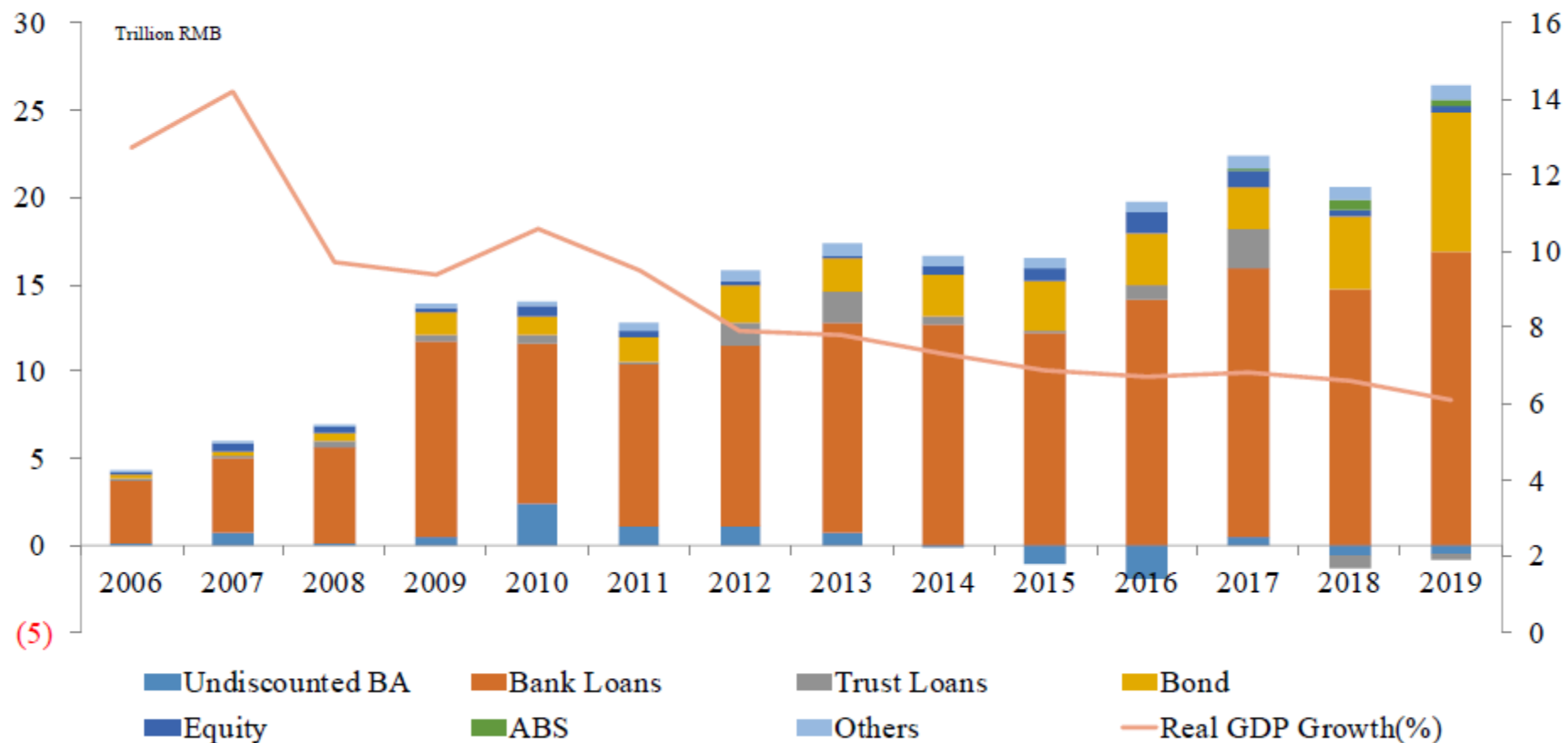


Banking and the Shadow Banking Sector

Outline

- **Structure of the Chinese banking system: a three-tier system**
 - Comparing the largest banks around the globe
 - Different features of ownership and governance of banks
 - Case study of Baoshang Bank
- **The growth of fintech lending:**
 - Examples of “ecosystems” of fintech platforms with multiple functions
 - What is special about fintech lending in China?
- **Shadow banking sector:**
 - Growth of banks’ wealth management products (WMPs)
 - Restructuring of the shadow banking sector

Total Social Fundraising and GDP Growth (2006-2019)



Sources: PBoC, WIND

Overview of China's Banking System

- A three-tier structure:
 - “Big Four” banks (ICBC, BOC, CCB, and ABC), plus Bank of Communications and the Postal Savings Bank; among the largest banks in the world; and policy banks
 - Stockholding banks (most of these are listed): e.g., China Merchants Bank (招商銀行)
 - Regional, small & medium sized banks (SMBs); credit cooperatives; non-bank institutes
 - Support old growth model: absorbing social savings => (low cost) loans (investment) to key industries
- Key reforms in the recent two decades: IPOs of state-owned banks
- Banks' business and risks: on- and off-balance sheet activities
 - China's shadow banking: formation, growth, roles and risks

Table 2: People's Republic of China Listed Banks

	Year Established	Year of IPO	Total Assets (30 September 2017, *30 June 2017)	Capital Adequacy Ratio (%) (30 September 2017, *30 June 2017)	NPL Ratio (%) (30 June 2017)	Number of Employees (2016)	Number of Outlets (2016)
5 large commercial banks							
Industrial and Commercial Bank of China (ICBC)	1984	2006	25,764,798	14.67	1.57	461,749	17,200
China Construction Bank (CCB)	1954/1979	2005	22,053,943	14.67	1.51	362,482	14,985
Agricultural Bank of China (ABC)	1951/1955/ 1979	2010	20,923,117	13.40	2.19	496,698	23,692
Bank of China (BOC)	1912/1979	2006	19,422,438	13.87	1.38	310,042	11,556
Bank of Communications (BOCOM)	1908/1987	2005	8,935,790	13.87	1.51	92,556	3,350
Postal savings bank							
Postal Savings Bank of China (PSBC)	2007	2016	8,764,955	12.73	0.82	169,735	40,000
9 national joint-stock commercial banks							
China Industrial Bank (CIB)	1988	2007	6,406,993	11.99	1.60	54,208	2,003
China Merchants Bank (CMB)	1987	2002	6,169,239	15.01	1.71	70,461	1,819
Shanghai Pudong Development Bank (SPDB)	1993	1993	6,063,837	11.82	2.09	52,832	1,843
China Minsheng Bank Corporation (CMBC)	1996	2009	5,712,525	11.84	1.69	56,168	3,003
China CITIC Bank (CITIC)	1987	2007	5,536,973	11.75	1.65	58,023	1,465
China Everbright Bank (CEB)	1992	2010	4,030,414	12.67	1.58	42,250	1,122
Ping An Bank (PAB)	1987	1991	3,137,481	11.28	1.76	36,885	1,072
Huaxia Bank (HXB)	1992	2003	2,445,789	12.45	1.68	39,093	886
China Zheshang Bank (CZB)	2004	2016	1,488,969	12.38*	1.39	11,305	171

Table 2 *continued*

	Year Established	Year of IPO	Total Assets (30 September 2017, *30 June 2017)	Capital Adequacy Ratio (%) (30 September 2017, *30 June 2017)	NPL Ratio (%) (30 June 2017)	Number of Employees (2016)	Number of Outlets (2016)
16 city commercial banks							
Bank of Beijing (BOB)	1996	2007	2,275,226	11.44	1.18	14,534	503
Bank of Shanghai (BSH)	1996	2016	1,759,999	13.27	1.16	10,149	315
Bank of Jiangsu (BJS)	2007	2016	1,737,566	10.95	1.43	14,409	541
Bank of Nanjing (BNJ)	1996	2007	1,144,671	12.88	0.86	8,348	162
Shengjing Bank (SJB)	1997	2014	938,711*	12.10*	1.53	4,925	190
Bank of Ningbo (BNB)	1997	2007	953,064	12.14	0.91	15,000	312
Huishang Bank (HSB)	1997	2013	812,678*	12.42*	1.07	9,089	406
Bank of Hangzhou (BHZ)	1996	2016	797,772	12.71	1.61	6,176	191
Bank of Tianjin (BTJ)	1996	2016	659,885*	11.64*	1.46	6,441	337
Bank of Jinzhou (BJZ)	1997	2015	644,012*	10.97*	1.06	4,482	n.a.
Harbin Bank (HRB)	1997	2014	546,927*	12.02*	1.65	7,931	355
Zhongyuan Bank (ZYB)	1948	2017	458,010*	11.82*	1.85	12,956	439
Bank of Guiyang (BGY)	1997	2016	432,932	11.65	1.46	5,716	289
Bank of Zhengzhou (BZZ)	1996	2015	431,801	12.08*	1.38	3,773	n.a.
Bank of Chongqing (BCQ)	1996	2013	408,766	12.81	1.25	4,023	136
Bank of Qingdao (BQD)	1996	2015	281,976*	13.67*	1.69	3,326	13
8 rural commercial banks							
Chongqing Rural Commercial Bank (CQRCB)	1951	2010	875,377	13.15	0.97	16,245	n.a.
Guangzhou Rural Commercial Bank (GZRCB)	1998	2017	615,752	12.11	1.73	7,099	624
Jilin Jiutai Rural Commercial Bank (JTRCB)	2008	2017	187,841	12.24	1.59	5,941	395
Changshu Rural Commercial Bank (CSRCB)	2001	2016	142,409	11.88	1.29	5,025	142
Wuxi Rural Commercial Bank (WXRCB)	2005	2016	130,179	12.26	1.31	1,352	73
Jiangyin Rural Commercial Bank (JYRCB)	1953	2016	107,307	13.11	2.45	1,419	36
Rural Commercial Bank of Zhangjiagang (ZJGRCB)	2001	2017	95,664	13.40	1.97	1,897	
Wujiang Rural Commercial Bank (WJRCB)	2004	2016	87,433	13.45*	1.71	1,427	75

Sources: Compiled by authors with data from KPMG (2017), PWC (2017a), Bloomberg and banks' financial statements.

Largest Banks in the World (assets)

(Source: *Bloomberg*, latest filings as of Dec. 2019)

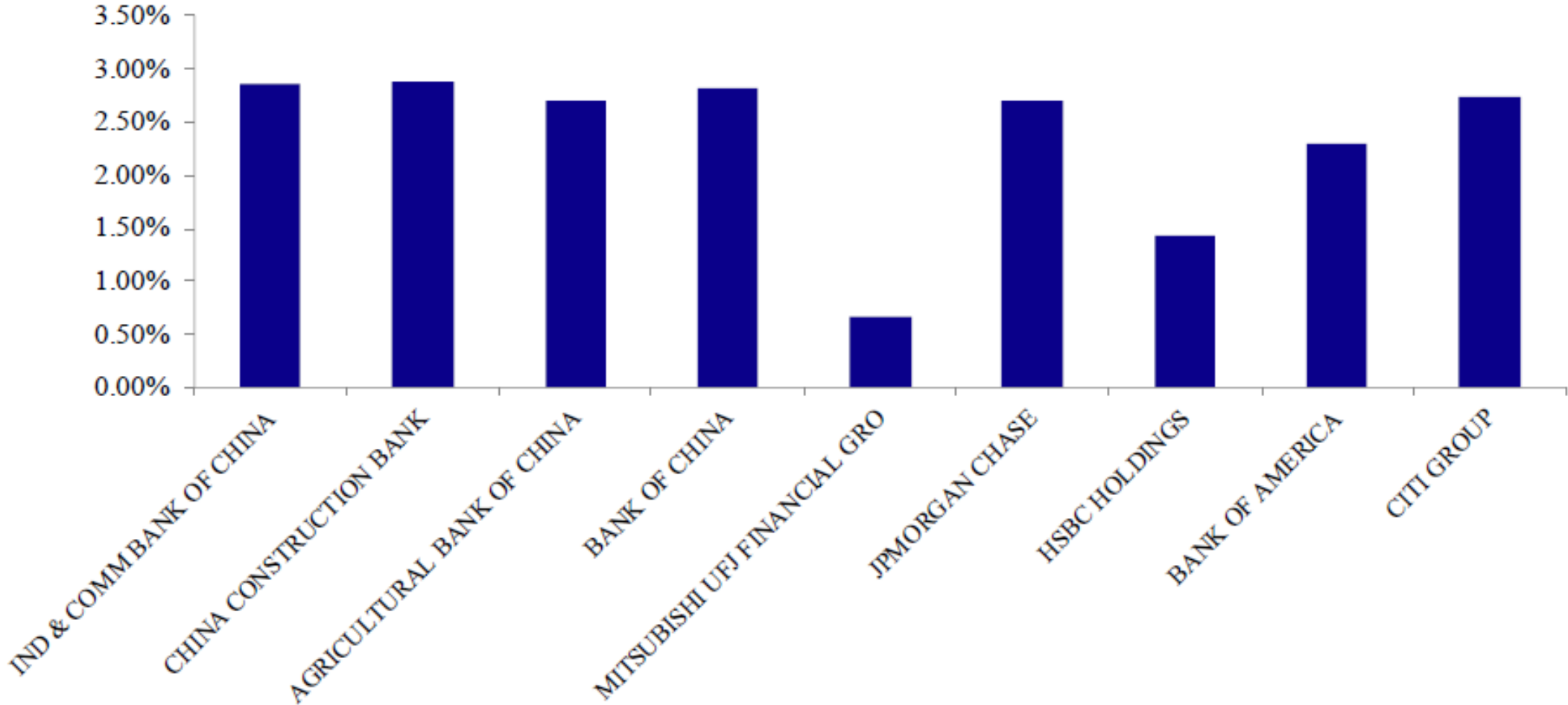
Rank	Bank Name	HQ Country	Total Assets (Strillion)
1	IND & COMM BK OF CHINA	China	4.32
2	CHINA CONSTRUCTION BANK	China	3.65
3	AGRICULTURAL BANK OF CHINA	China	3.57
4	BANK OF CHINA LTD	China	3.26
5	MITSUBISHI UFJ FINANCIAL GRO	Japan	3.07
6	HSBC HOLDINGS PLC	United Kingdom	2.72
7	JPMORGAN CHASE & CO	United States	2.69
8	BANK OF AMERICA CORP	United States	2.43
9	BNP PARIBAS	France	2.16
10	CITIGROUP INC	United States	1.95

Largest Banks in the World (*market cap*)

(Source: *Bloomberg*, latest filings as of Dec. 2019)

Rank	Bank Name	HQ Country	Market Cap (\$billion)
1	JPMORGAN CHASE & CO	United States	429.91
2	BANK OF AMERICA CORP	United States	311.21
3	IND & COMM BK OF CHINA	China	294.12
4	WELLS FARGO & CO	United States	222.43
5	CHINA CONSTRUCTION BANK	China	217.70
6	AGRICULTURAL BANK OF CHINA	China	182.40
7	CITIGROUP INC	United States	168.90
8	HSBC HOLDINGS PLC	United Kingdom	161.26
9	BANK OF CHINA LTD	China	147.24
10	ROYAL BANK OF CANADA	Canada	113.26

Largest Banks in the World: ROA in 2019



Source: Wind

TOP 20 WORLD BANKS BY TIER 1 CAPITAL

Rank	Bank	Country	Tier 1 capital (\$m)
1	ICBC	China	508,848
2	China Construction Bank	China	404,322
3	Agricultural Bank of China	China	377,137
4	Bank of China	China	341,245
5	JPMorgan Chase	US	246,162
6	Bank of America	US	196,465
7	Citigroup	US	169,568
8	Wells Fargo	US	159,671
9	HSBC Holdings	UK	156,292
10	Bank of Communications	China	150,742
11	China Merchants Bank	China	130,515
12	Mitsubishi UFJ Financial Group	Japan	126,440
13	Postal Savings Bank of China	China	124,491
14	Crédit Agricole	France	122,215
15	BNP Paribas	France	113,926
16	Industrial Bank	China	107,465
17	Goldman Sachs	US	106,766
18	Shanghai Pudong Development Bank	China	103,443
19	China Citic Bank	China	99,221
20	Banco Santander	Spain	93,695

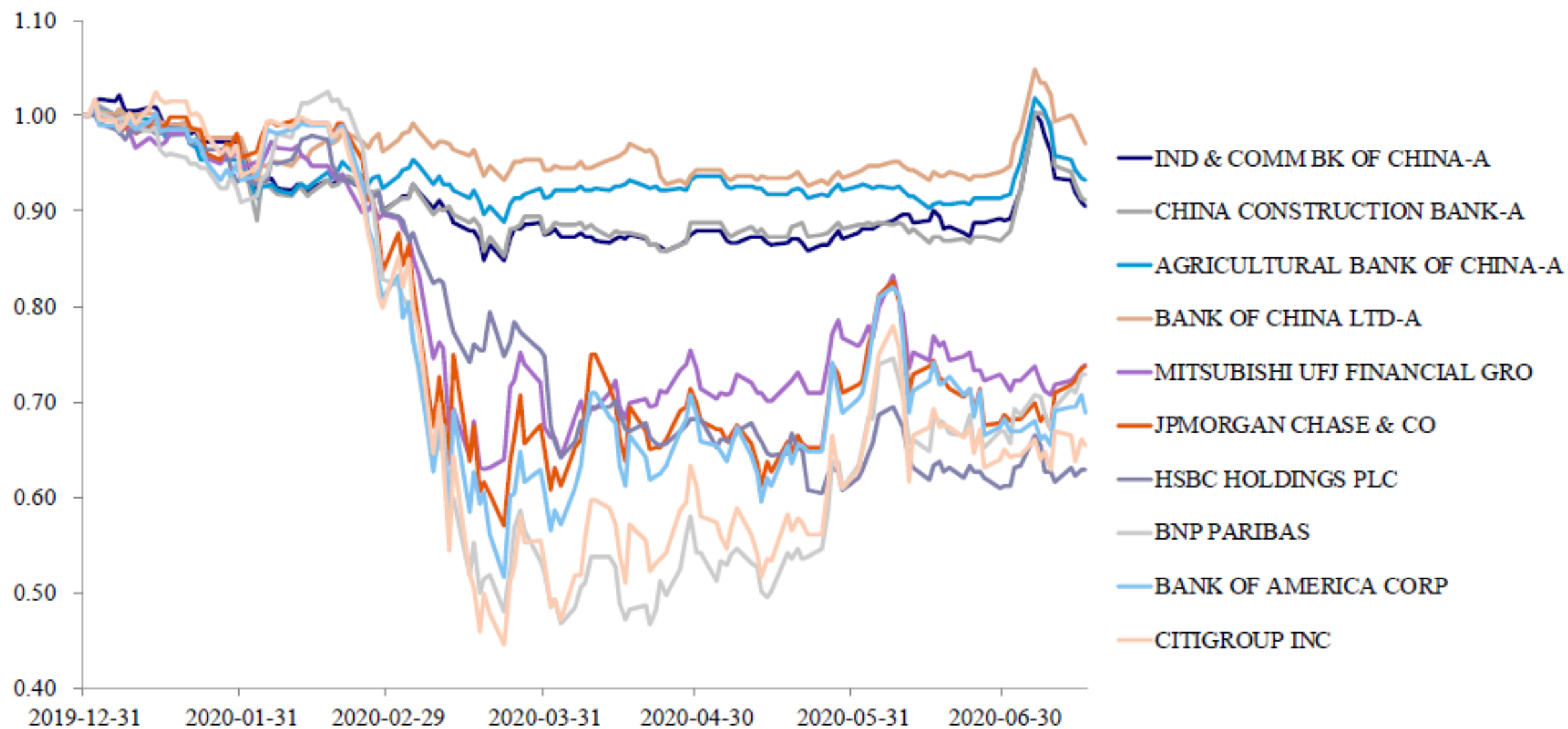
Source: www.thebankerdatabase.com

TOP 10 COUNTRIES BY PRE-TAX PROFITS

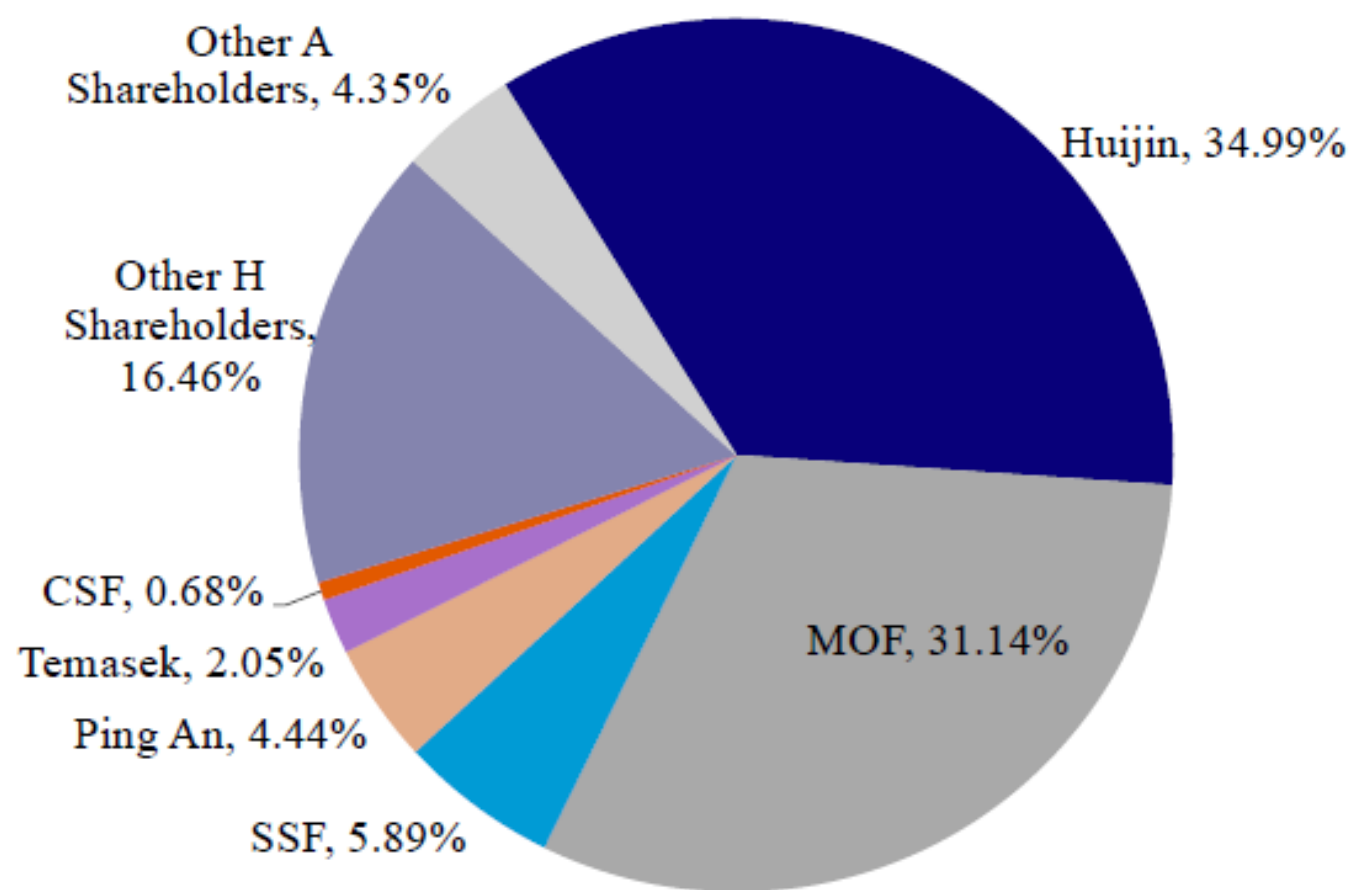
Rank	Country	PTP (\$m)
1	China	400,162
2	US	342,734
3	Canada	63,646
4	UK	55,079
5	France	54,785
6	Japan	43,702
7	Spain	36,262
8	Australia	34,565
9	Russia	31,663
10	India	30,619

Source: www.thebankerdatabase.com

Top 10 Banks' (by Total Assets) Stock Performance 2019.12.31 to 2020.07.16



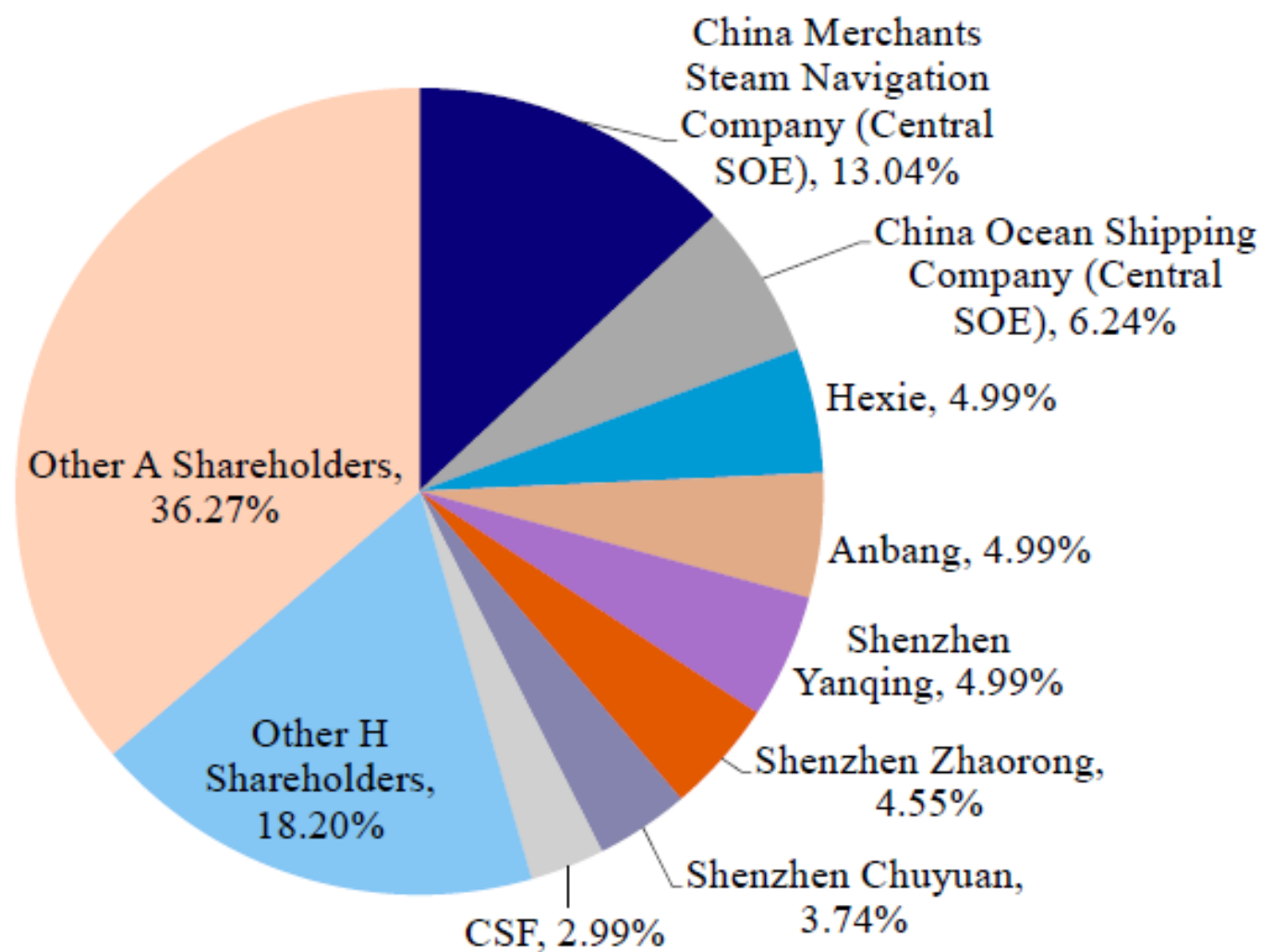
ICBC's Ownership Structure (as of Mar.31th, 2020)



Ownership and Governance of Large Banks

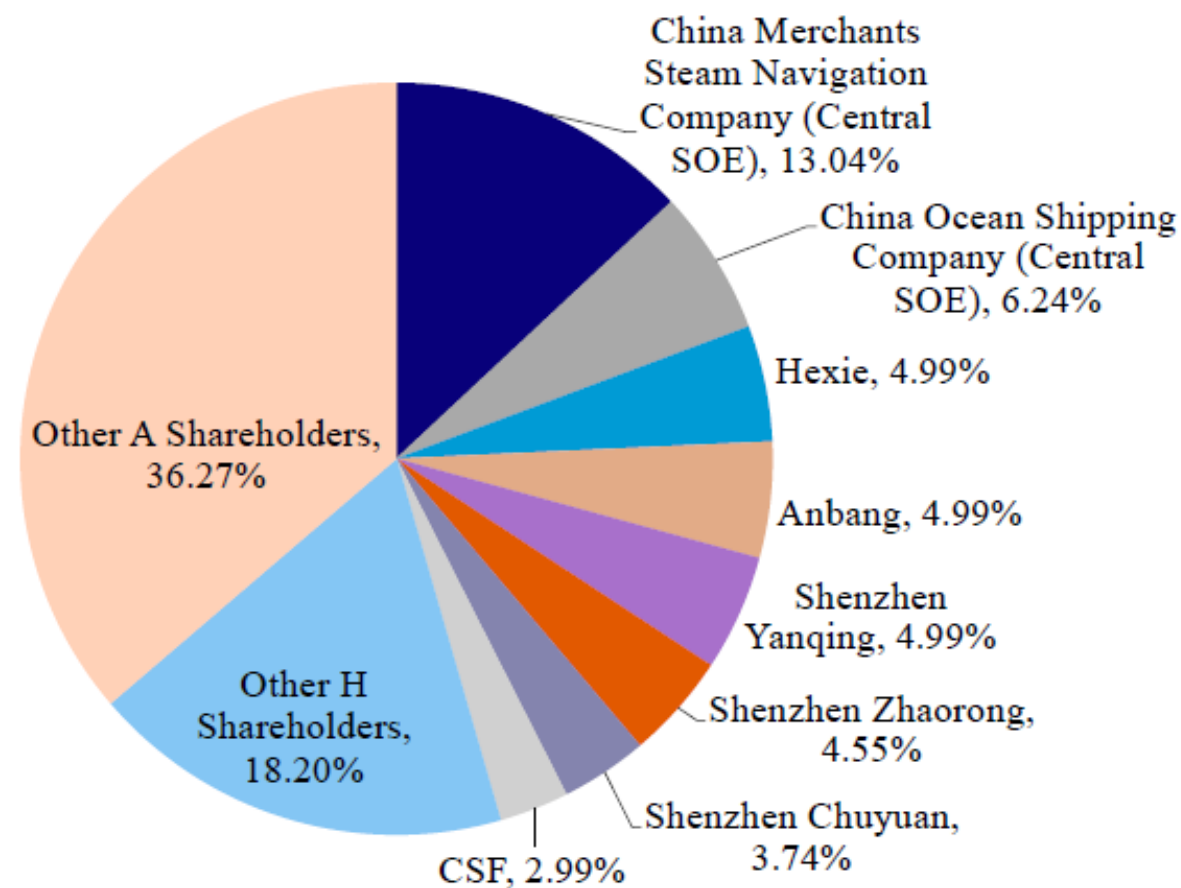
- Role of government ownership stakes:
 - For profit goals and non-profit goals, including financial stability of the financial system and implementation of macro-prudential policies
- Role of foreign institutional investors:
 - Improving operating efficiency and shareholder governance (serving on the board)
- What is the optimal structure of the banking sector:
 - For emerging markets, the optimal structure should perhaps include both public/state large and private/smaller banks; or including government ownership stakes in some large institutions
 - Competition and comparison among these banks can ensure public banks are efficiently run, and private banks do not take too much risk

China Merchants Bank's Ownership Structure (as of Mar.31th, 2020)



Data Source: WIND

China Merchants Bank's Ownership Structure (as of Mar.31th, 2020)



Data Source: WIND

Ownership and Governance of Large Banks

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 - See Allen, Qian, Shan and Zhao (2011) for more details

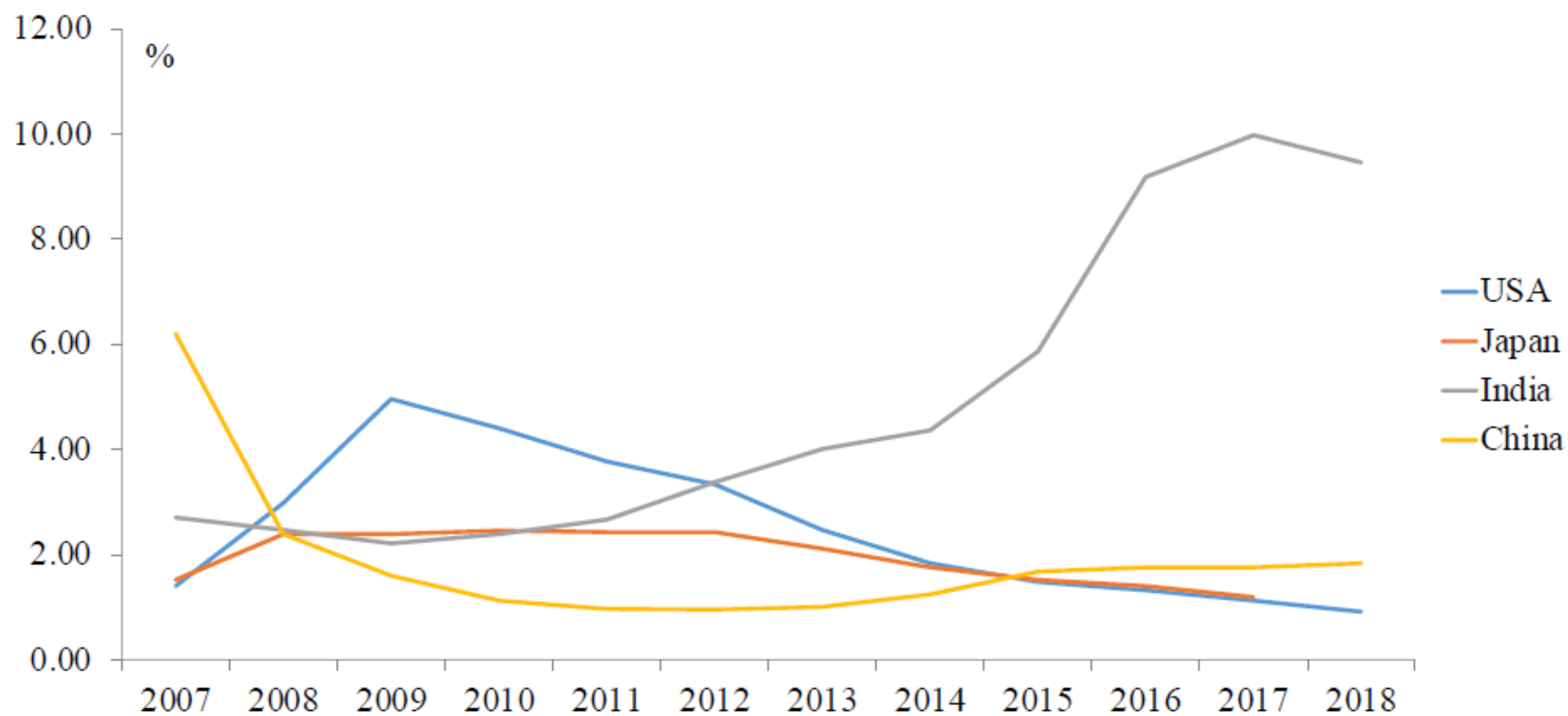
Case Study: Baoshang Bank (包商银行)

- Taken over by CBRC on May 24, 2019:
 - Due to its credit risk, China Banking Regulatory Commission (CBRC) decided to take over for one year, starting May 24, 2019
 - On Apr. 30, 2020, Mengshan Bank (蒙商银行) was founded, and took all the assets and liabilities of Baoshang Bank in the region of Inner Mongolia
- Factors leading up to the failure of Baoshang Bank:
 - Capital was occupied/tunneled by it's (ultimate) controlling shareholder
 - Poor quality of assets: low capital adequacy ratios and provision coverage; lack of high-quality of major loan customers
 - Problematic regional economic development : low GDP growth rates; high leverage of local government; net outflow of population

Case Study (cont'd): Baoshang Bank

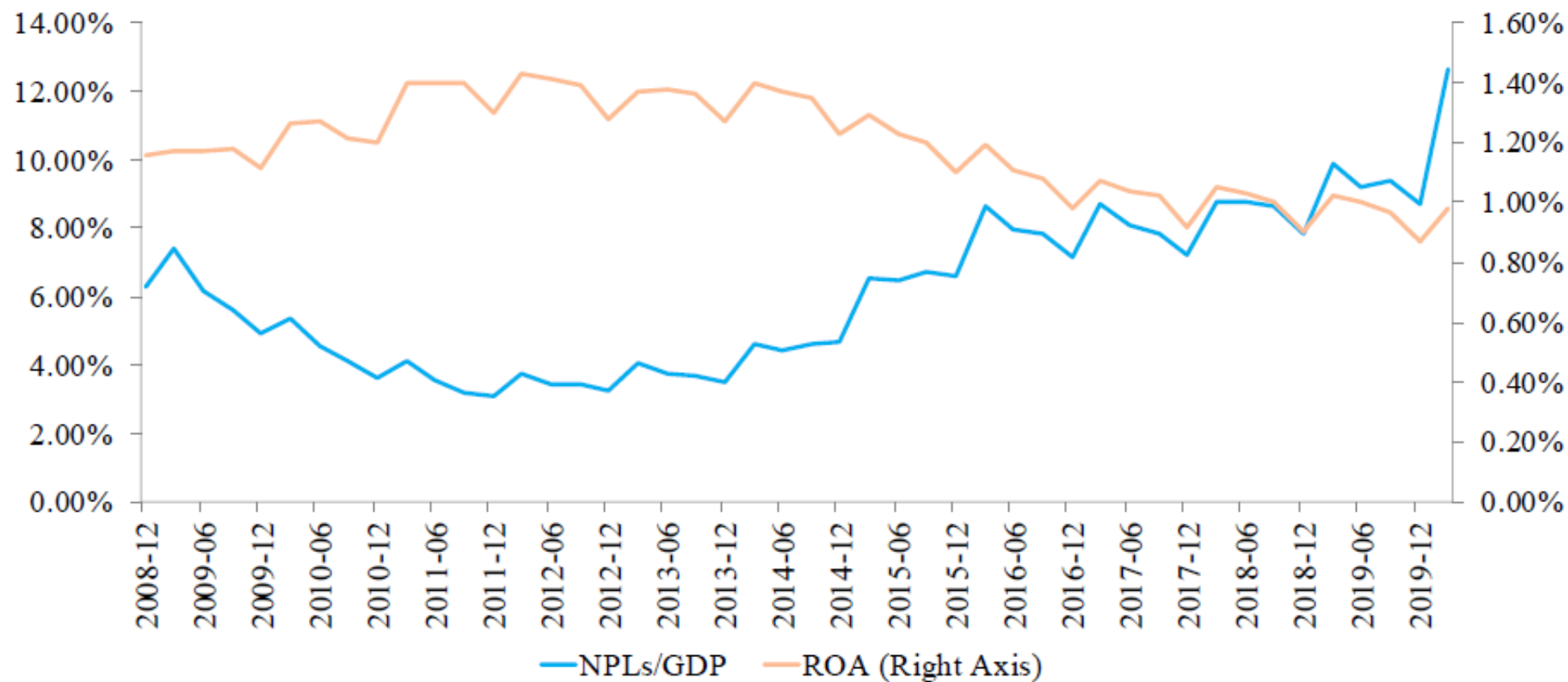
- Other banks that got in trouble:
 - Hainan Development Bank: took over by ICBC in 1998
 - Bank of Jinzhou (锦州银行, in Liaoning Province): reformed and restructured in 2019
 - Some credit cooperatives went bankrupt due to different reasons
- Regional banks' activities and capital flows typically concentrate in a few cities/one or two regions:
 - Thus no strong contagion risks.

NPLs (over loans) of Japan, India, China and the US



Data Source: World Bank

Performance of Listed Banks in China: NPLs (over GDP) and ROA (Dec 2008 to Dec 2020Q1)



Data Source: WIND

Digital Economy and Financial Services: China's Business Model

	Payment	Wealth Management	Financing	Insurance	Credit Rating / History
Ant Financial	 支付宝 ALIPAY 451MM Annual Active Users ¹	 余额宝 YUEBAO >300MM Cumulative Users ²	 蚂蚁花呗 ANT CREDIT PAY 蚂蚁借呗 ANT CASH NOW 蚂蚁小贷 ANT REBO LOAN >100MM Cumulative Consumer Finance Users ³ , >5MM Cumulative SME Borrowers ⁴	 蚂蚁保险服务 ANT INSURANCE SERVICE 380MM Cumulative Users ⁵	 芝麻信用 ZHIMA CREDIT 130MM Cumulative Users ⁶
Tencent	 WeChat Pay >600MM MAU ⁷	 腾讯理财宝 >80MM Cumulative Users ⁸	 微粒贷 >30MM Cumulative Users ⁹		 腾讯信用
JD Finance	 京东支付 JD Pay 119MM Annual Active Users ¹⁰	 小金库 JD Golden Wallet >20MM Cumulative Users ¹¹	 白条 JD Credit Pay 金条 Cash Loan 京保贝 京保贝 >30MM Cumulative Users ¹¹	 京东金融 JD FINANCIAL INSURANCE 168MM Cumulative Users ¹¹	 小白信用 JD credit >35MM Cumulative Users ¹¹

Source: Goldman Sachs (2018)

Ant Financial to Evolve Into A Global Leading Fintech Company

PAYMENT		WEALTH MANAGEMENT		FINANCING		INSURANCE	CREDIT REFERENCE
 451mn Annual Active Users ⁽¹⁾		152mn Annual Active Users  余额宝 AUM RMB 760bn⁽⁴⁾ 3-Yr Operation		 蚂蚁花呗  蚂蚁小贷 SME Loans 3mn⁽⁴⁾ Cumulative Users		 380mn Cumulative Users	 130mn⁽⁴⁾ Cumulative Users
PayPal 180mn active users ⁽¹⁾ 16mn daily average transactions ⁽²⁾	MasterCard 1.4bn accounts ⁽¹⁾ 180mn daily average transactions ⁽²⁾	Charles Schwab 9.9mn active users Lufax 3.6mn active users	CITIC Securities 7mn active users	China Merchants Bank 38mn cards in circulation China Minsheng Bank 4.5mn cumulative borrowers	China Life 400mn cumulative users Ping An 110mn cumulative users	People in credit reference system in the US ~250mn	



1: Number of users of Alipay and PayPal with one or more successful transactions in 2015. Number of accounts of Visa and MasterCard as of the fourth quarter of 2015 2: Daily average transactions of the first quarter of 2016
 3: Daily average transactions of the fourth quarter of 2015 4: As of March 31, 2016 All data without footnote above refer to the year of 2015 or as of 2015 Source: annual reports, IR websites, research reports, public news

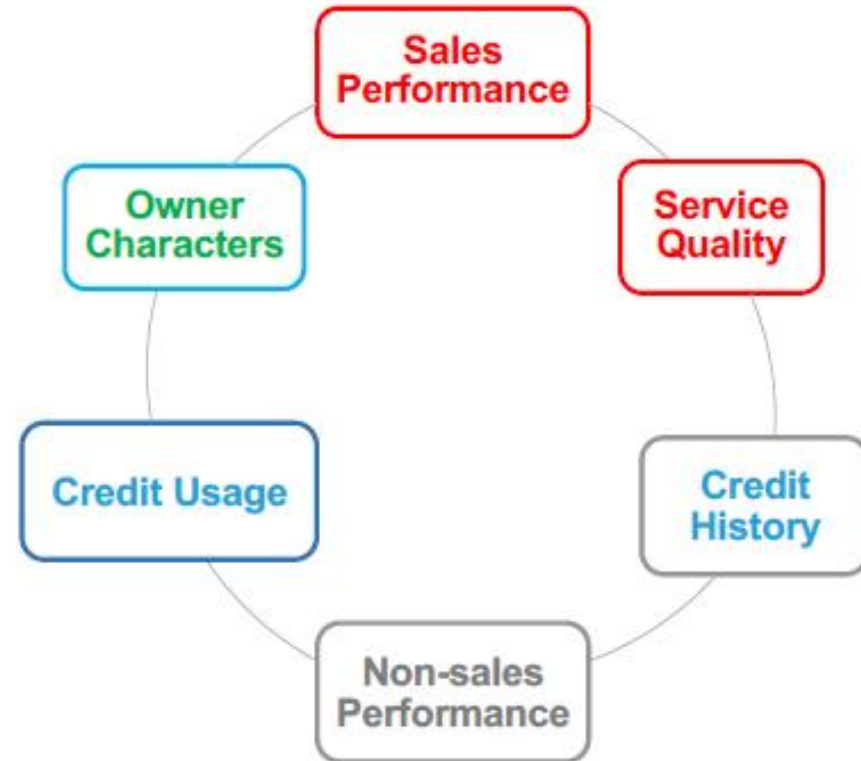
Shareholding Structure of Ant Financial Group



1: Includes cross grants to Alibaba Group
 2: Right to a 33% equity stake subject to regulatory approval
 3: Ownership percentage of Alibaba Group converts to a 32% equity stake

What is special about platform lending?

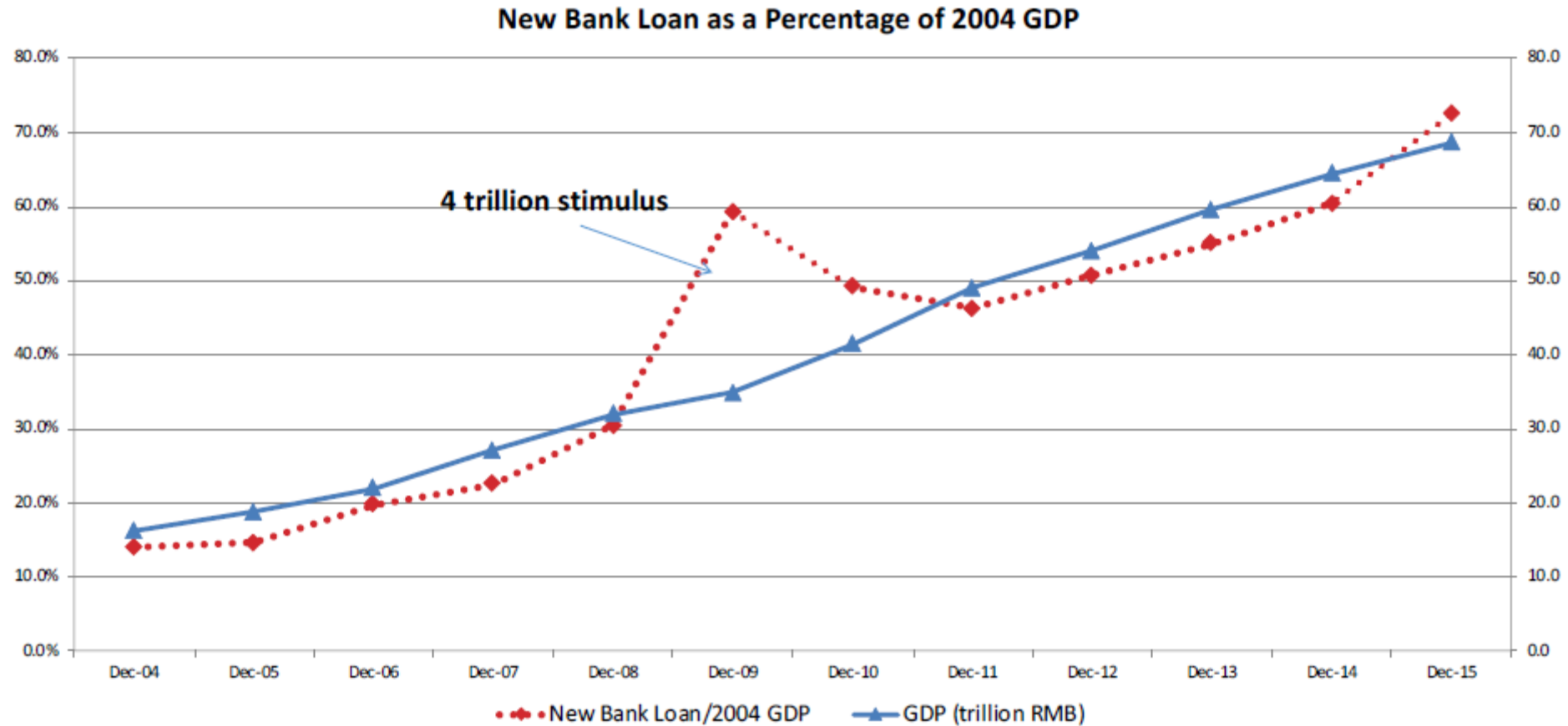
- Fintech vs. traditional banking :
 - Informational advantages
 - Platforms as cheap distribution channel
 - Platform recycles funds (“closed loop”)
 - Enforcement mechanisms



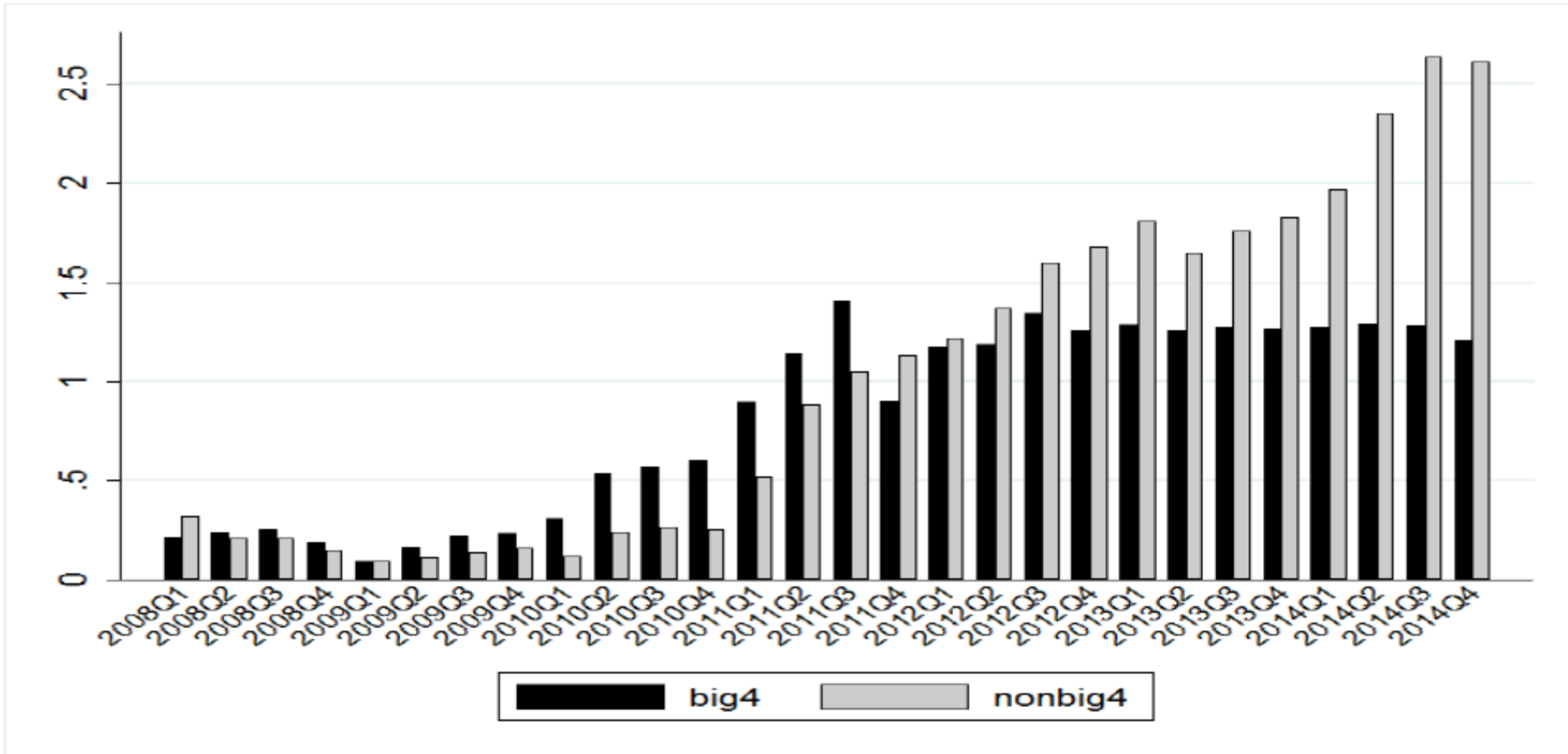
Related Work on China's Shadow Banking

- A broad definition of 'shadow banking':
 - All investment products *off-the-balance sheet* of (deposit-taking) banks
 - Theoretical work on the role of shadow banking: can be welfare enhancing
- **Wealth management products** (WMPs) issued by banks:
 - understand the growth and risks of the WMPs
- Loans issued by non-bank institutions:
 - Chen, Ren and Zha (2018): monetary policies & issuance of **entrusted loans**; Allen, Qian, Tu and Yu (2018): Properties of entrusted loans; Du, Li and Wang (2016): Non-financial firms as financial intermediaries
 - **Trust industry**: Product level analysis: Allen, Gu, Qian and Qian (2018)
- Other credit/lending channels:
 - Informal/private credit agencies: Allen, Qian and Xie (2019); Internet platforms (P2P, crowd-funding)

RMB 4-trillion Stimulus and Credit Expansion (newly issued bank loans and GDP growth; 2004-2015)



Banks' Wealth Management Products: Principal-floating WMPs/Net assets (Acharya, Qian, Su, and Yang, 2019; largest 25 banks; 2008-2014)



Summary: Banks and Financial Institutions

- After a series of reforms, large Chinese banks have become stalwarts of the financial system
- On-balance sheet activities: NPLs under control
- Off-balance sheet activities: fast growth since the stimulus; rollover risks;
- Reforming the banking and shadow banking sectors:
 - Liberalization of interest rates,
 - Downsizing of the risky part of the shadow banking sector
 - New regulations on asset management
 - Banks' establishment of new asset/wealth management companies