

Poverty Spreads in Deposit Markets

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This paper

Punchline 1 (What?): Systematic **deposit-rate spreads** across the income distribution

- Moving from the **bottom to the top income decile zipcode** **raises** average branch **deposit rates** by roughly 0.22 pp ($\approx 55\%$ of the median rate)
- These spreads persist within counties and even within bank-product–year cells
- **Bottomline: The same bank offers richer areas higher rates on identical deposit products**

This paper

Punchline 2 (Why?): Its not really about income!

1. High-income regions may also have high banking competition.
 - **Not driven by local banking competition!**
2. Cross-subsidization by fee-based activities?
 - Evidence does not seem to support this thesis.
3. **Household participation in non-deposit assets** (stocks, bonds, etc.),
 - Banks compete with other assets that high-income households invest in
 - Banks anticipate deposit outflows when non-deposit returns rise and thus must offer higher deposit rates to retain funds in high-participation markets.
 - Volatility of deposit volumes and sensitivity to market returns rise sharply with participation.
 - Term-structure slopes are steeper in high-participation areas, reflecting stronger competition for longer-maturity funds.

Real-Rate Implications → Distributional Consequences

- Combined with documented **inflation inequality**, nominal deposit spreads imply that low-income households earn much lower *real* deposit returns, **exacerbating wealth gaps**.

My Take

- Pretty interesting paper!
- Well written and easy to follow.
- Empirically, well done and very careful about alternate explanations.
- Novel and insightful findings – Albeit, not a fully causal setup!
 - I don't see it as a huge limitation
 - Much to learn just from simple correlations and summary statistics
- Evidently, policy-relevant! – Adds to the debate on the welfare implications of inequality in financial access.
- My comments: mostly on the channel (why?)
- Key takeaway (for me): Studies on banking competition need to consider competitive pressure from non-bank asset classes!

Comment: Banks make more money off high-income?

- High deposit rates are a customer retention strategy similar to how credit cards offer more rewards.
- Profit-maximizing customer segmentation lens:
 - Just as credit-card issuers underwrite generous cashback and travel-mile incentives for high spenders
 - Because those customers generate outsized fees and interest revenue → banks may offer higher deposit rates to affluent or active investors
- Some evidence of cross-selling:
 - Banks do offer more products in high-income zip codes

Panel A: Extensive Margin			
	N. of Subproducts	Min. Subscription Size	CD Maturity
	(1)	(2)	(3)
log(Per Capita Income)	0.081*** (0.019)	0.103*** (0.030)	0.012* (0.007)

Comment: Banks make more money off high-income?

	Dep. Variable: Deposit Product APY			
	(1)	(2)	(3)	(4)
log(Per Capita Income)	0.130*** (0.015)	0.135*** (0.014)	0.133*** (0.014)	0.133*** (0.013)
log(PCI) × Noninterest Income	0.010 (0.013)			
log(PCI) × Fiduciary Income		-0.034 (0.095)		
log(PCI) × Product Servicing			-0.328 (0.276)	
log(PCI) × Brokerage Income				0.113 (0.116)
Low Order Terms	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Bank × Product FE	Yes	Yes	Yes	Yes
Zipcode × Product FE	Yes	Yes	Yes	Yes
R-Squared	0.824	0.824	0.824	0.806
Observations	620,811	620,811	620,239	494,456

- The authors attempt to rule out cross-selling
- Test: cross-sectional analysis based on banks' dependence on noninterest income – doesn't seem to matter.
 - Is the lack of evidence in favor of this thesis surprising?
 - Is within Bank X Product test appropriate?
 - Cross-subsidization will happen across products
- Suggestion: Test within Bank X Year

Comment: Banks make more money off high-income?

- Need to explain:
 - Why would banks not cross-subsidize?
 - Are high deposit rates the only way to retain customers?
 - Other premium services? -- Substitutes or complements?
- Suggestion: You don't need to completely rule out cross-selling
 - Multiple mechanisms can be at play
- Significant variation in participation even within high-income regions!
 - But why?
 - Suggests some omitted variables/mechanism!
 - Need to provide some explanation!
- Some speculation on these follows next →

Comment: Measuring household participation rates in non-deposit assets

- Two proxies:
 1. Net Capital Gains to Total Income
 2. Interest to Total Income
- Does not directly measure participation
 - Measures realized capital gains
- So, what could it be measuring?
 - Long-term vs short-term investors
 - Capital gains only enter the numerator when households *realize* them.
 - Traders vs investors (Long-horizon, buy-and-hold investors)
 - An extreme case:
 - An investor with high participation but also high patience
 - Will only liquidate assets at retirement → no capital gains in the interim but high participation
- But then the story isn't about participation per se
 - It is about the participation of myopic/speculative/active traders

Comment: Measuring household participation rates in non-deposit assets

- **Measurement Error Implications for Participation Measure**
 - An **elevated capital gains/income ratio** may disproportionately reflect regions with **high trading turnover** rather than true *levels* of participation.
 - Or regions with **more risk-tolerant customers?**
- **Relatedly, Income and risk aversion may be negatively correlated.**
- **Omitted Mechanism?**
 - You'd then be conflating two channels:
 - a. **Substitution channel** (outside-asset competition)
 - b. **Risk-tolerance channel** (banks price differently for more risk-tolerant/myopic clients)
- **Suggestion: control/exploit regional variation in local risk-aversion using regional demographics – gender, age, ethnicity, etc**

Comment: Measuring household participation rates in non-deposit assets

- Higher capital gains → may imply **more savvy investors**, not necessarily participation.
- Realized capital gains **could reflect skillful timing or high informational access**, not sheer quantity of asset holdings.
- Savvy investors may demand *both* competitive deposit and brokerage pricing.

Possible Alternative Indicators?

- **Turnover Ratios**: share turnover by zip. (Unlikely to get this data)
 - **Broker Density**: FINRA branches per capita.
 - **Suggestions:**
 - **Control for “savviness”** proxies (e.g., local hedge-fund presence, turn-over) to partial out the “skill” dimension from pure participation.
 - **Differentiate between capital gains and losses**
- If the effects are similar, my story could be ruled out

Comment: Measuring household participation rates in non-deposit assets

- Could this be about lazy vs. active investors?
- Or elastic vs. inelastic customers
- → Those who do more deposit-rate shopping?
- **Active Investors:** move funds fluidly between deposits and assets → banks compete with outside options.
- **Elastic Savers:** shop across banks for marginal rate improvements → banks compete on pricing to capture new inflows.

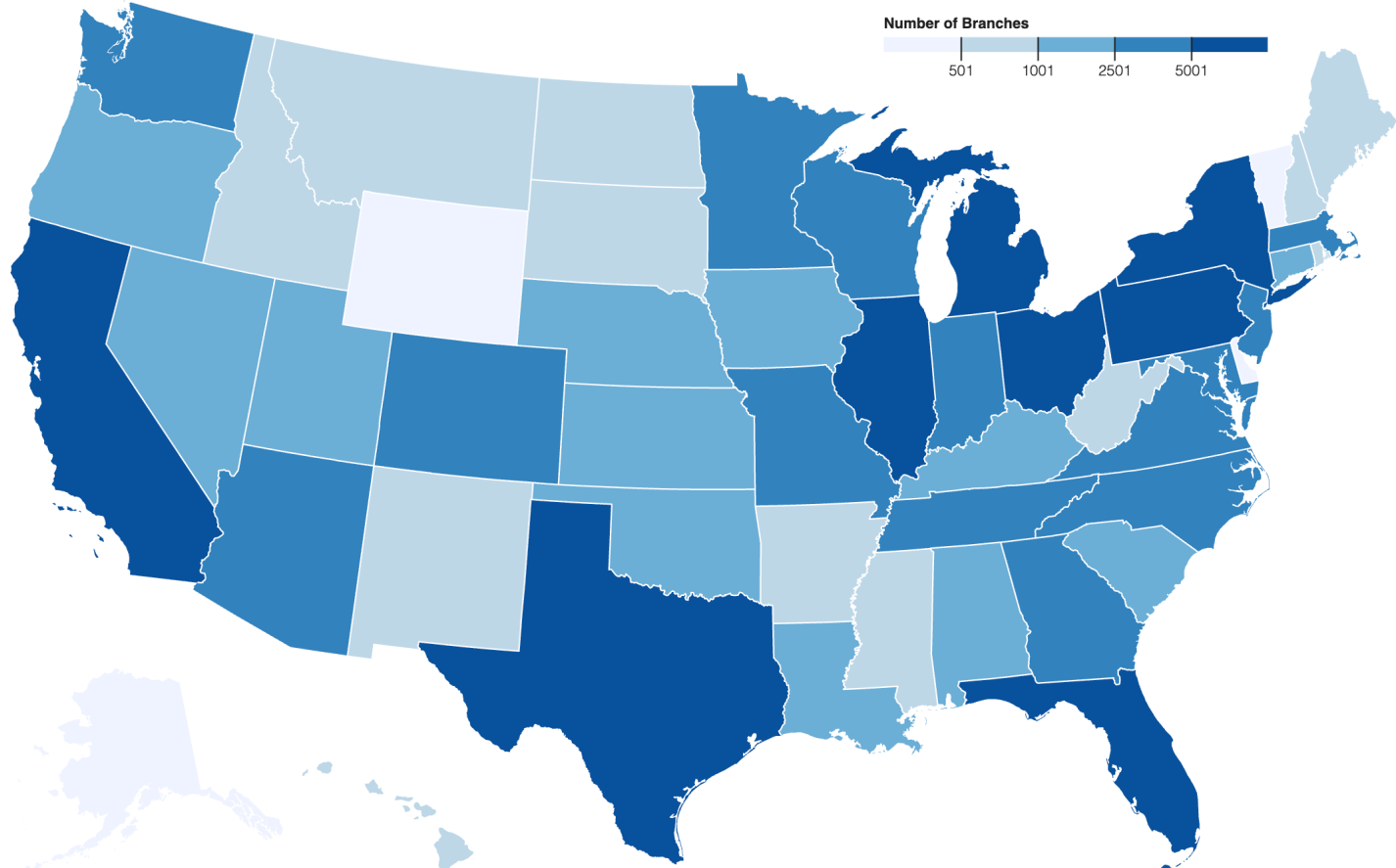
Elastic rate-shoppers vs inelastic depositors

- **Participation Substitution** operates regardless of how close or far apart banks' rates are
 - The banking competition tests help here, but!
- **Elasticity/Shopping** depends *entirely* on the *visibility* of rate differences (not deposit concentration directly).
 - When all banks post almost the same rate (low dispersion), even a savvy depositor has little incentive to switch.
- Suggestion: beyond local banking HHI → control for or exploit within zipcodes *dispersion* in deposit rates
 - Can help further disentangle *participation vs rate-shopping*.

Comment: Measuring household participation rates in non-deposit assets

- No perfect publicly available proxy!
- Suggestion: Use a combination of multiple “crude” proxies
 - **State-level** mutual-fund ownership from the **ICI Fact Book**
 - FINRA’s **Industry Snapshot** includes counts of FINRA-registered branch offices and firms – can possibly linked to zipcodes
 - **Use brokerage branch density** by ZIP as a very rough proxy for local brokerage activity.
 - Google Trends / Search Interest: Relative search intensity for “buy stocks,” “Robinhood,” etc, can proxy local trading interest.

Significant variation in Brokerage Density



FINRA Industry Snapshot 2020

Comment: Measuring household participation rates in non-deposit assets

- Some alternate shocks to participation:
- Using Fintech/digital brokerage launches as a shock to participation
 - Digital brokerage → offers lower fees and transaction costs → higher participation
 - Test for time-variation in rate differential pre and post digital brokerage launches
 - Similarly, can you exploit new local brokerage launches and/or closures?
- Is the rate spread differential weaker during periods of higher uncertainty?
 - Higher uncertainty → lower participation.

Comment: Salary/income and other-income/income ratios are negatively associated with local deposit rates

	Dep. Variable: Deposit Product APY					
	(1)	(2)	(3)	(4)	(5)	(6)
NCG to Total Income	0.00387*** (0.0004)				0.00376*** (0.0005)	0.00373*** (0.0004)
Interest to Total Income		0.02146*** (0.0029)			0.02053*** (0.0029)	0.02053*** (0.0028)
Salaries to Total Income			-0.00146*** (0.0003)		0.00006 (0.0003)	
Other Income to Total Income				-0.00095*** (0.0003)		0.00004 (0.0003)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank × Product FE	Yes	Yes	Yes	Yes	Yes	Yes
Zipcode × Product FE	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.824	0.824	0.824	0.824	0.824	0.824
Observations	621,409	621,409	621,409	621,409	621,409	621,409

“Columns (3) and (4) document negative relationships between Salaries to Total Income and local rates and Other Income to Total Income and local rates, respectively, confirming that these income components are not responsible for the overall positive correlation between total income and deposit rates documented in our baseline tests.”

But, they are!

Isn't there a multicollinearity problem here → the income fractions must sum to 1

Comment: Salary/income and other-income/income ratios are negatively associated with local deposit rates

- Salary-to-Income as a Proxy for **Lower Risk Appetite?**
- Regions with **high (low) salary/income** shares may host a larger fraction of **risk-averse (risk-tolerant)** households
- The “other income” category includes **business profits, rental income, and self-employment income**.
 - High other-income/income shares may thus signal a local economy rich in **private businesses** and **property investments**—again correlated with **higher risk tolerances**.
 - More savvy/sophisticated customer base?
- Bottom line: salary and other income also matter for rate spread → need some explanation of why?

Comment: Is this really a welfare loss for low-income depositors?

- For welfare loss, need to think carefully about the counterfactual
 - Pricing needs to be distortionary
 - Charging high rates (commensurate with risk) on loans to high-credit-risk customers doesn't imply welfare loss
- Banks are profit-maximizing – Let's say it is viable to serve low-income consumers at low deposit rates only
 - Charging low rates on deposits to low-profit customers doesn't imply welfare loss
- Forcing banks to increase rates may reduce financial access

Comment: Is this really a welfare loss for low-income depositors?

- Profit-maximizing banks would want to maximize the amount of low-cost funding
 - So, the rate spreads could be driven by cross-sectional variation in deposit volume
 - Alternate fund source for banks: interbank lending, which is costlier
- Let's say customer acquisition costs are the same in the income distribution
 - For the same CAC, banks raise more funds from high-income → cheaper to raise fund from high-income consumers
 - Banks pass on some of the cost savings

Comment: Is this really a welfare loss for low-income depositors?

- Not necessarily!
- The deposits raised by banks could be used to **expand credit in low-income areas**
 - Offer **loans at lower rates compared to the counterfactual** of raising funds in interbank markets
- Another possibility: **deposit rates and loan rates may completely offset**
 - High-income areas → high deposit rates → but also high interest rates on credit
 - Low-income areas → low deposit rates → but also low interest rates on credit

Comment: The Instrumental Variable

- Authors use State-level capital gains taxes to instrument for non-deposit asset participation
- **Exclusion restriction:** State capital-gains taxes must affect deposit rates *only* via participation incentives. But!
- Higher capital gains → lower after-tax cash-flow → lower deposits?
- To offset tax loss, banks may have to offer higher deposit rates
 - Taxes may directly affect the cost of capital (rates offered)!

Comment: The Instrumental Variable

	Net Capital Gains		Interest		Salaries	
	(1)	(2)	(3)	(4)	(5)	(6)
State Rate, Long Gains	-0.137*** (0.039)		-0.079*** (0.017)		0.030 (0.049)	
NCG to Total Income		0.636*** (0.196)				
Interest to Total Income				1.095*** (0.162)		
Salaries to Total Income						-2.888 (4.797)

Magnitude is **50X**
times **baseline**
estimate!

There is no first stage
here. So, no point in
running second stage

Suggestion: Reassess if IV is really buying you anything!

Other Comments

- Report within-R2s → :
 - Specifically, what fraction of the variation in deposit rates is explained by income?
- Authors find that “Major banks” do not offer differential rates across income distribution.
 - Worth explaining why?

Comment: Bank vs Depositor Market Power

- Could there be reverse causality?
- Concentrated depositor base:
 - Banks may generate a high fraction of deposits from a few individuals in high-income areas
 - Think SVB!
 - Such depositors have higher bargaining power → banks offer better terms → , even at the risk of facing insolvency
- Causality runs from depositor power → banks rates

Overall

- Interesting Paper!
- Need a bit more effort to nail down the channel!
- Look forward to seeing it in print!
- Good luck!