



# BANKING DISRUPTED?

FINANCIAL INTERMEDIATION  
IN AN ERA OF TRANSFORMATIONAL TECHNOLOGY

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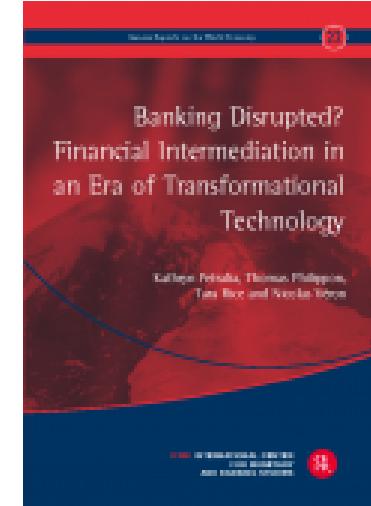
# TEAM GENEVA REPORT 22

Annual Series since 1999

Led by Ugo Panizza (ICMB Geneva) with support from CEPR

Collective work with Kathryn Petralia, Thomas Philippon, Tara Rice

... with generous help from Sam Taussig



# OUTLINE

*Over the years, the banking industry has exhibited remarkable adaptability to changing conditions. Its fate is seldom as bad as the figures indicated it should be.*

*Banking Magazine (January 1960, p. 39)*

- 1 Introduction: The death of banking?
- 2 Banking deconstructed
- 3 Banks competition from Big Tech and FinTech
  - Advantages & disadvantages of banks v. FinTech & Big Tech
  - Survey results
- 4 Public policy changes
  - A trilogy of policy imperatives
  - Big Tech and the prospects for a global currency
  - Financial authorities must adapt

# WHY DO WE HAVE BIG BANKS?

- Banks are “special” – they mitigate problems that would prevent funds from flowing from savers to borrowers
- “Modern banks” – privately owned joint stock companies with government charters – have existed since at least 1600s
- Size & scope enable big banks to engage in large scale, international transactions, such as the financing of international trade



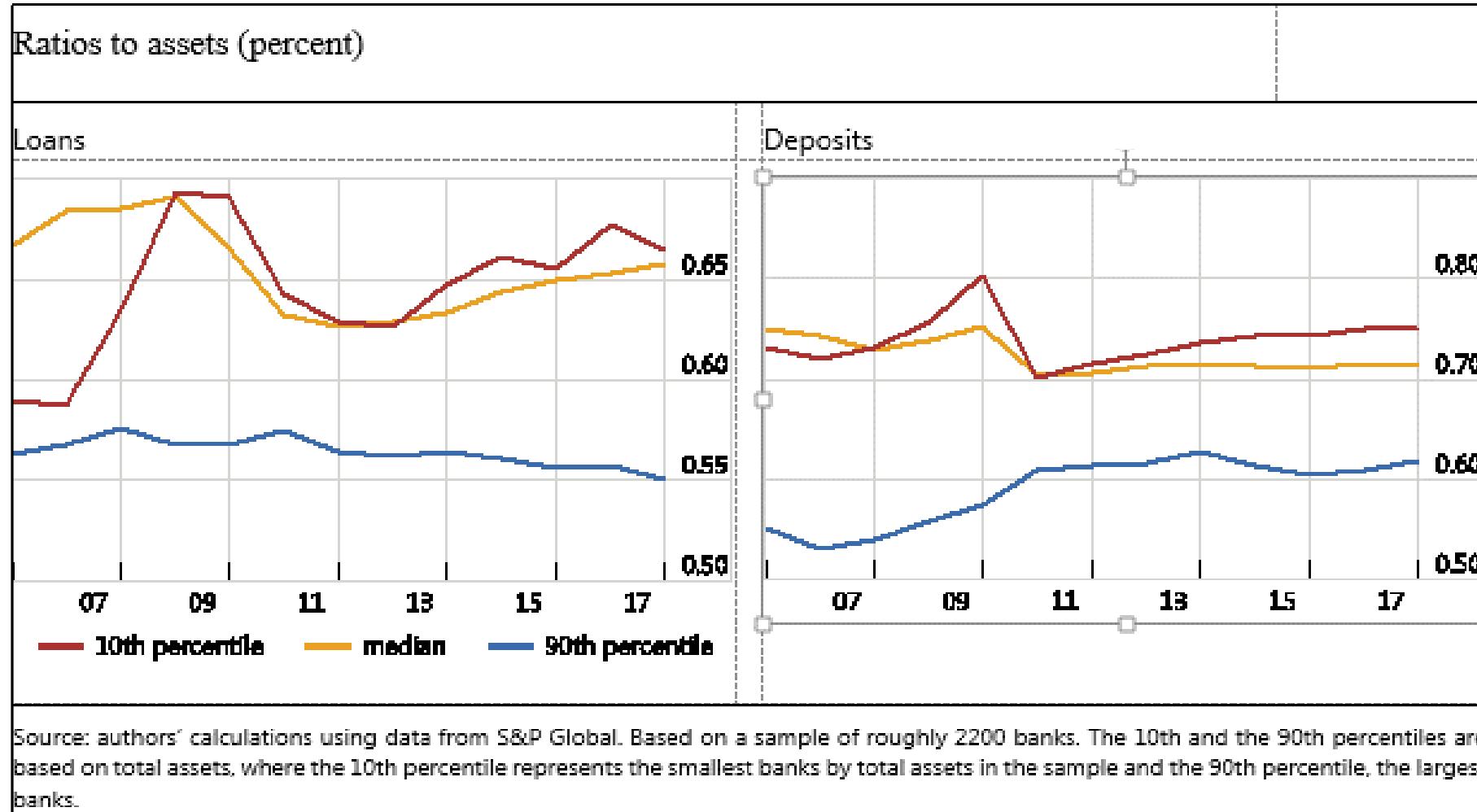
Royal Bank of Scotland, Banking Magazine, April 1925

- They have also historically been tightly linked to a sovereign

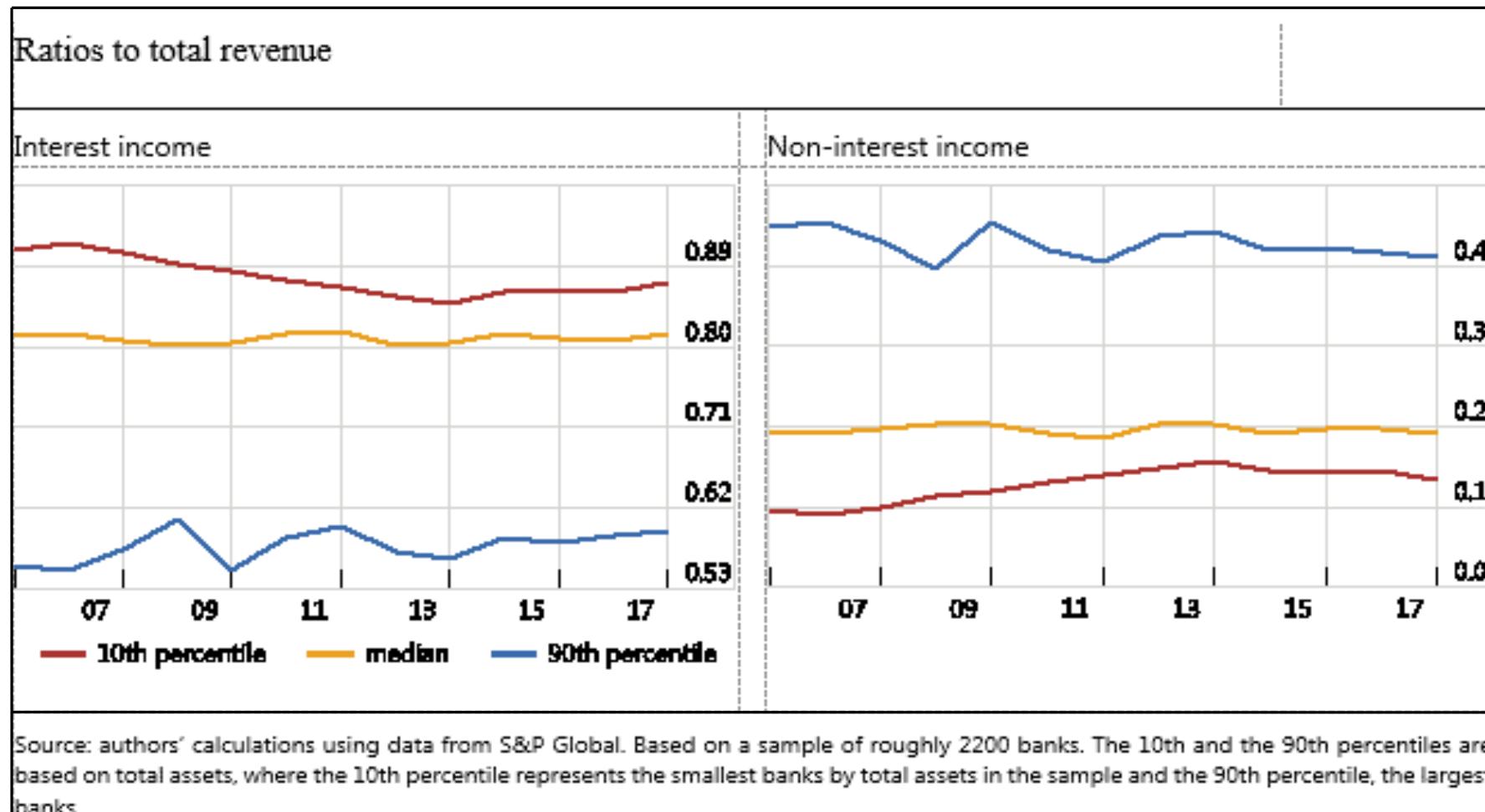
# WHAT BIG BANKS DO

- Engage in the facilitation of international financing (in syndicates), cross-border payments (correspondent banking) and international trade (trade finance)
- Provide services such as investment banking, securities brokerage, insurance agency and underwriting, and asset management
- Despite advances in technology and financial innovation, constantly evolving regulation...
- **Banks' core business of taking deposits and making loans has remained central to their business**

# BIG BANKS ARE...



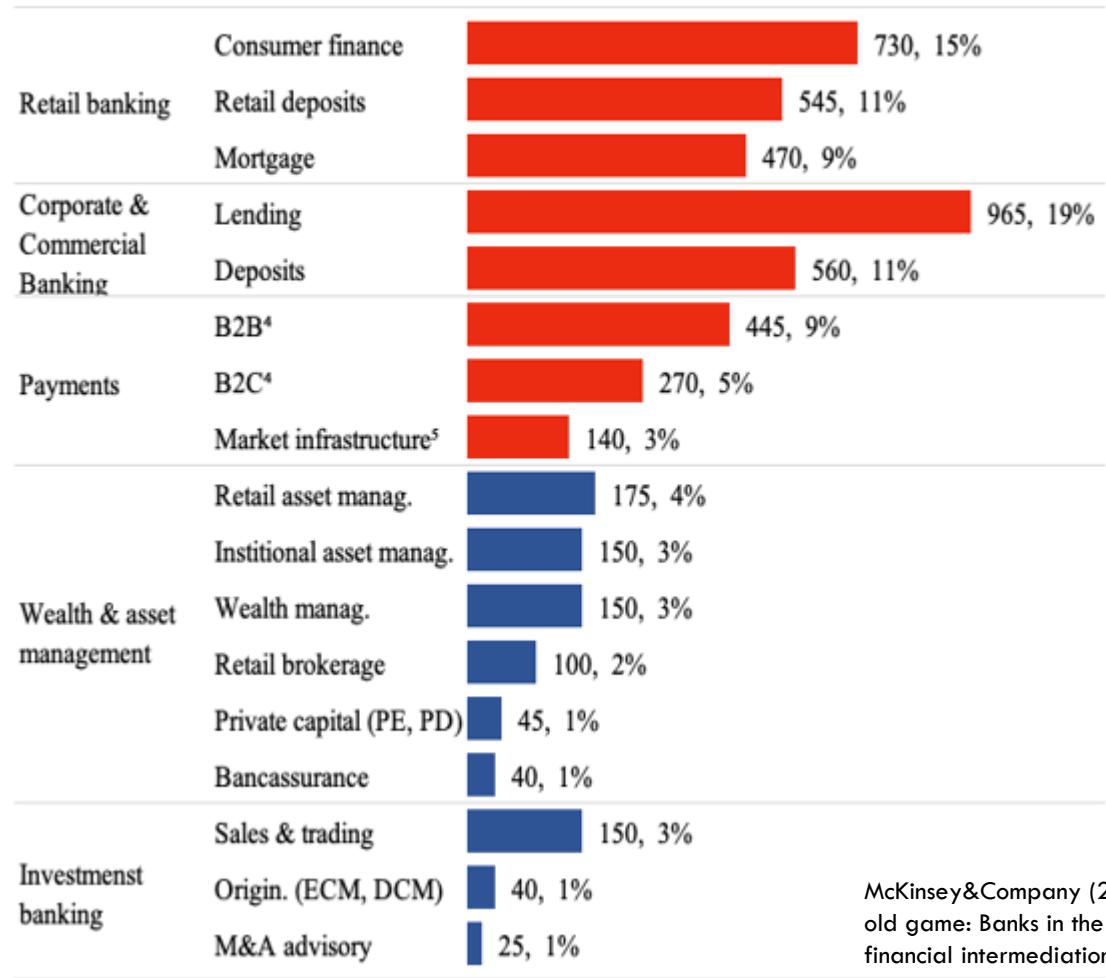
# ...STILL BANKS



# TRADITIONAL BANKING = EIGHTY PERCENT OF REVENUES

Annual revenue in 2017, % share of total - \$ billion

Total annual revenue of financial intermediation is ~\$5 trillion



McKinsey&Company (2018) New rules for an old game: Banks in the changing world of financial intermediation.

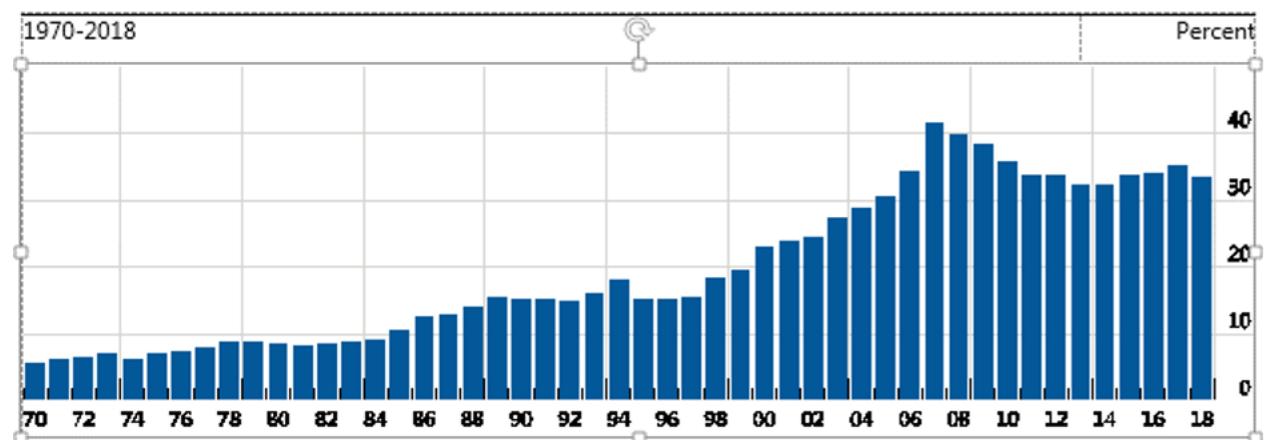
# BANKS SCALE AND SCOPE

- Mixed evidence of scale and scope economies
- Pre-2000 studies: Banks exhaust scale economies at low levels of input
- 2000+ studies: stronger evidence esp in terms of costs
- But TBTF reforms could create incentives to downsize (e.g. G-SIB surcharge)

We are witnessing some of the most outstanding developments and important changes in banking industry. During the past year there have been upward of one thousand bank consolidations which represented, to a large extent, the results of economic forces, which requires great economies of scale in banking, more complete facilities, and larger reservoirs of capital.

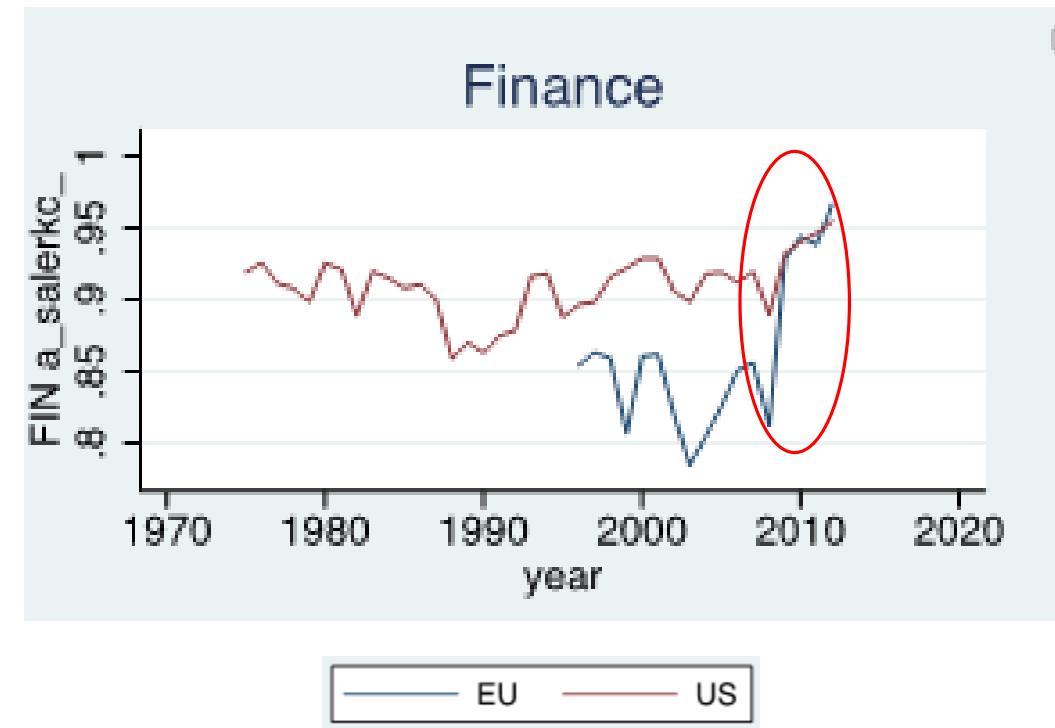
President of the ABA (Banker, 1929)

Assets of top 10 banks to global GDP, 1970-2018



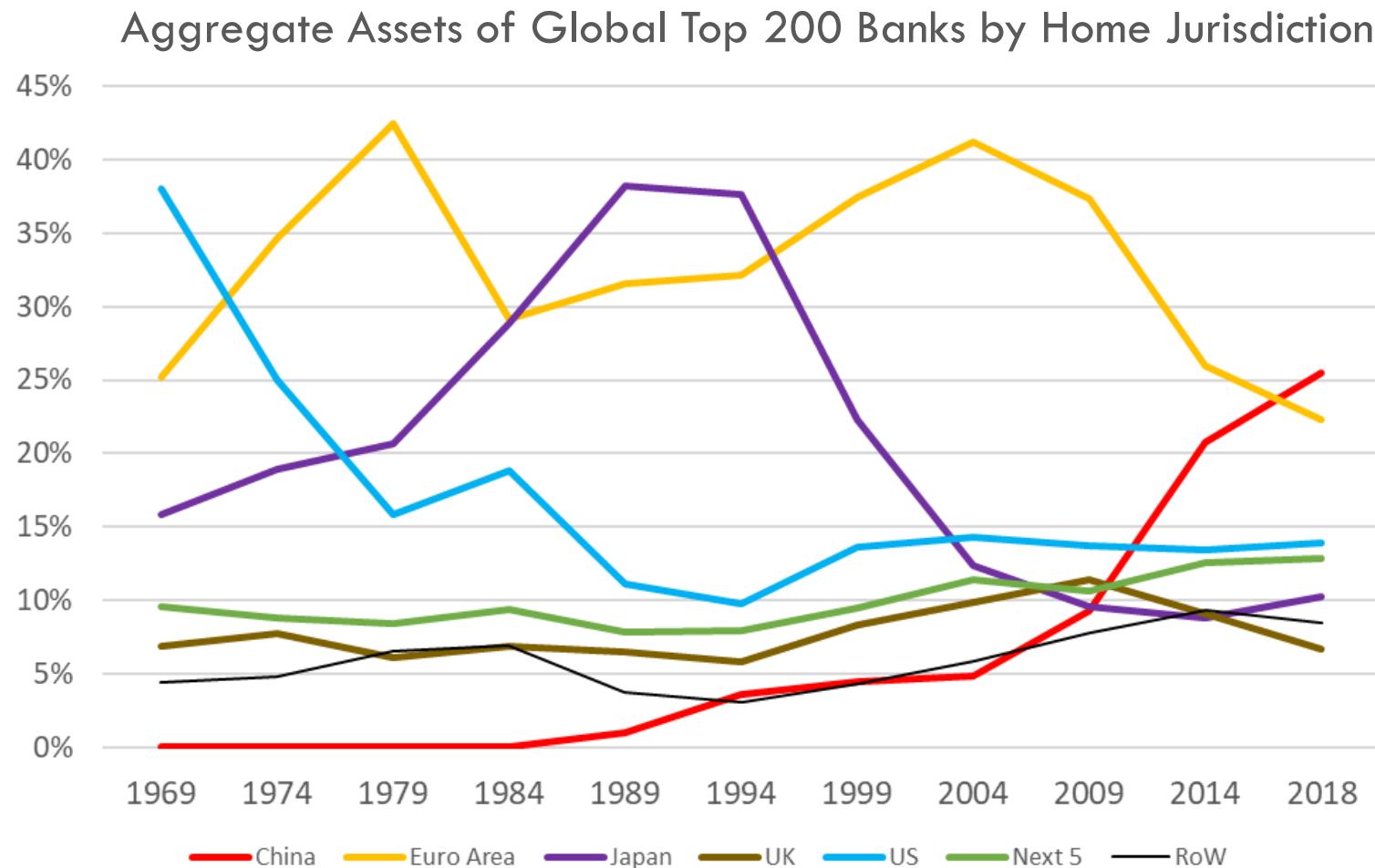
# MARKET SHARES: FINANCE VS OTHER SECTORS

- Finance is characterized by concentrated shares and relatively low turnover of industry leaders.
- Europe has caught up with US post crisis
- Market shares have become more persistent
- But global leaders have changed over time



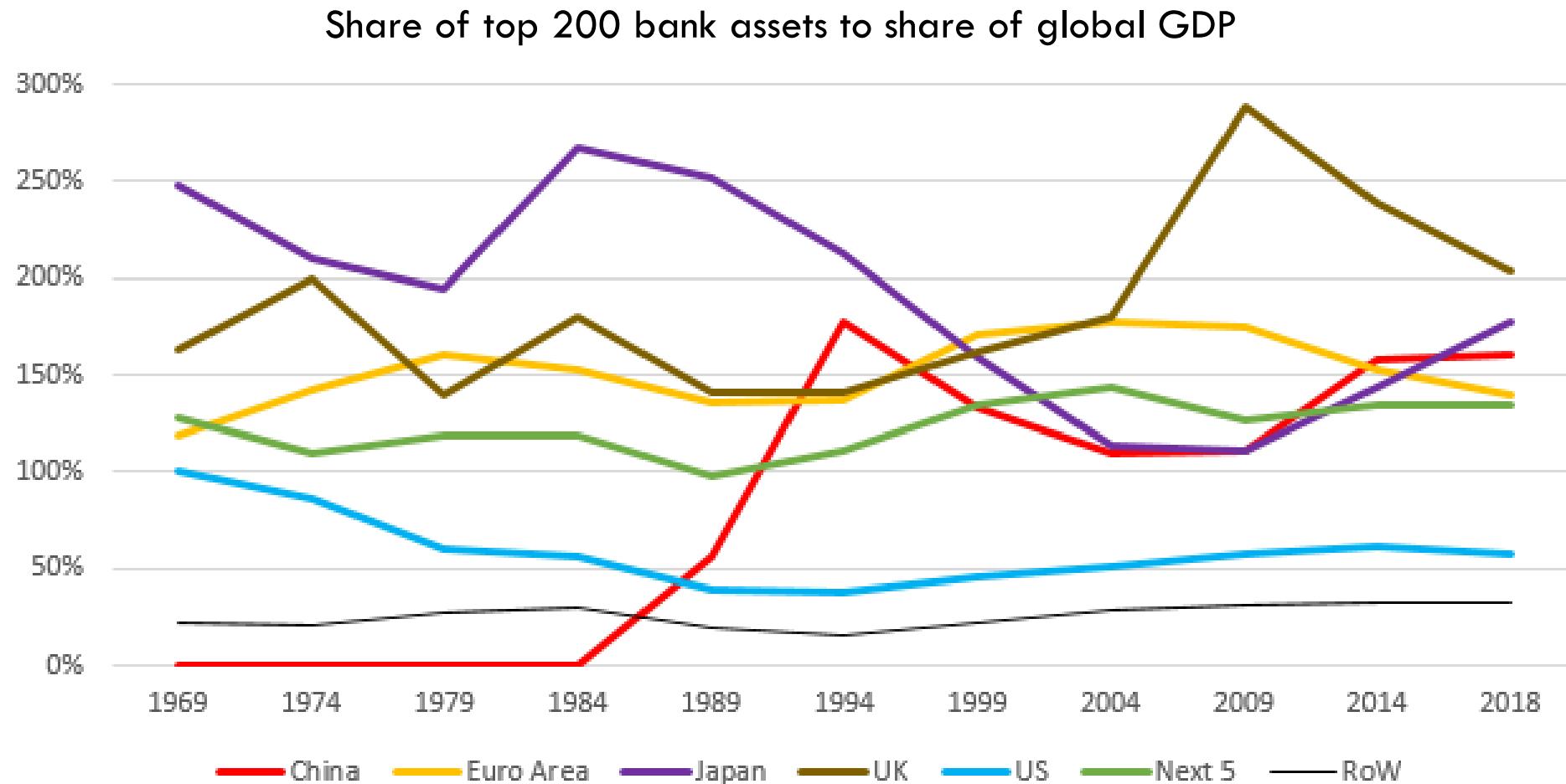
Source: author's calculations as in Covarrubias, Gutierrez and Philippon (2019).  
Data: Compustat NA, and Compustat Global.

# GLOBAL BANKING ASSETS: GEOGRAPHY



Source: The Banker Database, a service from The Financial Times Limited, 2019; authors' calculations. "Next 5" = AU, CA, CH, IN, KR; RoW = rest of world

# “BANK-HEAVY” VS “BANK-LIGHT” JURISDICTIONS

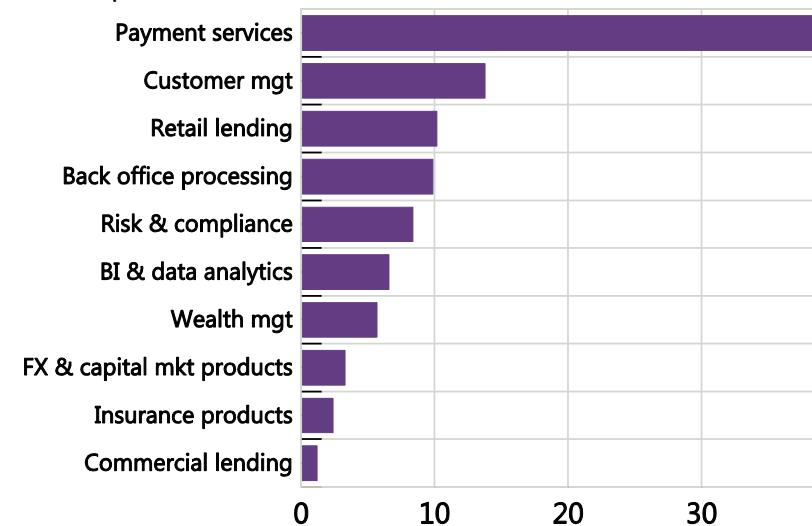


Source: The Banker Database, a service from The Financial Times Limited, 2019; authors' calculations. "Next 5" = AU, CA, CH, IN, KR; RoW = rest of world <sup>17</sup>

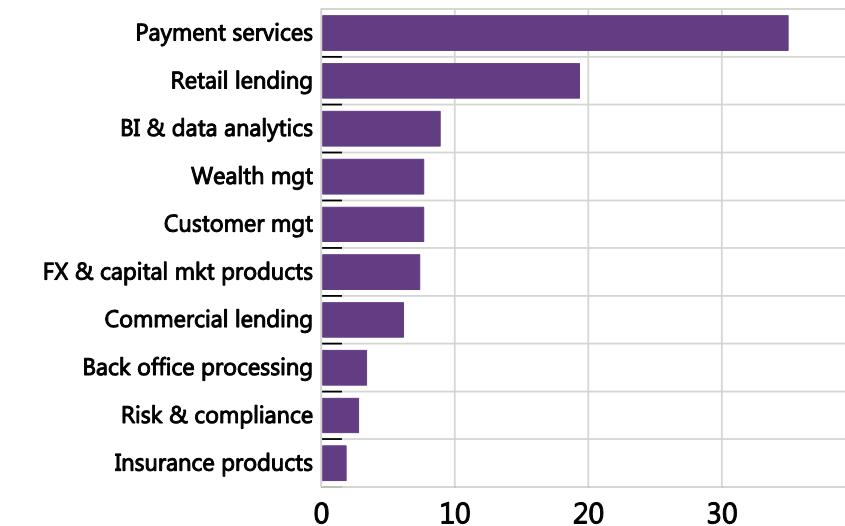
# COMPETITION

- What products & services are:
- Most affected by technological developments?
- Most affected by competition?
- Likely to be affected by tech over next 5 years?

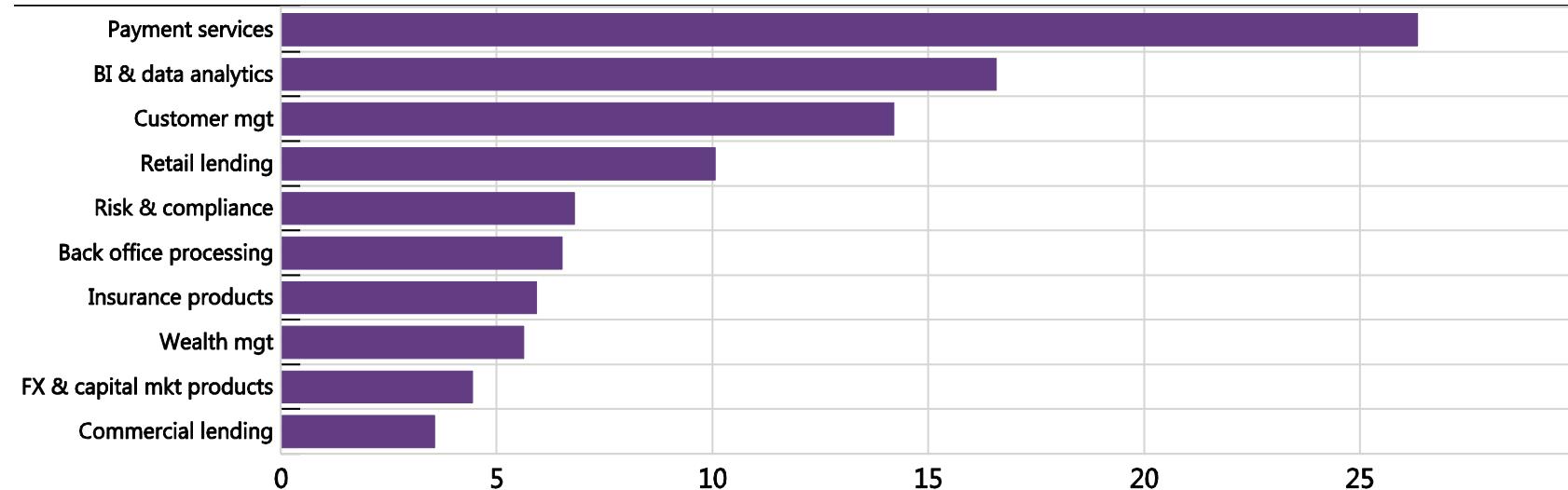
Products and services affected by technological developments



Products and services affected by competition



Products and services that will be mostly affected by technological developments over the next 5 years



# IN THE NEWS

#fintech FT

## Europe's fintechs emerge from first brush with scandal

FINTECH SEPTEMBER 17, 2019 / 8:08 PM / 5 DAYS AGO



Facebook's Libra will be disruptive, says ECB's Coeure

Technology

Is Facebook a Bank? Congress Pushes for Answers on Crypto Foray

By Kurt Wagner and Julie Verhage  
July 18, 2019, 1:17 AM GMT+2

Bloomberg



BBC

WIRED

## How Monzo, Revolut, Starling and N26 plan to topple legacy banks

The new wave of challenger banks are taking on traditional financial groups in a big way. These are the new products and features to expect throughout the months to

BUSINESS NEWS MAY 9, 2019 / 12:31 PM / 7 DAYS AGO



Tencent, Alibaba, Xiaomi units win Hong Kong online banking license

The industry has been lobbying financial regulators to hold their new tech competitors to the same data protection, cyber security and capital standards, arguing that supervisors have not moved fast enough and the playing field has been left uneven.



HSBC and StanChart under attack from China tech

# WHAT FINTECH OFFERS

- FinTechs offer speed & customization that banks can't offer:
  - “Instant” (<10 minute) bank onboarding
  - “Instant” loan decisioning and cash disbursement
  - Custom views of historical spend and expected future spend
- What enables FinTechs to do this:
  - Iterative, customer-backed product development
  - No slow-to-update legacy technology
  - Focus on automated, data-driven decisions
  - Ability to serve early adopters & early majority; does not have to contend with technology adoption laggards

# WHAT BIG TECH OFFERS

- Big Techs' scale and scope enables them to:
    - Reach a wide group of potential customers
    - Leverage the trust of their users and aggregate data
    - Offer a broad suite of financial services potentially cheaper and more quickly than a bank
  - What enables Big Techs to do this:
    - Very large networks (established through e-commerce platforms or messaging services)
    - Big Data & cutting edge technology
- The scale of the Big Tech firms and the speed of adoption across borders in the digital era – suggest that developments in the provision of financial services could accelerate at a pace not seen before.*

# (DIS)ADVANTAGES OF BANKS VS COMPETITORS

- **Technology** and Customer experience
- **Size (scale & scope)**  
Cost of funding  
Network effects
- **Policy-based**  
Prudential regulation  
Data privacy / protection  
Political / lobby power



*The Economist, 2 May 2019*

*[N]ew entrants into the financial services space, including FinTech firms and large, established technology companies ('BigTech'), could materially alter the universe of financial services providers.*

**Table 4** Banks versus their partners and competitors

Banks vs competitors	Big banks	FinTech	Big Tech
<b>Technology</b>	✗	✓	✓
Customer experience	□	✓	✓
<b>Size (scale &amp; scope)</b>			
Cost of funding	✓	✗	✗
Network effects	✓	✗	✓ ✓
<b>Policy-based</b>			
Prudential regulation	□	□	✓
Data privacy/protection	✓	□	✗
Political/lobby power	✓	✗	✗

Note: Red crosses are disadvantages, the blue ticks are advantages, and the black empty squares are neutral or in the midst of change.

# PROSPECTS & POLICY CHOICES

- The current state of tech environment and financial system development in individual jurisdictions
- How banks adapt to customers changing demand & technological innovation
- How the competition (FinTech, Big Tech) chooses to interact with the banks
- How the customers decide on their experience
- How regulators and policymakers across the globe respond

# IS THIS TIME DIFFERENT?

**Banks have survived many evolutions**

Online banking and challenger banks in the 1990s

**Example of Wingspan Bank**

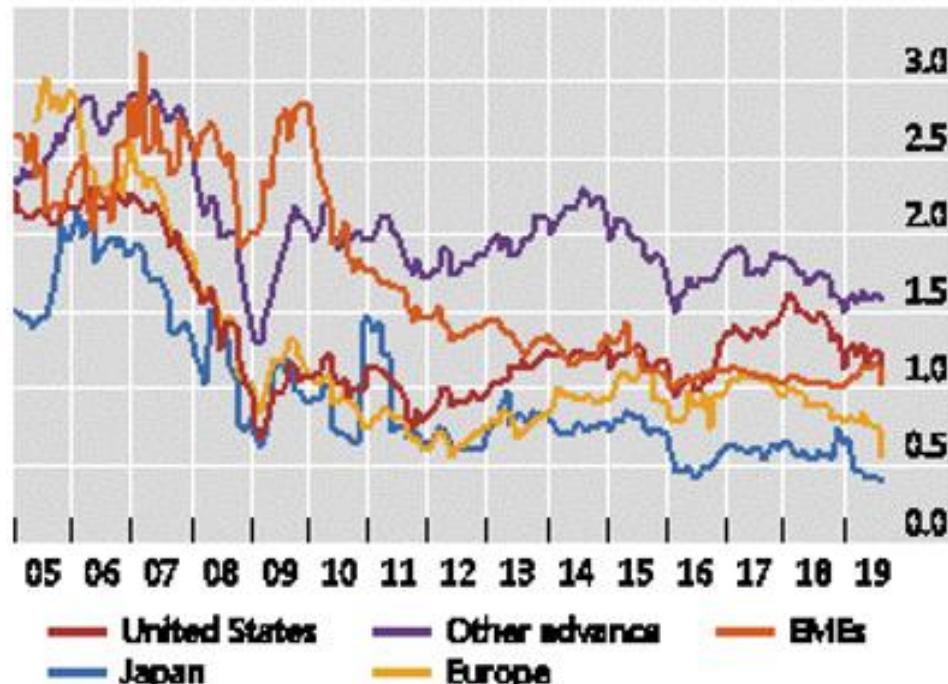
- Much hope, much disappointment
- A bit ahead of its time
- A lot of misunderstanding of consumer demand

**However, this time might be different**

- Big banks are in check due to post crisis regulations
- Consumers are keen for better experience
- Big Tech are big

# RECOVERY OF PRICE / BOOK

By region<sup>2</sup>



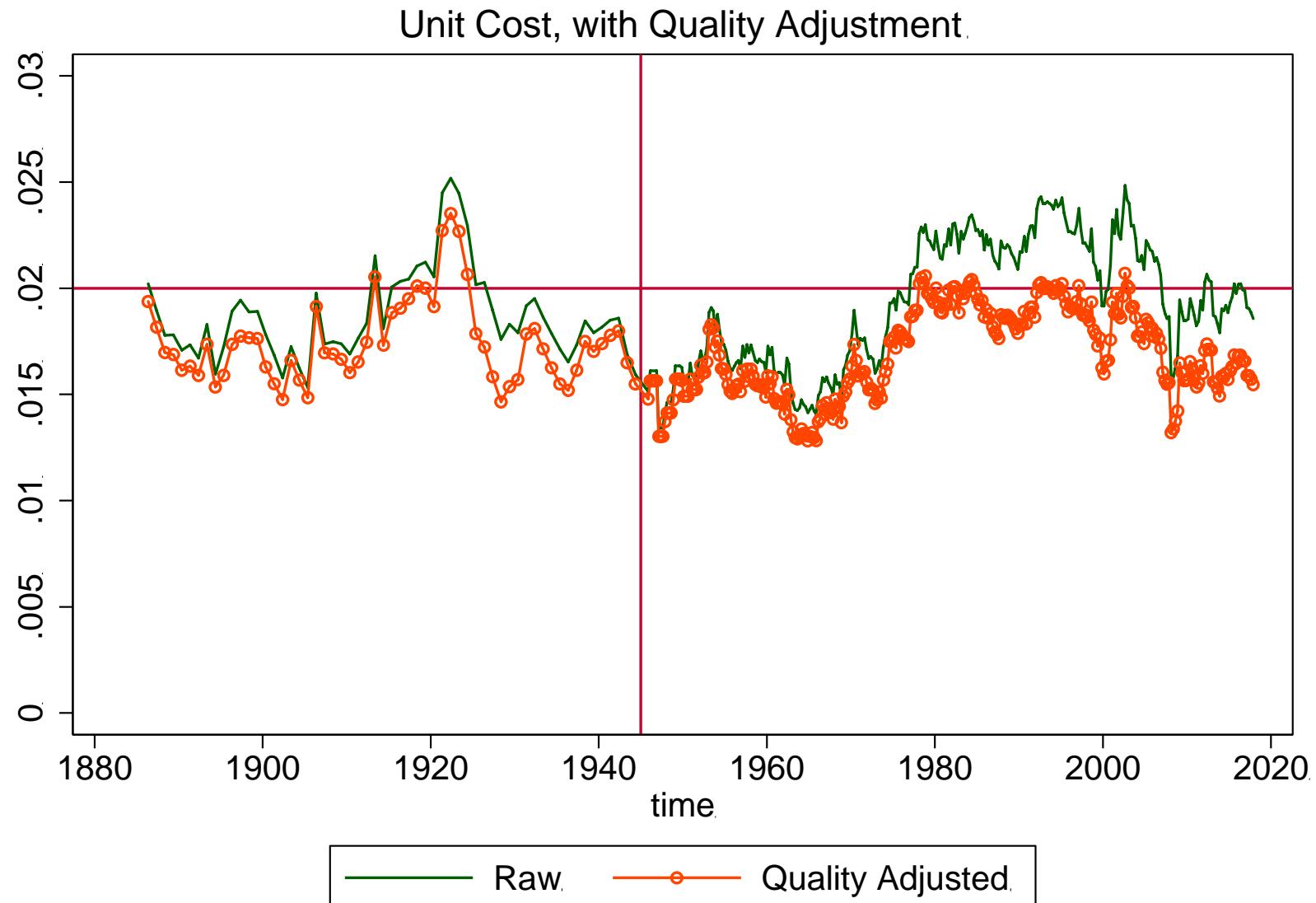
G-SIBs and non-GSIBs



<sup>1</sup> Simple averages across the sample. <sup>2</sup> Based on the sample of individual advanced economy and EME banks in Annex 2, subject to data availability. <sup>3</sup> Australia and Canada. <sup>4</sup> Brazil, China, Chinese Taipei, Hong Kong SAR, India, Israel, Korea, Malaysia, Mexico, Qatar, Russia, Saudi Arabia, Singapore, South Africa, Turkey and Venezuela.

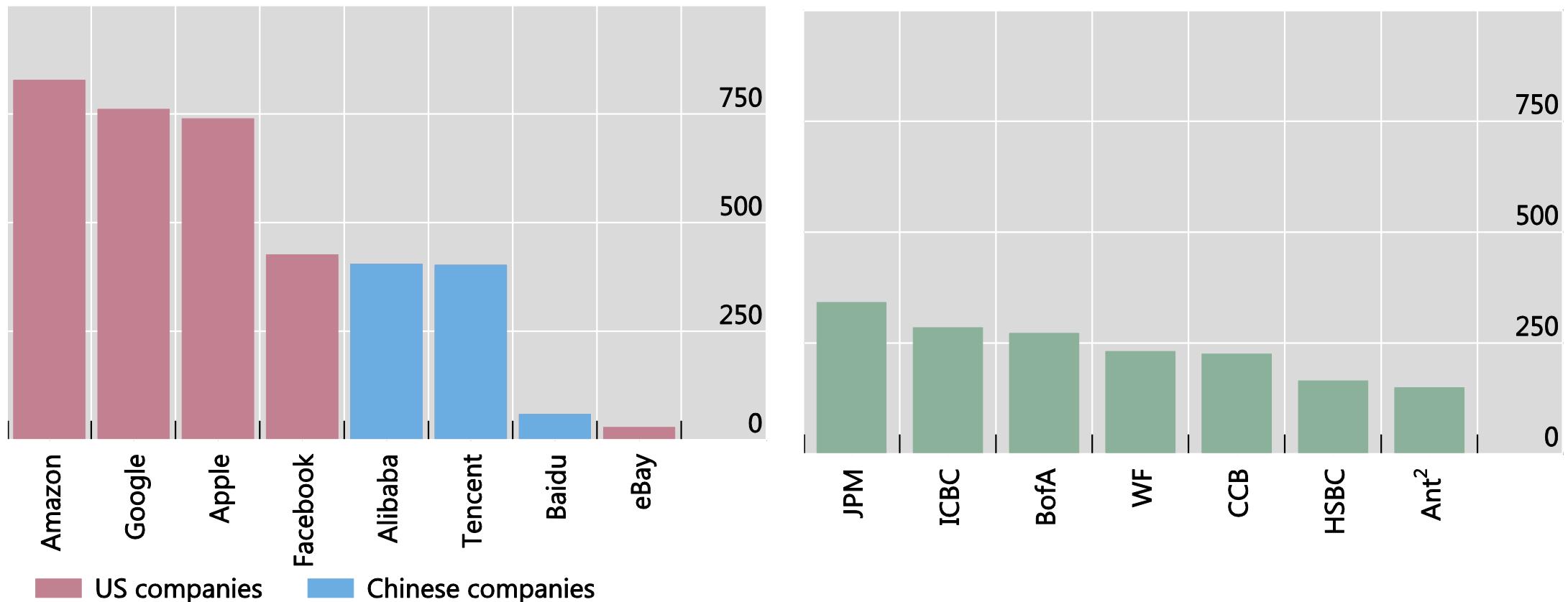
# US FINANCIAL EFFICIENCY

Finally some sign  
that finance is  
getting cheaper  
and better



# BIG TECH VS BANKS

Market capitalisation of Big Tech firms and major financial groups (\$B) as of 18 Jan 2019



# BIG TECH IN FINANCE & BANKING

Big Tech have banking licenses in China, not in other large jurisdictions

- But a number of e-money licenses and virtual banking licenses

Separation of banking and commerce still relevant

- US: Walmart was denied (ILC) banking license in 2005
- Europe: less settled separation principle, but more concerns about “GAFAM”

Policy areas to watch: open banking, data portability

# LIBRA: WAKE-UP CALL

- June Proposal: Potential to become globally adopted, raises concerns of global currency / monetary policy transmission mechanism, financial stability
- Additional risks: AML/CFT compliance, data protection, consumer and investor protection, fair competition, tax compliance, market integrity
- Authorities highlighted need for globally consistent view on how Big Tech, FinTech, banks compete, exchange data & protect consumers

*Significant work...and further engagement with the public and authorities will be required before they can expect approval by relevant authorities*

*Benoît Cœuré (2019)*

# IS THE GLOBAL ARCHITECTURE UP TO THE TASK?

- Powerful pressures towards jurisdictional fragmentation
  - Could cripple otherwise desirable global data-driven models
  - Inevitable vs unnecessary fragmentation
- Supranational supervision?
  - Not for banks
  - Conceivably for some infrastructures
  - Possibly for information / data intermediaries
- Case for institutional experimentation

# WRAP-UP

- Momentous transformation, still at early stage
- Disruption likely to fall short of mass extinction of banks
- Public policy choices will be critical
  - Financial authorities must embrace new technologies
  - Different preferences in different jurisdictions
- New modes of financial oversight
  - Cooperation between authorities in charge of financial stability, competition, and data
  - Supranational experimentation, beyond ongoing in EU

# THANK YOU!

