Spreading Sunshine in Private Equity: Agency Costs and Financial Disintermediation

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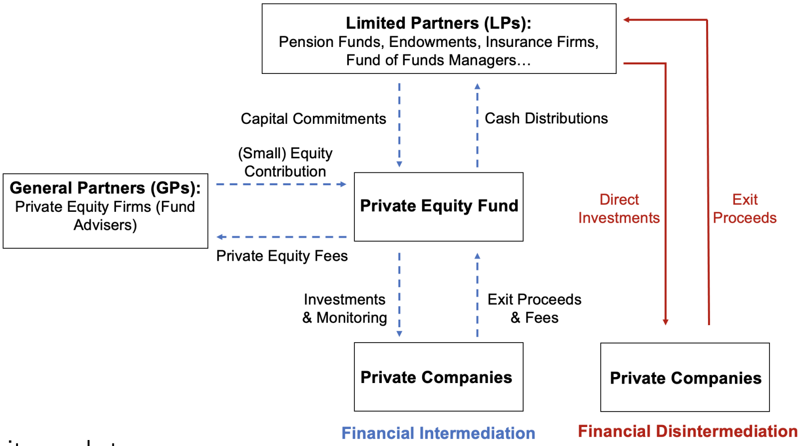
Motivation

Disintermediation of Private Equity Markets



- Private equity markets
  - **Large benefits** of financial intermediation due to various transaction costs
  - Rise of disintermediation: direct investing

Motivation - Principal-Agent Problems

Concerns over private equity fees

- Delegated managers have to be incentivized by high-power compensation contracts based on imperfect performance measures
- Private equity fees are **complex** and **flexible** - creating scopes for large incentive costs

Research Questions

- How do agency costs of financial intermediation affect investors' choice between outsourcing and internalizing their private equity investments?
  - Investors are primarily endowments, pension funds, insurance companies, etc
  - Incentive role of firm boundaries
- How does regulatory oversight affect the organizational structure of private equity markets?
  - The role of regulation to address market failures
- **Setting**
  - Enactment of the Dodd-Frank Act to PE fund advisers in 2012
  - Exogenous increase in regulatory oversight & reduction in agency frictions

Literature & Contribution

- **Rising variation of PE investment vehicles that increase investors' discretion**
  - Existing studies focus on adverse selection in co-investments and ex post adjustment of PE allocation Fang et al. (2015); Lerner et al. (2021); Gourier et al. (2022)
  - This paper: agency frictions as a contributing factor to the disintermediation

- **Agency costs and financial intermediation**
  - Seminal work in the banking literature by Diamond (1984): diversification and committed payment
  - This paper: highlights the agency costs in the LP-GP relationships due to contracting frictions
  - Supports the role of regulation in financial intermediation: little studied in the PE context.

- **Theory of the firm**
  - Capital allocation view: extensive work on hold-up problems in relationship-specific investments Klein et al. (1978); Williamson (1979); Grossman and Hart (1986); Hart and Moore (1990); Lafontaine and Slade (2007); Frésard et al. (2020); Bena et al. (2021)
  - This paper: under-explored incentive view that firm boundaries respond to agency frictionsHolmstrom and Milgrom (1991, 1994); Holmstrom (1999).

Part I: Institutional Background & Stylized Facts

Conflicts of Interest in Private Equity Funds

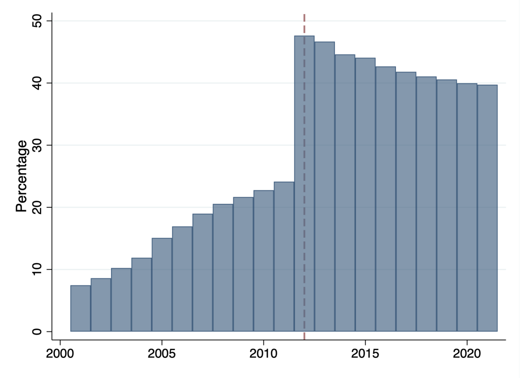
Complex structures & limited disclosures of PE fees

- Limited monitoring from LPs after fund investments
  - Coordination frictions among investors
  - Human capital constraint Da Rin and Phalippou (2017)
- Governance through compensation contracts Gompers and Lerner (1996, 1999); Metrick and Yasuda (2010)
  - Incomplete by nature and often include broad and vague wording
  - **Hidden compensation** that is less observable or more difficult for investors to value Phalippou (2009)
  - E.g. misallocation of expenses and miscalculation of management fees
- Governance through future fundraising Chung et al. (2012)
  - Hidden compensation through manipulation of fund valuation Barber and Yasuda (2017); Chakraborty and Ewens (2018)
- Agency costs can be larger than the monetary value of hidden fees
  - Misalianged incentives between fund managers and investors

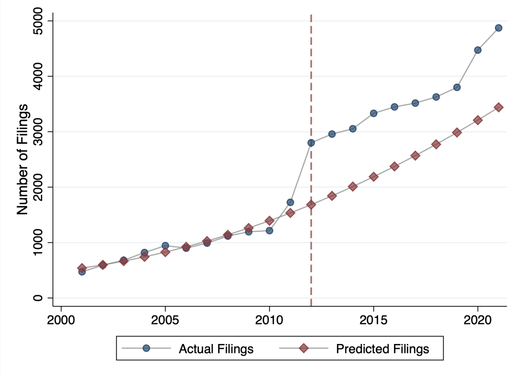
SEC Registrations & Dodd-Frank Act

- Investment Advisers Act of 1940
  - Most PE advisers were able to be exempt from registering with the SEC
  - Little regulatory oversight over the PE market before 2012
- **Title IV of Dodd–Frank Financial Reform Act of 2010**
  - Significantly narrowed the registration exemptions of PE fund advisers in 2012
  - Policy rationale: Congress' concern of systematic risk in financial markets after the Great Recession
- Registered advisers are subject to the SEC's regulatory oversight
  - Examinations, disclosures (e.g. detailed Form ADV filings), and other requirements
- SEC's exam observations confirm
  - LPs' limited monitoring Monitoring
  - GPs' hidden compensations Fees

Stylized Facts – Registrations and Disclosures



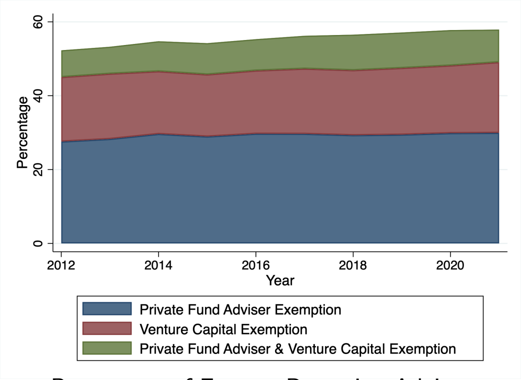
(a) Percentage of Advisers Registered with the SEC



(b) # of Form ADV Filings by Registered Advisers

- **Sharp rise in registrations** with the SEC - increased regulatory oversight Newly Registered Advisers
  - Persistent shift
  - Timely registrations at the compliance deadline Quarterly Time Series
- **Permanent increase in disclosures** - greater market transparency

Stylized Facts - Exemptions



Percentage of Exempt Reporting Advisers

- **Little compositional change** in advisers that are exempt from SEC registrations
  1. Private fund adviser exemption: an adviser to buyout funds only with total AUM $<=$ 150 USD MIL
  2. Venture capital exemption: an adviser to only VC funds that meet the SEC' regulatory definition

Fund Aggregate Characteristics

Stylized Facts - Registration & Regulatory Oversight

- OLS with GP(adviser)-year panel data:

$$\textit{Disciplinary Action}_{jt} = \beta \textit{Registered}_{jt} + \boldsymbol{\theta'X} + \boldsymbol{\tau_t} + \boldsymbol{\phi_{state}} + \epsilon_{jt}$$

	Regulatory Action	Censure	Disgorgement / Restitution	Cease and Desist	Monetary Sanction	Log(1 + Fine Amount)
	(1)	(2)	(3)	(4)	(5)	(6)
Registered	0.037***	0.025***	0.015***	0.020***	0.036***	0.008***
	[0.008]	[0.008]	[0.005]	[0.005]	[0.008]	[0.002]
Log(GP Size)	0.000	-0.000	0.001	0.001	0.000	0.000
	[0.002]	[0.002]	[0.001]	[0.001]	[0.002]	[0.001]
Number of Funds Raised	0.002*	0.000	0.001	0.001	0.002*	0.000
	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]	[0.000]
Year FE	✓	✓	✓	✓	✓	✓
GP State FE	✓	✓	✓	✓	✓	✓
Observations	16874	16874	16874	16874	16874	16874
Adjusted R^2	0.039	0.032	0.022	0.026	0.039	0.033

- SEC-registered advisers are more likely to receive regulatory actions - stronger monitoring
  - Registered advisers are 3.7 pp more likely to receive regulatory actions in a given year (unconditional mean ≈ 1 percent)
  - Consistent with Charoenwong et al. (2019)

So Far...

- Dodd-Frank Act **eliminated registration exemptions** of many previously unregistered advisers
  - Strong enforcement
  - Significantly increased regulatory oversight over PE fund advisers
  - Reduction in agency costs of financial intermediation of PE after the reform
- **Measure of LP investors' exposure** to the reduction of agency costs as a result of the reform
  - Larger for LPs with higher exposure to newly registered advisers in pre-existing LP-GP relationships

Part II: Agency Costs and Financial Disintermediation

Identification

Difference-in-Differences

- Sample: US LP investors during the period 2001-2021
  - Preqin, Form ADV, LinkedIn
- LP-year panel data:

$$y_{it} = \xi \times \textit{High Exposure}_i + \beta \times \textit{High Exposure}_i \times \textit{Post}_t + \boldsymbol{\theta'X} + \boldsymbol{\delta_i} + \boldsymbol{\tau_t} + \epsilon_{it}$$

  - i and t: an LP and a year
  - y: capital commitment, direct investments, and employment of PE professionals
  - *High Exposure*: $=1$ if the ratio of newly registered GPs in the LP's pre-existing LP-GP relationships is in the top quartile group, and 0 otherwise
  - *Post*: $=1$ if the year is or after 2012, the enactment year of the Dodd-Frank Act, and 0 otherwise.
  - $\boldsymbol{X}$: control variables including LP size and experience
  - $\boldsymbol{\delta_i}$ and $\boldsymbol{\tau_t}$ LP and year fixed effects
  - Standard error clustered at the LP level

Persistance in LP Composition

Main Findings

Agency Costs & Financial Intermediation

- Investors that subsequently face lower agency frictions in their pre-existing LP-GP relationships
  - Invest more privte equity through external private equity funds Capital Commitment
  - Make less direct investment Direct Investment
  - Are less likely to employ their in-house PE investment team PE Employment
  - Regulatory monitoring has stronger effects when their advisers have more misconduct Misconduct

  Alt. Explanations & Robustness Checks

- Investors' firm boundaries respond to agency frictions
  - Affect organization structures of financial markets

Part III: Capital Allocation Implications of Disintermediation

Main Findings

Capital Allocation Implications

- LP investors are more likely to finance companies that are
  - more mature, larger, and have greater need for financing Company Characteristics
- **Little evidence** of adverse selection into worse companies
  - Similar exit outcomes between companies directly or indirectly invested by LPs Exit Outcomes

Appendix Slides

Exam Observations - Monitoring

" Investors may not be sufficiently staffed to provide significant oversight of managers. When they are, and even when they conduct rigorous due diligence up front, they often take a much more hands-off approach after they invest their money and funds are locked up. This is especially true when managers have completed their investment period and the investor does not plan to reinvest. There is a high cost to initiating action among limited partners, especially after their capital has been substantially drawn and when there are many investors in a fund, who are difficult to organize or even identify. Or, there may be a mistaken belief that auditors will provide sufficient oversight to protect investors' interests."

— SEC, *Spreading Sunshine in Private Equity*, April, 2014

- Large number of investors gives rise to duplication of monitoring efforts and free-riding in monitoring the delegated manager Diamond (1984)

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Exam Observations - Fees

"By far, the most common observation our examiners have made when examining private equity firms has to do with the adviser's collection of fees and allocation of expenses. When we have examined how fees and expenses are handled by advisers to private equity funds, we have identified what we believe are violations of law or material weaknesses in controls over 50% of the time."

— SEC, *Spreading Sunshine in Private Equity*, April, 2014

- The SEC has been founding other issues including
  - Miscalculating post-investment period management fees
  - Extending fund lives and recycling realized investment proceeds to charge extra management fees
  - See more Observations from Examinations of Private Fund Advisers, Division of the Examinations, January 2022

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Newly Registered Advisers - Top 20

	Adviser Name	Gross Asset Value (USD MIL)	Number of Funds
1	Warburg Pincus LLC	33177	28
2	Hellman & Friedman LLC	20685	17
3	Leonard Green & Partners, LP	15385	38
4	First Reserve Management, LP	14294	11
5	Madison Dearborn Partners, LLC	13878	27
6	Clayton, Dubilier & Rice, LLC	13725	22
7	Silver Lake Technology Management, LLC	13110	12
8	TA Associates Management, LP	10631	18
9	Centerbridge Partners, LP	8859	11
10	American Securities LLC	8857	18
11	WCAS Management Corporation	8392	3
12	H.I.G. Capital, LLC	8300	15
13	THL Managers VI, LLC	8276	6
14	Stone Point Capital LLC	8273	18
15	Kelso & Company, LP	8245	9
16	Sun Capital Advisors, Inc.	8172	5
17	Arclight Capital Partners, LLC	7954	6
18	Golden Gate Private Equity Inc.	7274	21
19	Tiger Global Management, LLC	7211	5
20	Onex Partners Manager LP	7209	16

- Top 20 newly registered advisers based on gross asset value reported in Form ADV Schedule D

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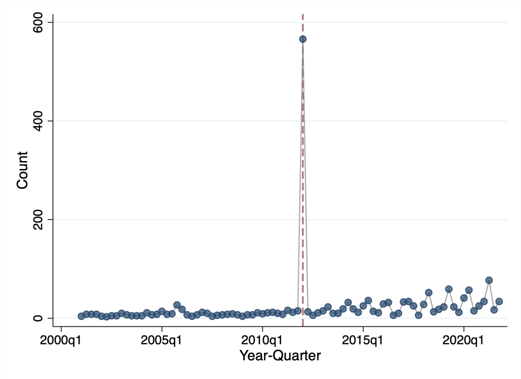
Timely Registrations at the Compliance Deadline



Initial Registrations

- Dodd-Frank Act was adopted by the SEC on June 22, 2011
- **Compliance deadline** was March 30, 2012 due to the transition provisions
- Around 570 advisers became registered with the SEC in 2012Q1
  - Account for **more than 30%** of the total number of initial SEC registrations in the past two decades

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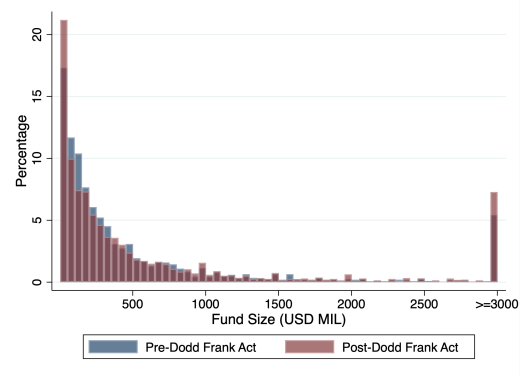
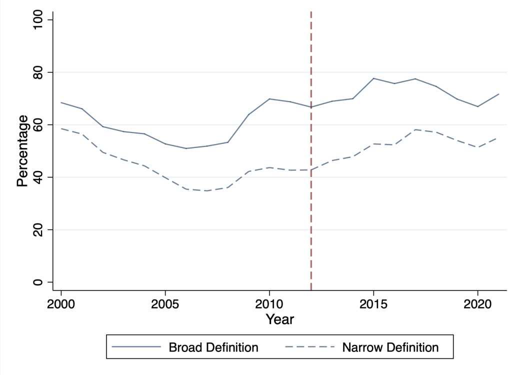
Stylized Facts – Aggregate Fund Characteristics



(a) Percentage of Advisers Registered with the SEC



(b) # of Form ADV Filings by Registered Advisers

- **Limited change in aggregate fund characteristics** - costly for fund managers
  - Smaller buyout funds - lower management fees
  - Venture capital funds are hard to scale up due to various frictions Metrick and Yasuda (2010)

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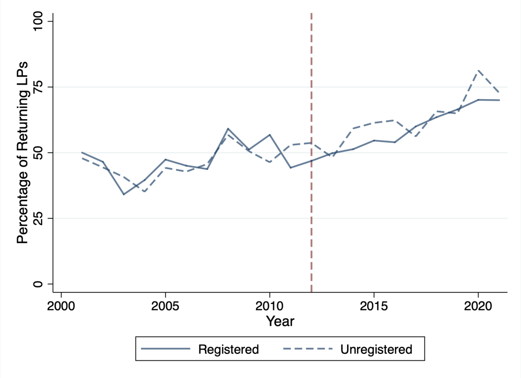
Persistance in LP Composition



Percentage of Returning LPs

- Limited fund access in the PE industry lerner2004illiquidity, lerner2007smart, sensoy2014limited, abuzov2022value
- Costs of search and asymmetric information in forming new relationships (e.g., Cohen, Frazzini, and Malloy, 2008, 2010; Engelberg, Gao, and Parsons, 2012)

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Capital Commitment

	Capital Commitment		Number of Funds		Log(1 + Committed Capital)	
	(1)	(2)	(3)	(4)	(5)	(6)
High Exposure	-0.143***		-0.564***		-0.483***	
	[0.013]		[0.065]		[0.056]	
High Exposure × Post	0.109***	0.123***	0.350***	0.346***	0.341***	0.384***
	[0.016]	[0.016]	[0.072]	[0.067]	[0.070]	[0.069]
Log(LP Size)	0.070***	0.014***	0.355***	0.102***	0.351***	0.068***
	[0.002]	[0.002]	[0.015]	[0.011]	[0.010]	[0.011]
LP Experience	0.007***	0.002	0.053***	0.128	0.036***	0.024
	[0.001]	[0.008]	[0.006]	[0.084]	[0.004]	[0.041]
Year FE	✓	✓	✓	✓	✓	✓
LP State FE	✓		✓		✓	
LP Type FE	✓		✓		✓	
LP FE		✓		✓		✓
Observations	25745	25745	25745	25745	25745	25745
Adjusted R^2	0.274	0.371	0.343	0.577	0.350	0.480

- A 10.9-12.3 pp (around 31%-35% of the unconditional mean) increase in the probability of committing capital to PE funds each year after the Dodd-Frank Act

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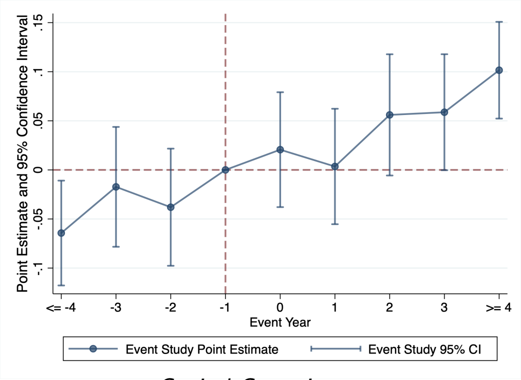
Capital Commitment - Dynamics



Capital Commitment

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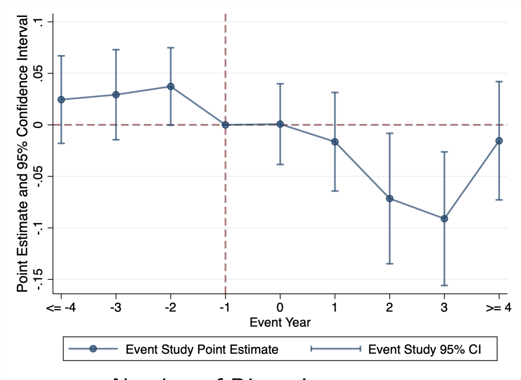
Direct Investment

	Direct Investment		Number of Direct Investments		Log(1 + Direct Investment Amount)	
	(1)	(2)	(3)	(4)	(5)	(6)
High Exposure	0.004		0.029		0.015	
	[0.006]		[0.023]		[0.014]	
High Exposure × Post	-0.015**	-0.010	-0.061**	-0.051**	-0.035**	-0.025*
	[0.007]	[0.007]	[0.028]	[0.026]	[0.016]	[0.015]
Log(LP Size)	0.005***	0.002	0.016**	0.003	0.012***	0.003
	[0.001]	[0.001]	[0.007]	[0.003]	[0.004]	[0.003]
LP Experience	0.001*	0.005	0.004**	0.058	0.003**	0.026
	[0.000]	[0.005]	[0.002]	[0.041]	[0.001]	[0.022]
Year FE	✓	✓	✓	✓	✓	✓
LP State FE	✓		✓		✓	
LP Type FE	✓		✓		✓	
LP FE		✓		✓		✓
Observations	25745	25745	25745	25745	25745	25745
Adjusted R^2	0.123	0.397	0.100	0.593	0.109	0.440

- An approx. 1.5 pp decrease (around 38% of the unconditional mean) in the probability of making direct investments each year in the post-period

Figure Go Back

Direct Investment - Dynamics



Number of Direct Investments

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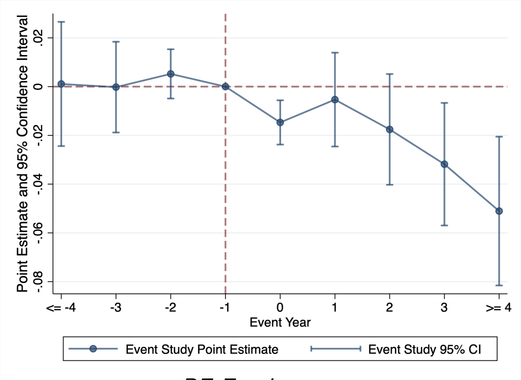
Employment of PE Professionals

	PE Professional		Number of PE Professionals	
	(1)	(2)	(3)	(4)
High Exposure	0.026**		0.054**	
	[0.013]		[0.026]	
High Exposure × Post	-0.039***	-0.024	-0.059**	-0.039
	[0.014]	[0.015]	[0.025]	[0.025]
Log(LP Size)	0.008***	-0.001	0.013***	-0.005
	[0.002]	[0.002]	[0.004]	[0.004]
LP Experience	0.001	-0.019	0.001	-0.048
	[0.001]	[0.012]	[0.001]	[0.033]
Year FE	✓	✓	✓	✓
LP State FE	✓		✓	
LP Type FE	✓		✓	
LP FE		✓		✓
Observations	20758	20758	20758	20758
Adjusted R^2	0.164	0.622	0.169	0.679

- 0.39 pp (around 49% of the unconditional mean) less likely to employ professionals with private equity investment experience in the post-period

Figure Go Back

Employment of PE Professionals - Dynamics



PE Employment

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Heterogeneous Effects of Regulatory Monitoring

	(1) Capital Commitment	(2) Number of Funds	(3) Log(1 + Committed Capital)	(4) Direct Investment	(5) Number of Direct Investments	(6) Log(1 + Direct Investment Amount)	(7) PE Professional	(8) Number of PE Professionals
High Exposure × Post	0.082***	0.133**	0.213***	-0.011	-0.024	-0.010	0.001	0.056
	[0.018]	[0.060]	[0.073]	[0.008]	[0.028]	[0.016]	[0.017]	[0.080]
High Exposure × Post × High Misconduct	0.120***	0.612***	0.507***	0.014	-0.062	-0.033	-0.059*	-0.074
	[0.043]	[0.188]	[0.195]	[0.015]	[0.055]	[0.029]	[0.035]	[0.187]
Controls	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
LP FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	25745	25745	25745	25745	25745	25745	20758	20758
Adjusted R^2	0.372	0.579	0.482	0.397	0.593	0.440	0.624	0.716

- *High Misconduct*: $= 1$ if the ratio of GPs with disciplinary history in the LP's pre-existing LP-GP relationships is greater than the median, and 0 otherwise.

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Alternative Explanations & Robustness Checks

- Heterogeneous confounding trends across LPs
  - Financial sophistication/need to control the nature and timing of PE investments
  - Predicts less outsourcing through both private equity funds and funds of funds (FOF) FOF
- Blurred firm boundaries of private equity Firms
  - Some LPs (asset managers, family offices, etc) could have been classified as private equity firms
  - Subsidiaries (e.g. corporate pension funds) of private equity firms sometimes commit capital as LPs
  - Results robust to using the subsample of LPs whose main operations are distinct from private equity investing Subsample pf LPs

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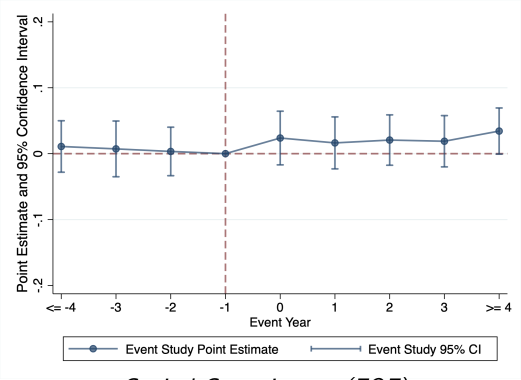
Capital Commitment (FOF) - Placebo Test

	Capital Commitment (FOF)		Number of Funds (FOF)		Log(1 + Committed Capital) (FOF)	
	(1)	(2)	(3)	(4)	(5)	(6)
High Exposure	-0.019		-0.012		-0.032	
	[0.012]		[0.023]		[0.038]	
High Exposure × Post	0.018	0.020*	0.014	0.017	0.037	0.039
	[0.012]	[0.011]	[0.021]	[0.020]	[0.035]	[0.034]
Log(LP Size)	0.002	-0.008***	0.002	-0.015***	0.014***	-0.021***
	[0.002]	[0.002]	[0.003]	[0.003]	[0.005]	[0.005]
LP Experience	0.002***	0.007**	0.003***	0.015	0.008***	0.022**
	[0.001]	[0.003]	[0.001]	[0.012]	[0.002]	[0.011]
Year FE	✓	✓	✓	✓	✓	✓
LP State FE	✓		✓		✓	
LP Type FE	✓		✓		✓	
LP FE		✓		✓		✓
Observations	25745	25745	25745	25745	25745	25745
Adjusted R^2	0.081	0.226	0.081	0.244	0.089	0.242

- No difference in FOF investments between the high- and low-exposure LPs after the reform

Figure Go Back

Capital Commitment (FOF) - Dynamics



Capital Commitment (FOF)

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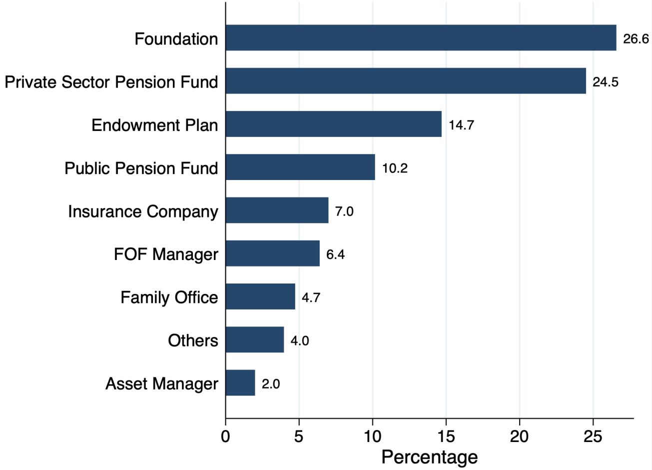
Restrict to the Subset of Investors

Public Pensions, Insurance Companies, Endowments and Foundations

	(1) Capital Commitment	(2) Number of Funds	(3) Log(1 + Committed Capital)	(4) Direct Investment	(5) Number of Direct Investments	(6) Log(1 + Direct Investment Amount)	(7) PE Professional	(8) Number of PE Professionals
High Exposure × Post	0.097***	0.170**	0.243***	-0.010*	-0.026**	-0.014*	-0.029*	-0.036
	[0.019]	[0.077]	[0.079]	[0.005]	[0.011]	[0.008]	[0.017]	[0.023]
Controls	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
LP FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	15643	15643	15643	15643	15643	15643	13233	13233
Adjusted R^2	0.375	0.638	0.521	0.191	0.188	0.121	0.477	0.453

LP Types Go Back

LPs' Institutional Types



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Company Characteristics & PE Direct Investments

	LP Ratio (%)					
	(1)	(2)	(3)	(4)	(5)	(6)
Early Stage	-1.714***					
	[0.082]					
Company Age		0.015***				
		[0.002]				
Round Number			0.318***			
			[0.019]			
Log(1 + Capital Raised)				0.650***		
				[0.030]		
Log(Deal Size)					0.522***	
					[0.029]	
Energy & Utilities						0.563***
						[0.181]
Deal Year FE	✓	✓	✓	✓	✓	✓
Deal Type FE	✓	✓	✓	✓	✓	✓
Company State FE	✓	✓	✓	✓	✓	✓
Company Industry FE	✓	✓	✓	✓	✓	
Observations	130410	113653	130410	77689	77678	130416
Adjusted R^2	0.011	0.006	0.011	0.014	0.011	0.005

- *LP Ratio (%)*: percentage of private equity investors that are limited partners in a deal

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Exit Outcomes

	IPO	Successful Exit	Years to Exit	Log(Exit Value)
	(1)	(2)	(3)	(4)
Direct Investment	-0.003	0.001	-0.096	-0.090
	[0.006]	[0.007]	[0.110]	[0.065]
Early Stage	0.012*	0.014	1.156***	0.163*
	[0.007]	[0.009]	[0.148]	[0.083]
Company Age	-0.001**	-0.002***	-0.021**	-0.015***
	[0.001]	[0.001]	[0.009]	[0.005]
Round Number	0.008***	0.006***	0.075***	0.024
	[0.002]	[0.002]	[0.022]	[0.015]
Log(1 + Capital Raised)	0.021***	0.027***	-0.166***	0.137***
	[0.003]	[0.004]	[0.048]	[0.028]
Log(Deal Size)	0.029***	0.036***	-0.192***	0.393***
	[0.002]	[0.003]	[0.050]	[0.033]
Deal Year FE	✓	✓	✓	✓
Deal Type FE	✓	✓	✓	✓
Company State FE	✓	✓	✓	✓
Company Industry FE	✓	✓	✓	✓
Observations	9902	9902	2364	2190
Adjusted R^2	0.166	0.167	0.326	0.313

- *Direct Investment*: $= 1$ if the private equity deal is directly invested by LP investors, and 0 otherwise.
- **Propensity-sore-matched subsample** - nearest-neighbor Go Back

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