Open Banking Reshapes Competition — Not Just Fintech

Open Banking and Competition in Banks and Fintech:
Evidence from Mobile Apps

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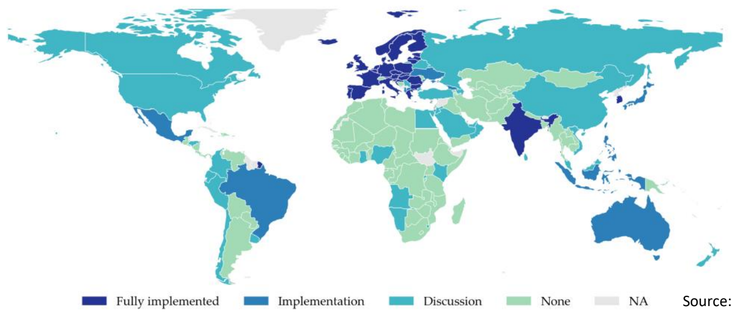
Motivation & Questions

Banking has long been concentrated and data-gated

- US: Top 4 banks earned 44% of banking industry profits (FT, 2024)
- Overlooked advantage: Banks' control of customer data
  ⇒ high switching costs, limited contestability

Open Banking (OB) aims to foster competition via data portability

- UK: **15.1 million** users; **2+ billion** API calls per month (OBIE, 2025)
- Implemented legislation in **60 countries** worldwide (CCAF, 2024)



Source: Babina et al. 2025

Scarce empirical evidence on impact on Fintech and Banks

- Do fintechs benefit from more customer data? If so, by how much?
- How do incumbent banks respond?
- Effect on increased competition and innovation?

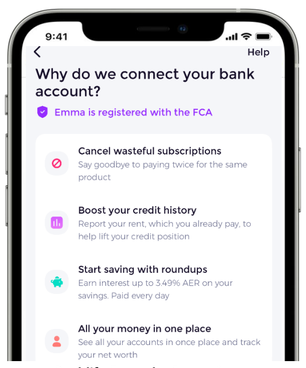
What is Open Banking?

What: A regulatory framework that empowers bank customers to **share their financial transaction data** from their bank accounts with other financial service providers. (Babina et al. 2025)

How: **Authorized** Third Parties use **APIs** to securely access the customer's financial data or initiate payments, subject to customers' consent.

Why: Enable a wide range of financial services:

- Personal finance management, budgeting
- Budgeting, income/expenditure analysis
- Subscription and reward management
- Account sweeping, cash flow optimization
- **Consumer lending** (no credit score, popular!)
- Small business finance, invoice financing
- Low-cost payment and transfers



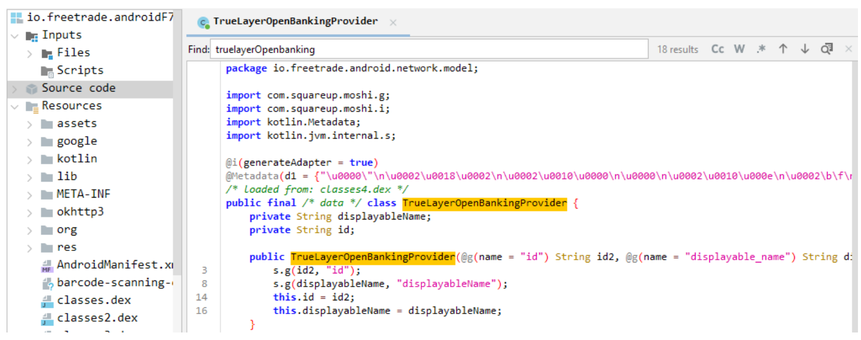
Real-life Example: Emma App

Data Innovation: Mobile App Source Code

Why is this needed?

- Fintech without authorization can also provide open banking services
  ⇒ pay a fee to use **Open Banking API Aggregator**'s infrastructure
- Open Banking API Aggregator: authorized open banking provider

Mobile App Source Code allows us to find Non-authorized OB fintech



Example: **Freetrade App** (non-authorized) integrate with **Truelayer** (authorized)

- Identify integration with authorized Open Banking API Aggregator
- Pinpoint the version/timing of open banking integration
- Capture a wider range of open banking providers

Fintech: How do they benefit?

Causal Evidence from within-app Diff-in-Diff comparison

$$Y_{ict} = \beta OBAuth_{ic} \times Post_{ict} + \boldsymbol{X}'_{ict}\boldsymbol{\gamma} + \boldsymbol{\delta_{ic}} + \boldsymbol{\delta_{ct}} + \boldsymbol{\delta_{it}} + \varepsilon_{ict}$$

Y: app performance, i: app, c: country, t: month
X: log Advertising impressions
OBAuth: Open Banking (OB) Authorization status, *Post*: After OB Authorization

- **Identification**: non-authorized country of the **Same** app as control
- Full sets of FE to isolate variation: app-country, app-time, country-time
- Control for advertising effort of each app in each country

	(1) Download	(2) Engagement	(3) Revenue	(4) MAU	(5) DAU	(6) ARPU
Post	−0.101	0.003	−0.337**	0.167	0.133	−0.026**
	(0.10)	(0.00)	(0.14)	(0.18)	(0.11)	(0.01)
OBAuth × Post	0.174**	0.008*	0.195**	0.192*	0.142*	0.030***
	(0.09)	(0.00)	(0.09)	(0.10)	(0.08)	(0.01)
Mean of dep. var.	3.389	0.089	0.163	2.971	2.228	0.013
Controls	Y	Y	Y	Y	Y	Y
App × Month FE	Y	Y	Y	Y	Y	Y
App × Country FE	Y	Y	Y	Y	Y	Y
Country × Month FE	Y	Y	Y	Y	Y	Y
Observations	160,751	160,751	160,751	160,751	160,751	160,751
R-sq.	0.905	0.904	0.848	0.923	0.945	0.804

Main Findings

1. Open banking significantly improves fintech performance on both the **extensive margin** (quantity) and **intensive margin** (quality).
2. Non-authorized apps that connect through integrations with authorized providers also grow ⇒ **no walled garden.**
3. Performance gains are concentrated among **data-intensive** firms and among **fintech startups** ⇒ potential evidence for lowered switching cost.

Banks: How do they react?

Open Banking Exposure Measure for banks

Use app descriptions and **textual analysis** to quantify functional overlap between bank app and OB fintech apps (authorized, non-authorized).

- Banks: use app description from 2018, capturing pre-OB baseline.
- Fintechs: use app descriptions from 2024, reflecting post-OB landscape.
- Define a bank's exposure as the (weighted) **average cosine similarity** between the bank and all fintechs in the same country.

Diff-in-Diff comparison between high vs. low-exposure banks

$$Y_{bt} = \beta HighOBExposure_b \times PostOB_{ct} + \boldsymbol{\delta_{ct}} + \boldsymbol{\delta_b} + \varepsilon_{bct}$$

Y: bank accounting variables, b: bank, c: country, t: year
HighOBExposure: indicator of above-median open banking exposure
PostOB: After OB regulation

	(1) ln(Net Loan)	(2) ln(Gross Loan)	(3) ln(Total Asset)	(4) ln(Total Deposit)	(5) ln(Total Debt)	(6) ln(Total Equity)
Post × HighOBExposure	-0.117***	-0.125**	-0.121***	-0.093***	-0.150***	-0.108***
	(0.02)	(0.04)	(0.02)	(0.02)	(0.04)	(0.02)
Mean of Dep. Var.	21.814	21.582	22.433	21.966	22.171	19.964
Bank FE	Y	Y	Y	Y	Y	Y
Country × Year FE	Y	Y	Y	Y	Y	Y
Observations	5,179	5,179	5,179	5,179	5,179	4,876
R-sq.	0.950	0.909	0.960	0.955	0.934	0.950

Main Findings

1. Highly exposed banks experience declines in loan issuance, deposits, income, and reliance on lending.
2. Suggestive evidence: Highly exposed banks increase fee-based revenue and improve in operational efficiency.
3. Minimum impact on bank's profitability (e.g., ROE).

Concluding Remarks

First comprehensive dataset on UK/EU open-banking fintech

- Novel dataset constructed from decompiled mobile app source code

Fintech innovates more effectively; banks are compelled to adapt.
Data access reshapes competition in financial services.

Contact

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All comments are welcome!

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