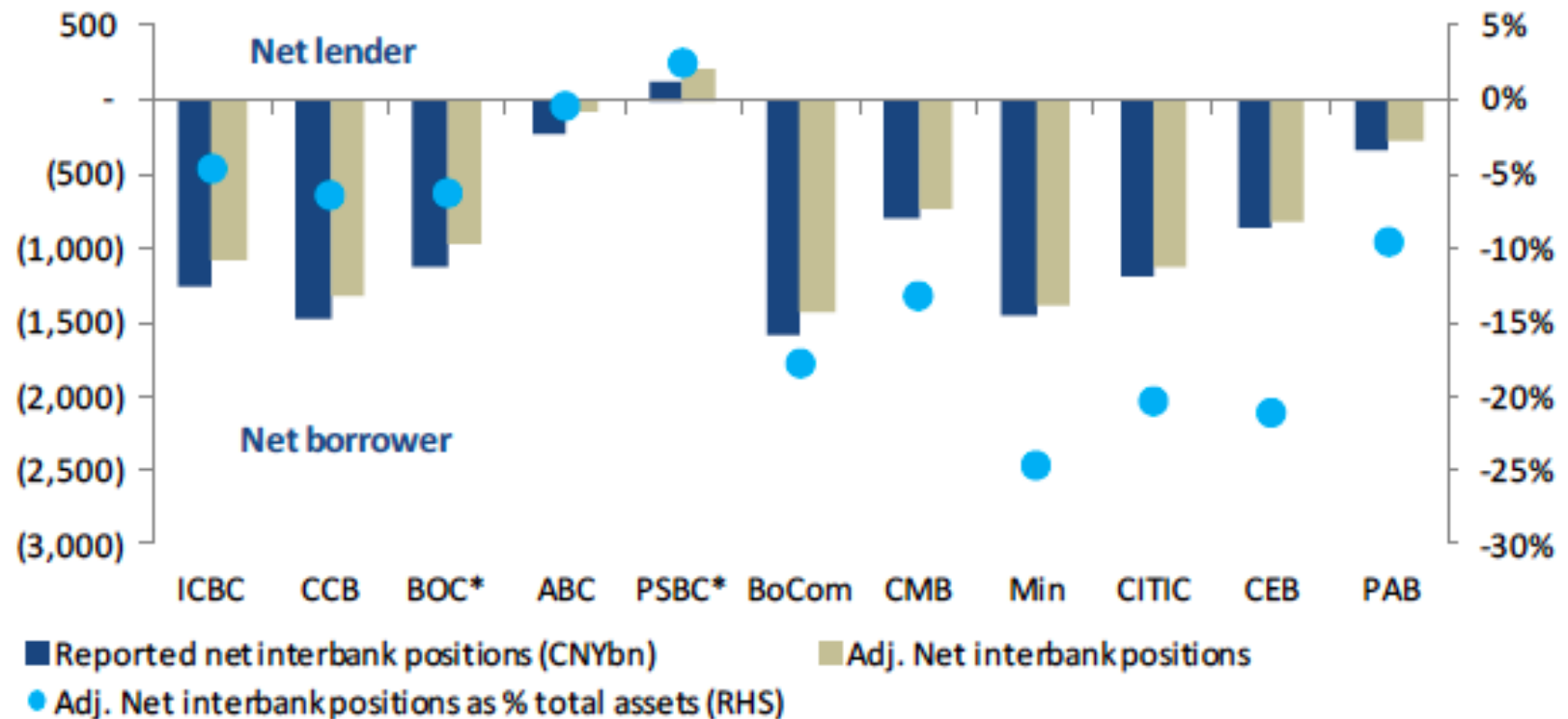
Breakdown of funding for asset growth from end-2014 to 1H16



*BOC data is based on unconsolidated financial statements, which excludes BOCHK ** As part of our coverage of Ping An Group, we have incorporated Ping An Bank into all of our bank analysis. However, because PAB is an A-share listed bank, it is not under formal coverage, and we provide no valuation, price target or stock recommendation. We include PSBC in the analysis due to its important role in China's money markets. ***NCDs refer to negotiable certificate of deposit. Source: Company data, Autonomous Research

The Net Interbank Borrowing Positions

Size of net interbank positions versus percentage of total assets, end of 3Q16

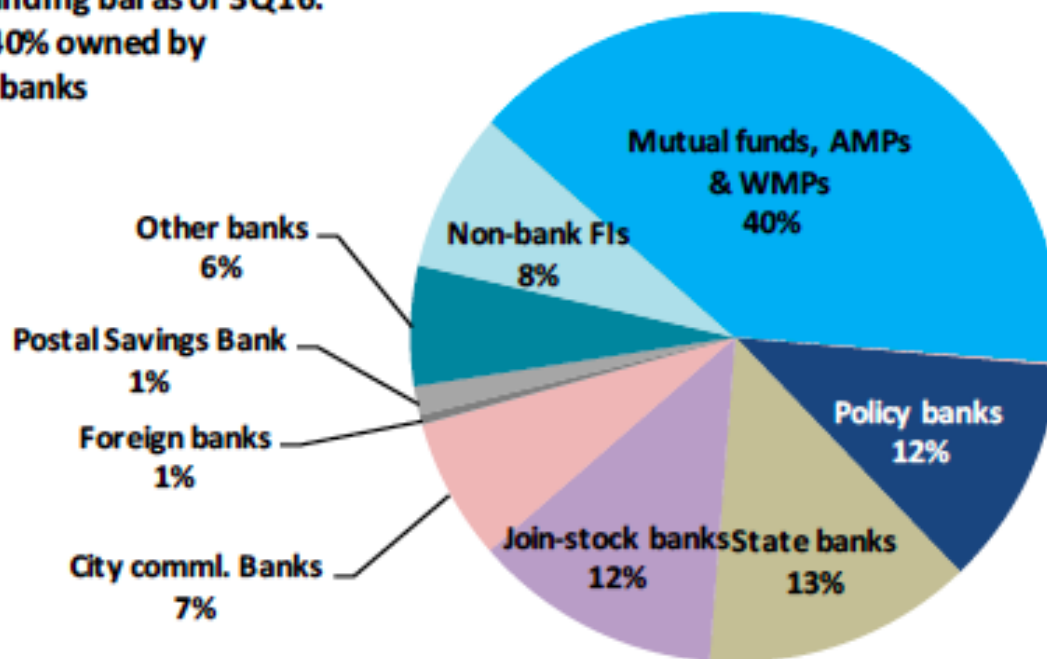


*BOC data is based on unconsolidated financial statements in 2Q16, which excludes BOCHK. PSBC data is as of 2Q16. Source: Company data, Wind, Autonomous Research

Commercial Banks are Key Holders of Bank NCDs (negotiable certificate of deposit)

Outstanding size of NCDs and breakdown by owners

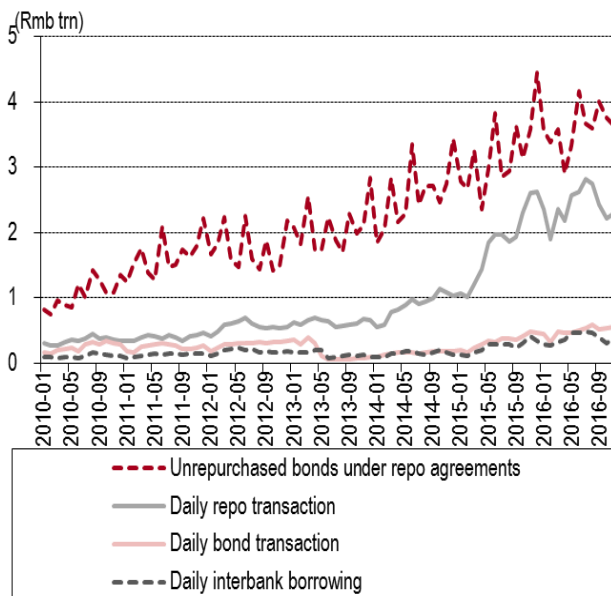
**NCD's outstanding bal as of 3Q16:
CNY5.8trn, 40% owned by
commercial banks**



**BOC data is based on unconsolidated financial statements in 2Q16, which excludes BOCHK. PSBC data is as of 2Q16. Source: Company data, Wind, Autonomous Research*

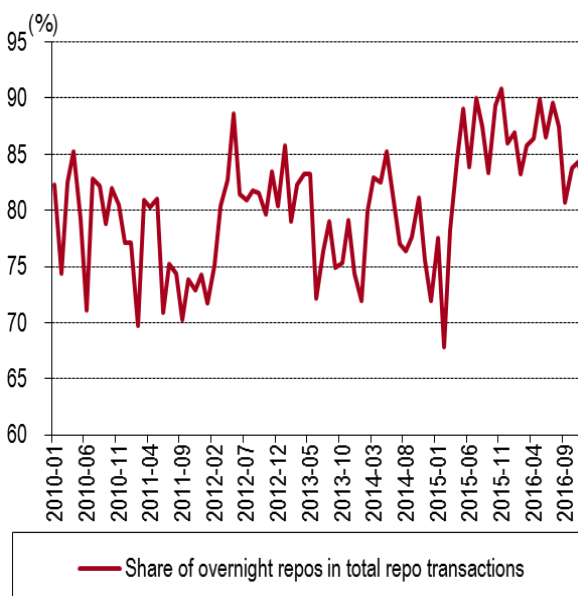
Maturity Mismatch and Leverage Risks have Increased in the Financial System in Recent Few Years

Repo Market Size

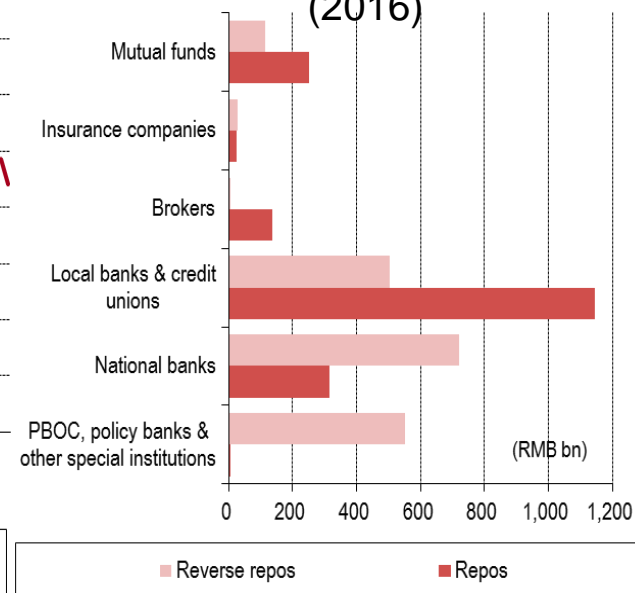


Source: CEIC, BOCI Research

Relying on Overnight Funding



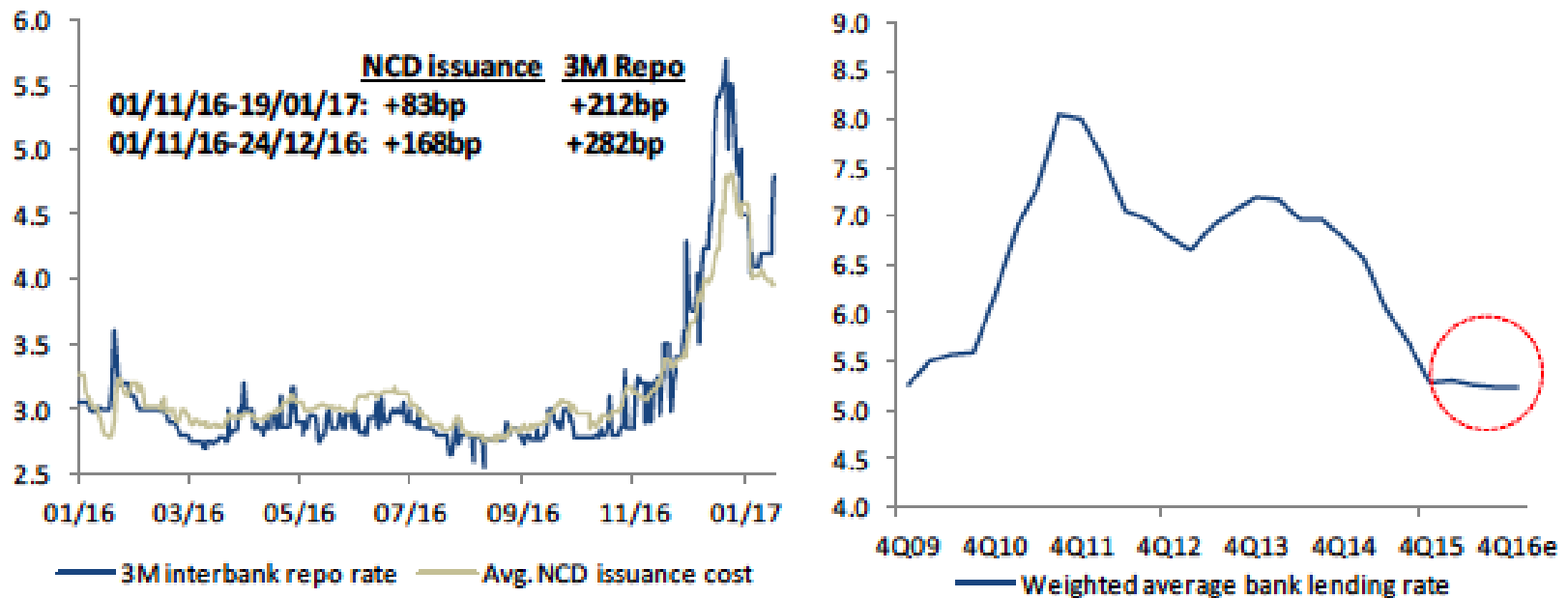
Market Players' Daily Transaction (2016)



Market-based Interest Rates are Rising, but Bank Lending Rates are Largely Flat

(NCD: negotiable certificate of deposits)

3M interbank repo rate & average NCD issuance cost versus weighted average bank lending rates, percent

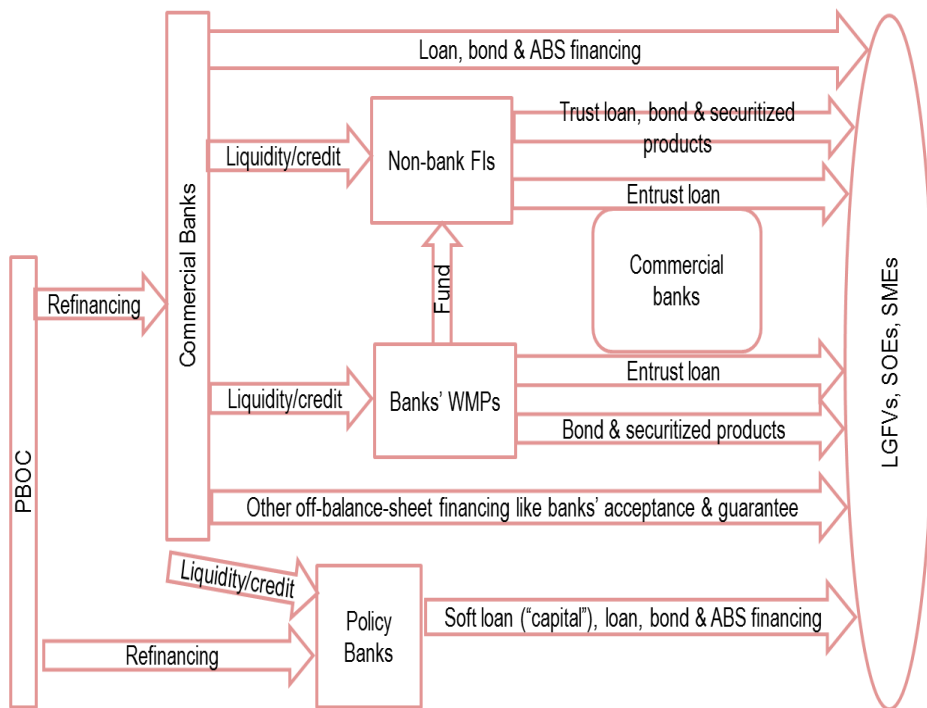


Source: Wind, Bloomberg, Autonomous Research

Ballooning Shadow Banking and Bond Markets

- China's financial system has become increasingly complicated & opaque with expanding shadow banking system and innovated securitization products.

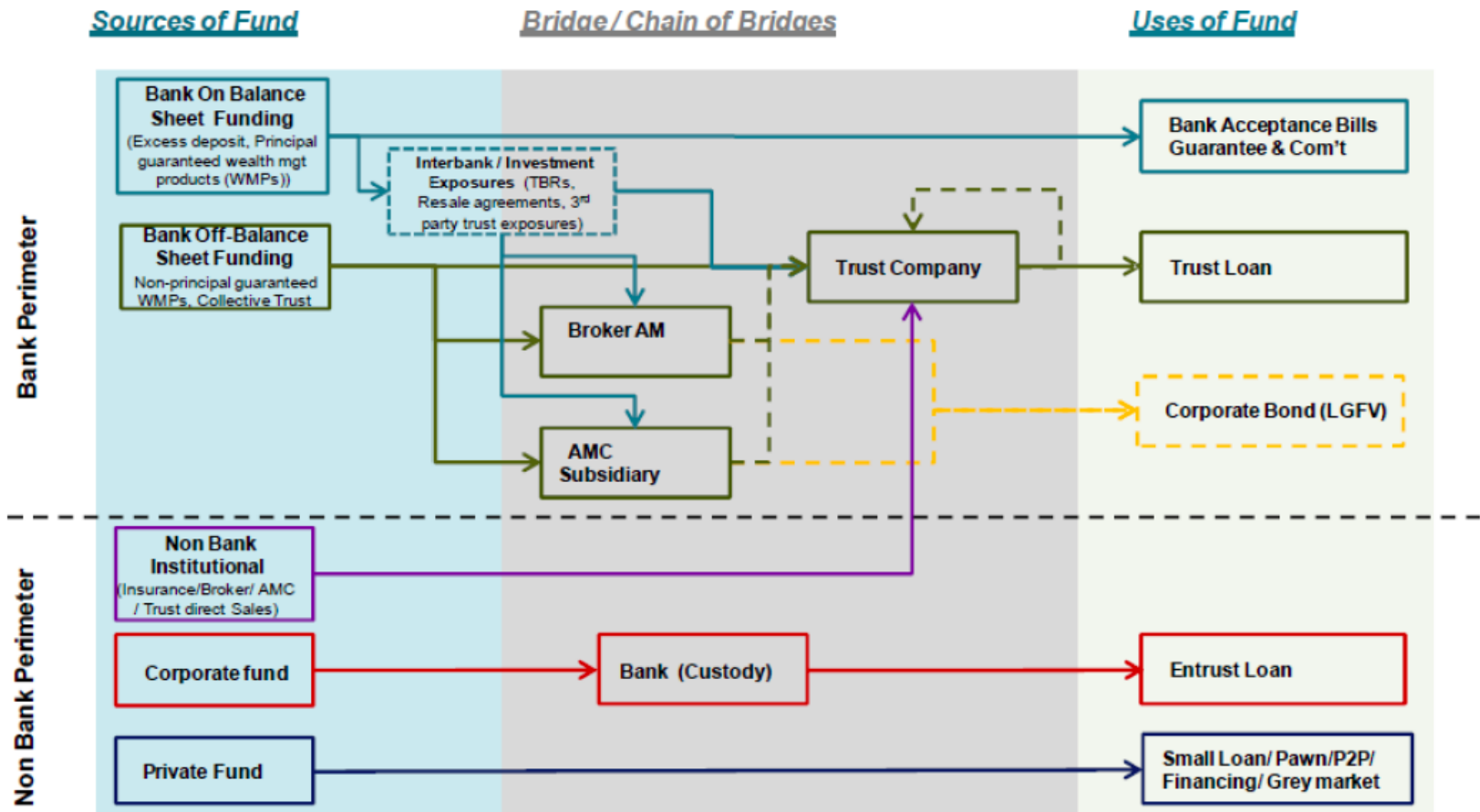
China's Financial System



Ballooning Shadow Banking and Bond Markets

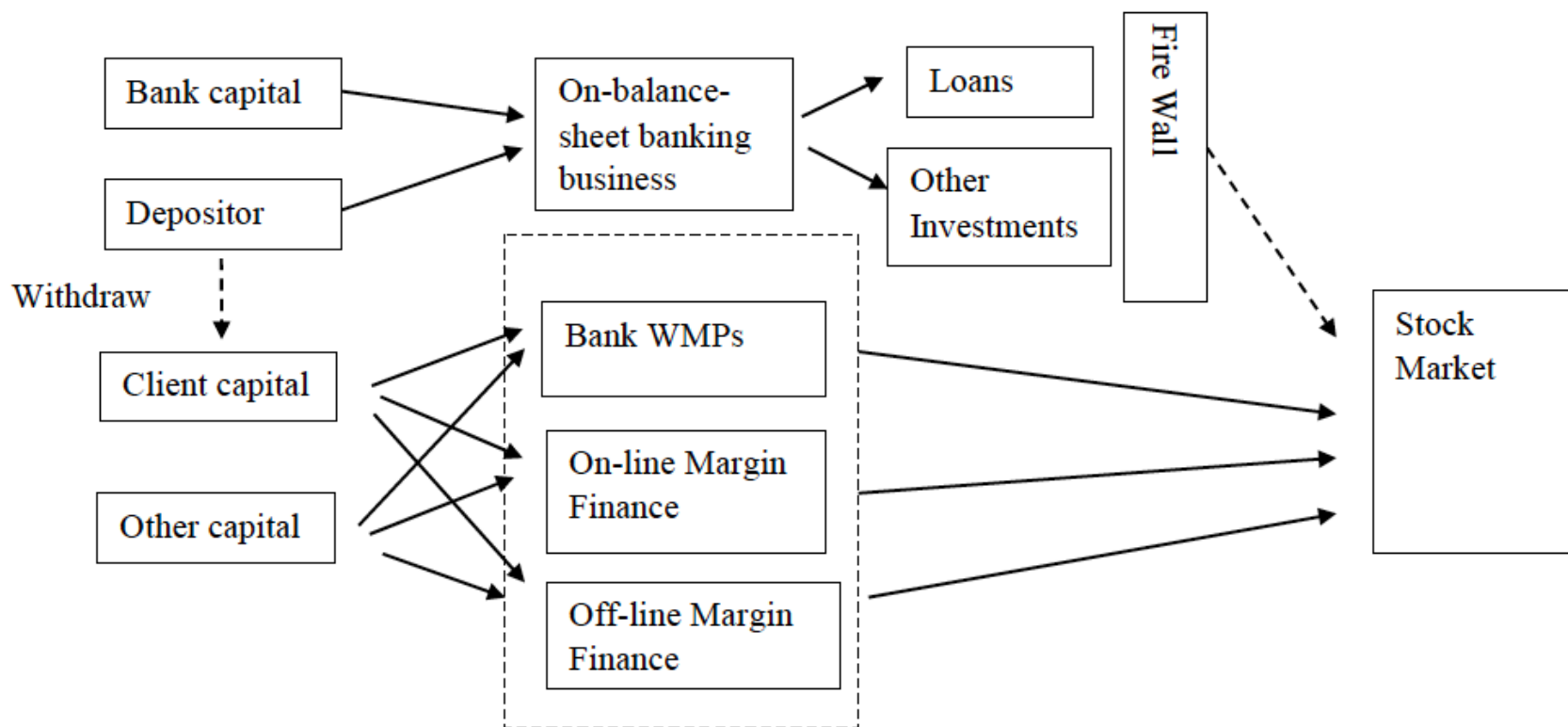
(Rmb trn)	2010	2011	2012	2013	2014	2015	2016
Banks' claims to non-bank FIs	2.0	3.4	5.1	7.3	11.2	17.7	26.5
Banks' WMPs	2.8	4.6	7.1	10.2	15.0	23.5	26.5
Banks' bond investment position		9.9	11.5	12.8	14.8	20.1	25.4
Banks' share & other investment position		1.4	2.3	4.3	6.8	13.7	22.4
Trust companies' asset under management	3.0	4.8	7.5	10.9	14.0	16.3	18.0
Brokers' asset under management					8.0	11.9	16.0
Mutual funds' asset under management					4.5	8.4	9.2
Mutual funds and its subsidiaries' special account					5.9	12.6	17.7
PE funds' asset under management					2.1	5.2	6.5
Corporate bonds	3.6	4.9	7.8	9.3	11.6	14.4	18.5
-LGFV bonds	0.7	1.0	1.9	2.7	4.2	5.2	6.7
Government bonds	6.8	7.6	8.3	9.5	10.7	15.5	23.3
-Local government bonds	0.4	0.6	0.7	0.9	1.2	4.8	10.6

Financial Inter-linkages between the Chinese Formal and Shadow Banking Sectors



Source: Sanford Bernstein research

Financial Inter-linkages between Banks, Shadow banking and Stock Market



Factors Driving the Expansion of Bank Off Balance-Sheet Activities and Shadow Banking

- Economic slowdown, declining rates of returns and lack of good projects
- Global liquidity expansion, unconventional monetary policy
- Inadequate financial regulation: weaknesses in regulatory framework, instruments and databases
- Weaknesses in risk management and accountability mechanisms in banks and non-bank financial institutions

The Great Monetary Easing Post 2008:

The Unprecedented Monetary Easing: from QE to ZIRP to NIRP

Central Banks embarked on Unprecedented Monetary Easing

US: FED -- \$

UK: BOE -- £

Eurozone: ECB -- €

Japan:BOJ -- ¥

FED: Purchased US\$ 3.8 trillion of securities.

QE Ended. 25bp Rate hike in Dec 15 and Dec 16 (more in 2017?)

BOE:Post Brexit, monetary easing continues *1 *2

ECB:€ 80 billion a month to March 2017, there after € 60 billion thru Dec 2017.

BOJ¥ 80 trillion (US\$ 80 billion) a month ... indefinite QE?

QE Exhausted: from ZIRP to NIRP ...

*1: Aug 04: BOE lowered interest rate 25bp to 0.25%

QE: £60 Bil of Govt bonds over 6 months, £10 bil corporate bonds in 18 months

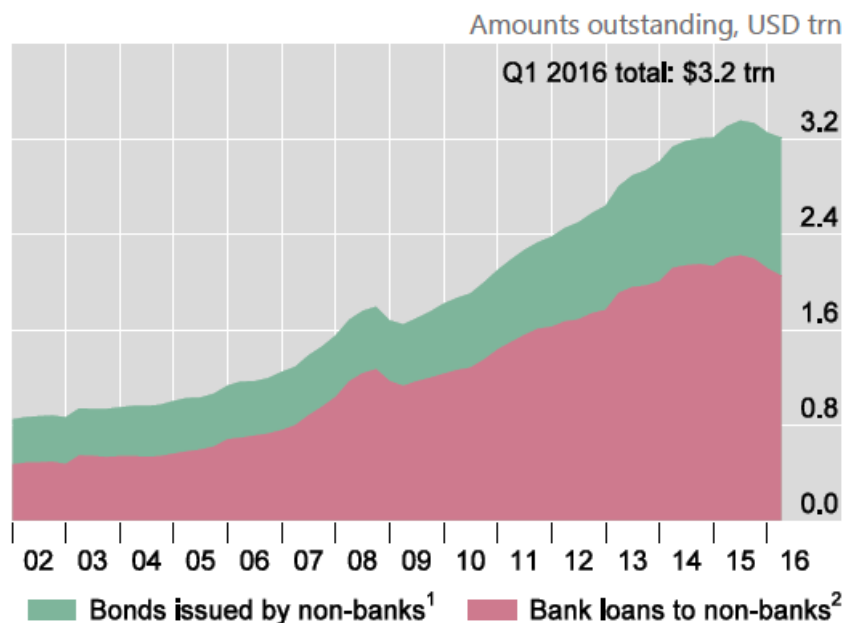
*2: Mark Carney: “will do whatever it takes ...”

The World is Awash in Liquidity:

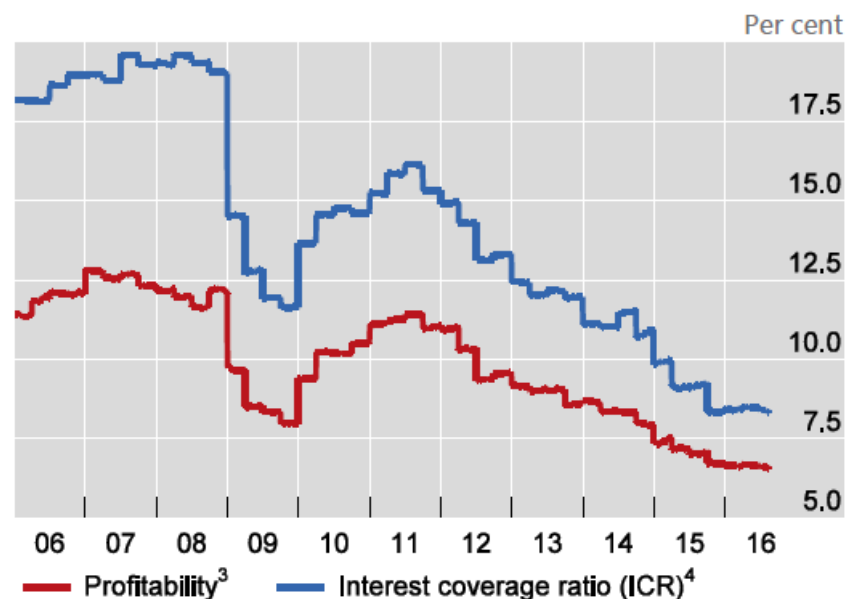


Growing Financial Fragilities in Emerging Market Economies: Returns Decline, Leverages Increase

US dollar-denominated credit to EMEs non-banks outside the US



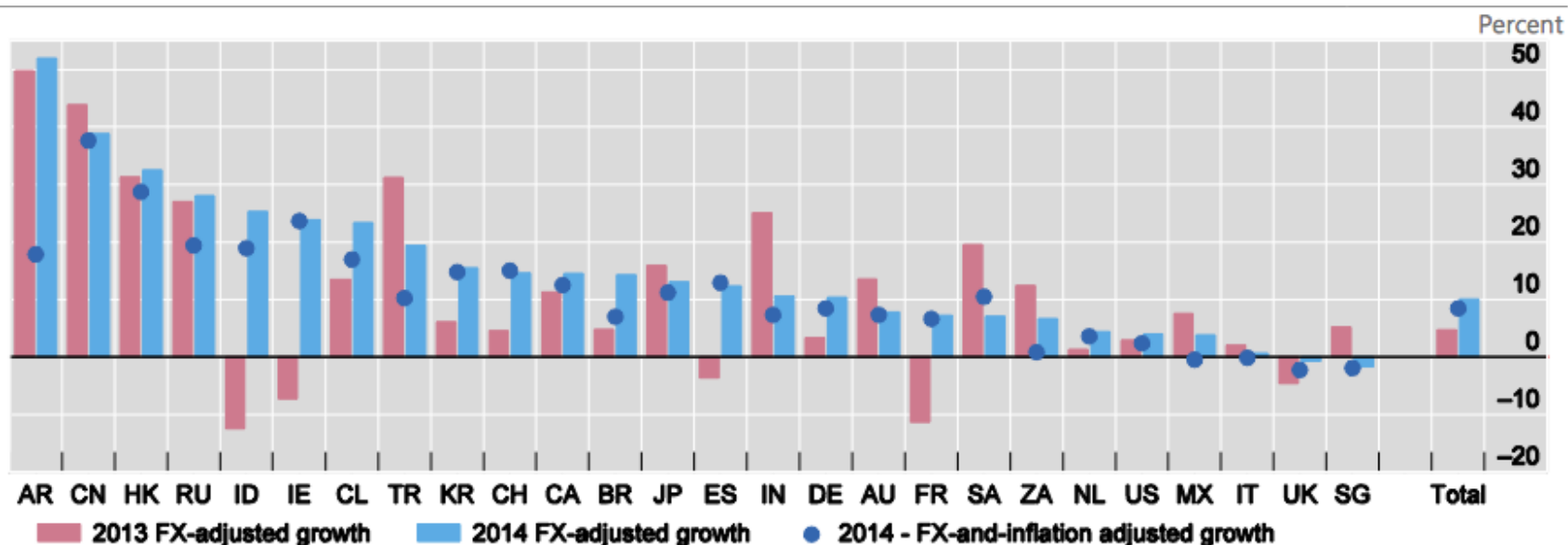
Emerging economies non-financial corporations



¹ Non-banks comprise non-bank financial entities, non-financial corporations, governments, households and international organisations. ² Excluding debt securities issued by any bank entity, and banks controlled by non-bank parents. ³ Profitability is defined as the return-on-equity. ⁴ Interest coverage ratio is EBITA divided by interest expense.

Sources: Datastream; BIS debt securities statistics; BIS locational banking statistics.

Annual Growth of Global Shadow Banking (26 Jurisdictions): Argentina and China Scored Highest Growth Rates

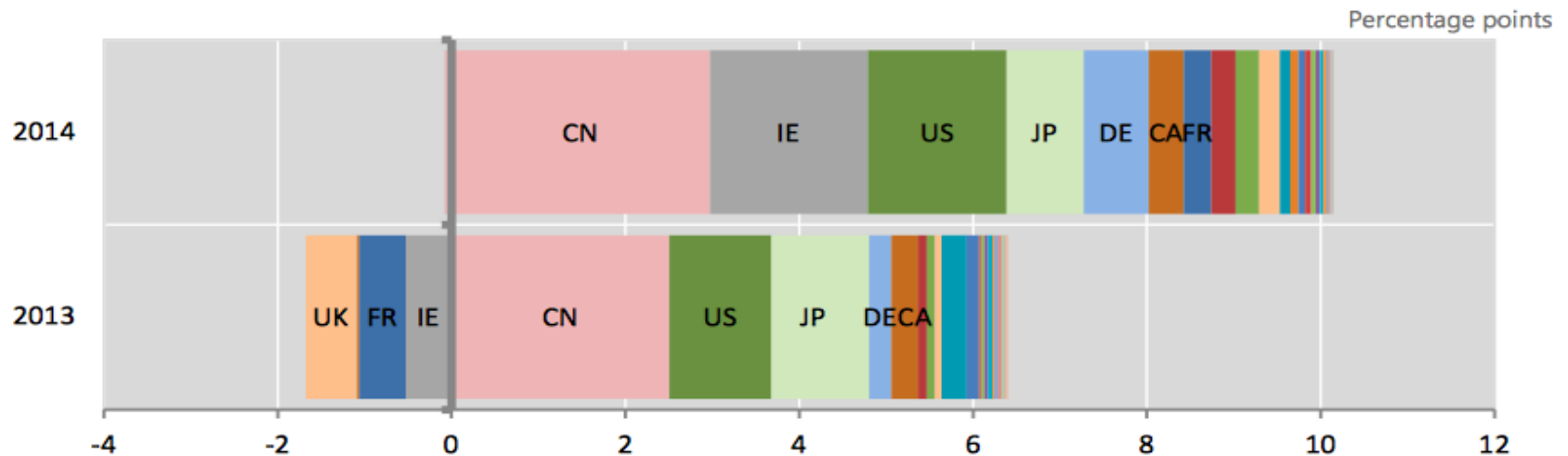


Note: Bars show year-over-year growth rate, controlling for exchange rate effects. Dots show year-over-year growth rates, controlling for exchange rate and inflation effects.

AR = Argentina; AU = Australia; BR = Brazil; CA = Canada; CH = Switzerland; CN = China; CL = Chile; DE = Germany; ES = Spain; FR = France; HK = Hong Kong; IE = Ireland; ID = Indonesia; IN = India; IT = Italy; JP = Japan; KR = Korea; MX = Mexico; NL = Netherlands; RU = Russia; SA = Saudi Arabia; SG = Singapore; TR = Turkey; UK = United Kingdom; US = United States; ZA = South Africa.

Sources: National financial accounts data; other national sources; IMF; FSB calculations.

Jurisdiction Contributions to Shadow Banking Growth (26 jurisdictions): China as the Biggest Driver

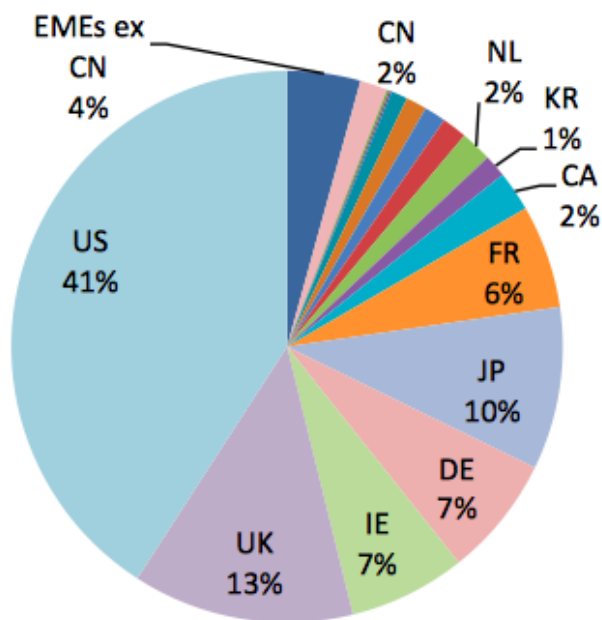


Note: Contributions to year-over-year growth of shadow banking, adjusted for exchange rate effects.
 CA = Canada; CN = China; DE = Germany; FR = France; IE = Ireland; JP = Japan; UK = United Kingdom; US = United States.
 Sources: National financial accounts data; other national sources, FSB calculations.

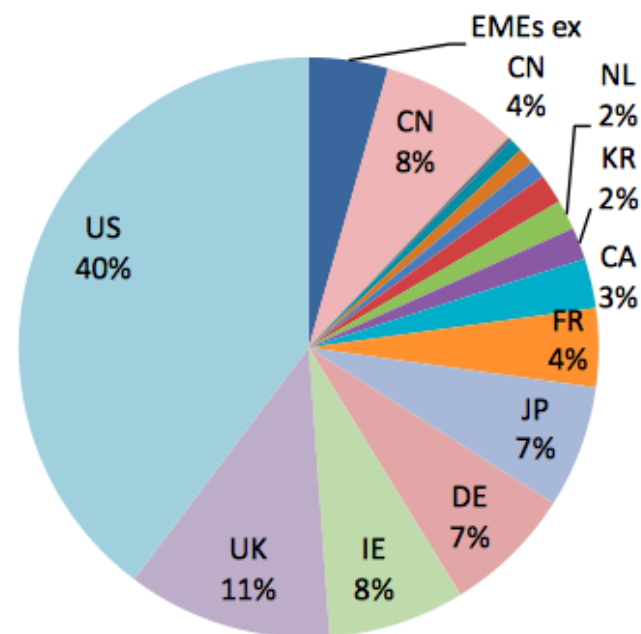
Share of Shadow Banking Assets (26 jurisdictions):

China's Share Increased Rapidly

At end-2010



At end-2014



Note: CA = Canada; CN = China; DE = Germany; EMEs ex CN = Argentina, Brazil, Chile, India, Indonesia, Mexico, Russia, Turkey, Saudi Arabia, South Africa; FR = France; IE = Ireland; JP = Japan; KR = Korea; NL = Netherland; UK = United Kingdom; US = United States.

Sources: National financial accounts data; other national sources; FSB calculations.

Summary

- Substantial size and rapid growth of off balance-sheet activities and shadow banking(规模不小, 增速较快)
- Complexity and opacity in flow of funds (去向不明, 资金空转) ; Multiple layers of bank involvement in WMPs investment (银行互投理财)
- Uncertainty and opacity about the real levels of leverage (including the stock and bond markets).
- The maturity mismatch (to borrow short and lend long) and risks have substantially increased in the financial system with severe moral hazard, regulatory arbitrage and credit expansion
- Who and how to strengthen regulation and bring the off-balance sheet activities back to the balance-sheet?

Who and How to Strengthen Regulation and Bring the Off-Balance Sheet Activities Back to the Balance-Sheet?

- 1) Strengthen external auditing
- 2) Strengthen internal auditing
- 3) Strengthen information disclosure and increase transparency
- 4) Utilize and promote technological innovation (IT and financial technologies; block-chain) to strengthen regulatory capability and effectiveness
 - Develop and apply advanced computation technologies to code, track and monitor the flow of payments and transactions in the financial system.

Section B:

Watch Out More Leveraged M&As

Credit Flooding and China's Conglomerate M&A Spree:

Case I: A Chinese Airline Group

- A Chinese airline group has made over 20 acquisitions since 2015.
- Two large pending deals: Company A (US-based wholesaler of IT products and services. US\$ 6 Bil) and Company B (A US-based aircraft leasing company, US\$ 10 Bil)

Notable Acquisitions of this Airline Group

Announce Date	Name	Industry	Amount	Closing Date
2016 Oct	25% stake in Hilton	Hotel Chain	US\$ 6.5 Bil	pending
2016 Oct	Company A in the US	AirCRAFT Leasing	US\$ 10 bil	pending
2016 Feb	Company B in the US	Technology	US\$ 6 Bil	pending
2016 Apr	Company C in Switzerland	Air services	US\$ 1.5 Bil	Closed
2015 Aug	Company D in Ireland	Aircraft Leasing	US\$ 2.5 Bil	Closed
2015 Jul	Company E in Switzerland	Ground/ Cargo Services	US\$ 2.8 Bil	Closed

Recent Headline Acquisitions of this Airline Group

Announce Date	Name	Industry	Amount	Closing Date
2017 Jan	[REDACTED] Land plot 3 (HongKong)	Property Development	HK\$ 5.53 Bil	Closed
2013 Dec	[REDACTED] Land plot 2 (HongKong)	Property Development	HK\$ 5.41 Bil	Closed
2016 Nov	[REDACTED] Land plot 1 (HongKong)	Property Development	HK\$ 8.84 Bil	Closed
2017 Jan	[REDACTED] Airport (Germany)	Infrastructure	TBD	pending
2016 Nov	[REDACTED] Airlines	Airline	US\$ 450mm	pending
2016 Oct	8 Golf Courses in US	Leisure	US\$ 137.5mm	pending

Leverage game predicated on over rising asset price

Step 1	Pledge mainland assets with mainland bank for SBLC for HK\$ 8.8 bil loan in HK
Step 2	Use the loan (from SBLC) to purchase [REDACTED] Land for HK\$ 8.8 Bil
Step 3	Pledge the [REDACTED] land with banks in HK, at 40% LTV, for HK\$ 3.5 Bil
Step 5	Use the HK\$3.5 Bil cash to purchase stocks and bonds (5-6% return or higher)
Step 6	Pledge the HK\$3.5 Bil of stocks and bonds to get more loans, 50% at HK\$1.75 Bil
Step 7	Repeat steps 5 and 6

Case II: China Minerals, Buying at a Wrong Time

- **Basic Situation:**

Cash flow is always negative in recent years, as per the company's annual report in 2014, cash flow per share is RMB¥ -2.88.

- **Over Leverage:**

Liability/Equity: 76%

- **Recent Leveraged M&As:**

A copper company in Brazil amounting US\$7.005billion, of which 62.5% come from China Minerals. The leverage ratio is 50%, so China Minerals, together with other two Chinese buyers, bear \$3.5 billion debt net from a syndication loan from 3 Chinese banks

- **Even worse, they moved in when copper price was hit the top and now it was a complete fiasco.**

Case III: China National Chemical Corp (ChemChina), Over-Leveraging and Over-Buying

Targets	Amount	Leverage Ratio
A) Pirelli & C SpA (An Italian tire factory)	US\$7.7billion (\$7.4 billion from JPMorgan Chase)	96%
B) Krauss Maffei Group (A German plastic equipment manufacturer)	€925 million	100%
C) Syngenta AG (A Swiss pesticide manufacturer)	US\$ 43 billion	100%

- Its liability-equity ratio reached 260%, while the international average in its line is 61%; its debt-EBITDA ratio reached 9.5, while the international average of its peers is only 2.3.
- ChemChina had suffered net loss in 2012, 2013, 2015 and 2016(?)