Cyclical Dispersion in Expected Defaults (*Gomes, Grotteria & Wachter*)

Erik Loualiche (Minnesota)
June 2018, WFA

Cost of Investment is High...

- For reasons that reflect fundamental forces in the economy ...
  - Productivity: investment opportunity set is small
  - Discount Rates:lead to low q for a given project
- Credit Markets are distressed
  - Debt is expensive (but raising equity is easy?)
  - There are frictions on debt markets leading to a breakdown of MM

Both sides have distinct empirical implications

**Credit as a symptom: the fundamental view**
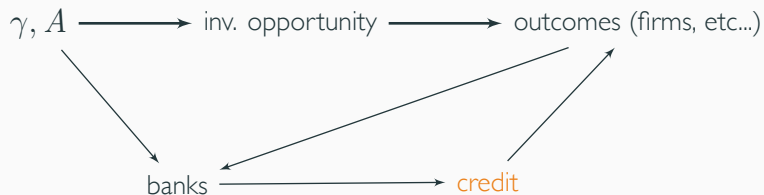
- Credit is a symptom not a root cause: omitted variable bias
  - Only fundamental shocks (productivity/discount rates) drive the business cycle
  - scarce credit is both a consequence of these shocks and *one of* the mechanisms

Credit as a root cause: the intermediary view

distressed intermediary (banks) ⟶ credit ⟶ outcomes (firms, etc...)

- Credit is the only observable related to the cause
  - hard to measure bank distress but it directly affects credit
  - scarce credit is only mechanism through wich aggregate outcomes are affected

Credit as a symptom: the fundamental view

$\gamma, A \longrightarrow$ inv. opportunity $\longrightarrow$ outcomes (firms, etc...)

banks $\longrightarrow$ credit

Credit as a root cause: the intermediary view

distressed intermediary (banks) $\longrightarrow$ credit $\longrightarrow$ outcomes (firms, etc...)
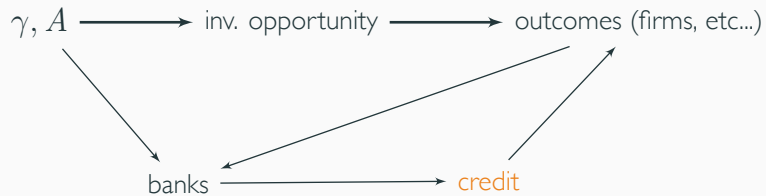
Main thesis

- Just because credit is a symptom it might not be the cause!
- Occam's razor: simple neoclassical model with minimal assumption rationalizes co-movement in economic activity and credit

Just because something is rationalizable...

- ... does not make it immediately true

How to identify firms with low investment opportunity set.

- If they are profitable/healthy:
  - give money back to shareholders/debt holders
  - debt repayment, share repurchase etc...
- What if they are unprofitable?

Data

How come measuring investment opportunities stand for credit factors...

- Repayers have higher Expected Default Frequency (EDF)
- Mechanically credit risk is confounded with investment opportunities

How can this be true within neoclassical model

- Increase in discount rates (disaster risk in the model)
- Firm value decline, moving closer to default
- If discount rate shock also affects investment opportunities
  - Firms with low investment opportunities have low EDF (repay their debt)
  - Firms with constant investment opportunities have higher EDF (stay levered)
- Crucial ingredient:
  - Correlation of discount rate shock and inv. opportunity shock

4

Repayment

- Are firms net issuers or net repayers
- Quintiles based on repayment rate each period
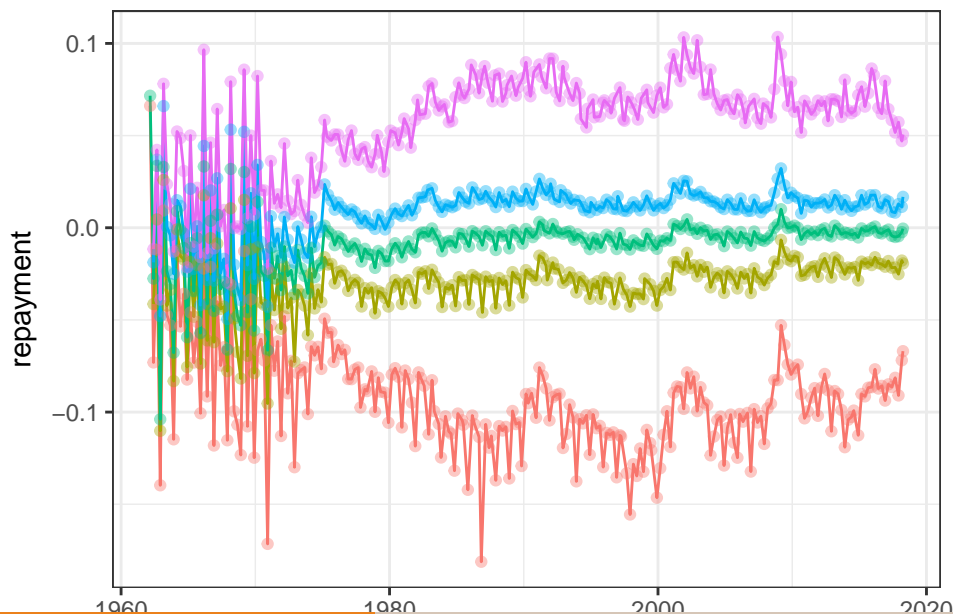
	1	2	3	4	5
1	0.27	0.18	0.13	0.15	0.24
2	0.17	0.25	0.22	0.21	0.16
3	0.12	0.20	0.30	0.25	0.14
4	0.15	0.21	0.23	0.25	0.17
5	0.29	0.16	0.12	0.15	0.29

- Firms repay in one period and then revert back to the mean?
- Investigate the speed of repayment
- What about using share repurchase etc...

Conditional Statistics

**Discount rate shocks also affect investment opportunities**

- Cross-section of firms
  - Different sensitivity to discount rates (firm risk premium)
  - What about investment opportunities conditional on state of the world

Discount rate shocks also affect investment opportunities

- Cross-section of firms

	Investment	M / B
M/B	0.255***	
	(0.009)	
Repayment Quintile		−0.042***
		(0.002)
Repayment Q. × Recession	−0.020**	−0.023***
	(0.008)	(0.006)
M/B × Repayment Q. × Recession	−0.010*	
	(0.005)	
Observations	384,515	384,515
R^2	0.702	0.613
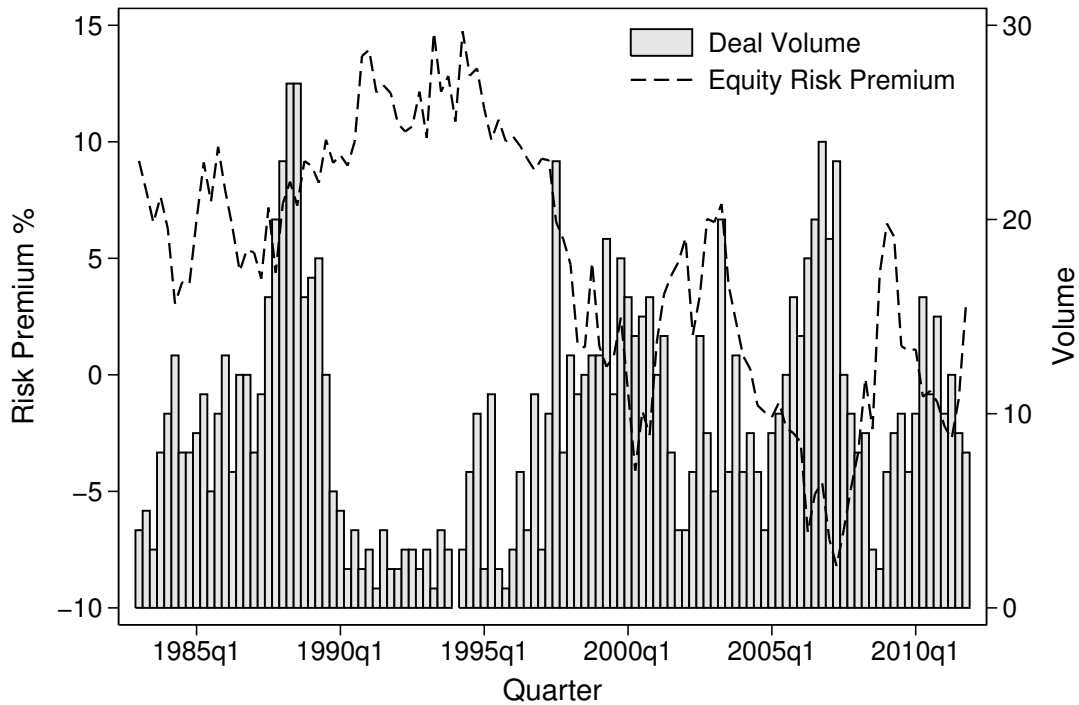
Buyout Activity and Discount Rates

- PE Literature: Buyout Waves are driven by mispricing of debt and equity
  - Cheap debt fuels buyout booms
- HLP: Equity returns are better predictors of buyout activity than debt measures
- Private Equity literature attributes to expensive debt, periods of general high discount rates

How to differentiate between debt specific factors causing buyouts or general discount rates?

Variation in exposure ϕ_i

- firms with high beta are less likely to be targets in bad times

Variation in investment opportunities: severity of agency

- Free-cash flow problem, governance measure (GIM)

Panel A: Performance Proxies				
	(1)	(2)	(3)	(4)
Characteristic (X):	β	GIM	FCF/Assets	Industry HHI
$(X)\hat{rp}$	-0.026*	-0.058**	-0.0085	-0.044***
	(0.014)	(0.025)	(0.017)	(0.015)
Time FE	X	X	X	X
Observations	234	174	234	234
R^2	0.015	0.030	0.001	0.028
Panel B: Illiquidity Proxies				
	(1)	(2)	(3)	(4)
Characteristic (X):	M&A Vol.	M&A Val.	IPO Vol.	IPO Val.
$(X)\hat{rp}$	0.060***	0.015	0.021*	0.024*
	(0.014)	(0.013)	(0.013)	(0.013)
Time FE	X	X	X	X
Observations	234	234	234	234
R^2	0.085	0.006	0.012	0.015

- Great paper!
- General framework applies to a large class of investment considerations
  - not only within the firm
- Evidence of direct mechanism driven by investment opportunity set