Lender Forebearance Before a Repo Run

Brittany Lewis [1]

[1] Washington University St. Louis

Motivation

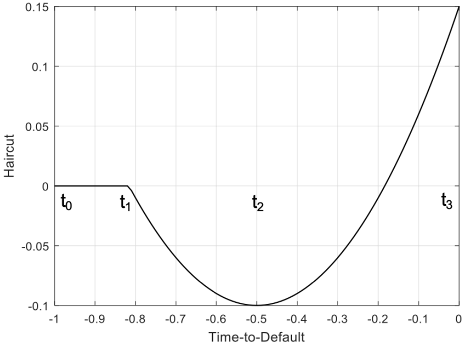
- Studies how repo lenders behave preceding a repo run, and when does the run start?
- They use data from a single hedge fund that was working with 16 lenders

- Finds that repo lenders give forbearance to firms before a repo run. Lenders respond to negative news by:
  - Cutting hair cuts
  - Leaving hair cuts reduced for a long period of time

Timeline for a Repo Run

- Three key dates
  - t_0 = day -88, the day before the first negative news article
  - t_1 first date after t_0 on which the lender decreases haircuts
  - t_2 first date after t_1 on which the lender increases haircuts
  - t_3 date on which all loans are terminated
- $t_1 - t_0$ how long lender took to lower haircuts $\Rightarrow$ Lender Response
- $t_2 - t_1$ how long haircuts remained low $\Rightarrow$ Lender Patience

Figure 1: Timeline for a Repo Run



Main Findings

- Estimate OLS and duration analysis (Cox and Weibull) on t dates.
  - OLD: $\Delta t_j = \alpha + \beta_x x_j + \epsilon_j$
  - Cox Proportional Hazard: $h(\Delta t_j | x_j) = h_0(\Delta t_j) exp(x_j \beta_x)$
- Where x_j is a vector of Lender *Exposure* and *Longer Relationship*
- To study how a lender with more *exposure* to a hedge fund, or a *longer relationship*, will respond in terms of its patience or its initial response.
  - For example, studies whether the duration of patience is correlated with these 2 lender attributes
- Find:
  - Lenders that have more *exposure* to HF lower HC faster and keep HC lower for longer
  - Lenders that have had a *longer relationship* with the borrower lower haircuts faster and keep HC lower for longer

Motivation And Main Comments

- Why only use HC? Why not use loan amount or or price as well?
- Lender could have many levers to pull, why is haircut its preferred one?

Main Comment 1 - Endogeneity

- Potential endogeneity, example larger lenders (ie the larger banks) may have been the first banks to lend to this HF and thus have a longer relationship, these same banks could be the ones with larger exposure
- It could be the fact that being larger banks is driving them to act this way, not exposure and relationship length
- Additionally, the lenders that do not drop HCs, could be other hedge funds who may also be exposed to similar collateral and suffering from the same shock
- Would be good to know a bit more about other lenders. For example is it always large banks that step in and act as lenders of last resort?

- Merge on to bank call report data and explain the characteristics of lenders who behave in this way
  - Are there more- versus less- exposed lenders?
  - Who for example are these lenders?

Main Comment 2 - Timing

- What was going on before the first negative news date?
- Were there other runs in the past that you can use to measure this and see if the trends were the same?
  - Perhaps in the past the HF whose data you have was able to rally, what did the response of lenders look like around the rallying?
  - Since it is not possible to have multiple HFs to compare lender response in the cross section, to understand lender actions in the ramp up to a run, would be good to see several time events.
  - Presumably lenders act in this way because they want the HF to recover so there may be some past events where the HF was able to recover.

Private-Label MBS Repo Haircuts

Apr 2005, haircuts ↓ in tri-party mkt, began ↑ in 2007/2008

- Make sure not picking up this effect

Figure 2: 2004Q3-2006Q3 Haircuts (Srinivasan '24)

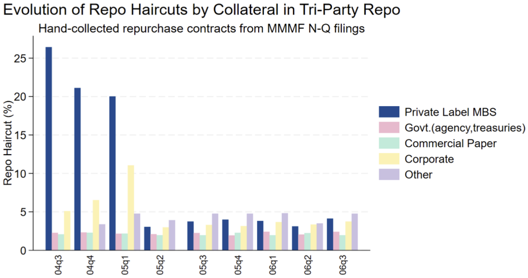


Figure 3: 2006Q3-2010Q3 Haircuts (Krishnamurthy et. al. '14)

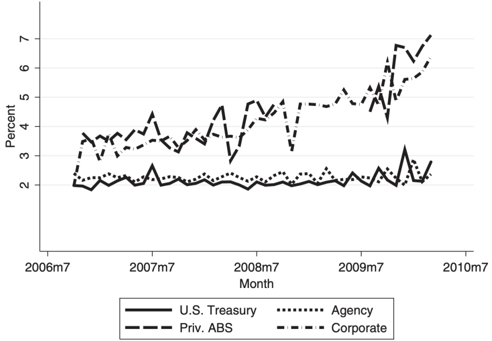


Figure 5. Haircuts by collateral type (weighted by notional value).

BAPCPA 2005 Creates Credit Supply Shock (Lewis 2023)

Private-label mtg receive preferred bankruptcy status, allows clearing house to hold them

- Enables dealers to repledge PLS collateral, causing a money multiplier effect

Figure 4: Pre-BAPCPA

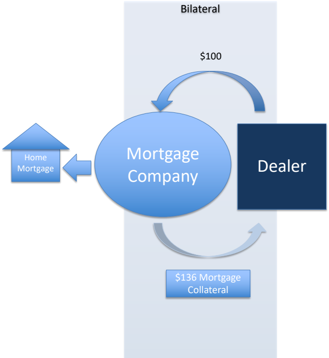
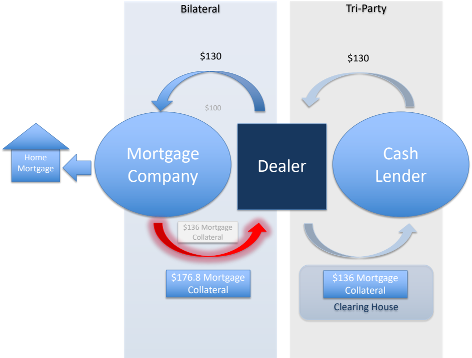


Figure 5: Post-BAPCPA



Treated & Control Dealers (Lewis 2023)

- Use treated/control lenders from Lewis (2023)
  - Primary dealers shown here, additional dealers in online appendix
  - Test whether treated dealers lowered haircuts more than non-treated dealers
  - Test that treated and control lenders behaved the same way in pre-period -(if possible around earlier negative news events)

Figure 6: Lewis (2023) Treated & Control Dealers

	Dealer	PD (04/05)	Treated Dealer	Repledgeable Col.
1	Bear Stearns	Yes	Treated	Yes
2	Countrywide	Yes	Treated	Yes
3	Credit Suisse	Yes	Treated	Yes
4	Lehman Brothers	Yes	Treated	Yes
5	Greenwich Capital (RBS)	Yes	Treated	Yes
6	Merrill Lynch	Yes	Treated	Yes
7	Morgan Stanley	Yes	Treated	Yes
8	Barclays	Yes	Control	Yes
9	Bank of America	Yes	Control	Yes
10	Citi	Yes	Control	Yes
11	Deutsche Bank	Yes	Control	Yes
12	Goldman Sachs	Yes	Control	Yes
13	HSBC	Yes	Control	Yes
14	JP Morgan	Yes	Control	Yes
15	Nomura	Yes	Control	Yes
16	UBS	Yes	Control	Yes

Thank You!

Minor Comments

- Instead of referring to $t_1 - t_0$ throughout, remind people what it is (i.e. length of time before lender lowered haircuts), same with $t_2 - t_1$
- show the actual timing of the news events so that people know what time period it is over