Financial innovation and the credit channel

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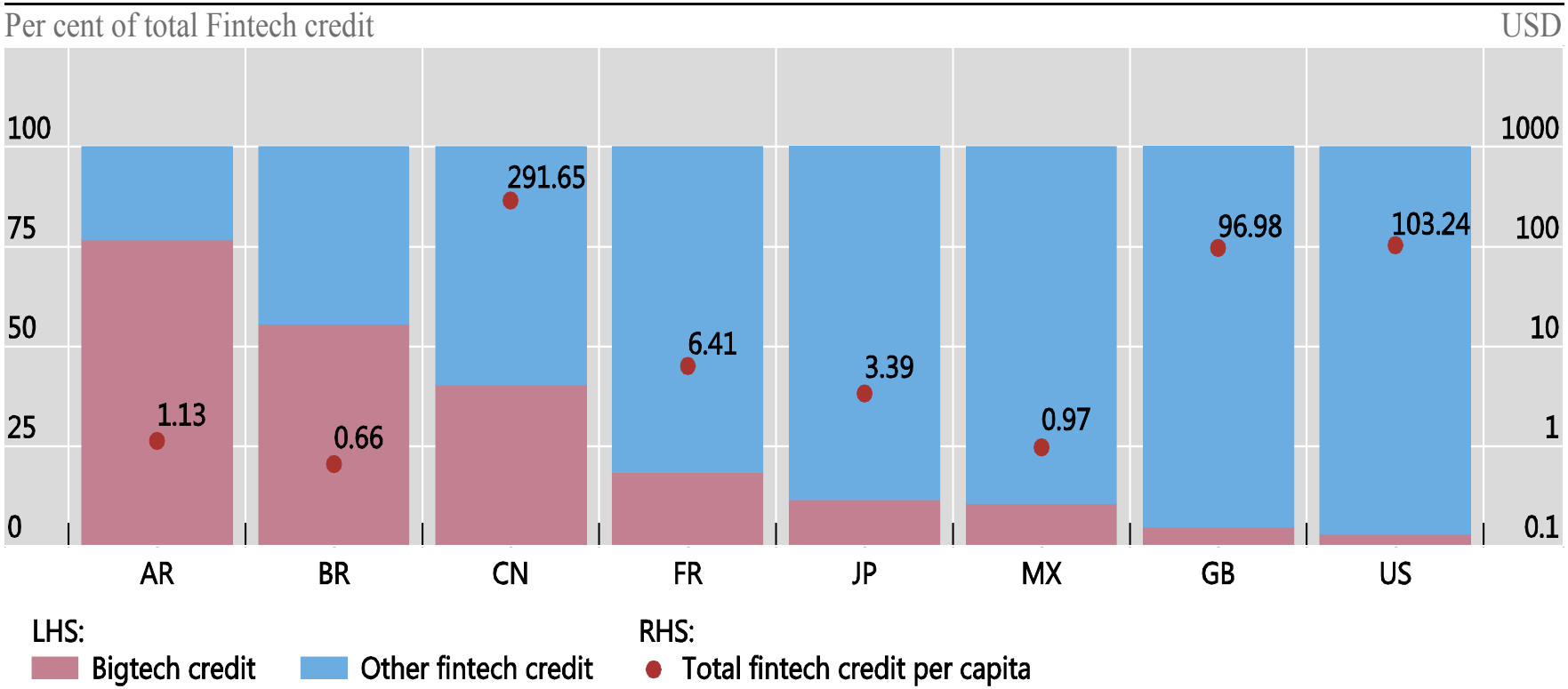
Financial intermediation is evolving

- Post-crisis the credit channel has been transformed by:
  - Unconventional monetary policies
  - Changes in the "originate-to-distribute" model
  - Impact of regulation
  - Reduction in cross border funding
  - Technology advances and entry of new players

- FinTech vs BigTech
  - FinTech companies provide technology-enabled innovation in financial services, processes and products (P2P)
  - FinTech firms should be distinguished from BigTech firms. "FinTech companies digitise money, while BigTech firms monetise data" (Zetsche et al, 2017)

FinTech and BigTech credit



Sources: Cambridge Centre for Alternative Finance and research partners; BIS calculations. Data for WeBank are taken from the public balance sheet: https://render.mybank.cn/p/s/render/404.

Source: Frost, Gambacorta, Huang and Shin (2018)

Potential drivers of FinTech

- On the demand side:
  - Unmet customer demand (Hau et al. 2018 for China; De Roure et al. 2016 for Germany, Tang 2018 for US)
  - Consumer preferences (Bain & Company and Research Now, 2017)

- On the supply side:
  - Access to data (Jagtiani and Lemieux, 2018; Fuster et al., 2018 for FinTech lenders)
  - Technological advances (van Liebergen, 2017)
  - Lack of regulation (Buchak et al., 2017 for FinTech)
  - Lack of competition (as alluded to in Philippon, 2015)

Are drivers of BigTech different?

- BigTech drivers are similar to those of FinTech. They reflect differences in economic growth and financial market structure (Frost et al 2018; Claessens et al., 2018)
- However, two institutional characteristics seems more relevant in economies where BigTech firms offer credit:
  - **Banking market power:** credit activity is higher in those jurisdictions with a less competitive banking sector. This results could be explained by the notion that BigTech credit is offered at relatively lower costs and it is relatively more convenient in these countries
  - **Regulatory stringency:** importance of light regulation for industry to develop new technology at initial stage

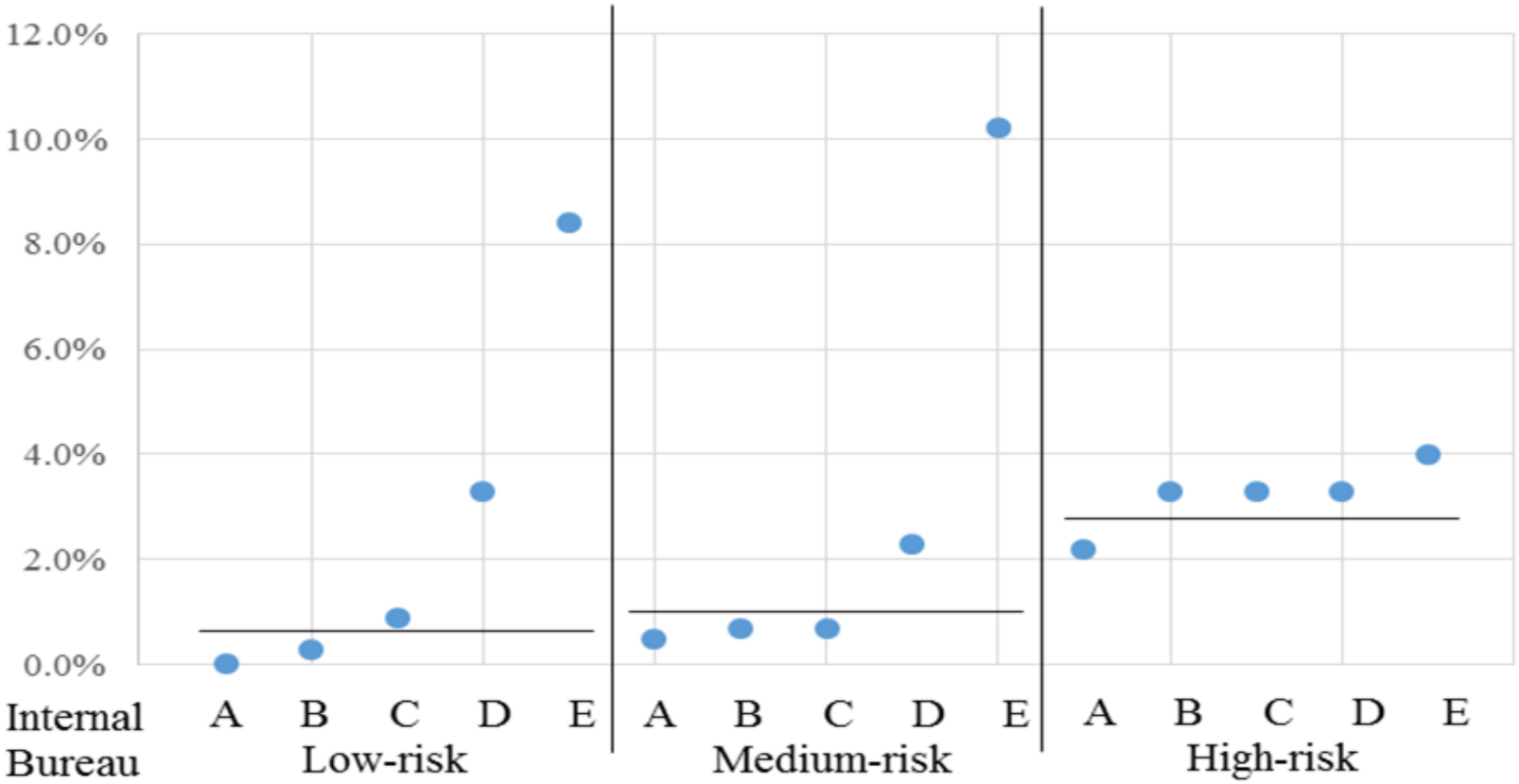
What are the possible effects on credit ratings?

- In contrast to banks, FinTech firms do not have a traditional branch distribution network to interact with their customers

- For BigTech, advantage on proprietary data obtained from e-commerce, social media activity and from users' digital footprints (Berg et al, 2018)

- Notably, the loan origination processes generally include credit decisions based on predictive algorithms and machine learning techniques. No human intervention

Loss rates by ML internal ratings vs. credit bureau in Argentina



Note: calculation on Mercado Libre data. The Figure shows the loss rate, i.e. the volume of loans more than 30 days past due relative to the origination volume. In its use to date, the internal rating of Mercado Libre is better able to predict such losses. It segments the originations into five different risk groups (A through E) versus the three clusters identified by the bank bureau. For a given bureau rating (i.e. low), the expected loss rate is strictly monotonous with the internal rating (i.e. internal rating orders expected loss). Conversely, given an internal rating (i.e. C, D or E), the loss rate is not strictly monotonous with the bank bureau risk. Source: Frost, Gambacorta, Huang and Shin (2018).

Are there possible side effects?

- BigTech platforms and double-tied relationship that they built with the vendor (that is also the borrower)
  - Higher predictive power of credit ratings or threat to be excluded from the platform?

- Shift from relationship lending to transactional lending
  - Different effects in a downturn: financial systems based on relationship banking can better protect firms in adversity, especially if banks have sufficient levels of capital (Bech et al, 2016; Bolton et al, 2016)

- Asset transformation role and new credit risks
  - New originate-to-distribute model with characteristics that need to be fully explored

Conclusions

- Credit channel is evolving and one important factor is technological innovation

- BigTech firms have burst onto the scene in financial services. The growth has been extensive in China, but it is also present in other regions such as East Africa and South Asia, Europe and even North America

- We still need to understand the overall impact of FinTech credit on resource allocation and what are the financial stability implications

- Evaluation should be done over a complete financial cycle

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