

Endogenous Liquidity and Defaultable Bonds

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General Impression

I think this is a very good paper!

The contribution is relevant:

- It models the firm fundamental (i.e credit risk) and bond liquidity endogenously and characterizes this in closed form

This draft

- Is very well written and enjoyable to read
- Looks finalized

Outline of the rest of my talk

Brief overview

- Discuss the model setup and what the paper does

My three main points

1. The new testable empirical prediction offered
2. Search frictions and bond liquidity
3. Other issues on bond liquidity

The setup

Bond Liquidity (bid-ask spread) depends on secondary market activity (bargaining with dealers):

- Fundamental (a bond closer to default is more illiquid)
- Maturity (a short maturity bond is more liquid)

(Search based asset pricing model à la Duffie, Garlenau, Pedersen (2005))

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These two ingredients deliver a “liquidity spiral”:

Lower cash-flows->lower bond liquidity (value declines)->higher roll-over losses, which push the firm closer to default

What the paper does (in my opinion)

Structural models do a good job in predicting:

- Default frequencies (Leland and Huang, Huang 2003)
- Hedge ratios (Schaefer, Strebulaev 2008)

..but a poor job in predicting (tend underestimate) observed credit spreads (Huang, Huang 2003) (Collin-Dufresne, Goldstein, Martin 2001)

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This paper integrates a corporate finance structural model with a search based model to better fit credit spreads

It does a better job with respect to

- Leland Toft 1996 (debt is perfectly liquid)
- He Xiong 2012b (proportional transaction cost)

..because corporate bond liquidity is determined endogenously an initial shock on fundamentals has a larger effect

Point 1

Predictions on corporate bonds

- Bid-ask spread is larger for longer maturities
- Bid-ask spread is smaller for higher fundamentals

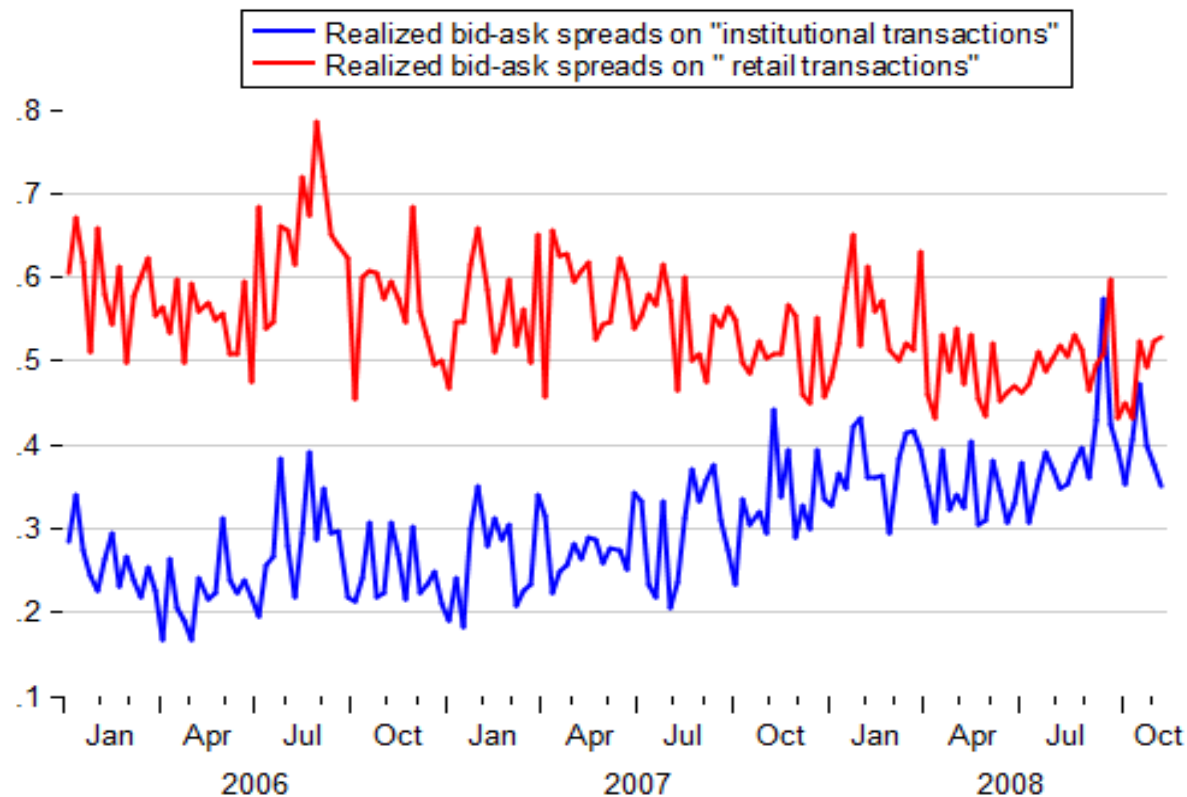
Bao, Pan, Wang (2011) find supportive evidence

This paper offers a novel empirical prediction on
“interaction between “time to maturity” and the “D2D”

- Bid-ask spread difference long vs. short term bond is greater for financially healthy firms
- > Interestingly, this prediction conforms to the data (!)

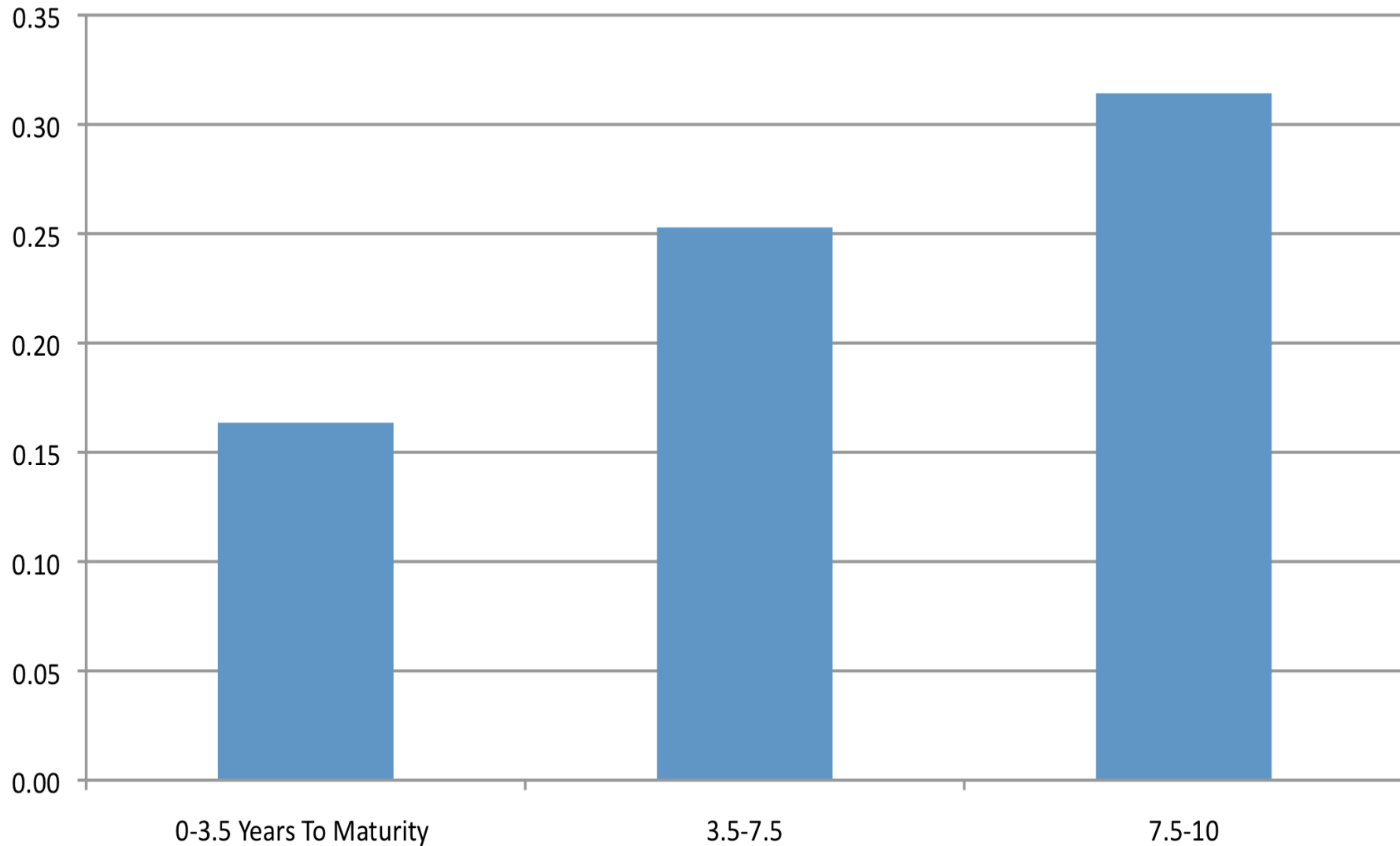
Corporate Bonds' realized Bid-Ask spreads

- **Roundtrip costs** (realized bid-ask spreads) are estimated from unique roundtrip trades (URT). As in Feldhütter (2011)
- URTs is restricted to trades (same price and volume) that occur within 15 min.
- I calculate URTCs using TRACE bond transaction data
- In the charts I use URT on institutional size transactions (N.> 100 bonds)



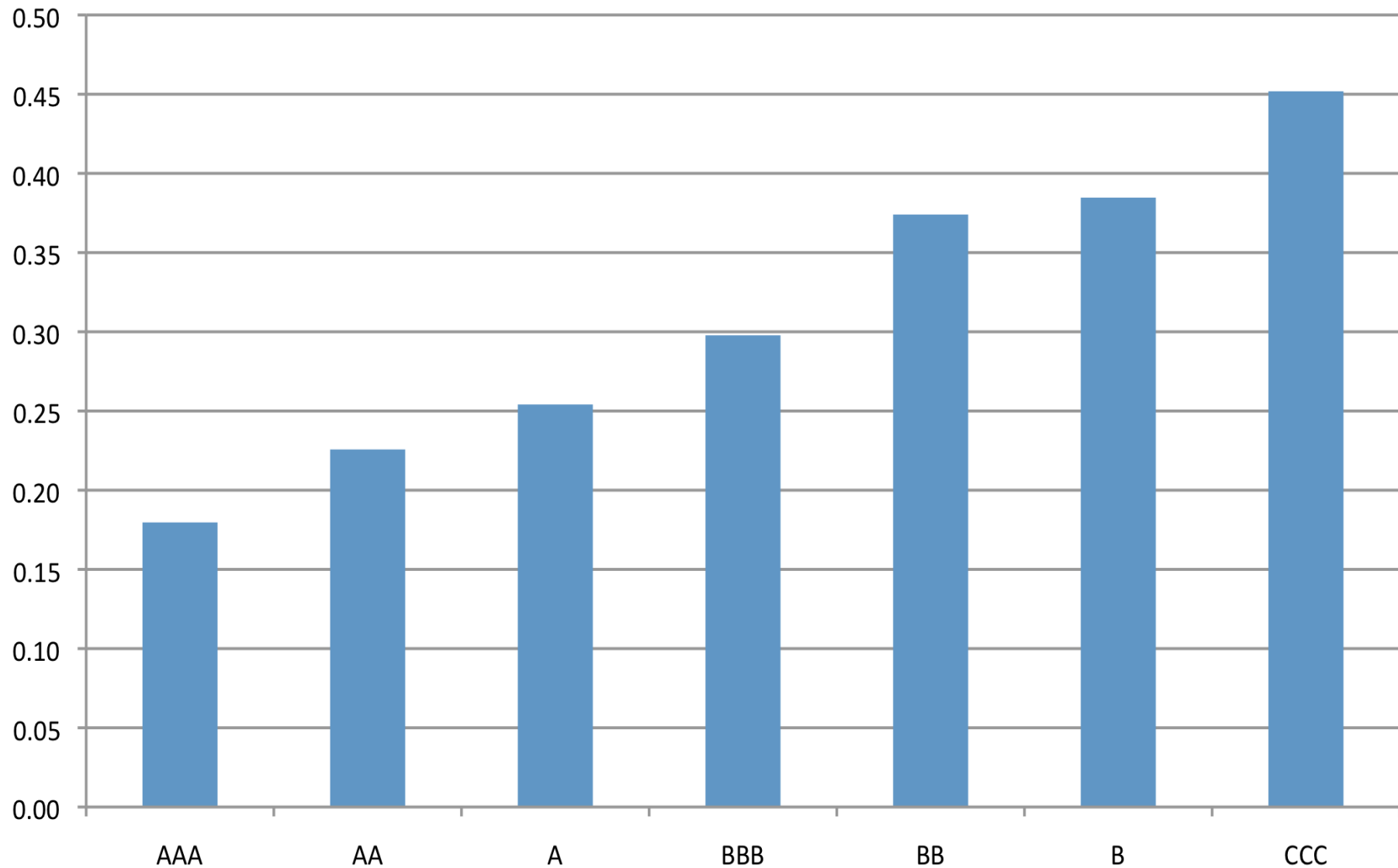
Average US corporate bond realized bid-ask spread (URTC)

Sample: April-Dec 2009



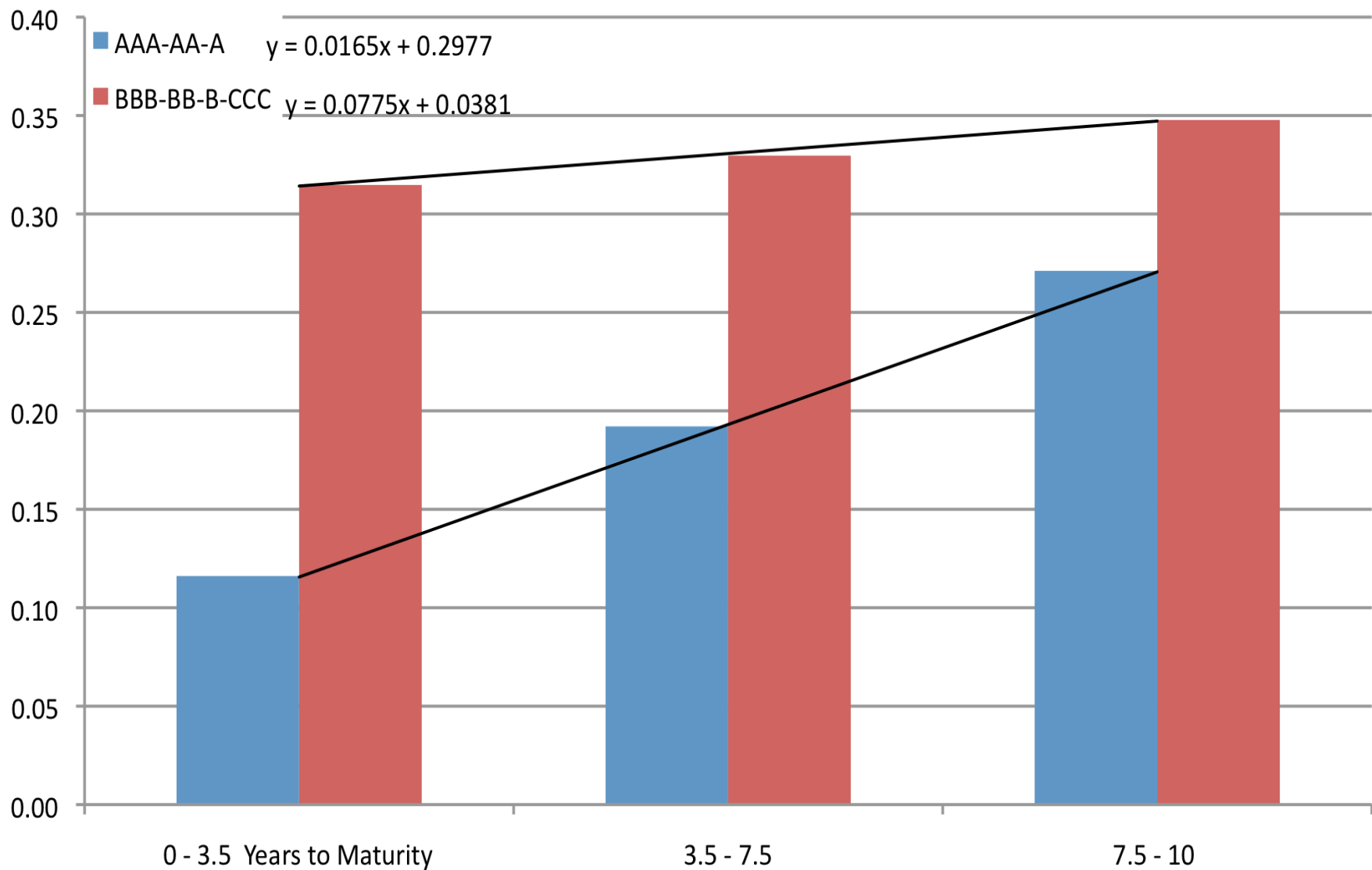
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Average US Corporate Bond realized bid-ask spread (URTC)

Sample period April Dec 2009



Point 2: Search frictions and bond liquidity

What is the contribution (to the effect generated by the model on bond liquidity) of: the bargaining power, the liquidity-shock intensity and dealer-meeting intensity?

(Remark) This model assumes no differences in searching abilities, hence it is not able to explain why the same corporate bond might trade at different prices (in Feldhütter 2011, investors can be sophisticated and un-sophisticated)

(Remark) Introducing “Search frictions” is not the only way to generate “default-liquidity spiral”

“Default-Liquidity spiral” is generally associated to financial crisis:
how do we think about a crisis in the model?
(negative cash-flow shock?)

Point 3

The title “Endogenous liquidity and defaultable bonds”
might be too general (..government bonds can default)

..but this paper

- focuses on the endogenous liquidity of corporate bonds
- ..models the underlying entity as a firm (Leland Toft 1996)..cash-flow/equity/debt/default boundaries

The nature of Sovereign credit risk is different with respect to corporate credit risk, moreover government bonds trade in different types of markets (not OTC)

Government bonds: An aside

Bai, Juliard Yuan 2012 wp (Eurozone Sovereign Bond Crisis: Liquidity or Fundamental Contagion 2012)

show that the most credit risky government bonds are those characterized by low trd volumes and high bid-asks

Probably also government bonds are characterized by “default liquidity -spirals”

Even though:

- Trade in standardized and more transparent markets (hence, no search frictions as in OTC mkt)
- The underlying entity is not a corporation

There might be a more general mechanism that links default risk and liquidity

Final Remarks

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- Sudden dry ups, illiquidity and commonalities

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In Acharya Pedersen (2005) a security's required return depends on its expected liquidity as well as on the covariances of its own return and liquidity with market return and market liquidity.

Thanks for your attention!