The Undrawn Credit Line Premium

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AFA Poster

December 31, 2022

Background and Motivation

- Credit lines as credit cards for corporations
  - A credit limit within a contracting period
  - The drawn (DCL) and undrawn (UCL) components

- Credit line is the largest debt category
  - Loan share: credit lines (55.4%) > term loans (29.8%) > others (14.8%)
- Vast amount of credit lines are undrawn
  - Average $\frac{\text{UCL}}{\text{Total Asset}}$ of 13%

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Motivation and Research Questions

- Unexplored and non-trivial asset pricing implications of UCL
  - represent unused credit, not outstanding debt
  - two functions of UCL holdings
    - provide firms with draw-down options to get credit
    - preserve debt capacity for future:

      Constraint on drawn credit : $DCL_{t+1} - DCL_t \leq UCL_t$
  - more UCL $\Rightarrow$ more options + larger debt capacity $\Rightarrow$ lower risk ?
  - surprising findings in the data
    - more UCL is associated with higher risk and expected stock returns

$\Rightarrow$ What's the asset pricing implication of corporate undrawn credit line holdings in the cross-section? and why?

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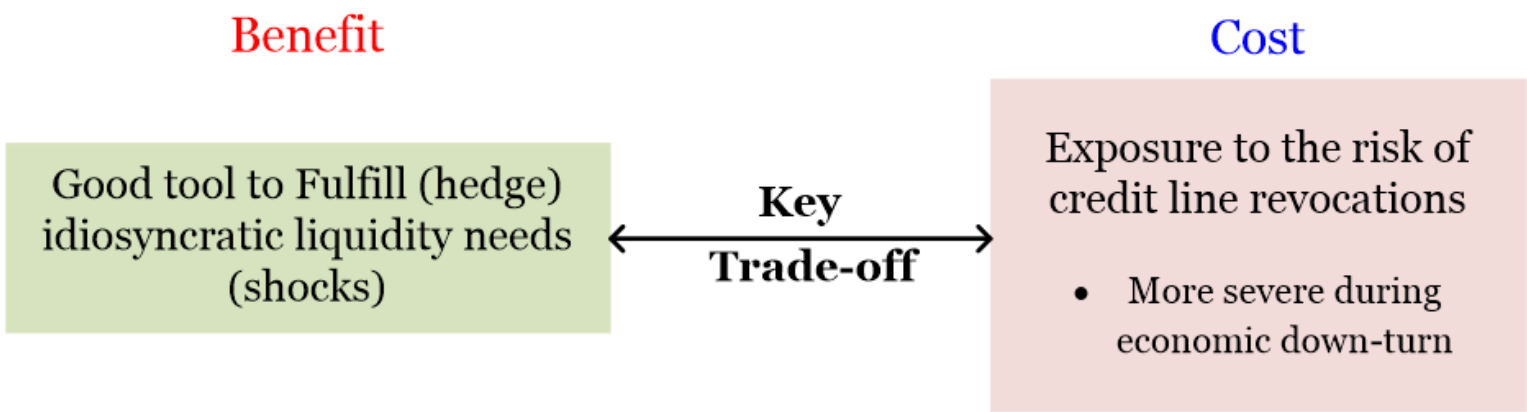
- Theory within the investment-based asset pricing framework
  - propose a novel risk-based explanation based on



Other Financing

Related Literature

- Cross-sectional asset pricing implications of firms' liabilities
  - Bhandari (1988), Ozdagli (2012), Choi (2013), Helwege, Huang, and Wang (2017), Friewald, Nagler, and Wagner (2018), Doshi, Jacobs, Kumar, and Rabinovitch (2019), Li and Tsou (2019), Bisetti, Li, and Yu (2021), Chaderina, Weiss, and Zechner (2022)

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Outline

1. Empirical Evidence
2. An Investment-based Asset Pricing Model with Credit Lines
3. Testable Model Implications
4. Conclusions

Empirical Evidence

Uni-variate Quintile Portfolio Sorting

Fama-MacBeth

- Sorted on firms' UCL / different variables within industries Robustness

	Low	2	3	4	High	High-Low
Panel A: Total Assets (AT)						
Excess Return (pp)	8.51	9.91	9.21	10.65	12.38	3.88
t-stat.	2.57	2.89	2.56	2.70	3.58	3.41
SR	0.64	0.70	0.61	0.68	0.89	0.60
Panel B: Total Debt						
Excess Return (pp)	7.03	9.86	10.16	10.72	12.77	5.74
t-stat.	1.79	2.81	3.24	2.98	3.01	3.26
SR	0.47	0.74	0.72	0.73	0.76	0.63
Panel C: Property, Plant and Equipment (PPENT)						
Excess Return (pp)	8.32	10.28	8.81	10.91	12.67	4.35
t-stat.	2.62	2.77	2.43	3.10	3.41	2.55
SR	0.63	0.69	0.61	0.74	0.82	0.54

- Significant positive undrawn credit line premium Characteristics

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An Investment-based Asset Pricing Model with Credit Lines

Model Environment

- A tractable three-period model with following elements
  - production and capital investment
  - major elements of a typical credit line contracts
    - E.g., drawn / undrawn components, credit limit, interest / fee payment
  - credit line revocations
  - costly external financing in the form of equity issuance
  - heterogeneous firms with different idiosyncratic productivity

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Setup

- Firms maximize present value of dividend stream D_t

$$\max_{\{UCL_t, K_{t+1}\}} E\left[\sum_{t=0}^{2} M_t D_t\right] \tag{1}$$

where M_t is SDF, negatively related to aggregate state A_t

- Law of motion of net worth N_t

$$N_t = A_t Z_t K_t + (1-\delta)K_t - R_{t-1} DCL_{t-1} \quad (t = 0, 1, 2) \tag{2}$$

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- Dividend payout D_t / equity issuance e_t

$$e_t = N_t + DCL_t - K_{t+1} - \underbrace{r_{ct} UCL_t}_{\text{Monetary cost of UCL}} - \underbrace{G\left(K_t, K_{t+1}\right)}_{\text{Capital adjustment costs}} \tag{3}$$

$$D_t = e_t - \lambda\left(e_t\right) \tag{4}$$

  - $r_{ct} UCL_t$ captures: fee payment + inflexibility caused by covenants

- Equity flotation costs (Hennessy and Whited (2005))

$$\lambda\left(e_t\right) = \left(\lambda \times \left|e_t\right|\right) \mathbf{1}_{\{e_t < 0\}} \tag{5}$$

- Credit line limit Φ_t: tied to collateral value (Nikolov et al. (2019))

$$\Phi_t = \theta K_{t+1} \tag{6}$$

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Benefits of UCL Holdings: Reality

- Two ways of financing future liquidity needs:

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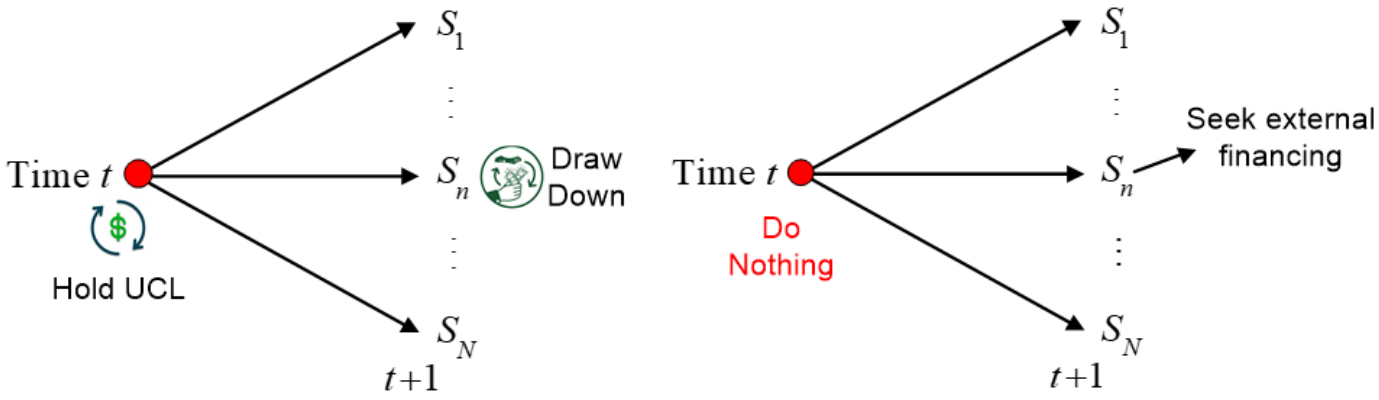

- UCL provide cheaper liquidity than spot market external financing
  - In reality: cheaper due to the pre-determined interest rate on DCL

    Interest rate on DCL = fixed spread + Base Rate
  - Base rate fluctuates less than spot market loan rate (Boot et al. (1987), Greenwald et al. (2021), Berg et al (2016))

$\Rightarrow$ Saving spot market external financing costs as the main driver

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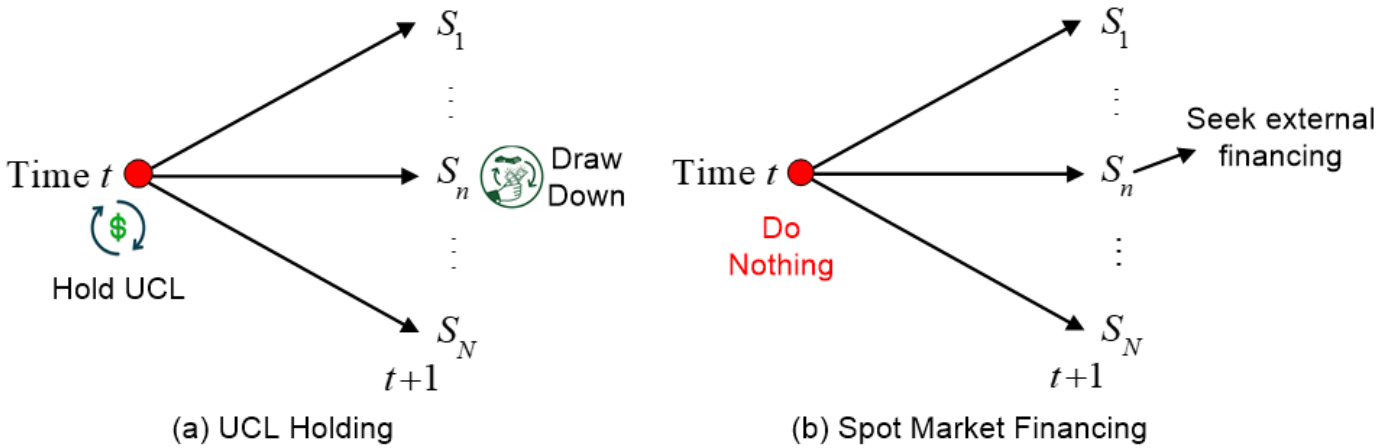

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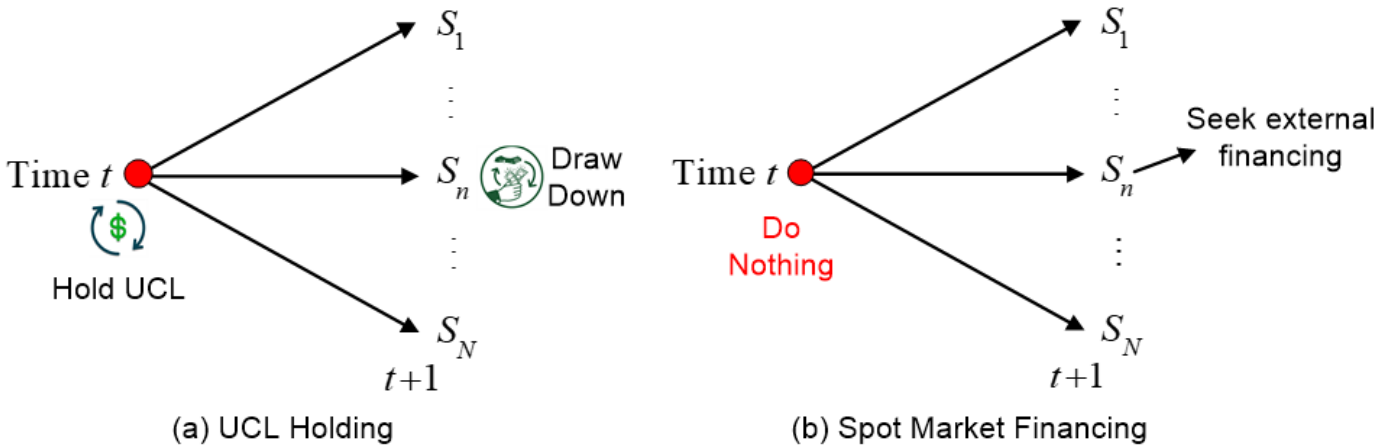

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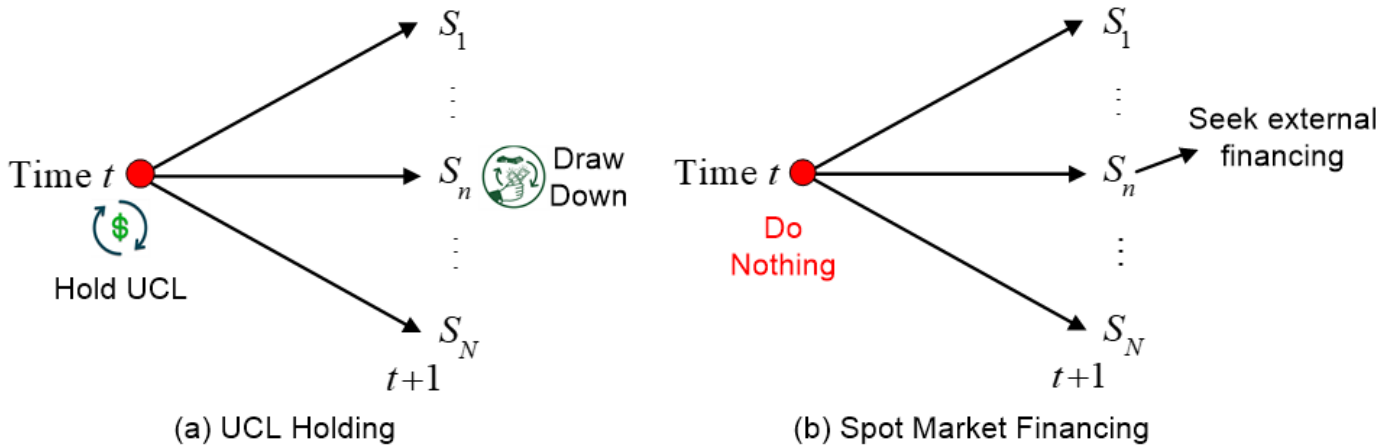

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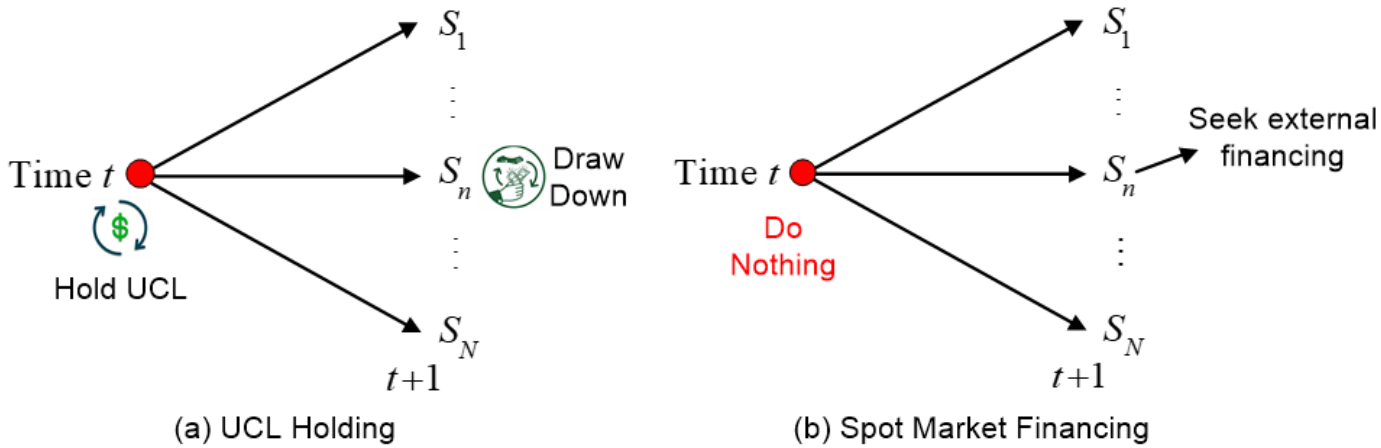

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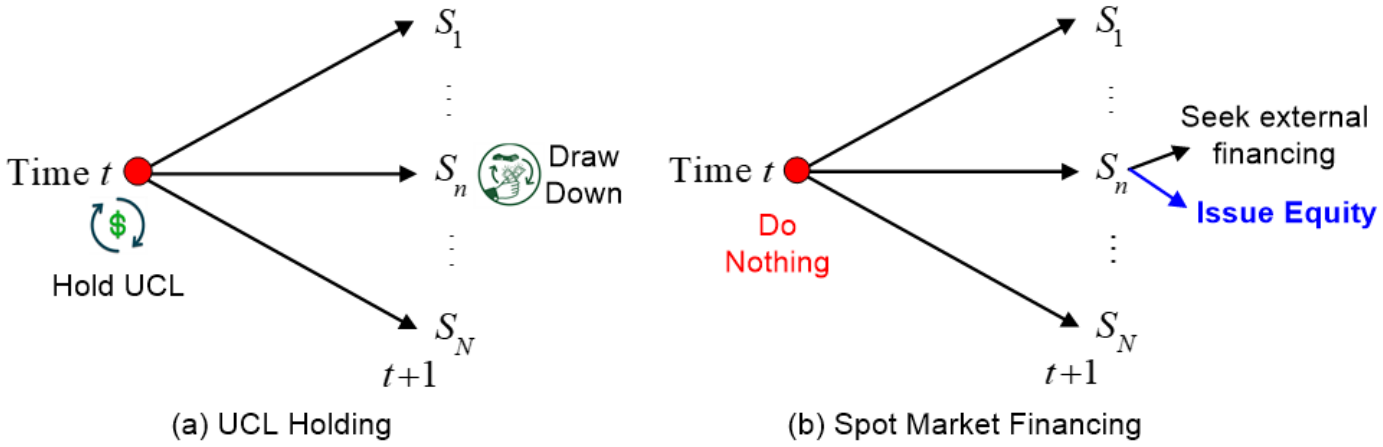

- UCL provide cheaper liquidity than spot market equity issuance
  - Costly equity issuance as a widely used modeling device for spot market financial frictions (Riddick and Whited (2009))
  - **In my model**: cheaper because of lower unit monetary cost (MC)

$$\underbrace{\beta R_1}_{\text{MC of DCL}} < \underbrace{1+\lambda}_{\text{MC of equity issuance}}$$

$\Rightarrow$ Firms with larger idiosyncratic liquidity needs hold more UCL

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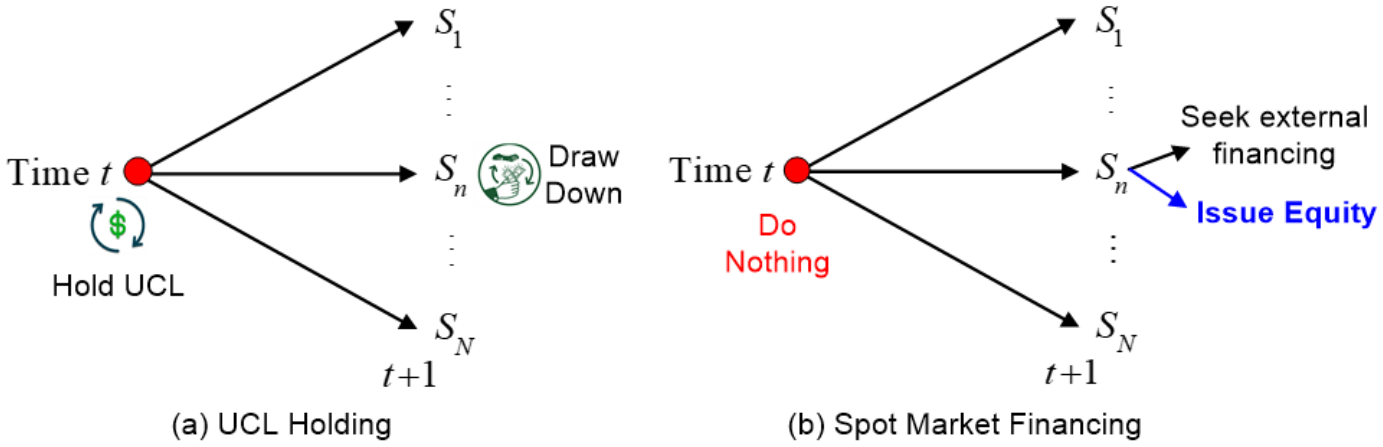

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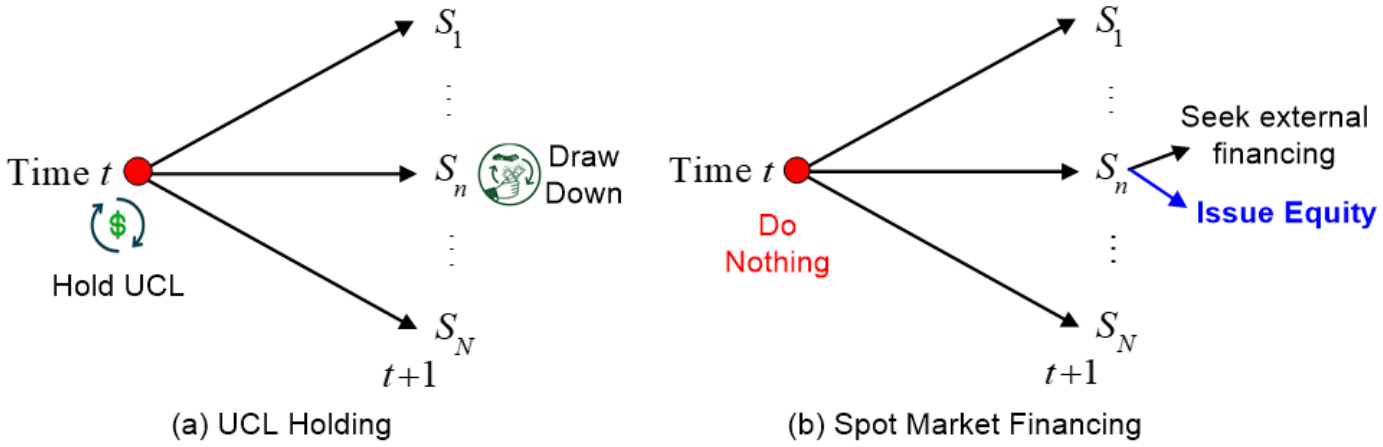

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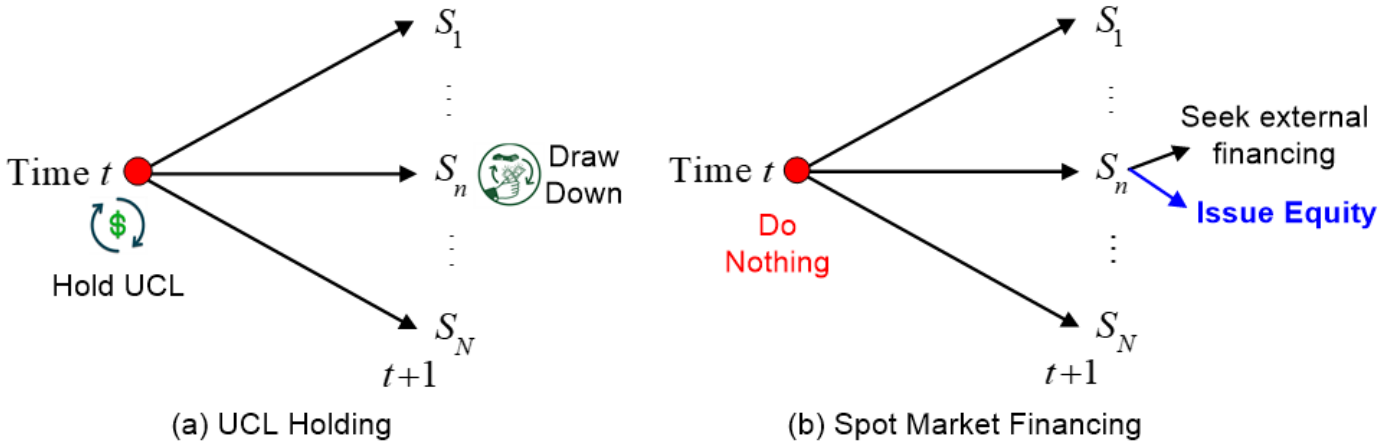

- UCL provide cheaper liquidity than spot market equity issuance
  - Costly equity issuance as a widely used modeling device for spot market financial frictions (Riddick and Whited (2009))
  - **In my model**: cheaper because of lower unit monetary cost (MC)

$$\underbrace{\beta R_1}_{\text{MC of DCL}} < \underbrace{1+\lambda}_{\text{MC of equity issuance}}$$

$\Rightarrow$ Firms with larger idiosyncratic liquidity needs hold more UCL

Setup: Credit Line Revocation

- The constraint on drawn credit and credit line revocations

$$DCL_t \leq f(A_t) UCL_{t-1} \tag{8}$$

with assumptions: $f(A) \in [0,1]$, $f'(A) \geq 0$

Potential Causes

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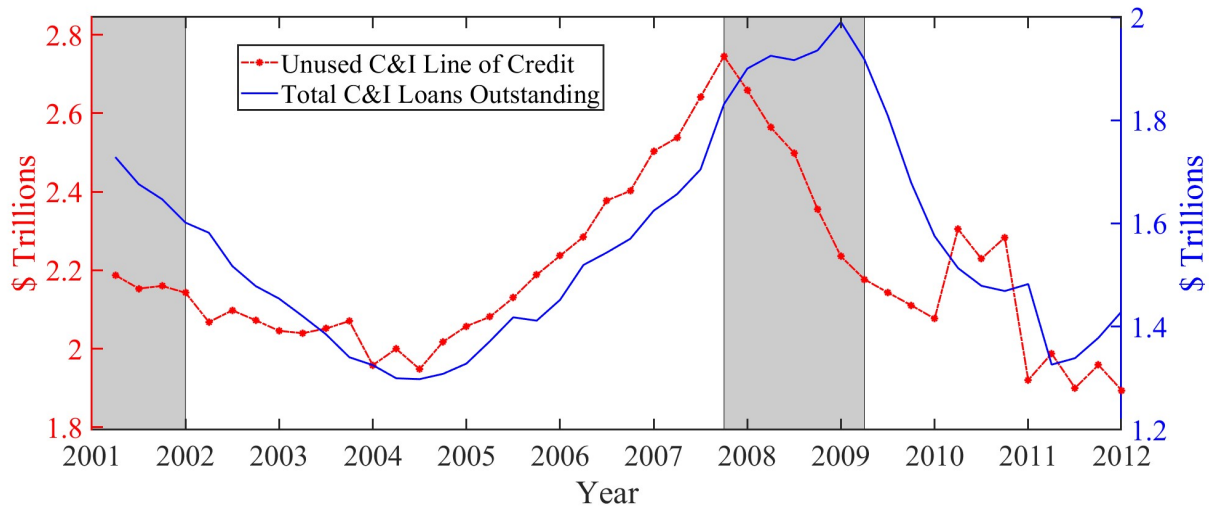
with assumptions: $f(A) \in [0,1]$, $f'(A) \geq 0$ Potential Causes

- Aggregate CLR: correlation with aggregate economic conditions

(Data source: Call Report)



- Similar patterns in Bassett et al. (2014), Acharya et al. (2021)

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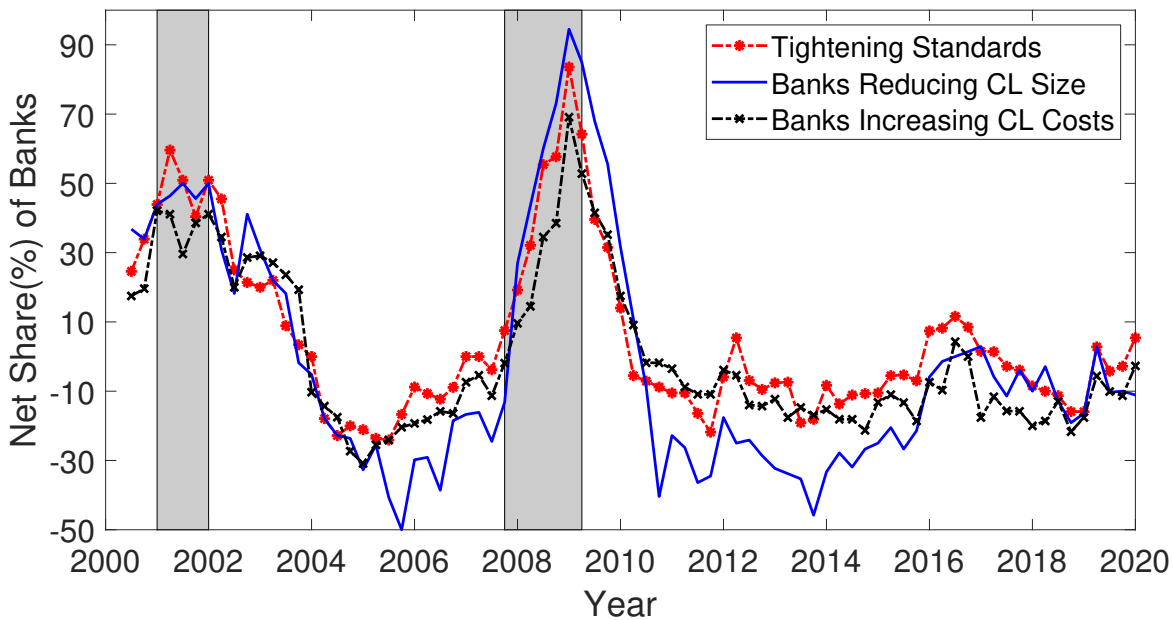
Potential Causes

- CLR: correlation with bank's lending standard (Data source: SLOOS)



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Potential Causes

- Potential consequences:
  - contingent availability ⇒ poor hedge for aggregate shocks
  - force firms to bear bad consequences of liquidity shortage
  - seek more costly external financing to avoid bad consequences

⇒ CLR effects ⇒ additional exposure to aggregate shocks

Assumptions on Timing

1. Aggregate state A_1 is uncertain, but $A_2 = 1$ and known at time 1
2. There is no uncertainty in firms' idiosyncratic productivity Z_t
3. Firms make drawn down decision before they repay the amount of credit they drawn down in last period

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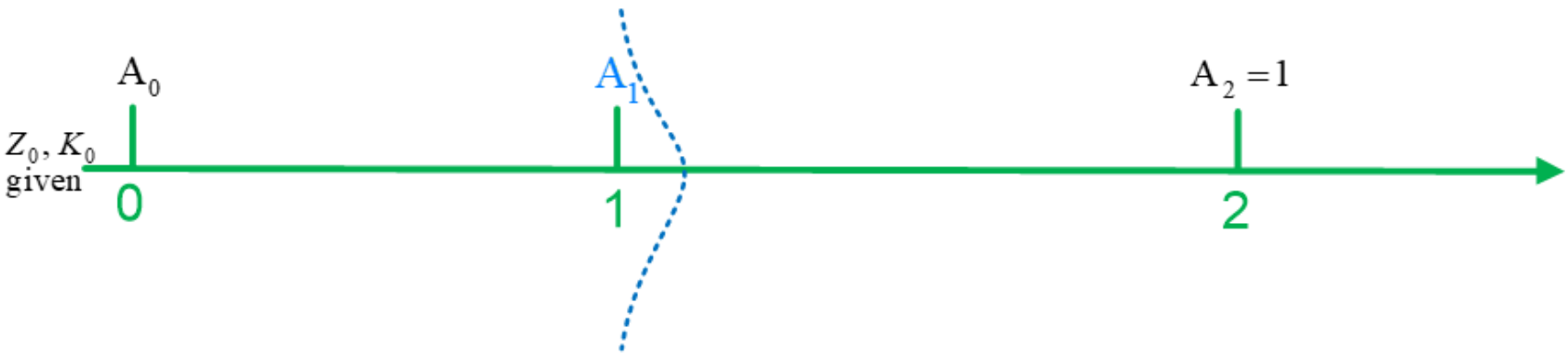

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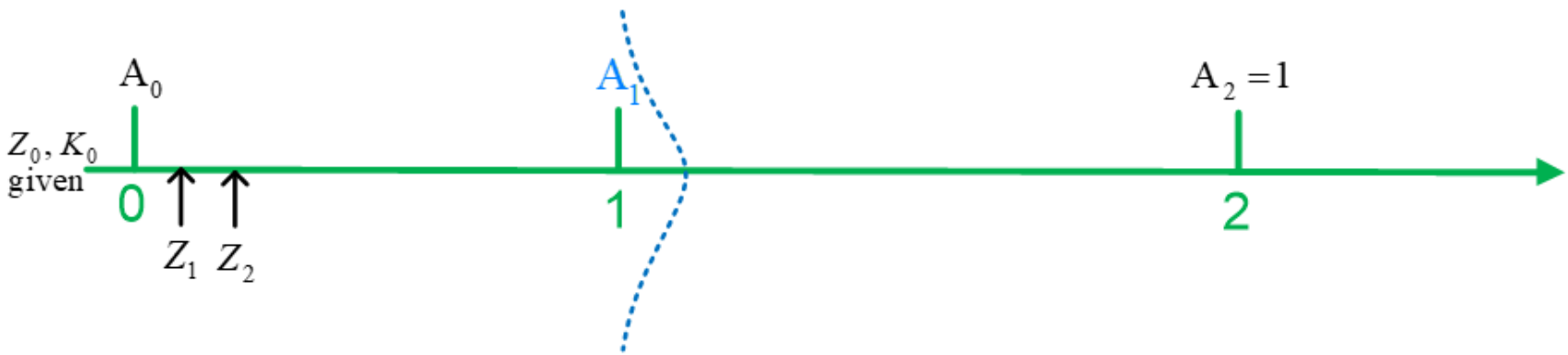

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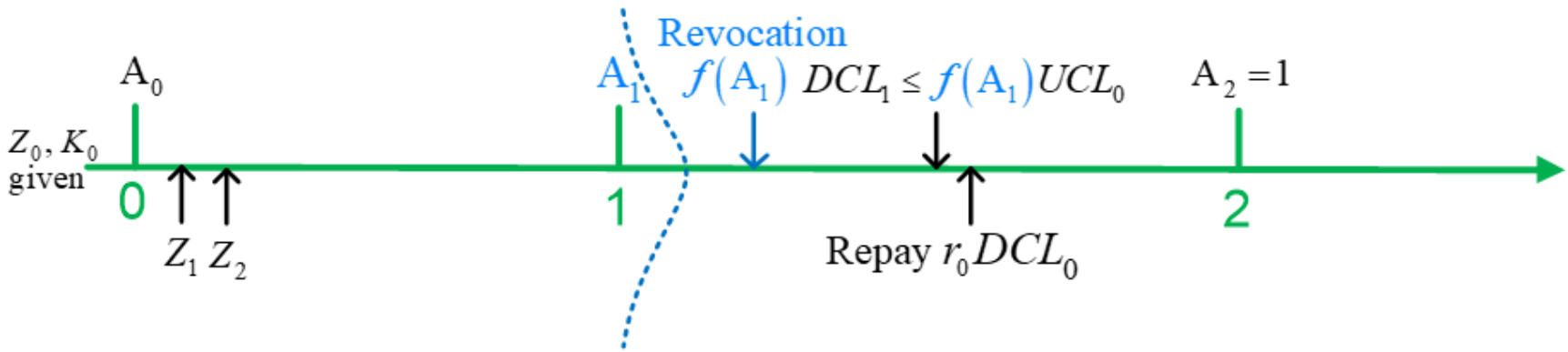

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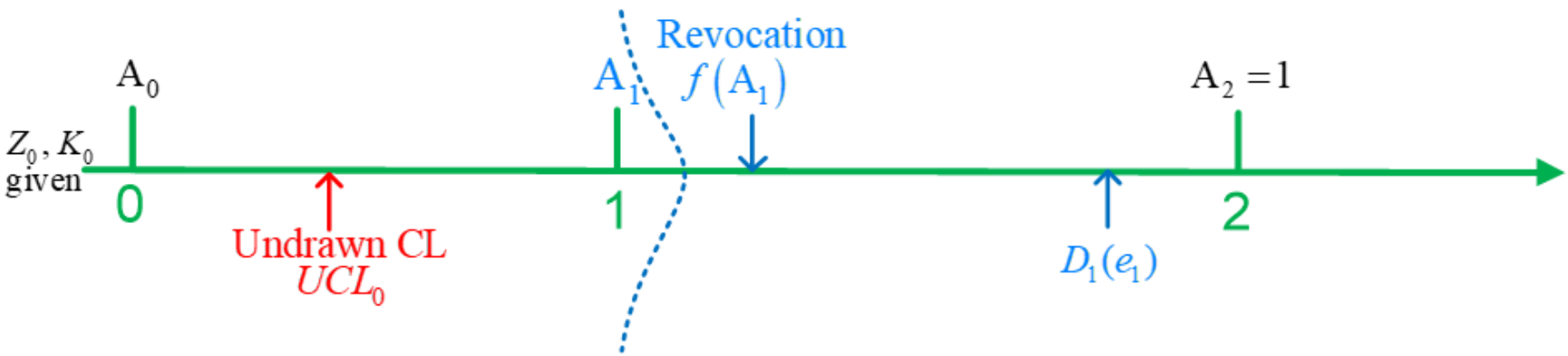

Model Mechanism (1)

- Separate two elements to facilitate explanation
  - Endogenous UCL holdings decisions

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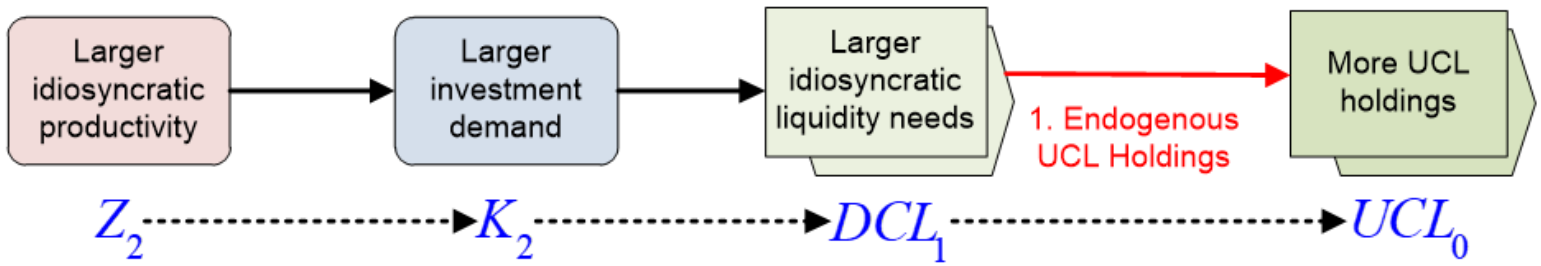

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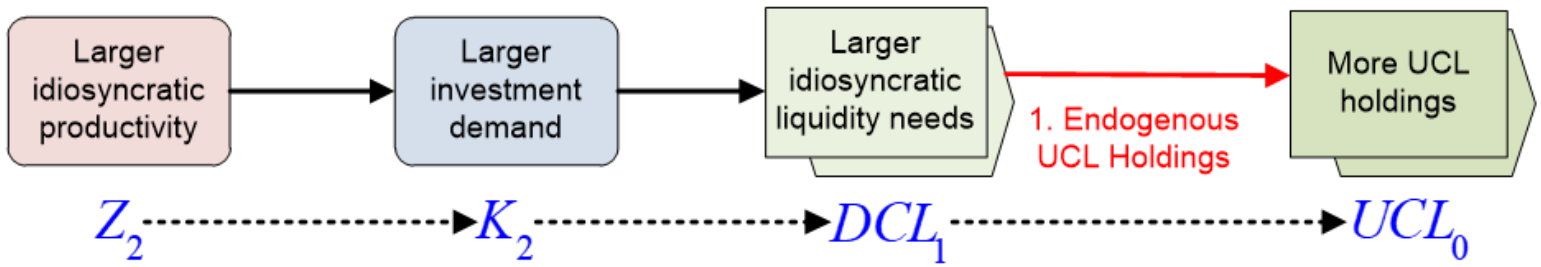

  - Optimal K_2 at time 1: where $\lambda'(e_1) \approx 0$ if $e_1 \geq 0, \approx \lambda$ if $e_1 < 0$.

$$K_2 = \left[\frac{\beta \left(Z_2 + (1-\delta) \right)}{\psi \left(1 + \lambda'(e_1) \right)} - \frac{1 + r_{c1}\theta}{\psi} + 1 \right] K_1 \tag{9}$$

    - higher $Z_2 \Rightarrow$ more investment $\Rightarrow$ larger financing needs

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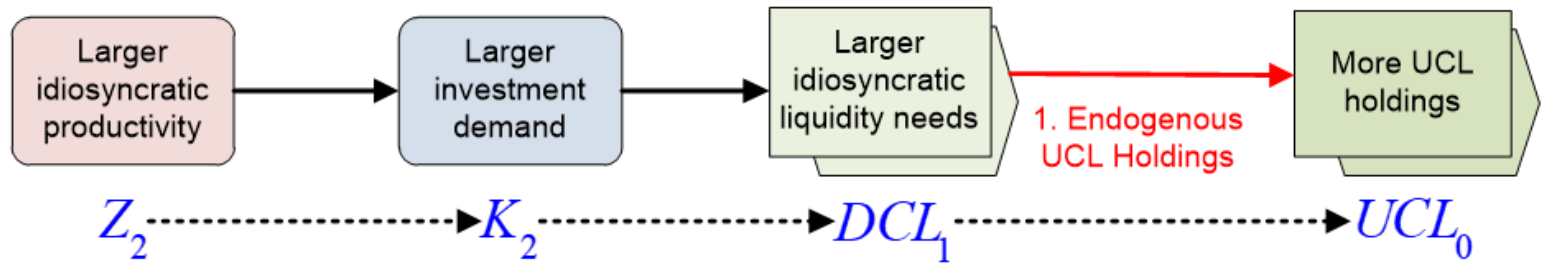
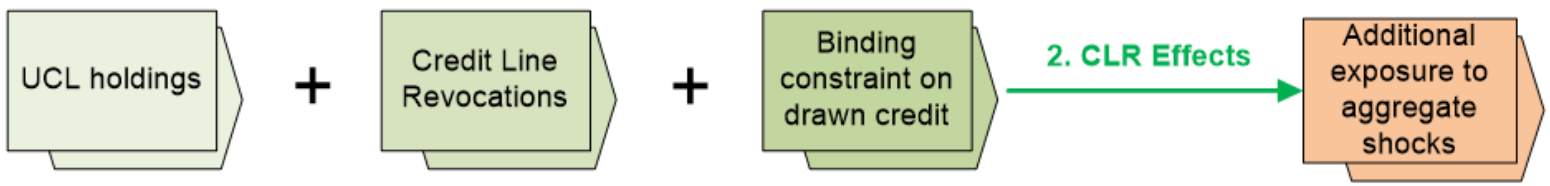


  - Credit line revocations (CLR) effects



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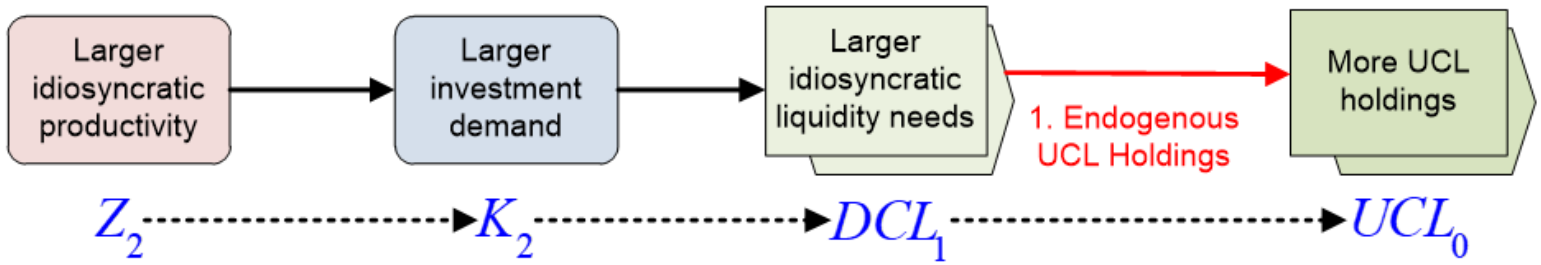

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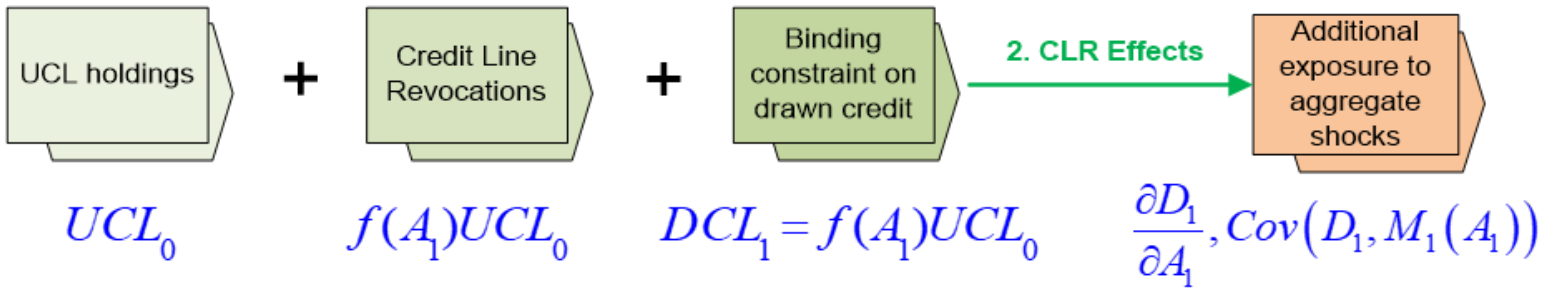

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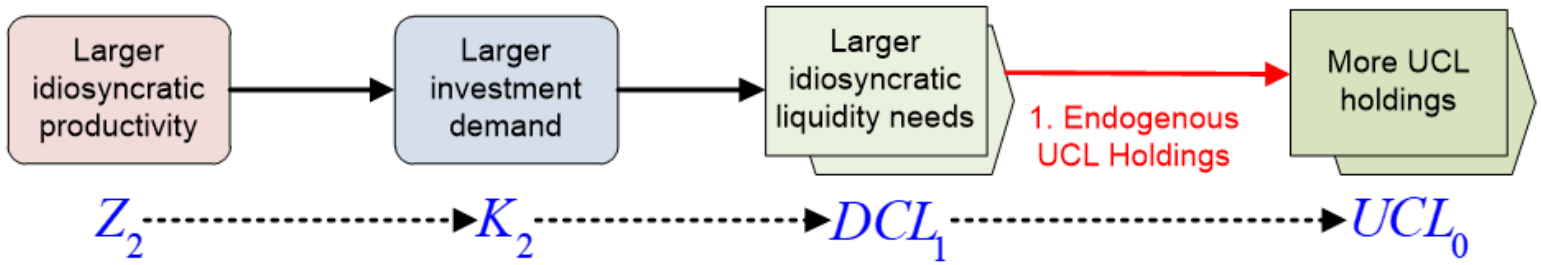

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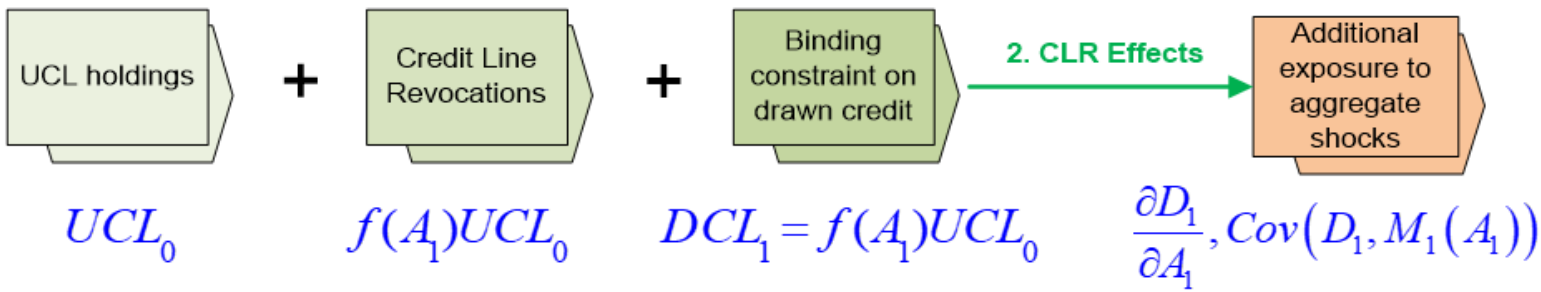

- Optimal DCL_1: When will constraint on drawn credit bind?

$$DCL_1 = \begin{cases} \overline{DCL}_1 & \text{if } e_1 \geq 0 \ (A_1 \geq \bar{A}_1) \\ f(A_1)UCL_0 & \text{if } e_1 < 0 \ (A_1 < \bar{A}_1) \end{cases} \tag{9}$$

Endogenous UCL Holding Decisions: from Z_2 to UCL_0

Proposition 1

There exists a cutoff value $\bar{A}_1$ such that firms issue equity if realized $A_1 < \bar{A}_1$, and payout dividend if realized $A_1 \geq \bar{A}_1$. Moreover, $\bar{A}_1$ is increasing in Z_2.

- UCL holding can save equity issuance costs
  - UCL is more valuable when $A_1 < \bar{A}_1$ (equity issuance)

$$\underbrace{\text{Marginal Benefit}\,(A_1 < \bar{A}_1)}_{\text{Cost saving value embedded}} > \text{Marginal Benefit}\,(A_1 \geq \bar{A}_1)$$

- Higher $Z_2 \Rightarrow$ higher $\bar{A}_1 \Rightarrow$ more states with high marginal benefit $\Rightarrow$ expected marginal benefit $\uparrow \Rightarrow UCL_0 \uparrow$

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Credit Line Revocation Effects

- Dividend sensitivity to aggregate shocks (proxy for risk exposure)

$$\frac{\partial D_1}{\partial A_1} = \begin{cases} Z_1 K_1 \left(1 + \lambda'(e_1)\right) & \text{if } A_1 > \tilde{A}_1 \\ 0 & \text{if } A_1 \in [\bar{A}_1, \tilde{A}_1] \\ \left(Z_1 K_1 + \underbrace{f'(A_1) UCL_0 (1 + r_{c1})}_{\text{Revocation Effect}} \right) \left(1 + \lambda'(e_1)\right) & \text{if } A_1 < \bar{A}_1 \end{cases} \tag{10}$$

- The role of UCL holdings in bad states with $A_1 < \bar{A}_1$

$$\frac{\partial^2 D_1}{\partial A_1 \partial UCL_0} = f'(A_1)(1 + r_{c1}) \left(1 + \lambda'(e_1)\right) > 0 \tag{11}$$

- More UCL holdings $\Rightarrow$ Stronger revocation effects

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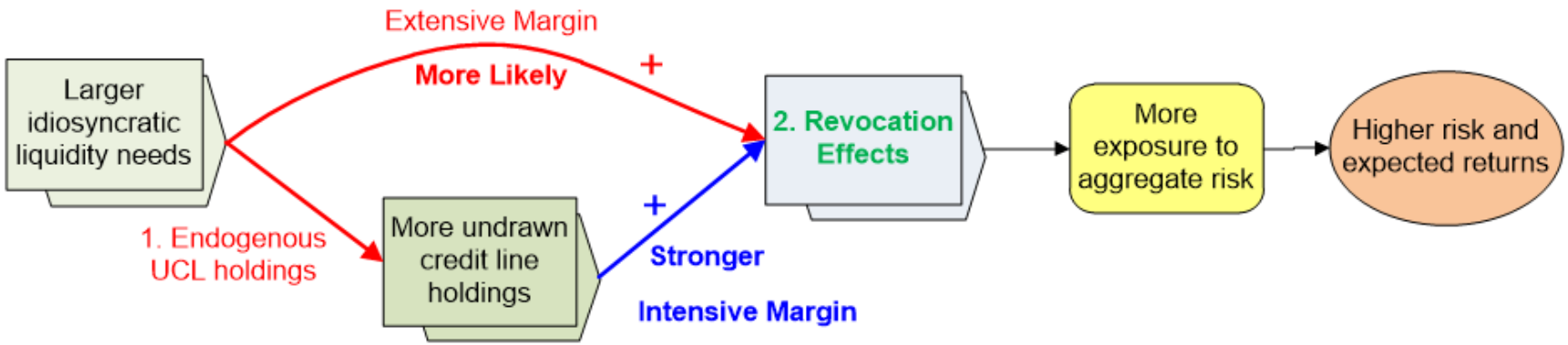
Model Mechanism (2)

- Graphical illustration of the mechanism



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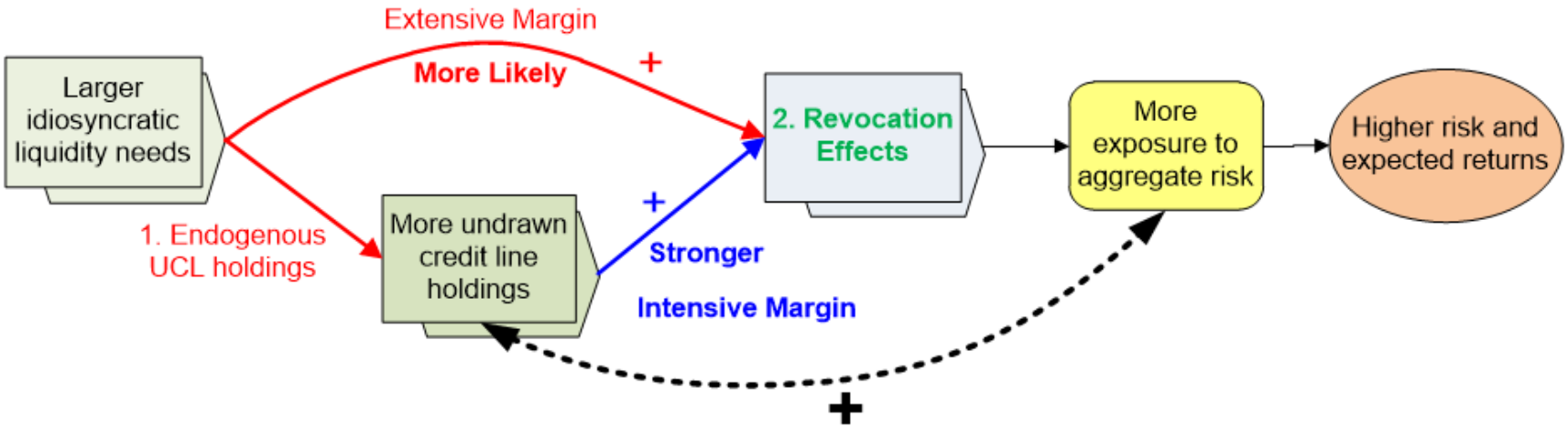

Model Mechanism (2)

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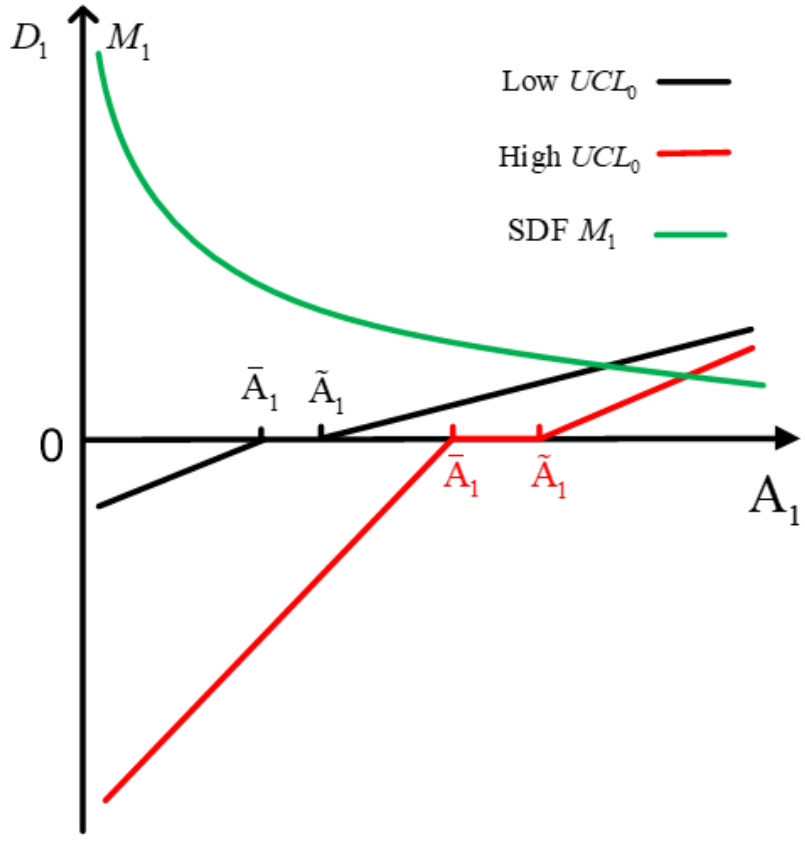
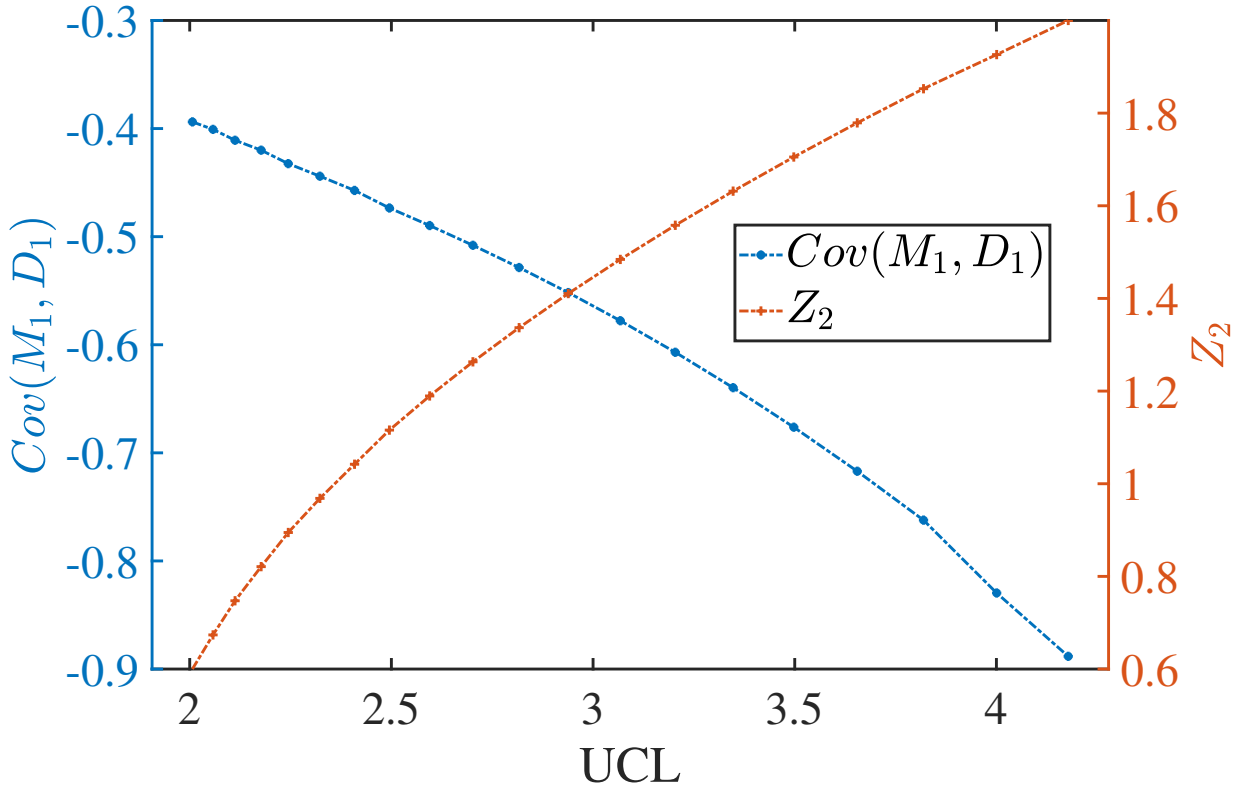


- Visualize the two margins of the mechanism:
  - Extensive Margin: more likely $\Leftrightarrow \bar{A}_1 > \bar{A}_1$
  - Intensive Margin: stronger $\Leftrightarrow$ slope $>$ slope

Summary of the Mechanism: A Numerical Example



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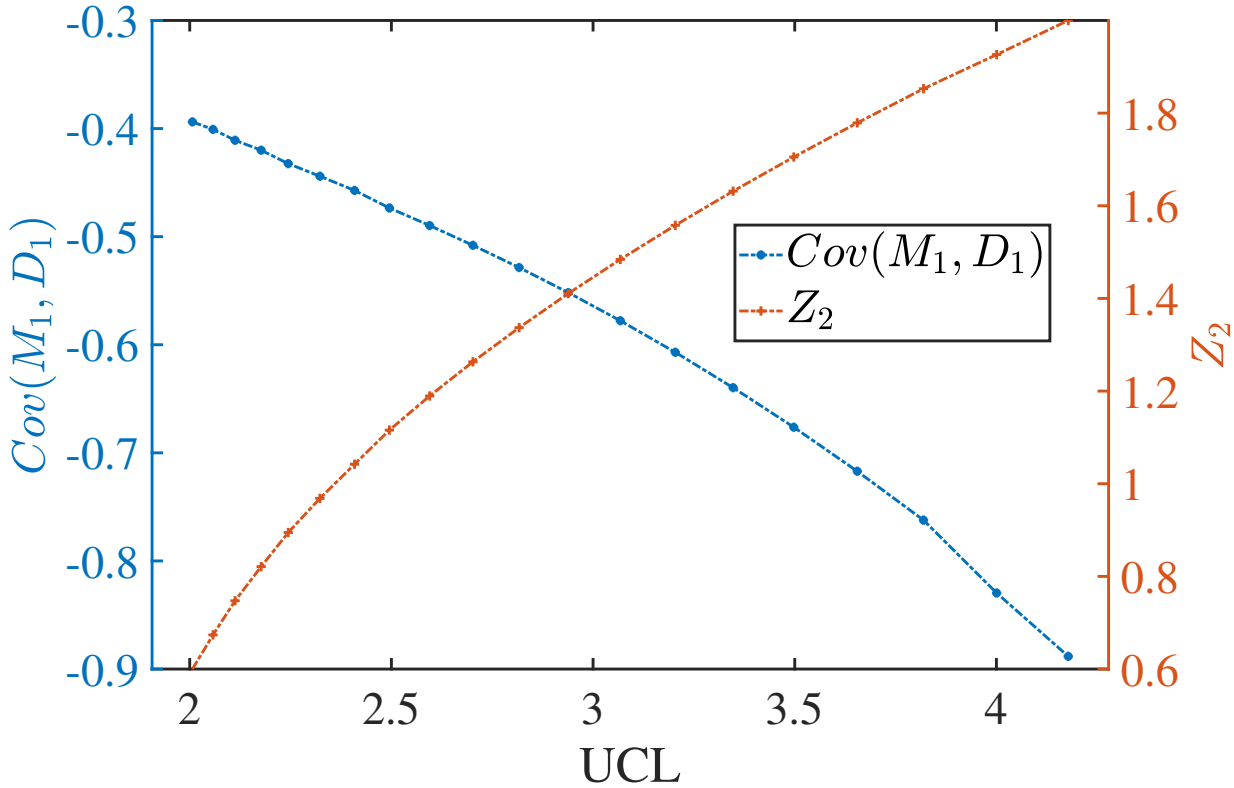

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1. UCL premium is stronger among
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Conclusions

- Positive relation between UCL and firm risk and expected returns
  - significant positive UCL premium (3.88 – 5.74% p.a.)
- I propose a novel risk-based explanation based on
  - endogenous UCL holdings
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- I illustrate the mechanism in an investment-based asset pricing model with credit lines
- **Takeaway**:
  - important risk implications of UCL holding (unused credit capacity)
  - a downside of holding UCL for liquidity management:
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Thank You!

Appendix

Factor Regressions

	Low	2	3	4	High	High-Low
Panel A: Total Assets						
α^{FF5}	-1.26	-0.10	-1.44	-0.32	3.14	4.40
t-stat.	-1.21	-0.12	-1.45	-0.27	3.33	3.85
α^{q5}	-0.49	1.40	0.33	1.29	4.21	4.70
t-stat.	-0.42	1.40	0.32	1.48	3.59	4.10
Panel B: Total Debt						
α^{FF5}	-3.78	0.13	0.16	0.64	2.80	6.58
t-stat.	-2.69	0.14	0.16	0.47	2.02	4.25
α^{q5}	-1.65	1.14	1.66	1.65	4.30	5.95
t-stat.	-1.11	1.12	1.20	1.34	3.27	3.16
Panel C: PPENT						
α^{FF5}	-1.70	-0.12	-1.15	1.01	2.28	3.98
t-stat.	-1.48	-0.13	-0.96	0.97	2.45	2.46
α^{q5}	-0.58	2.16	0.20	1.54	3.23	3.81
t-stat.	-0.45	2.51	0.16	1.32	3.50	2.33

Factor Loadings Back

Fama-French Five Factor Loadings

- Quintile portfolios sorted on UCLAT

Back

	Low	2	3	4	High	High-Low
α	-1.26	-0.10	-1.44	-0.32	3.14	4.40
t-stat.	-1.21	-0.12	-1.45	-0.27	3.33	3.85
β^{MKT}	1.00	1.02	1.07	1.08	0.93	-0.06
t-stat.	42.59	34.90	35.73	48.83	47.75	-3.29
β^{SMB}	-0.17	0.01	0.07	0.23	0.25	0.42
t-stat.	-2.61	0.33	1.89	5.49	8.51	6.59
β^{RMW}	-0.16	-0.12	-0.10	-0.16	-0.18	-0.02
t-stat.	-3.41	-2.26	-1.90	-3.03	-4.24	-0.36
β^{CMA}	0.18	0.10	0.16	0.15	0.03	-0.16
t-stat.	2.42	1.84	2.67	1.98	0.55	-1.70
β^{HML}	0.13	0.20	0.05	0.01	-0.03	-0.16
t-stat.	1.40	2.56	0.71	0.12	-0.55	-1.39

Robustness

- Portfolio level results — Back
  - Sorting within whole sample — Whole Sample
  - Sorting within Fama-French 17 industries — FF 17 Industries
  - Decile portfolio sorting — Decile Portfolios
  - Subsample with price > 5 \$ — Sub-sample
- Firm level results — Back
  - Market Cap weighted Fama-MacBeth Regressions — Weighted Fama-MacBeth
  - Fama-MacBeth regression with portfolio dummies — Portfolio Dummy

Uni-variate Portfolio Sorting within Whole Sample

- Quintile portfolios sorted within whole sample

Back

	Low	2	3	4	High	High-Low
Panel A: Total Assets						
Excess Return (pp)	8.52	10.05	8.69	11.61	11.05	2.53
t-stat.	2.63	2.92	2.40	3.06	2.87	1.69
α^{FF5}	-0.78	1.63	-0.03	2.92	2.47	3.25
t-stat.	-0.61	1.70	-0.02	2.73	2.24	2.48
α^{q5}	-1.13	0.07	-2.27	1.11	1.02	2.15
t-stat.	-1.08	0.08	-1.93	0.92	1.05	1.92
Panel B: Total Debt						
Excess Return (pp)	8.75	9.46	9.40	10.13	12.21	3.46
t-stat.	2.42	2.71	2.81	2.78	2.89	2.04
α^{FF5}	-0.59	1.25	1.15	1.47	3.53	4.12
t-stat.	-0.43	1.21	0.77	1.36	2.92	2.31
α^{q5}	-1.78	-0.38	-0.73	-0.19	2.39	4.17
t-stat.	-1.55	-0.42	-0.54	-0.18	1.94	2.94

Uni-variate Portfolio Sorting within FF 17 Industries

- Quintile portfolios sorted within Fama-French 17 Industries
  - Following Eisfeldt and Papanikolaou (2013)

Back

	Low	2	3	4	High	High-Low
Panel A: Total Assets						
Excess Return (pp)	8.61	9.16	10.59	10.93	11.31	2.71
t-stat.	2.73	2.44	3.08	2.94	3.00	1.94
α^{FF5}	-0.54	0.33	2.00	2.15	3.02	3.57
t-stat.	-0.43	0.33	1.81	2.29	2.74	2.68
α^{q5}	-1.18	-1.13	0.37	0.27	1.48	2.66
t-stat.	-1.10	-1.32	0.35	0.24	1.50	2.11
Panel B: Total Debt						
Excess Return (pp)	7.11	10.14	10.33	10.53	11.91	4.80
t-stat.	1.98	2.90	2.98	3.25	2.76	2.57
α^{FF5}	-1.48	1.04	1.80	1.64	3.72	5.21
t-stat.	-1.14	1.15	1.61	1.14	3.16	2.90
α^{q5}	-3.42	0.07	0.36	0.49	2.15	5.56
t-stat.	-3.29	0.08	0.32	0.38	1.42	3.29

Uni-variate Decile Portfolio Sorting

- Decile portfolios sorted on UCLAT

Back

Panel A: 10 Portfolios within Fama-French 5 Industries						
	Low	3	5	7	High	High-Low
Excess Return (pp)	6.22	9.11	10.92	11.34	11.89	5.67
t-stat.	1.95	2.44	2.81	2.72	3.33	2.56
α^{FF5}	-2.76	0.14	2.65	1.75	3.21	5.98
t-stat.	-1.47	0.12	1.78	1.59	1.95	2.64
α^{q5}	-3.57	-0.93	0.65	-0.46	2.23	5.80
t-stat.	-2.20	-0.70	0.45	-0.33	1.35	2.84
Panel B: 10 Portfolios within Whole Sample						
Excess Return (pp)	5.23	9.50	8.91	11.25	11.15	5.92
t-stat.	1.66	2.75	2.34	2.80	3.08	2.77
α^{FF5}	-4.06	1.23	-0.16	2.63	3.11	7.17
t-stat.	-2.62	1.03	-0.09	1.74	1.85	3.43
α^{q5}	-4.26	-0.26	-2.10	0.35	1.89	6.14
t-stat.	-2.83	-0.23	-1.34	0.27	1.29	3.17

Uni-variate Portfolio Sorting: Sub-sample with Price > 5 \$

- Quintile portfolios sorted within Fama-French 5 Industries
  - following Campbell, Hilscher, and Szilagyi (2008)

Back

	Low	2	3	4	High	High-Low
Excess Return (pp)	8.73	10.22	9.12	11.33	12.55	3.81
t-stat.	2.64	3.08	2.56	2.92	3.68	3.61
α^{FF5}	-0.34	1.60	0.82	1.69	4.42	4.76
t-stat.	-0.31	1.43	0.83	1.91	3.82	4.09
α^{q5}	-1.02	0.12	-1.40	0.17	3.51	4.52
t-stat.	-1.06	0.12	-1.31	0.17	3.68	4.06

Market Cap Weighted Fama-MacBeth Regressions

	Dependent Variable: Monthly Excess Returns						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
UCLAT	9.053**	8.096*	8.339**	12.918**	9.973**	9.328**	6.702*
	(4.09)	(4.13)	(3.94)	(5.26)	(4.26)	(4.13)	(3.94)
Book Lev.		1.586					
		(3.69)					
Cash/AT			3.844				
			(4.52)				
SA Index				1.640			
				(1.16)			
Tangibility					0.323		
					(4.07)		
Gross Profit						3.802	
						(4.46)	
AT Growth							-2.441
							(1.55)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.158	0.164	0.168	0.179	0.170	0.164	0.165
Observations	280,438	280,438	280,414	257,191	280,093	280,438	274,426

- Control = Size, B/M ratio, Reversal, and Momentum

Back

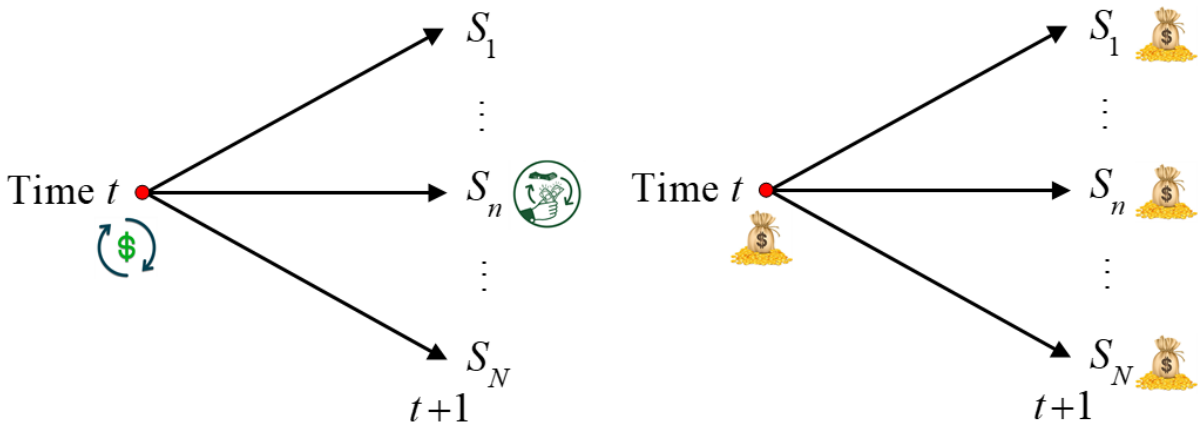
Fama-MacBeth Regressions with Portfolio Dummies

Back

	Dependent Variable: Monthly Excess Returns						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Portfolio 2	1.107 (0.98)	0.950 (0.91)	1.084 (0.97)	1.253 (1.28)	1.153 (0.95)	1.112 (0.96)	0.869 (0.94)
Portfolio 3	0.396 (1.06)	0.323 (1.00)	0.377 (1.06)	1.933 (1.57)	0.297 (1.06)	0.646 (1.03)	0.101 (1.01)
Portfolio 4	1.778 (1.22)	1.604 (1.20)	1.617 (1.20)	2.906* (1.48)	1.959 (1.27)	1.894 (1.20)	1.534 (1.17)
Portfolio 5	2.616*** (0.95)	2.360** (0.97)	2.531*** (0.89)	3.490*** (1.22)	2.811*** (0.97)	2.558*** (0.90)	1.873** (0.90)
Book Lev.		1.836 (3.57)					
Cash/AT			4.192 (4.49)				
SA Index				1.886 (1.17)			
Tangibility					0.561 (4.08)		
Gross Profit						4.392 (4.42)	
AT Growth							-2.558* (1.54)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.167	0.173	0.176	0.192	0.179	0.172	0.174
Observations	279,097	279,097	279,073	255,865	278,752	279,097	273,107

Benefits: UCL v.s. Cash Holding

- Undrawn credit lines provide more efficient and cheaper liquidity
  - efficiency gain due to its option nature (Nikolov et al. (2019))



(a) Undrawn Credit Line Holding (b) Cash Holding

  - cheaper liquidity because cash holding is costly
    - difficult to get from operation, costly if from borrowing
    - it exacerbates managerial discretion

$\Rightarrow$ UCL has its **advantage** in hedging idiosyncratic shocks, but it is a **worse** hedge for agg. shocks than cash (Almeida et al (2014))

Back Portfolio-Level Firm-Level

Controlling for Cash Holdings at Portfolio Level

Panel A: Sorting on $\frac{UCL}{AT-CHE}$						
	Low	2	3	4	High	High-Low
Excess Return (pp)	7.51	10.97	9.60	10.51	13.00	5.49
t-stat.	2.33	3.11	2.83	2.60	3.65	4.61
Std (%)	12.94	14.82	14.80	15.60	14.23	6.47
SR	0.58	0.74	0.65	0.67	0.91	0.85
Panel B: Dependent Double Sorting- CHE/AT						
	Low	2	3	4	High	High-Low
Low	7.60	10.42	7.88	10.69	10.60	3.00
t-stat.	2.56	2.68	2.09	2.40	3.06	2.11
High	10.14	9.55	11.06	10.13	13.23	3.09
t-stat.	2.78	2.70	3.78	2.54	3.91	2.08

Back

Credit Line Revocation

- UCL holding exposes firms to the risk of CLR
  - Definition: reduction or termination of pre-committed credit capacity
- Potential causes of CLR
  - Borrower side: Sufi (2009), Chodorow-Reich and Falato (2022)
    - covenant violation or missed payments
    - decrease in collateral value in revaluation
    - violation of vaguely defined material adverse change clause
  - Bank side:
    - Banks' lending standards or policies (Demiroglu et al. (2012))
    - Banks' liquidity condition and financial health (Acharya et al. (2013, 2014), Acharya et al. (2021))

Back

Portfolio Characteristics

Back

- Significant α of long-short portfolio in FF-5 and Q-5 factor models
- High UCL/AT Firms tend to have: Factor Regressions Factor Loadings
  - lower cash holding, more growth opportunities, higher profitability
  - lower failure probability, lower covenant violation probability

Variable	Low	2	3	4	High
UCLAT	0.03	0.07	0.11	0.16	0.26
Cash/AT	0.10	0.08	0.08	0.08	0.07
Size	6.53	6.94	6.71	6.72	6.53
B/M Ratio	0.58	0.54	0.54	0.53	0.49
ROA	0.09	0.11	0.11	0.12	0.14
Gross Profit	0.25	0.27	0.30	0.32	0.37
Book Lev	0.23	0.25	0.22	0.21	0.17
Pr(Failure) (pp)	0.05	0.04	0.04	0.03	0.03
Strictness	0.36	0.28	0.25	0.21	0.16
Pr_{t+1}(Material Violation) (pp)	9.41	6.49	6.28	4.44	4.45
Average Number of Firms	288.00	294.54	294.97	295.80	293.00

Portfolio Characteristics

Back

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ROA	0.09	0.11	0.11	0.12	0.14
Gross Profit	0.25	0.27	0.30	0.32	0.37
Book Lev	0.23	0.25	0.22	0.21	0.17
Pr(Failure) (pp)	0.05	0.04	0.04	0.03	0.03
Strictness	0.36	0.28	0.25	0.21	0.16
Pr_{t+1}(Material Violation) (pp)	9.41	6.49	6.28	4.44	4.45
Average Number of Firms	288.00	294.54	294.97	295.80	293.00

Fama-MacBeth Regressions

	Dependent Variable: Monthly Excess Returns						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
UCLAT	9.947***	8.911***	9.402***	10.122**	10.391***	7.111**	9.362***
	(3.15)	(3.11)	(3.13)	(3.92)	(3.04)	(3.07)	(2.98)
Book Lev.		-4.786					
		(4.68)					
Cash/AT			-3.205				
			(2.89)				
SA Index				-3.384***			
				(0.95)			
Tangibility					-3.191		
					(4.56)		
Gross Profit						9.447***	
						(2.45)	
AT Growth							-3.445**
							(1.69)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.052	0.055	0.055	0.061	0.058	0.055	0.055
Observations	280,438	280,438	280,414	257,191	280,093	280,438	274,426

- Control = Size, B/M ratio, Reversal, and Momentum

Robustness Back Empiric Back Model