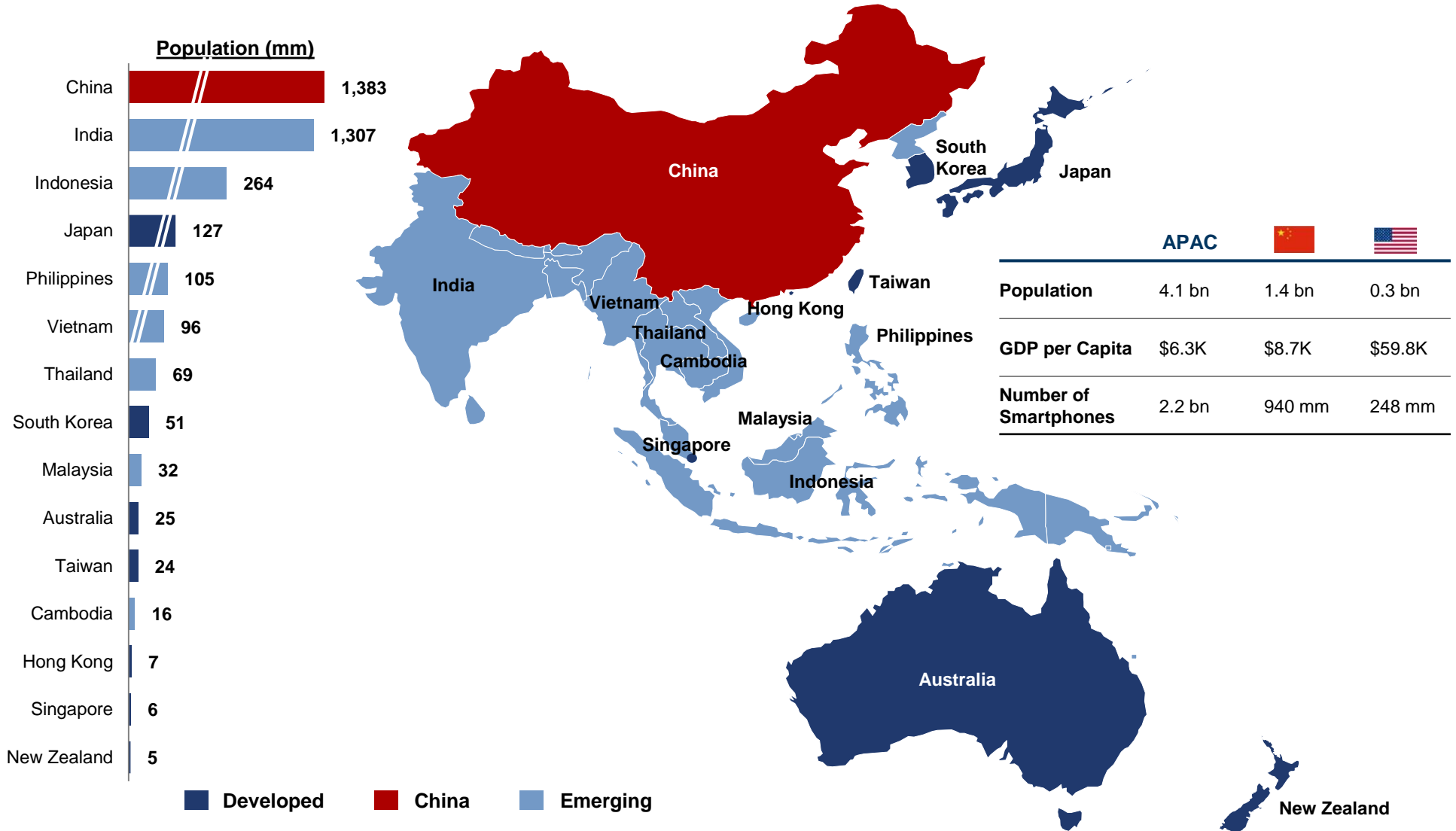


The Rise of Chinese Fintech: Lessons for the United States

**Richman Center for Business, Law & Public Policy
Columbia Business School & Columbia Law School**

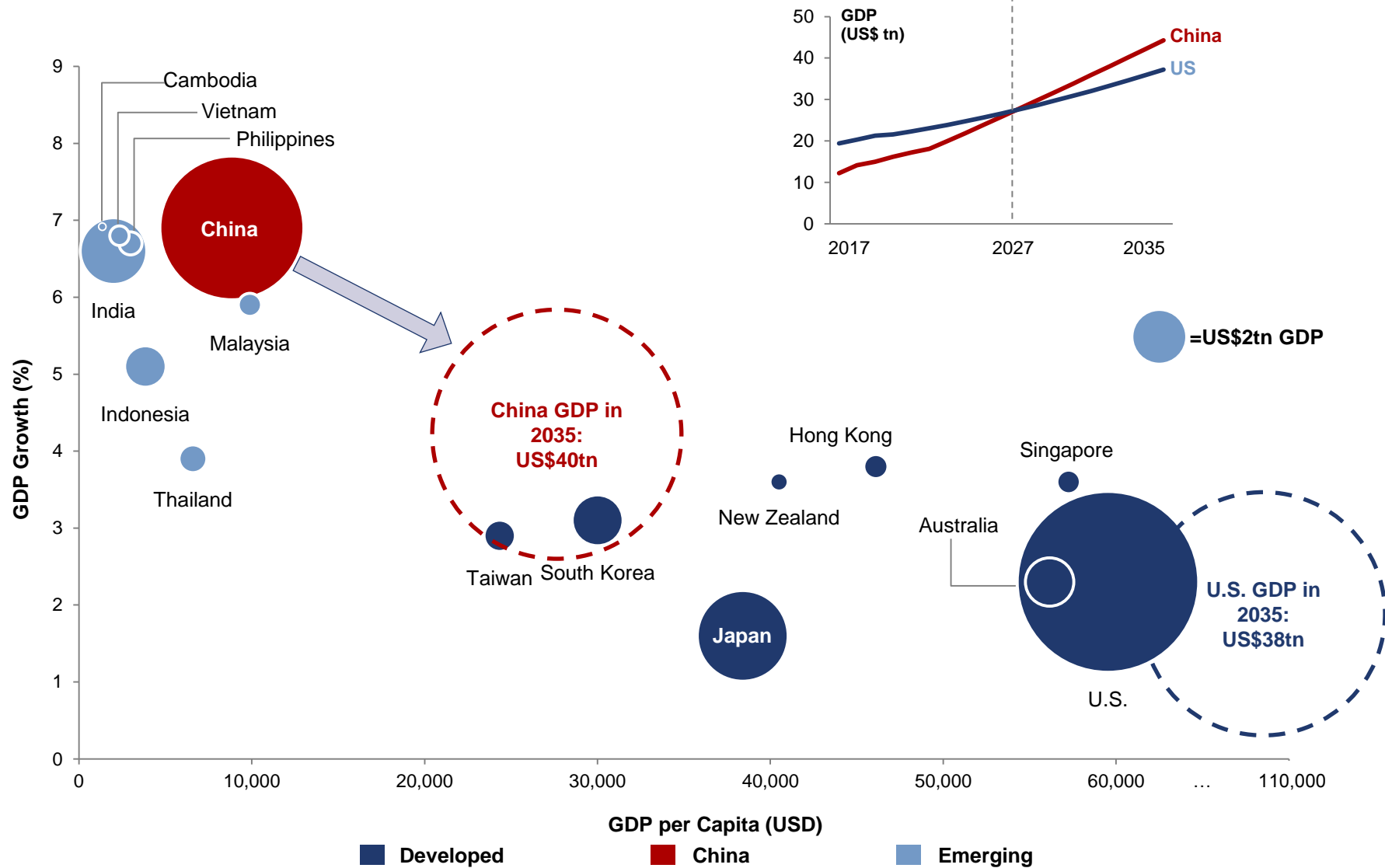
John Mahoney
Managing Director
Co-Chairman, Financial Institutions Group
Goldman, Sachs & Co.

February 25, 2019

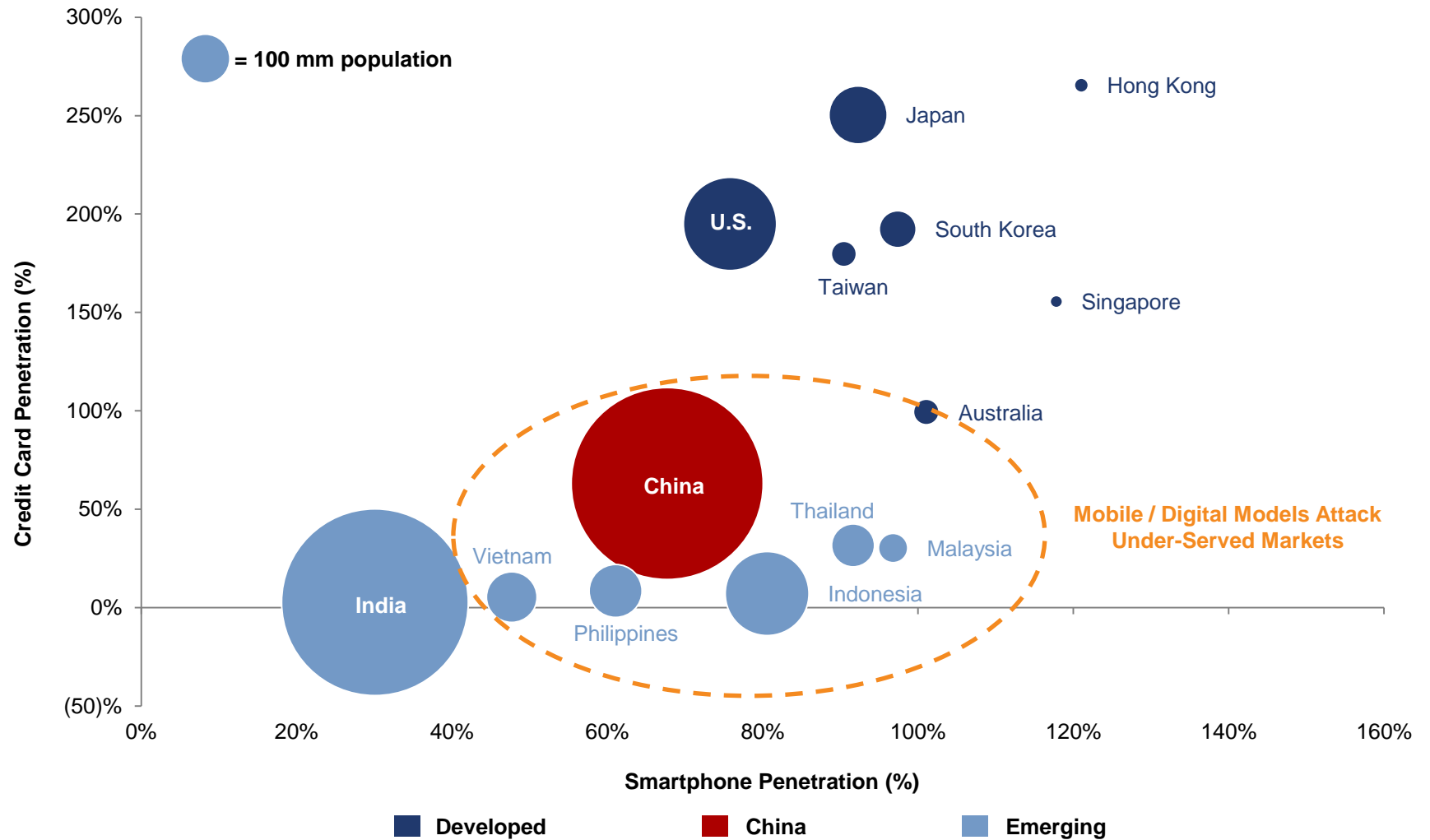


Source: Euromonitor
Note: As of 2017

Disparate State of Development



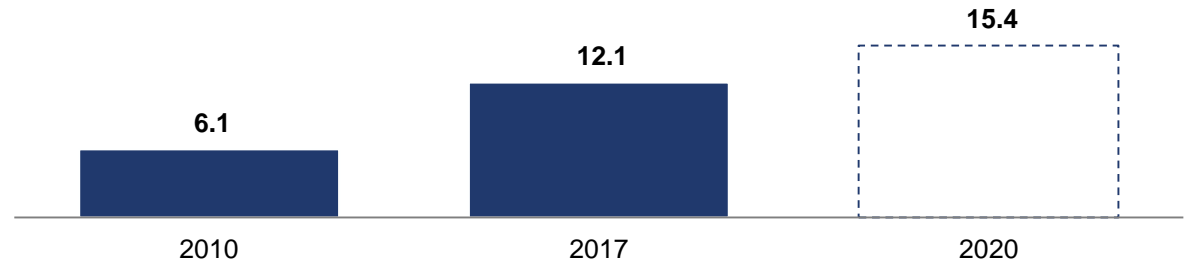
Source: Euromonitor
Note: As of 2017



Source: Euromonitor, WCIS
 Note: As of 2017

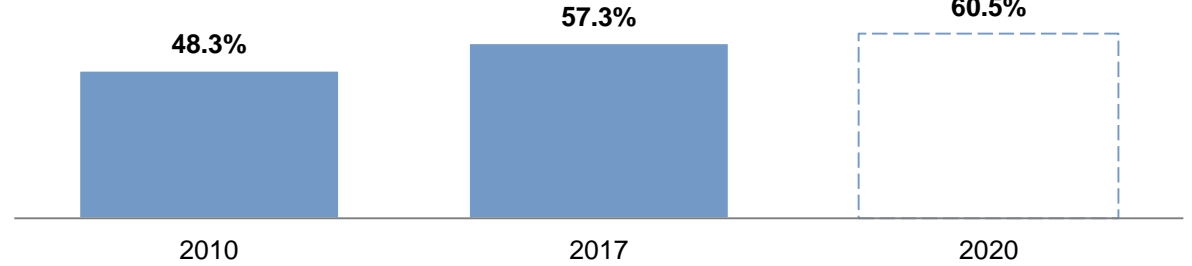
Rise of the Middle Class

Disposable Income per Household (USD k)



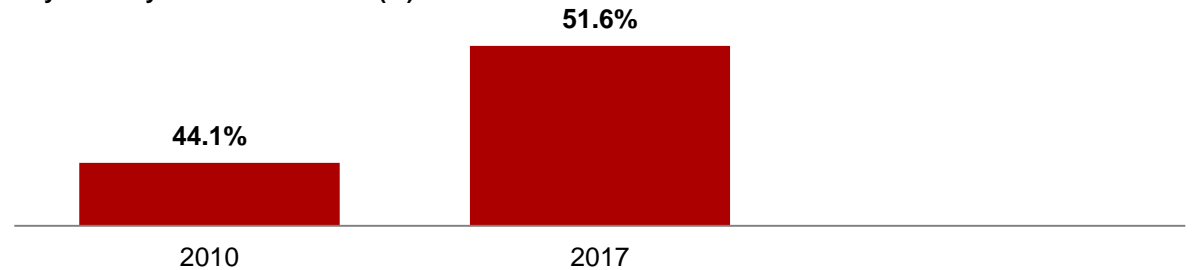
Urbanization

Urban Population (%)



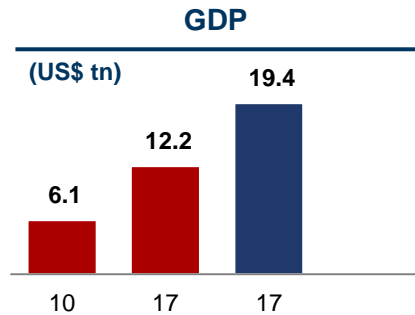
From Manufacturing Towards Consumption

Tertiary Industry as % of Total GDP (%)



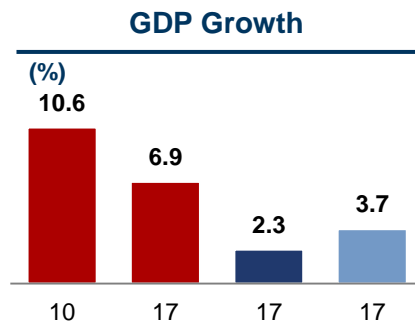
Source: CIRC, Wind, Swiss Re

Key Strengths

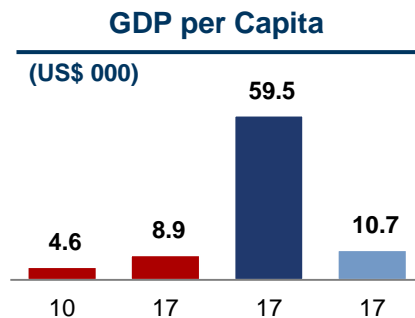


✓ Large market

✓ Growing well in excess of global average



✓ Increasing personal wealth; emerging middle class



✓ Transformation

- From low-end manufacturing and export oriented industries...
- ...To New Economy and consumption

Balancing reform and de-risking with growth and stability

Major Challenges

? Slowing growth

? Aging population

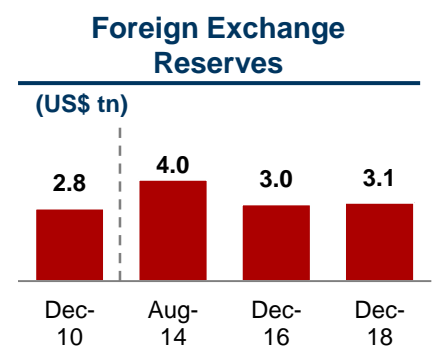
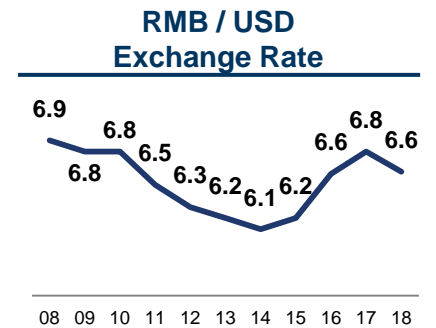
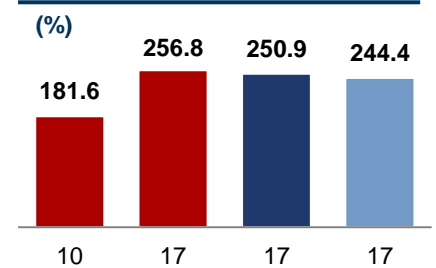
? Severe environmental issues

? Uneven wealth distribution

? Significant increase in leverage; particularly in large corporate segment

? Capital flows and RMB depreciation a point of focus

Debt / GDP

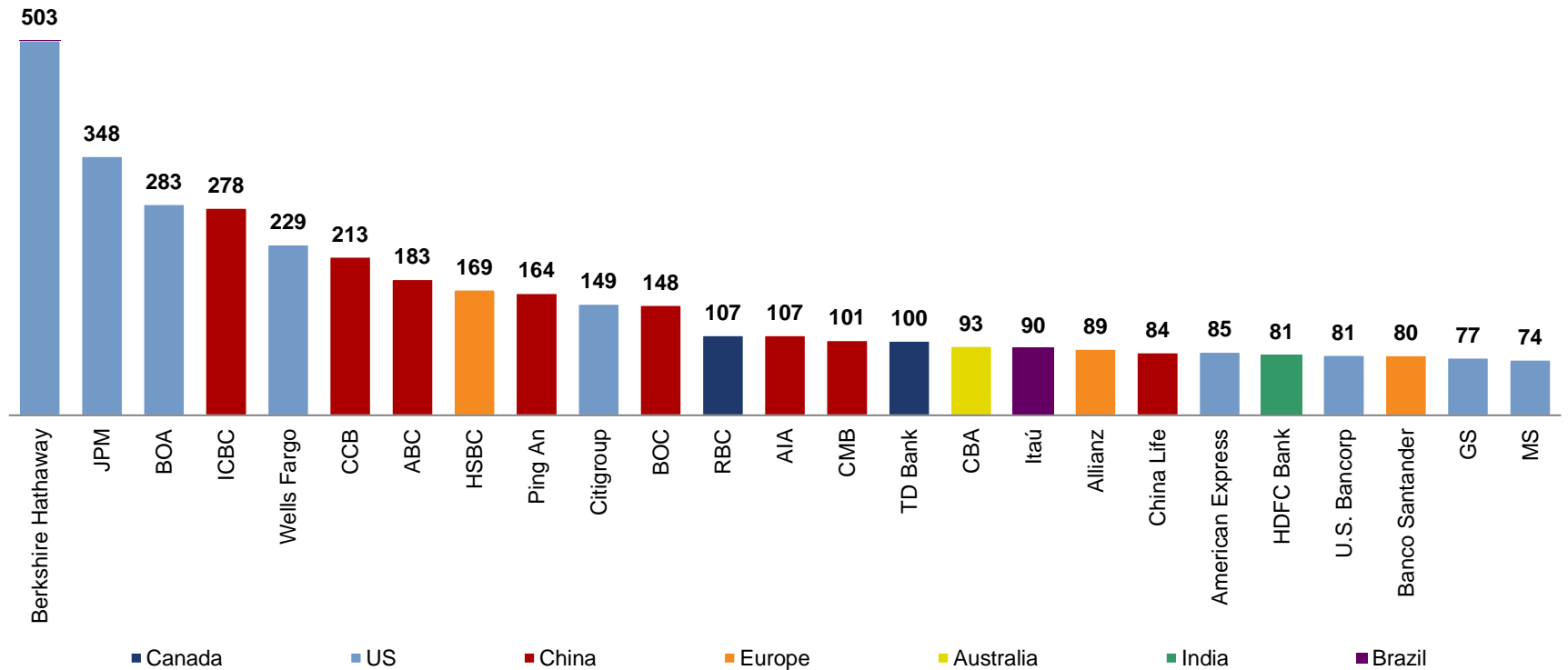


■ China ■ U.S. ■ Global Average

Source: Euromonitor, BIS, Bloomberg, Wind

China Prominent Among Global Financial Institutions

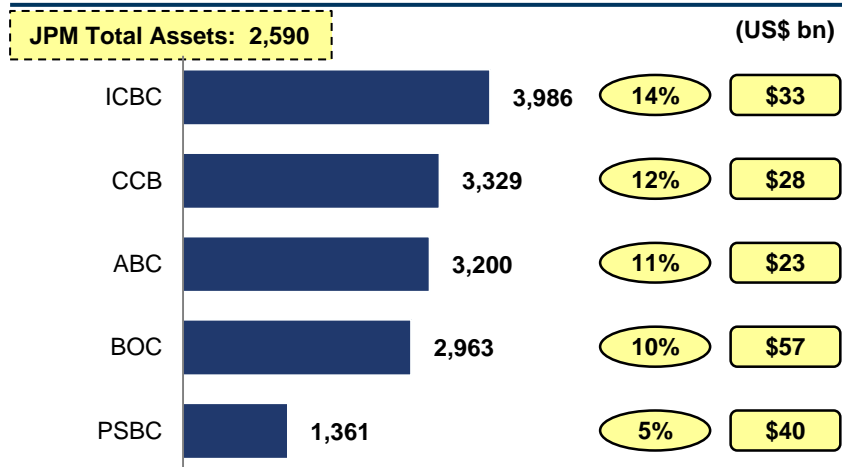
Market Cap of the World's 25 Largest Listed Financial Institutions



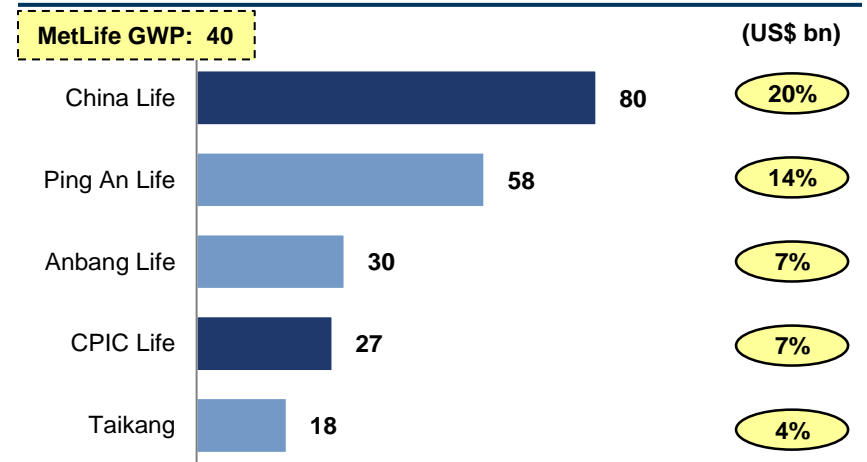
Source: Capital IQ
 Note: Market data as of Jan 18, 2019

Traditional Financial Services Sectors are Concentrated with High Degree of State Influence

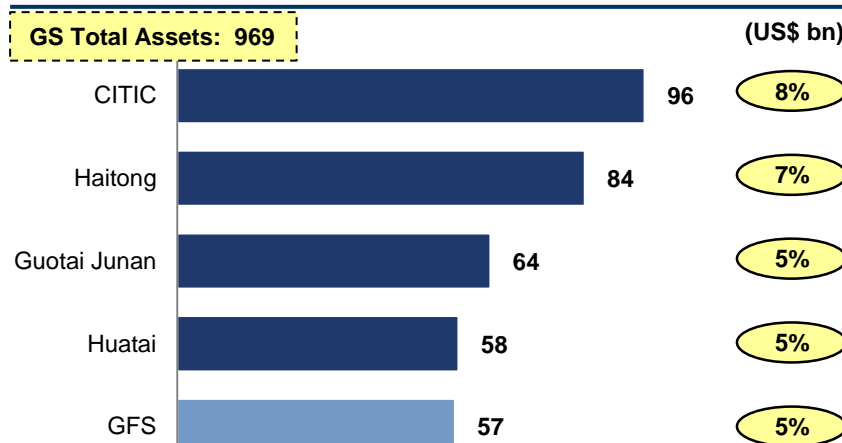
Banking – Top 5 by Assets



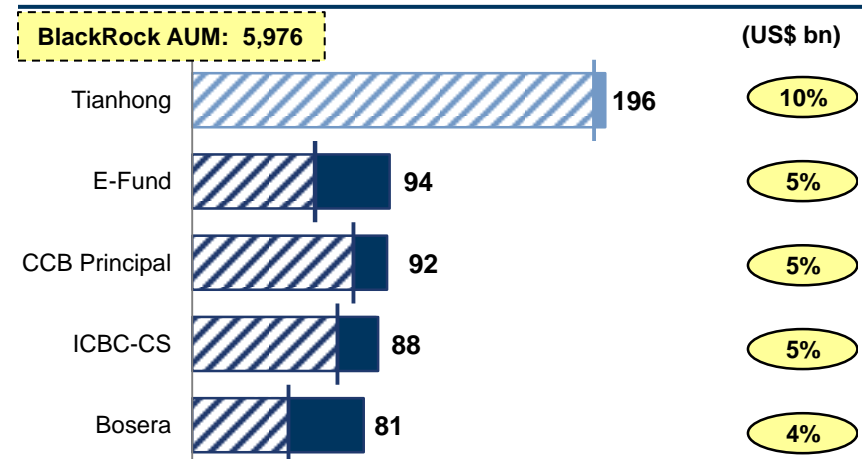
Insurance – Top 5 by GWP



Securities – Top 5 by Assets



Investment Management – Top 5 by AUM



SOE
 Non-SOE
 Market share
 Top company in U.S.
 Personal consumer loan (excl. mortgages)
 Money market funds

Source: Wind, CBIRC

Note: CNY / USD = 6.85. Banking data as of Jun 30, 2018. Insurance GWP and market share based on life insurance, as of 2017. Securities data as of Jun 30, 2018. Investment management data as of Dec 31, 2018.

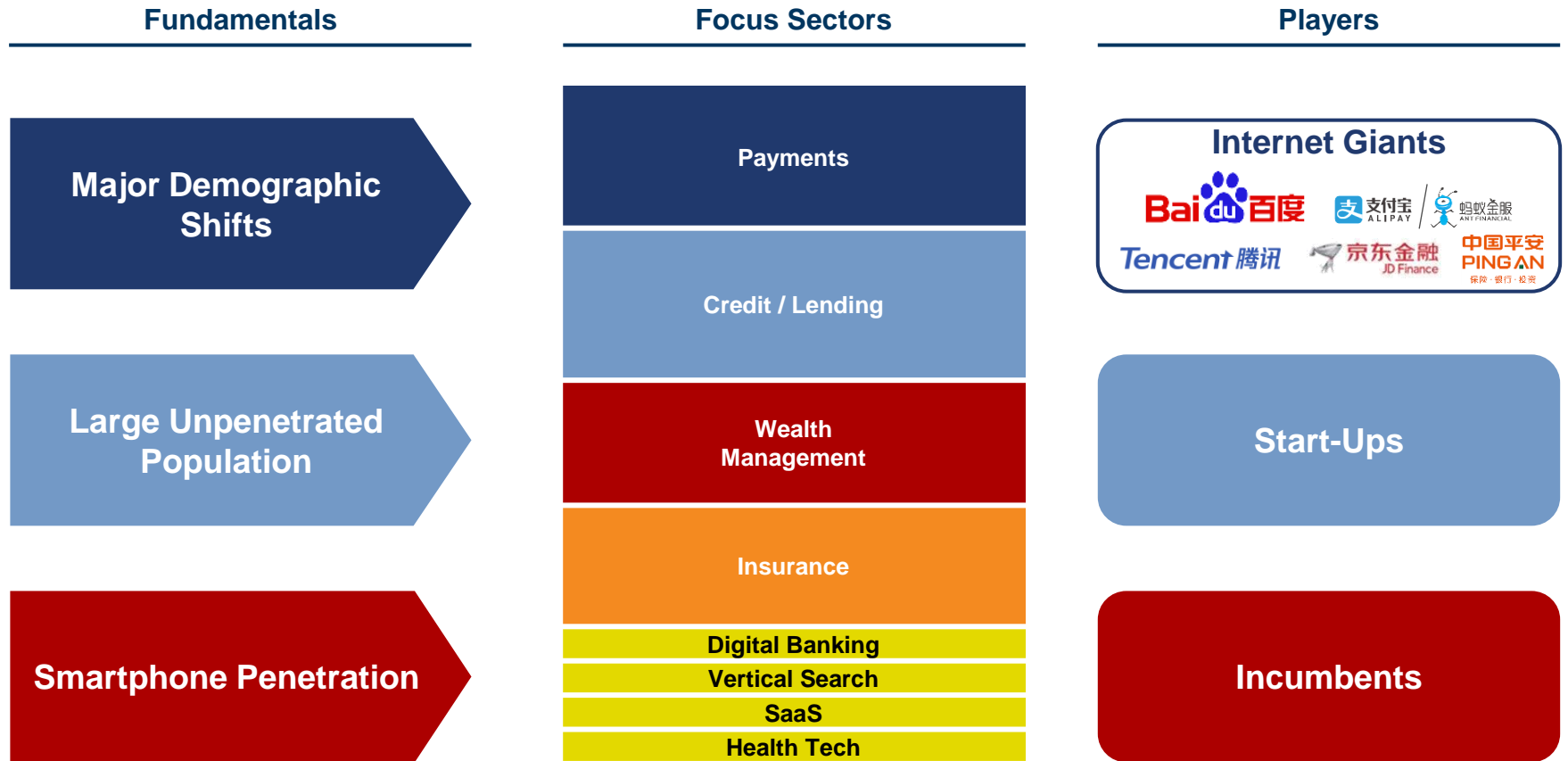
Regulatory Reforms Aimed at De-risking and Opening Up the Financial Services Industry

De-risking

- Formation of Financial Stability Committee under control of the State Council and Merger of CBRC and CIRC to CBIRC
- Various measures to reduce systemic risk
 - Reigning in shadow banking
 - Corporate deleveraging
- Tightening capital requirements for financial institutions and encouraging broader range of capital instruments

Opening Up

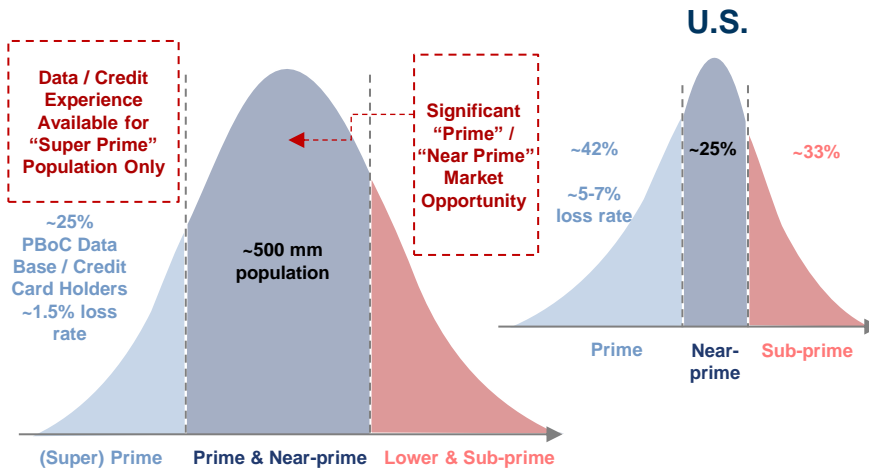
- Allow for broader foreign participation across financial services
 - Securities, Insurance and Fund Management: foreign ownership limit increased to 51%, and removed entirely in 2021
 - Banking: foreign ownership limit removed
- Emphasized by China leadership



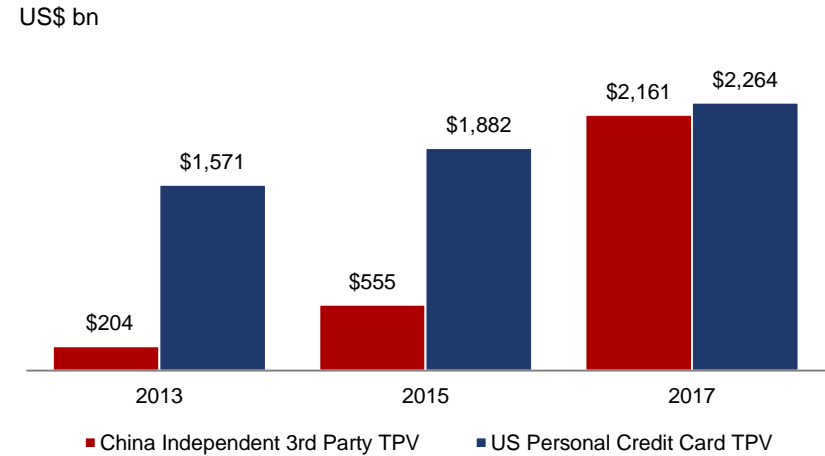
Large Unpenetrated Population

Credit, Payments, Insurance, Wealth Management

Credit: Lending Penetration in China

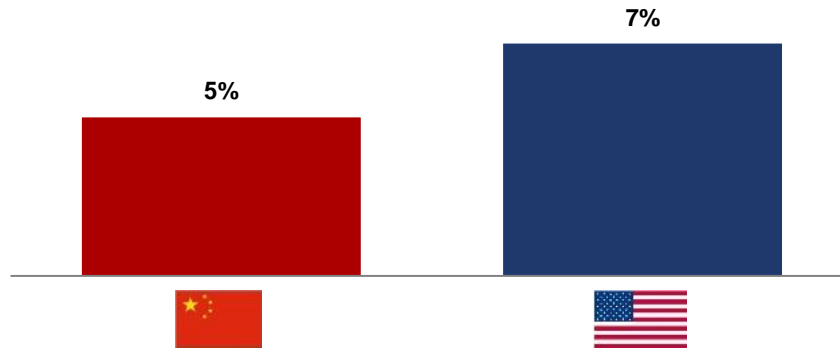


Payments: China 3rd Party TPV



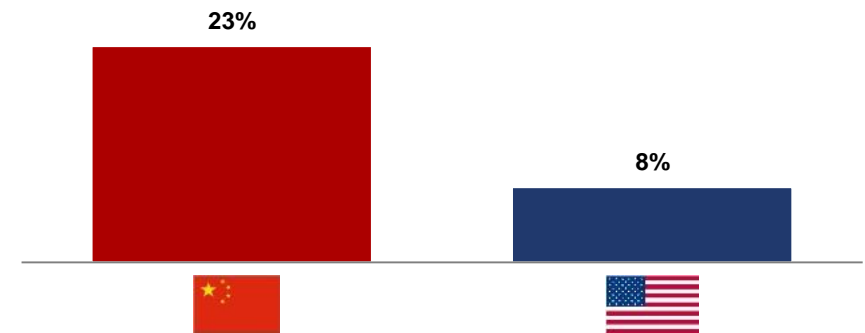
Insurance: Penetration as a % of GDP

Premiums as a % of GDP in 2017



Wealth Management: Savings Rate

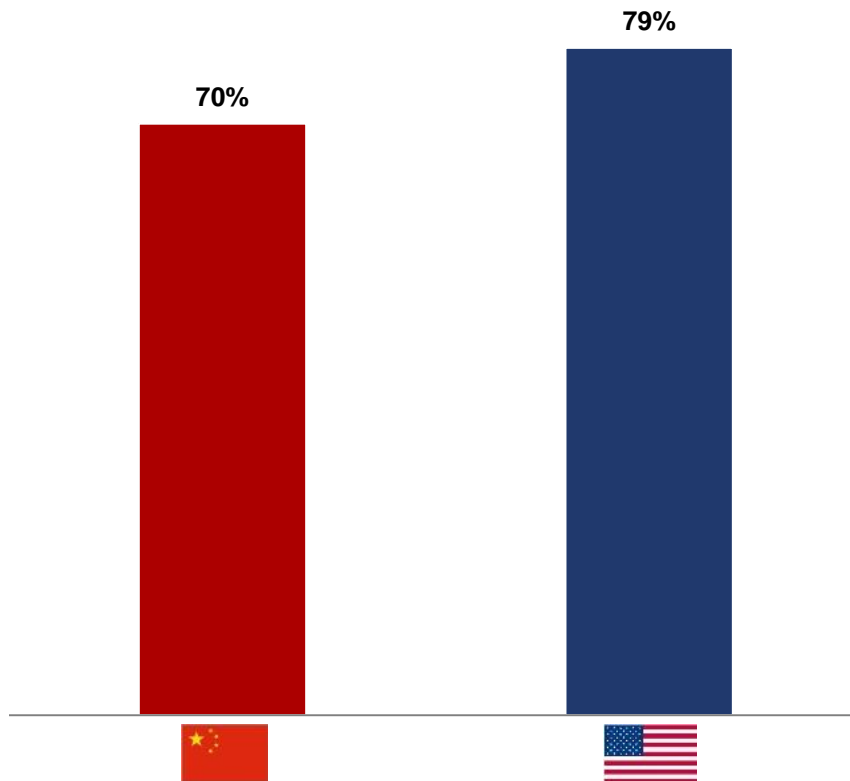
2012-2017 Cash deposits (savings) as % of GDP



Source: Passport, Swiss Re Institute, Worldpay, WCIS

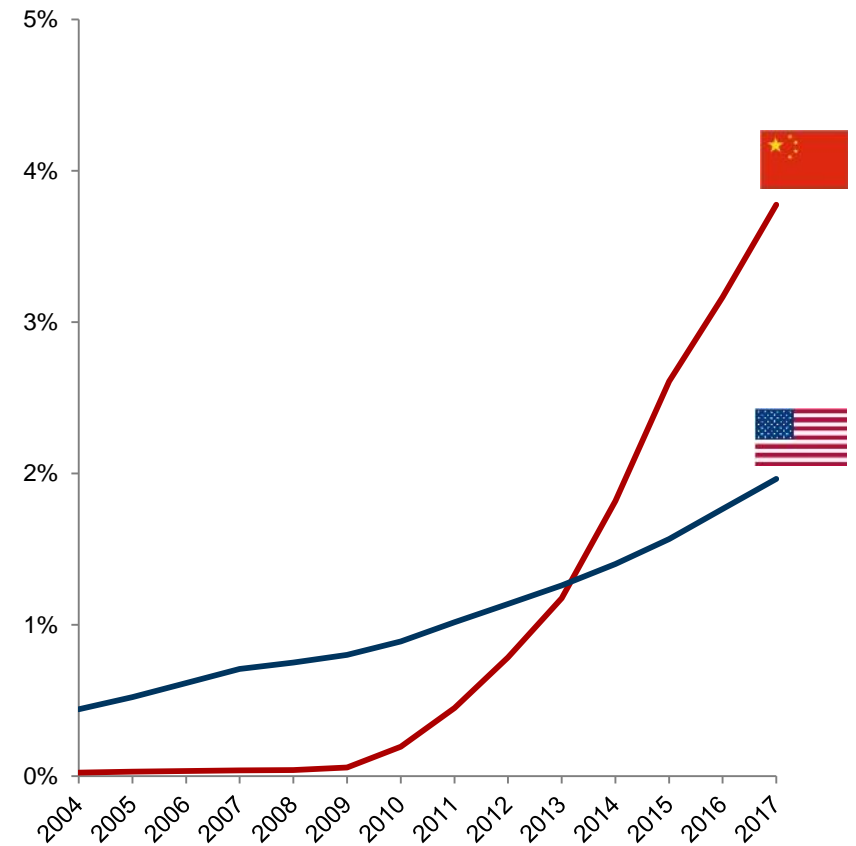
Smartphone Penetration

As of 2017



E-Commerce Growth

E-Commerce as % of Nominal GDP







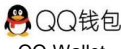





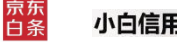























Source: Passport

	Opportunity	Balance of Power			Commentary
		Internet Giants	Incumbents	Start-Ups	
Payments	<p>Independent 3rd Party Payments, US\$ tn</p> <p>CAGR = 40%</p> <p>2017: \$2.2 2021E: \$8.3</p>	Mobile / Online	Offline	Limited	Highly concentrated between Ant and Tencent
Credit / Lending	<p>Loan Balance of Online Consumer Finance, US\$ bn</p> <p>CAGR = 26%</p> <p>2017: \$161 2022E: \$511</p>	Enablement / Distribution	Super Prime	Prime / Near-Prime	Significant start-up activity
Wealth Management / Asset Management	<p>AUM of Online Wealth Management, US\$ tn</p> <p>CAGR = 33%</p> <p>2017: \$0.5 2022E: \$2.1</p>	Enablement / Distribution	Manufacturing / Distribution	Manufacturing / Distribution	Market developing
Insurance	<p>Insuretech – GWP, US\$ bn</p> <p>CAGR = 36%</p> <p>2015: \$37 2020E: \$174</p>	Distribution	Manufacturing	Varied	Incumbents well-positioned

Source: Oliver Wyman, GS Research, public filings

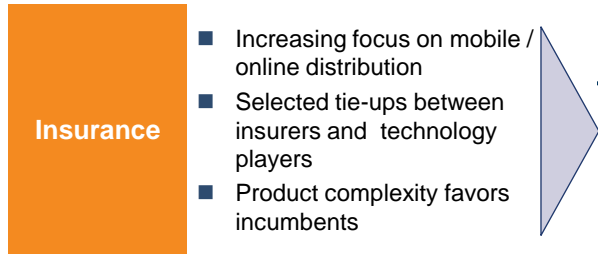
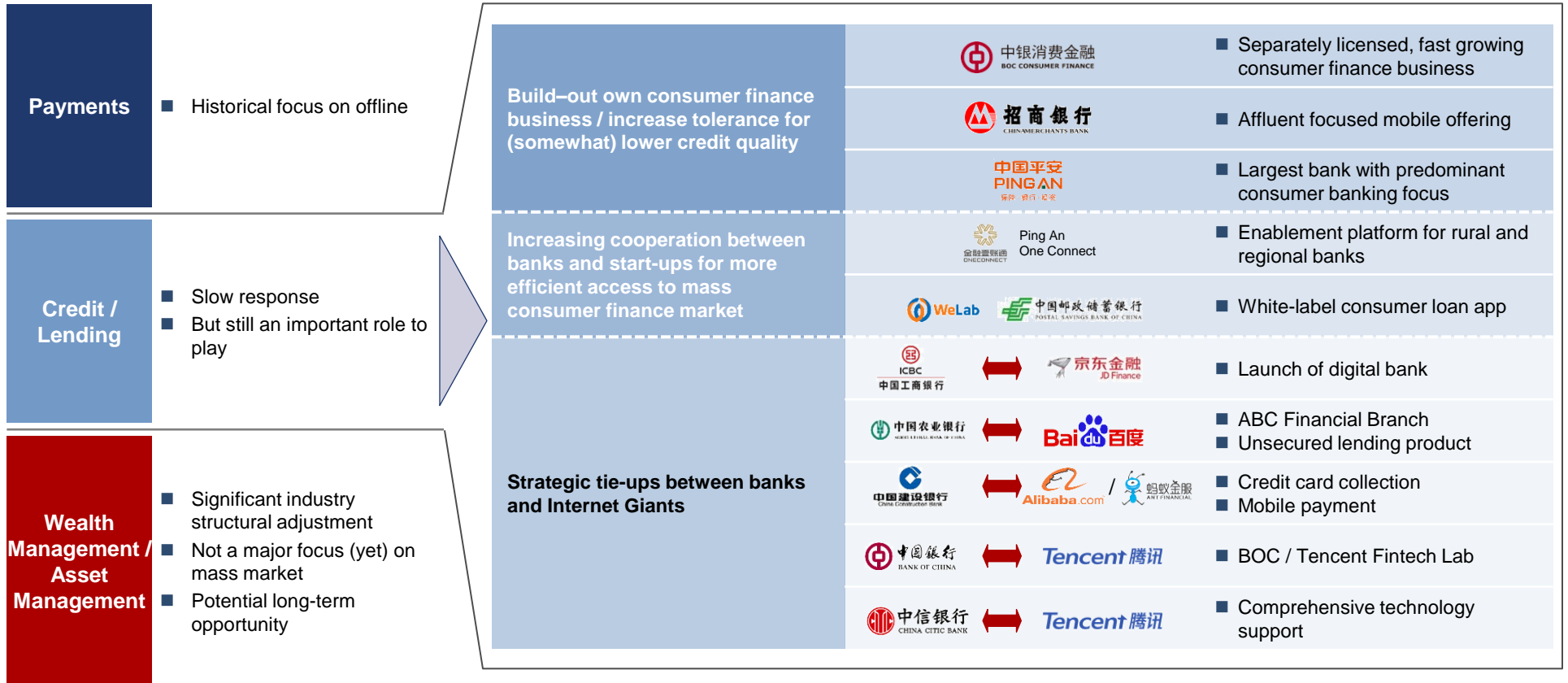
Internet Giants' Fintech Presence is Broad and Deep

					
Value of Fintech Business (US\$ bn)	■ \$4 ¹	■ \$150 ²	■ \$115 ³	■ \$20 ⁴	■ 59 ⁵
# of Users	■ 665 mm ⁶	■ 900 mm ⁷	■ 1,083 mm ⁸	■ 305 mm ⁹	■ 247 mm ¹⁰
Payments	 Baidu Wallet	 Alipay (#1 mobile payments platform)	 WeChat Pay  QQ Wallet (#2 mobile payments platform)	 JD Pay  Jincai.JD	 Ping An E-wallet
Credit / Lending	 Baidu Finance  aiBank	 MYbank	 WeBank	 JD Finance  Xiaobai Credit	 Lufax
Wealth Management / Asset Management	 Baidu Wealth Management	 Yu'e Bao  Tianhong (China's largest mutual fund)	 Licitong	 JD Wealth Management  Xiaojinku	Leading Life and P&C Insurance  Lufax
Insurance	Bai An Insurance JV with Allianz and Hillhouse (pending approval)	 ZhongAn Insurance 14% Zhong An stake  51% stake	 ZhongAn Insurance 10% stake  20% Aviva HK stake	 30% Allianz China Stake	 ZhongAn Insurance 10% Zhong An stake
Digital Banking	 Baidu Finance Cloud	 Zhima Credit  Ant Financial Cloud	 Tencent Cloud	 JD Cloud	Health Connect  One Connect  Good Doctor  Ping An Cloud  Qianhai Credit Service
Vertical Search					
SaaS					
Health Tech					

Note: Market data as of Jan 18, 2019; ¹ Valuation of Du Xiao Man; ² Valuation of Ant Financial; ³ Valuation of Tencent Financial Services; ⁴ Valuation of JD Finance; ⁵ Valuation of Lufax, One Connect, Ping An HealthKconnect and Ping An Good Doctor; ⁶ Mobile search MAU; ⁷ Annual active users; ⁸ MAU of Weixin and WeChat; ⁹ Annual active customer accounts; ¹⁰ Annual active Internet users

Selected Start-Ups

Payments	         
Credit / Lending	Offline    
	Auto     SME   
	Credit Card       Cash Loans      
	POS     
Wealth Management / Asset Management	      
Insurance	      
Digital Banking	
Vertical Search	
SaaS	      
Health Tech	



Slow but Overall Sensible Approach to Fintech Regulation



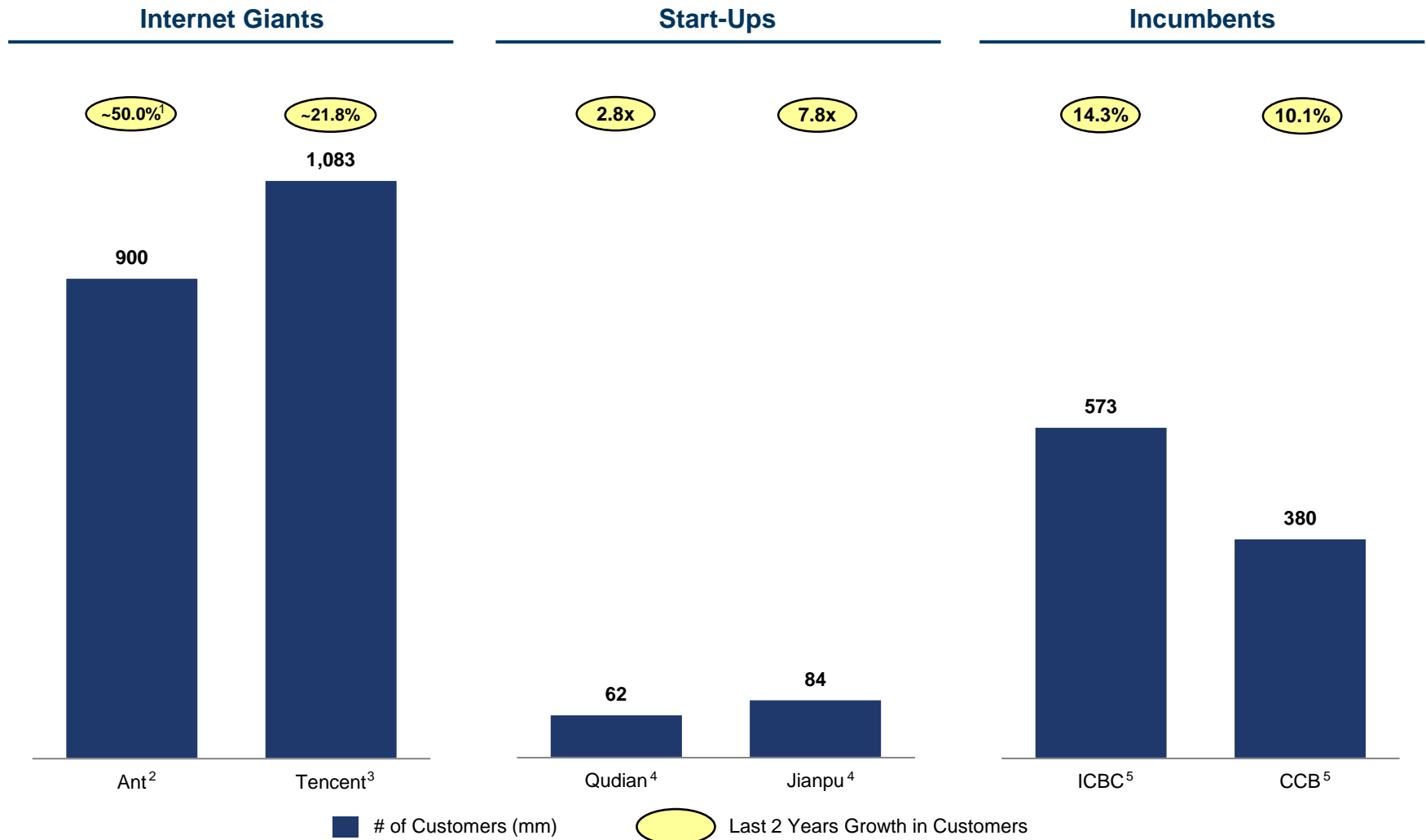
Direction To Date

- Regulators playing catch-up
- Broad guidelines issued in Summer 2015: “Introductory Framework on Promoting Healthy Development of Internet Finance”
- Implementation across segments taking time
 - Involves close discussion between regulators and participants
 - Seeks balance between support and risk mitigation
 - Requires alignment of interpretation across local regulators
- May have underestimated magnitude and complexity of task

Outlook

- Willingness to create a healthy environment in which responsible Fintech players can play a meaningful role in financial services
- Tightening of central oversight as opposed to mostly regional; direct involvement of PBOC, CBIRC and CSRC
- Primary challenges are:
 - Sufficiency of resources
 - Forcing out marginal players while maintaining stability

Early Comparisons of Relative Position



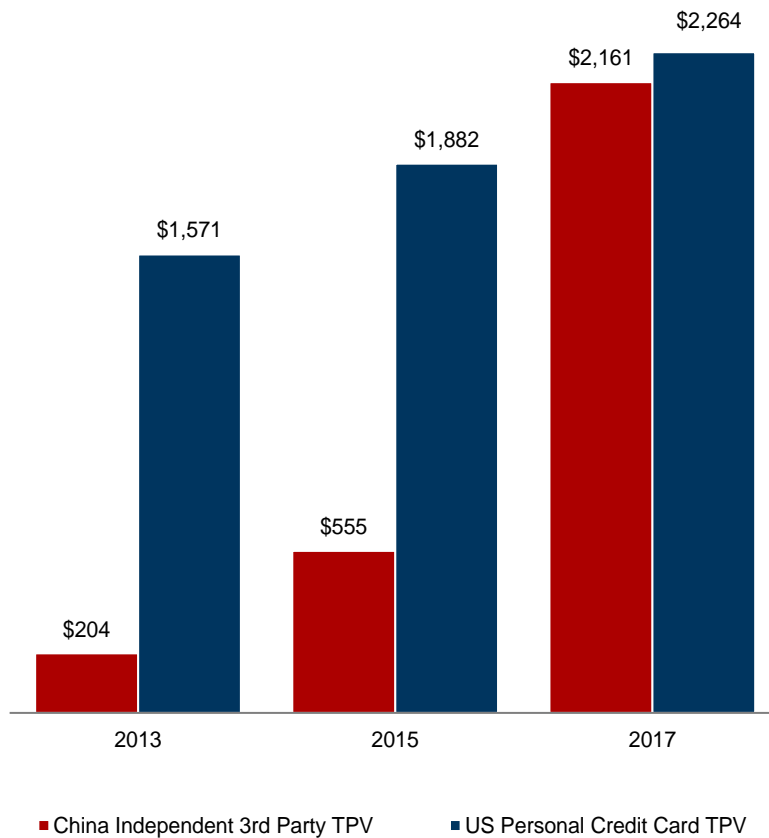
¹ Assuming flat growth from 2015 to 2018; ² Number of annual active users during the twelve months ended November 30, 2018; ³ MAU of Weixin and WeChat as of 3Q2018; ⁴ Number of registered users as of 2017 year end; ⁵ Number of customers as of 2017 year end.

China Payments Increasingly Dominated by Non-Bank Platforms

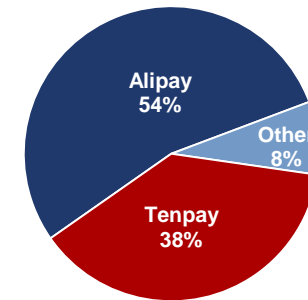
By the Numbers: Western vs. China Payments Market

China 3rd Party TPV Catching up with US Credit Card TPV

US\$ bn

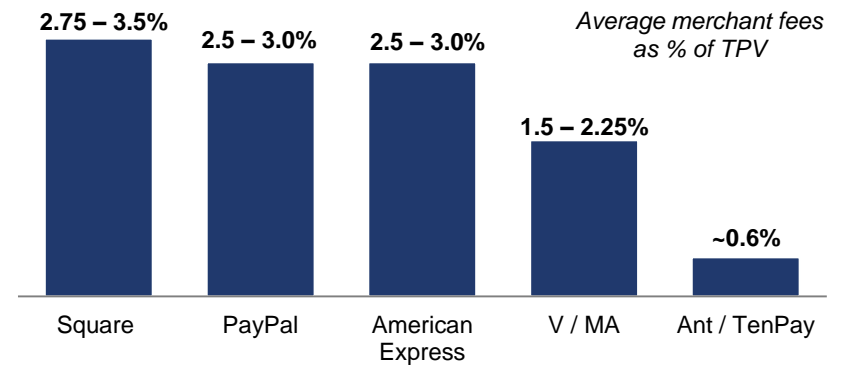


Mobile 3rd Party TPV Market Share (2017)



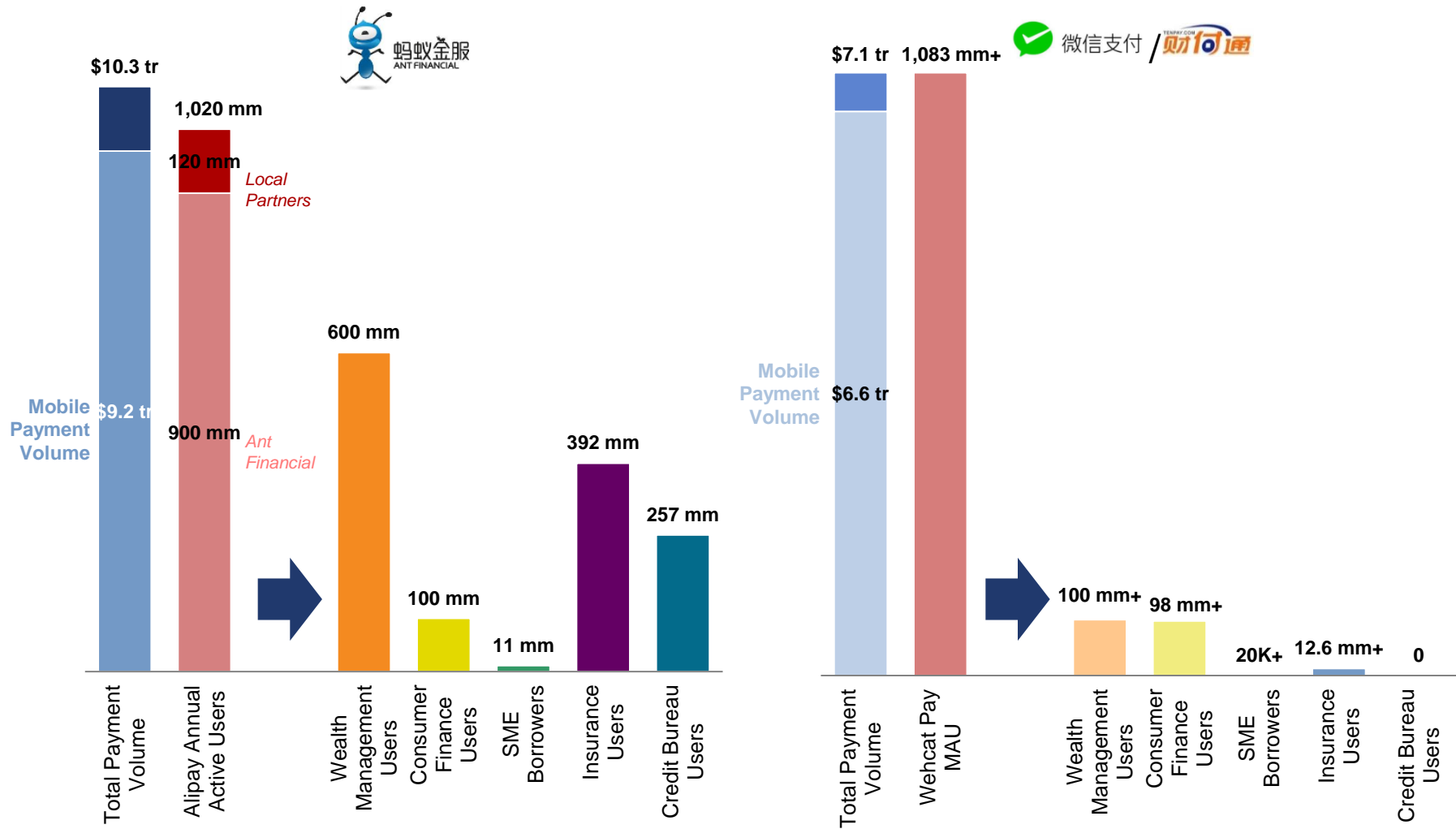
Other includes PingAn, JD Pay, China UnionPay, China PnR and others

Payment Fees by Peer



Source: iResearch, Nilson Report, Passport, GS Research; USD/RMB=6.85.



Payments is the Backbone to Ant Financial's and Tencent's Financial Service Business



Source: Company website, company presentation, iResearch and newsrun

Note: Total payment volume from 2017 Analysys report. TPV includes network payment, prepaid card, bank card receipt and other payment services recognized by the People's Bank of China by non-financial institutions. Third-party payment platform does not involve the ownership of funds, but only money transfer. Ant's number of SME borrowers, consumer finance users and Sesame Credit (credit bureau), wealth management and insurance users as of Mar 31, 2017. For payment business, 900 mm annual active global users were directly served by Ant during the 12 months ended Nov 30, 2018, and 120 mm global users were served by Ant's strategic local partners during the 12 months ended Mar 31, 2017; Ant's wealth management users represent cumulative users; Ant served 11 mm small businesses for unsecured lending; consumer finance and insurance users represent annual active users; and credit bureau users represent activated users. Tencent reported 1,083 mm+ mobile payment MAU as of Sep 30, 2018. Tencent's consumer finance users (refers to cumulative users of WeBank) and wealth management users from newsrun.

Significant Investment in Next Generation Technologies by Alibaba and Tencent

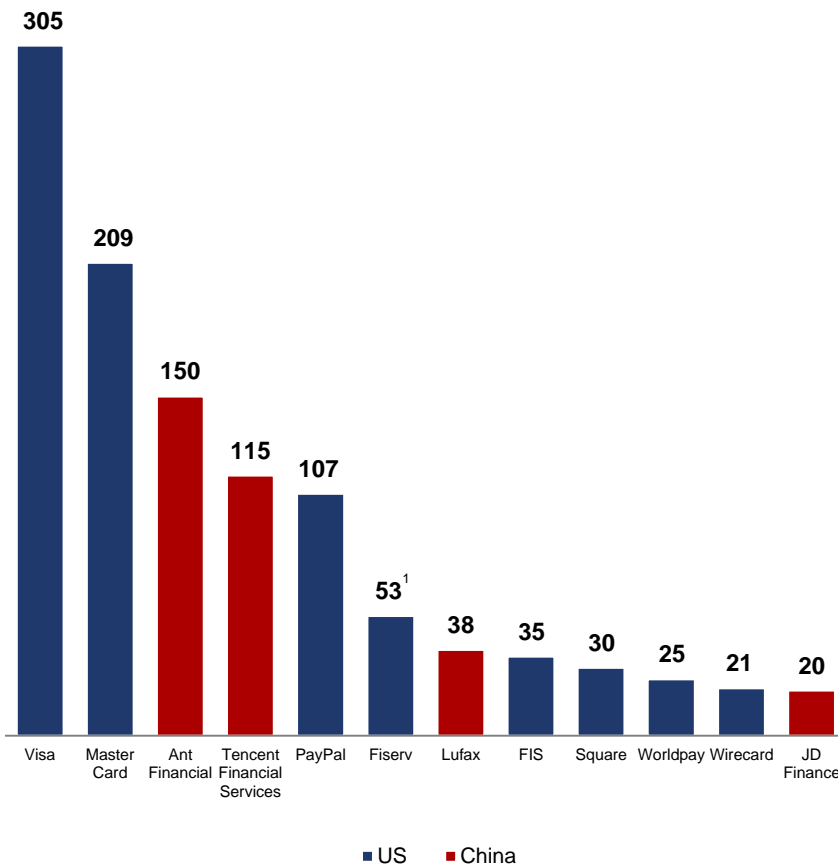
Top Technology Priorities	Annual R&D Spend ¹	Annual Investment Spend ²
 <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="background-color: #f7941d; border-radius: 10px; padding: 10px; text-align: center;">Cloud</div> <div style="background-color: #f7941d; border-radius: 10px; padding: 10px; text-align: center;">Biometrics</div> <div style="background-color: #f7941d; border-radius: 10px; padding: 10px; text-align: center;">AI</div> <div style="background-color: #f7941d; border-radius: 10px; padding: 10px; text-align: center;">VR/AR</div> <div style="background-color: #f7941d; border-radius: 10px; padding: 10px; text-align: center;">Blockchain</div> </div>	US\$3.6 bn	US\$10.6 bn+
 <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="background-color: #4a86e8; border-radius: 10px; padding: 10px; text-align: center;">Cloud</div> <div style="background-color: #4a86e8; border-radius: 10px; padding: 10px; text-align: center;">Big Data</div> <div style="background-color: #4a86e8; border-radius: 10px; padding: 10px; text-align: center;">AI</div> <div style="background-color: #4a86e8; border-radius: 10px; padding: 10px; text-align: center;">Blockchain</div> <div style="background-color: #4a86e8; border-radius: 10px; padding: 10px; text-align: center;">Payments</div> </div>	US\$2.5 bn	US\$6.3 bn+

Source: Filings, News; USD / RMB = 6.85.

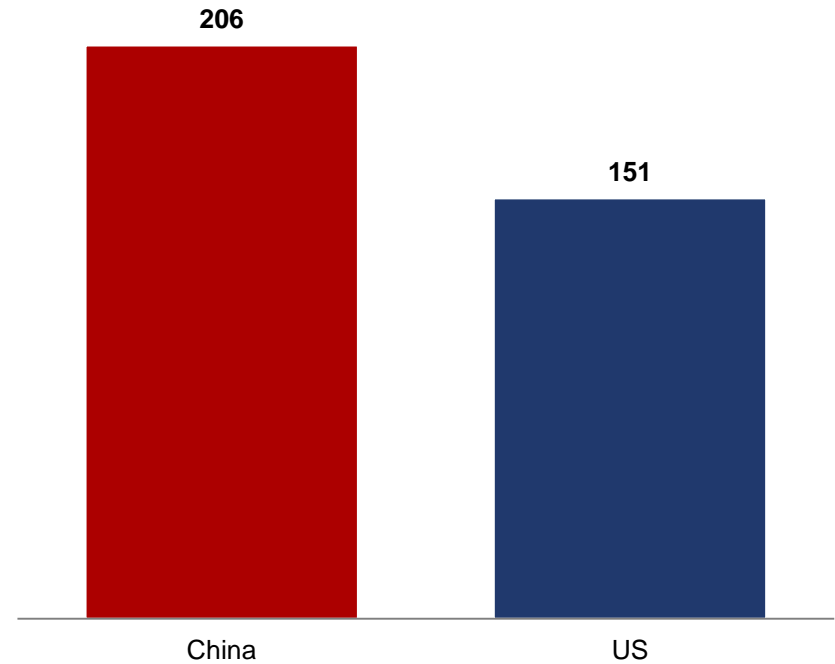
1. FY2018 for Alibaba, FY2017 for Tencent; 2. Spending on acquisitions, business combinations and private placements. Estimated numbers and information subject to public disclosure. Excluded acquisitions as investor groups where individual investment amount was not disclosed. FY2018 for Alibaba, FY2017 for Tencent

Largest Fintech Companies Globally

(Market Cap / Indicated Value, US\$ bn)



Number of Unicorns across Industries



Source: CB Insights (US unicorns), IT Orange (China Unicorns); market data as of Jan 18, 2019; USD/RMB = 6.85
 1. Pro forma market cap of Fiserv post acquisition of First Data