The Transmission of Monetary Policy through Bank Lending: The Floating Rate Channel By Ippolito, Ozdagli, and Perez

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Floating Rate Channel

- Identify new monetary policy transmission channel
- MP effect on outstanding floating rate debt
- Mechanism
  - firms exposed to interest rate risk via unhedged floating rate debt
  - rate hike increases interest obligation on outstanding debt
  - w/ fin. frictions: get real effects
- Results
  - FRC economically significant for financially constrained firms w/ large fraction of unhedged floating rate debt
  - channel not effective at ZLB

Data

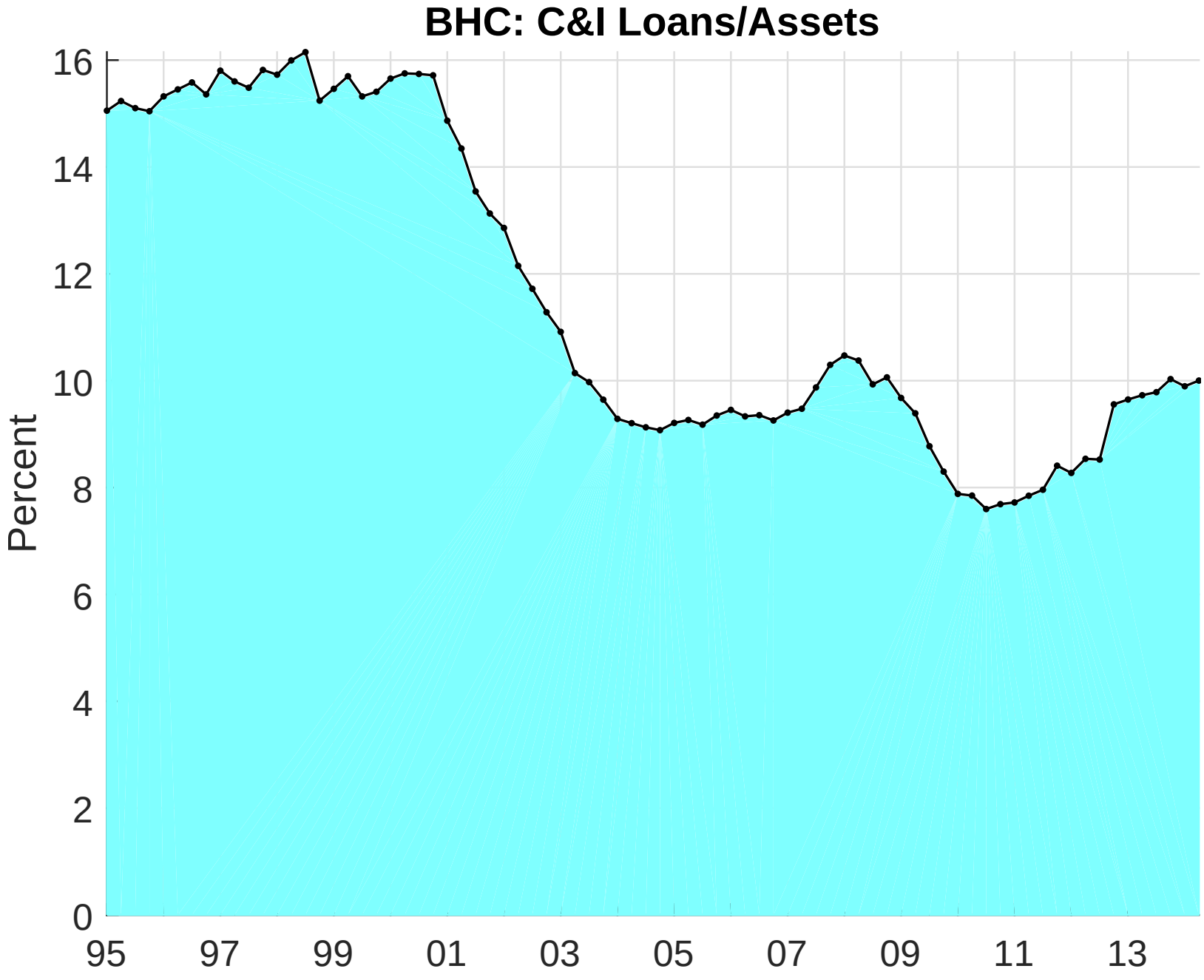
- Study period 2003-2008
- Match Capital IQ data (10-K filings) on debt types with Compustat & CRSP
- Get information (partially handcollected!!)
  - bank debt (term loans & used credit lines) following Colla-Ippolito-Li-2013
  - floating rate debt from 10-K footnotes
  - interest rate hedging from 10-K footnotes (dummy)
- Focus on bank debt as proxy for floating rate debt

Evidence on floating rate channel

- Stock price falls after rate hike in particular if firms
  - high bank debt/assets & NO hedging of interest rate risk
  - financially constrained
    - age, by years since IPO
    - Hadlock & Pierce 2010
- Rate hike deteriorates firms' liquidity position
  - coverage ratio (interest exp/(interest exp + cash flows)
  - cash holdings
- Real implications of rate hike
  - lower inventories
  - lower sales growth
  - lower fixed investment
- Does not operate during ZLB period

Discussion

- Aggregate importance of floating rate channel
- Use of bank debt/ asset as measure of exposure to floating rate channel
- Why don't firms hedge interest rate risk


BHC: C&I Loans/Assets
Percent
16
14
12
10
8
6
4
2
0
95
97
99
01
03
05
07
09
11
13

Bank loans to the median firm

Panel A: Sample Distribution of Debt Types

	Debt Types								
	Mean	1st Perc.	5th Perc.	25th Perc.	Median	75th Perc.	95th Perc.	99th Perc.	Obs. with positive usage (%)
Commercial paper	0.009	0.000	0.000	0.000	0.000	0.000	0.010	0.280	5.24
Drawn credit lines	0.220	0.000	0.000	0.000	0.006	0.345	0.999	1.000	51.39
Term loans	0.212	0.000	0.000	0.000	0.000	0.343	0.999	1.000	46.52
Sen. bonds and notes	0.382	0.000	0.000	0.000	0.208	0.806	1.000	1.000	64.65
Sub. bonds and notes	0.098	0.000	0.000	0.000	0.000	0.000	0.831	1.000	19.62
Capital leases	0.054	0.000	0.000	0.000	0.000	0.012	0.308	1.000	42.98
Other debt	0.025	0.000	0.000	0.000	0.000	0.001	0.118	0.695	28.08
Total adjustment	0.000	−0.029	−0.001	0.000	0.000	0.000	0.006	0.038	10.52

- Ratio of different debt types to total debt
- Source: Colla-Ippolito-Li-2013

Aggregate importance of channel

- $ amount of floating rate bank debt matters
- $ amount of floating rate bank debt relative to total corporate debt
- Bank dependent firm: lion share of loans from banks
  - Fraction of predominantely bank dependent firms
  - how much $ floating bank loans do they hold
  - economic significance in terms of output (sales) and employment

Use of bank debt / asset

- Paper focusses on bank debt/ asset as measure for exposure to floating rate channel
- High bank debt/asset firms characteristics
  - large, low M-B, high leverage, high tangibility
  - potentially large fraction of fixed rate debt that hedges against floating rate debt
- Farre-Mensa & Ljungqvist (2015)
  - measure of financial constraints such as HP fail to identify constrained firms
  - instead identify small, young, high growth firms that have no trouble raising external funds

Why don't firms hedge interest rate risk

- Paper identifies costs: reduction in liquidity position, negative effect on inventory, sales, investment ...
- If costs are large, why aren't firms hedging?
- Sample period characterized by rising interest rates $\rightarrow$ pay floating rate position particularly costly
- Vickery (2008): (small private firms)
  - small & young firms twice as likely to have fixed rate debt
  - fixed rate debt less prevalent in industries with $Corr(\text{r,output}) > 0$ (i.e. natural hedge)
- Kirti (2015): (public firms)
  - bank dependent firms: small & risky
  - supply side argument for why bank debt is floating

Conclusion

- Interesting paper that identifies perhaps powerful transmission channel for monetary policy
  - outstanding floating rate debt
- Bank debt mostly floating $\rightarrow$ predominantely bank dependent borrower exposed to interest rate risk
- Comments
  - Sense for aggregate relevance of channel
  - Reduce focus on bank debt/ asset as measure of exposure to floating rate channel
  - Investigate potential reasons for lack of hedging/ or alternatives to hedging with derivatives

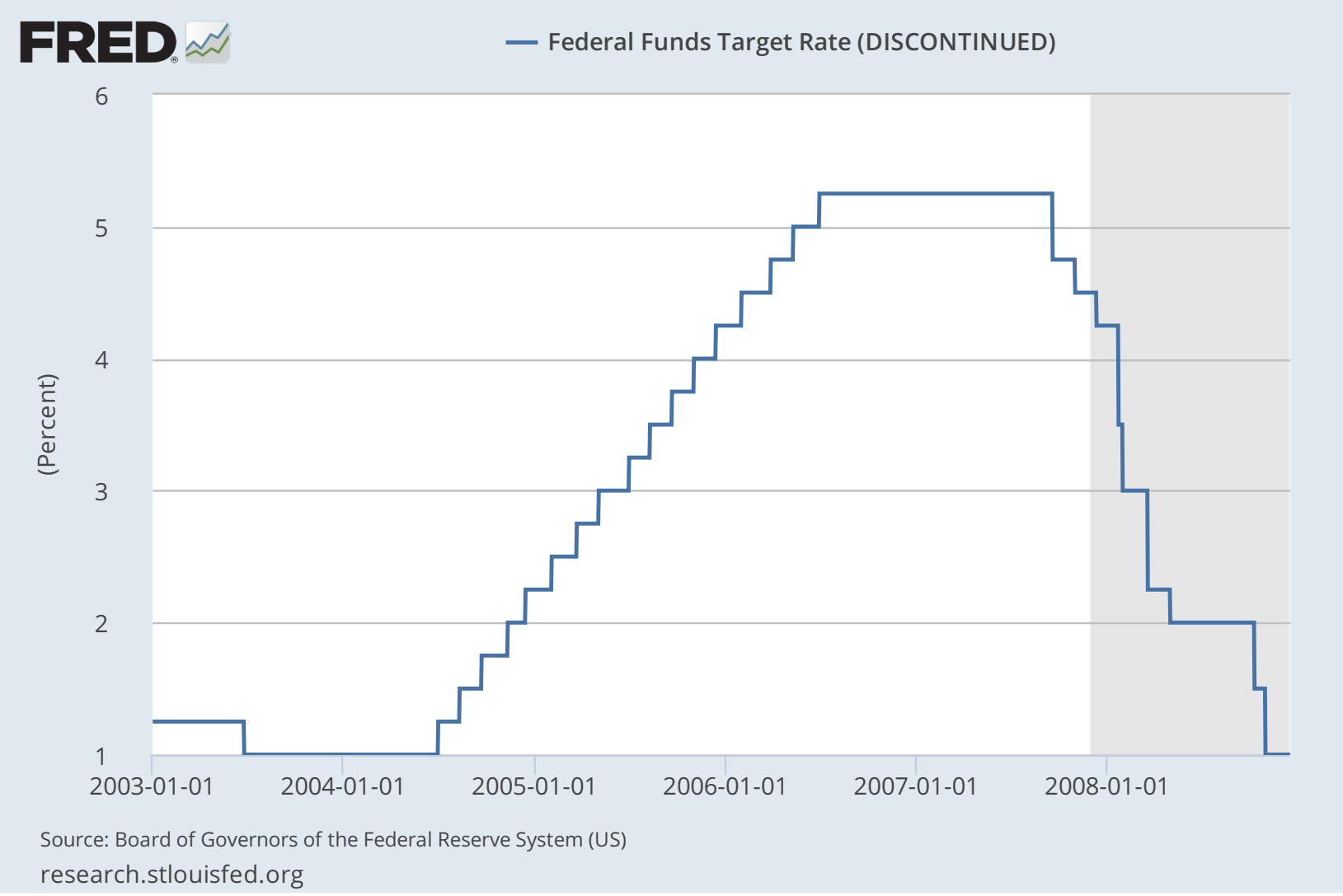
Minor

- Cash flow = EBIT*(1-taxes) + Depreciation - capex - change in NWC
- What about net debt as a measure?
- Age variable measures years since IPO, use Jay Ritter's dataset for age
- Definition of constrained firms often does not identify constrained firms, see Farre-Mensa & Ljungqvist (2015)
- Conduct placebo tests
- Check out JMP by D. Kirti (2015): similar conclusion with regard to firms' floating rate debt use, but also digs into the reason why banks offer floating rate loans.

Special sample period

- At times of falling interest rates, paying a floating interest rate wins
- Top 4 banks all entered pay-floating interest rate swaps
- Since 1980s, falling trend in interest rate
- 2003-2008 sample: slight rate increase

Target Fed Funds Rate



New economy firms use less debt

- Since 1980s secular increase in R&D intensive public firms
- R&D firms 55% of Compustat sample and 67% of IPOs
- Large cash-balances & little (or no) leverage
- Debt less suitable to fund uncertain R&D outcome with asymmetric payoff