Designing a Crisis Liquidity Facility with Nonbank Counterparties: Lessons from the Term Asset-Backed Securities Loan Facility

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1 The views expressed here are those of the author and do not necessarily reflect the views of the Board of Governors, Federal Reserve Bank of Chicago, or staff of the Federal Reserve System.
How to design a Liquidity Facility with Nonbanks?

Central bank liquidity Provision during crisis times

- The nonbank financial sector is large and susceptible to freezing during financial crisis.
- Central bank liquidity facilities target banks or nonbank financial markets (CP, bonds)
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- New microdata: Borrowers and collateral in TALF loans
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TALF as example of liquidity provision to nonbanks
- TALF attracted a broad range of nonbanks.

Our contribution
- New microdata: Borrowers and collateral in TALF loans
- Findings:
  1. Funding conditions and investment parameters of nonbanks matter for participation
  2. Tradeoff between participation and risk-taking incentives
  3. Incentives of different types of investors are better aligned with different central bank goals
Motivation

ABS Spreads blew out in 2008...
Motivation

...and in 2020.
ABS fund a large share of U.S. economic activity

- In 2008, ABS funded 45 percent of credit card and auto loans
- ABS issuance came to a near halt in 2008 and 2020
Direct vs Intermediary Model

Speed versus market discipline
Direct vs Intermediary Model

Speed versus market discipline

- Intermediary Model - Pros
  1. Retains market participants in role of assessment of risk
  2. Provides an exit strategy
Direct vs Intermediary Model

Speed versus market discipline

- **Intermediary Model - Pros**
  1. Retains market participants in role of assessment of risk
  2. Provides an exit strategy

- **Intermediary Model - Cons**
  1. Federal Reserve has less experience with nonbank counterparties
Our Approach - TALF as Case Study

- TALF is a close-to-ideal case study because of broad range of nonbank investors:

  1. Traditional Investors: Pension funds, insurance companies, mutual funds, REITs, banks
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- Explore how the incentives and constraints of nonbank ABS investors shaped their participation in TALF.
1. Borrowers: 175
2. Loans Requests: 1,919
3. Total Amount: $72bn
1. Borrowers: 21
2. Loans Requests: 220
3. Total Amount: $4.4bn
Framework

Study whether nonbank investor and Federal Reserve incentives are aligned in the context of four central bank goals

1. Stabilize markets quickly
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4. Provide liquidity to a broad range of securities
Key TALF design features
TALF Terms and Conditions

- Three- or five-year loans to purchase newly issued ABS and legacy CMBS
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- Interest rates were set above ABS spreads during normal market conditions and below spreads during stressed conditions
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- Borrowers posted a haircut designed to exceed historical losses on collateral

- Collateral had to be rated triple-A by at least two rating agencies (and could not be rated below triple-A by any rating agency)
Why were TALF Loans attractive

- **Interest rate**: lower than ABS spreads during stressed conditions
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- **No prepayment penalty**
TALF Collateral Review

- New-issue ABS
  1. TALF borrowers took out loan at same time as ABS was issued
  2. Originally had no collateral review beyond rating agencies
  3. Starting November 2009, FRBNY reviewed new-issue ABS for credit quality
  4. Risk of failing collateral review fell on issuer
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- **Legacy CMBS**
  1. TALF borrower purchased CMBS in advance and submitted it as loan collateral
  2. FRBNY published accepted and rejected CUSIPs for each subscription
  3. If CUSIP was rejected, borrower had to sell security or line up other financing
Salient Constraints

- High leverage: Hedge Funds and REITs
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- Funding pressures: insurance companies (during GFC), Hedge funds (redemptions), REITs (bank credit, repo)
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- Contractual Constraints: Strict investment parameters (fixed-life, TALF-only funds)
Stabilize Market Quickly
Which investors respond nimbly?

- Early Entrants (active in first subscription)
  1. Existing entities with flexible investment parameters and/or starved for funding
  2. Hedge funds, pension funds, insurance companies, wealthy individuals, fixed life partnerships

- Middle Entrants (active in third subscription)

- Late Entrants, TALF 1.0 only (active in fifth subscription)
  1. Mutual funds (Needed SEC relief to participate)
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Traditional investors participated less than opportunistic investors

Number of subscriptions a borrower participated by borrower type
Exit When Markets Normalize
Loan Repayment by Investor Type

- Early exiters: Motivated by capital gains
Loan Repayment by Investor Type

- Early exiters: Motivated by capital gains
- Middle exiters: capital gains vs managers’ compensation
- Late exiters: Buy and hold investors with preference for interest income
- Robust to various regression specifications
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Protect Government from Losses
Collateral Review Reduced CMBS Requests

- Total ABS loan requests: $58B; total CMBS requests, $13B
- Many (about 1350) CMBS were eligible compared with new-issue ABS (about 100)
- Spreads on legacy CMBS were wide throughout the program
- BUT CMBS underwent an undisclosed NYFED stress test
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<tbody>
<tr>
<td>Share Delinquent</td>
<td>2.36%</td>
<td>3.54%</td>
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<td>Median WAL (Years)</td>
<td>2.80</td>
<td>5.68</td>
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<td>Downgraded later</td>
<td>2.64%</td>
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Rejection was costly
Rejections over time

Bond buyers said it was hard to determine a pattern behind the decisions: “Several investors have started to compare the TALF rejection process to a random number generator.” CM Alert, October 30, 2009.
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Consequences of October Rejections

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Investors with shaky funding (hedge funds & REITs) pulled back more than those stable funding (mutual funds).

REIT 10K, December 2009: "Currently, we have no repurchase agreements or bank credit facilities in place, and there can be no assurance that we will be able to obtain one or more such facilities on favorable terms."

TALF-only funds with PPMs that didn’t envision rejection risk also pulled back.
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REIT Behavior Highlights Funding Constraints and Risk Appetite

- REITs and hedge funds appeared much more risk tolerant in 2010:Q1
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- Two REITs reported having obtained repo facilities with money-center banks in 2010:Q1 10-Qs
- CMBS spreads fell from 350 bps in 2009:Q4 to 290 bps in 2010:Q1, which would spur some additional risk taking, but still well above TALF loan rate of 100 bps
CMBS Spreads Rose after Rejection

- Estimate the effect of rejections in a panel
- LHS: Spreads changes over a five-day window

1. Effects are concentrated in the first subscriptions and decline over time.
2. Effect on last subscription still sizeable (18 bps).
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<th>9-day window Subscriptions</th>
<th>11-day window Subscriptions</th>
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<tr>
<td>Rejected</td>
<td>13.71***</td>
<td>22.50***</td>
<td>23.11***</td>
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<tr>
<td></td>
<td>(4.09)</td>
<td>(6.89)</td>
<td>(8.02)</td>
</tr>
<tr>
<td>Time FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>CUSIP FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Observations</td>
<td>106,196</td>
<td>106,180</td>
<td>106,164</td>
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<td>R2</td>
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Provide Liquidity to Broad Range of Securities
Rejection Risk and Funding Affect CMBS Market Liquidity

- Focus on CMBS market because of considerable heterogeneity within eligible securities
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Rejection Risk and Funding Affect CMBS Market Liquidity

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- In TALF 1.0, about 1350 securities were potentially eligible collateral at any subscription

- WALs ranged from 0.5 to 9.1 years (median: 3.1 years)

- Yields ranged from 2.4 to 14.1 percent (median: 6.9 percent)
Investors with locked-in funding take more risk

In the CMBS market, longer-WAL CUSIPs were generally riskier.
Risk-taking increased over time

As market and funding conditions normalized, all investors took more risk.
Risk-taking increased over time

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- Controlling for WAL, yields do not differ much by investor type
- Exception: fixed-life partnerships submitted CUSIPs with spreads about 50 basis points higher than other investors
Thoughts on TALF 2.0
Why was TALF 2.0 take-up lower than TALF 1.0 take-up?

- Less disruption in ABS markets in 2008 than 2020
  - Conditions normalized faster, in part because TALF announcement was viewed as more credible in 2020 than in 2008
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- Less disruption in funding markets for traditional ABS investors in 2020

- TALF loans were less attractive relative to private market alternative (relatively high interest rate, long maturity)
Was TALF 2.0 too successful?

- In 2020, investors began raising funds for TALF-only funds immediately.
Was TALF 2.0 too successful?

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Was TALF 2.0 too successful?

- In 2020, investors began raising funds for TALF-only funds immediately.
- Spreads contracted immediately that TALF-only fund managers could not deploy capital profitably.
- Highlights mismatch between market conditions in a crisis (volatile) and investors’ preferred vehicle to borrow from TALF (inflexible and slow-moving).
Final Take-aways
Conclusion

- Nimble investors in a crisis are existing entities with flexible investment parameters (and fragile funding)
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- Market responded to central bank innovation with its own innovation (TALF-only funds)
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- Tradeoff between protecting central bank balance sheet and providing liquidity
  - Collateral review is important: otherwise investors have incentive to submit low-quality collateral
  - But funding uncertainty, at a time when investors face funding uncertainty of their own, will weigh on liquidity provision
Thank you!