# 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** 







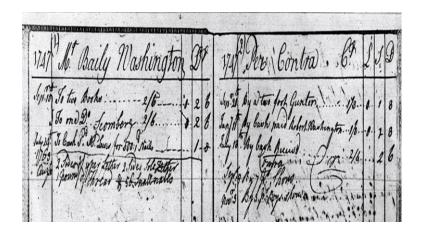
Jiaozi Promissory Note - China

**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



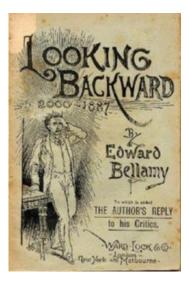


## **Global Payments Methods**

		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



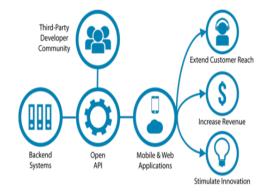
- Relies on Multiple Systems of Ledgers
- Collects Significant Volumes of Data
- Legacy Customer Interface and Processing Systems
- Economic Rents
- Centralized Concentrated Risks
- Infrastructure Systems' Costs & Counterparty Risks
- Repeated Crises and Instability
- Financial Inclusion

#### **Technologies of our Time Affecting Finance**









AI & ML

#### **Biometrics**

#### Chatbots

**Open API** 



AR & VR

#### Blockchain





#### Financial Sector => Fintech Opportunities

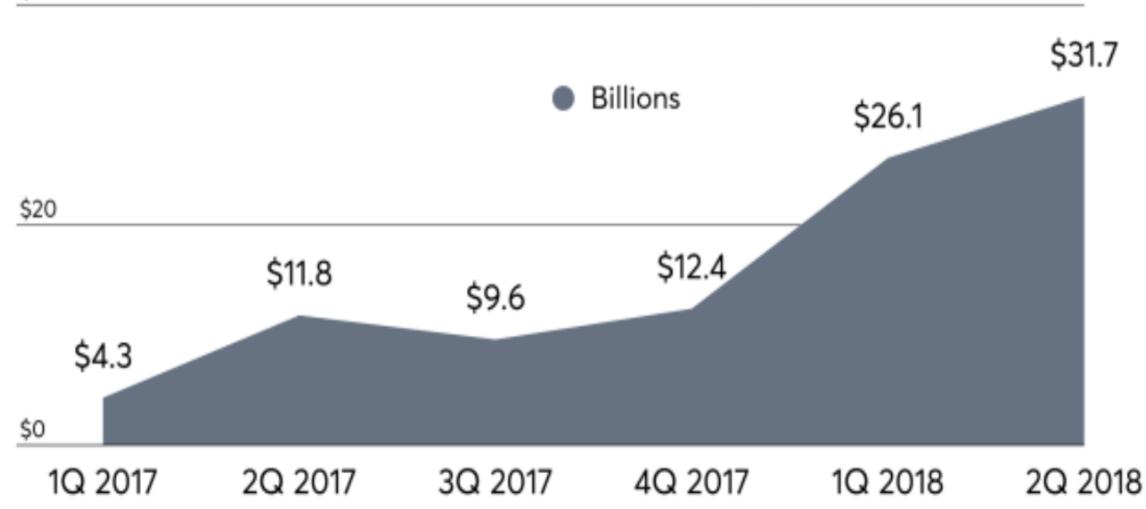


- Wide Public Acceptance and Adoption of New Tech
- Rapidly Expanding Customer Data

- 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

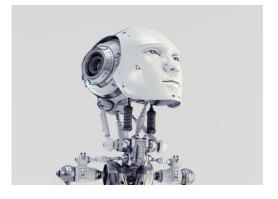
End-to-end OTC trade confirmations solutions through full process automation

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