



The Promise of Fintech: Financial Inclusion

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OUTLINE

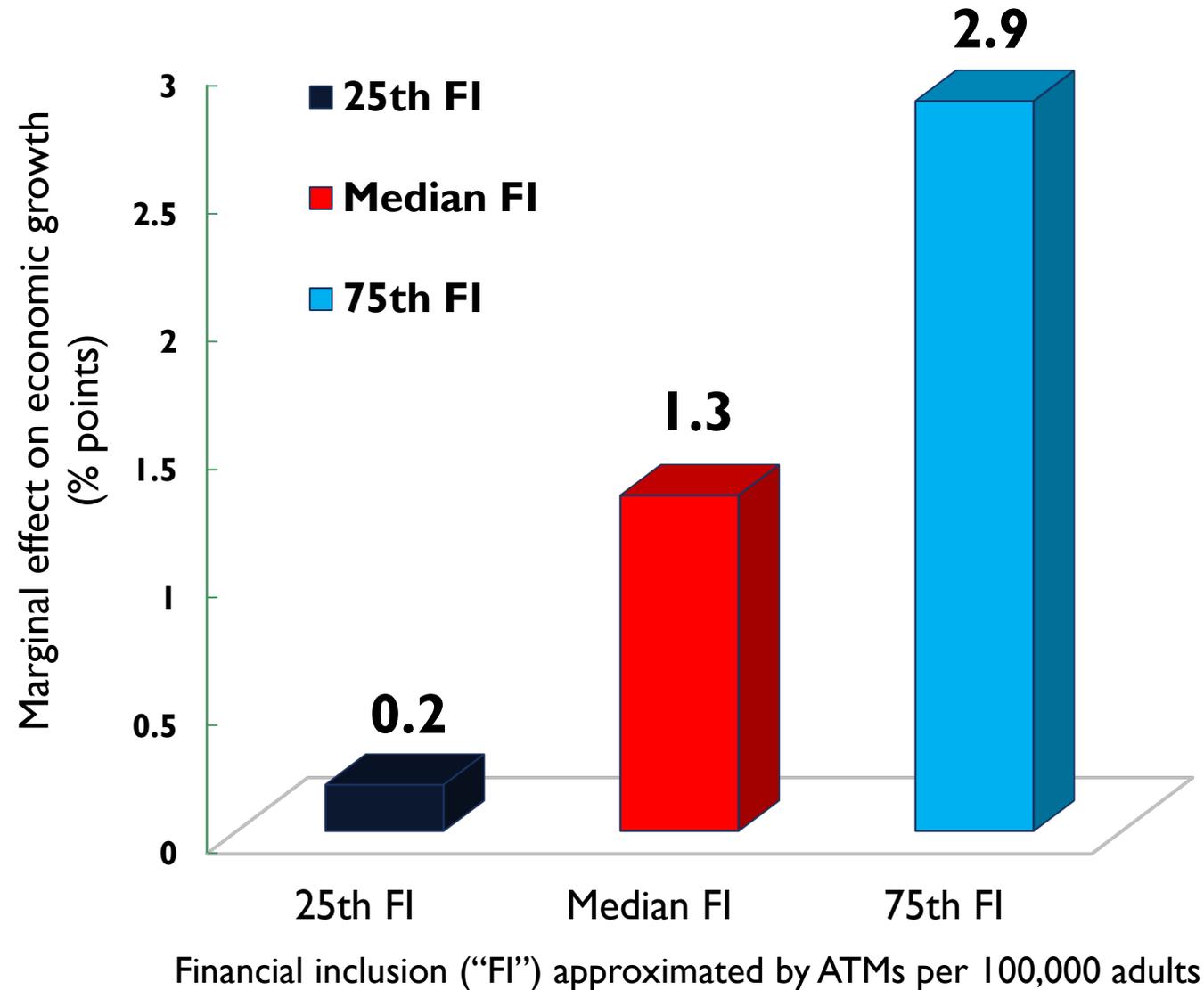
1. Motivation: Why do we care about financial inclusion?
2. Existing work & our contribution
3. Is fintech increasing financial inclusion?
4. What are the macroeconomic implications of digital financial inclusion?
5. What are the constraints and risks to digital financial inclusion?
6. Key takeaways & policy implications



I. MOTIVATION: WHY DO WE CARE ABOUT FINANCIAL INCLUSION?

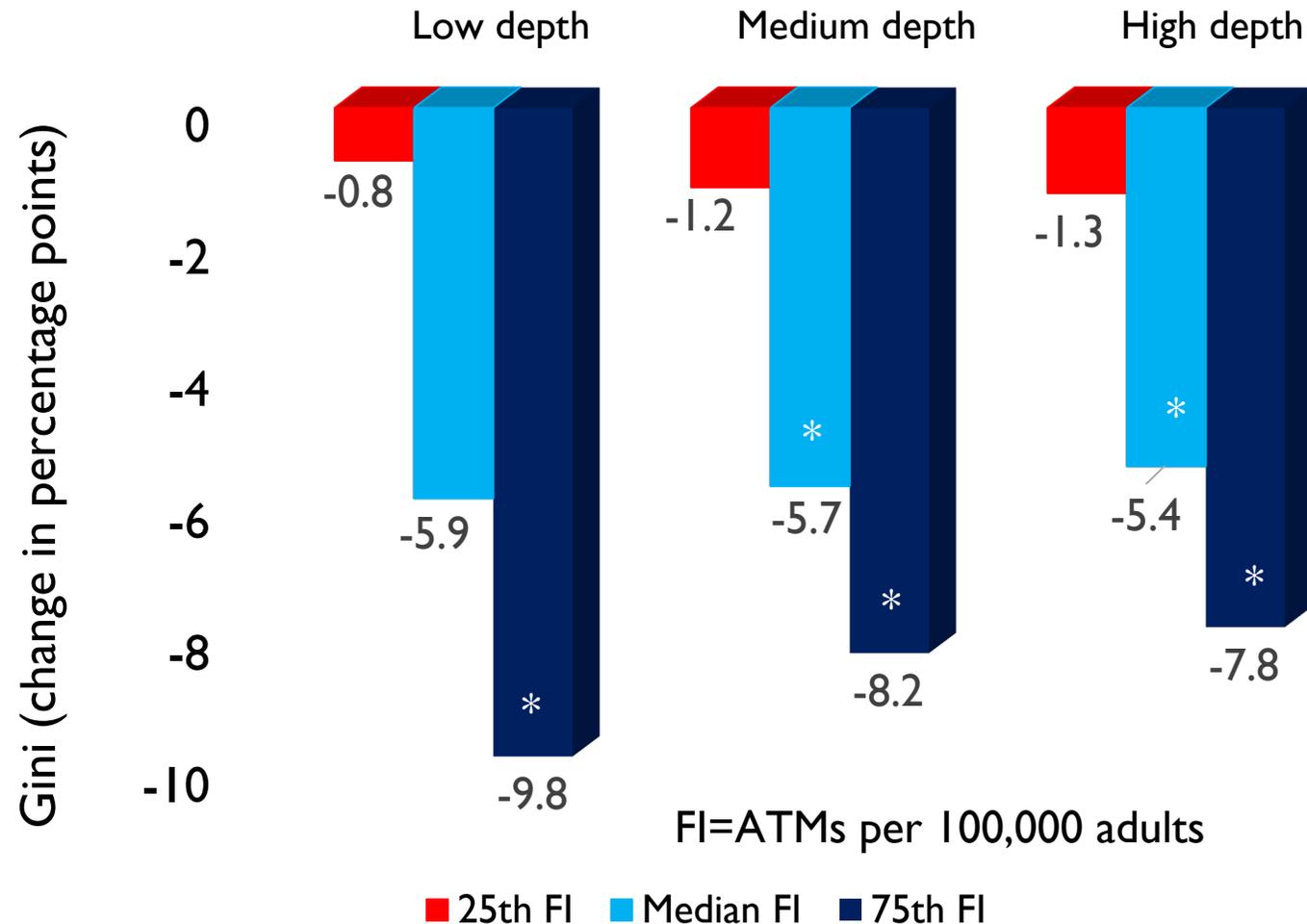


Inclusion-growth nexus: positive effect on economic growth

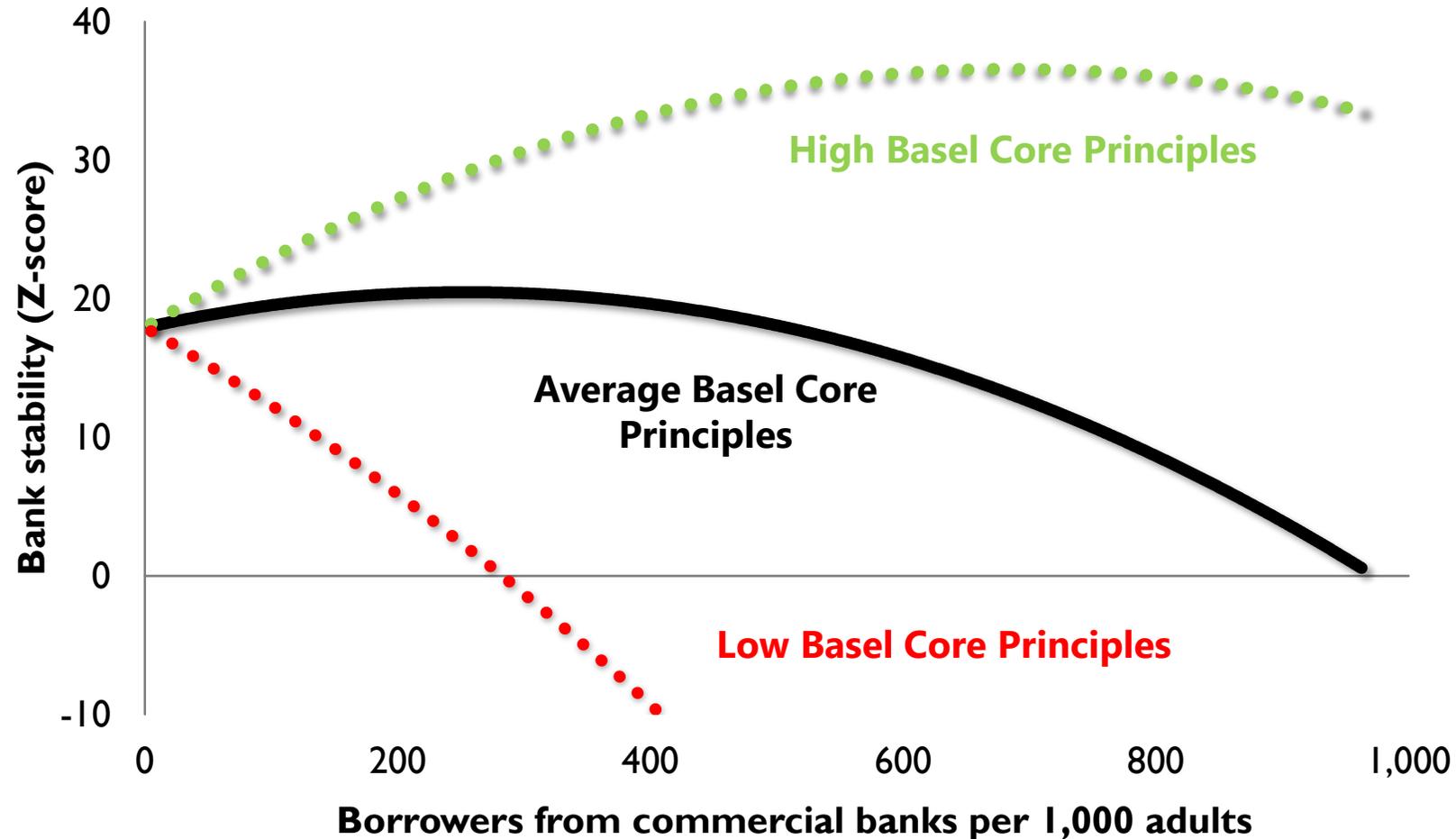


Financial inclusion reduces inequality, independent of depth

- **Greater financial inclusion (payments) leads to lower inequality.**
- **Inequality falls more at lower depth.**



Financial stability: regulation and supervision can help ensure that financial inclusion (credit) and financial stability (Z-score) go hand-in-hand



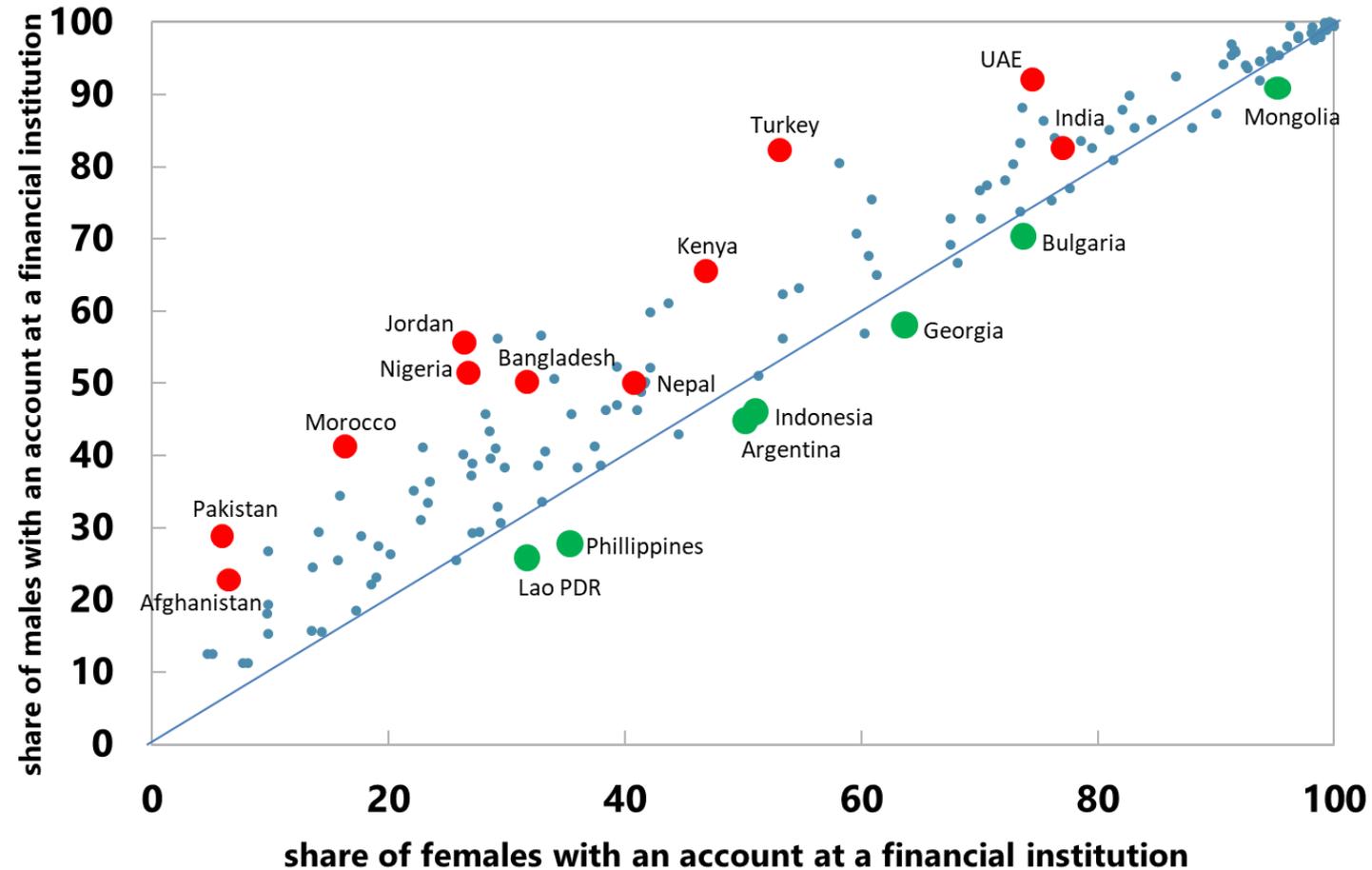
Source: IMF Staff Discussion Note 15/17, updated estimates with Financial Access Survey data till 2019.

Note: Bank stability is approximated by bank z-score, which captures banks' distance-to-distress (the amount of buffers banks have against shocks to earnings) and is represented by the formula: $z = (x - \mu) / \sigma$ where x is the observed value, μ is the mean of the sample, and σ is the standard deviation of the sample.

Financial inclusion: there is a long way to go

Adults with a Financial Institution Account

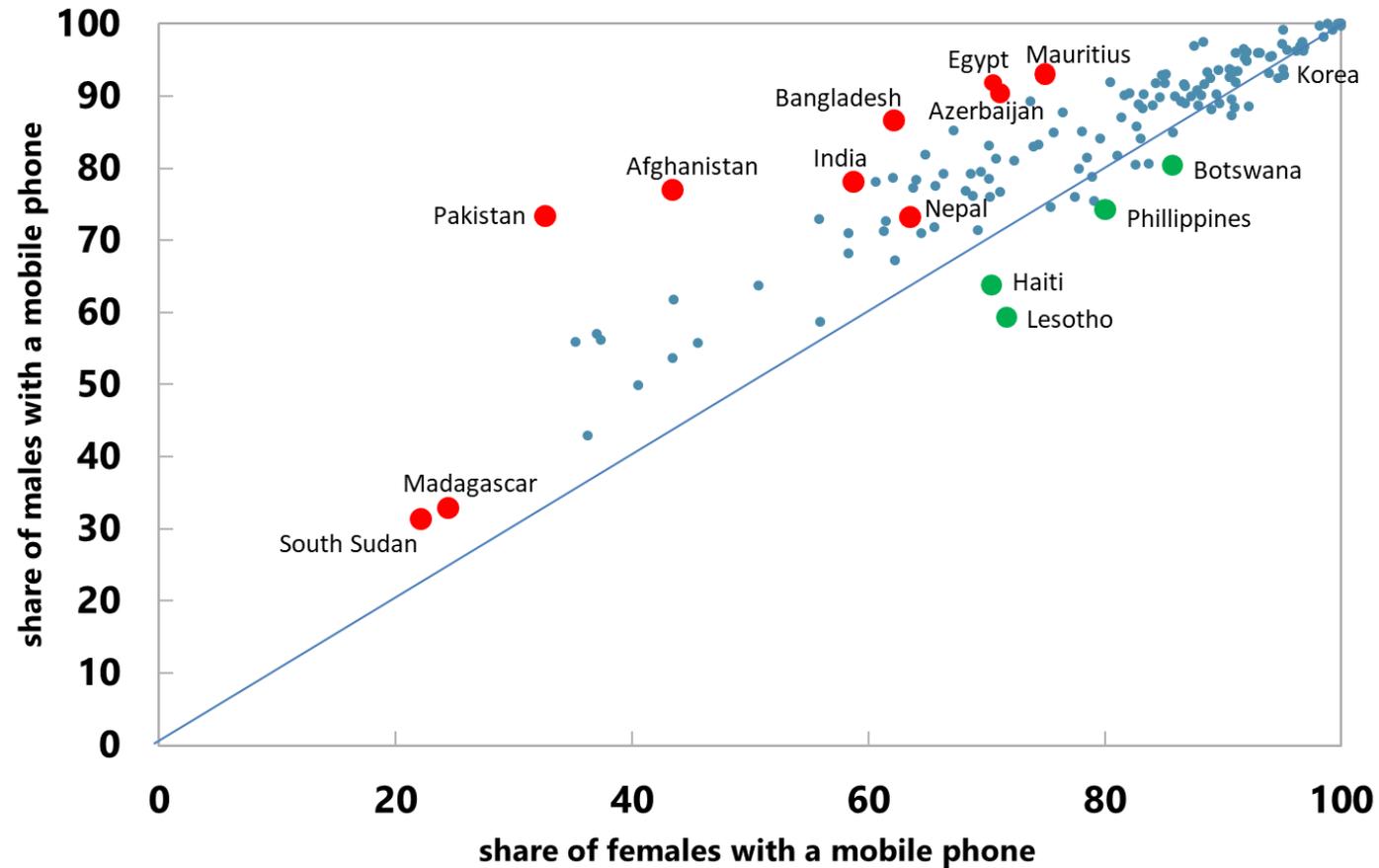
(In percent, 2017)



Fintech is playing an increasing role in financial inclusion

Adults with Access to a Mobile Phone

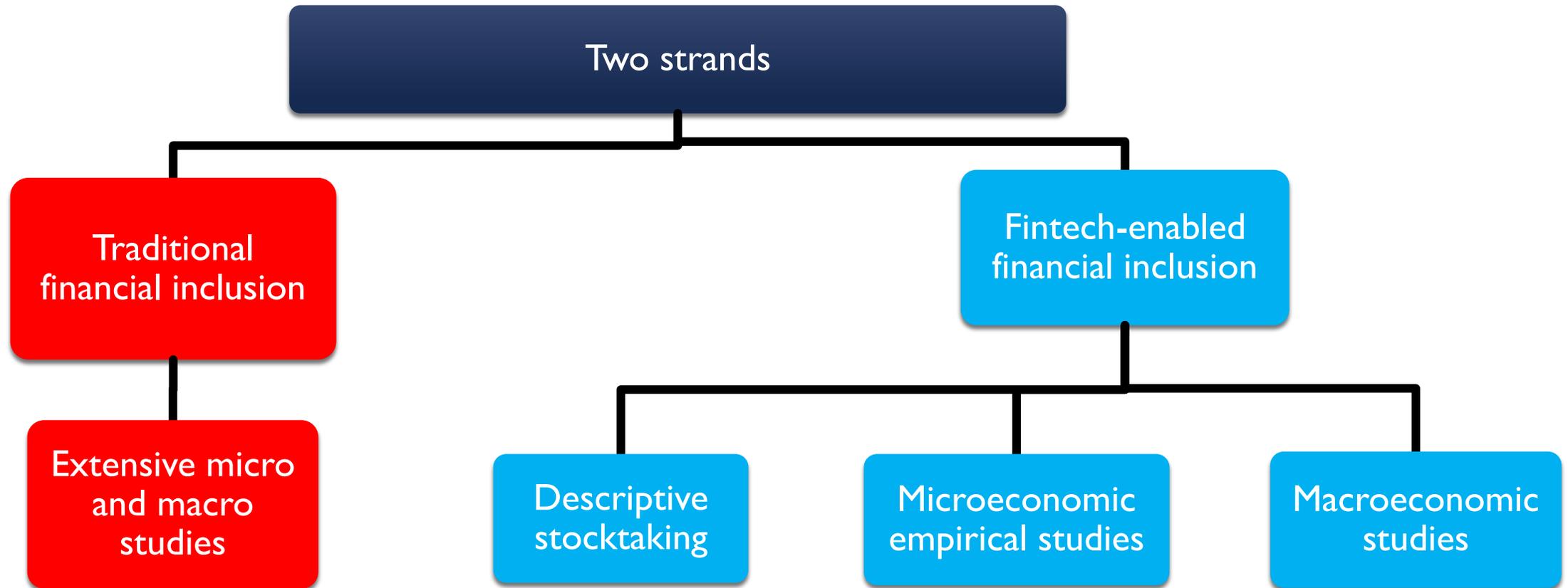
(In percent, 2017)



2. EXISTING WORK & OUR CONTRIBUTION



Existing work on fintech and financial inclusion

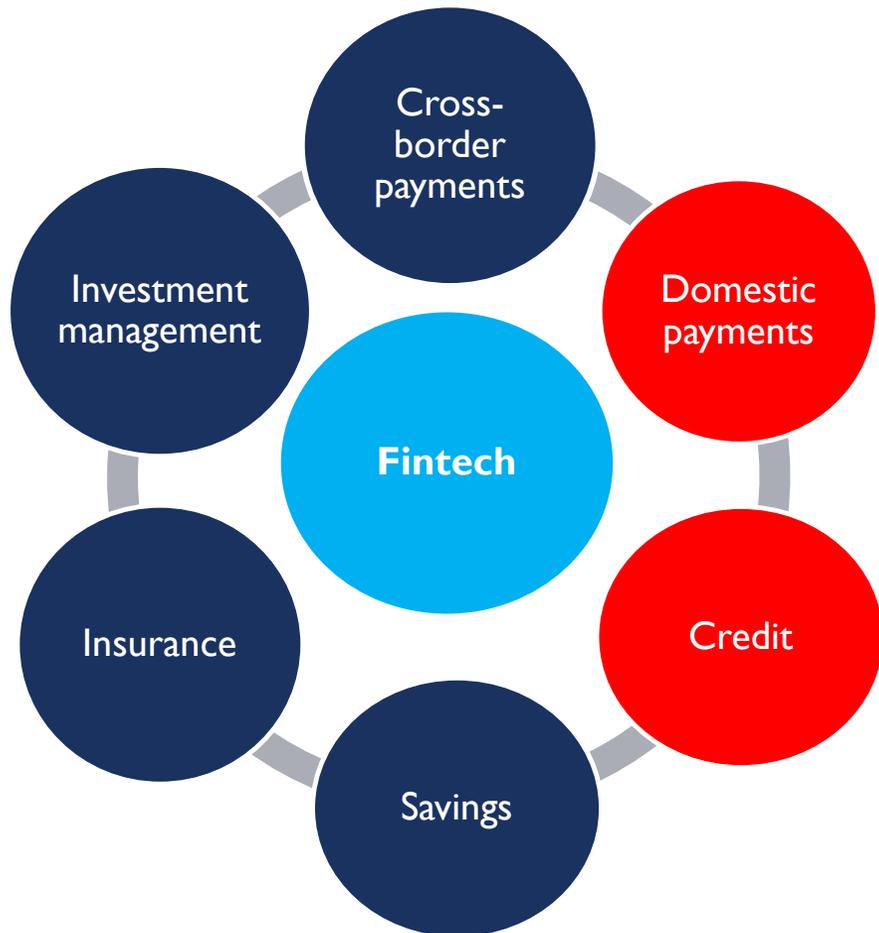


- Focus on financial inclusion through traditional means.
- Use of fintech services have not been included in financial inclusion.

- Majority firm-specific (M-Pesa, Ant Financial) and/or country-specific micro-empirical work (Africa).
- Piecemeal approach: focus on one aspect.
- Macroeconomic literature virtually non-existent.

Goal of new research: comprehensive cross-country analysis of the relationship between fintech and financial inclusion

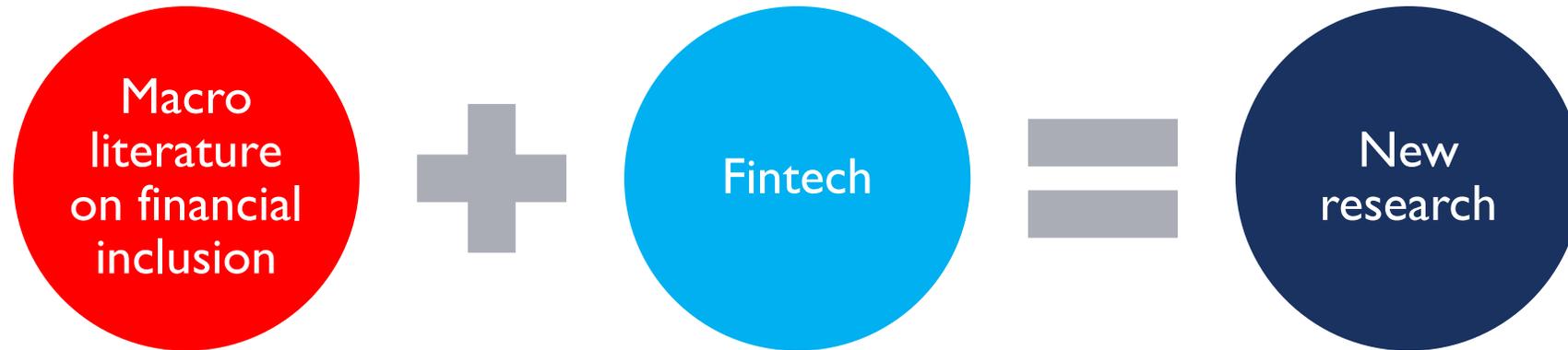
Focus: **payments & credit**



Questions

1. Is fintech increasing financial inclusion?
2. What are the macroeconomic implications of digital financial inclusion?
3. What are the constraints and risks to digital financial inclusion?

Our contribution: first macro study of digital services



- **First comprehensive macro-focused empirical research:** new financial inclusion measure is used for cross-country empirical analysis on fintech's drivers and macroeconomic effects.
- **New comprehensive measure of financial inclusion in payments:** this includes access to and usage of digital financial services covering 52 developing and emerging economies.
- **Addresses limitations of the data and empirical analysis:** complement the quantitative analysis with interviews with relevant stakeholders.

Two-pronged approach: empirical analysis + interviews with fintech stakeholders

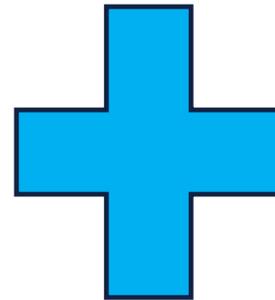
Interviews

70 + stakeholders

- Fintech companies
- Banks
- Regulators
- Think tanks

All regions

- AFR, APD, EUR, MCD, WHD



Data

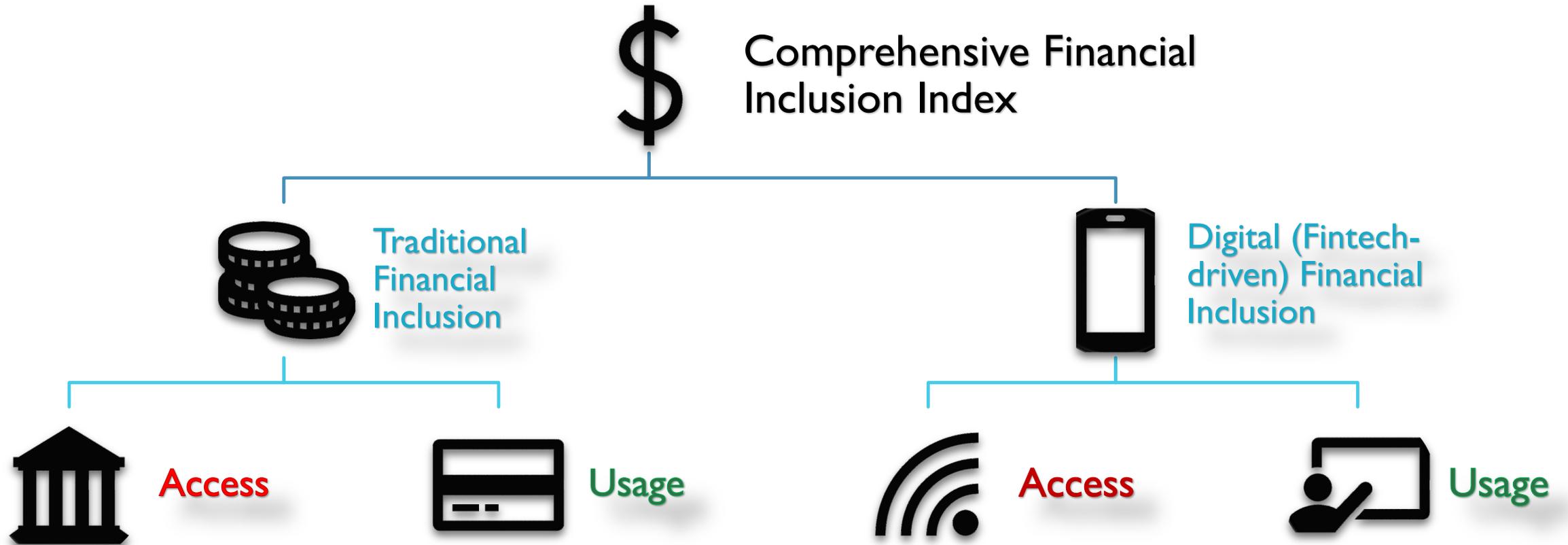
Payments: 52 emerging and developing countries

- IMF Financial Access Survey
- World Bank Global Findex
- GSMA Mobile Money Database
- International Telecommunication Union

Credit: 109 countries

- Cambridge Centre for Alternative Finance: marketplace lending database

Comprehensive measure of financial inclusion



3. IS FINTECH INCREASING FINANCIAL INCLUSION?

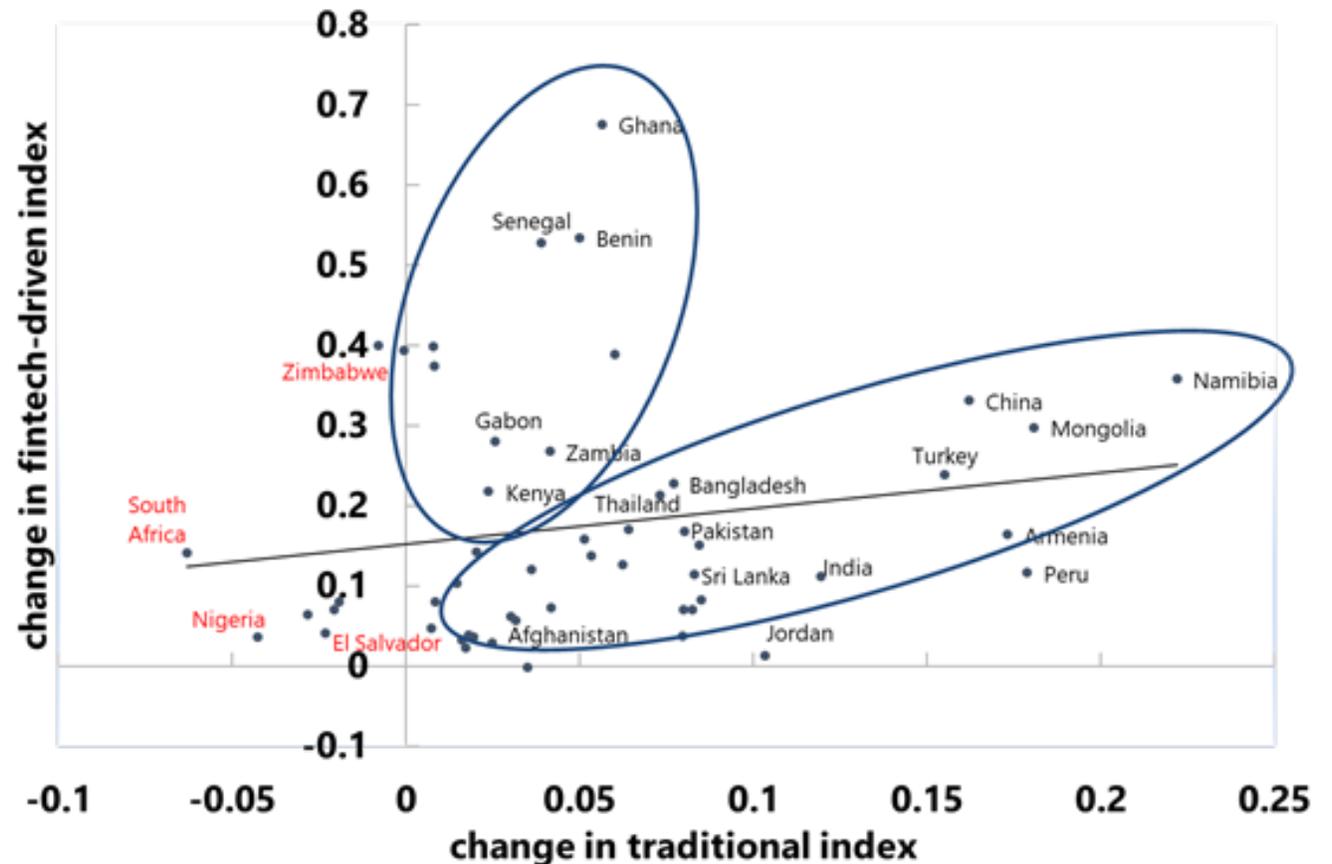


Digital financial inclusion in payments is growing everywhere, even where traditional is not

Interviews confirm findings:

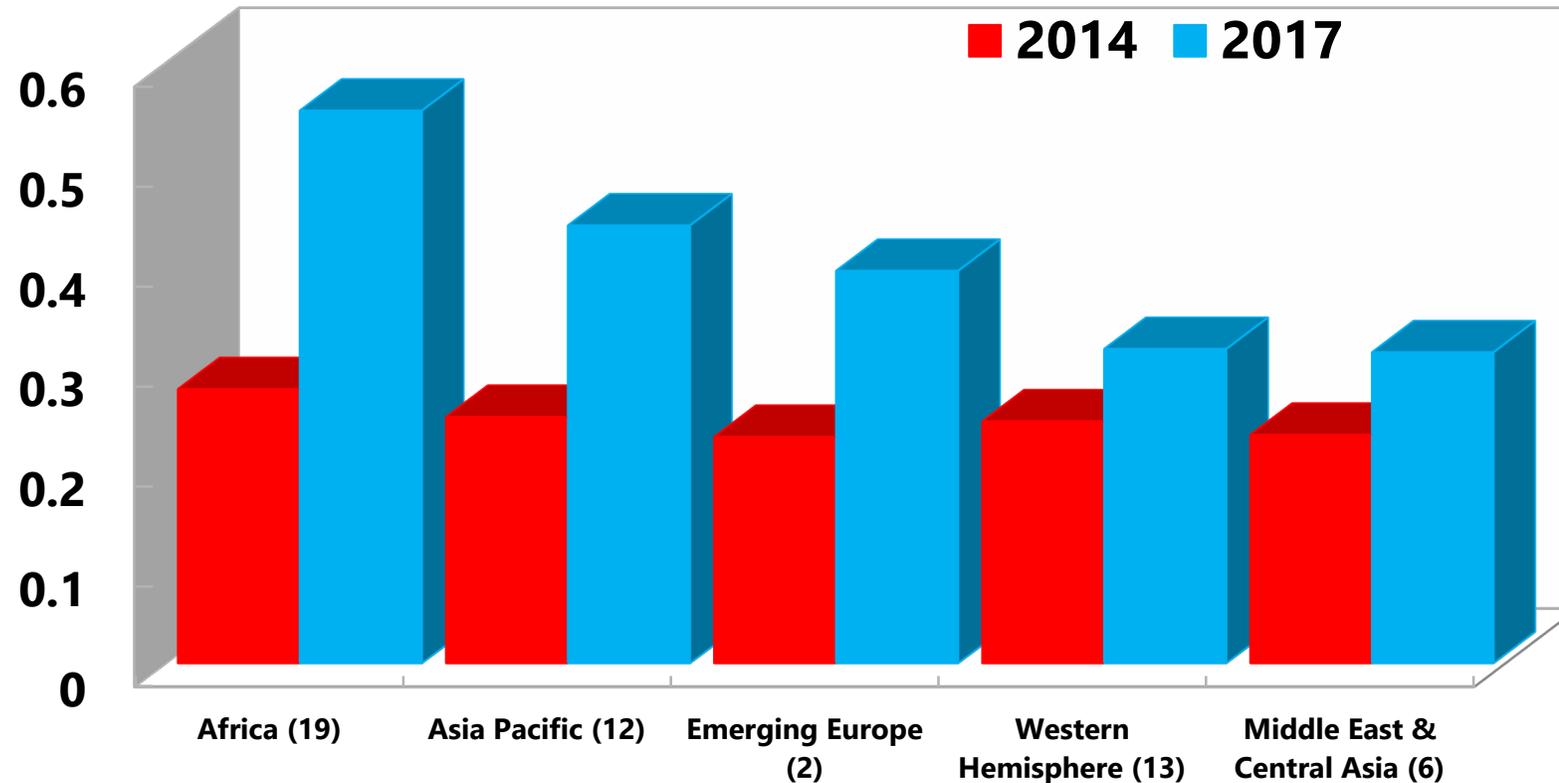
- ❖ Accessible: mobile phones
- ❖ Low cost
- ❖ Flexible
- ❖ User-friendly
- ❖ Efficiency
- ❖ Customization

Progress in Financial Inclusion
(2014-2017)



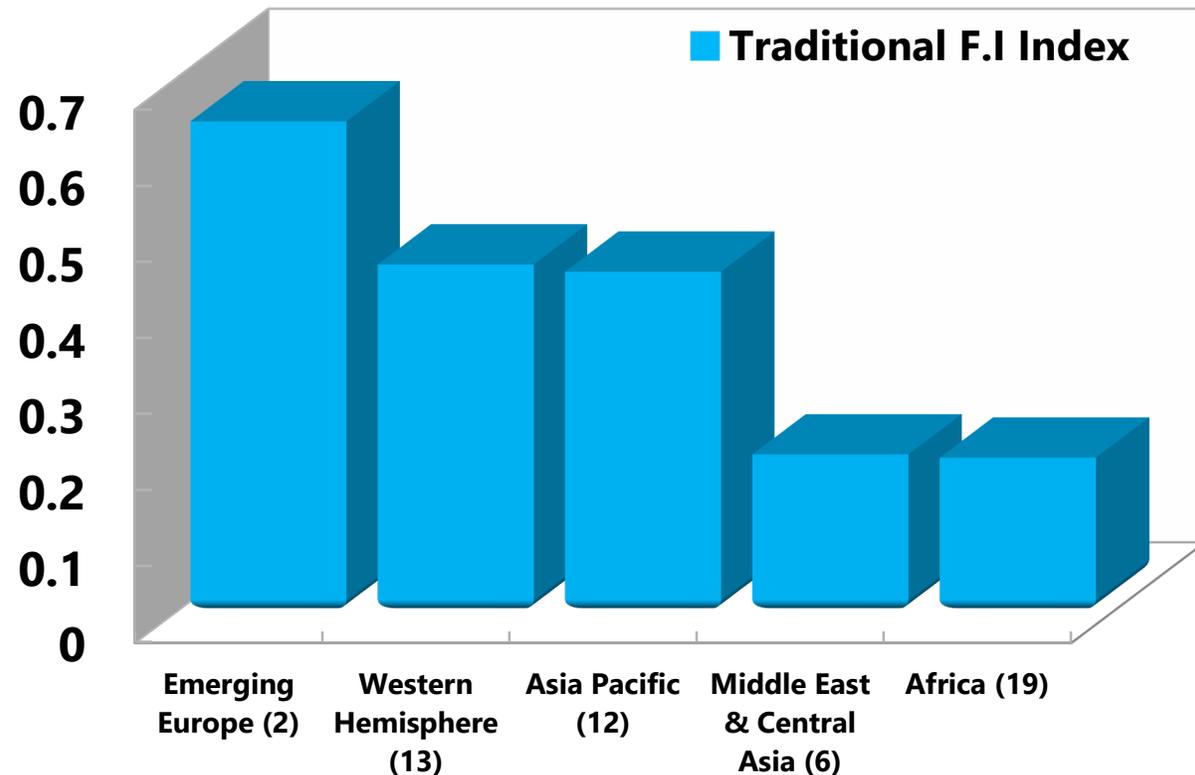
Africa and Asia-Pacific are leading in adoption of fintech payments

Fintech-driven Financial Inclusion Index

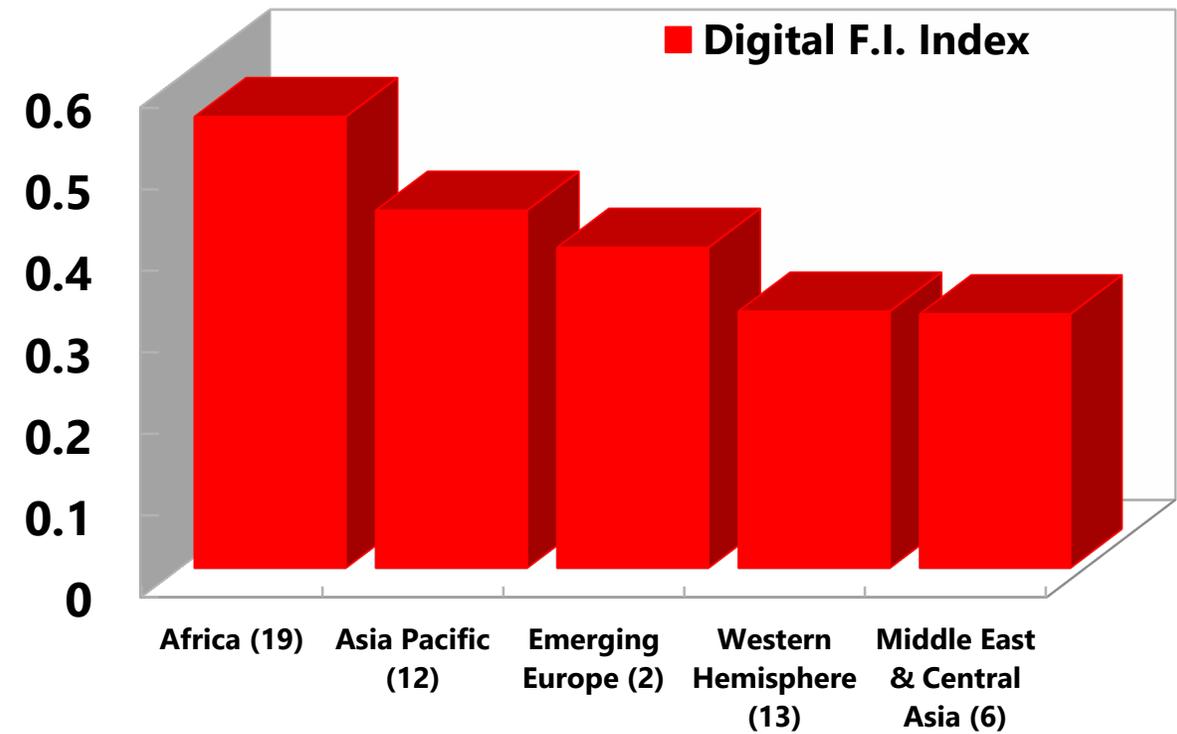


Traditional vs. fintech: regions rank differently

Traditional Financial Inclusion, 2017



Digital Financial Inclusion, 2017

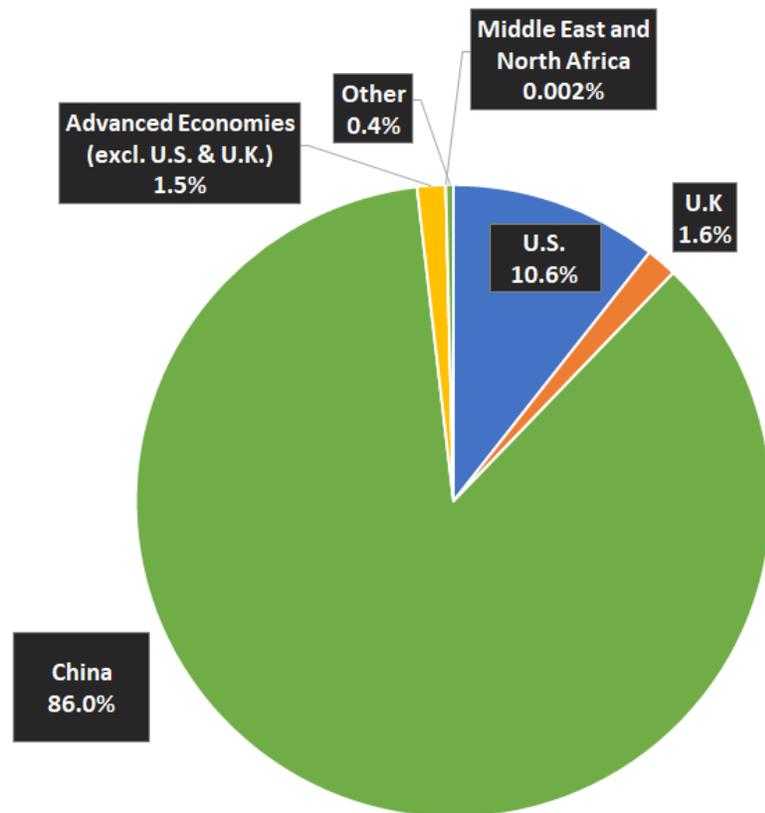


Source: Global Findex, FAS, GSMA, ITU, IMF Staff Calculations. Indices ranges from 0 to 1 where 1 indicates higher financial inclusion. Traditional and digital financial inclusion indices are not directly comparable. Based on a sample of 52 emerging and developing countries for which data is available. The numbers in parenthesis in the LHS chart shows the number of countries included in each region.

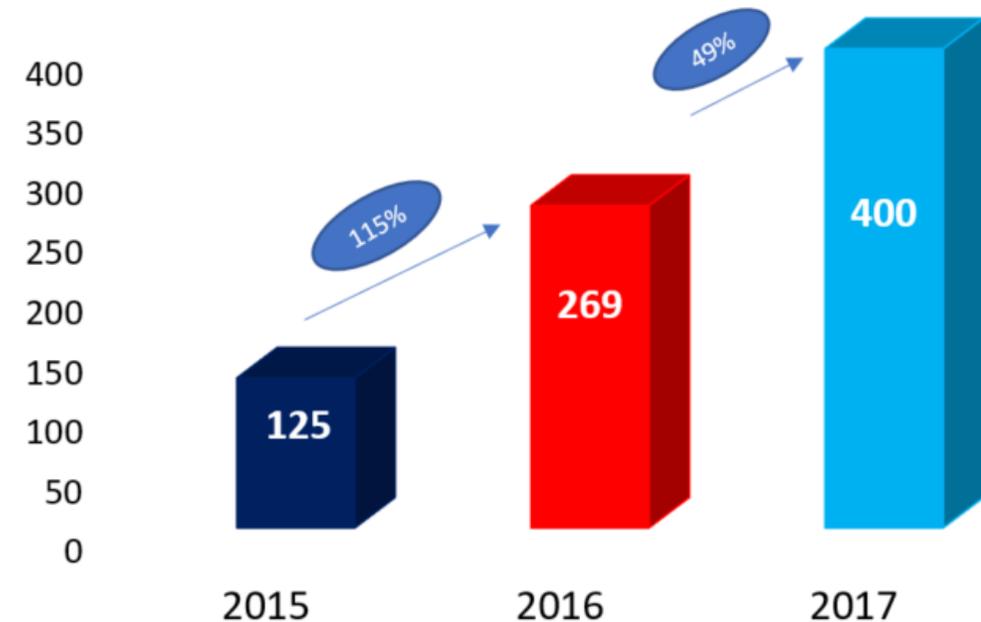
China dominates the global market for fintech credit, followed by U.S. & U.K...

...but it is growing rapidly even in other parts around the world

Global Volume of New Fintech Credit, 2017 (In percent of fintech credit)



Global Fintech Lending (In billions of USD)



Fintech credit: low base, fast growth—especially consumer credit

Interviews

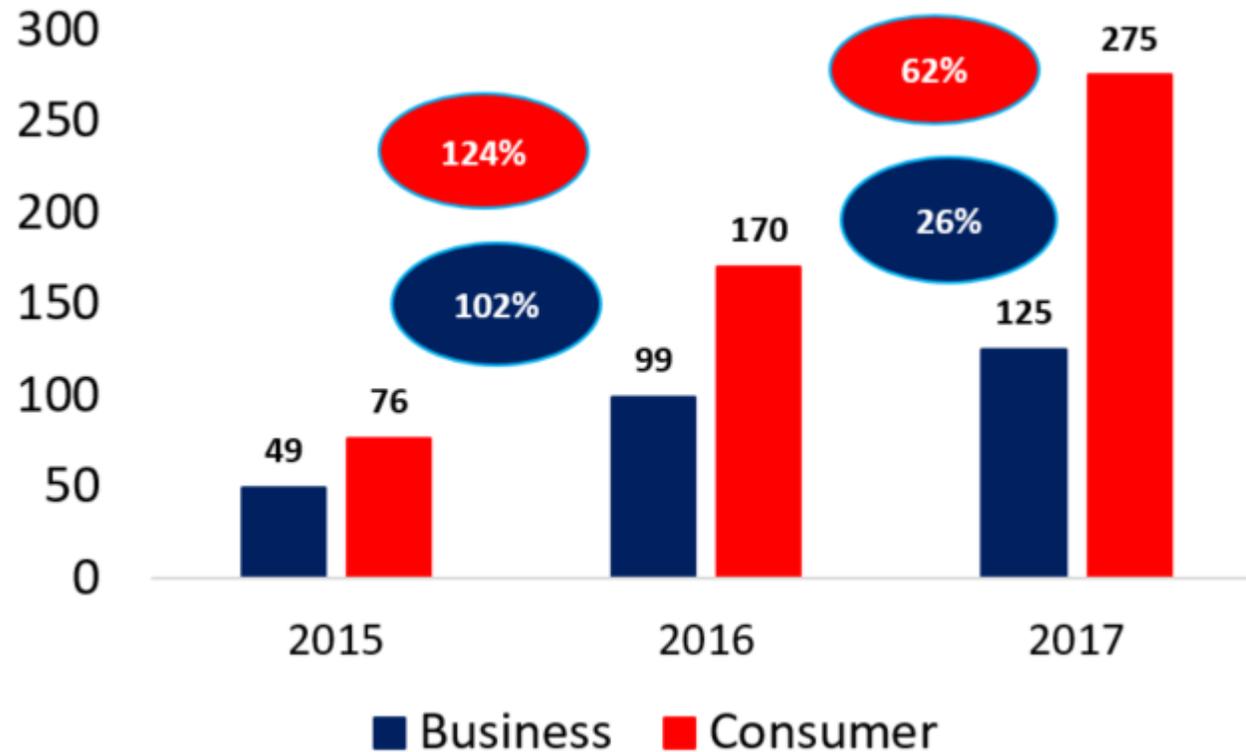
How does digital lending work?

- ❖ Alternative sources of data for creditworthiness assessment
- ❖ No collateral requirements

Why is digital lending growing fast?

- ❖ Speed
 - ❖ Simplicity
 - ❖ Convenience
- } Customer experience

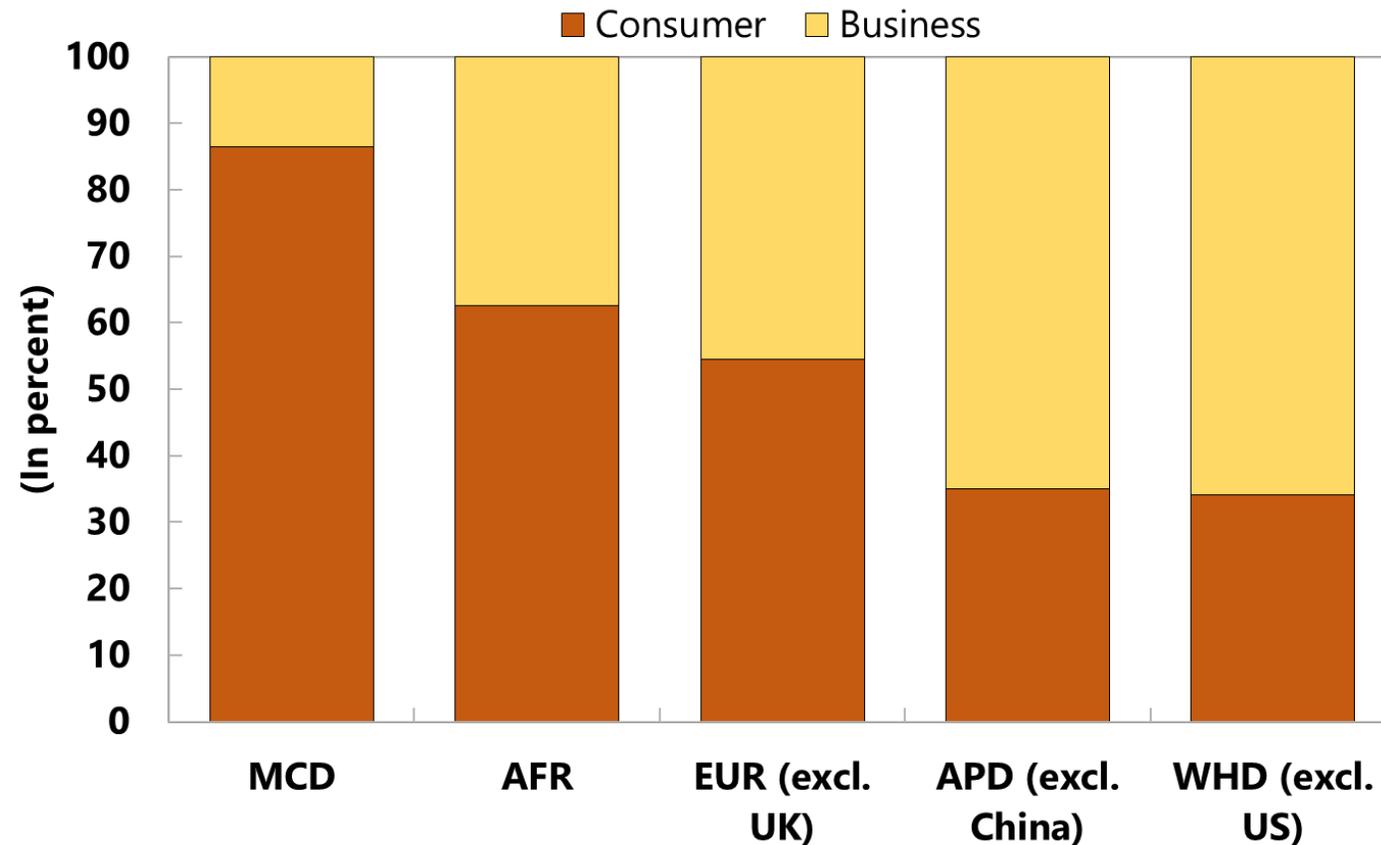
Global Fintech Lending by Main Segments
(In billions of USD)



Sources: CCAF and IMF staff calculations. Excludes non-sovereign territories. Full dataset for Emerging and Developing Europe, MENA and SSA not available for 2017.

Credit composition varies widely across regions

Fintech Credit Composition by Regions, 2017



4. WHAT ARE THE MACROECONOMIC IMPLICATIONS OF DIGITAL FINANCIAL INCLUSION?



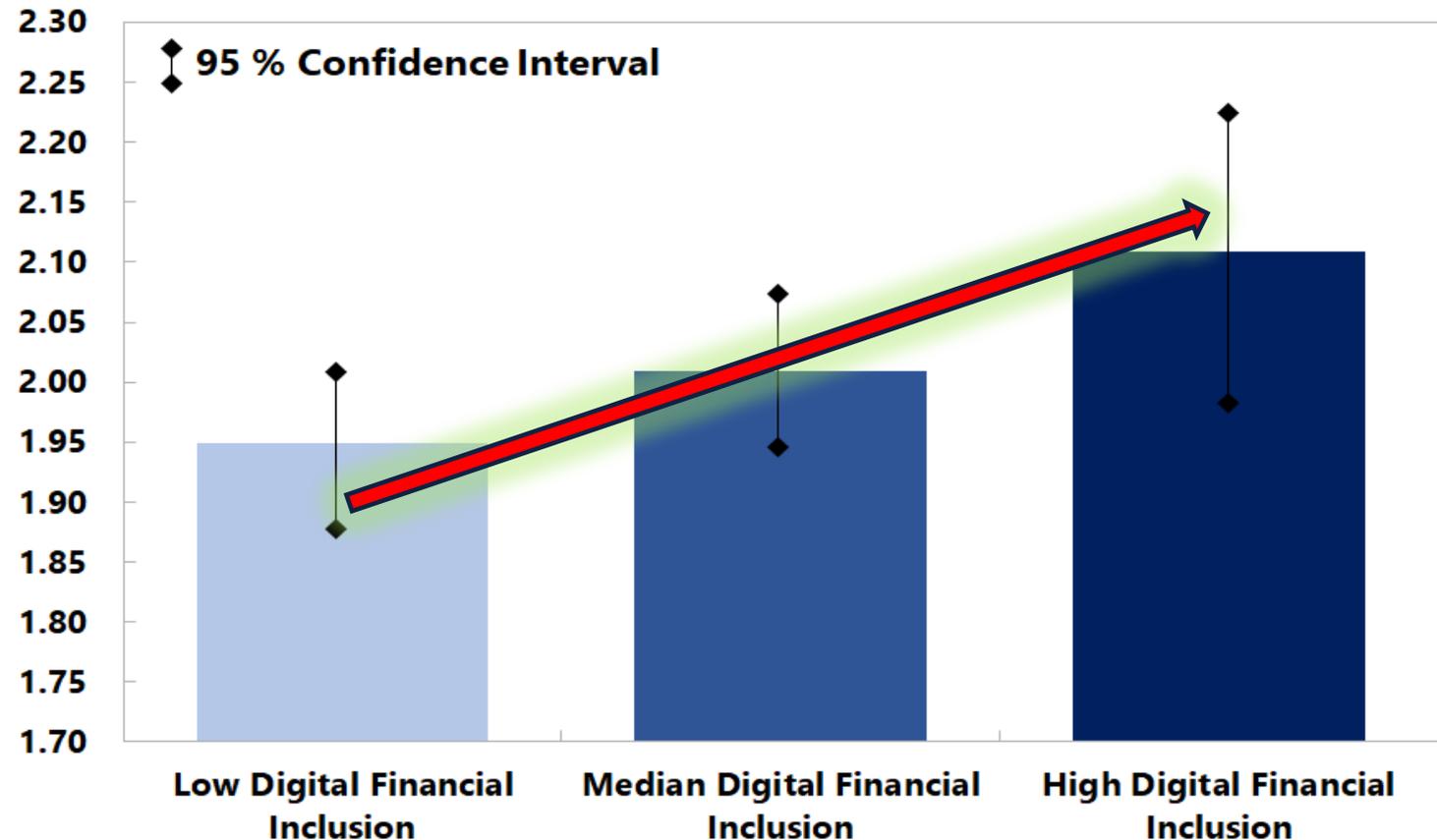
Growth: digital financial inclusion is associated with faster growth

Interviews: how does digital financial inclusion support growth?

- ❖ From digital payments to digital credit
 - ❖ Consumer credit: consumption smoothing
 - ❖ SME credit: working capital and investment

Impact of Digital Financial Inclusion in Payments on Growth

(In percent of annual GDP growth)



Implications of COVID-19 for digital financial inclusion

A more rapid shift towards digital financial inclusion:

- SARS epidemic in 2003
- Supportive measures: e.g. lowering fees and increasing limits on digital transactions

Mitigate the economic impact of the COVID-19 pandemic, and support the recovery:

- Ensure continued access to financial services
- Deliver government support effectively and securely
- Support consumption, innovation and hence productivity through digital economy developments.

Fintech companies are filling the gap left by traditional banks...

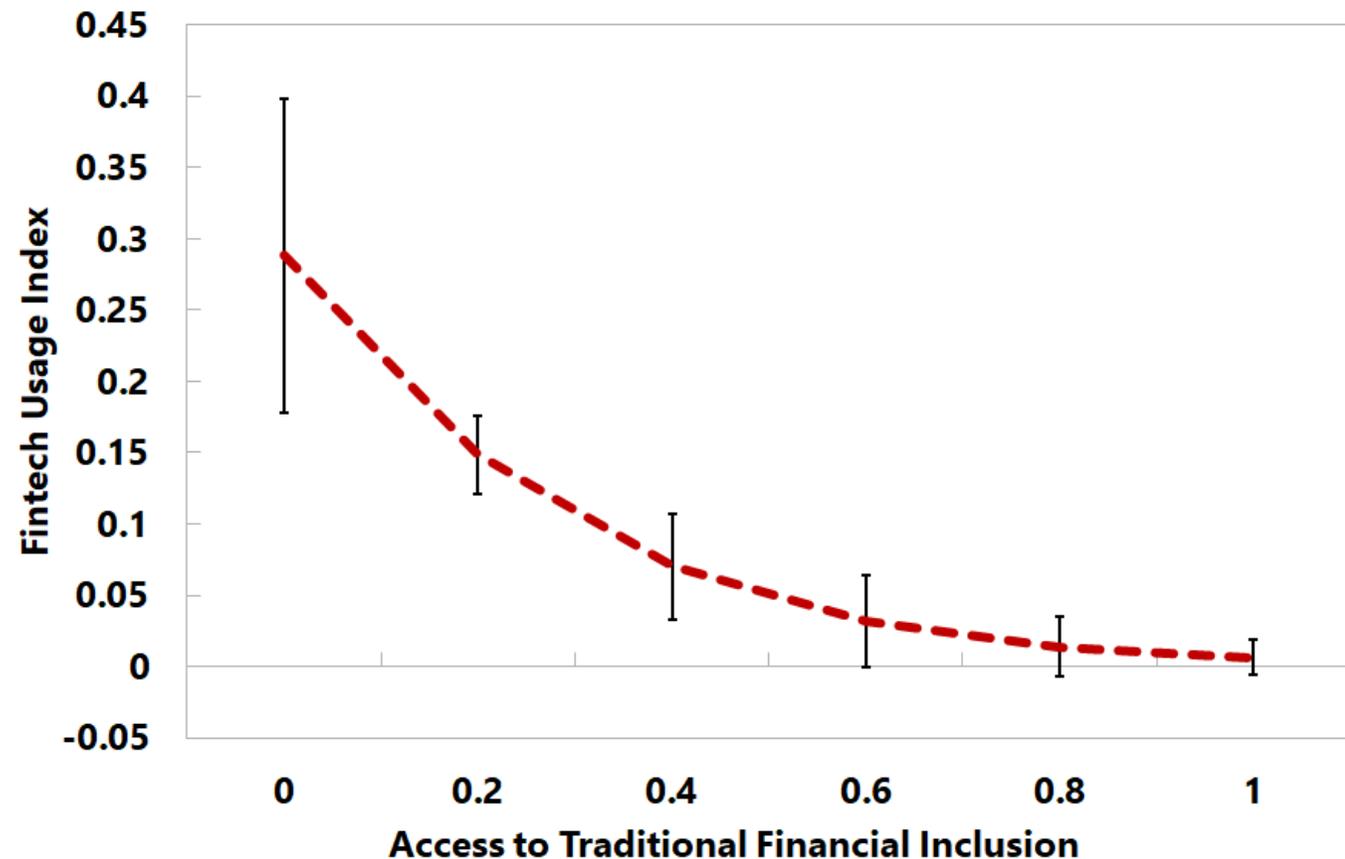
Interviews: various models

- ❖ Niche markets
- ❖ Competition (e.g. digital banks)
- ❖ Collaboration

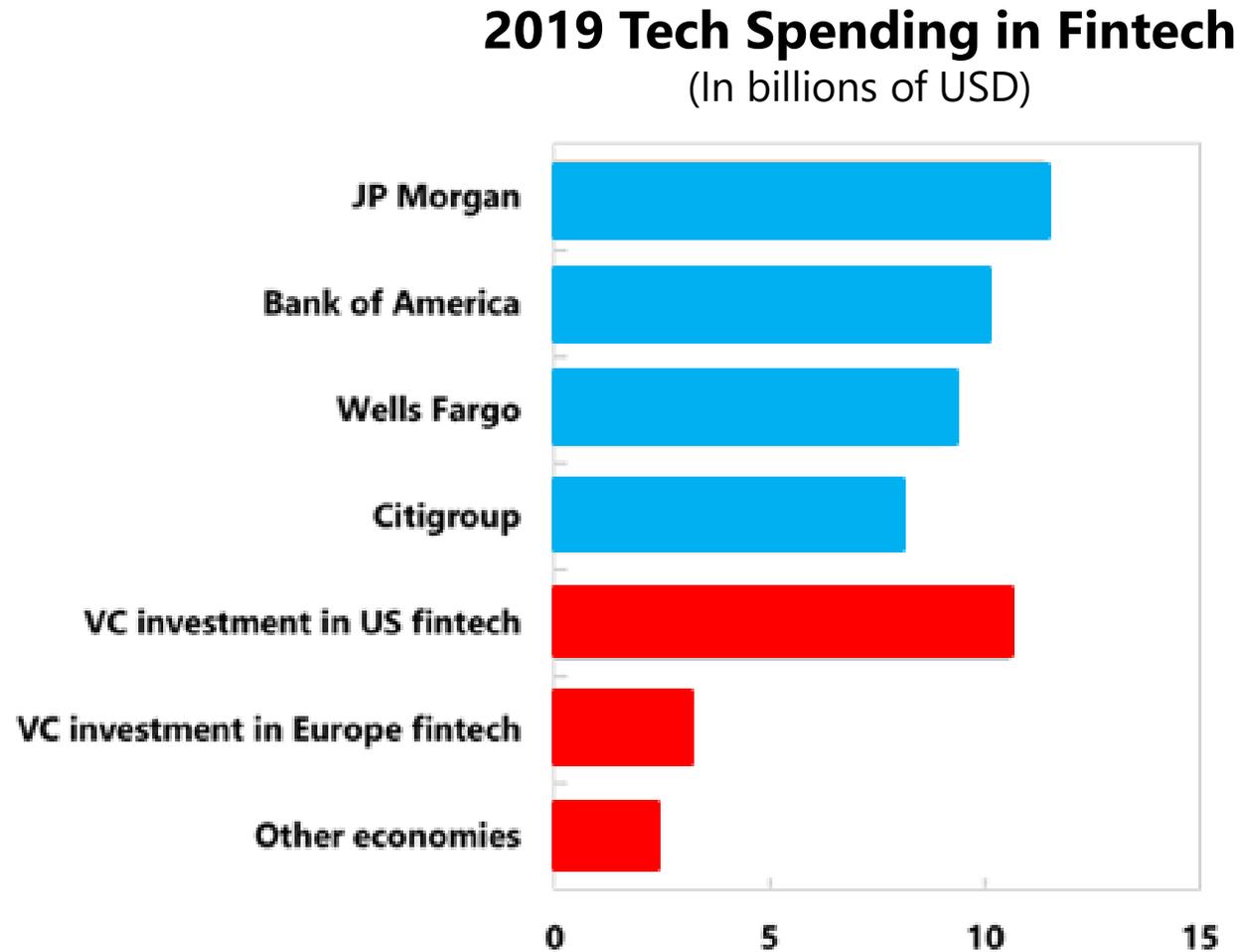
Data: “filling the gap”

- ❖ More digital payments where traditional financial access is limited
- ❖ Higher digital lending where bank branches are few

Fintech is “filling the gap” (2014-2017)



...while big banks are responding to the disruptions from fintech



Source: Bank disclosures, data compiled by Bloomberg, KPMG Pulse of Fintech Report and Innovate Finance Investment landscape report, based on Pitchbook Data.

Note: VC investment data based on 2018 levels. Other economies include Canada, Hong Kong, Japan, India, and Brazil..

5. WHAT ARE THE CONSTRAINTS AND RISKS TO DIGITAL FINANCIAL INCLUSION?



Digital financial inclusion faces several constraints

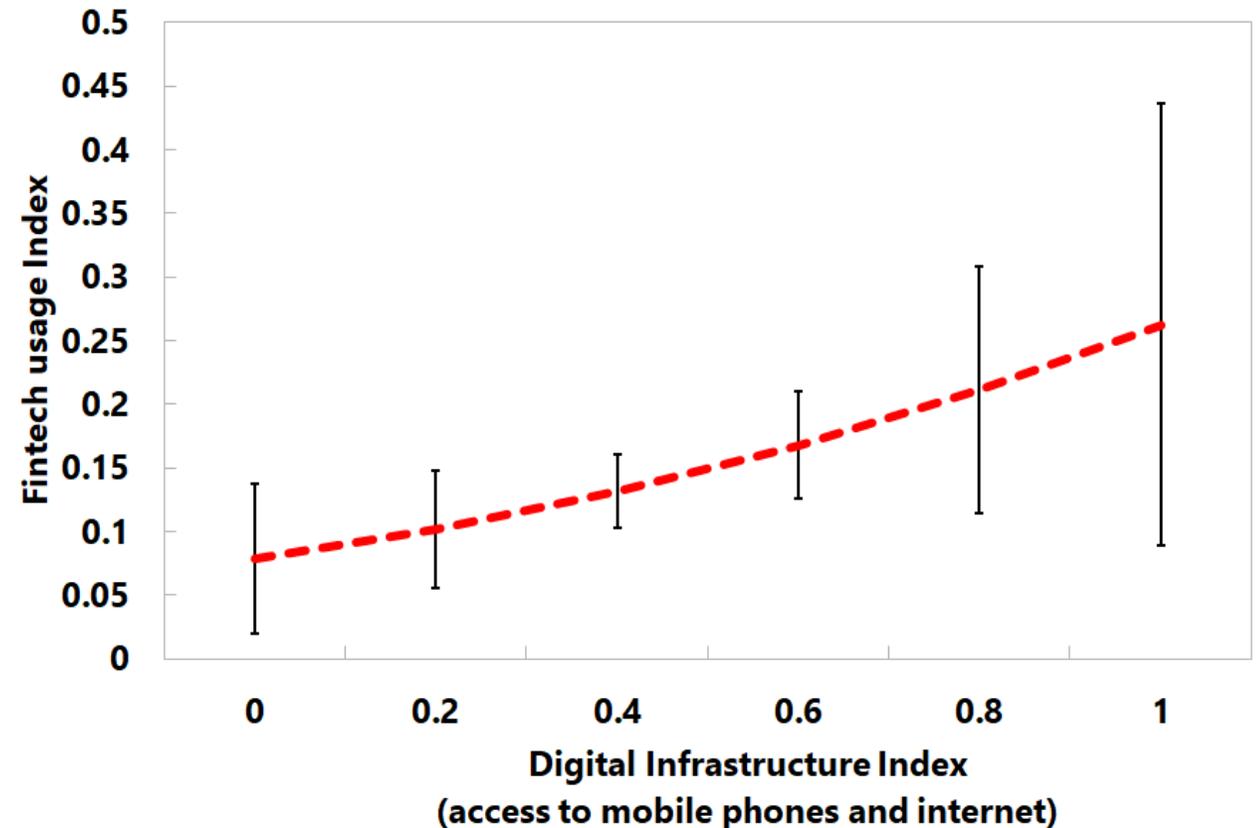
Constraints: interviews

- ❖ Regulatory uncertainty
- ❖ Technological expertise – the “coders”
- ❖ Funding
- ❖ Financial & digital literacy

Findings from data analysis

- ❖ Payments
 - Digital infrastructure & mobile money agents
 - Trust/ familiarity with financial services
 - Quality of governance
 - Efficiency of traditional financial institutions
 - Competition in the financial sector
- ❖ Lending
 - Borrower information
 - Legal rights

Marginal effects of digital infrastructure on fintech usage (2014, 2017)



Source: IMF Staff Calculations based on a fractional logit regression for 52 developing and emerging economies.

Risks: new sources of financial exclusion?

Financial Exclusion

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graph TD; A[Financial Exclusion] --> B[Direct]; A --> C[Indirect]
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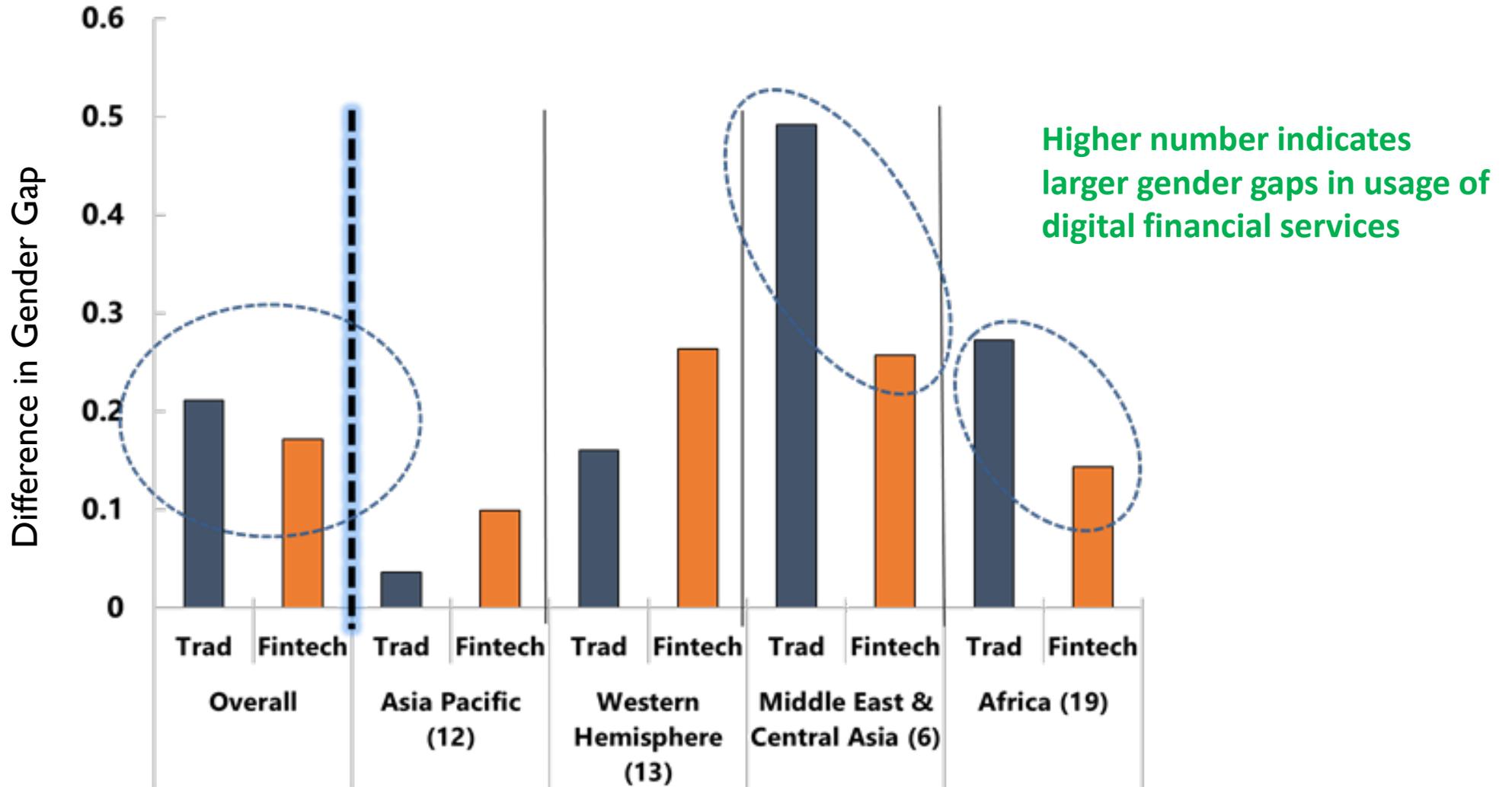
Direct

- ❖ Digital exclusion:
 - Access to physical infrastructure
 - Human capital
- ❖ Biases in historical data and/or algorithms
- ❖ Credit procyclicality

Indirect

- ❖ Scaling back of MFIs and small banks
- ❖ Data privacy & cyber risks
- ❖ Gaps in safety net arrangements

Gender gap: fintech closing the gap but not everywhere



Source: IMF Staff calculations.

Note: 'Trad' stands for traditional financial inclusion. The gender gap is defined as the percentage difference between the male and female financial inclusion index. Higher values indicate a larger gender gap.

6. KEY TAKEAWAYS & POLICY QUESTIONS



Key Takeaways

- ❖ **Motivation:** positive impact of traditional financial inclusion on growth and inequality
- ❖ **Trends:** fintech has increased financial inclusion in payments, particularly in Africa and Asia; fintech lending focused on China, but low base everywhere
- ❖ **Impact**
 - ❖ **Growth:** digital financial inclusion is associated with higher GDP growth
 - ❖ **Gender-gap:** fintech closing the gap but not everywhere
 - ❖ **Banks:** fintech filling the gap in traditional financial inclusion
 - ❖ **Business models:** range from collaboration to competition between incumbents and disrupters
- ❖ **Constraints/Enablers:** infrastructure, financial and digital literacy, strength of institutions and regulation, technological expertise, funding
- ❖ **Risks:** new forms of financial exclusion

Post-COVID Implications

To avoid likely acceleration of pre-existing risks...

- ❖ *Support inclusive recovery:* invest in digital infrastructure for all, enhance financial and digital literacy
- ❖ *Keep up regulations and supervision:* consumer and data protection, financial integrity, cybersecurity, and interoperability across users and national borders
- ❖ *Invest in human capital:* global shortage of “coders”

...and address new risks emerging.

- ❖ *Ensure sufficient competition:* retrenchment by smaller fintech companies could lead to greater concentration and reduce financial access of small customers

Policy questions: what can governments do to deepen financial inclusion?

- ? What regulations are needed for a safe development of fintech which preserves financial integrity?
- ? How to ensure a level playing field among players of different sizes?
- ? How to achieve financial and digital literacy?
- ? How to identify and address macrofinancial risks of digitalization, arising for example from greater interconnectedness between banks and (often unregulated) non-banks?
- ? How to prevent digital financial exclusion, as political and social costs of fintech excluding large segments of the lower income society can be large?
- ? How to achieve international cooperation to address data privacy, cybersecurity, and digital identification?



Thank you

Questions and comments welcome

