

Discussion:

“The Passthrough of Treasury Supply to Bank Deposit
Funding”

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Summary

- ▶ Question:

How does the treasury supply affect bank lending & liquidity?

- ▶ This paper builds novel treasury supply channel:

- ▶ Stylized facts:

- ▶ $\text{Corr}(\text{Treasury Growth}, \text{Deposit Growth}) < 0$

- ▶ $\text{Corr}(\text{Treasury Growth}, \frac{\text{LargeTimeDep}}{\text{Deposits}}) < 0$

- ▶ $\text{Corr}(\text{Treasury Growth}, \text{Chg. Deposit Spread}) > 0$

- ▶ Two period model rationalizes stylized facts

- ▶ HH consume & demand agg liquidity (treas&deposits (CES))

- ▶ Diff. demand for deposits, allocate D_i to banks to min opp costs

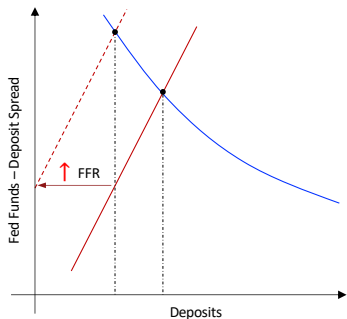
- ▶ N -Banks max profits, from deposit funded lending (symmetric equil)

- ▶ XS evidence supporting the mechanism:

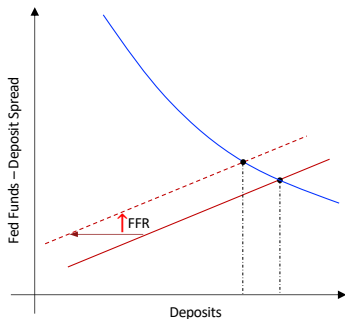
- ▶ Bank and branch level quantities, branch level rates (RateWatch), HMDA, NCRC

The deposit channel: supply side story of deposit & lending

(a) Less Competitive Region



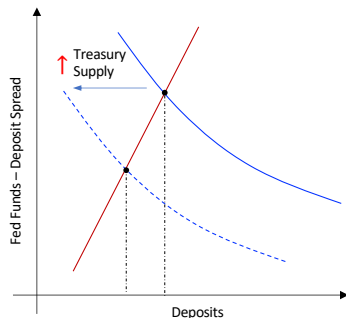
(b) More Competitive Region



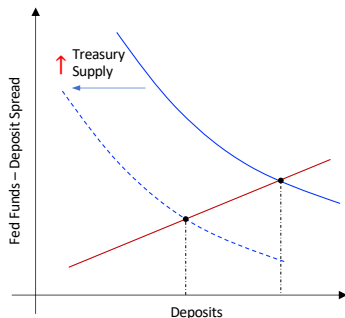
- ▶ \uparrow FFR allows banks with market power to increase spreads
- ▶ Market power optimally constricts supply
- ▶ Less deposit funding \Rightarrow fewer loans
- ▶ Identified in the xsec of bank branches (Drechsler-Schnabl-Savov 2017)

This paper: demand side story of deposit & lending

(a) Less Competitive Region



(b) More Competitive Region



- ▶ \uparrow treasury supply lowers demand for deposits
- ▶ In particular lowers demand for whole-sale deposits
- ▶ Deposits leave the banking system (modulated by deposit concentration)
- ▶ Lending declines

Discussion

- ▶ This paper takes step towards demand determinants of deposit flows
- ▶ Useful to move away from focusing solely on supply side stories of deposit flows, which blindsided policy makers during recent rate hikes
- ▶ This discussion:
Why is it useful to study demand factors of deposit flows

What are the issues with the deposit channel?

(based on Begenau-Stafford-2022)

1. No evidence for price setting to exploit local market power.
 - ▶ Many banks use uniform pricing (Granja and Paixao, 2021)
 - ▶ *Note: the Drechsler-Schnabl-Savov-2017 within-bank at the branch-level evidence considered compelling. But it relied on omitting 87% of obs as redundant & over-sampling small banks*
2. Branch deposit flow relationship:
 - ▶ $\uparrow FFR \Rightarrow \downarrow D$ pre 2008 in high HHI counties
 - ▶ But $\downarrow D$ also in follower branches w/o \uparrow deposit spread
3. No evidence for aggregation of deposit channel
 - ▶ Large banks do uniform pricing
 - ▶ HHI effect is a county size effect
 - ▶ No decline in lending for large banks

Empirical Design Choice which supply story is based on

- ▶ Drechsler, Schnabl, and Savov 2017 focus on rate-setting branches only, saying follower observations are redundant
- ▶ This paper seems to follow this restrictions (compare sample sizes of branches and rate watch data)

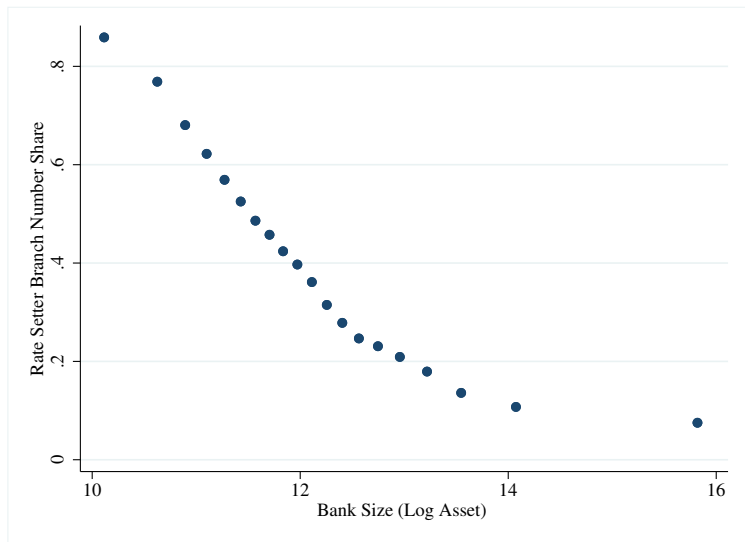
▶ Issues

- ① Sample restrictions drops 87% of the data
- ② 13% oversamples banks with small branch networks

Examples:

- ▶ in CA Wells Fargo has had 3-6 rate setting branches
- ▶ Bank of America has 1 rate setting branch in MA (3 in whole NewE)

Rate Watch Data: Rate Setter Branch Coverage



- ▶ Large banks employ uniform price setting

Branch Network Characteristics: 2005 snapshot

	Bank Deciles									
	1	2	3	4	5	6	7	8	9	10
Banks (nbr)	599	599	599	599	599	599	599	599	599	599
Network/Total	0.61	0.68	0.75	0.78	0.83	0.86	0.90	0.91	0.92	0.94
Asset Shr	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.04	0.89
Deposit Shr	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.03	0.04	0.87
Loan Shr	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.03	0.04	0.87
C&I Loan Shr	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.03	0.90
Dep. Br (\$ M)	16.0	22.9	26.2	29.6	31.9	30.8	35.4	35.9	37.1	45.1
HHI Rge Flw.	0.08	0.08	0.08	0.09	0.09	0.11	0.11	0.16	0.18	0.31
Rate Rge Flw	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Data Example: Bank of America

			Spread		State	Low HHI	High HHI
	RS State	Flw#	Avg	SD	#	Deposit Growth	2007-2004
1	Arizona	26	4.95	0	1	0.12	0.16
2	Arkansas	1	4.95	.	1	0.10	0.10
3	California	363	4.95	0	1	0.07	0.10
4	Connecticut	76	4.95	0	1	.	.
5	Florida	192	4.95	0	1	0.05	0.10
6	Georgia	191	4.95	0	1	0.12	0.12
7	Idaho	4	4.95	0	1	0.16	0.09
8	Illinois	15	4.95	0	1	0.13	(0.19)
9	Illinois	11	4.95	0	1	1.30	1.00
10	Iowa	10	4.95	0	1	0.27	0.08
11	Iowa	4	3.15	0	1	0.16	0.16
12	Kansas	24	4.95	0	1	0.63	(0.01)
13	Maine	20	4.95	0	1	.	.
14	Maryland	75	4.95	0	2	0.07	0.13
15	Massachusetts	72	4.95	0	1	.	.
16	Missouri	57	4.95	0	1	0.03	(0.12)
17	Nevada	23	4.95	0	1	0.14	0.10
18	New Hampshire	21	4.95	0	1	.	.
19	New Jersey	217	4.95	0	1	.	.
20	New Mexico	13	4.95	0	1	0.04	0.39
21	New York	27	4.95	0	1	.	.
22	New York	7	4.95	0	1	.	.
23	Oklahoma	10	4.95	0	1	0.13	(0.04)
24	Oregon	33	4.95	0	1	0.12	0.12
25	Pennsylvania	20	4.95	0	1	.	.
26	Rhode Island	16	4.95	0	1	.	.
27	South Carolina	46	4.95	0	1	0.18	0.03
28	Tennessee	34	4.95	0	1	(0.02)	0.07
29	Texas	107	4.95	0	1	0.23	0.01
30	Virginia	67	4.95	0	1	0.05	0.06
31	Wyoming	81	4.95	0	1	0.16	0.17

All Branches: No Differential Rate Pass-Through

	Dependent Variable: Δ Savings Rate Spread		
	All Branches		Rate Setter
	(1)	(2)	(3)
HHI x chg FFR target	-0.00 (-0.43)	-0.00 (-0.40)	0.11 (3.96)
Bank-Qrt FE	Yes	Yes	Yes
State-Qrt FE	Yes	Yes	Yes
Branch FE	Yes	Yes	Yes
County FE	Yes	Yes	Yes
County X ZLB FE	Yes	Yes	Yes
Adjusted R^2	0.93	0.93	0.80
N	1,874,073	1,851,974	102,526

- ▶ No effect in all branches: driven by large uniform ratesetters
- ▶ Column (2) weighted by branch deposits; Col (3) RT DSS
- ▶ Does not rule out market power: only 1-Stage DSS evidence

Branch Deposit Sensitivity and Economic Conditions

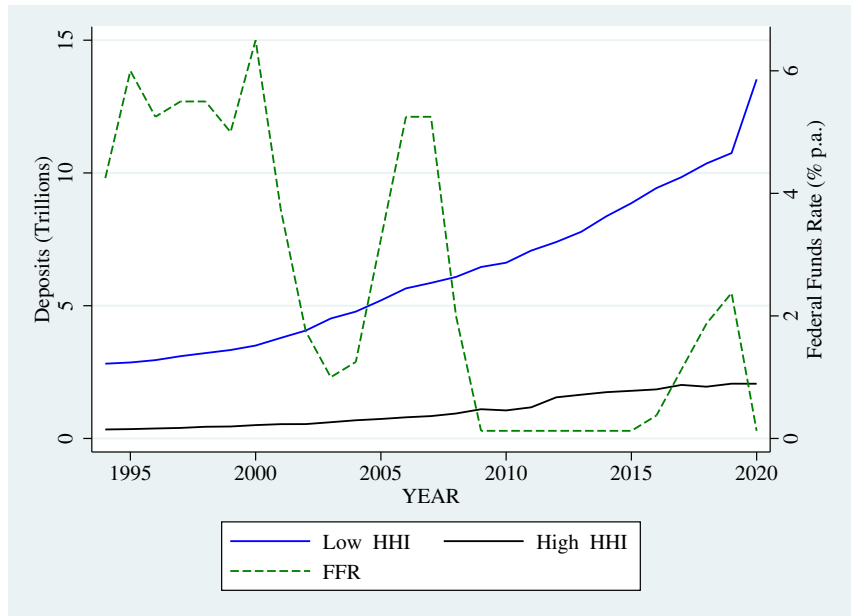
	Dependent Variable: $\Delta \text{Log}(\text{Deposits})$			
	1994-2013		2001-2009	
	All		Flw	ExCty
	(1)	(2)	(3)	(4)
HHI cty \times D(FFR)	-0.89 (-2.45)		-1.35 (-2.64)	
HHI fitted (logEmp) \times D(FFR)		-1.75 (-3.75)		-2.99 (-4.61)
HHI resd. (logEmp) \times D(FFR)		-0.27 (-0.63)		-0.05 (-0.07)
Bank-Year FE	Yes	Yes	Yes	Yes
State-Year FE	Yes	Yes	Yes	Yes
Branch FE	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes
County X 10-13 FE	Yes	Yes	No	No
Adjusted R^2	0.14	0.14	0.23	0.23
N	1,153,346	1,153,346	275,578	275,578

► County HHI deposit flow relationship driven by county size

Take away from revisiting the XS evidence on deposit flows

- ▶ Main XS take-away:
Branch and county level deposit growth not driven by bank pricing
- ▶ Within same bank: lower deposit growth in high HHI counties despite no difference in deposit pricing
- ▶ Suggests demand factors:
 - ▶ Fed cools down a booming economy with rate hikes. If economy grows more strongly in low HHI (large economic size) counties, differential growth in income will show up as differential growth in deposits
- ▶ Not necessarily credit crunch in high HHI counties either.

Deposit Dollars in high vs low HHI counties



Aggregation: Commercial bank data 1998-2008

All Banks

	Δ Spread (1)	Δ Log Deposits (2)	Δ Log Loans (3)
HHI \times Chg. FFR	0.074 (8.23)	-2.047 (-10.51)	-0.873 (-4.24)
Bank FE	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes
R^2 FE only	0.54	0.17	0.22
Adjusted R^2	0.54	0.17	0.22
N	358,220	358,220	357,260

Big Banks

	Δ Spread (1)	Δ Log Deposits (2)	Δ Log Loans (3)
HHI \times Chg. FFR	-0.059 (-1.33)	1.745 (2.15)	0.971 (1.45)
Bank FE	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes
R^2 FE only	0.29	0.07	0.09
Adjusted R^2	0.29	0.07	0.09
N	51,766	51,766	51,654

- ▶ Big-bank: cumulate to 90% of agg. assets
- ▶ No evidence for deposit channel in large banks: lack of aggregation

Thoughts

- ▶ Paper pushes story centered around liquidity demand! Great!
- ▶ Shift XS evidence focus:
 - ▶ Which demand factors vary at the local level (e.g., investor sophistication, account balances, account composition)?
 - ▶ How do banks respond to it (variation in products & services)?
- ▶ Move away from measures defined by supply side literature (e.g., HHI is a pure measure of competition)
- ▶ If competition story is pursued, consider competition (especially lending) from shadow banking sector too (e.g., Bennetton et al 2021; Jiang et al, 2023)

Conclusion

- ▶ Very neat paper on an important topics
- ▶ Paper rightfully focuses on what determines deposit demand, moving away from supply side stories of deposit flows that have dominated policy makers views
- ▶ More could be done to understand demand side of deposit flows

Note on RateWatch data

- ▶ Commercial data set
- ▶ Offer rate file of rate-setters \Rightarrow matched to locations
- ▶ Mapping file to recover history of branch ownership
- ▶ Originally not intended for research use: Early Ratewatch versions very hard to construct panel of bank ownership (issue w/ mergers - across bank obs misspecified as within bank obs)
- ▶ Ratewatch – now offered by S&P – no longer offers data prior to 2001, because of "inconsistencies"