The Deposits Channel of Monetary Policy

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We propose and test a new channel of monetary policy

1. Monetary policy has a powerful impact on the price and quantity of deposits supplied by the banking system
   - Higher nominal rate $\Rightarrow$ deposit supply $\downarrow$ deposit price (spread) $\uparrow$

2. Why? Banks have market power in supplying deposits. A higher nominal interest rate increases this market power
   - Deposits and cash are the two main sources of household liquidity
   - Higher nominal rate $\Rightarrow$ cash more expensive $\Rightarrow$ banks face less competition in liquidity provision $\Rightarrow$ act like monopolist

3. We show channel at aggregate, bank, and branch levels
   - Identification: exploit differences in deposit rates across branches within the same bank and the same state
   - Higher nominal rates lead to higher deposit prices and greater deposit outflows in markets where banks have more market power

Drechsler, Savov, and Schnabl (2015)
Implications

Higher nominal rate \implies less deposits \implies

For banks:

1. Deposits are the main source of funding for banks: $10$ trillion, 77\% of bank liabilities
2. Less prone to runs than wholesale funding, very hard to replace
   \implies Banks cut lending ("bank lending channel")
   \implies Risky and illiquid assets especially affected
   (Kashyap, Rajan, Stein 2002; Hanson, Shleifer, Stein, Vishny 2014)

For households:

1. Deposits are the main source of liquidity for households
   \implies Reduces total supply and increases premium on safe and liquid assets
   \implies Affects leverage, risk-taking, and cost of capital

Drechsler, Savov, and Schnabl (2015)
Higher nominal rate $\rightarrow$ higher price of deposits

Price of deposits: Deposit spread = Fed funds rate – deposit rate

1. Price increases most for liquid deposits (checking, savings)
   - From $\approx 0$ bps to 400 bps (savings) and 500 bps (checking)

2. Price of time deposits is low and increases less

*Drechsler, Savov, and Schnabl (2015)*
Higher nominal rate $\rightarrow$ large outflows of savings deposits

Year-on-year change in Fed funds and savings deposits

1. Savings deposits are largest category $6.5$ trillion, $64\%$ of total
2. Large flows: from $-12\%$ to $+24\%$ per year

*Drechsler, Savov, and Schnabl (2015)*
Higher nominal rate → large outflows of checking deposits

Year-on-year change in Fed funds and checking deposits

1. Checking deposits are $1.6 trillion, 16% of total
2. Large flows: from $-11\%$ to $+21\%$ per year

*Drechsler, Savov, and Schnabl (2015)*
Higher nominal rate → large inflows of time deposits

1. Time deposits are $2.1 trillion, 21% of total
2. Large flows: from −15% to +21% per year
⇒ Reallocation from liquid deposits to less liquid deposits
Higher nominal rate → less total deposits

Total core deposits (checking + savings + small time)

1. Total deposits are $10.2 trillion
2. Large flows: from −1% to +12% per year

Drechsler, Savov, and Schnabl (2015)
Aggregate results bottom line

1. Deposits are **large**
   - $10.2 trillion (savings $6.5t; time $2.1t; checkable $1.6t)

2. Deposit spreads increase (**price ↑**) with nominal rate
   - 100 bps Fed funds increase ⇒ savings deposits spread increases by 54 bps; time deposits spread by 18 bps

3. Deposits shrink (**quantity ↓**) with nominal rate
   - 400 bps Fed funds increase ⇒ savings deposits outflows of 10–12% yoy; time deposit inflows of 5% yoy; net outflows of −5% yoy

⇒ Monetary policy appears to shift the **supply** of deposits

*Drechsler, Savov, and Schnabl (2015)*
1. **Bank lending/balance sheet channel theory**: Bernanke (1983); Bernanke and Blinder (1988); Bernanke and Gertler (1989); Kashyap and Stein (1994); Kiyotaki and Moore (1997); Stein (1998, 2012)

2. **Bank lending channel empirics**: Kashyap, Stein, and Wilcox (1992); Kashyap and Stein (2000); Campello (2002); Dell'Ariccia, Laeven, and Suarez (2013); Jiménez, Ongena, Peydró, and Saurina (2014); Scharfstein and Sunderam (2014)

3. **Banks as liquidity providers**: Diamond and Dybvig (1983); Gorton and Pennacchi (1990); Kashyap, Rajan, and Stein (2002); Krishnamurthy and Vissing-Jorgensen (2012); Driscoll and Judson (2013); Hanson, Shleifer, Stein, and Vishny (2014); Drechsler, Savov, and Schnabl (2014); Nagel (2014)
Theory: intuition

Setup:
1. A representative household has utility over wealth and liquidity
2. Three types of assets
   - **Bonds**: provide no liquidity, pay competitive rate $f$ (Fed funds rate)
   - **Cash**: provides liquidity, pays no interest
     $\Rightarrow$ opportunity cost $= f$
   - **Deposits**: provide partial liquidity ($\delta < 1$), pay rate $f - s$
     $\Rightarrow$ opportunity cost $= s$
3. Deposits created by $N$ monopolistically competitive banks

Mechanism:
- $\uparrow$ Fed funds rate $\Rightarrow$ cash becomes a more expensive source of liquidity
- $\Rightarrow$ Banks face less competition in liquidity provision (market power $\uparrow$)
- $\Rightarrow$ Banks optimally increase deposit spread $s$
- $\Rightarrow$ Households substitute away from deposits (and cash) and into bonds

*Drechsler, Savov, and Schnabl (2015)*
Theory: results

\[ \rho < 1 \] = elasticity between liquidity and wealth (complements)
\[ \epsilon > 1 \] = elasticity between deposits and cash (substitutes)
\[ \eta > 1 \] = elasticity of substitution across banks (substitutes)

The composite parameter \( \mathcal{M} = 1 - \frac{\eta - 1}{N - 1} \) captures banks’ market power in deposit creation; \( \mathcal{M} \) is decreasing in the number of banks \( N \) and the elasticity of substitution across banks \( \eta \).

If \( \mathcal{M} \) is sufficiently low (\( < \rho \)), the deposit spread \( s = 0 \). Otherwise,

\[
\begin{align*}
    s &= \delta \frac{\epsilon^{\frac{1}{\epsilon-1}}}{{\epsilon-1}} \left( \frac{\mathcal{M} - \rho}{\epsilon - \mathcal{M}} \right)^{\frac{1}{\epsilon-1}} f
\end{align*}
\]

The deposit spread \( s \)

(i) increases with Fed funds rate \( f \)
(ii) increases more with Fed funds rate \( f \) where market power \( \mathcal{M} \) is high

Drechsler, Savov, and Schnabl (2015)
Empirical strategy

Does monetary policy have a direct effect on deposit supply?

Identification challenge:

1. Deposit supply and monetary policy may be reacting to economic conditions (omitted variable)
2. Deposit supply may be reacting to monetary policy through bank assets or capital (indirect effect)

⇒ Exploit cross-sectional variation in competitiveness
⇒ Within-bank estimation, event study methodology, other tests to rule out alternatives

Drechsler, Savov, and Schnabl (2015)
Data and measures

Data:

3. Bank-level data: U.S. Call Reports
4. County characteristics: County Business Patterns, IRS, FDIC

Measures:

1. Use most common deposit products: $10k Money Market account (savings deposits); $10k one-year CDs (time deposits)
2. Competition: County-level deposit Herfindahl index by bank
3. Deposit spread = Fed funds rate – deposits rate

*Drechsler, Savov, and Schnabl (2015)*
Cross-sectional evidence: savings deposit spreads

1. For each branch, run $\Delta \text{Spread} = \alpha + \beta \Delta \text{FF} + \varepsilon$
2. Plot average $\beta$ in 20 competition bins ($\approx 130$ counties per bin)

$\Rightarrow$ As Fed funds rises, savings deposit spreads increase more in uncompetitive counties

*Drechsler, Savov, and Schnabl (2015)*
Cross-sectional evidence: deposit flows

1. For each branch, run $Flow = \alpha + \beta \Delta FF + \varepsilon$
2. Plot average $\beta$ in 20 competition bins

⇒ As Fed funds rises, deposits flow out more in uncompetitive counties

*Drechsler, Savov, and Schnabl (2015)*
Descriptive statistics

County competition (Herfindahl) map

<table>
<thead>
<tr>
<th></th>
<th>All</th>
<th>Low Herfindahl</th>
<th>High Herfindahl</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Median</td>
<td>Mean</td>
</tr>
<tr>
<td>Population (in)</td>
<td>90,845</td>
<td>25,329</td>
<td>150,081</td>
</tr>
<tr>
<td>Area (sq. mile)</td>
<td>1,057</td>
<td>613</td>
<td>903</td>
</tr>
<tr>
<td>Median income (in)</td>
<td>36,406</td>
<td>34,787</td>
<td>39,332</td>
</tr>
<tr>
<td>Over age 65 (in %)</td>
<td>14.78</td>
<td>14.4</td>
<td>14.22</td>
</tr>
<tr>
<td>College degree (in %)</td>
<td>16.55</td>
<td>14.5</td>
<td>18.69</td>
</tr>
<tr>
<td>Herfindahl</td>
<td>0.36</td>
<td>0.29</td>
<td>0.21</td>
</tr>
<tr>
<td>Obs. (counties)</td>
<td>3,104</td>
<td>1,589</td>
<td>1,515</td>
</tr>
</tbody>
</table>
Identification I: within-bank estimation

1. Lending opportunities are a potential omitted variable
   - Differences in lending opportunities need to be correlated with bank competition and changes in monetary policy
   ⇒ Control for bank lending opportunities by looking across branches of the same bank (and in the same state)
     - Multi-branch bank can lend at one branch, raise deposits at another
     - E.g. compare deposits at Citi branch in low-competition county with deposits at Citi branch in high-competition county
     - Identifying assumption:
       A deposit raised at one branch can be lent at another branch

Drechsler, Savov, and Schnabl (2015)
Identification I: within-bank estimation

1. Estimation in first differences:

\[
\Delta y_{ijct} = \alpha_i + \delta_{jt} + \lambda_{st} + \gamma \Delta FF_t \times Herf_c + \varepsilon_{ijct}
\]

- $\Delta y_{ijct}$ = Branch-level change in deposit spread/deposit flow
- $\Delta FF_t$ = Change in Fed funds target rate
- $Herf_c$ = County-level competition (Herfindahl)
- $\alpha_i$ = Branch or county fixed effects
- $\delta_{jt}$ = Bank-time fixed effects
- $\lambda_{st}$ = State-time fixed effects

2. Standard errors clustered at the county level
Results: savings deposit spreads

\[ \Delta \text{Spread}_{ijct} = \alpha_i + \delta_jt + \lambda_{st} + \gamma \Delta \text{FF}_t \times \text{Herf}_c + \varepsilon_{ijct} \]

<table>
<thead>
<tr>
<th></th>
<th>Banks in $\geq$ 2 counties</th>
<th>All banks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>$\Delta \text{FF} \times \text{Herf.}$</td>
<td>0.153***</td>
<td>0.106***</td>
</tr>
<tr>
<td></td>
<td>[0.037]</td>
<td>[0.036]</td>
</tr>
<tr>
<td>Bank $\times$ qtr f.e.</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>State $\times$ qtr f.e.</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Branch f.e.</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>County f.e.</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Quarter f.e.</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Obs.</td>
<td>84,282</td>
<td>84,282</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.780</td>
<td>0.767</td>
</tr>
</tbody>
</table>

$\Rightarrow$ 100 bps Fed Funds rate increase $\rightarrow$ 15 bps increase in low- vs. high-competition areas ($\approx 1/3$ standard deviation)
Results: time deposit spreads

\[
\Delta Spread_{ijct} = \alpha_i + \delta_{jt} + \lambda_{st} + \gamma \Delta T-Bill_t \times Herf_c + \varepsilon_{ijct}
\]

<table>
<thead>
<tr>
<th>Banks in ≥ 2 counties</th>
<th>All banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>(\Delta \ T-Bill \times \ Herf)</td>
<td>0.076***</td>
</tr>
<tr>
<td>[0.027]</td>
<td>[0.027]</td>
</tr>
<tr>
<td>Bank (\times) qtr f.e.</td>
<td>Y</td>
</tr>
<tr>
<td>State (\times) qtr f.e.</td>
<td>Y</td>
</tr>
<tr>
<td>Branch f.e.</td>
<td>Y</td>
</tr>
<tr>
<td>County f.e.</td>
<td>Y</td>
</tr>
<tr>
<td>Quarter f.e.</td>
<td>Y</td>
</tr>
<tr>
<td>Obs.</td>
<td>86,928</td>
</tr>
<tr>
<td>(R^2)</td>
<td>0.853</td>
</tr>
</tbody>
</table>

⇒ 100 bps Fed Funds rate increase → 8 bps increase in low- vs. high-competition areas (≈ 1/4 standard deviation)

Drechsler, Savov, and Schnabl (2015)
Results: deposit flows

\[ \text{Flow}_{ijct} = \alpha_i + \delta_{jt} + \lambda_{st} + \gamma \Delta FF_t \times Herf_c + \varepsilon_{ijct} \]

<table>
<thead>
<tr>
<th></th>
<th>Banks in ( \geq 2 ) counties</th>
<th>All banks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>( \Delta FF \times Herf. )</td>
<td>(-0.863***) ([0.273])</td>
<td>(-1.256***) ([0.334])</td>
</tr>
<tr>
<td>Bank ( \times ) qtr f.e.</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>State ( \times ) qtr f.e.</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Branch f.e.</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>County f.e.</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Quarter f.e.</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Obs.</td>
<td>779,096</td>
<td>779,096</td>
</tr>
<tr>
<td>( R^2 )</td>
<td>0.390</td>
<td>0.380</td>
</tr>
</tbody>
</table>

\( \Rightarrow \) 100 bps Fed Funds rate increase \( \rightarrow \) 86 bps annual outflow in low- vs. high-competition areas

*Drechsler, Savov, and Schnabl (2015)*
The cross section and the aggregate

In the aggregate time series: 100 bps Fed Funds rate increase →
- 54 bps increase in savings deposit spread
- 2.9% increase in rate of outflow
⇒ implied demand elasticity of $-5.4$

In the cross section: 100 bps Fed Funds rate increase →
- 15 bps relative increase in savings deposit spread in low-competition counties; 8 bps for time deposits → weighted average 12.5 bps
- 86 bps greater annual outflow of deposits in high Herf counties
⇒ implied demand elasticity of $-7$

Drechsler, Savov, and Schnabl (2015)
Identification II: event study methodology

1. Results indicate supply shock controlling for lending opportunities:
   \[ \uparrow \text{Fed funds rate} \Rightarrow \downarrow \text{deposit quantity} \]
   \[ \uparrow \text{deposit price} \]
   - Inconsistent with demand-driven explanations
     (e.g. wealthy vs. poor counties)

2. Examine whether response occurs quickly around Fed funds changes

Drechsler, Savov, and Schnabl (2015)
Results: event study

Low - high competition savings deposit spreads around rate change

⇒ Timing indicates differential response is due to Fed

Drechsler, Savov, and Schnabl (2015)
Identification III: expected rate changes

1. Results show that Fed affects deposit supply
   - In our model this is due to the rate change itself
   - Alternative mechanism: release of private macro information

2. Hold information fixed by looking at expected rate changes
   - Unique feature of our setting: price of zero-maturity deposits should respond even to expected rate change
   - Expected rate changes computed from Fed funds futures
   - Testing whether rate itself matters versus private information release
Results: expected rate changes

\[
\Delta \text{Spread}_{ijct} = \alpha_i + \delta_{jt} + \lambda_{st} + \gamma \text{Expected} \ \Delta FF_t \times \text{Herf}_c + \varepsilon_{ijct}
\]

<table>
<thead>
<tr>
<th></th>
<th>Banks in $\geq 2$ counties</th>
<th>All banks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>$\Delta \text{Exp. FF} \times \text{Herf.}$</td>
<td>0.211*** 0.154** 0.171**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[0.078]  [0.075]  [0.073]</td>
<td></td>
</tr>
<tr>
<td>$\Delta \text{Unexp. FF} \times \text{Herf.}$</td>
<td>0.155* 0.089 0.049</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[0.086]  [0.080]  [0.088]</td>
<td></td>
</tr>
<tr>
<td>Bank $\times$ qtr f.e.</td>
<td>Y Y N N N N</td>
<td></td>
</tr>
<tr>
<td>State $\times$ qtr f.e.</td>
<td>Y N N Y N N</td>
<td></td>
</tr>
<tr>
<td>Branch f.e.</td>
<td>Y Y N Y Y N</td>
<td></td>
</tr>
<tr>
<td>County f.e.</td>
<td>Y Y Y Y Y Y</td>
<td></td>
</tr>
<tr>
<td>Quarter f.e.</td>
<td>Y Y Y Y Y Y</td>
<td></td>
</tr>
<tr>
<td>Obs.</td>
<td>86,368 86,368 86,368</td>
<td>275,451</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.780 0.767 0.499</td>
<td>0.607</td>
</tr>
</tbody>
</table>

$\Rightarrow$ Expected 100 bps Fed Funds rate increase $\rightarrow$ 21 bps savings deposit spread increase in low- versus high-competition counties

Drechsler, Savov, and Schnabl (2015)
Results: expected rate changes

Low - high competition savings deposit spreads around expected rate change

⇒ Rate change causes differential response

Drechsler, Savov, and Schnabl (2015)
Results: unexpected rate changes

Low - high competition savings deposit spreads around unexpected rate change

⇒ Unexpected and expected rate changes have similar effect

Drechsler, Savov, and Schnabl (2015)
Bank-level estimation

1. We also estimate results at the bank level (instead of branch level)
   - Bank Herfindahl = Deposit-weighted average branch Herfindahl

2. Verify that branch-level effect aggregates up to bank level

3. Extend analysis to asset side of bank balance sheets

Drechsler, Savov, and Schnabl (2015)
Results: bank-level deposits

\[ \Delta \log(\text{Deposits category})_{bt} = \alpha_b + \gamma \Delta FF_t \times Herf_{b,t-1} + \varepsilon_{bt} \]

<table>
<thead>
<tr>
<th></th>
<th>Δ Core</th>
<th>Δ Savings</th>
<th>Δ Small time</th>
<th>Δ Spread</th>
<th>Δ Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Δ FF × Herf.</td>
<td>-0.884***</td>
<td>-0.571**</td>
<td>-1.829***</td>
<td>0.088***</td>
<td>7.023***</td>
</tr>
<tr>
<td></td>
<td>[0.151]</td>
<td>[0.252]</td>
<td>[0.203]</td>
<td>[0.010]</td>
<td>[1.709]</td>
</tr>
<tr>
<td>Bank f.e.</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Quarter f.e.</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Obs.</td>
<td>426,620</td>
<td>426,620</td>
<td>426,620</td>
<td>426,620</td>
<td>323,212</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.147</td>
<td>0.075</td>
<td>0.148</td>
<td>0.388</td>
<td>0.557</td>
</tr>
</tbody>
</table>

⇒ Consistent with branch-level estimates

Drechsler, Savov, and Schnabl (2015)
Results: bank liabilities

\[
\Delta \log(Liability)_{bt} = \alpha_b + \gamma \Delta FF_t \times Herf_{b,t-1} + \varepsilon_{bt}
\]

<table>
<thead>
<tr>
<th></th>
<th>(\Delta) Total</th>
<th>(\Delta) Large time</th>
<th>(\Delta) Non-deposits</th>
<th>(\Delta) Wholesale funding</th>
<th>(\Delta) Other</th>
<th>(\Delta) Subord. debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>(\Delta) FF \times Herf.</td>
<td>−1.039***</td>
<td>−2.989***</td>
<td>3.564***</td>
<td>3.466***</td>
<td>−0.145</td>
<td>4.773*</td>
</tr>
<tr>
<td></td>
<td>[0.143]</td>
<td>[0.403]</td>
<td>[0.986]</td>
<td>[0.969]</td>
<td>[0.520]</td>
<td>[2.435]</td>
</tr>
<tr>
<td>Bank f.e.</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Quarter f.e.</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Obs.</td>
<td>426,620</td>
<td>426,620</td>
<td>426,620</td>
<td>426,620</td>
<td>426,620</td>
<td>11,522</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.171</td>
<td>0.046</td>
<td>0.028</td>
<td>0.056</td>
<td>0.071</td>
<td>0.113</td>
</tr>
</tbody>
</table>

⇒ Overall contraction + substitution to wholesale/non-deposit funding

Drechsler, Savov, and Schnabl (2015)
Results: bank assets

\[ \Delta \log(\text{Asset/category})_{bt} = \alpha_b + \gamma \Delta FF_t \times \text{Herf}_{b,t-1} + \varepsilon_{bt} \]

<table>
<thead>
<tr>
<th></th>
<th>(\Delta) Assets &amp; reserves</th>
<th>(\Delta) Cash &amp; reserves</th>
<th>(\Delta) Securities</th>
<th>(\Delta) RE loans</th>
<th>(\Delta) C&amp;I loans</th>
</tr>
</thead>
<tbody>
<tr>
<td>(\Delta FF \times \text{Herf.})</td>
<td>-0.979***</td>
<td>-2.470***</td>
<td>-0.742**</td>
<td>-0.528**</td>
<td>-0.656*</td>
</tr>
<tr>
<td></td>
<td>[0.126]</td>
<td>[0.615]</td>
<td>[0.361]</td>
<td>[0.220]</td>
<td>[0.385]</td>
</tr>
<tr>
<td>Bank f.e.</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Quarter f.e.</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Obs.</td>
<td>426,620</td>
<td>426,620</td>
<td>426,620</td>
<td>426,620</td>
<td>426,620</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.169</td>
<td>0.055</td>
<td>0.057</td>
<td>0.152</td>
<td>0.047</td>
</tr>
</tbody>
</table>

⇒ Contraction in assets, lending → bank lending channel

*Drechsler, Savov, and Schnabl (2015)*
Additional results and robustness

1. Financial literacy (age, income, education)

2. Large versus small banks (10th, 25th, and 50th percentiles)

3. Competition measure (2- and 5-mile radius, hist. and yearly Herf.)

4. Additional products (10K and 2.5K money market accounts, 10K 3- and 6-month CDs)

5. Estimation in levels

Drechsler, Savov, and Schnabl (2015)
Implications for liquidity premium

⇒ As deposit supply shrinks and the price of liquid deposits increases so do other liquidity premia

- Plots the aggregate deposit spread against the T-Bill liquidity premium (measured as Fed funds–T-Bill rate)

⇒ Higher liquidity premium raises cost of risk taking for financial sector (DSS 2015a)
Takeaways

1. Propose and test a new channel of monetary policy

2. Deposits channel works through the effect of interest rates on banks’ market power over liquidity provision to households

3. Find strong support for deposits channel using within-bank estimation, expected rate changes, and others

4. Deposits are the main source of bank funding. The deposits channel has implications for lending and liquidity provision

Drechsler, Savov, and Schnabl (2015)