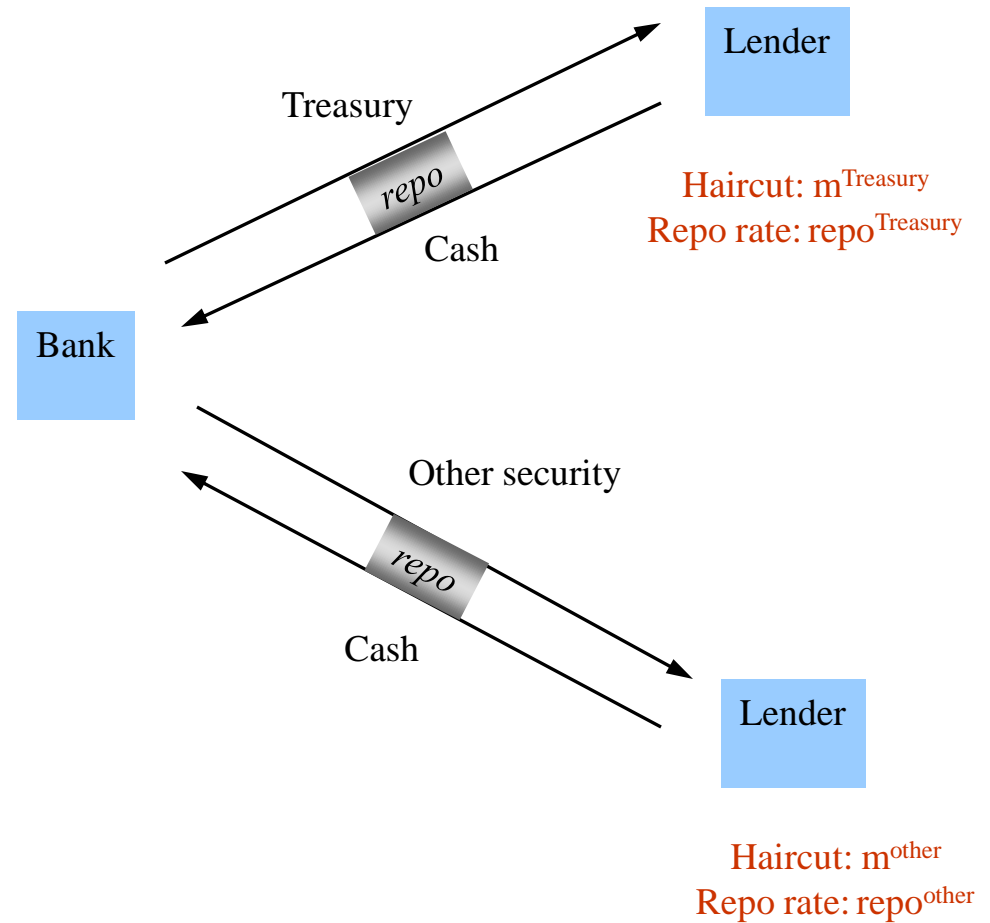# Repo Market Effects of the Term Securities Lending Facility

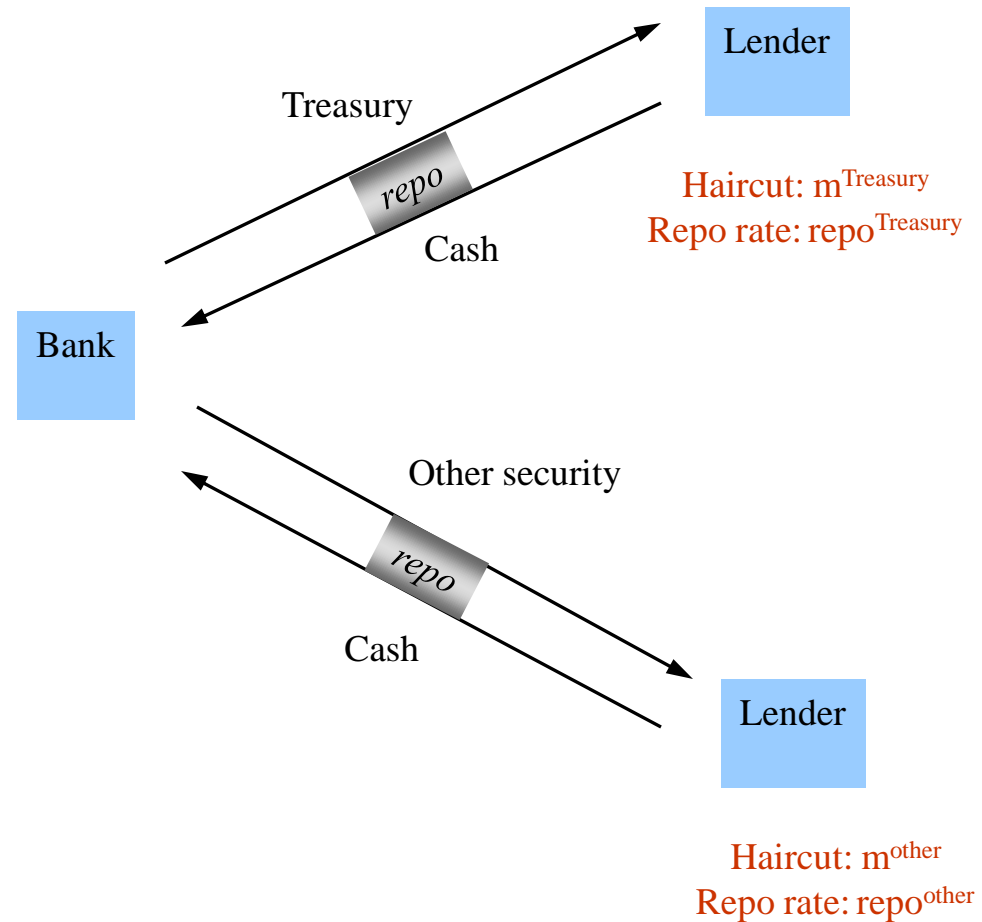Discussion by

Lasse H. Pedersen

NYU, CEPR, NBER

Lender

Treasury

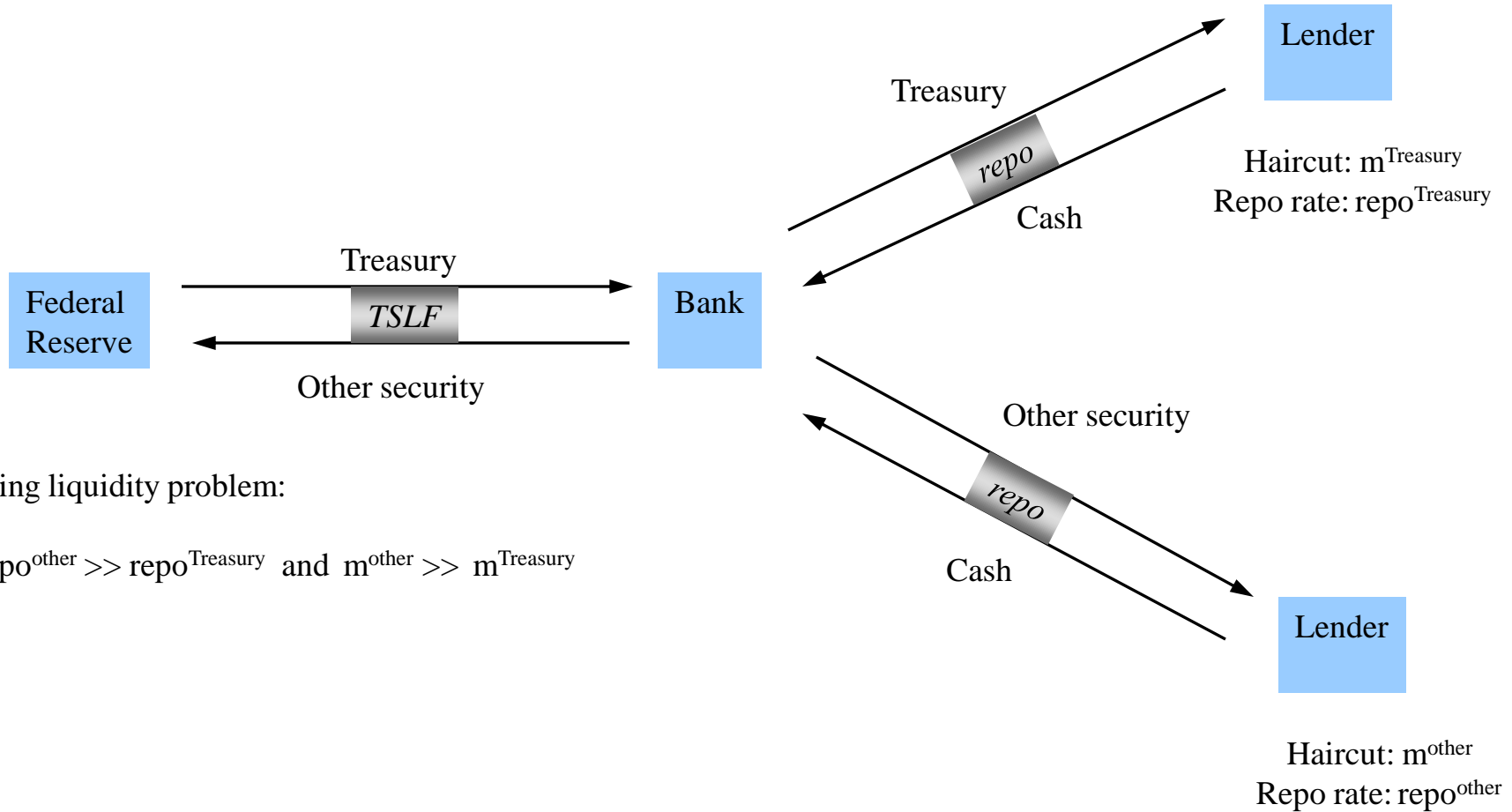*repo*

Cash

Bank

Haircut: $m^{Treasury}$
Repo rate: $repo^{Treasury}$

Other security

repo

Cash

Lender

Funding liquidity problem:

$repo^{other} >> repo^{Treasury}$ and $m^{other} >> m^{Treasury}$

Haircut: m^{other}
Repo rate: $repo^{other}$

Lender

Treasury

repo

Haircut: $m^{Treasury}$
Repo rate: $repo^{Treasury}$

Cash

Treasury

Federal
Reserve

TSLF

Bank

Other security

Other security

repo

Funding liquidity problem:

Cash

$$repo^{other} \gg repo^{Treasury} \quad and \quad m^{other} \gg m^{Treasury}$$

Lender

Haircut: m^{other}
Repo rate: $repo^{other}$

Lender

Treasury

$repo$

Haircut: $m^{Treasury}$
Repo rate: $repo^{Treasury}$

Cash

Treasury

Federal
Reserve

$TSLF$

Bank

Other security

Other security

$repo$

Cash

Funding liquidity problem:

$repo^{other} \gg repo^{Treasury}$ and $m^{other} \gg m^{Treasury}$

This paper's hypotheses on the effect of TSLF:

H1) $repo^{Treasury}$ goes up?
H3) $repo^{other}$ goes down?
H2) $repo^{other} - repo^{Treasury}$ goes down?

Lender

Haircut: m^{other}
Repo rate: $repo^{other}$

Schedule 1: other security = agency debt securities, agency MBS

Schedule 2: other security = above + other investment grade securities (CMBS, CMO, ABS, etc.)

Funding liquidity problem:

$$repo^{other} >> repo^{Treasury} \ and \ m^{other} >> m^{Treasury}$$

This paper's hypotheses on the effect of TSLF:

H1) $repo^{Treasury}$ goes up?
H3) $repo^{other}$ goes down?
H2) $repo^{other} - repo^{Treasury}$ goes down?
H4) weird stuff: $repo^{Agency}$ and schedule 2 auctions…?
H5) $repo^{other}$ goes down more for worse collateral?
H6) Effects are stronger during times of more illiquidity?

Table 2: TSLF Effects on Repo Rates and Spreads

Independent Variable	Dependent Variable: Change in Overnight Rate/Spread				
	Treasury Rate	Agency Rate	Agency MBS Rate	Agency Spread	Agency MBS Spread
Constant	-1.03 (1.94)	-1.06 (1.54)	-0.90 (1.54)	-0.03 (1.85)	0.13 (2.02)
TSLF	0.97*** (0.19)	0.66*** (0.15)	0.43*** (0.15)	-0.31* (0.18)	-0.54*** (0.20)
Quarter End	-54.44*** (14.42)	8.64 (11.47)	23.28** (11.46)	63.08*** (13.77)	77.71*** (14.99)
Quarter Beginning	58.81*** (14.42)	-21.75* (11.47)	-31.79*** (11.46)	-80.55*** (13.77)	-90.60*** (14.99)
Adjusted R^2	24.1%	10.6%	9.1%	24.8%	28.8%

➢ Treasury repo rate does up, consistent with **H1**

➢ Repo spreads go down, consistent with **H3**

➢ Effect on agency MBS spread more negative than that of agency spread, consistent with **H5** (MBS worse collateral)

➢ What's up with the positive sign of agency repo rates? Inconsistent with **H2**. Saved by **H4**?

Table 3: Separating Schedule 1 and 2

Independent Variable	Dependent Variable: Change in Overnight Rate/Spread				
	Treasury Rate	Agency Rate	Agency MBS Rate	Agency Spread	Agency MBS Spread
Constant	-0.86 (1.93)	-0.93 (1.54)	-0.81 (1.54)	-0.08 (1.86)	0.05 (2.02)
Schedule 1	0.02 (0.54)	-0.04 (0.43)	-0.06 (0.43)	-0.06 (0.52)	-0.08 (0.57)
Schedule 2	1.10*** (0.20)	0.76*** (0.16)	0.50*** (0.16)	-0.34* (0.20)	-0.61*** (0.21)
Quarter End	-54.60*** (14.31)	8.52 (11.40)	23.19** (11.45)	63.12*** (13.80)	77.80*** (15.00)
Quarter Beginning	58.64*** (14.31)	-21.87* (11.40)	-31.87*** (11.45)	-80.51*** (13.80)	-90.52*** (15.00)
Adjusted R^2	25.2%	11.6%	9.3%	24.4%	28.7%

- Only Schedule 2 matters
- Agency securities and agency MBS are more like Treasuries than the "bad" other securities in Schedule 2

Repo Spreads Persistent and Mean-Reverting
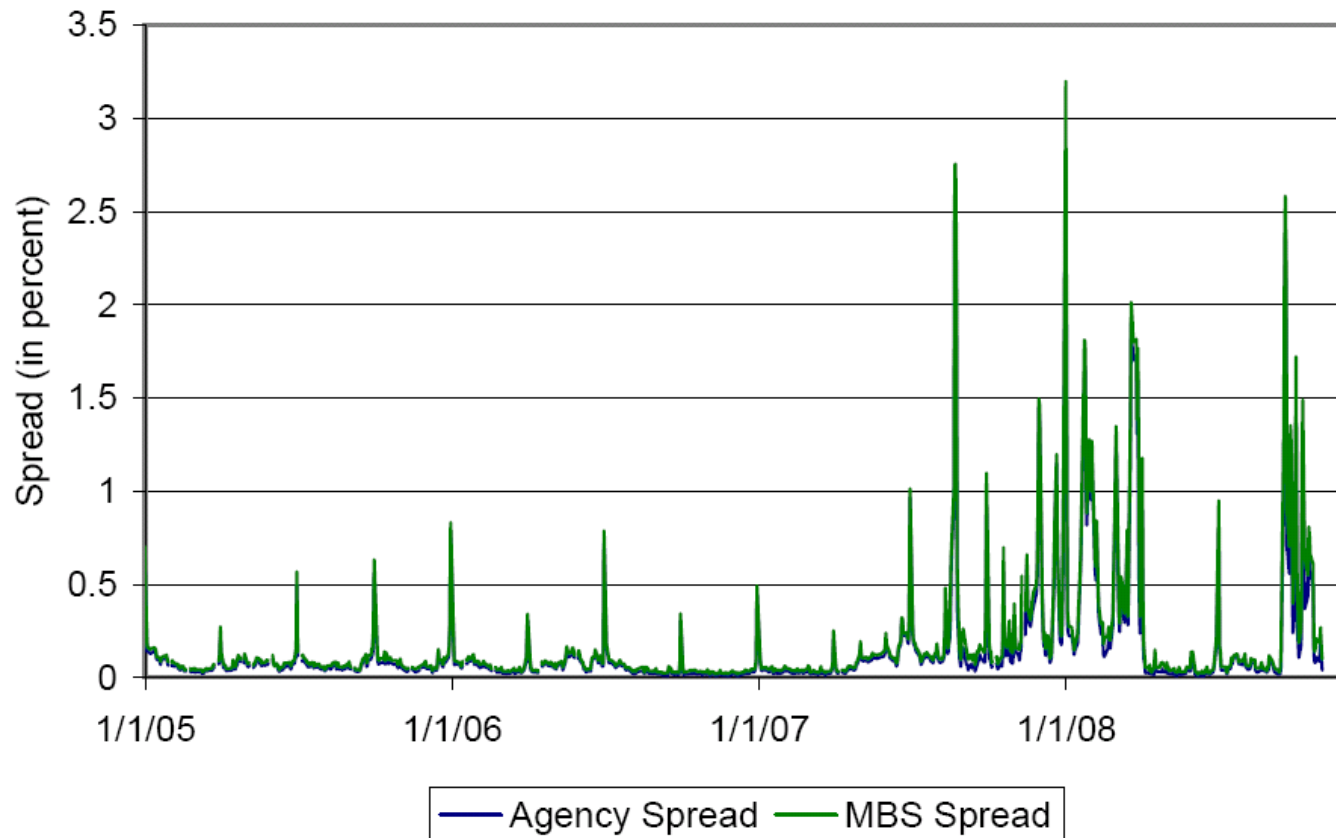
➤ Persistent and mean-reverting processes

➤ We need to <u>control</u> for level of repos and repo spreads

Other Results and Comments

➤ Endogeneity issues:

- Is the quantity of Treasuries provided by the TSLF endogenous to the repo rates and spreads?

- Does the Fed play dices?

- High repo spreads → large TSLF amount ?

- → Large reduction in repo spreads due to <u>general mean reversion</u> or to the <u>TSLF</u> auction?

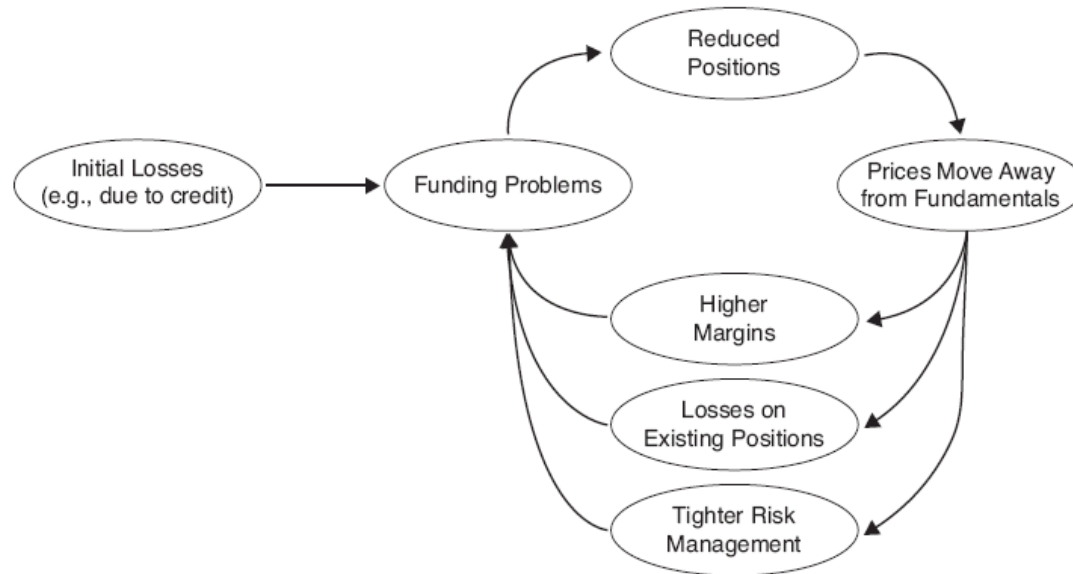➤ Effects appear larger in bad markets consistent with **H6**

- when $r^{\text{Fed funds}} - \text{repo}^{\text{Treasury}}$ is greater

- only fully subscribed auctions matter

Comment: again need to control for level of repo rates – can be simple mean-reversion

Big-Picture Comments

➤ The **big** question is:

- <u>Does the TSLF help solve the banks' funding problems and break the liquidity spirals</u>?

Sources: Brunnermeier and Pedersen (RFS, 2009) "Market Liquidity and Funding Liquidity"

Garleanu and Pedersen (AER, 2007) "Liquidity and Risk Management"

Big-Picture Comments

➤ The big question is:

- Does the TSLF help solve the banks' funding problems and break the liquidity spirals?

➤ Evidence for this would be:

- Repo rates and margins of "bad" securities go down
- Plus evidence of causality

➤ This paper does not (try to) answer this question

- What about the repo rates of the "bad" Schedule-2 collateral?
- What about the margins/haircuts?
- What about quantities of repo loans?

Conclusion

➤ Very interesting paper with a careful analysis

➤ Clear description of institutional features and markets

➤ Provides interesting evidence that the TSLF does have an effect

  • More analysis regarding causality

➤ New data is needed to address whether this alleviates banks' funding problems