Consumer Federation of America

Finance Services Conference

Gary Gensler November 30, 2018

mit



Financial Sector

Moves, Allocates & Prices Money and Risk

By its very Nature it has Long had Symbiotic Relationship with Technology







Early Fintech - Money



Salt Bars - Ethiopia



Cowrie Shells - Nigeria



Tally Sticks - England



Rai Stones - Yap

Early Fintech - Money



Cooper Plate - Sweden



Bronze Yuan - China



Gold Aureus - Rome







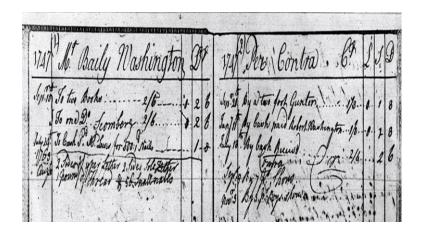
Jiaozi Promissory Note - China

5 Pound Note - England

Private Bank Note – U.S.

Financial Technology - Ledgers







Proto Cuneiform Uruk, ca 3000 B.C Personal Ledger George Washington 1747

IBM 360 1961

Fiat Currency

- Represented by:
 - Central Bank Notes
 - Central Bank Reserves &
 - Commercial Bank Deposits
- Relies upon System of Ledgers
- Accepted for Taxes
- Legal Tender for All Debts Public & Private
- Very Significant Network Effects from being Unit of Account



Digital & Mobile Payments





Mobile App

Google Wallet



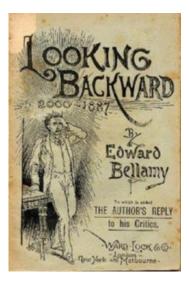


Global Payments Methods

		2016	2021
-	Credit Card	29%	15%
-	eWallet	18%	46%
-	Bank Transfer	17%	16%
-	Debit Card	13%	8%
-	Cash on Delivery	9%	7%
-	Charge & Deferred Debit Card	6%	3%
	Pre-Paid	3%	3%
-	PostPay	2%	1%
—	PrePay	2%	1%
-	Other	1%	0%

Source: Worldpay Report

Credit Cards





Term 'Credit Card' **Edward Bellamy's Science Fiction** 'Looking Backward' 1887

First Bank Card Charge-It **First National Bank** Brooklyn, 1946

American Express First Plastic Card 1959

ACCOUNT

NUMBER

AUTHOR

American Express Company CREDIT CARD **EXPIRES APRIL 30, 1959** 002

201

MITH

SEE REVERSE SIDE

5

Financial Sector => Fintech Opportunities



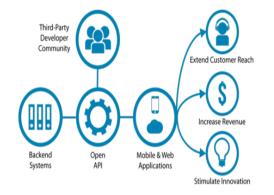
- Relies on Multiple Systems of Ledgers
- Collects Significant Volumes of Data
- Legacy Customer Interface and Processing Systems
- Economic Rents
- Centralized Concentrated Risks
- Infrastructure Systems' Costs & Counterparty Risks
- Repeated Crises and Instability
- Financial Inclusion

Technologies of our Time Affecting Finance









AI & ML

Biometrics

Chatbots

Open API



AR & VR

Blockchain





Financial Sector => Fintech Opportunities

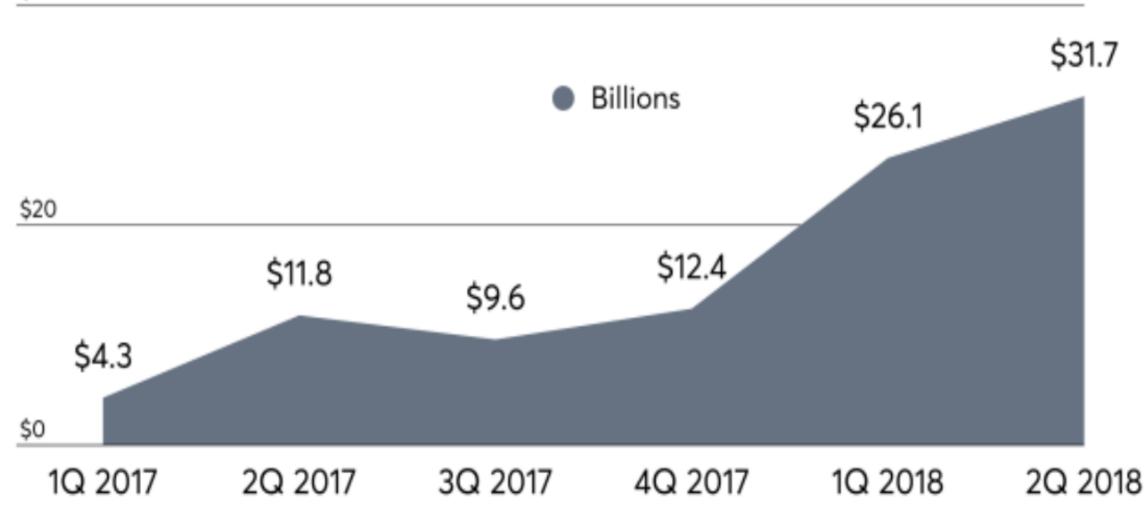


- Wide Public Acceptance and Adoption of New Tech
- Rapidly Expanding Customer Data

- Financial sector represents: <u>7 ½ %</u> of U.S. GDP
- Payment system represents: <u>½ 1 % of Global GDP</u>
- Disrupters, Financial Incumbents, Big Tech Will All Play a Role

Fintech Funding

\$40



Source: KPMG Pulse of Finance 2018

Cap Markets Fintech

Access to capital	Trade execution	Post-trade services	Data, analytics, and information services
Crowdfunding platforms Start-up exchange venues Bond issuance platforms for start-ups and SMEs Private listing platforms for SMEs Initial coin offering platforms	Decentralized trading marketplaces Online auction-based marketplaces Cryptocurrency exchanges	Distributed ledger technology-based clearing and settlement Surveillance and analytics software Automated trade reconstruction Regulatory compliance solutions (e.g., AML, KYC, compliance risk)	Algorithmic and quant trading solutions Artificial intelligence-powered financial predictions Real-time market data platforms Nontraditional data aggregation and analytics platforms

Operations and technology

Open source technology for digital assets issuance

End-to-end trading technology

End-to-end OTC trade confirmations solutions through full process automation

Robotics and natural-language processing technologies driving operations efficiency Cloud computing

Source: McKinsey Panorama Fintech database

Artificial Intelligence and Machine Learning

- Ethics and Governance of AI:
 - Biases
 - Openness and Reviewability of Algorithms
 - Ownership of Data
 - Privacy and Self Sovereign Identity
- Communicative AI Voice Recognition
- Chatbots and Robo-advisors
- Biometric Screening
- Cybersecurity



Blockchain Technology

- Provides Peer to Peer Alternative
- Addresses Verification and Networking Costs
- Use Cases Must Address why vs. Traditional Data Base?
- Financial Sector's Characteristics, Challenges and Scale Present Opportunities
- Incumbents Largely Looking at Private Permissioned Systems
- Crypto Finance Markets are Rive with Scams, Fraud and Manipulation
- Adoption rests on addressing Technical, Commercial and Policy Challenges
- The Potential, though, to be a Catalyst for Change is Real



Public Policy Framework

Protecting the Investing and Consuming Public









Guarding Against Illicit Activity







Financial Stability





Conclusions



- Finance has long had a Symbiotic Relationship with Technology
- We already Live in a Digital Financial Age
- The Pace of Technology Innovation and Adoption has Accelerated
- Financial Sector Challenges creates Opportunities
- Disrupters, Financial Incumbents and Big Tech will all Compete & Play a Role
- Public Confidence is built upon Living within Public Policy Norms
- Development will Swing and much Hype Masquerades as Fact, but the Potential of Fintech to Provide Services and Bring Change is Real