



BANK FOR INTERNATIONAL SETTLEMENTS

# Big tech: opportunities and risks

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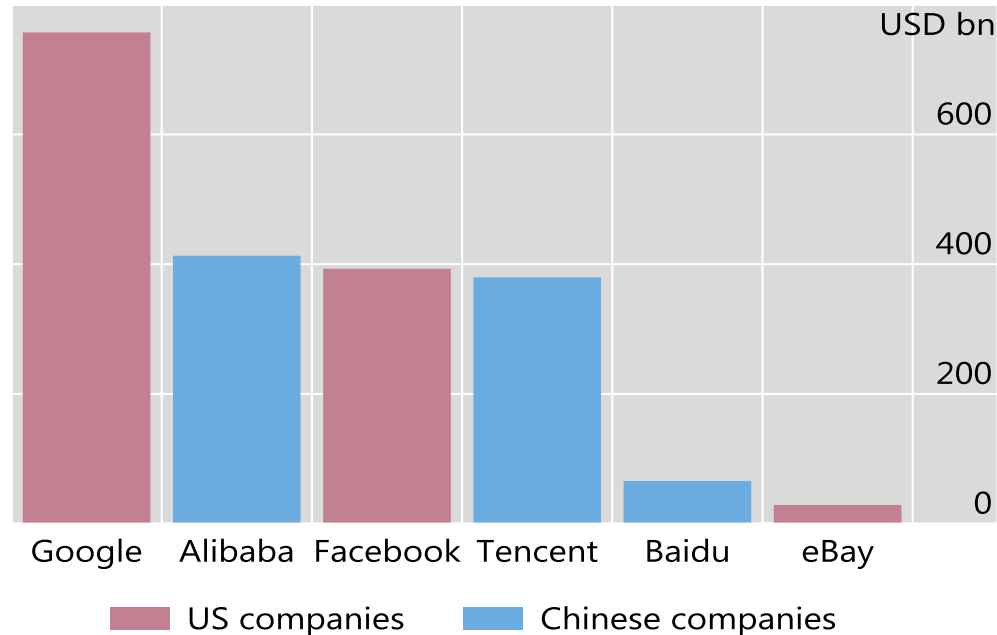
Fintech Risk Management, Fin – Tech HO2020 project Kick-off

Pavia, 1 February 2019

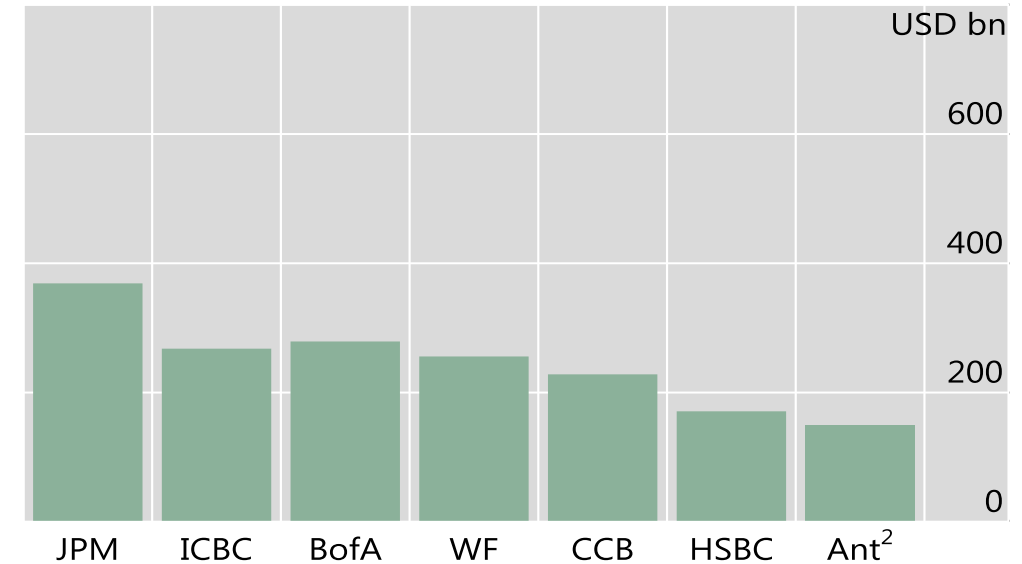


# Market capitalisation of major financial groups and big tech firms<sup>1</sup>

Technology companies



Financial groups

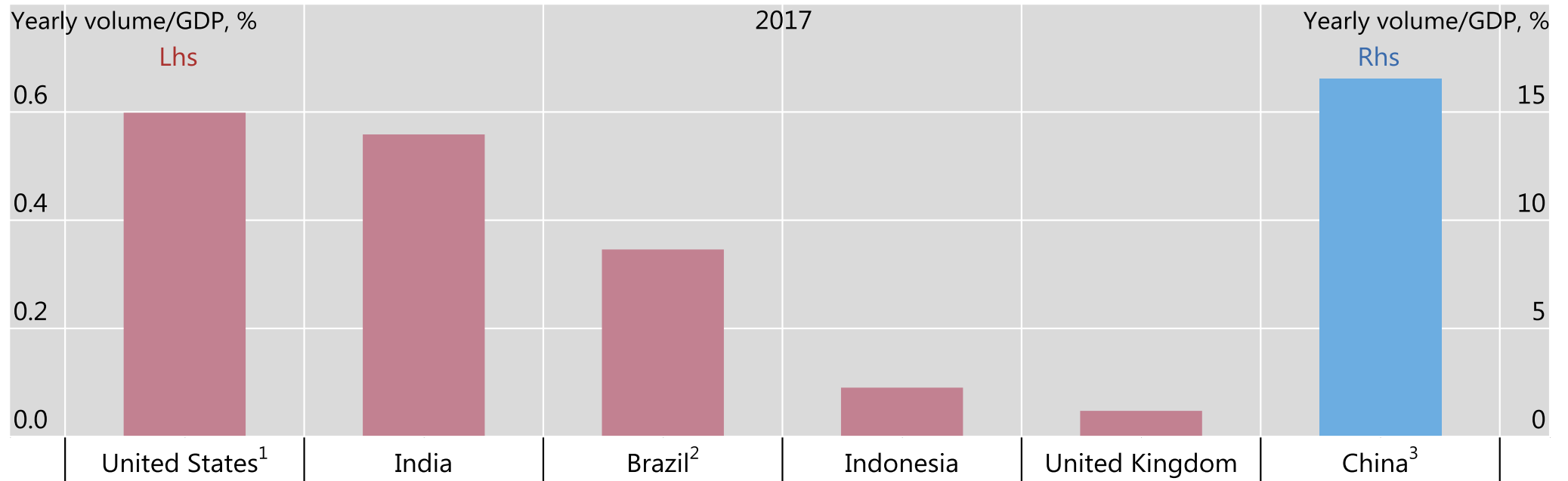


Ant = Ant Financial; BofA = Bank of America; CCB = China Construction Bank; ICBC = Industrial and Commercial Bank of China; JPM = JPMorgan Chase; WF = Wells Fargo.

<sup>1</sup> Stock market capitalisation, 29 November 2018. <sup>2</sup> The estimated value of Ant Financial was derived from the amount raised in the company's recent funding rounds times the stakes sold.

Sources: Thomson Reuters Eikon; company reports.

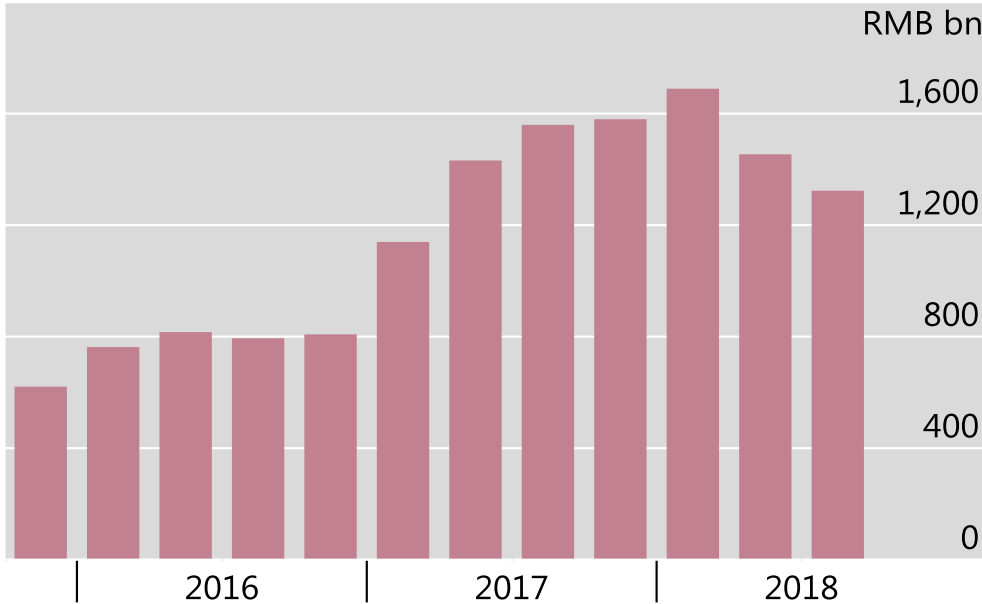
# Big tech mobile payment services around the world



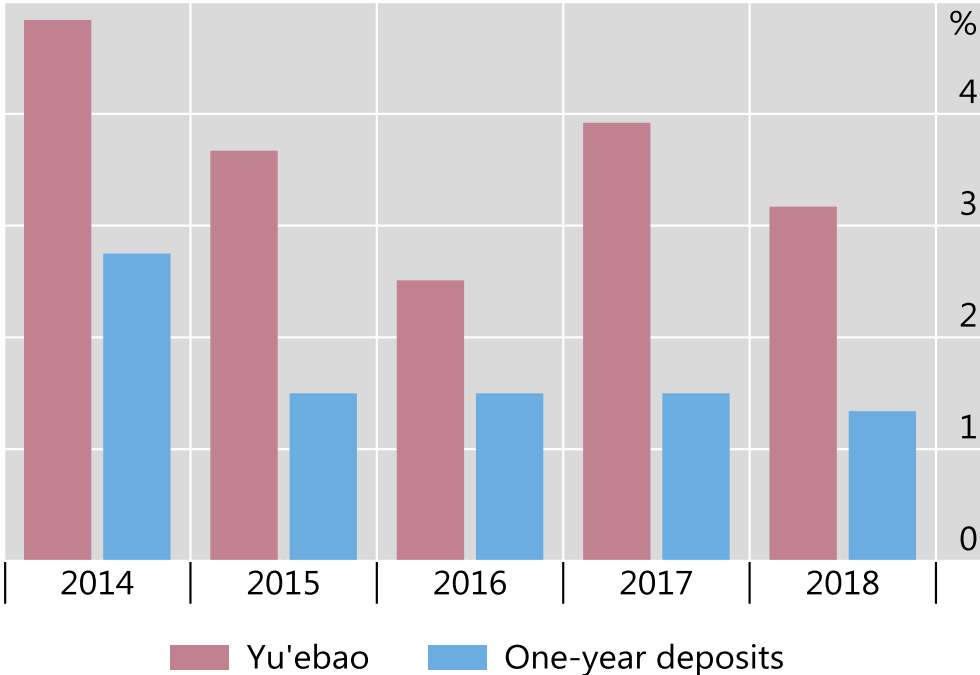
<sup>1</sup> 2016 data. <sup>2</sup> Estimated based on the public data for Mercado Libre. <sup>3</sup> Only mobile payment for consumption data used.  
Sources: Forrester Research; GlobalData; iResearch; Mercado Libre; Nikkei; Worldpay. See Frost, Gambacorta Huang and Shin (2018).

# Big tech money market mutual funds

Size of Ant Financial's MMF, Yu'eobao

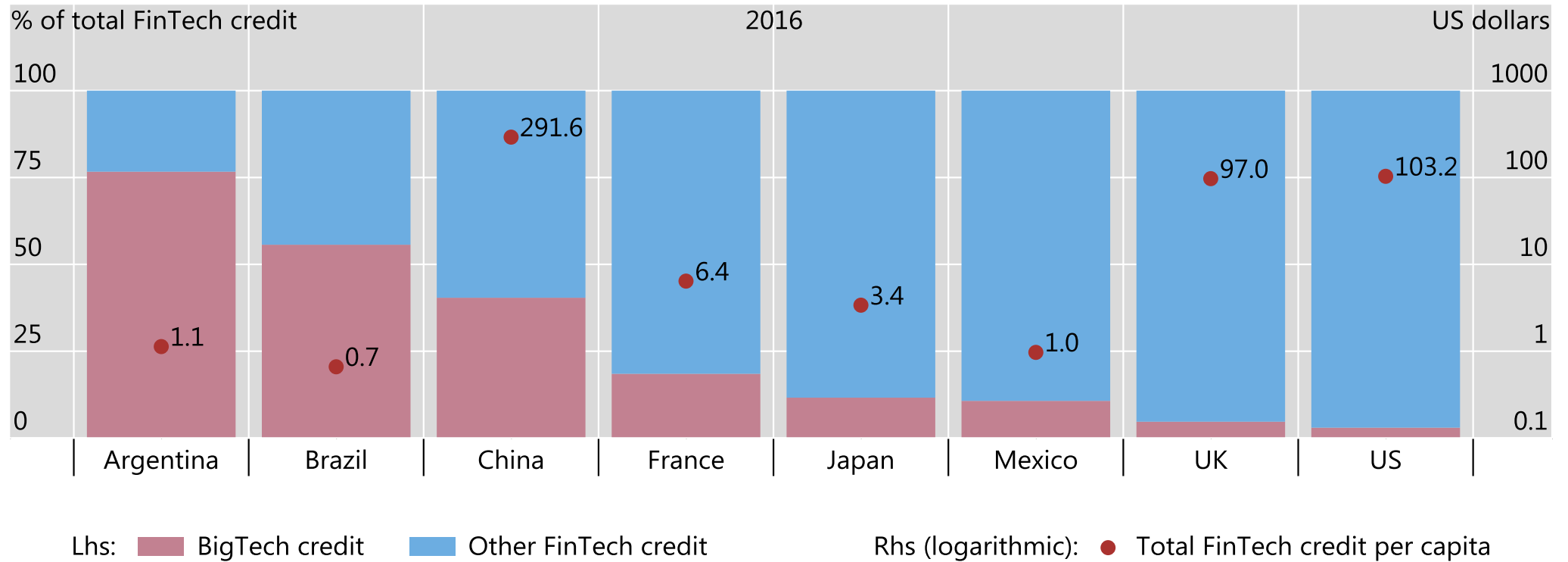


Returns of Yu'eobao and deposit rate



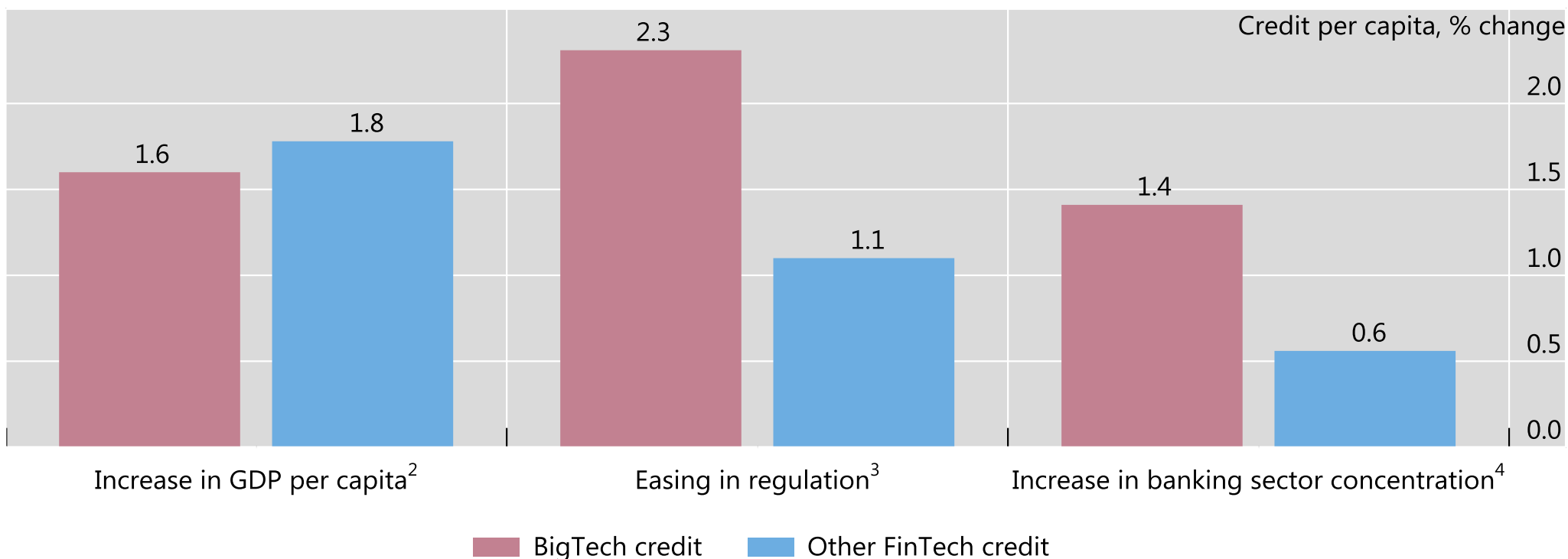
Sources: Thomson Reuters Eikon; Wind.

# Big tech and other fintech credit



Sources: Cambridge Centre for Alternative Finance and research partners; BIS calculations. Data for WeBank are taken from the public balance sheet. See Frost, Gambacorta Huang and Shin (2018).

# Impact on big tech and other fintech credit per capita<sup>1</sup>



<sup>1</sup> Effect on total fintech credit per capita of a one standard deviation change in selected variables. <sup>2</sup> Nominal GDP in USD over total population. Given the non-linearity of the relationship, the effect is calculated at the average GDP per capita level. <sup>3</sup> Regulatory stringency is constructed as an index based on the World Bank's Bank Regulation and Supervision Survey. The index takes a value between 0 (least stringent) and 1 (most stringent) based on 18 questions about bank capital requirements, the legal powers of supervisory agencies, etc. The graph shows the effects of a one-standard deviation decrease in the index. <sup>4</sup> One standard deviation increase in the banking Sector Lerner index (an indicator of bank market power). Source: Frost, Gambacorta, Huang and Shin (2018).

# What are the possible effects on financial intermediation?

- Client credit scoring techniques based on AI and data
  - Advantage over traditional banks
  - Applicable to SME with no audited financial statements
- Credit lines are “transactional”. Amplified effects in a downturn?
- New originate-to-distribute model
- Dominant role in payment systems and systemic risk

# Main challenges for public policy (1)

## 1. Financial stability risks

- Large MMFs are subject to investors' runs
- "Float" and creation of a parallel payment system
- Recent initiatives adopted by People's Bank of China
  - Cap on instant redemptions on MMFs
  - 100% reserve requirement on the "float"
  - Payments through authorized clearing houses



## Main challenges for public policy (2)

2. Traditional welfare issues arising from anti competitive forces
  - Efficiency vs market power
3. Safeguarding data privacy and consumer protection
  - Problems related to the use of data
  - Discrimination in credit scoring
4. Cyber security
  - Systemic risk in case of big tech operational failure
  - Cooperation between supervisors is needed for big tech firms that operate across national borders

# Conclusions

- The rapid growth of big tech firms creates new opportunities and risks
- It is important to understand how big tech firms fit within the current financial system in order to organise a satisfactory regulatory response
- Two new elements: financial services and digital ecosystem.  
Trade-off for regulation:
  - Provide a secure and level playing field
  - Foster innovative and competitive financial markets
- More need for cooperation between supervisors and information-sharing