

VC COMPETITION AND STARTUP FINANCING COST

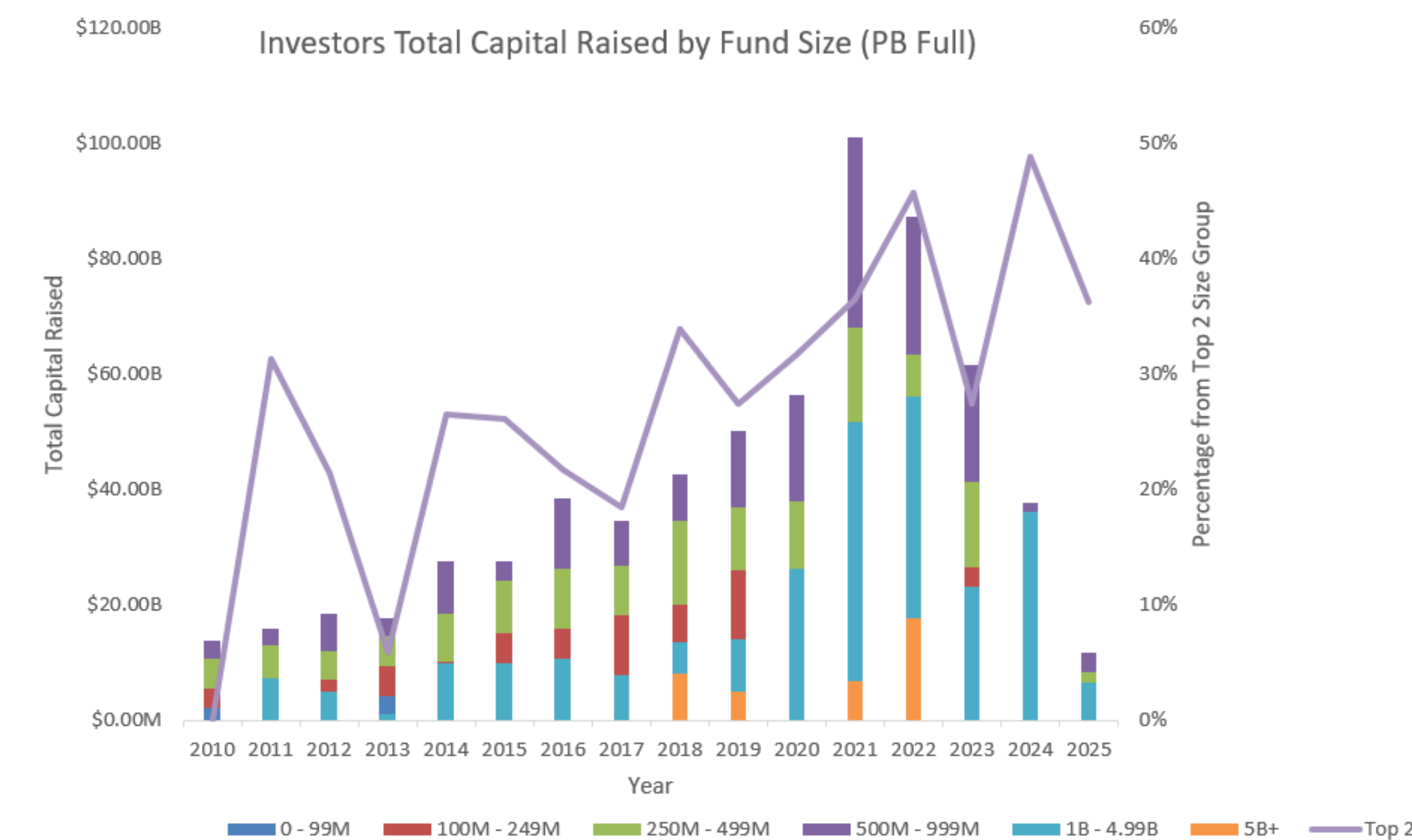
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Motivation: The Changing VC Landscape

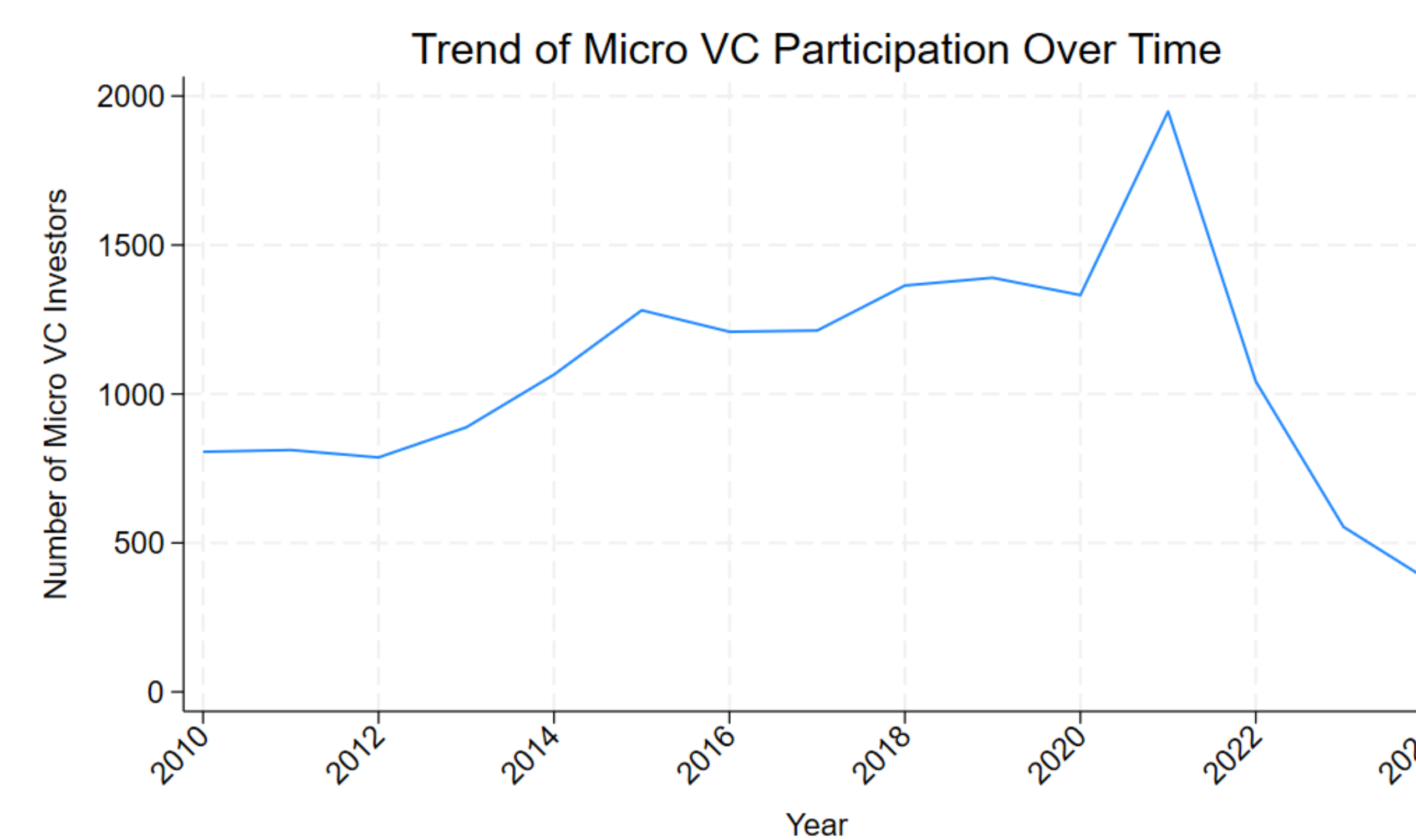
The venture capital industry is experiencing two seemingly contradictory trends with important implications for startup financing.

Trend 1: Rising Concentration Among Large VCs



Large VCs are capturing increasing market share, potentially gaining bargaining power over startups.

Trend 2: Proliferation of Micro VCs



Meanwhile, micro VCs (<\$50M) are proliferating rapidly, suggesting market segmentation in response to top-tier concentration.

Research Questions & Hypotheses

1. Financing Costs & Control

Market concentration theory suggests powerful intermediaries extract rents (Petersen & Rajan, 1995). Concentrated VCs may demand greater board control as competition decreases.

H_1 : Startups whose VCs have higher market concentration tend to yield more board control right to VCs.

2. Investment Timing Effects

Concentrated market brings market power (Bernstein et al., 2016). High-power VCs may delay investment to cherry-pick promising startups.

H_1 : VC concentration delays investment timing while maintain same level of return due to the presence of market power.

3. Financing Gap-Filling by Micro VCs

Industrial organization theory predicts entry when incumbents create gaps (Tirole, 1988). Micro VCs may target early-stage deals abandoned by large VCs.

H_1 : Micro VCs increase their presence in highly concentrated market.

4. Performance Implications

While micro VCs may fill in the financing gap, their effect on startups' performance differs. On one hand, micro VCs have relatively less resources. On the other hand, they have smaller portfolio thus offer more attention to portfolio startup.

$H_1(a)$: Market structure changes reduce startups performance on average. $H_1(b)$: Market structure changes improve startups performance on average.

Sample & Data

Scope: US VCs and US startups, 2010-2024.

Primary Data Sources:

- Pitchbook:** Comprehensive data on VCs, startups, and deal characteristics (focus on first investments).
- Form D Filings:** Detailed board composition and governance data.
- Boardex:** Director information

Validation: Data cross-validated with Revelio and LSEG VentureXpert.

Dataset Size: 9,107 startups and 21,642 VC investors.

Empirical Strategy

Identification Approach:

We exploit cross-sectional and time-series variation in VC power proxied by VC market concentration across sectors to identify causal effects on startup financing terms.

Main Specification:

$$Y_{ist} = \beta \cdot \text{VC Power}_{st} + \delta X_{ist} + \lambda_s + \gamma_t + \epsilon_{ist}$$

- Dependent:** VC board share (%), first round stage
- Independent:** VC market power (low/medium/high terciles)
- Controls:** Deal size, syndication, startup/VC characteristics
- Fixed Effects:** Sector-year, startup, VC, VC-sector, VC-year

Main Regression Results

Table 1: VC Market Power Effects on Startup Control and Investment Timing

DEPENDENT VARIABLE:	PANEL A: % VC BOARD MEMBERS				PANEL B: DEAL ROUND			
		Deal Size	Fin. Stage	Synd. Size				
MODERATORS:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VC Power (Med.)	0.00366 (0.872)	-0.00739 (-0.858)	0.00706 (0.963)	-0.0131 (-1.347)	-0.613*** (-6.721)	0.245*** (5.678)	0.449*** (4.347)	0.414*** (18.48)
VC Power (High)	0.00896 (1.623)	0.0299*** (3.386)	0.0554*** (6.329)	0.0204** (2.409)	-0.660*** (-3.883)	0.247*** (3.954)	0.703** (3.701)	0.510*** (3.760)
Mod. (Med./Early)	-	0.0750*** (7.563)	0.0718*** (8.750)	-0.0379*** (-4.339)	-	-	-	-
Mod. (Large/Late)	-	0.150*** (17.38)	0.138*** (14.19)	-0.0718*** (-8.273)	-	-	-	-
VC Power (Med.) $\times$ Mod. (Med./Early)	-	0.0195 (1.507)	0.000693 (0.0648)	0.0249** (2.143)	-	-	-	-
VC Power (Med.) $\times$ Mod. (Large/Late)	-	0.0116 (1.033)	-0.0187 (-1.429)	0.0201 (1.559)	-	-	-	-
VC Power (High) $\times$ Mod. (Med./Early)	-	0.0270** (1.985)	-0.00779 (-0.676)	0.0352*** (3.479)	-	-	-	-
VC Power (High) $\times$ Mod. (Large/Late)	-	0.0343*** (3.100)	-0.0267** (-2.305)	0.0570*** (4.719)	-	-	-	-
Controls	✓	✓	✓	✓	✓	✓	✓	✓
Sector-Year Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓
Startup Fixed Effects	✓	-	-	-	-	-	-	-
VC Fixed Effects	-	-	-	-	-	✓	-	-
VC-Sector Fixed Effects	-	-	-	-	-	-	-	✓
VC-Year Fixed Effects	-	-	-	-	-	-	✓	✓
Observations	11,428	15,173	15,173	15,173	42,403	39,489	28,001	23,227
Adj. R ²	0.789	0.174	0.175	0.175	0.151	0.370	0.484	0.536

Notes: Robust t-statistics in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Panel A moderators are Deal Size, Financing Stage, and Syndication Size. Panel B shows Deal Round as dependent variable.

Key Findings & Implications

Main Results Summary:

- Higher financing costs:** VCs with greater market power extract significantly more board control (Panel A), especially in larger deals and syndicated rounds.
- Investment delays:** High-power VCs systematically delay investment timing, pushing startups to later funding stages before investing (Panel B).
- Heterogeneous effects:** Market concentration might hurt startups most in competitive, high-stakes scenarios.

Policy Implications:

- VC market concentration may harm startup innovation through higher financing costs.
- Micro VC growth provides an important competitive counterbalance.
- Antitrust attention to VC market structure may be warranted.