

AGGREGATE RISK IN THE TERM STRUCTURE OF CORPORATE CREDIT

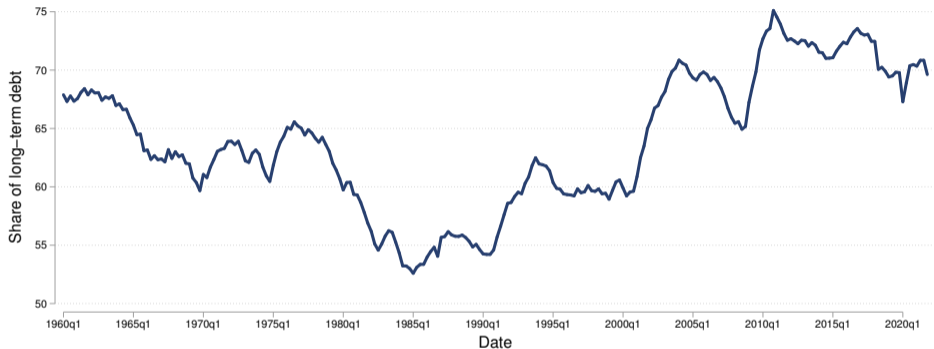
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¹The views expressed in this presentation are my own and should not be interpreted as reflecting the views of the Federal Reserve Board or of any other person associated with the Federal Reserve System.

LONG-TERM DEBT MATTERS



Source: Flow of Funds Accounts.

PY (2022) looks at heterogeneity in the term structure of credit spreads

THIS PAPER DOES A LOT!

Introduces new facts about credit spreads

- ① Term structure of spreads slopes upward, but inverts for firms close to default
- ② ST spreads more countercyclical than LT spreads
- ③ Expected losses explain more at short end, risk premia dominate at long end

Interesting empirics, explored in depth and fairly straightforward to replicate (nice!)

Builds a model of corporate debt maturity management

Het. firms ST+LT debt model with endogenous investment and aggregate risk (impressive!)

Calibrate to key micro moments and show that it can replicate facts above

Amplification coming from constrained firms that dis-invest in recessions

ADVENTURES WITH THE DATA

$$s_{it}^m = \beta_1 \Delta IP_t + \sum_{m \in \{5,10\}} \beta_m [\Delta IP_t \times \alpha_m] + \varepsilon_{it}^m$$

TABLE 1 : Summary Statistics

Panel A: Full Sample		
	Authors' sample	Julio's sample
Spread 1Y	1.43	1.37
Spread 5Y	2.21	2.25
Spread 10Y	2.44	2.49
Panel B: Riskiest percentile		
	Authors' sample	Julio's sample
Spread 1Y	25.07	28.06
Spread 5Y	23.69	25.82
Spread 10Y	21.06	22.91

TABLE 2 : Cyclicity

IP growth	-0.461*** (0.036)
IP growth × 5Y	0.041*** (0.008)
IP growth × 10Y	0.115*** (0.012)
Observations	356,949
Fixed Effects	Firm, Maturity
Dates	Jan 2001-Jun 2021

Able to replicate both facts!

COMMENT #1 ARE SENSITIVITIES STATE DEPENDENT?

Some procyclicality at short end

	Full sample	Good states	Bad states
IP growth	-0.461*** (0.036)	0.222*** (0.051)	-0.675*** (0.053)
IP growth × 5Y	0.041*** (0.008)	-0.167*** (0.024)	0.094*** (0.015)
IP growth × 10Y	0.115*** (0.012)	-0.197*** (0.030)	0.233*** (0.021)
Observations	356,949	88,272	86,796
Fixed Effects	Firm, Maturity	Firm, Maturity	Firm, Maturity
Dates	Jan 2001-Jun 2021	Jan 2001-Jun 2021	Jan 2001-Jun 2021

Good states = highest quartile of IP growth, bad states = lowest quartile of IP growth

SENSITIVITY TO UNCERTAINTY SHOCK

	Full sample	Low uncertainty	High uncertainty
Uncertainty shock	0.824*** (0.053)	0.712*** (0.136)	1.495*** (0.116)
Uncertainty shock × 5Y	-0.085*** (0.012)	0.325*** (0.068)	-0.239*** (0.030)
Uncertainty shock × 10Y	-0.226*** (0.018)	0.203** (0.081)	-0.535*** (0.045)
Observations	356,949	91,212	90,756
Fixed Effects	Firm, Maturity	Firm, Maturity	Firm, Maturity
Dates	Jan 2001-Jun 2021	Jan 2001-Jun 2021	Jan 2001-Jun 2021

Low uncertainty = lowest quartile of uncertainty, high uncertainty = highest quartile of uncertainty.

Financial uncertainty shock from Ludvigson et al. (2021)

SOME CHECKS YOU COULD DO

Explore further with merged dataset

Use CDS-Compustat merged data set and specify firm controls

Control for more unobserved heterogeneity

Exploiting variation along term structure, specify interactions along with time FEs

My thoughts:

This seems like an interesting asymmetry

Might require some more discussion, different word choice (countercyclicality vs. sensitivity)
(Probably for another paper) What type of shock generates these credit spread movements?

COMMENT #2 WHAT MORE CAN WE LEARN FROM THIS MODEL?

Aggregate Fluctuations

Does this model amplify or dampen volatility relative to a model without your fact(s)?

- Without upward sloping/inverting term structure
- Without heterogeneous cyclicalities along term structure

Policy Implications

No GE, but can still make some positive statements

What if, in a recession, we allowed debt to be flexibly rolled over?

- Would this dampen fluctuations?
- Would it “zombify” the economy?

COMMENT #3 CALIBRATION

Just-identified, should deliver an exact fit

Would be useful to have a richer discussion of parameters ↔ target moments

For example, how clean is the mapping between linear issuance costs and frequencies?

You're well-positioned to teach us about these parameters!

You could estimate the model and explore the following:

- What do we miss when we abstract away from LT debt?
- Have we been over-/under-estimating financial frictions?

MINOR COMMENTS

- Empirics: run cyclical regressions using full sample with interactions to more clearly showcase the rich heterogeneity that you find
 - Also, if converting agg. risk measures to quarterly, why not use real GDP growth?
- I would highlight that the model also matches countercyclical **dispersion** in credit spreads
- SDF
 - Equation 7: $\Gamma(Z) = \gamma_0 + \gamma_1 \log Z$
 - Calibration: $\gamma_0 \rightarrow$ Sharpe ratio? $\gamma_1 \rightarrow$ equity premium?

WRAPPING UP

There's a lot to like in this paper

Some suggestions and minor comments

I learned a lot and will be on the lookout for the next iteration!