DISCUSSION OF "ASSET TOKENIZATION: A BLOCKCHAIN SOLUTION TO FINANCING INFRASTRUCTURE IN EMERGING MARKETS AND DEVELOPING ECONOMIES"

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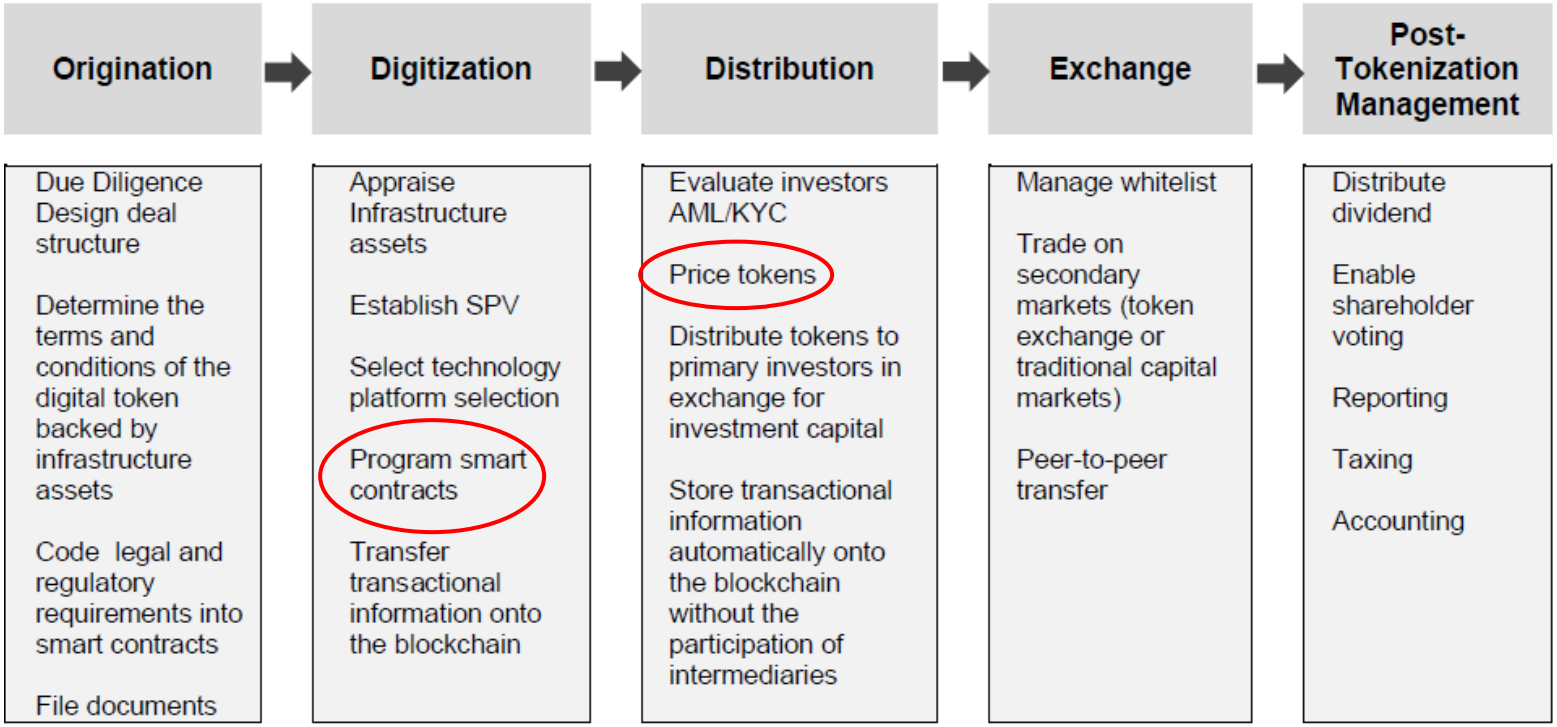
Summary

Sources of Financing	Entities	Asset Tokenization Benefits
Public Finance	EMDE Government	Self-enforcing regulation Automated accounting, tax, and auditing Improved public finance efficiency Accountability and transparency in public administration Enhanced data collection
	Multilateral Development Bank	Better monitoring and controlling Incentive to initiate global collaboration Frictionless cross-border transfer Simplified counterparty risks management
Private Finance	Institutional Investors	Secondary trading Access to small-scale projects Reduced financial costs International investment opportunities exposure
	Retail Investors	Enhanced data collection Access to infrastructure investment Lower entry and exit barriers Included in community development Individualized portfolio construction

Comments

- Very timely, interesting, and important question
- Some suggestions/challenges to improve the paper (or for future papers)
  - Key ingredients in asset tokenization
  - Unique features of EMDEs

Infrastructure Asset Tokenization



Infrastructure Asset Tokenization

- Smart Contracts: automated execution, map certain states of the world to corresponding actions
  - Car loan: miss payment → disable the car
- Internet of Things (IoT) Sensors: provide digital inputs, more granular states
- Asset Tokens: novel financing instrument, enhanced transparency and investor participation

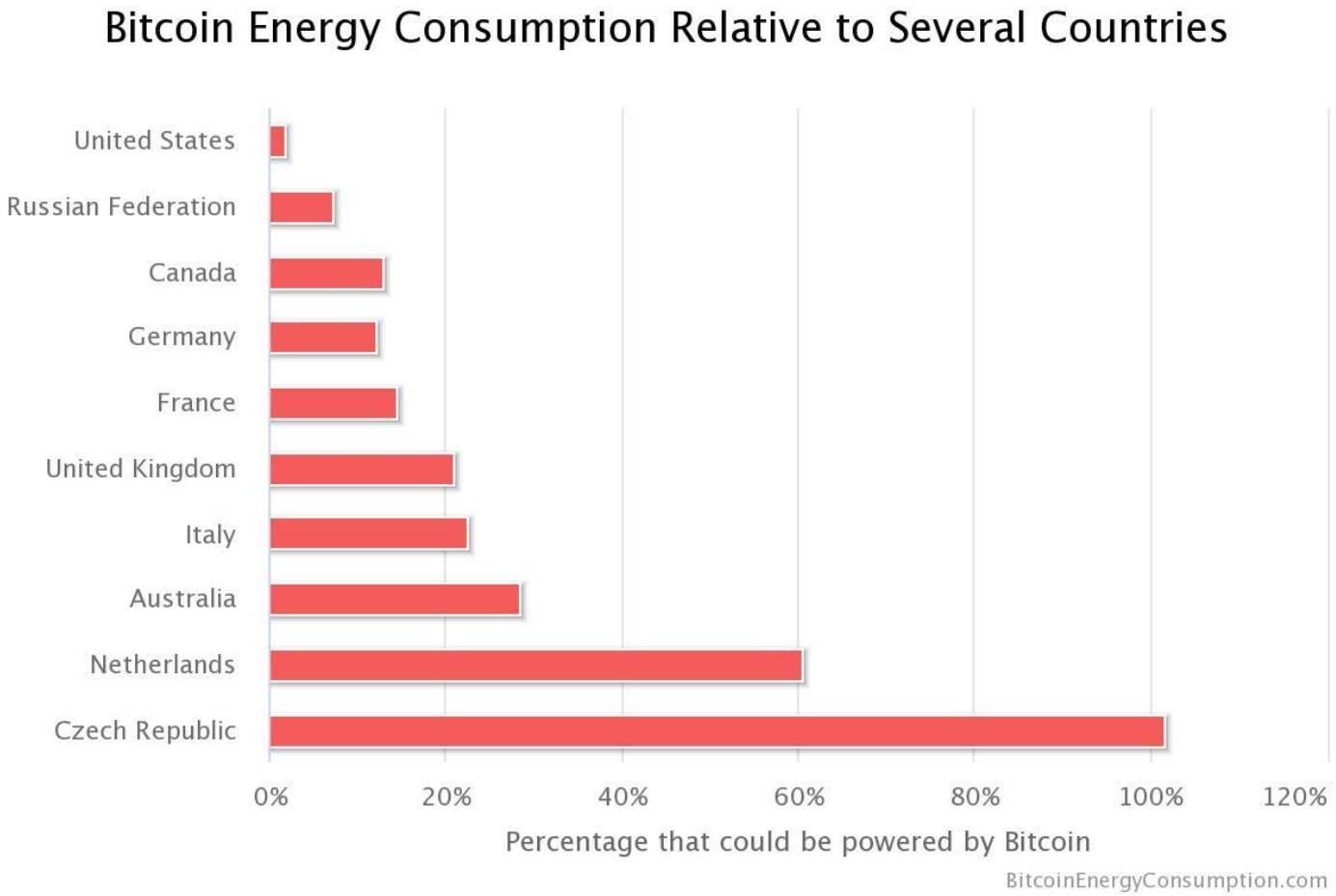
Infrastructure Asset Tokenization

- This paper: smart contracts + IoT sensors + asset tokens, confounded effect
- Each technology has standalone benefit and implementation cost
  - Conventional contracts and financing with increased information from IoT sensors
  - Smart contracts based on existing digital inputs without IoT sensors
- What/How to prioritize? Country-specific?

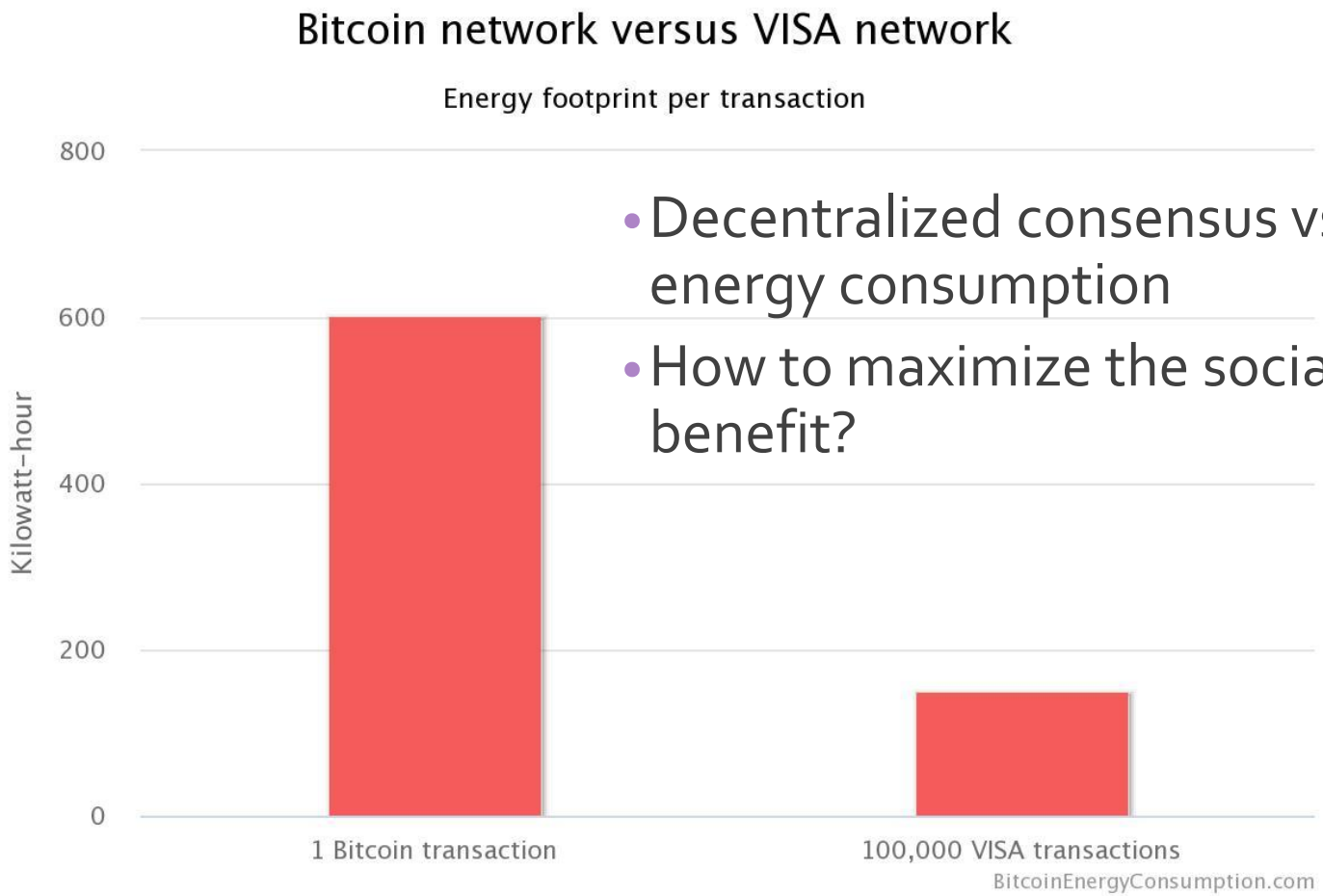
Transparency and Adoption

- This paper: information asymmetry is more prevalent in EMDEs, and tokenization could improve transparency.
- Blockchain alone cannot address the problem of original data quality and authenticity
- Smart contracts alone cannot resolve the inefficiency and incompleteness in traditional contracts
- The existing ecosystem affects the technology adoption, esp. centralized → decentralized system.

Energy Consumption

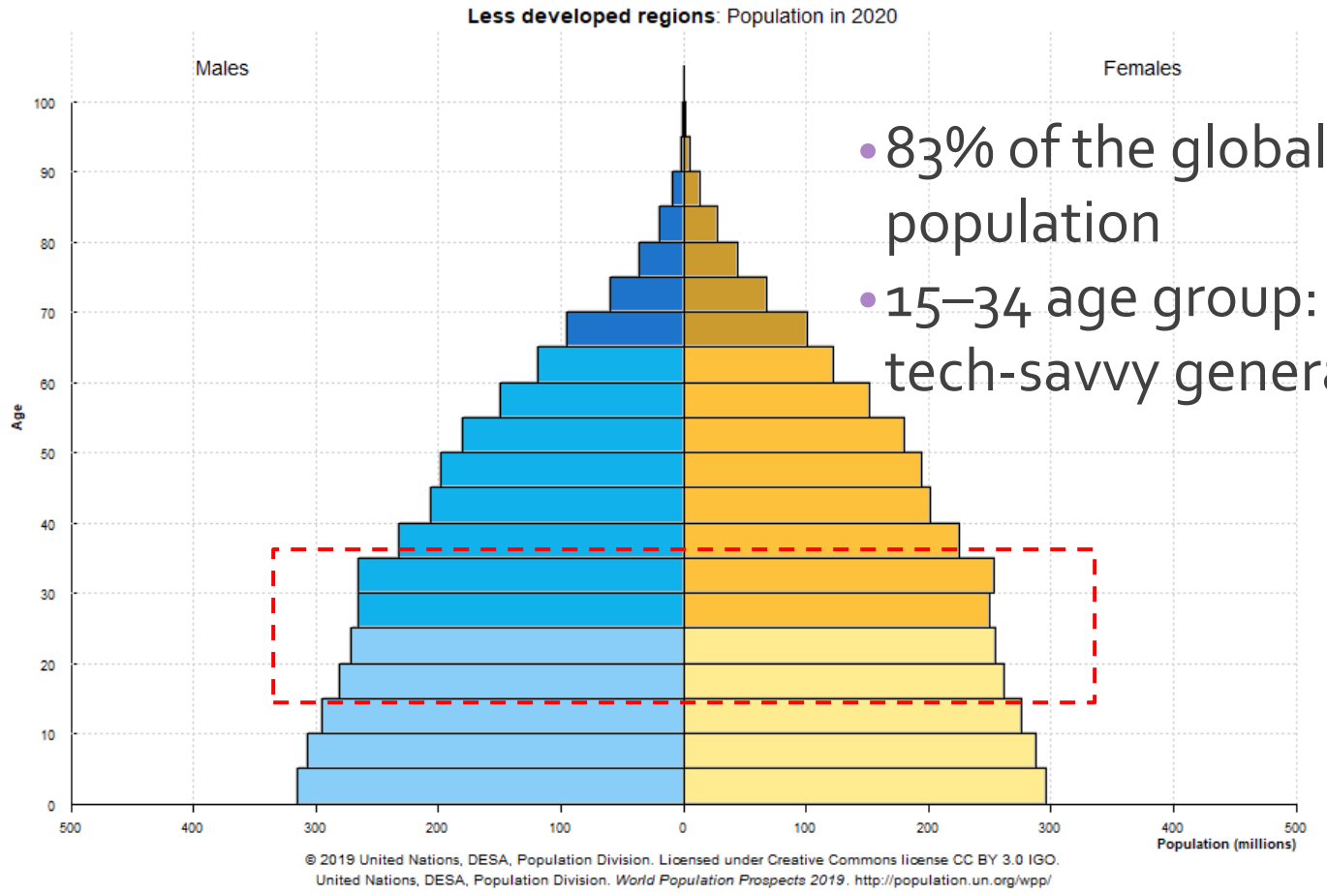


Energy Consumption



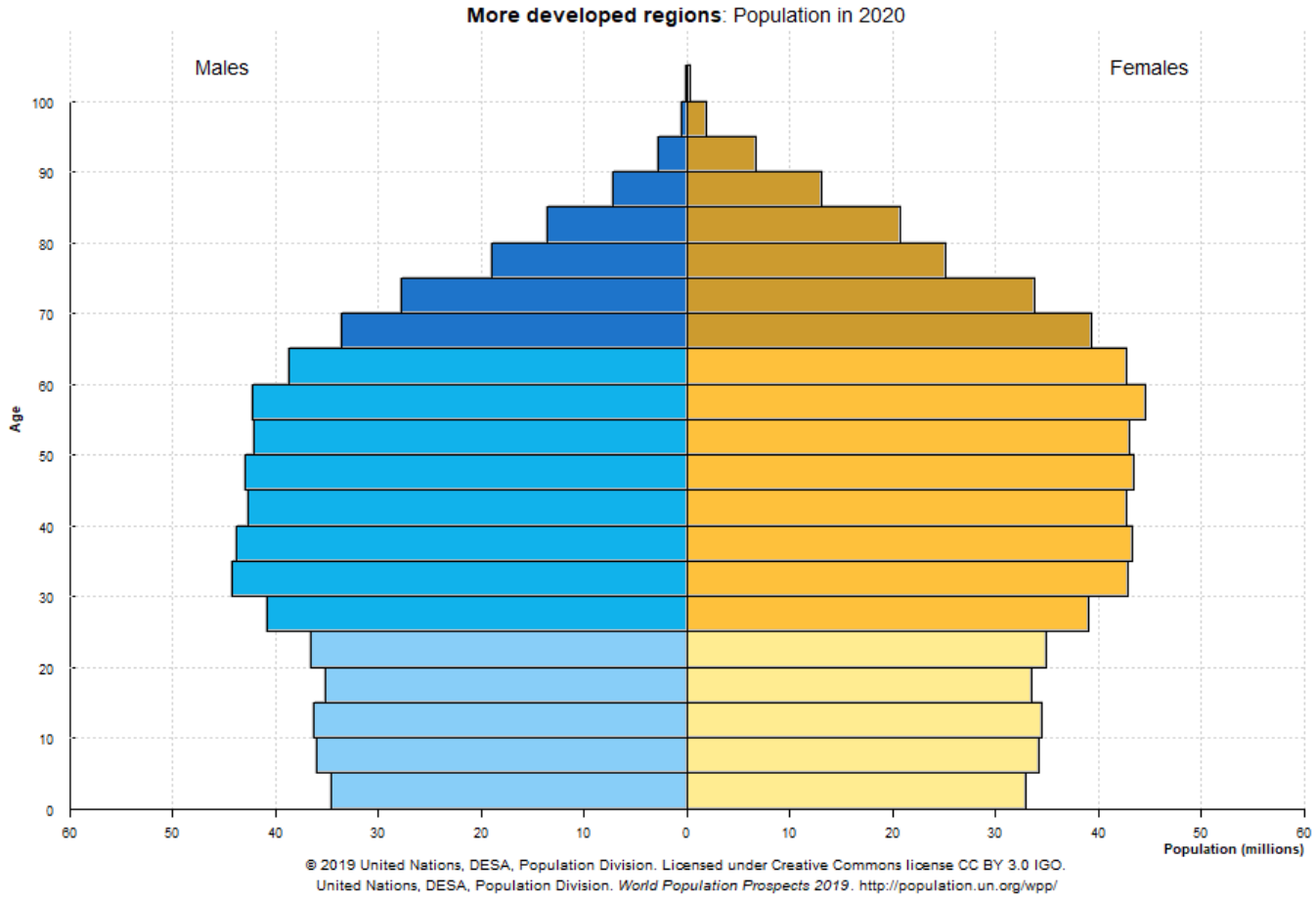
- Decentralized consensus vs. energy consumption
- How to maximize the social benefit?

Demographic Dividends



- 83% of the global population
- 15–34 age group: tech-savvy generation

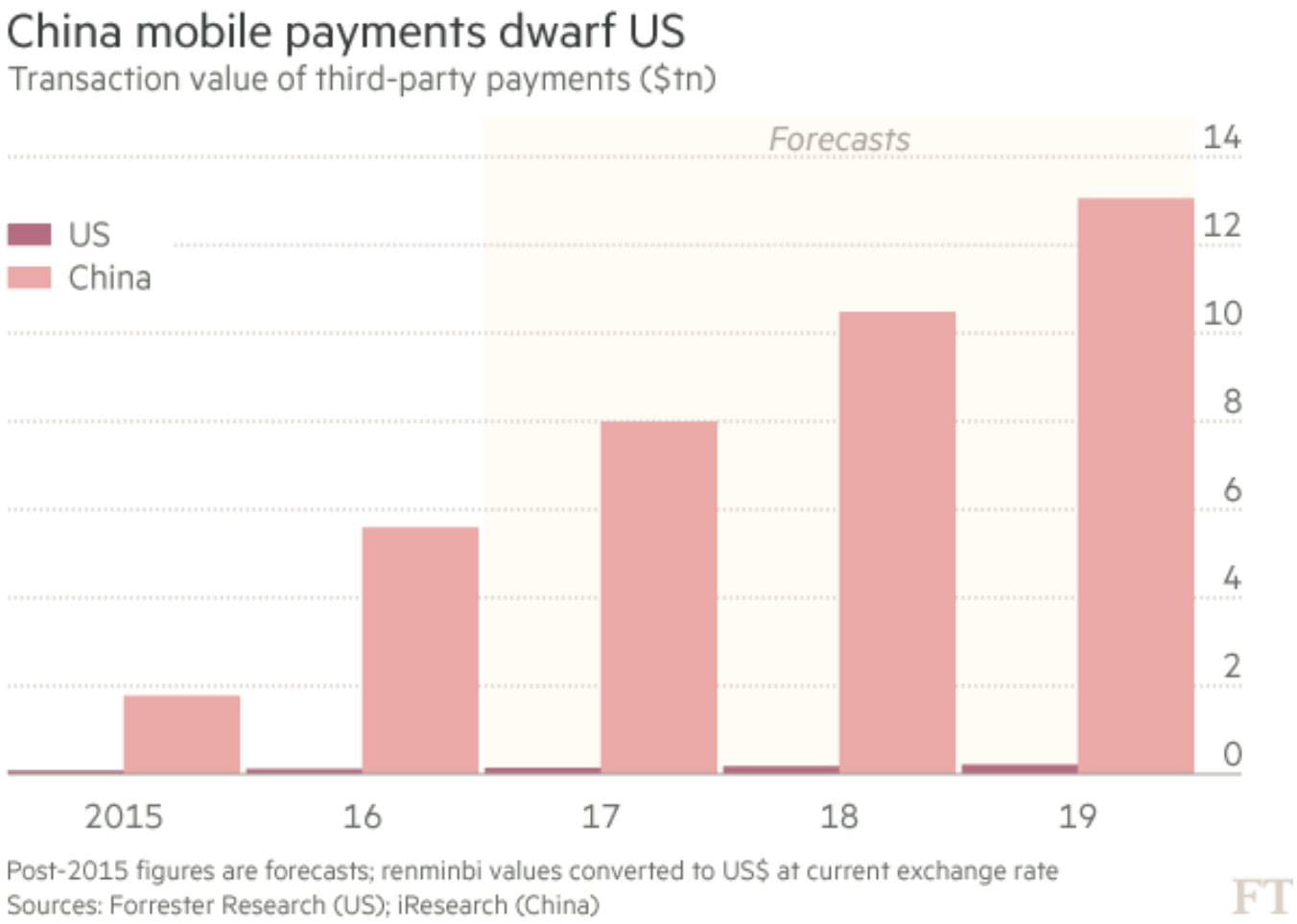
Demographic Dividends



Late-Mover Advantage

- Skip steps like landlines, desktops, dial-up internet, credit cards, …
- Adopt new technologies like WiFi, mobile apps, mobile banking, …

Late-Mover Advantage



What I Learned…

- Tokenization holds the potential to bridge the infrastructure gap in EMDEs.
- Unique features of EMDEs
  - Technology is not panacea for many existing problems
  - Tradeoffs: decentralization, security, scalability, …
  - Strengths: demographic dividends, late-mover advantage, …