How Using New Debt to Pay Returns in Private Equity Affects Firms, Employees, Creditors, and Investors

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Leveraged Payouts: A new class of PE transactions

- Feature of all capital structure models: Causal, positive relationship between debt ratios and chance of bankruptcy
  - E.g. in trade-off models, firms considering more debt trade off its tax benefits against increased chance of bankruptcy (Leland & Toft, 1996)

- But documenting this relationship challenging
  - Firms that are less risky choose higher leverage
  - Correlation between debt ratios and bankruptcy can go wrong way (Myers, 2001)

- This paper: Shed light on independent effect of a large increase in leverage
  - In context of private equity (PE)
  - PE has a growing footprint in the economy:
    - ⋆ $4.4 trillion in U.S. assets under management (Pitchbook, 2023)
    - ⋆ Employ over 12 million U.S. workers and account for 6.5% of U.S. GDP (AIC, 2023)
    - ⋆ $2.6 trillion in "dry-powder"; Poised to grow in the future (Asif & Sabater, 2023)

Leveraged Payouts: A new class of PE transactions

- Traditional (well-studied) PE business model:
  - Acquire under-performing firm using leverage (LBO)
  - Improve and sell for higher price

- New "Leveraged Payout": PEs extract cash before exit by increasing debt
  - Sell real estate, pay return from sales, and lease back assets
  - Issue company-backed debt that is used to pay returns to fund
    - ⋆ Backed by company-owned stock
    - ⋆ Backed by company cash flows (dividend recap)

- Leveraged Payouts depart from well-studied transactions:
  - Public firm DRs have small leverage ratio increase, easier stake sales, & better disclosure (Kaplan & Stein, 1990; Gupta & Rosenthal, 1991; Peyer & Shivdasani, 2001)
  - Private firm LBOs involve ownership change and capital injections (Boucly et al., 2011; Bloom et al., 2015; Agrawal & Tambe, 2016; Fracassi et al., 2022)

Who Benefits from Leveraged Payouts? Who Loses?

No rigorous study of leveraged payouts despite increased importance

Opportunity to learn about capital structure: Effect of dramatic increase in leverage with no corresponding change to assets

- ⇑ Longer PE "treatment" for the company
- ⇑ Disciplining effect of debt (Jensen, 1986)
- ⇑ Early fund returns

- ⇓ Agency problems from excess debt (Axelson et al., 2009; Axelson et al., 2013)
- ⇓ Free cash flows for growth
- ⇑ Risk for stakeholders

What We Do

- Offer new descriptive facts about DRs
  - On average, dividend recaps are conducted on large, healthy firms, consistent with strong selection bias masking the cross-sectional effect of debt on bankruptcy
- Control for selection to get effect of new DR debt induced by cheap credit
  - Instrument for DRs using PE relationship banks' CLO underwriting
  - **Assess impact of DRs on portfolio company, employees, creditors, & investors**

Key Results

- DRs increase firm risk
  - ↑ Bankruptcy and Exit
  - ↑ IPO and High Revenue Growth (if survive)
  - ↑ Holding period
- Employees Lose Out
  - ↓ Wages (if survive)
  - ↑ Chance of large employment cuts (if survive)
- Shift Value from Pre-existing Creditors
  - ↓ Loan prices (in OLS)
- Returns to investors
  - ↑ Deal returns
  - ↓ Fund returns

What Explains Returns?
Misaligned incentives and moral hazard problems for GPs

- DRs incentivize GP to raise new fund on basis of good interim returns
  (Gompers, 1996; Barber & Yasuda, 2017)
  - ↑ short-term distributions paid out to the fund
  - ↑ chance of launching new fund
- Focus effort more on the new funds. Old fund sees:
  - ↓ Returns for subsequent LBOs
  - ↓ Number of new LBOs pursued

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Data

- Comprehensive dataset of U.S. LBOs 1995-2020 across industries
  - Begin with all U.S. LBOs from 1995-2020 from Pitchbook
  - Match lead LBO PE investor to LCD for each deal
  - Final sample of 47,000 LBOs by 1200 PEs across 42,000 firms

- 1,600 DRs
  - DR loan/deal identified by Pitchbook or LCD

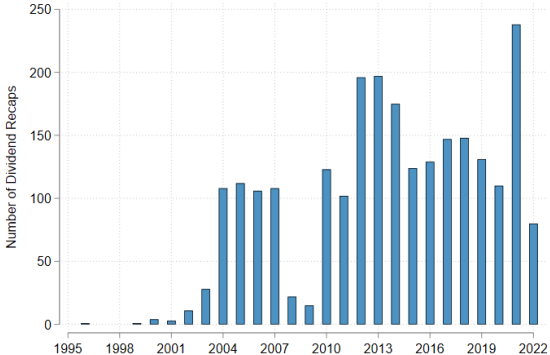
- Bank relationships and CLOs
  - Loan data for each LBO: LCD and Refinitiv Dealscan
  - CLO issuance data: Acuris CLO-i database
  - CLO secondary market pricing: Daily quotes from Loan Syndications & Trading Association

- Outcomes
  - IPO and Bankruptcy from LexisNexis, Preqin and Pitchbook
  - Real outcomes from Census Bureau's LBD (33,500 firms merged)
  - Fund returns by merging to Burgiss (1,900 funds merged)
  - Deal returns by merging to a large US-based fund-of-funds (9,800 LBOs merged)

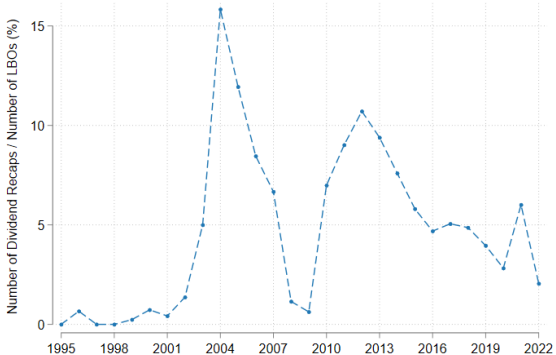
Data Discussion

- Unprecedented combination of data describing PE funds, deals, and portfolio company real outcomes
- Challenges
  - Sources are subject to access restrictions, cannot always combine
  - Samples vary depending on the matched subset
- Creates some caveats to interpretation
- But results taken together paint a consistent picture

DRs significant tool in PE playbook



(a) Number of Dividend Recaps by Year

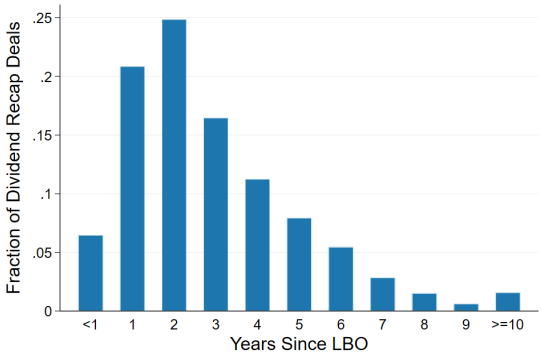


(b) Dividend Recaps as Fraction of $LBOs_{t-2}$

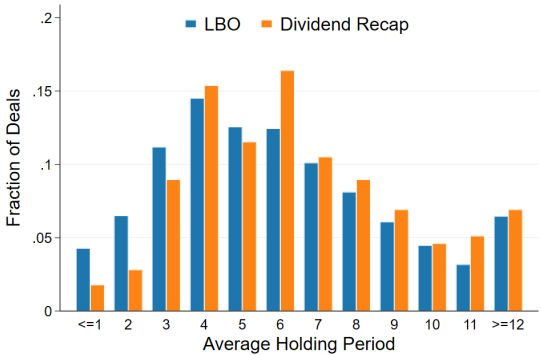
Industries | Time Since LBO/Holding Period

Comparing non-DR and DR LBOs: Holding Period

(a) **Panel (B): Years Since LBO**



(b) **Panel (C): Holding Period**



Back

Summary Statistics (Analysis Sample)

	All				DR		Non-DR	
	N	Mean	Median	SD	N	Mean	N	Mean
Portfolio Company Outcomes								
Bankruptcy (6-Yr) (%)	53,539	1.31	0	11.37	935	2.14	52,604	1.29
IPO (6-Yr) (%)	53,539	0.98	0	9.84	935	2.99	52,604	0.94
Exit (6-Yr) (%)	24,500	18.50			500	16	23,500	18.5
Conditional on Census Bureau Match & Survival								
Employment_{t-1}	7,700	1,313	110	5,109	300	2,253	7,400	1,273
Payroll_{t-1} ($, Millions)	7,700	45	7	127	300	91	7,400	43
Wage_{t-1} ($, Thousands)	7,700	63	53	31	300	64	7,400	63
Revenue_{t-1} ($, Millions)	3,600	392	21	1,637	150	784	3,500	377
PE Firm Variables								
Age (Years)	52,487	27.68	26	8.76	917	30.2	51,570	27.63
PE No. of Investments	53,524	403.49	235	426.11	923	452.81	52,601	402.63
AUM ($, Billions)	48,637	29.93	7.04	75.67	872	51.97	47,765	29.53
R-Banks CLO Volume	53,539	2.08	0	3.37	935	3.34	52,604	2.06
Deal Characteristics & Outcomes (Conditional on Fund-of-funds Match)								
Gross IRR (%)	29,321	25.79	22.52	47.09	284	33.34	29,037	25.72
Gross TVM	30,738	2.72	2.2	2.45	288	3.6	30,450	2.71
Holding Period (Years)	16,844	5.75	5	2.97	163	7.27	16,681	5.73
PE Fund Variables (Conditional on Burgiss Match)								
Fund Size ($, Billions)	17,599	1.44	0.73	2.19	620	2.45	16,979	1.41
Total Value Multiple	17,599	1.95	1.81	0.81	620	1.94	16,979	1.95
Public market Equivalent	17,599	1.26	1.19	0.46	620	1.29	16,979	1.25
IRR (%)	17,598	16.85	15.38	13.54	620	17.97	16,978	16.81

Portfolio Company Stats | Deal Stats | PE Firm and Fund Stats | Loan Stats

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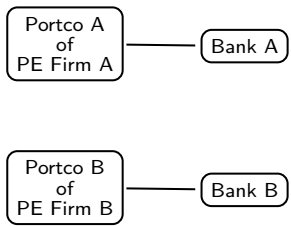
Research Design

- Ideal experiment: Randomly assign DRs to PE portcos
- Challenge 1: Selection – e.g. portco financial health, past performance, PE quality, etc.
  - Instrument for PE firm's *ability* to conduct a DR using access to relatively cheaper credit (compared to peer firms at same point in time)
- Challenge 2: After exogenous shock to credit supply, selection within portfolio
  - Results stronger after restricting to PE firms with only one DR-eligible portfolio company
  - Match on observables at the portfolio company, PE fund, and PE firm level

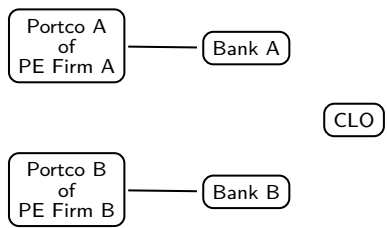
Instrumental Variable

- PE Firms seek cheap credit to sponsor new debt on portcos (Kaplan & Stein, 1993)
  - Rely on relationship banking



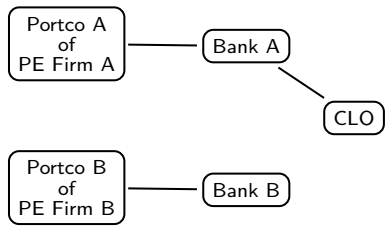
Instrumental Variable

- PE Firms seek cheap credit to sponsor new debt on portcos (Kaplan & Stein, 1993)
  - Rely on relationship banking
- What are CLOs?
  - Actively managed diversified leveraged loan portfolios, biggest investors of PE-backed leveraged loans CLO Life Cycle



Instrumental Variable

- PE Firms seek cheap credit to sponsor new debt on portcos (Kaplan & Stein, 1993)
  - Rely on relationship banking
- What are CLOs?
  - Actively managed diversified leveraged loan portfolios, biggest investors of PE-backed leveraged loans CLO Life Cycle
- Bank also underwrites CLO, which requires screening all loans
  - Private information leads to favorable screening outcomes (Ivashina & Kovner, 2011)
- If PE Firm's R-Bank is a CLO underwriter, easier to take a new CLO-funded DR loan



Stacked Design

- Construct a stacked IV: Ensures no staggered treatment bias
  (Baker et al., 2022)

- Within each stack, match DR targets to similar LBO portcos that never had DR
  - Same industry
  - Similar PE firm (e.g. on AUM)
  - LBO at a similar time

- Study outcomes outcomes centered around the dividend recap year for all the companies in the stack.

Instrumental Variable

- We instrument for dividend recap of PE firm p in month t with the *average CLO volume underwritten by p's relationship banks in the prior 12-month period* (denoted by **R-Banks CLO Volume**$_{p,t-1}$)

Definition of instrument:

$$\text{R-Banks CLO Volume}_{p,t-1} = \log\left(1 + \frac{1}{12}\sum_{\tau=t-1}^{\tau=t-13}\left(\sum_{b}\text{PE-Bank Relationship}_{p,b,\tau} \times \text{Bank CLO Volume}_{b,\tau}\right)\right)$$

- **Notation**: p = PE firm, b = Bank, t = time (monthly)

Assumptions and Validation

- IV must satisfy the relevance, exclusion restriction, exogeneity assumptions
- Relevance: Strong first stage

First Stage Results

$$\mathbb{1}(\text{Dividend Recap})_{s,d(c,p,t)} = \gamma \text{R-Banks CLO Volume}_{p,t-1} + \alpha_s + \varepsilon_{s,d}$$

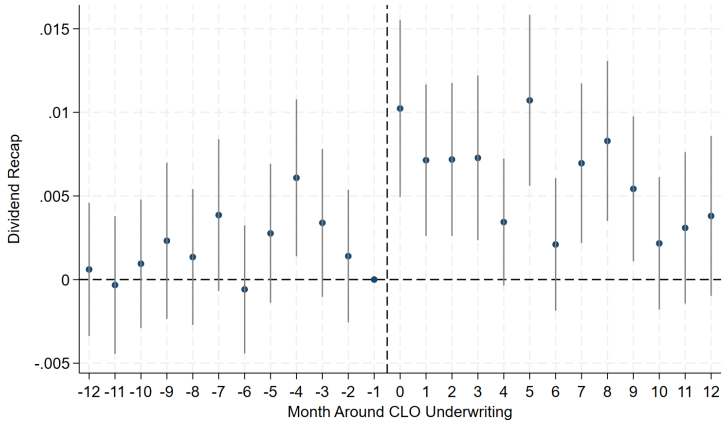
s = stack, d = deal, c = portfolio company, p = PE firm, t = DR month

	$\mathbb{1}$(Dividend Recap)				
	(1)	(2)	(3)	(4)	(5)
R-Banks CLO Volume	0.04***				
	(0.01)				
R-Banks CLO Volume (1-Yr)		0.03***			
		(0.00)			
R-Banks CLO Volume (5-Yr)			0.02***		
			(0.00)		
R-Banks CLO Count				0.12***	
				(0.02)	
R-Banks CLO Underwriting					0.43***
					(0.06)
Stack FE	Y	Y	Y	Y	Y
Obs	53539	53539	53539	53539	53539
Y-Mean	.02	.02	.02	.02	.02

- 1 s.d ↑ instrument ↑ DR chance by 13.5 pp (0.04 × 3.37); = 7x unconditional DR chance

First Stage Results: Dynamic Specification

$$\mathbb{1}(\text{Dividend Recap})_{p,t} = \sum_{h=-12}^{12} \beta_h \times \mathbb{1}(\Delta\text{R-Banks CLO Volume}>25\%)_{p,t-h} + \alpha_p + \alpha_t + \varepsilon_{p,t}$$



Assumptions and Validation

- IV must satisfy the relevance, exclusion restriction, exogeneity assumptions
- Relevance: Strong first stage, plus:
  - >66% DRs purchased by CLOs underwritten by a PE-related bank
  - PE firm's relationship with CLO underwriter increases chance of CLO purchasing its DR loan by 23% Formal Test

Assumptions and Validation

- IV must satisfy the relevance, exclusion restriction, exogeneity assumptions
- Relevance: Strong first stage, plus sensible validation
- Exclusion restriction: Not testable, but see no means for relationship bank CLO underwriting to affect the target company besides access to low-cost credit leading to DR

Assumptions and Validation

- IV must satisfy the relevance, exclusion restriction, exogeneity assumptions
- Relevance: Very strong first stage
- Exclusion restriction: Not testable, but see no means for relationship bank CLO underwriting to affect the target company besides access to low-cost credit leading to DR
- Exogeneity: Reverse causality where DR opportunity drives CLO creation?

Reverse Causality

- Concern: PE firm demand for DR at particular company drives CLO creation
- Almost certainly not occurring
  - CLOs highly diversified by design
    - ⋆ Average dividend recap loan is 1.16% of the CLO, too small to drive vehicle's creation
  - CLO managers approach banks to underwrite a new vehicle, not vice-versa
  - Timing precludes reverse causality: Instrument uses CLOs effective before DR loan, so warehousing (when bank underwrites CLO) occurs before DR loan
  - No pre-trends in first stage

Assumptions and Validation

- IV must satisfy the relevance, exclusion restriction, exogeneity assumptions
- Relevance: Strong first stage
- Exclusion restriction: Not testable, but see no means for relationship bank CLO underwriting to affect the target company besides access to low-cost credit leading to DR
- Exogeneity: DR opportunity cannot drive CLO creation
- External Validity: Dividend recaps with high and low value of 1st stage residuals have comparable observables Formal Test

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Effect on Bankruptcy and Exit

Specification (Second-Stage IV):

$$y_{s,c} = \rho \mathbb{1}(\widehat{\text{Dividend Recap}})_{s,d(c,p,t)} + \alpha_s + \varepsilon_{s,c}.$$

	Bankruptcy			Exit	
	4-Year	6-Year	10-Year	4-Year	6-Year
	(1)	(2)	(3)	(4)	(5)
$\mathbb{1}$(Dividend Recap)	14.99**	30.90***	40.32***	46.79***	33.49*
	(5.92)	(8.14)	(10.04)	(17.85)	(18.6)
Stack FE	Y	Y	Y	Y	Y
Obs	53539	53539	53539	24500	24500
Y-Mean	0.91	1.31	1.79	15.9	18.5
F-Stat	69.62	69.62	69.62	45.16	45.16

- DRs dramatically increase the likelihood of bankruptcy and exit

OLS | Few At-Risk Deals/Alt. Instrument | Alt. Sample Filters | Overlapping Samples

Is the Magnitude Reasonable?

- IV estimate indicates DR increases bankruptcy chance by 31 pp (23x sample mean)
- Benchmark against what we would expect from theory using Altman Z-score calculations
  - Thought experiment: What would happen to a safe public firm with similar debt increase?
  - Approach: Consider full sample average DR increase in debt over course of deal relative to non-DR LBO targets
  - Find Z-score would increase by 1.3
  - Would take even a firm in the "safe zone" at 2.6 to 1.3, close to bankruptcy zone of 1.1
- **Suggests that a massive causal effect is what theory would predict from such a large increase in leverage increase**

Effect on DR-Induced Leverage on Bankruptcy

Speaks directly to key K-structure question of how debt affects bankruptcy

	Bankruptcy			
Log(1+DR Size)	18.792***			
	(3.953)			
DR Size		0.257***		
		(0.059)		
Log(1+DR Size/Deal Size)			502.397***	
			(143.722)	
DR Size/Deal Size				349.570**
				(142.389)
Stack FE	Y	Y	Y	Y
Obs	50516	50516	50166	50166
Y-Mean	1.40	1.68	1.68	1.68
F-Stat	81.36	46.81	19.67	7.44

- Column 1: 1% ↑ in leverage due to DR $\implies$ bankruptcy ↑ by 0.19 pp
- Column 2: \$1 Mn ↑ in leverage due to DR (where avg DR is \$180 Mn) $\implies$ bankruptcy ↑ by 0.3 pp
- Column 3: 1% ↑ in the leverage ratio due to DR $\implies$ bankruptcy ↑ by 5 pp
- Column 4: 1 pp ↑ in leverage ratio due to DR: $\implies$ bankruptcy ↑ by 3.5 pp

Effect on IPO and Revenue Growth

Panel (A): IPO

	4-Year	6-Year	10-Year
$\mathbb{1}$(Dividend Recap)	31.76***	38.46***	43.74***
	(6.86)	(7.74)	(8.21)
Obs	53539	53539	53539
Y-Mean	0.82	0.98	1.09
F-Stat	69.62	69.62	69.62

Panel (B): Revenue Growth (4-year horizon)

	Average	$\mathbb{1}$[<-75%]	$\mathbb{1}$[-75,0%]	$\mathbb{1}$[0,75%]	$\mathbb{1}$[>75%]
$\mathbb{1}$(Dividend Recap)	.709	-.024	-.158	-.705	0.886*
	(0.637)	(0.233)	(0.383)	(0.436)	(0.511)
Obs	3600	3600	3600	3600	3600
Y-Mean	0.387	0.0746	0.246	0.212	0.467
F-Stat	11.21	11.21	11.21	11.21	11.21

- **Note**: Dividend recaps increase the likelihood of IPO and revenue growth among survivors

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Effect on Employees in Survivor Firms

Panel (A): Employment Growth (4-Year horizon)

	Average	𝟙[<-75%]	𝟙[-75,0%]	𝟙[0,75%]	𝟙[>75%]
𝟙(Dividend Recap)	-.2916	.1957*	.1194	-.5175*	.2024
	(.3072)	(.114)	(.2693)	(.2843)	(.2419)
Obs	7700	7700	7700	7700	7700
Y-Mean	.1801	0.045	0.337	0.403	0.216
F-Stat	25.92	25.92	25.92	25.92	25.92

Panel (B): Payroll Growth (4-Year horizon)

𝟙(Dividend Recap)	-.4669	.4083**	-.1785	-.1703	-.05948
	(.3314)	(.1664)	(.2637)	(.2589)	(.2338)
Obs	7700	7700	7700	7700	7700
Y-Mean	.1309	0.0646	0.38	0.351	0.205
F-Stat	25.92	25.92	25.92	25.92	25.92

Panel (C): Wage Growth (4-Year horizon)

𝟙(Dividend Recap)	-.5339**	.1711*	.154	-.1978	-.1274
	(.2656)	(.08771)	(.2911)	(.293)	(.1092)
Obs	7700	7700	7700	7700	7700
Y-Mean	-.03893	0.0369	0.508	0.42	0.035
F-Stat	25.92	25.92	25.92	25.92	25.92

- **Note**: Dividend recaps decrease the wage growth among survivor firms

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Real Effects: Interpretation

- DRs make firms much riskier
  - Firm distress and exit especially costly for employees: face frictions finding a new job and lose lifetime earnings
    (Berk et al., 2010; Graham et al., 2023; Gornall et al., 2024)
- Reduce employment and wages
  - Especially via very large contractions
- **Employees likely lose out**

Effect on Deal Returns

Panel (A): Deal IRR

	Average	1[<0%]	1[0,20%]	1[20,40%]	1[>=40%]
1(Dividend Recap)	99.99*	0.98*	-3.21***	1.13*	1.10**
	(59.74)	(0.57)	(0.94)	(0.66)	(0.53)
Obs	29144	29144	29144	29144	29144
Y-Mean	25.35	0.16	0.30	0.26	0.28
F-Stat	25.33	25.33	25.33	25.33	25.33

Panel (B): Deal TVM

1(Dividend Recap)	1.44	0.84	-5.63***	4.56***	0.24
	(2.79)	(0.57)	(1.28)	(1.09)	(0.48)
Obs	29144	29144	29144	29144	29144
Y-Mean	2.78	0.17	0.27	0.36	0.21
F-Stat	25.33	25.33	25.33	25.33	25.33

Panel (C): Deal Financials

	Holding Period	Δ Gross Profit	Δ Debt/Ebitda	Δ Log(Debt)	Δ Log(TEV)	Δ TEV/EBITDA
1(Dividend Recap)	12.77**	-0.11	17.44**	2.97**	-12.18***	-34.59*
	(6.25)	(0.21)	(7.66)	(1.48)	(3.28)	(19.14)
Stack FE	Y	Y	Y	Y	Y	Y
Obs	16842	11975	11017	8659	11152	10838
Y-Mean	5.75	-0.00	-0.29	0.30	0.80	2.13
F-Stat	15.47	17.91	17.30	11.62	16.67	17.25

- **Note**: Dividend recaps increase deal returns, holding period, debt, debt/Ebitda, while reducing value

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Effect on Fund Returns

Panel (A): Fund IRR

	Average	𝟙[<0%]	𝟙[0,20%]	𝟙[20,40%]	𝟙[>40%]
𝟙(Dividend Recap)	-7.64	-0.74***	1.89***	-0.71***	-0.44***
	(6.38)	(0.17)	(0.42)	(0.25)	(0.15)
Obs	12285	12477	12477	12477	12477
Y-Mean	17.29	0.04	0.60	0.31	0.05
F-Stat	30.52	30.77	30.77	30.77	30.77

Panel (B): Fund TVM

𝟙(Dividend Recap)	-1.89***	-0.75***	2.23***	-1.00***	-0.49***
	(0.56)	(0.17)	(0.48)	(0.30)	(0.15)
Obs	12286	12477	12477	12477	12477
Y-Mean	1.95	0.04	0.55	0.38	0.03
F-Stat	30.52	30.77	30.77	30.77	30.77

Panel (C): Fund PME

𝟙(Dividend Recap)	-0.52**	-0.14	0.67**	-0.22*	-0.31***
	(0.25)	(0.23)	(0.28)	(0.12)	(0.11)
Obs	12286	12477	12477	12477	12477
Y-Mean	1.26	0.28	0.65	0.05	0.02
F-Stat	30.52	30.77	30.77	30.77	30.77

- **Note**: Dividend recaps decrease fund returns

OLS Burgiss-Fund-of-funds Sample Fund-of-funds returns

Effect on Creditors: Predicting Spread

	Loan Spread (bps)	
𝟙(Dividend Recap)	20.78***	19.75***
	(3.59)	(3.41)
Loan Size		-23.93***
		(1.40)
Maturity		25.08***
		(1.59)
Cov-Lite Indicator		21.24***
		(4.14)
PE FE	Y	Y
Bank FE	Y	Y
Year-Month FE	Y	Y
Obs	24202	24202
Y-Mean	414.21	414.21

- **Note**: Dividend recap loans pay higher spreads than other new loans to PE portcos post-LBO

Effect on Creditors: Price of Pre-Existing Loans

	ΔPrice		ΔBid-Ask		Δ # Quotes	
	[-1,+1]	[-3,+3]	[-1,+1]	[-3,+3]	[-1,+1]	[-3,+3]
	(1)	(2)	(3)	(4)	(5)	(6)
𝟙(Dividend Recap)	-0.06*	-0.13**	-0.02*	-0.03**	-2.34**	-5.76***
	(0.03)	(0.05)	(0.01)	(0.02)	(0.96)	(1.28)
Stack FE	Y	Y	Y	Y	Y	Y
Obs	4541	4547	4541	4547	4713	4724
Y-Mean	0.06	0.17	-0.02	-0.04	-0.66	-1.61

- **Note**: Dividend recaps decrease price and bid-ask of pre-existing loans

Financial Effects: Interpretation

- Possible reasons DRs increase deal returns:
  - To compensate for higher risk
  - Because of longer holding periods (more PE treatment)
    - ⋆ Indeed, find DR causally increases holding period
  - Should mechanically boost IRR by bringing forward returns
    - ⋆ Indeed, IRR effect larger and more precise
- Higher return dispersion parallels higher risk in real outcomes
- Shift value away from pre-existing creditors
- Reduce fund returns

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Possible Mechanism

- What might explain a positive effect on deal returns yet a negative effect on fund returns?
- Moral hazard problem: Early distributions incentivize new fundraising and reallocation of effort to new fund at expense of old
- Consistent with this, see:
  - ↑ short-term distributions to fund paid out to the fund
  - ↑ chance of launching a new fund (also in Gompers, 1996; Barber & Yasuda, 2017)

	Δ Distribution Transactions		Δ New Funds Launched	
	1-Quarter	1-Year	1-Quarter	1-Year
	(1)	(2)	(3)	(4)
𝟙(Dividend Recap)	1.3634**	2.0276**	0.307	0.743**
	(0.5675)	(0.9048)	(0.210)	(0.356)
Stack FE	Y	Y	Y	Y
Obs	25,397	25,397	75,923	75,923
Y-Mean	0.54	0.55	0.055	0.062
F-Stat	32.5	32.5	64.7	64.7

Note: Long differences accommodate sparse outcomes that occur on either side of transaction

Possible Mechanism

- What might explain a positive effect on deal returns yet a negative effect on fund returns?
- Moral hazard problem: Early distributions incentivize new fundraising and reallocation of effort to new fund at expense of old
- Consistent with this, see:
  - ↓ returns of LBOs done after dividend recap in current fund
  - ↓ number of new LBOs in current fund

	Within-Fund Peer Deal IRR		Δ New LBOs	
	Pre-DR	Post-DR	2-Year	4-Year
	(1)	(2)	(3)	(4)
𝟙(Dividend Recap)	3.28	-465.86***	-3.82	-36.70***
	(41.24)	(164.74)	(3.96)	(10.11)
Stack FE	Y	Y	Y	Y
Obs	28,715	4,571	75,923	75,923
Y-Mean	26.11	32.74	-1.03	-6.46
F-Stat	26.6	13.7	65	65

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Contribution

- PE literature: Unlike "effect of LBO" work, study DRs where PEs target high-performing firms for new debt to extract returns mid-deal

  (Kaplan & Schoar, 2005; Cohn et al., 2014; Gompers & Kaplan, 2022; Acharya et al., 2012; Davis et al., 2014; Agrawal & Tambe, 2016; Bernstein et al., 2019; Eaton et al., 2020; Cohn et al., 2021; Hotchkiss et al., 2021; Howell et al., 2022)
- How capital structure affects the real and financial sides of the firm: Study increase in debt not deployed within the firm

  (Myers, 1984; Fischer et al., 1989; Bolton & Scharfstein, 1996; Faulkender & Petersen, 2006; Gilje et al., 2020)
- Some work on public firm DRs or touches on PE DRs; small samples, without causality

  (Masulis, 1983; Kaplan & Stein, 1990; Denis & Denis, 1993; Gupta & Rosenthal, 1991; Peyer & Shivdasani, 2001; Denis, 1994; Cohn et al., 2014; Harford & Kolasinski, 2014; Ayash et al., 2017; Hotchkiss et al., 2021)

- **First systematic analysis of leveraged payout transactions in private equity**

Concluding Thoughts

- **Offer first quantified causal effect of additional leverage (albeit context-specific)**
  - **1 pp higher leverage ratio increases bankruptcy chance by 3.5 pp**
- Consistent with selection in theoretical literature, PE firms tend to do DRs on healthier targets
  - Contrary to media narratives, they do not generally lead to distress
- Causally, DRs increase firm risk and have negative implications for employees, limited partners, and pre-existing creditors
  - Seem to enable GPs to raise new funds, reallocate effort from old fund
- Indirect outcome of rising CLO demand: More DRs & attendant real effects
- Responsiveness to credit supply may help explain variation in capital structure

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Summary Statistics

	All				DR		Non-DR	
	N	Mean	Median	SD	N	Mean	N	Mean
Panel (A): Portfolio Company and Deal-Level Variables								
Portfolio Company Outcomes								
Bankruptcy (6-Yr) (%)	53,539	1.31	0	11.37	935	2.14	52,604	1.29
IPO (6-Yr) (%)	53,539	0.98	0	9.84	935	2.99	52,604	0.94
Conditional on Census Bureau Match								
Exit (4-Yr) (%)	24,500	15.90			500	9.8	23,500	16
Exit (6-Yr) (%)	24,500	18.50			500	16	23,500	18.5
Conditional on Census Bureau Match & Survival								
Employment_{t-1}	7,700	1,313	110	5,109	300	2,253	7,400	1,273
Employment_{t+3}	7,700	1,761	243	6,182	300	3,449	7,400	1,688
Payroll_{t-1} ($, Millions)	7,700	45	7	127	300	91	7,400	43
Payroll_{t+3} ($, Millions)	7,700	52	14	143	300	121	7,400	49
Wage_{t-1} ($, Thousands)	7,700	63	53	31	300	64	7,400	63
Wage_{t+3} ($, Thousands)	7,700	57	56	31	300	58	7,400	57
Revenue_{t-1} ($, Millions)	3,600	392	21	1,637	150	784	3,500	377
Revenue_{t+3} ($, Millions)	3,600	764	158	2,323	150	1,152	3,500	749
$\Delta\text{Employment}_{t-1,t+3}$	7,700	0.18	0.12	0.54	300	0.30	7400	0.17
$\Delta\text{Payroll}_{t-1,t+3}$	7,700	0.13	0.11	0.57	300	0.24	7400	0.13
$\Delta\text{Wage}_{t-1,t+3}$	7,700	-0.04	-0.03	0.38	300	-0.04	7400	-0.04
$\Delta\text{Revenue}_{t-1,t+3}$	3,600	0.39	0.55	0.66	150	0.32	3500	0.39

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Summary Statistics (contd.)

	All				DR		Non-DR	
	N	Mean	Median	SD	N	Mean	N	Mean
Deal Characteristics (Conditional on Fund-of-funds Match)								
Deal Size ($, Millions)	5,168	325.08	103.12	597.02	413	675.52	4,755	294.64
TEV ($, Millions), Entry	13,038	464.84	120	1,779.36	133	500.99	12,905	464.46
TEV ($, Millions), Exit	11,812	752.22	325	1,282.88	127	1,056.85	11,685	748.9
Debt, Entry	12,277	162.24	45	351.11	129	256.29	12,148	161.25
Debt, Exit	11,163	233.07	71.98	430.58	121	406.08	11,042	231.18
Debt/Ebitda, Entry	12,117	3.45	3.73	2.73	134	3.87	11,983	3.45
Debt/Ebitda, Exit	11,739	3.16	2.89	4.22	129	4.54	11,610	3.15
Debt/TEV (%), Entry	12,259	41.23	47.9	26.75	130	52.37	12,129	41.11
Debt/TEV (%), Exit	11,062	29.59	26.67	24.77	123	42.68	10,939	29.44
Gross Profit (%), Entry	12,617	18.15	17.3	16.78	131	21.57	12,486	18.11
Gross Profit (%), Exit	12,322	18.01	17	15.63	130	22.69	12,192	17.96
TEV/Ebitda, Entry	12,213	8.19	7.61	8.72	133	7.81	12,080	8.19
TEV/Ebitda, Exit	11,391	10.85	10.13	16.83	128	10.51	11,263	10.86
Deal Outcomes (Conditional on Fund-of-funds Match)								
Gross IRR (%)	29,321	25.79	22.52	47.09	284	33.34	29,037	25.72
Gross TVM	30,738	2.72	2.2	2.45	288	3.6	30,450	2.71
Holding Period (Years)	16,844	5.75	5	2.97	163	7.27	16,681	5.73
Δ Gross Profit (%)	11,977	-0.17	0.57	12.26	129	1.05	11,848	-0.18
Δ Debt/Ebitda	11,324	-0.32	-0.62	5.98	129	0.67	11,195	-0.34
Δ Debt/TEV	10,693	-0.11	-0.15	0.28	123	-0.09	10,570	-0.11
Δ Log(Debt) (%)	8,841	30.42	23.37	85.02	116	60.09	8,725	30.02
Δ Log(TEV) (%)	11,155	0.81	0.83	0.82	126	0.89	11,029	0.8
Δ TEV/Ebitda	10,842	2.18	2.21	15.37	126	2.7	10,716	2.18

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Summary Statistics (contd.)

	All				DR		Non-DR	
	N	Mean	Median	SD	N	Mean	N	Mean
PE Firm Variables								
Age (Years)	52,487	27.68	26	8.76	917	30.2	51,570	27.63
PE No. of Investments	53,524	403.49	235	426.11	923	452.81	52,601	402.63
AUM ($, Billions)	48,637	29.93	7.04	75.67	872	51.97	47,765	29.53
R-Banks CLO Volume	53,539	2.08	0	3.37	935	3.34	52,604	2.06
R-Banks CLO Volume (1-Yr)	53,539	3.11	0	4.35	935	4.7	52,604	3.09
R-Banks CLO Volume (5-Yr)	53,539	4.57	0	4.86	935	5.96	52,604	4.54
R-Banks CLO Count	53,539	0.46	0	0.94	935	0.71	52,604	0.46
R-Banks CLO Underwriting	53,539	0.1	0	0.23	935	0.18	52,604	0.1
Panel (C): Loan Outcomes								
Loan Variables (Conditional on LSTA/LCD Match)								
Loan Amount ($, Millions)	29,107	216.01	93.8	334.6	3,202	214.02	25,905	216.25
Loan Spread (bps)	26,704	403.59	375	151.75	2,914	440.84	23,790	399.03
Maturity (Years)	28,991	5.44	5.01	1.3	3,196	5.6	25,795	5.42
Cov-Lite Indicator	29,588	0.16	0	0.37	3,228	0.21	26,360	0.16
ΔPrice$_{-1,1}$	4,665	0.06	0	0.49	207	0	4,458	0.07
ΔPrice$_{-3,3}$	4,671	0.17	0	1.01	207	0.07	4,464	0.18
ΔBid-Ask$_{-1,1}$	4,665	-0.02	0	0.14	207	-0.03	4,458	-0.02
ΔBid-Ask$_{-3,3}$	4,671	-0.04	0	0.26	207	-0.05	4,464	-0.04
Δ Quotes$_{-1,1}$	4,830	-0.66	0	12.22	265	-2.82	4,565	-0.54
Δ Quotes$_{-3,3}$	4,840	-1.65	0	15.51	267	-7.98	4,573	-1.28

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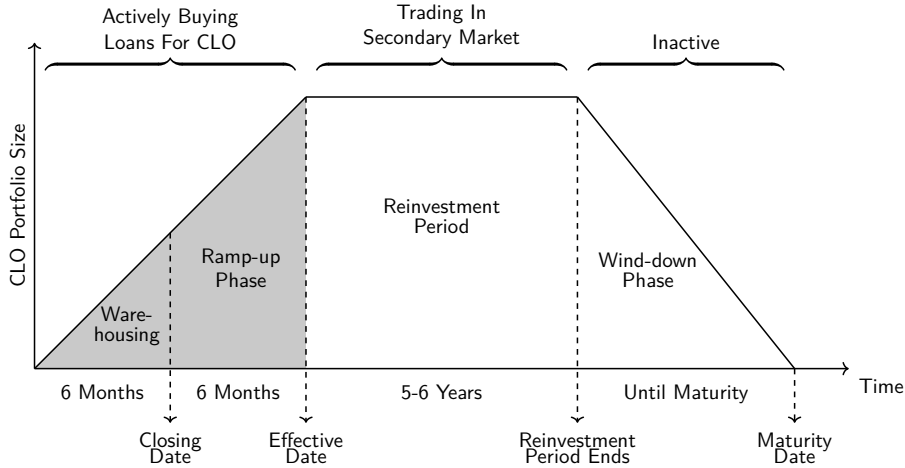
Life Cycle of CLO



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Relationship with CLO underwriting bank and CLO Purchase

	$\mathbb{1}$(DR Purchased by CLO)	
	(1)	(2)
PE-Bank Relation	0.011***	0.011***
	(0.001)	(0.002)
PE FE	Y	Y
CLO FE	Y	
CLO $\times$ Year FE		Y
CLO $\times$ Industry FE		Y
Obs	393513	393513
Y-Mean	.047	.047

- **Result**: Relationship with CLO underwriting banks increases the probability that dividend recap loan is purchased by the CLO manager

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Assumptions and Tests

	All DRs		1st-Stage Residual Low	1st-Stage Residual High	Difference
	N (1)	Mean (2)	Mean (3)	Mean (4)	T-Test (5)
Deal Size ($ Millions)	413	491.92	510.05	464.68	45.37
TEV ($ Millions) Entry	302	423.75	417.63	428.7	-11.07
Debt/Ebitda Entry	301	4.09	3.96	4.2	-0.24
Debt/TEV (%) Entry	300	0.46	0.48	0.45	0.03
Gross Profit (%) Entry	303	0.23	0.22	0.24	-0.01
PE Ownership (%) Entry	253	0.67	0.69	0.66	0.03
Fund Size ($, Billions)	742	1.90	2.17	1.64	0.53***
Fund No. of Investments	758	56.94	57.04	56.85	0.19
Age (Years)	917	29.09	30.39	27.76	2.63***
PE Number of Investments	923	431.7	491.05	370.65	120.40***
AUM ($ Billions)	872	30.67	36.83	24.31	12.52***

- **Note**: Dividend recaps with high and low value of 1st stage residuals have comparable observables

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Robustness: Number of At-Risk Deals and Alternative Instruments

	Number of At-Risk Deals				Alternative Instruments: R-Banks CLO			
	One	Two	Three	Four	Vol (1-Yr)	Vol (5-Yr)	Count	Underwriting
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\mathbb{1}$(Dividend Recap)	86.11*	61.52**	37.54**	30.48***	39.79***	41.43***	21.78***	26.03***
	(50.81)	(24.45)	(14.63)	(10.99)	(9.95)	(11.46)	(7.47)	(8.72)
Stack FE	Y	Y	Y	Y	Y	Y	Y	Y
Obs	4941	9988	14829	18677	53539	53539	53539	53539
Y-Mean	2.59	2.17	1.89	1.69	1.31	1.31	1.31	1.31
F-Stat	4.41	13.45	24.36	35.76	56.79	40.15	48.83	43.85

- **Result**: Bankruptcy result is robust to (a) fewer at-risk deals and (b) alternative construction of instrument

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OLS: Effect on Bankruptcy and Exit

	Bankruptcy			Exit	
	4-Year	6-Year	10-Year	4-Year	6-Year
	(1)	(2)	(3)	(4)	(5)
$\mathbb{1}$(Dividend Recap)	-0.56*	-0.04	0.58	-.1154***	-.1348***
	(0.29)	(0.47)	(0.61)	(.01805)	(.01557)
Stack FE	Y	Y	Y	Y	Y
Obs	53539	53539	53539	24500	24500
Y-Mean	0.91	1.31	1.79	15.9	18.5

- **Note**: Dividend recaps are correlated with lower likelihood of bankruptcy and exit

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OLS: Effect on IPO and Revenue Growth

Panel (A): IPO

	4-Year	6-Year	10-Year
𝟙(Dividend Recap)	0.65	1.44***	1.33**
	(0.44)	(0.54)	(0.55)
Obs	53539	53539	53539
Y-Mean	0.82	0.98	1.09

Panel (B): Revenue Growth (4-year horizon)

	Average	𝟙[<-75%]	𝟙[-75,0%]	𝟙[0,75%]	𝟙[>75%]
𝟙(Dividend Recap)	0.18	-0.024	0.025	-0.005	0.004
	(0.064)	(0.025)	(0.043)	(0.041)	(0.048)
Obs	3600	3600	3600	3600	3600
Y-mean	0.387	0.0746	0.246	0.212	0.467

- **Note**: Dividend recaps are correlated with higher likelihood of IPO

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OLS: Effect on Employees in Survivor Firms

Panel (A): Employment Growth (4-Year horizon)

	Average	𝟙[<-75%]	𝟙[-75,0%]	𝟙[0,75%]	𝟙[>75%]
𝟙(Dividend Recap)	0.11***	-0.013	-0.063**	0.021	0.056*
	(0.033)	(0.01)	(0.028)	(0.031)	(0.028)
Obs	7700	7700	7700	7700	7700
Y-Mean	.1801	0.045	0.337	0.403	0.216

Panel (B): Payroll Growth (4-Year horizon)

𝟙(Dividend Recap)	0.098***	-0.029**	-0.039	0.033	0.035
	(0.033)	(0.011)	(0.029)	(0.03)	(0.026)
Obs	7700	7700	7700	7700	7700
Y-Mean	.1309	0.0646	0.38	0.351	0.205

Panel (C): Wage Growth (4-Year horizon)

𝟙(Dividend Recap)	-.0059	0.0126	0.0066	-0.014	-0.0047
	(0.024)	(0.012)	(0.031)	(0.03)	(0.011)
Obs	7700	7700	7700	7700	7700
Y-Mean	-.03893	0.0369	0.508	0.42	0.035

- **Note**: Dividend recaps show higher employment growth and payroll growth among survivor firms Back

OLS: Effect on Deal Returns

Panel (A): Deal IRR

	Average	𝟙[<0%]	𝟙[0,20%]	𝟙[20,40%]	𝟙[>=40%]
𝟙(Dividend Recap)	7.325***	-0.103***	-0.029	0.087***	0.045
	(1.993)	(0.016)	(0.027)	(0.028)	(0.028)
Obs	29144	29144	29144	29144	29144
Y-Mean	25.35	0.16	0.30	0.26	0.28

Panel (B): Deal TVM

𝟙(Dividend Recap)	0.832***	-0.106***	-0.032	0.013	0.125***
	(0.156)	(0.016)	(0.025)	(0.029)	(0.028)
Obs	29144	29144	29144	29144	29144
Y-Mean	2.78	0.17	0.27	0.36	0.21

Panel (C): Deal Financials

	Holding Period (1)	Δ Gross Profit (2)	Δ Debt/Ebitda (3)	Δ Log(Debt) (4)	Δ Log(TEV) (5)	Δ TEV/EBITDA (6)
𝟙(Dividend Recap)	1.393***	0.015	0.923***	0.366***	0.134**	1.179**
	(0.226)	(0.010)	(0.337)	(0.065)	(0.054)	(0.476)
Stack FE	Y	Y	Y	Y	Y	Y
Obs	16842	11975	11076	8686	11152	10838
Y-Mean	5.75	-0.00	-0.28	0.30	0.80	2.13

- **Note**: Dividend recaps are associated with higher deal returns, holding period, and Debt/Ebitda

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OLS: Effect on Fund Returns

Panel (A): Fund IRR

	Average	𝟙[<0%]	𝟙[0,20%]	𝟙[20,40%]	𝟙[>40%]
𝟙(Dividend Recap)	2.29***	-0.03***	-0.04*	0.03	0.05***
	(0.57)	(0.01)	(0.02)	(0.02)	(0.01)
Obs	17,513	17,787	17,787	17,787	17,787
Y-Mean	16.85	0.05	0.60	0.31	0.04

Panel (B): Fund TVM

𝟙(Dividend Recap)	0.06*	-0.03***	0.01	-0.02	0.04***
	(0.03)	(0.01)	(0.02)	(0.02)	(0.01)
Obs	17,514	17,787	17,787	17,787	17,787
Y-Mean	1.95	0.05	0.54	0.38	0.03

Panel (C): Fund PME

𝟙(Dividend Recap)	0.03*	-0.08***	0.04*	0.01	0.04***
	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)
Obs	17,514	17,787	17,787	17,787	17,787
Y-Mean	1.26	0.29	0.64	0.05	0.02

- **Note**: Dividend recaps are associated with higher fund returns

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OLS: Effect on Fund Returns (contd.)

	Δ Distribution Transactions		Δ New Funds Launched		Within-Fund Peer Deal IRR		Δ New LBOs	
	1-Quarter	1-Year	1-Quarter	1-Year	Pre-DR	Post-DR	2-Year	4-Year
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
𝟙(Dividend Recap)	0.2436***	0.3547***	0.053***	0.096***	0.017	0.056	1.06***	3.14***
	(0.03)	(0.05)	(0.015)	(0.026)	(0.015)	(0.076)	(0.22)	(0.46)
Stack FE	Y	Y	Y	Y	Y	Y	Y	Y
Obs	35,974	35,974	76,275	76,275	28,715	4,571	75,923	75,923
Y-Mean	0.54	0.55	0.05	0.06	0.26	0.33	-1.03	-6.46

- **Note**: Dividend recaps are associated with:
  - higher fund distributions
  - higher number of new funds launched
  - higher number of new LBOs in current fund

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Effect on Bankruptcy (Overlapping Samples)

	Bankruptcy		
	Census Sample	Fund-of-funds Sample	Burgiss Sample
	6-Year	6-Year	6-Year
	(1)	(2)	(3)
$\mathbb{1}$(Dividend Recap)	22.65***	14.95*	32.92***
	(7.85)	(8.34)	(9.95)
Stack FE	Y	Y	Y
Obs	24500	2066	28164
Y-Mean	0.98	1.50	1.22
F-Stat	45.16	14.31	44.53

- **Result**: Dividend recaps increase the likelihood of bankruptcy in the Census, Fund-of-funds, and Burgiss subsample

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Robustness: Alternative Sample Filters

	Alternative Industry and Time Window Filters			Alternative Deal and PE-Firm Filters			
	Same Sector 1-Year Window (1)	Same Sub-Industry 1-Year Window (2)	Same Industry 3-Year Window (3)	Without Deal Size (4)	Without PE-Firm AUM (5)	Without PE-Firm Age (6)	Without Add-On Deals (7)
𝟙(Dividend Recap)	70.25***	12.96**	43.72***	33.55***	35.86***	77.48***	20.63***
	(14.92)	(6.34)	(9.37)	(9.38)	(8.85)	(16.08)	(6.13)
Stack FE	Y	Y	Y	Y	Y	Y	Y
Obs	133562	10364	123614	55646	79416	170949	15084
Y-Mean	1.68	1.51	1.27	1.38	1.31	1.26	1.82
F-Stat	58.97	36.42	79.51	59.38	57.46	46.97	67.20

- **Result**: Bankruptcy result is robust to alternative sample filters

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Effect on Fund Returns: Burgiss-Fund-of-funds Sample

Panel (A): Fund IRR

	Average	𝟙[<0%]	𝟙[0,20%]	𝟙[20,40%]	𝟙[>40%]
𝟙(Dividend Recap)	-21.83***	-0.02	0.95**	-0.63**	-0.30**
	(8.37)	(0.07)	(0.38)	(0.31)	(0.14)
Obs	835	849	849	849	849
Y-Mean	21.10	0.02	0.49	0.42	0.07
F-Stat	11.67	10.89	10.89	10.89	10.89

Panel (B): Fund TVM

𝟙(Dividend Recap)	-0.83**	-0.02	0.46*	-0.35	-0.10
	(0.41)	(0.07)	(0.28)	(0.27)	(0.09)
Obs	835	849	849	849	849
Y-Mean	2.06	0.02	0.52	0.42	0.03
F-Stat	11.67	10.89	10.89	10.89	10.89

Panel (C): Fund PME

𝟙(Dividend Recap)	-0.61**	0.02	0.12	-0.08	-0.06
	(0.26)	(0.21)	(0.22)	(0.11)	(0.07)
Obs	835	849	849	849	849
Y-Mean	1.35	0.17	0.76	0.05	0.01
F-Stat	11.67	10.89	10.89	10.89	10.89

- **Note**: Dividend recaps decrease fund returns in the Burgiss-Fund-of-funds matched sample

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Effect on Fund Returns using Fund-of-funds Data

Panel (A): Fund IRR

	Average	𝟙[<0%]	𝟙[0,20%]	𝟙[20,40%]	𝟙[>40%]
𝟙(Dividend Recap)	-4.27*	-2.19***	5.08***	-0.77	-2.13***
	(2.19)	(0.61)	(1.25)	(0.74)	(0.82)
Obs	29144	29144	29144	29144	29144
Y-Mean	0.35	0.10	0.30	0.39	0.21
F-Stat	25.33	25.33	25.33	25.33	25.33

Panel (B): Fund TVM

𝟙(Dividend Recap)	-1.41	-1.95***	-6.14***	10.56***	-2.47***
	(2.12)	(0.42)	(1.38)	(2.18)	(0.71)
Obs	29144	29144	29144	29144	29144
Y-Mean	2.68	0.02	0.29	0.57	0.12
F-Stat	25.33	25.33	25.33	25.33	25.33

- **Note**: Dividend recaps decrease fund returns calculated using Fund-of-funds data

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