# Customer Data Access and Fintech Entry: Early Evidence from Open Banking

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September 22, 2022

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**Evident in uneven fintech growth**

- Success information insensitive segments: GSE mortgages, PPP
- Less success in information sensitive segments: Jumbo mortgages
- Exceptions that prove the rule: Ant Group; Square

# Moving Data Ownership from Banks to Customers

**Open Banking (OB)**:

  Allows competing banks and fintechs to access to bank customer data
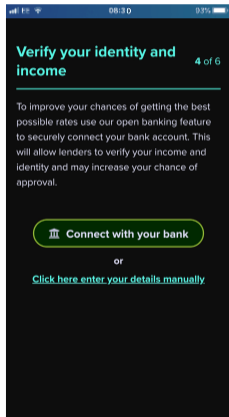
  Adopted by $\sim$40 countries since 2016

  E.g., UK Open Banking Initiative (2017)

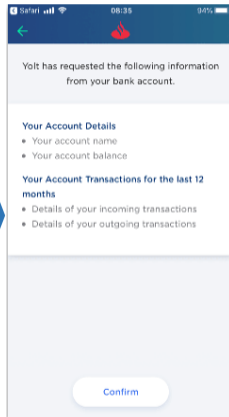  E.g., Brazil Joint Resolution CMN-BCB No. 1/20 (2020)

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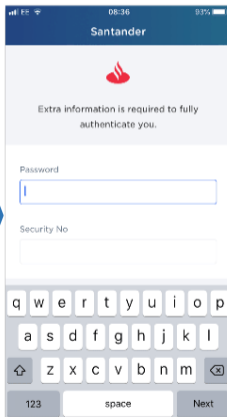
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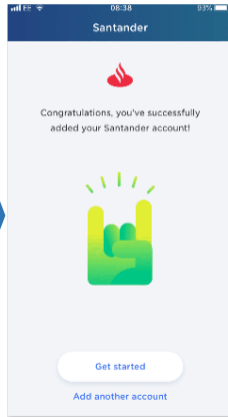
| Consumer applies for loan from Monevo | Consumer consents to data sharing using Santander app | Consumer reauthenticates using Santander app | Santander shares bank data with Monevo |
|---|---|---|---|



Source: Monevo.co.uk, Scott Logic

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**What happens when you break relationship banks' data monopolies?**

# Results

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- Detailed database covering largest 168 countries
- Adopted by 40 countries since 2016 + 40 more in process
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**Part III. Model**: General-purpose IO-style quantitative model

    Benefit: Less adverse selection, "better products" → more entry/competition

    Cost: Broken pooling ("bad types" hurt) & less ex-ante data production

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   Model highlights critical policy question: **how is the data used?**

# I. Institutional background—data collection

**Approach**:

Hand-collect regulatory details for 168 countries (99% of GDP)

Official documents > law firm documents > news/industry reports

Cross-check versus mechanized Google search & third-party database

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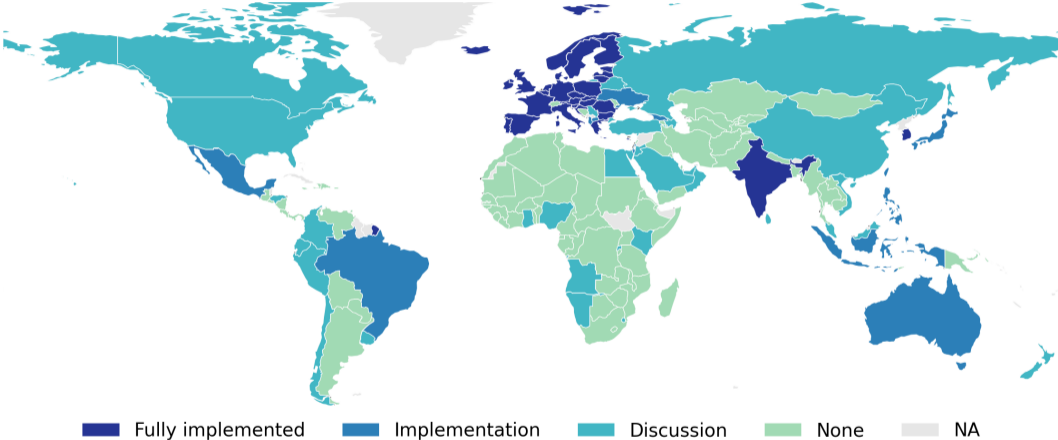**Collect and standardize information on**:

    Regulator type; OB mandate (innovation; competition; inclusion)

    Implementation dates / current status

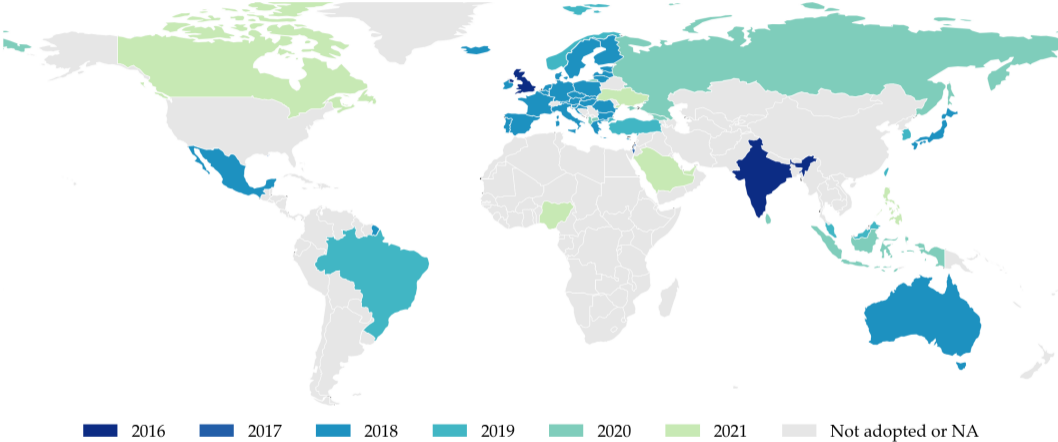    Requirements (e.g., who must share data; API standardization)

    Scope (e.g., covered products; includes payment initiation)

# I. Institutional background—global adoption



*Open banking status as of October 2021*

Fully implemented   Implementation   Discussion   None   NA

# I. Institutional background—global adoption over time



Major OB policy passage

# II. Does open banking "cause' financial innovation'?

**Panel event study:**

$$FintechVC_{it} = \sum_{k \neq 0} \beta_k \times OBLag(k)_{ikt} + Country_i + Region_{rt} + \epsilon_{it}$$

**Panel regression:**

$$FintechVC_{it} = \beta \times OB_{it} + Country_i + Region_{rt} + \epsilon_{it}$$

- $FintechVC_{it}$: Log fintech deals $+$ 1; possibly in a subcategory (e.g., loans)
- $OBLag(k)_{ikt}$: OB implemented $k$ years ago
- $OB_{it}$: OB implemented at $t$
- $Country_i$: country FE; $Region_{rt}$: region-by-time fixed effects
- Use only countries with $\geq 5$ fintech deals prior to the sample ($\leq$2010)
- Cluster-robust standard errors at country-level, EU treated as single country

# II. VC fintech funding—fintech VC deals
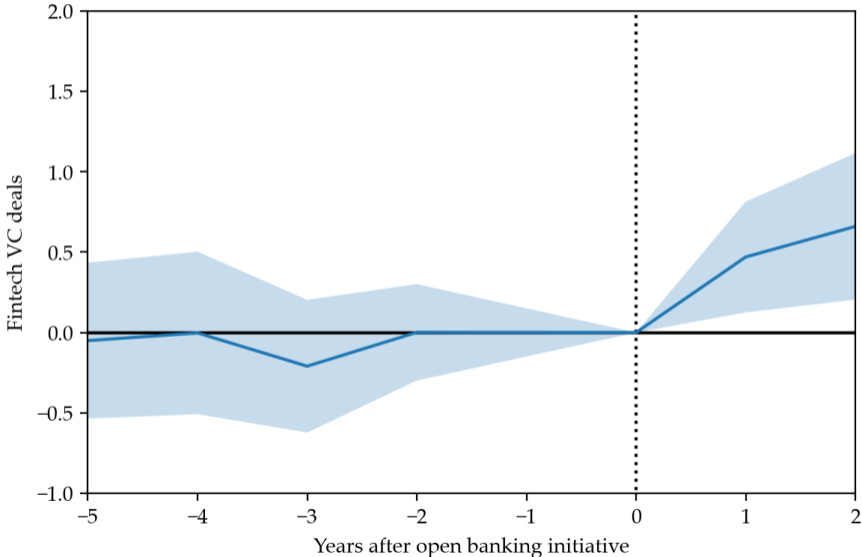
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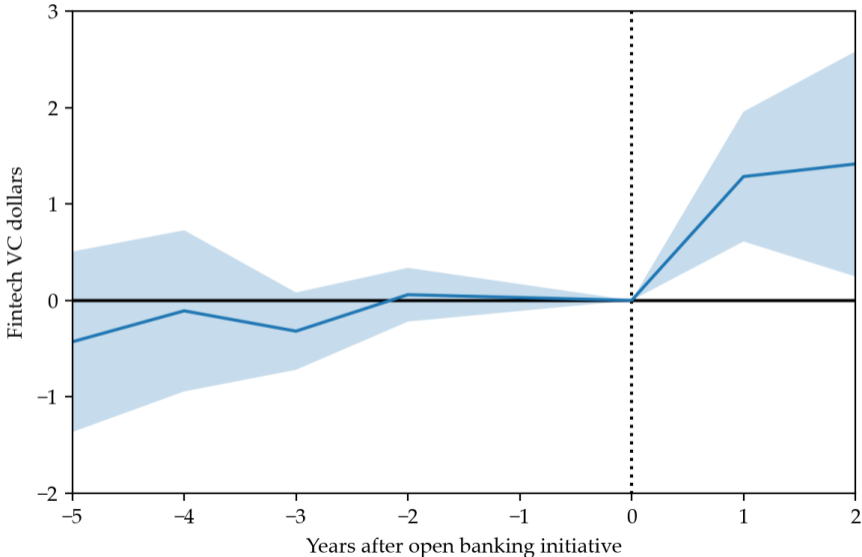
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**Results by fintech product type**:

|  | Alternative lending | Consumer finance | Financial IT | Payments | Regtech | Wealth management | Digital assets |
|---|---|---|---|---|---|---|---|
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| After OB initiative | 0.737* | 0.693** | 0.760*** | 0.654 | 0.709*** | 0.624* | 0.022 |
|  | (0.355) | (0.260) | (0.230) | (0.407) | (0.135) | (0.329) | (0.279) |
| Country FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Region-Year FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 231 | 231 | 231 | 231 | 231 | 231 | 231 |
| Adjusted $R^2$ | 0.866 | 0.835 | 0.877 | 0.863 | 0.876 | 0.875 | 0.828 |

# III. Model: Offer <u>quantification</u> of OB across key uses of consumer data

**Model captures three key aspects of OB**:

- Heterogeneous consumers ← this is what data are informative about
- Different firms have different access to consumers' data (banks vs. fintechs)
    - **Relationship banking**: single bank observes customer-level data
    - **Open banking**: all banks/fintechs observe customer-level data
- Speaks to main goals of OB: entry/innovation, competition, and financial inclusion

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**Setup: IO/BLP with rich consumer heterogeneity, designed for quantification**:

- Key innovation: data informative about consumer heterogeneity
    - Nests two key conceptions of data: marginal cost and demand (product customization)
- Main estimation object is distribution of consumer heterogeneity
- Validate model with reduced form results (increased entry)

# III. Model overview

**Consumers**:

Period 1, buy "data generating product" (e.g., bank account)

Period 2, buy "data using product" (e.g., mortgage, financial advice)

Characteristics $\chi_i \sim dF(\chi_i)$, e.g., marginal cost, customization, willingness to pay

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**Banks**:

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    Period 2, supply "data using product", using data from period 1 product

**Fintechs**:

    Period 2, supply "data using product", competing with banks

    May or may not observe consumer data from period 1

    Fixed cost of entry $+$ zero-profit condition pins down entry

# III. Data use period: Product pricing and customization

**Consumers**: explicitly model three types of consumer heterogeneity

- Determining <u>marginal costs</u>: e.g., default probability

- Product <u>customization</u>: e.g., financial advice/wealth management product

- Determining <u>willingness to pay</u>: e.g., search propensity

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**Firms (banks and fintechs)**: assume differentiated Bertrand competition

- When consumer data <u>observed</u>, set product price/product characteristic <u>per-customer</u>
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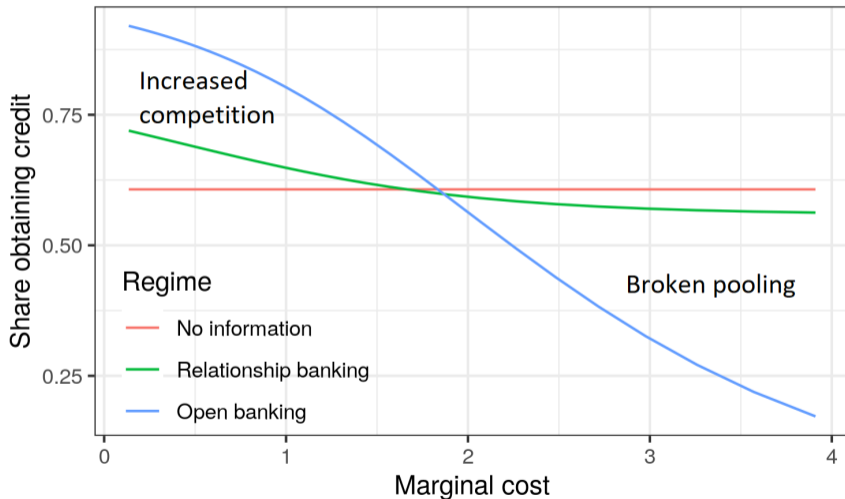
**Two calibrations based on financial products**

1. Mortgage (Buchak et al. 2018): <u>high marginal costs</u> variation
2. Financial advice (Di Maggio et al. 2021): <u>high customization</u> variation

# III. Increase in fintech entry and consumer welfare, decrease in bank profit

# Consumer outcomes by their marginal cost: Mortgages

# III. Interpretation

**Effect of transitioning to open banking depends on the TYPE of customer data**:

Data on product customization needs $\rightarrow$ better products
  $\rightarrow$ entry $+$ competition $+$ welfare

Data on customer marginal cost $\rightarrow$ less adverse selection against fintechs
  $\rightarrow$ entry $+$ competition $+$ most expensive customers buy less

Data on willingness to pay $\rightarrow$ more price discrimination by fintechs
  $\rightarrow$ entry $+$ competition $+$ willing to pay customers buy less

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**Short- vs. long-term effects**:

Short-term: consumer welfare typically increases in aggregate

Long-term: less data/financial services if consumers do not internalize value of data

# Conclusion

**Open banking**: On the way to adoption in 80+ countries

Empower consumers to share their banking data with fintechs

Alters relationship between consumer, bank, and bank's competitors

**Opening financial data $\rightarrow$ financial innovation**

Significant inflows of VC funding to related startups (e.g., lending, financial advice)

Implementation details matter: weak OB policies ineffective

**Policy evaluation**: Discussion misses two key tradeoffs

Distributional consequences: innovation potentially at odds with inclusion

Ex-ante data production: may reduce data production/financial service provision

$\longrightarrow$ must understand how data is used!