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# **Disruption in Payments: Opportunities and Challenges**

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# Incumbents, Disruptors, and Competition

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- Incumbents face competition from within and outside their industry (new and existing firms)
- Incumbents can react in different ways:
  - ▶ Do not recalibrate (Kodak problem)
  - ▶ Compete head on (transformation)
  - ▶ Partner or acquire (within and across industries)
- Financial services industry may pose different challenges because it is highly regulated
- Central banks may view competition by non-banks as a positive

# FinTech and Big Tech Challenge Incumbents

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- Although FinTech is a relatively new term, concept of financial technology has been around for a while
- What is different now?
  - ▶ Direct access to customer
  - ▶ Greater globalization at individual and small firm level
  - ▶ Unbundling financial services
  - ▶ Open banking (access to customer data)
  - ▶ Financial crisis and changing regulatory incentives
- Big Tech leverage their large networks and create ecosystems

# Relatively New Technology (not exhaustive)

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- Mobile Technology
- Application Protocol Interface (API) (better than screen scraping)
- Artificial Intelligence/Machine Learning
- Cryptocurrencies
- Blockchain
- Messaging and payments (e.g. M-Pesa, WhatsApp, WeChat)

# Payment Frictions

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- Access (especially financial inclusion)
- Cost
- Convenience
- Security/Fraud Detection
- Compliance (AML, anti-terrorist financing, KYC)
- Data security (safeguarding personal data and payment credentials)

# Payment Types

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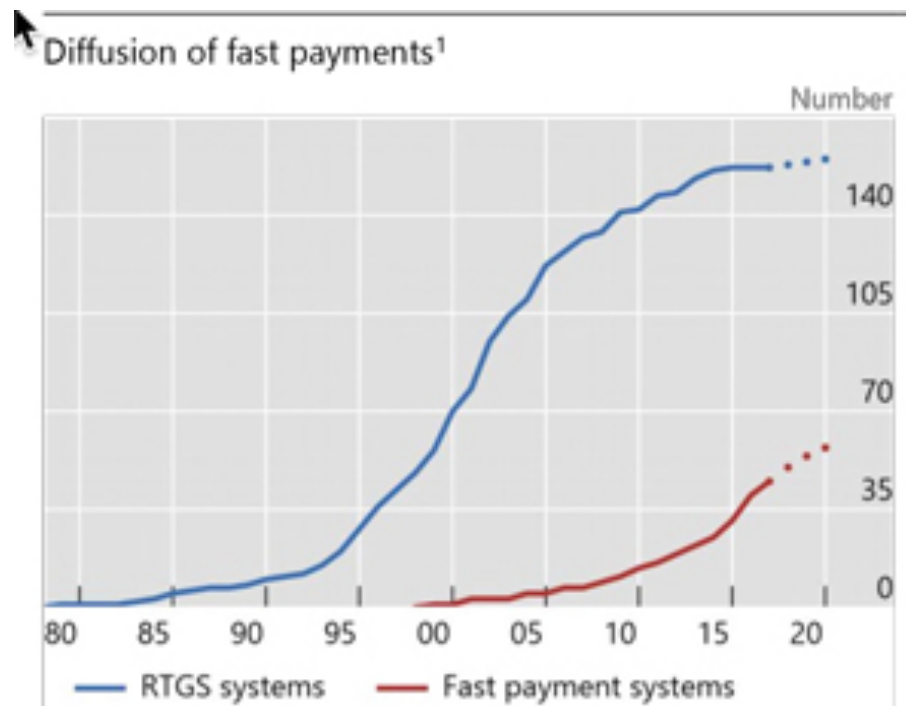
- Interbank
- Cross Border
- Business
- Government
- Peer to Peer

# Public Authorities and Payment Infrastructure

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- Migration to RTGS for Large-Value Payments
- Movement away from cash (there are financial inclusion issues)
- Fee regulation of payment cards
- Improvements to securities transactions (CCP, DLT)
- Faster payments
- Central Bank Digital Currencies

# RTGS and Faster Payments



Source: Bech, Shimizu, and Wong (2017), “The Quest for Speed in Payments,” BIS Quarterly Review, March, 57-68.

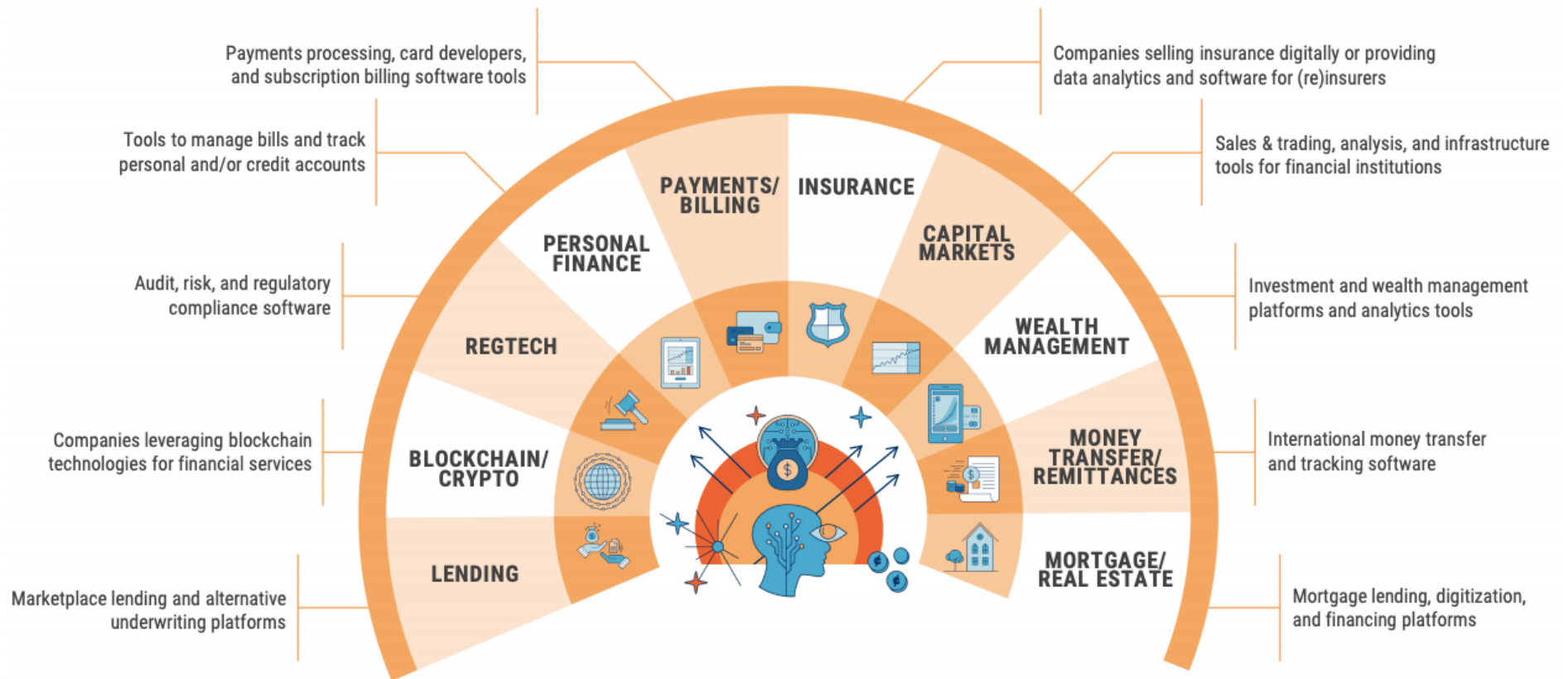


# FinTech Plays

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- Value-added services that generally sit on top of existing fund transfer systems
- FX and securities settlement and liquidity management, e.g. Baton
- Peer-to-peer payments, e.g. Venmo and WeChat Pay
- Reduction of cross border payment fees, e.g. TransferWise
- Remittance payments over \$500 billion/year (Forbes 2019) still largely untapped (@ average cost of 7.1%, WBG and KNOMAD) e.g. InstaReM
- Also compliance, authentication, fraud prevention, and privacy

# FinTech Segments

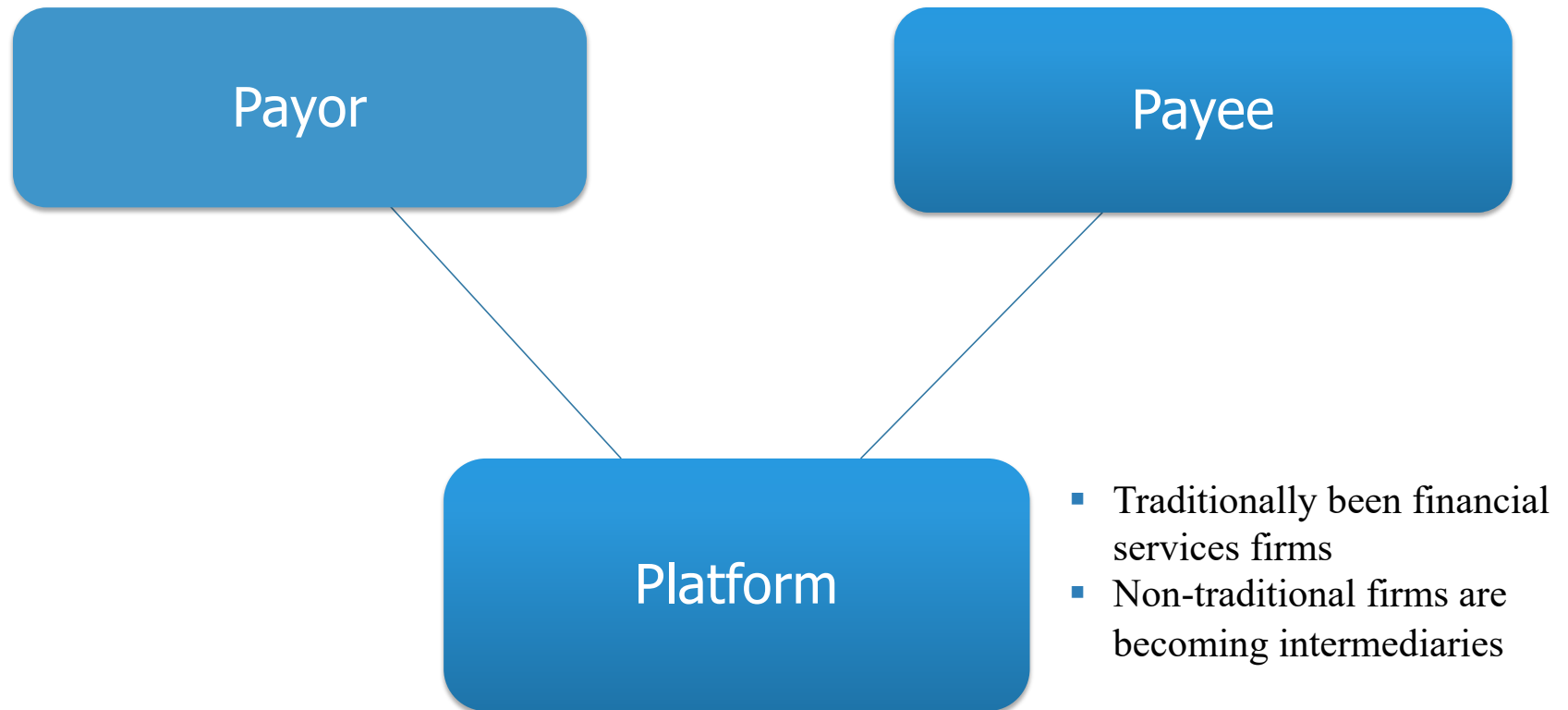


Source: CB Insights, *Global FinTech Report Q2, 2019*, accessed 8/21/19, (<https://www.cbinsights.com/reports/CB-Insights-Fintech-Report-Q2-2019.pdf>).



# Two-Sided Markets

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# Evolution of Funds Transfer Systems

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Unintermediated  
Funds Transfer

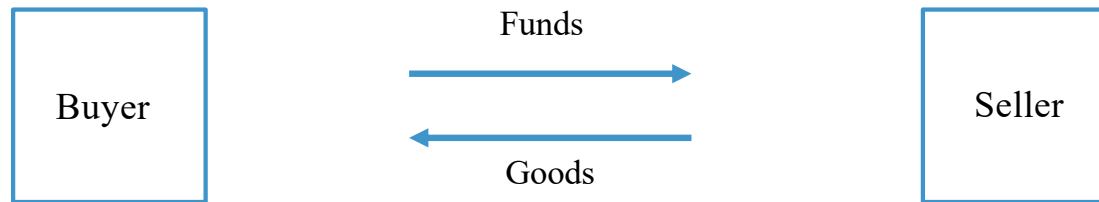
Intermediated Funds Transfer  
(settle in good funds)

Turnpike Funds Transfer  
(with entry and exit  
ramps)

# Unintermediated Funds Transfer: Cash

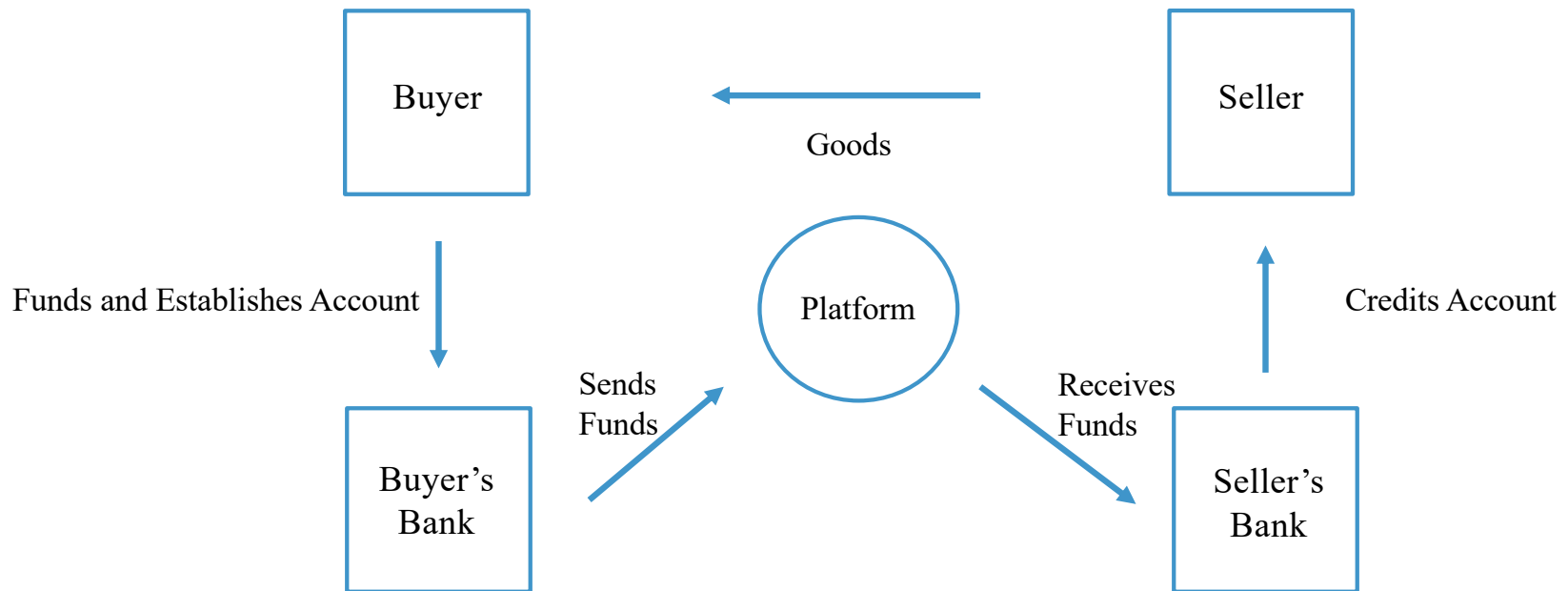
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## Cash Transactions



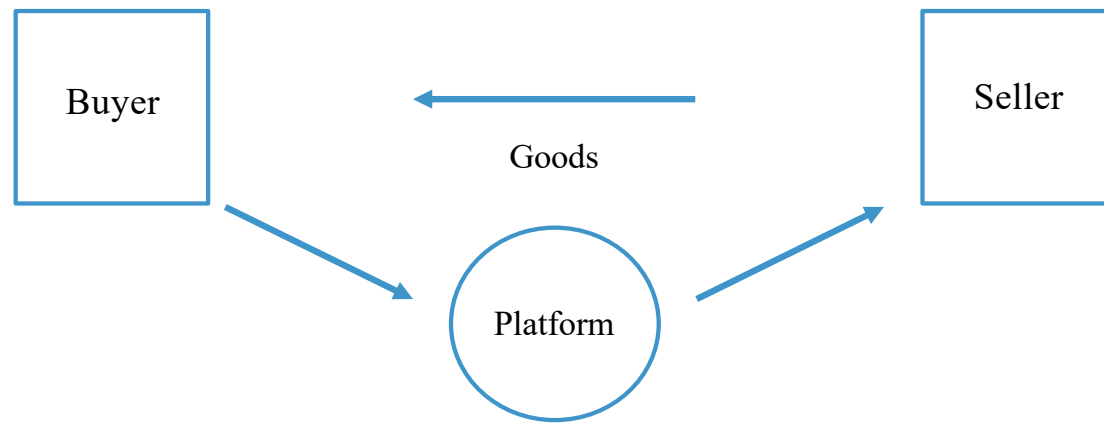
# Intermediated Funds Transfer

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# Turnpike

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- Entry and exit of the turnpike do not occur in real time
- Use financial institutions to fund accounts
- Incentives to create faster interbank systems



# Impact of FinTech Beyond Survival of Firms

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- Even if disruptive firms disappear, they may significantly transform the financial services industry
- With competition, incumbent firms are more likely to offer new products at lower prices, e.g. incumbents have adopted robo-advising
- Greater access to financial products are likely to have positive economic effects
- There are challenges especially on the regulatory front

## Incumbent Responses

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- Zelle is a bank joint venture peer-to-peer platform to make payments between bank accounts competing with Venmo
- JPMorgan Chase and Amazon—checking accounts
- Goldman Sachs and Apple—Apple credit card
- Real Time Payments—The Clearing House (consortium of the largest 25 banks in the U.S.) system went live in Nov 2017
- FedNow—Fed faster payments solution looking at 2023 or 2024 launch

# Payments and Lending

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- FinTech and Big Tech firms increase access to those that have limited or no credit history by using payments and other types of data
- Amazon, Square, and PayPal extend credit to small businesses that may not be extended credit from traditional lenders
- Non-bank lending would be an ideal product in an ecosystem such as FB's Libra or in ecosystems that are prevented from traditional banking channels

# U.S. Fintech Lenders' Other Activities

## Breadth of services offered by digital lenders

Company name	Lending verticals					Nonlending services			Asset management
	Personal/ consumer	Mortgage	Business	Student	Patient	Payments			
						Card	Mobile	Processing	
Prosper	●								
LendingClub	●		●		●				●
SoFi	●	●		●		●	●		●
Avant	●					●			
Upstart	●								
Square	●		●			●	●	●	
OnDeck			●						
Kabbage			●			●		●*	
CommonBond				●					
PayPal	●		●			●	●	●	
Earnest	●			●					
LendingPoint	●				●				
GreenSky	●				●	●			
Credibly			●						
College Ave				●					
Best Egg	●								

Data compiled Oct. 1, 2018

\* Kabbage has announced intention to offer point of sale system

Source: S&P Global Market Intelligence, 2018 US Fintech Market Report, <https://www.spglobal.com/marketintelligence/en/documents/2018-us-fintech-market-report.pdf>.

# Cryptocurrency and Central Bank Digital Currency

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- Bitcoin originally intended to be an online payment solution
- Because of their volatility and slow transaction speed, cryptocurrencies have difficulty being mediums of exchange and stores of value
- Central banks are considering digital currencies (direct issue and synthetic)

# A Cryptocurrency Use Case: Digital Mint

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- [Digital Mint](#), Chicago-based, is democratizing access to digital payments via cryptocurrencies in 24 states
- Targeted at low- to moderate-income neighborhoods
- Unbanked consumers benefit from access to digital payments that are necessary for online purchases
- Merchants benefit from lower transactions costs than credit cards

# A Global Currency: Facebook's Libra (life support?)

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- Libra introduced by Facebook in June 2019 (turnpike)
- Goal: Provide a global currency to the unbanked
- Immediately faced scrutiny by U.S. Congress, Federal Reserve, G-7, BIS and others
- Creating a worldwide ecosystem potential for lending and investment in addition to payments
- Several members have left the Libra Association

## Role of Public Authorities (not exhaustive)

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- Encourage innovation and competition (relatively new)
- Be aware of incumbents using regulation to prevent entry
- Regulate products and services and not institution providing it
- Maintain stability and resilience of payment networks
- Encourage financial inclusion
- Provide necessary liquidity backstops
- Anti-Money Laundering and Countering the Financing of Terrorism



# Policy Recommendations

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- Increase access to payments infrastructure for nonbanks with some constraints (bank charters, access to reserve accounts and payment systems)
- Office hours and sandboxes to allow information sharing across FinTechs and regulators
- Encourage updating legal framework to match today's technology
- Implement data privacy regulation to provide greater incentives to safeguard data (FinTech solutions LionX and Almost AI)
- State may have to provide digital identification necessary for individual authentication

# Conclusion

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- Payments data is valuable for other financial services
- Unlike other industries, financial institutions are not generally disappearing because of FinTech and other entrants (yet?)
- Financial institutions may end up providing commoditized products and face greater margin compression
- Incumbents are more actively partnering, investing, or acquiring FinTech firms
- Central banks are also being impacted by FinTech and Big Tech firms