Discussion: Securitized Banking and the Run on Repo *Gary Gorton and Andrew Metric*

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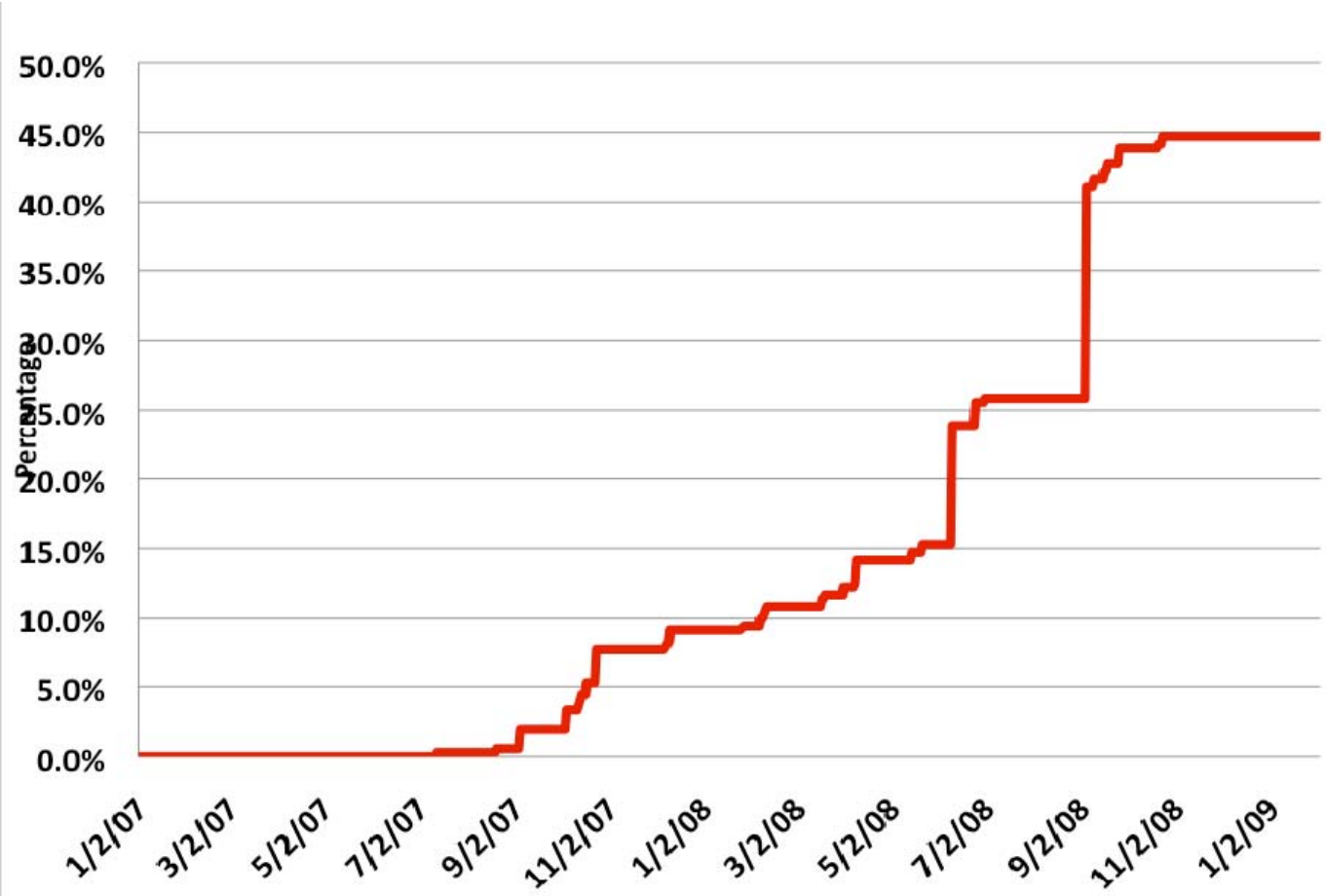
Background

- The financial system has changed dramatically since the establishment of banking insurance in the US about 75 years ago.
  - The establishment of the FDIC largely ended commercial bank runs.
- However, the vast majority of liquidity provision/*maturity transformation* is now done using other channels, not protected by deposit insurance.
- This paper explores the idea that a major form of liquidity provision is done through repo markets
  - Like demand deposits at commerical banks, repo loans are *runable*.

How big were the Haircuts?



Paper's Findings

Gorton & Metric's (GM's) conclusions about the contribution of the repo-run to the financial crisis are strong:

> *Concerns about the liquidity of markets for the bonds used as collateral led to increases in repo "haircuts"....*
>
> *With declining asset values and increasing haircuts, the U.S. banking system was effectively insolvent for the first time since the Great Depression.*
>
> (from the Abstract)

Discussion Outline

1. *Theory:* Can securitized bank runs exist?
2. *Empirical:* Are increasing haircuts, as measured here, a good proxy for a run?
3. *Magnitudes:* Was a repo-run the cause of the financial crisis?

What is a run?

- Diamond & Dybvig (1983) develop a model of (commercial) bank runs.
- There are two principal players in their model:
  1. The *borrowers* (businesses) want to make long-term illiquid investments.
     - If they hold the loan to maturity, the return is high.
     - If they are forced to liquidate the investments early, the payoff will be low.
  2. The *lenders* (depositors) have capital to invest, but are sometimes faced with *liquidity shocks*.

Role of the Banks

- The banks intermediate between the borrowers and lenders, performing *maturity transformation*.
  - They take in demand deposits, and make long-term loans.
  - They keep some of the deposits as *reserves*, to allow them to meet the needs of those depositors demanding funds.
- *What about the banks makes them good at this intermediation?*
  - They can assess the quality of the businesses to which they lend.
  - Bank loan officers can (usually) figure out which businesses are likely to succeed.

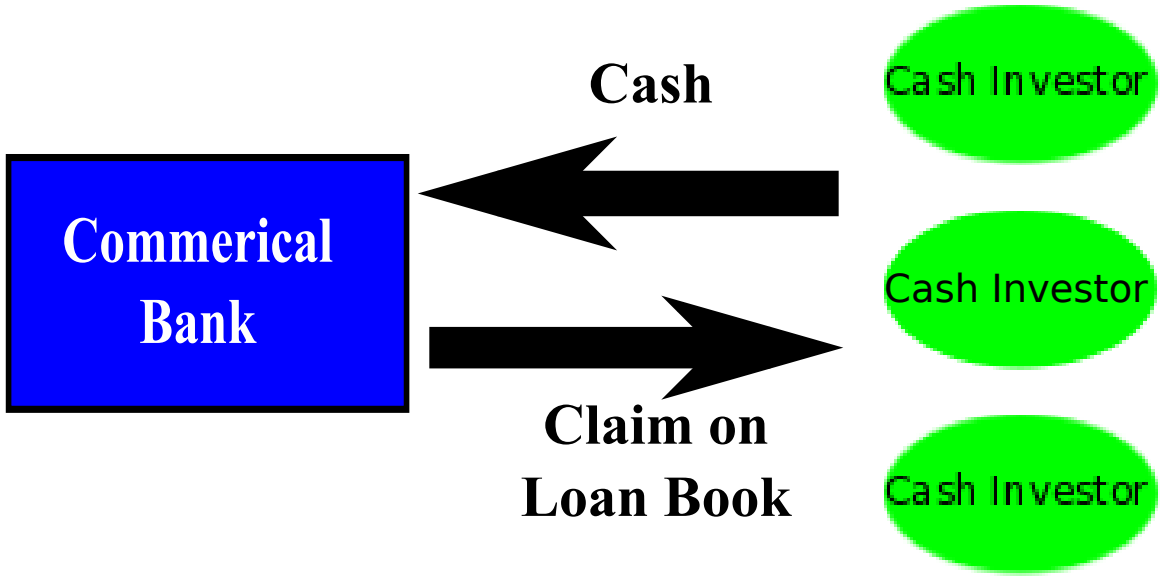
Bank Runs

- Depositor's liquidity are shocks idiosyncratic so, because of diversification, banks generally can meet all withdrawls.
- However, if the withdrawls are large, even a healthy bank can fail.
  - in this case, it cannot pay its depositors in full.
- Knowing this, investors "rush for the exits" if they think that others are withdrawing capital.
  - You need to get your capital out before the bank runs out of reserves.
  - After that, if the bank liquidates assets, it still won't be enough to pay off all depositors

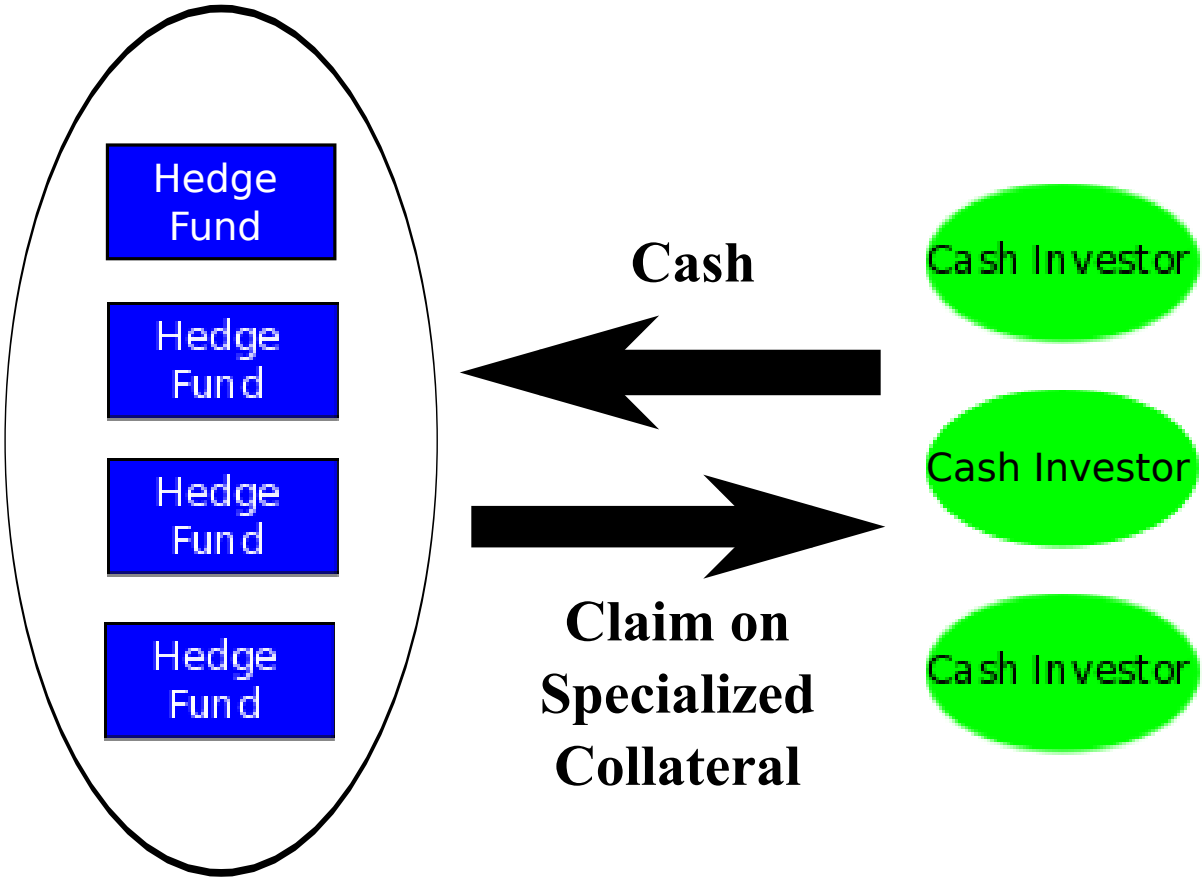
Asset Fire Sales

- If the bank could, it would just sell off it's loans.
- The problem is that only the selling bank faces a *lemons* problem:
  - Presumably, over time it has discovered which of its loans are good and bad
    - When it puts up a loan for sale, the loan is possibly a "bad" one.
- This means that it will only be able to sell its loans at very low prices.
  - Investors will (properly) infer that loans up for sale are low quality.
  - This means that a failing bank will try to sell off its loans, but will only be able to sell these assets at "fire-sale" prices.

Commerical Banking



Securitized Lending



Repo-Market Runs

- Since securitized lending is collateralized, one would think that runs couldn't occur.
  - If the borrower were to default, the lender would receive the collateral (*i.e.*,, ABS), which could then be sold on the open market.
- The problem arises if the market for the collateral disappears.
  - This could happen if everyone who had *information* about the collateral had no *capital*.
- *This is implausible for repos of treasuries/agency securities, but probably not for specialized ABS's.*

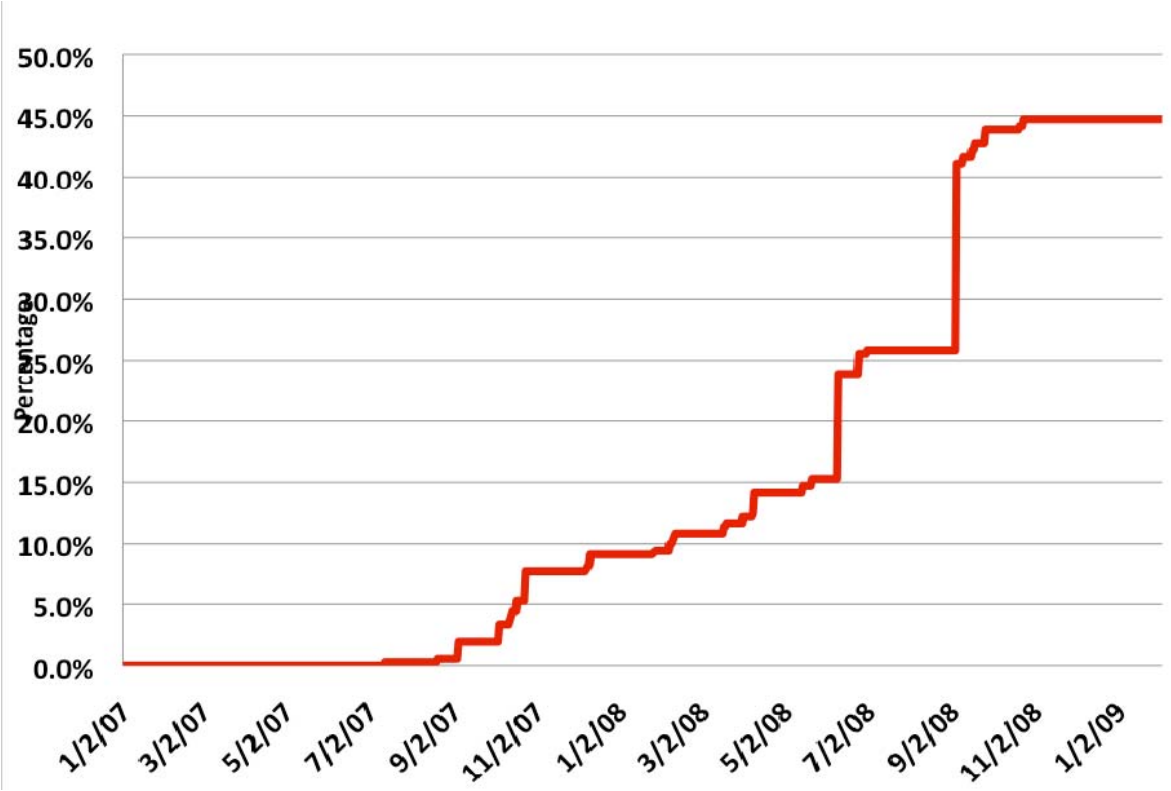
Haircuts

- Lenders only receive collateral in the case of failures.
  - the lender has a put option.
- Thus, to break even, the lender will only be willing to lend the risk adjusted expected value of the collateral, *conditional on a failure to deliver*.
- An implication is that we should expect to see large haircuts, but only *while there is a lemons problem*.
- Once assets are being sold at fire sale prices, *haircuts will fall to zero*.
  - The price is equal to the value of the collateral, conditional on the borrowers' failure as a group.

Haircuts: Empirical Findings

But haircuts, as calculated here, *don't* behave this way.

- *What's going on?*



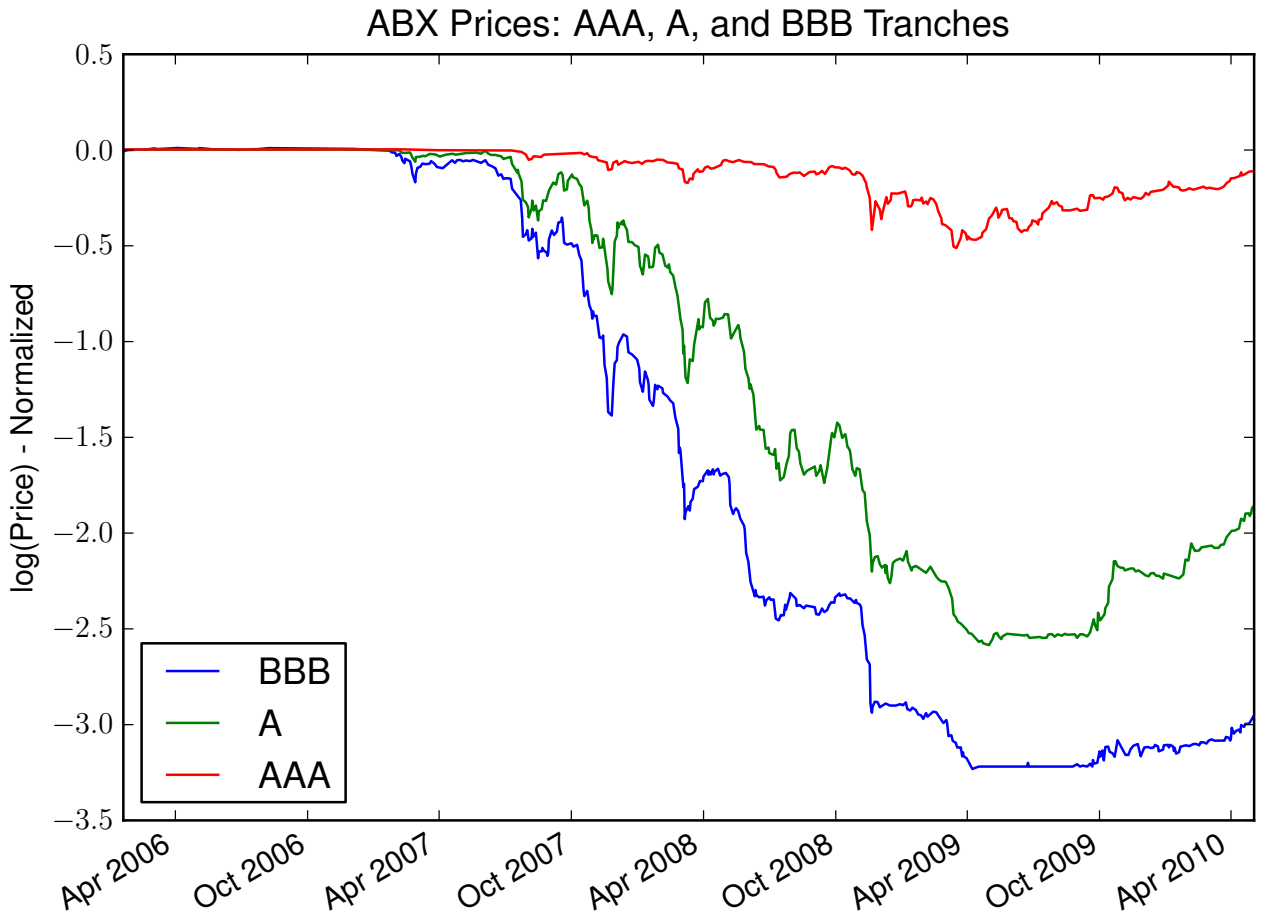
Asset Classes using in Repo-Haircut Index

- Table 1, Panel D lists the asset classes used in the (equal-weighted) index of repo-haircuts.
  1. BB+/A Corporates
  2. AA-AAA Corporates
  3. A-AAA ABS-Auto/CC/SL's
  4. AA-AAA ABS-RMBS/CMBS
  5. AA ABS-RMBS/CMBS
  6. Unpriced ABS/MBS/All Sub-Prime
  7. AA-AAA CLO's
  8. AA-AAA CDO's
  9. Unpriced CLO/CDO's

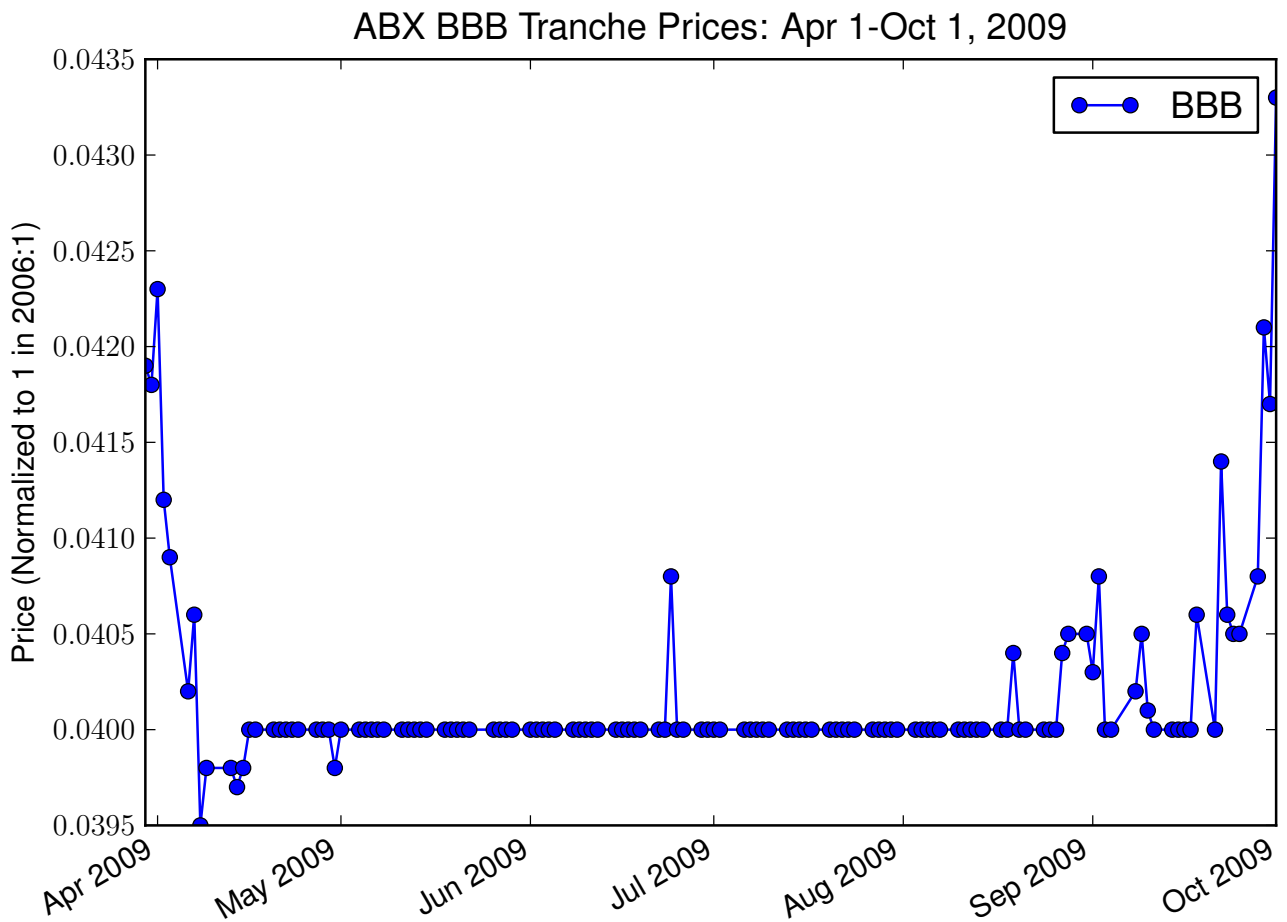
Asset Classes using in Repo-Haircut Index

- A potential concern is the validity of the prices used in calculating the haircuts of these securities.
  - If securitized lenders didn't trust the marks (*e.g.*, because they were stale), they would demand large haircuts.
- equal-weighting across the assets will exacerbate this problem.
- Note: *Incentives of the banks contemplating either selling or repo'ing the ABS's.*

ABX Prices


ABX Prices: AAA, A, and BBB Tranches
log(Price) - Normalized
0.5
0.0
−0.5
−1.0
−1.5
−2.0
−2.5
−3.0
−3.5
BBB
A
AAA
Apr 2006
Oct 2006
Apr 2007
Oct 2007
Apr 2008
Oct 2008
Apr 2009
Oct 2009
Apr 2010

ABX-BBB Prices



Magnitudes

- At its peak, the ABS repo market only 20-30% of the repo market.
  - Most repos use fed-eligible securities (treasuries/agency-debentures/strips/etc.) as collateral
  - Also, the equal weighting used here will probably exacerbate the magnitudes of the haircuts.
- The GM haircut data is based on quotes for dealer repo.
  - Tri-party repo haircuts were a factor of 2 lower – counterparty risk concerns were likely responsible for this spread