

# FinTech or Automated Finance

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# The Macro-Economic Case for FinTech

- After the 2008 GFC



- Bankers are not infallible
- Banks' profits are not due to expertise but are **economic rents**
- Innovation was technologically possible
- Nakamoto posted the BitCoin white paper.



# Economic Rents

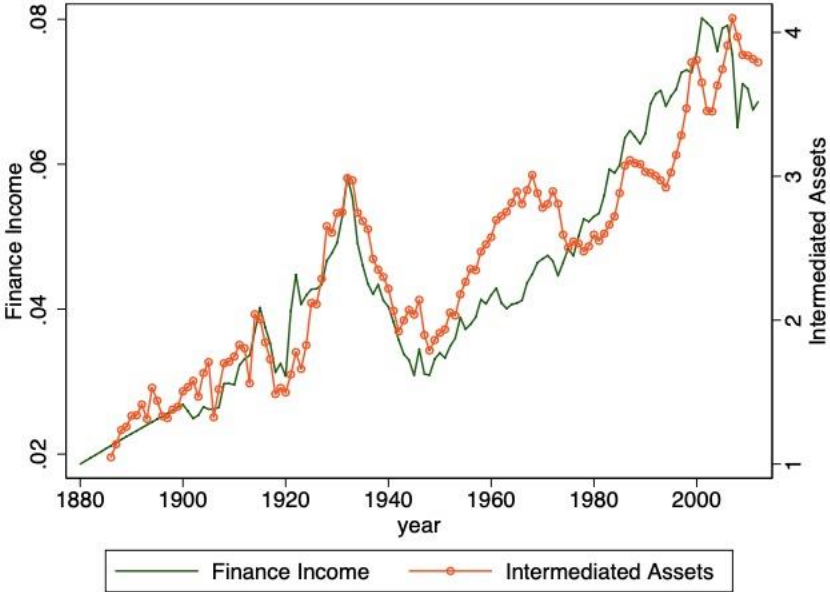
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- Economic Rents are “extra” revenues.
  - Usually associated with market power.
  - A monopolist earns economic rents



# Finance Income and Intermediated Assets over GDP

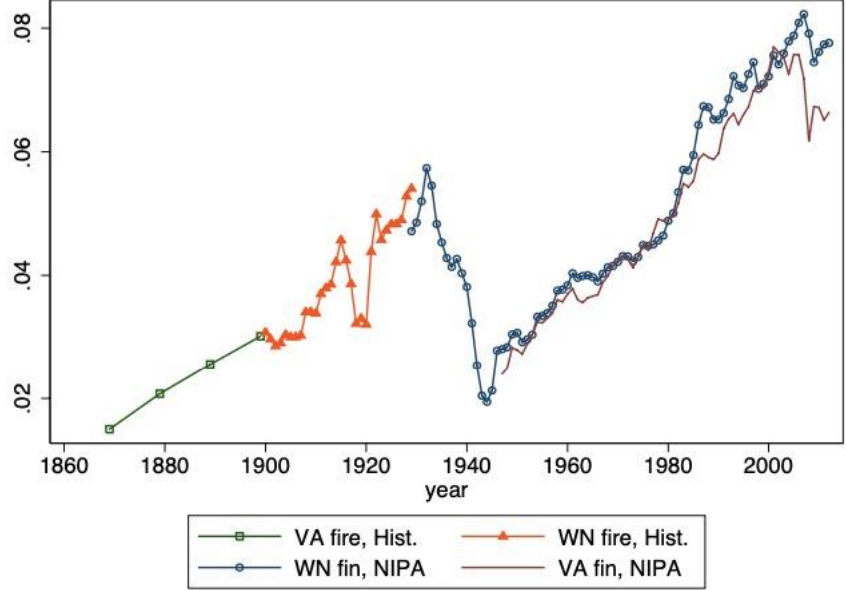
The Finance Industry and its role in the economy have been growing over time.



Notes: Both series are expressed as a share of GDP, excluding defense spending. Finance Income is the domestic income of the finance and insurance industries, i.e., aggregate income minus net exports. It is available from 1880 to 2012. Intermediated Assets include debt and equity issued by non financial firms, household debt, and various assets providing liquidity services. Data range for Intermediated Assets is 1886 - 2012.

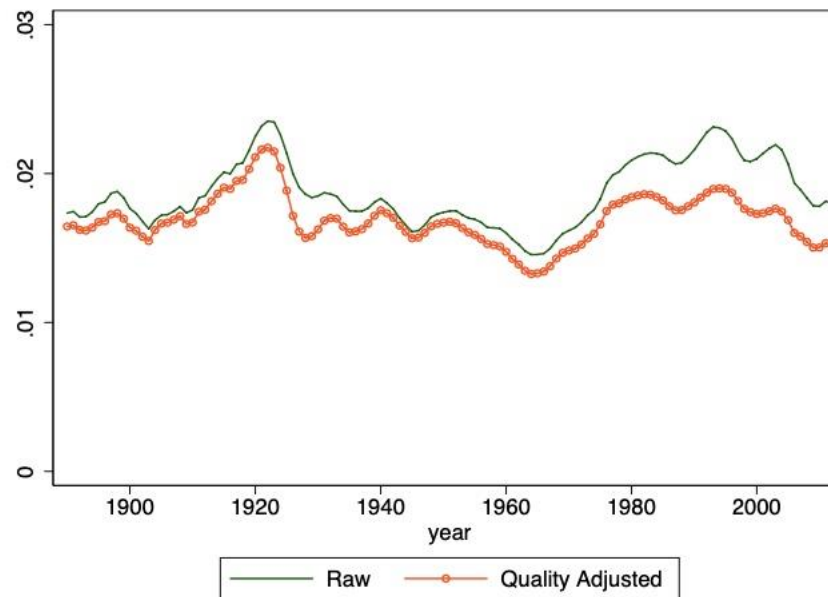


# Wages and Value Added of Finance Industry



Notes: VA is value added, WN is compensation of employees, “fin” means finance and insurance, “fire” means finance, insurance, and real estate. For “NIPA”, the data source is the BEA, and for “Hist” the source is the Historical Statistics of the United States.

# Unit Cost of Financial Intermediation



Notes: The raw measure is the ratio of finance income to intermediated assets displayed in Figure 2. The quality adjusted measure takes into account changes in firms' and households' characteristics. Data range is 1886 - 2012.

# Financial Sector

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- It is large, profitable and hasn't shown efficiency gains.



Incentive to Innovate

- New Technology
  1. Cloud based software (rent not buy)
  2. Pay as you go platforms (rent not buy)
  3. Open Source data



Cheaper to innovate:  
Don't need high cash flows to break even

# What is a payment system?

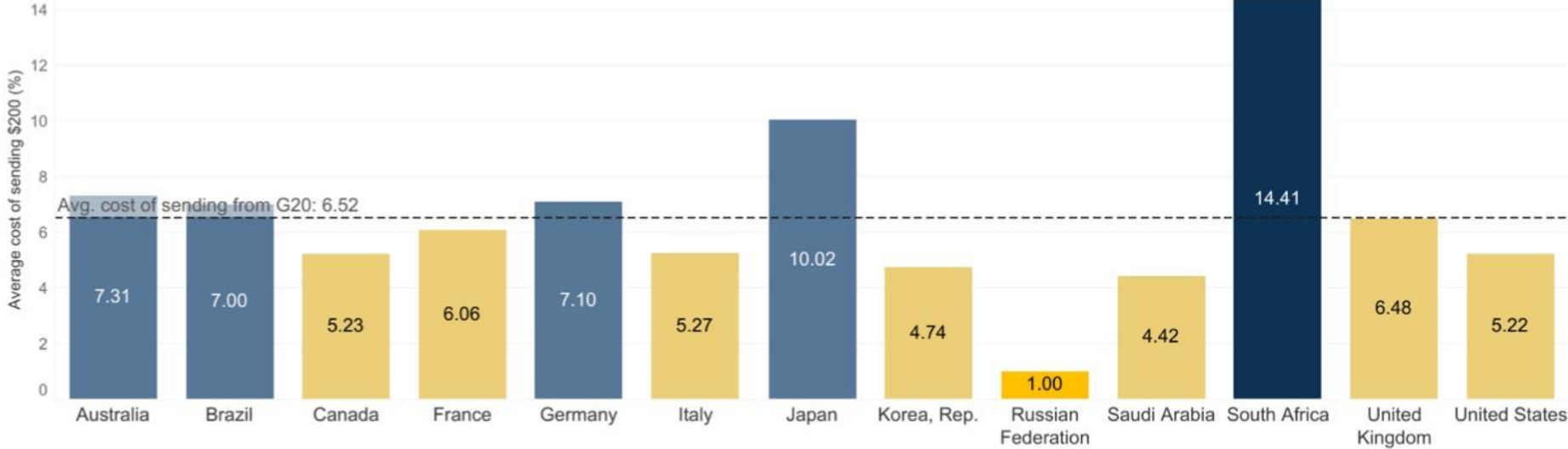
- Way to transfer value.
- Either physically (cash, gold) or across accounts.
  - Cash or gold are tokens that represent value.
  - Transferring across accounts usually goes through a bank to settle
- **Payments are a lucrative business**



"THE APPLE PAY  
DOESN'T WORK.... I'LL  
TRY A BANANA"

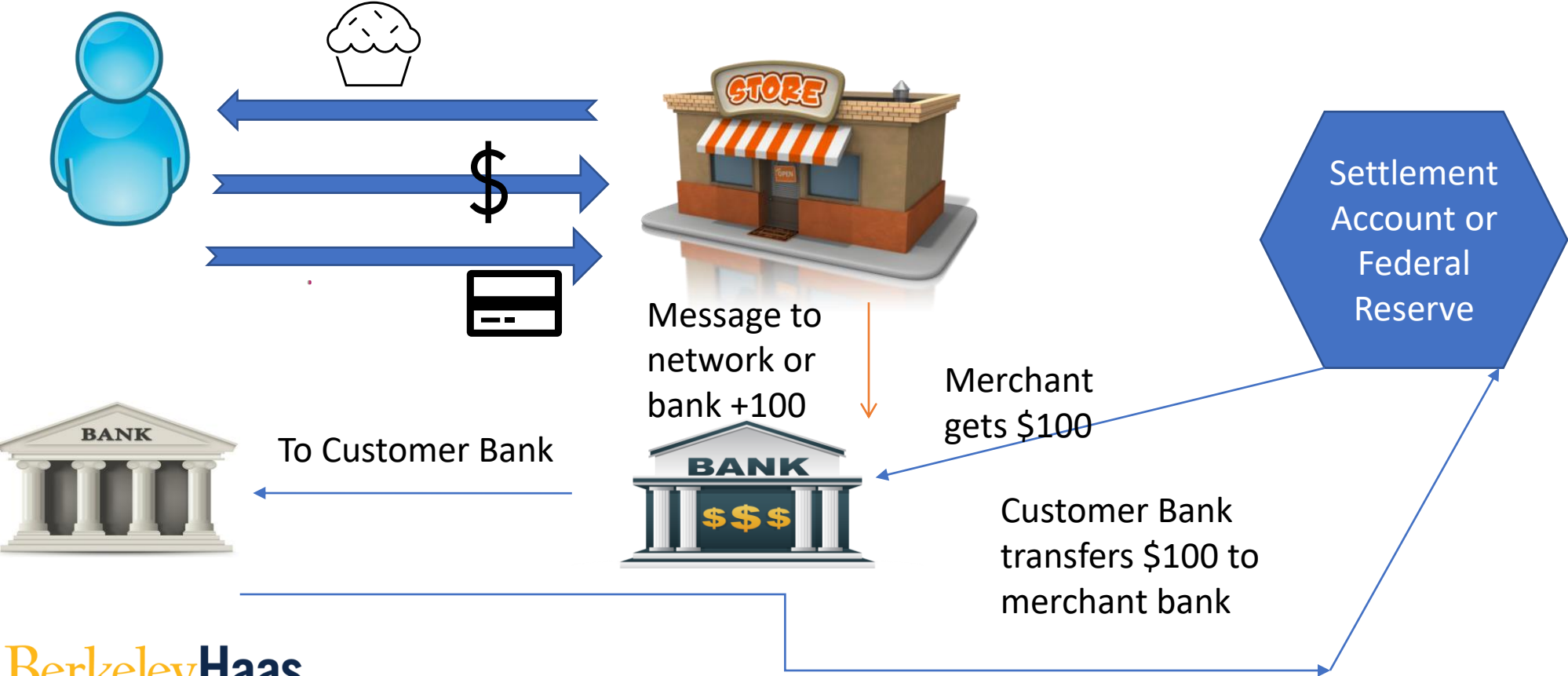


# Average Cost of Remittances from G20

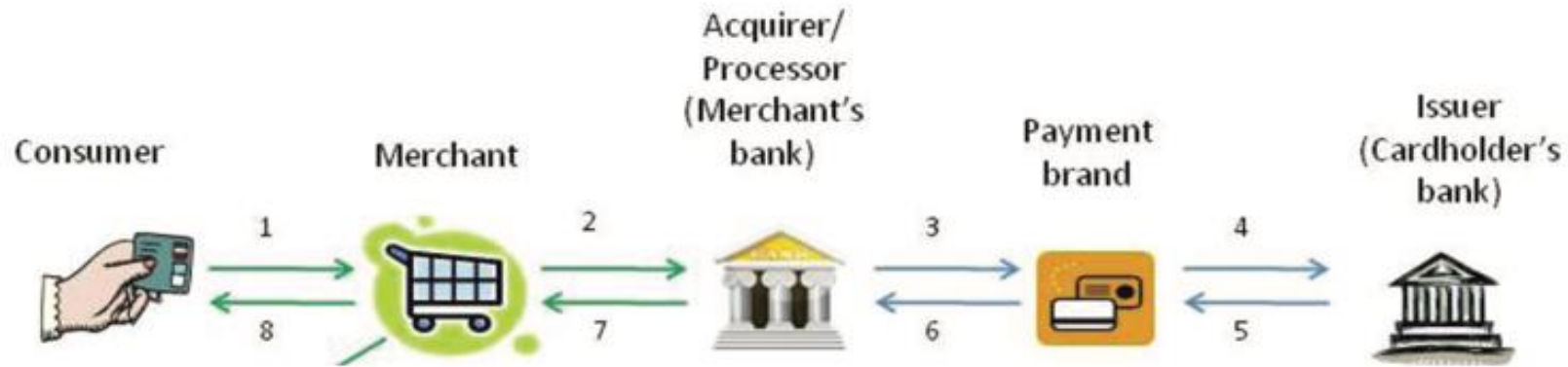


Source: World Bank Remittances Prices Worldwide Dec 2020

# Payments are economically simple, but logistically complex.

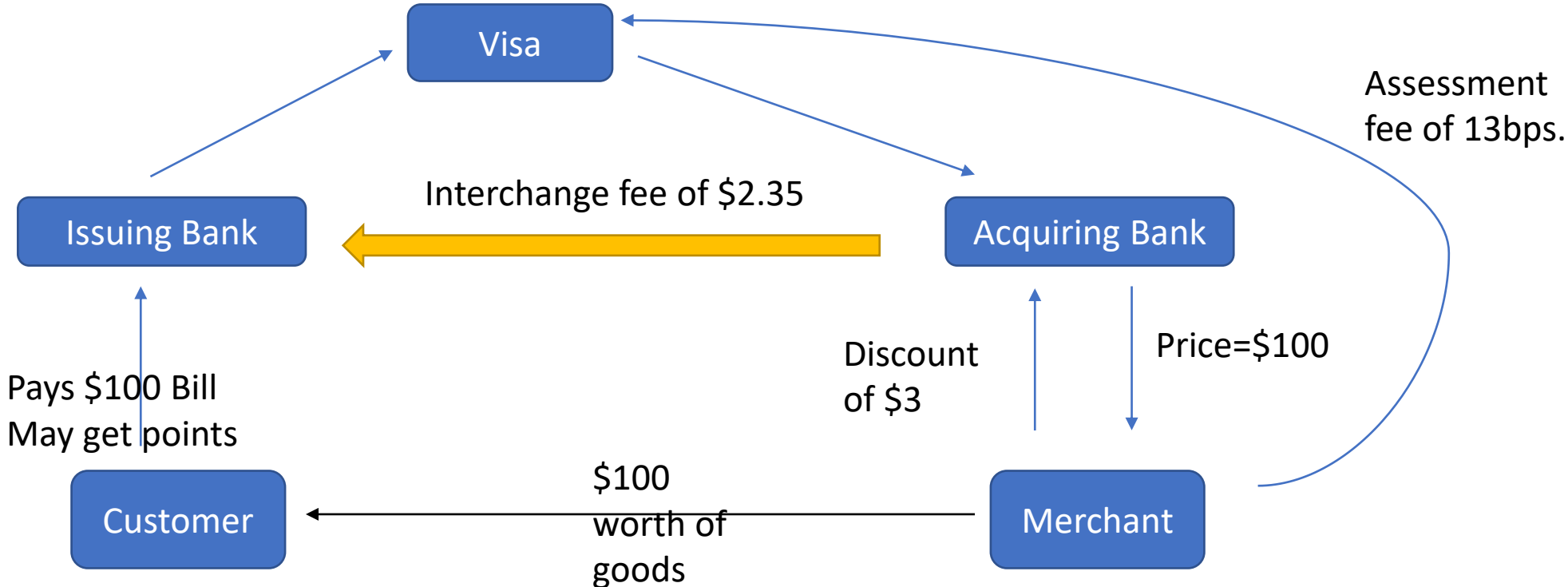


# What do CC networks do?



- Consumer selects a card, and it goes to the merchant's Point of Sale Device (POS)
- Data is sent to the merchant's bank. Also known as the "merchant acquirer"
- Data is sent to the payment brand
- Customer's bank (the issuing bank) verifies the data and sends authorization

# Cash Flows and Payments



# Definitions


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- **Interchange Fee:** The fee that the merchant's bank pays to the customer's bank.
  - Provides an incentive for banks to issue credit cards
  - Some countries have zero interchange fees e.g. Canada, Denmark, Finland
  - Constant source of litigation
- **Merchant discount:** The % of the transaction that the merchant pays to its bank.
  - Discount depends on the type of purchase (e.g. alcohol versus food) and the size of the merchant (e.g. Walmart versus artisanal baker)
- **Assessment Fee:** Fee paid by the merchants to the network.

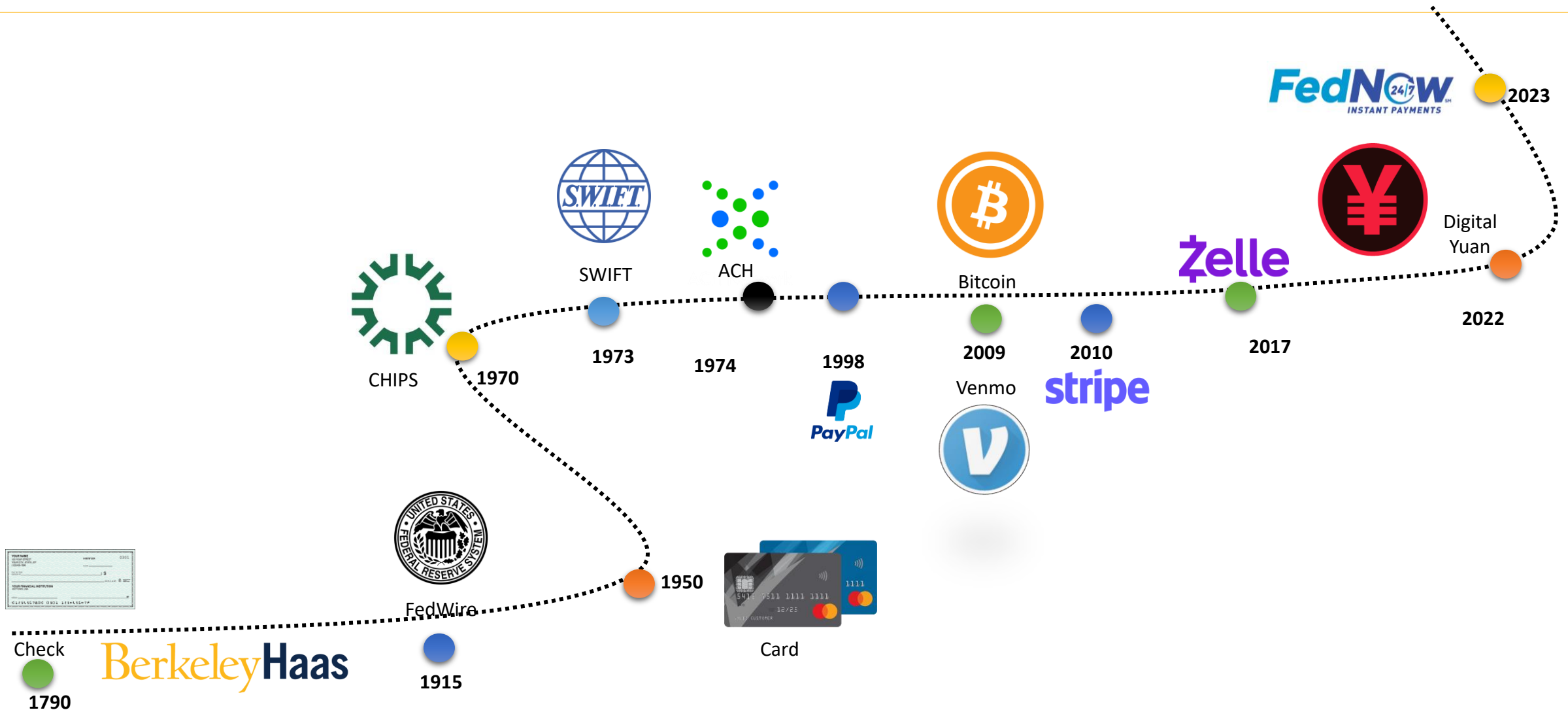


# Payment Processing is Profitable

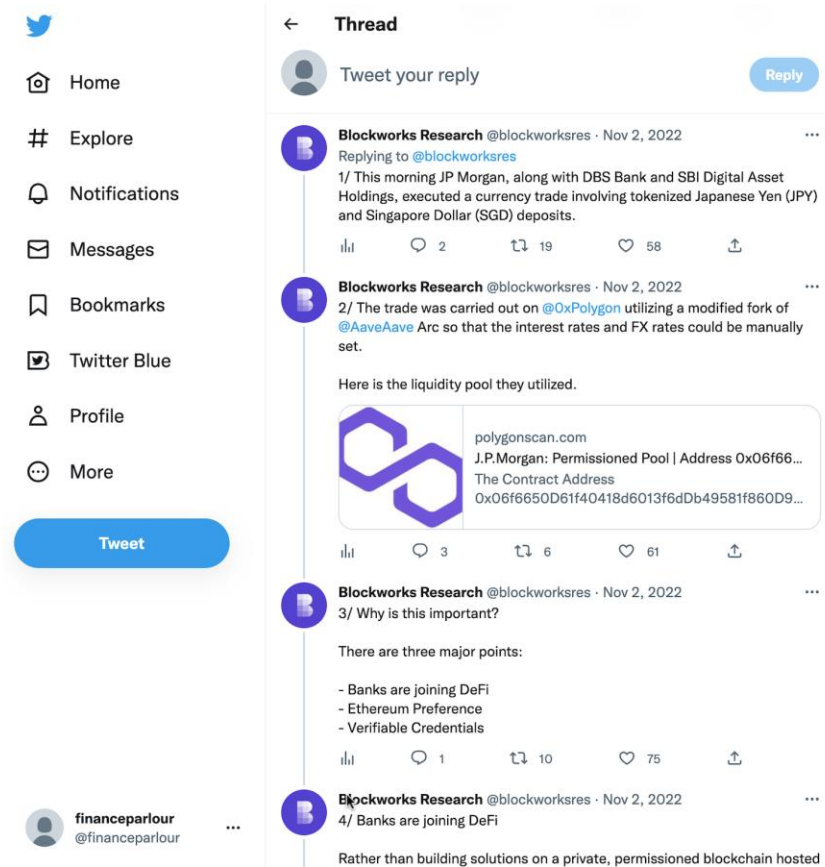
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- Visa net income is around 12 billion
- The company is not exposed to customer credit risk and makes no revenue on fees.
- Cash is anonymous, but payment processors know how money is spent.
- Electronic payments generate big data  sell for advertising.
- Is there a distributed competitor to traditional payment cards?

# Rapid Innovation



# TradFi is Taking notice....



The image shows a screenshot of a Twitter thread. On the left is the Twitter navigation sidebar with options: Home, Explore, Notifications, Messages, Bookmarks, Twitter Blue, Profile, and More. Below the sidebar is a blue 'Tweet' button. The main content is a thread titled 'Thread' with a 'Reply' button. The thread consists of four tweets from 'Blockworks Research @blockworksres' dated Nov 2, 2022. The first tweet says: '1/ This morning JP Morgan, along with DBS Bank and SBI Digital Asset Holdings, executed a currency trade involving tokenized Japanese Yen (JPY) and Singapore Dollar (SGD) deposits.' The second tweet says: '2/ The trade was carried out on @OxPolygon utilizing a modified fork of @AaveAave Arc so that the interest rates and FX rates could be manually set. Here is the liquidity pool they utilized.' Below this is a screenshot of a PolygonScan page showing 'J.P.Morgan: Permissioned Pool | Address 0x06f66... The Contract Address 0x06f6650D61f40418d6013f6dDb49581f860D9...'. The third tweet says: '3/ Why is this important? There are three major points: - Banks are joining DeFi - Ethereum Preference - Verifiable Credentials'. The fourth tweet says: '4/ Banks are joining DeFi Rather than building solutions on a private, permissioned blockchain hosted'. At the bottom left of the thread is a user profile for 'financeparlour @financeparlour'.

# FinTech

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- Technology reduces the cost of traditional finance.
  - Makes Financial Markets and products more accessible.
- Technology changes how finance is organized.
  - New business models

