WHY IS PRIVATE LENDING SO POPULAR?

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Duke University and NBER

Institute for Private Capital Research Workshop
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Why Is Private Lending So Popular?

- Private lending took up opportunities ceded by banks retreating from small business lending in the wake of the GFC
  - **Gopal and Schnabl, 2022**: fintech lenders expanded more in areas that faced more extreme banking contractions
  - **Davydiuk, Marchuk and Rosen, 2024**: private credit substitutes for traditional banking more in areas harder hit by credit shocks

- Private lending serves customers too risky to obtain traditional bank loans
  - **Acharya, Cetorelli and Tuckman (2024)**: private lenders have substantial outstanding debt
  - **Chernenko, Erel and Prilmeier (2022)**: significantly lower, even negative EBITDA
  - **Jang (2024)**: borrowers violate covenants more than with bank loans

- This focus also shapes regulatory concerns:
  - "Banks extensive links to the private credit market could be a concern because those links indirectly expose banks to the traditionally higher risks associated with *private credit loans*" – Boston Fed (May, 2025)

First Brands collapse ripples through BDCs

Segun Olakoyenikan + Rachel Butt
15 October 2025

As the collapse of **First Brands** last month ripples through Wall Street and hits some of the lar banks, there is one market that is also not immune to its deterioration: private credit.

According to a *9fin* analysis of the BDC market, as many as 15 BDCs have exposure to the aut company (see below).

BDC Exposure To First Brands

BDC	Total Investment
Monroe Capital Income Plus Corporation	$60.1m
Prospect Capital Corp	$54.3m
FS Specialty Lending Fund	$26.6m
Great Elm Capital Corp.	$23.3m
Palmer Square Capital BDC Inc.	$10.8m
Goldman Sachs Private Credit Corp.	$6.7m
Franklin BSP Capital Corporation	$5.6m
Prospect Floating Rate and Alternative Income Fund	$5.6m
Saratoga Investment Corp.	$4.6m
Antares Strategic Credit Fund	$3.7m
Phenixfin Corporation	$3.6m
Blackstone Private Credit Fund	$3.5m
Kennedy Lewis Capital Co	$3.2m
Crescent Private Credit Income Corp.	$1.4m
Steele Creek Capital Corporation	$0.7m

Source: 9fin, company filings

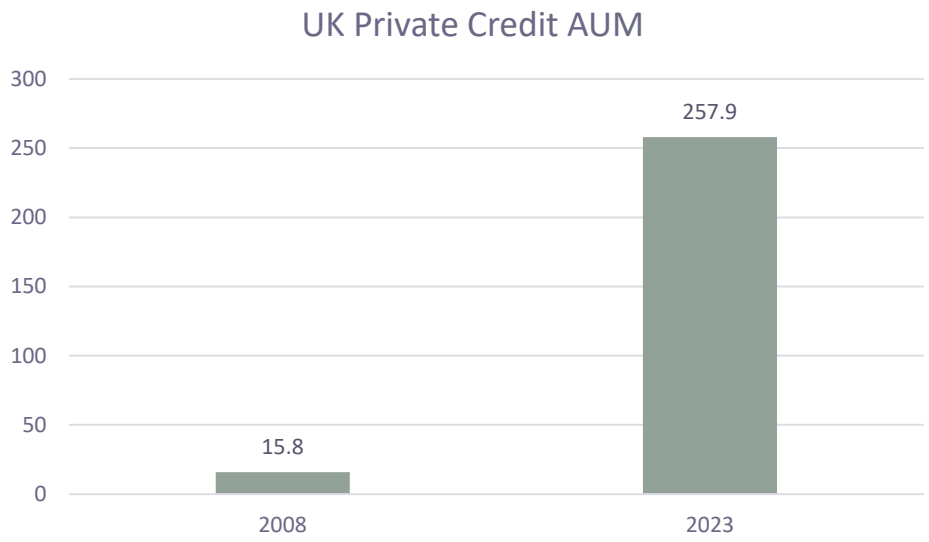
LONDON, Oct 29 (Reuters) - Blackstone (BX.N) Apollo (APO.N) and Ares (ARES.N) exposure to U.S. companies First Brands and Tricolor at the time of their bankruptcies, executives said on Wednesday, arguing that the private credit industry had been unfairly linked to the collapses.

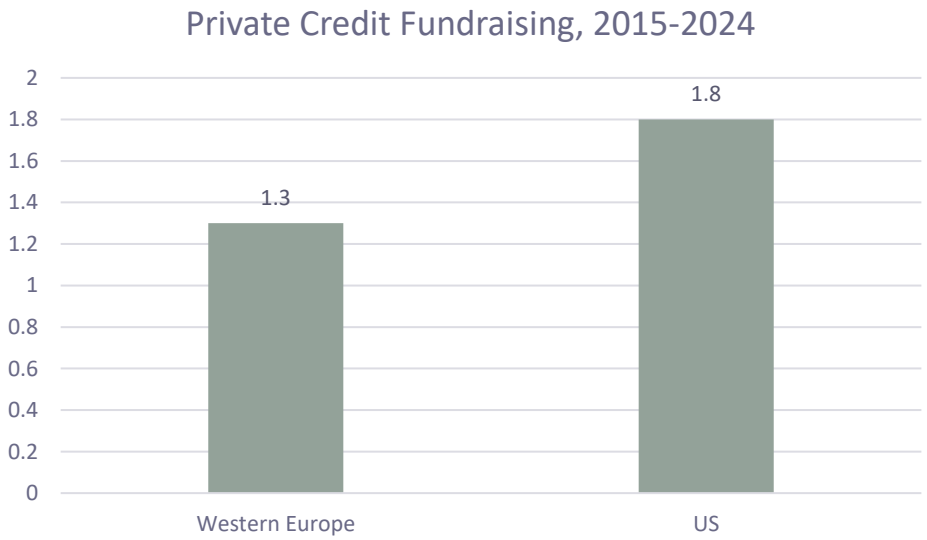
The failure of auto parts supplier First Brands and car dealership Tricolor rattled debt markets and put the fast-growing private credit industry under the spotlight.

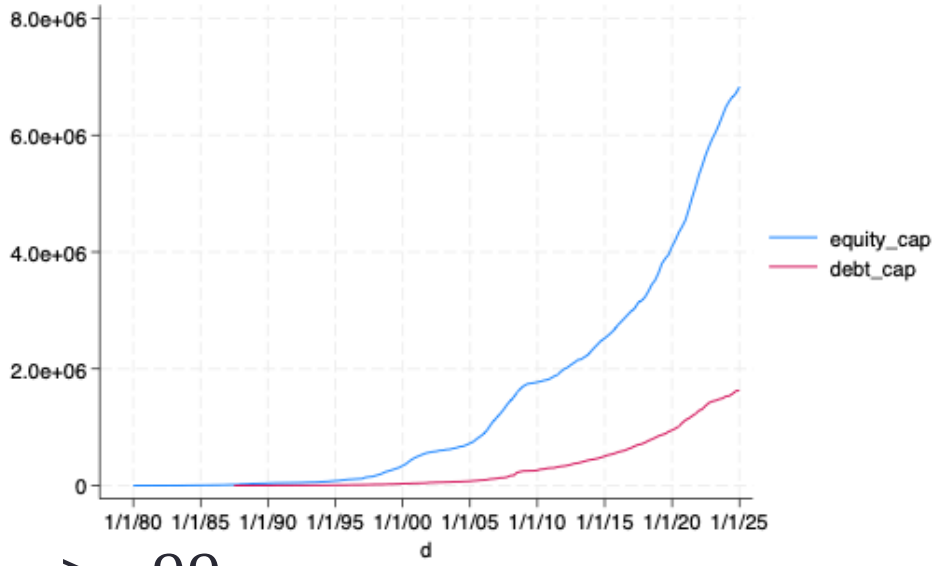
The Main Thrust of Our Message

- Private Lending is as much the Growth of PE as it is the Retreat of Banks
  - Many are launched by large PE groups
  - Compensation and Incentives works like LPAs in PE
  - Provide PE-like investments to PE-like target companies.
  - Provide the debt associated with PE-sponsored transactions

- Why is the “alt-bank” versus “alt-PE” distinction important?
  - Retail Investors
    - Uses security design to address some of the liquidity challenges that make PE unattractive to retail investors
  - Important from a regulatory standpoint
    - Hold-to-maturity lending to risky firms instead of originate-and-distribute
    - Instead of applying regulatory tools from banking designed to prevent the spread of systemic risk,
    - maybe it is more important to think about a different set of regulatory considerations:
      - Household balance sheets?
      - Retirement savings?
      - Consumer financial protection?


UK Private Credit AUM
300
250
200
150
100
50
0
257.9
15.8
2008
2023


Private Credit Fundraising, 2015-2024
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1.8
1.3
Western Europe
US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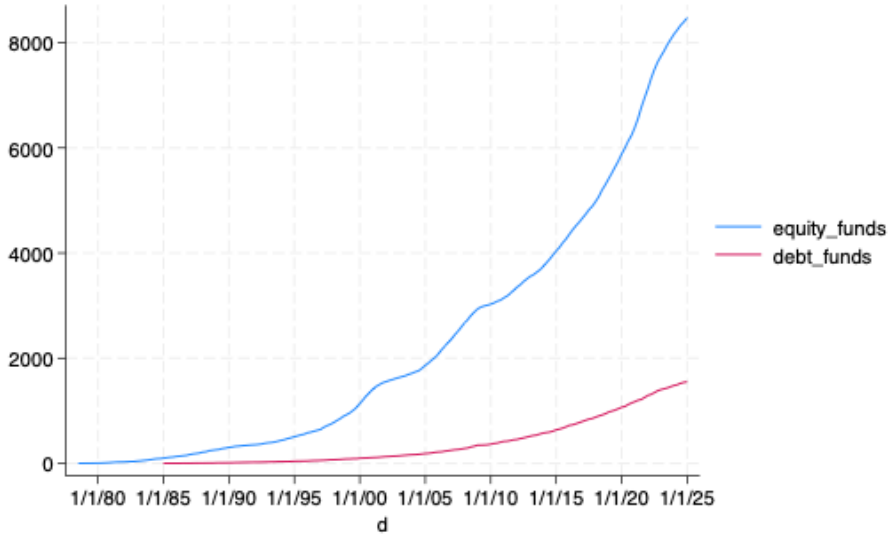
1/1/80 1/1/85 1/1/90 1/1/95 1/1/00 1/1/05 1/1/10 1/1/15 1/1/20 1/1/25
d
equity_cap
debt_cap

$\rho > .99$

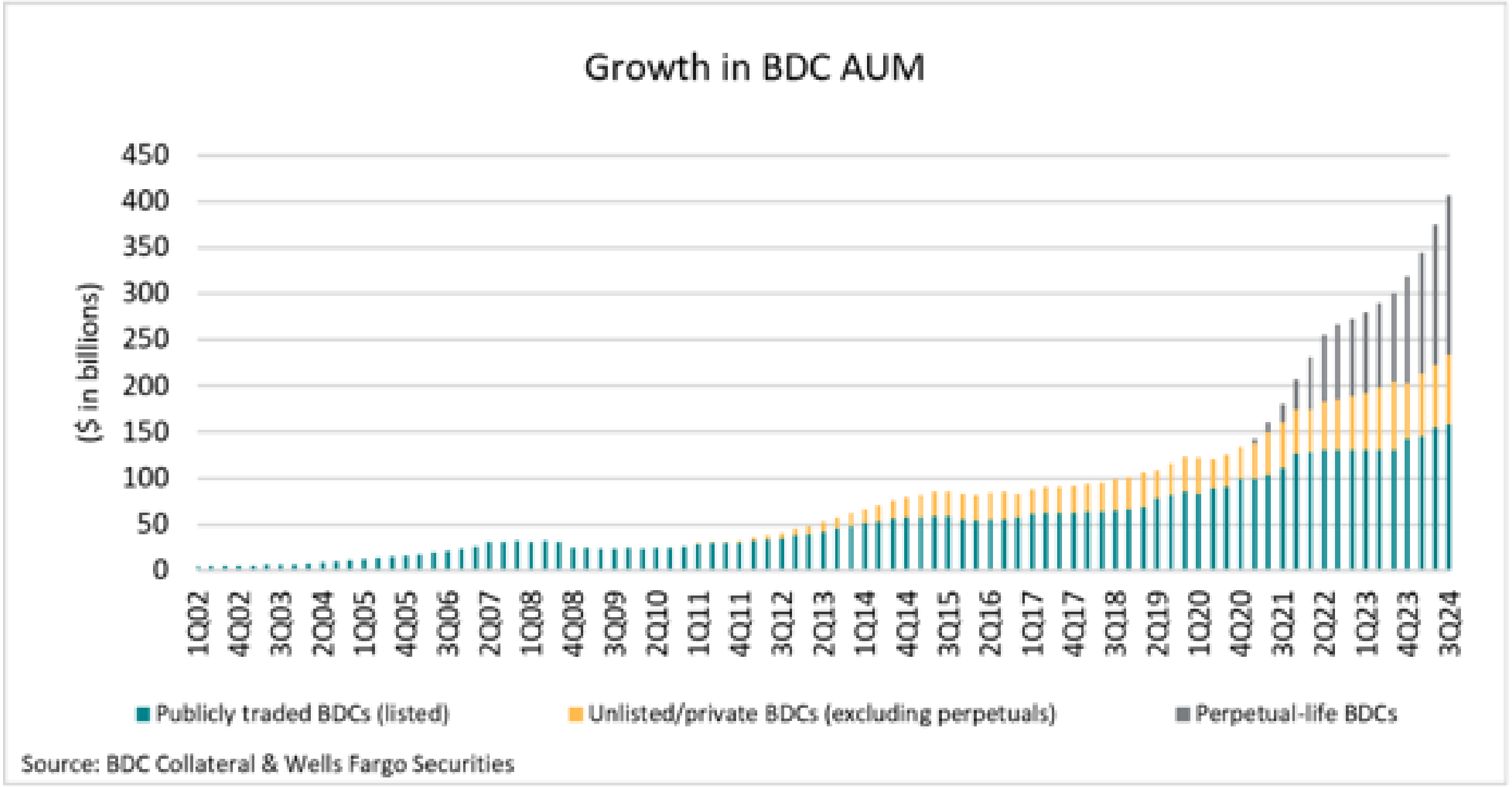

8000
6000
4000
2000
0
1/1/80 1/1/85 1/1/90 1/1/95 1/1/00 1/1/05 1/1/10 1/1/15 1/1/20 1/1/25
d
equity_funds
debt_funds

Our Approach

- Focus on BDCs
  - Closed-end funds that “lend” to small and medium sized companies
  - ~10-20% of the private lending market
  - Created by Congress in 1980
    - Originally intended to spark broader investment in VC
    - Instead, became a vehicle for growth investing, private lending

- Collect data for all public BDCs
  - CRSP/Compustat
  - Scrape the schedule of investments from 10-K filings
    - Security type: secured, unsecured, preferred equity, common, warrant
    - Key features: PIK, interest rate, size, maturity

- Units of analysis:
  - Securities: individual securities invested by a BDC into a company at a point in time
  - Investments: BDC-Company security package
  - BDCs: Look at company level aggregates


Growth in BDC AUM
($ in billions)
450
400
350
300
250
200
150
100
50
0
1Q02
4Q02
3Q03
2Q04
1Q05
4Q05
3Q06
2Q07
1Q08
4Q08
3Q09
2Q10
1Q11
4Q11
3Q12
2Q13
1Q14
4Q14
3Q15
2Q16
1Q17
4Q17
3Q18
2Q19
1Q20
4Q20
3Q21
2Q22
1Q23
4Q23
3Q24
Publicly traded BDCs (listed)
Unlisted/private BDCs (excluding perpetuals)
Perpetual-life BDCs
Source: BDC Collateral & Wells Fargo Securities

Roadmap

1. Data
    1. Often affiliated with PE firms
    2. Pay investment professionals in the same manner that PE firms pay executives
    3. Use a range of complex, hybrid securities, like PE firms
    4. Complex securities used to invest in riskier companies

2. Who cares? Implications for access to retail investors.
    1. Shifting patterns in institutional and non-institutional ownership
    2. Complexity related to degree of non-institutional ownership
    3. Connecting deal characteristics to BDC risk characteristics

3. Who cares? Implications for regulation
    1. Assessing the role of debt to support PE vs. debt as a form of growth capital
    2. What questions does this raise for regulators?

4. Conclusion

DATA

Scraped Schedules of Investments, CRSP, Compustat

BDC Characteristics

Often part of larger PE organizations

Larger BDCs skew more towards PE-transaction lending

Significant scope for diversification at the BDC-level across large numbers of distinct portfolio companies

Table 1: Summary statistics of BDCs

	N	Mean	Median	StdDev	Min	Max
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: All BDCs						
AUM (millions)	677	1569.89	639.09	3072.79	0.52	29668.70
Leverage	559	0.39	0.43	0.18	0.00	0.69
P/NAV	559	0.93	0.91	0.24	0.31	1.80
# Portfolio companies	677	106.35	67.00	231.20	2.00	3259.00
# Securities	677	183.44	109.00	296.83	2.00	3813.00
Panel B: PE-affiliated BDCs						
AUM (millions)	351	2101.13	1009.08	3813.73	16.13	29668.70
Leverage	278	0.42	0.45	0.16	0.00	0.66
P/NAV	278	0.95	0.95	0.22	0.32	1.76
# Portfolio companies	351	95.68	81.00	68.20	7.00	472.00
# Securities	351	184.07	123.00	189.34	9.00	1427.00
Panel C: PE-unaffiliated BDCs						
AUM (millions)	326	997.92	451.97	1828.41	0.52	13010.34
Leverage	281	0.35	0.41	0.19	0.00	0.69
P/NAV	281	0.91	0.88	0.26	0.31	1.80
# Portfolio companies	326	117.83	52.50	325.46	2.00	3259.00
# Securities	326	182.77	93.00	380.34	2.00	3813.00

Compensated like Private Equity Firms

Private Equity

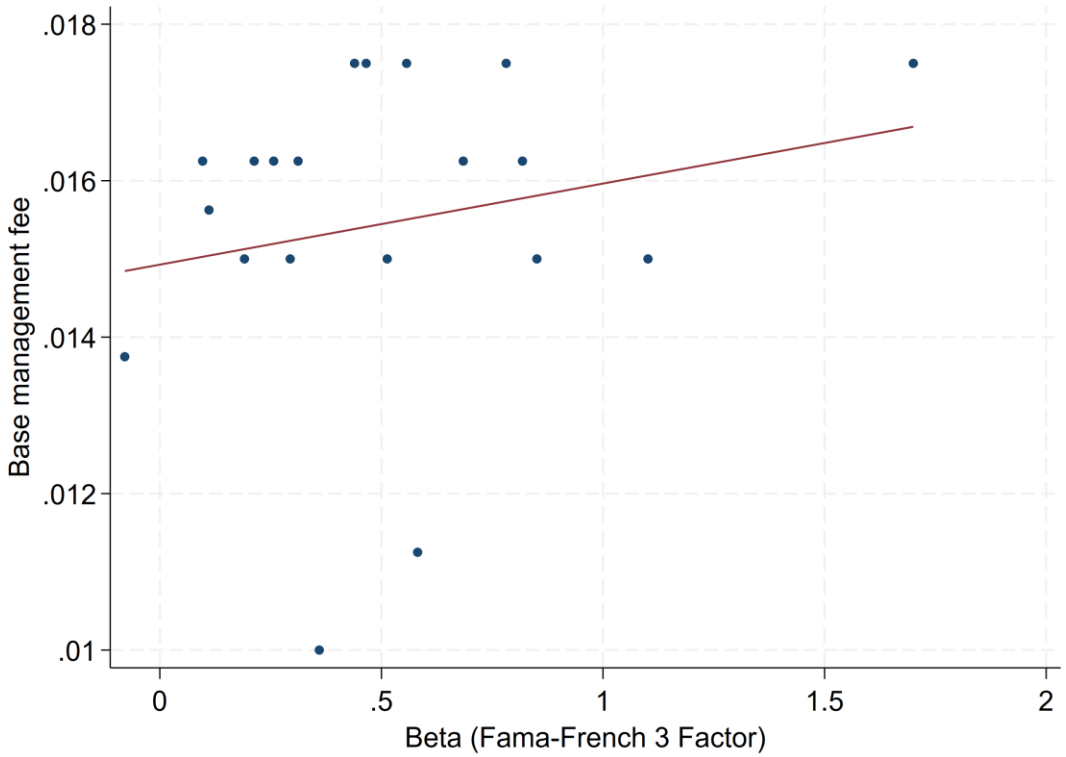
- Management Fees
  - Typically 1.5% to 2.5% of Committed Capital at fund initiation, often drops to invested capital after t+5
  - Lower for buyout, infrastructure, fund of funds
- Carried Interest:
  - Typically 20% of net return after fees
- Preferred Return
  - Typically 8% for US buyout
  - LPs earn this before GP earns any carried interest

Private Credit

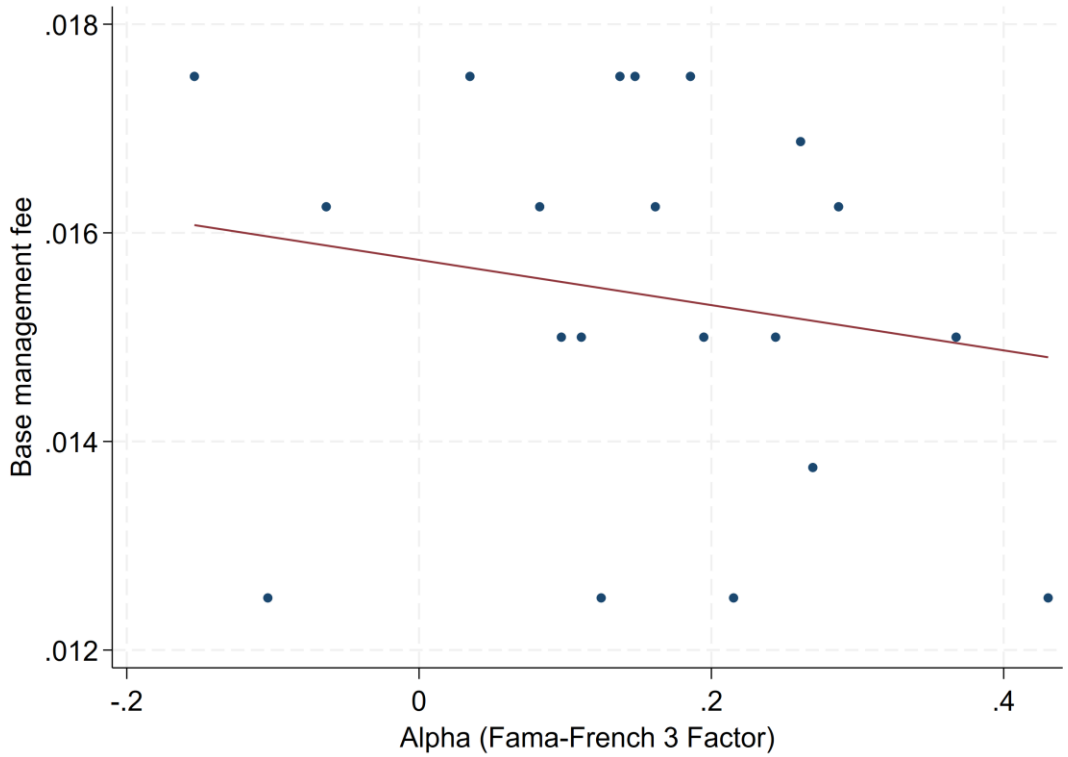
- Base Management Fee
  - 1-2% of gross assets (includes leverage)
  - Nets to about 3.5% of equity capital
- Incentive Fee
  - Typically 20% of pre-incentive fee income
- Hurdle Rate
  - Between 6-8% that investors earn before carry is paid
  - Often accompanied by a catchup rate—carry is 100% in this range

How do Fees and Performance Vary?

Higher Fees, Higher Beta



Higher Fees, Lower Alpha



PE Securities from a contingent-claims perspective

Asset-based

- Resale or repossession of collateral

Cash-flow based

- claim on unencumbered assets

vs.

Current Yield

- Interest
- Amortization

Deferred Return

- PIK
- Accrued Div.

Exposure to Underling

- Common
- Warrants

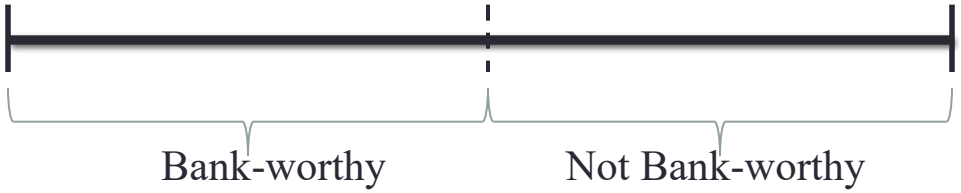
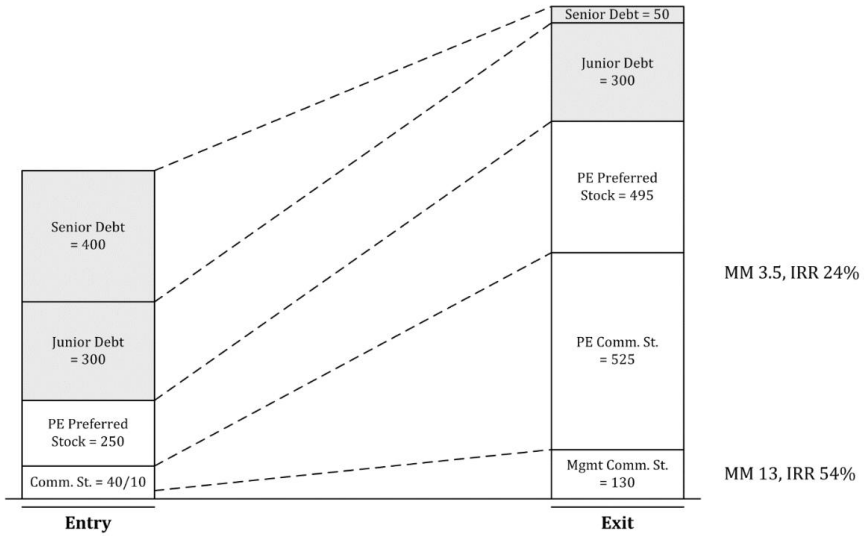


Figure 4

The structuring of debt and equity in LBOs



Source: Jenkinson, Kim and Weisbach, 2022

Security Characteristics

Portfolio is at best ¾ "quasi-bank loans"

Remaining ¼ split between each of the other buckets.

Note: probably understate value of Equity.

Table 2: Characteristics of securities and BDC-company relationships

Sample:	All	Positive/non-missing value	
Weighting:	Unweighted	Unweighted	Value-weighted
	(1)	(2)	(3)
Panel A: Mean characteristics of securities (i.e., BDC-year-company-security level)			
Fair value (millions)	8.59	9.78	419.74
Interest rate spread on debt	7.58	7.65	7.84
Debt without PIK interest	0.65	0.68	0.73
Senior secured debt	0.33	0.32	0.54
Other secured debt	0.05	0.05	0.05
Unsecured debt	0.28	0.30	0.14
Deferred income	0.11	0.11	0.12
Debt with PIK interest	0.05	0.06	0.09
Preferred equity	0.06	0.06	0.03
Exposure to underlying	0.18	0.16	0.09
Common equity	0.12	0.10	0.08
Warrant	0.06	0.05	0.01
Other	0.05	0.05	0.06
N	124,190	109,353	109,353

Relationship Characteristics

Average relationship is around four years for relationships beginning pre-2020

Growth in equity, reduction in debt speaks to the use of equity in workout situations

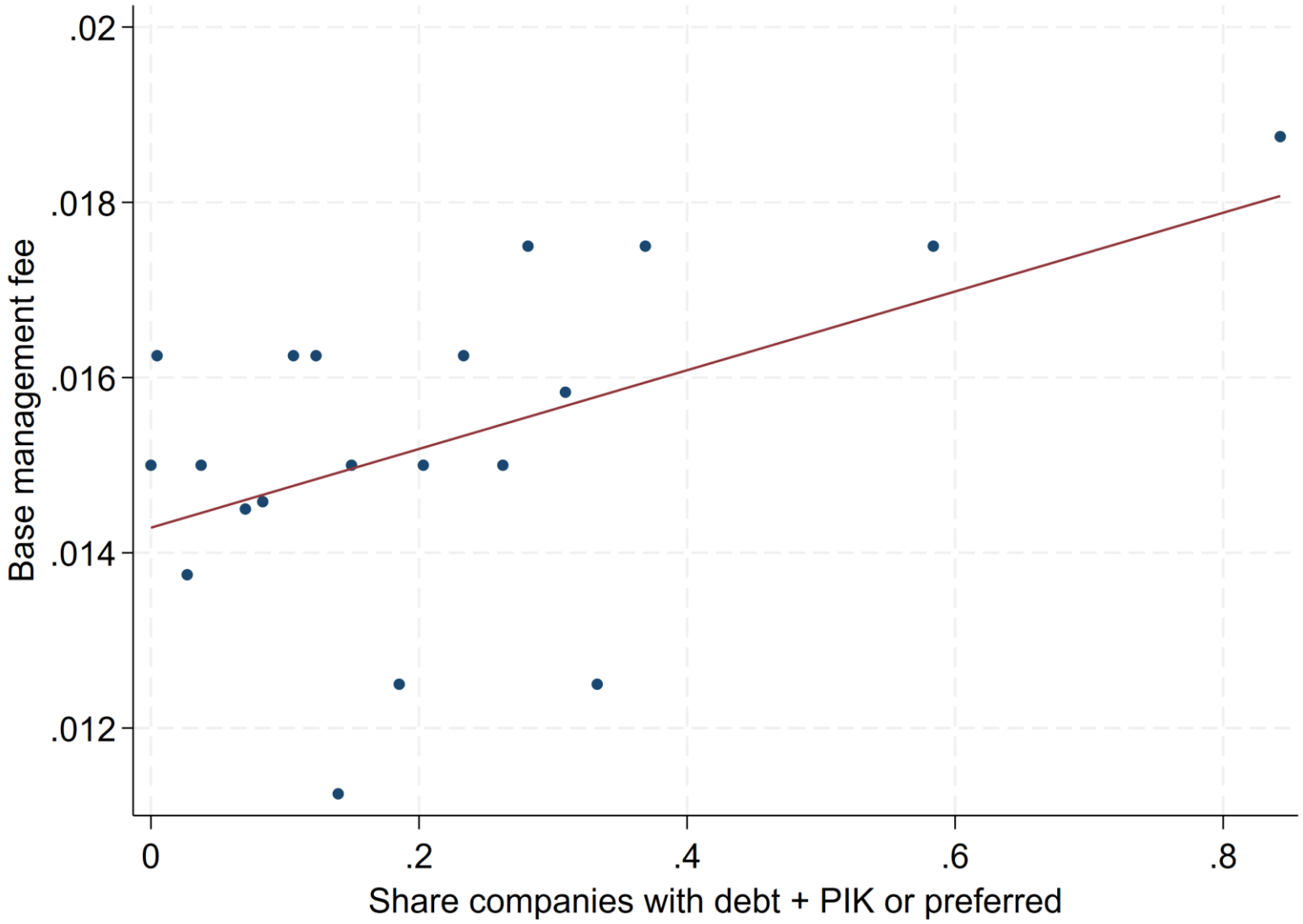
Increased presence of PIK after initiation may reflect "PIK-toggle" or may reflect workout

Panel B: Mean characteristics of *new* BDC-company relationships (i.e., BDC-company level)			
Fair value (millions)	11.82	12.10	85.57
Number of securities	1.58	1.59	2.01
Number of security types	1.20	1.21	1.33
Share debt	0.82	0.83	0.80
Share equity	0.15	0.14	0.15
Has debt	0.88	0.89	0.90
Has debt + deferred income	0.08	0.08	0.14
Has debt + exposure to underlying	0.12	0.13	0.20
N	23,693	23,264	23,264

Panel C: Mean characteristics of *existing* BDC-company relationships (i.e., BDC-year-company level)			
Fair value (millions)	16.21	16.96	680.10
Number of securities	1.80	1.81	2.39
Number of security types	1.27	1.28	1.43
Share debt	0.72	0.75	0.76
Share equity	0.24	0.21	0.18
Has debt	0.80	0.83	0.88
Has debt + deferred income	0.12	0.12	0.19
Has debt + exposure to underlying	0.15	0.15	0.25
N	48,304	46,465	46,465

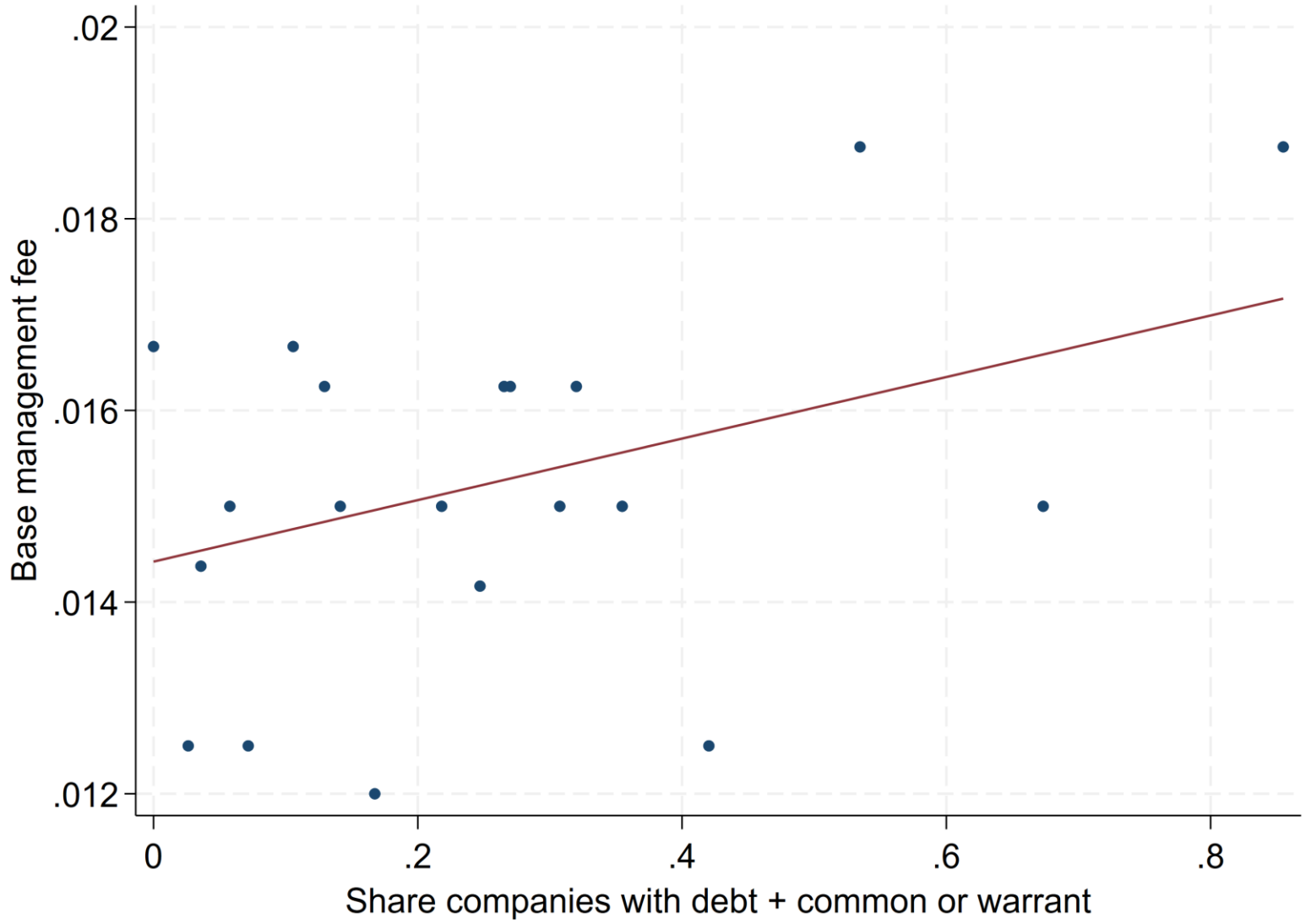
Fees and Complexity

Higher Management Fees in BDCs with greater share of deferred income securities



Fees and Complexity

Higher Management Fees in BDCs with greater share of exposure to underlying



HOW DOES COMPLEXITY RELATE TO RISK

“Alt-pe” appears in riskier investments

Overall Spreads

Point estimates can be interpreted as the average interest rate differential associated with that security feature *in equilibrium*

Even-numbered columns illustrate that there is a lot of sorting between borrowers and BDCs; the within-BDC/year spread differentials differ considerably from the within-year differentials

Table 3: Interest rate spreads at origination and the cost of complexity

Dependent variable:	Overall spread				Cash spread			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Secured	-0.462***	-1.252***	-0.434***	-1.248***	-0.239***	-0.792***	-0.211***	-0.788***
	(0.040)	(0.049)	(0.040)	(0.049)	(0.043)	(0.055)	(0.043)	(0.055)
Any common equity	0.957***	0.434***	1.165***	0.553***	0.832***	0.244***	1.044***	0.378***
	(0.049)	(0.042)	(0.052)	(0.045)	(0.052)	(0.047)	(0.056)	(0.051)
Any preferred equity	1.199***	0.478***	1.802***	0.834***	1.249***	0.512***	1.863***	0.911***
	(0.069)	(0.063)	(0.088)	(0.081)	(0.075)	(0.071)	(0.095)	(0.091)
Any warrants	1.802***	0.846***	1.801***	0.840***	1.808***	0.778***	1.807***	0.772***
	(0.066)	(0.068)	(0.066)	(0.068)	(0.071)	(0.077)	(0.071)	(0.077)
Ever has PIK interest	1.748***	1.210***	1.739***	1.206***	-2.024***	-2.555***	-2.032***	-2.559***
	(0.056)	(0.050)	(0.056)	(0.050)	(0.061)	(0.056)	(0.061)	(0.056)
Any preferred × any common			-1.575***	-0.826***			-1.605***	-0.925***
			(0.142)	(0.118)			(0.153)	(0.133)
Constant	7.160***	7.992***	7.113***	7.972***	7.005***	7.673***	6.958***	7.651***
	(0.036)	(0.040)	(0.037)	(0.040)	(0.039)	(0.045)	(0.040)	(0.046)
R^2	0.31	0.62	0.31	0.63	0.25	0.56	0.26	0.56
Mean Outcome	7.32	7.32	7.32	7.32	6.95	6.95	6.95	6.95
Year FEs	X		X		X		X	
Issuance Year-Year FEs		X		X		X		X
Maturity Year-Year FEs		X		X		X		X
Sector-Year FEs		X		X		X		X
BDC-Year FEs		X		X		X		X
N	25,160	25,160	25,160	25,160	25,160	25,160	25,160	25,160

The Value of Complexity

Complexity is used in larger transactions

Table 5: The Value of complexity

Dependent variable:	Log(Total value of securities)					
	Separate			Pooled		
	(1)	(2)	(3)	(4)	(5)	(6)
Has secured debt	2.384***	1.254***	1.438***	2.235***	1.101***	0.902***
	(0.037)	(0.041)	(0.059)	(0.036)	(0.040)	(0.055)
Has debt + common equity	1.563***	0.768***	0.900***	0.864***	0.537***	0.583***
	(0.049)	(0.039)	(0.054)	(0.052)	(0.041)	(0.056)
Has debt + preferred equity	1.268***	0.761***	0.835***	0.672***	0.429***	0.355***
	(0.065)	(0.050)	(0.066)	(0.074)	(0.053)	(0.068)
Has debt + warrants	0.791***	1.161***	1.952***	0.378***	0.809***	1.575***
	(0.054)	(0.059)	(0.096)	(0.058)	(0.058)	(0.095)
Has debt with PIK interest	1.318***	0.552***	0.376***	0.514***	0.197***	0.102***
	(0.052)	(0.043)	(0.039)	(0.052)	(0.042)	(0.035)
R^2				0.40	0.69	0.94
Mean Outcome	14.67	14.67	14.67	14.67	14.67	14.67
Issuance Year-Year FEs	X	X	X	X	X	X
Sector-Year FEs	X	X	X	X	X	X
BDC-Year FEs		X	X	X	X	X
BDC-Company FEs			X			X
N	62,444	62,444	62,444	62,444	62,444	62,444

The Cost of Complexity

Complexity associated with greater likelihood of loss

Table 6: BDC-level costs of complexity

Dependent variable:	Has a Loss			Log(Loss)		
	Separate	Pooled		Separate	Pooled	
	(1)	(2)	(3)	(4)	(5)	(6)
Mean company spread over LIBOR	-0.016	0.035	0.035	-0.231**	-0.335***	-0.090*
	(0.043)	(0.034)	(0.037)	(0.108)	(0.056)	(0.049)
Share companies with secured debt	0.507**	0.570**	-0.702***	1.815**	0.567	0.181
	(0.253)	(0.245)	(0.214)	(0.895)	(0.765)	(0.697)
Share companies with debt + equity	-0.371			-0.729		
	(0.238)			(0.840)		
Share companies with debt + common equity	-0.438	-0.694***	-0.413	0.376	2.601**	0.552
	(0.286)	(0.195)	(0.289)	(1.024)	(1.221)	(0.800)
Share companies with debt + preferred equity	-1.030*	-0.459	-1.410**	-3.201*	-1.776	3.119
	(0.549)	(0.675)	(0.533)	(1.779)	(1.183)	(2.505)
Share companies with debt + warrants	-0.178	0.018	-0.156	-3.683***	-3.158***	-0.570
	(0.309)	(0.173)	(0.954)	(0.898)	(0.703)	(1.383)
Share companies w/ debt + common + preferred	-2.088**	0.059	1.746	-3.680	-6.939	-0.469
	(1.038)	(1.276)	(1.087)	(3.968)	(4.564)	(3.907)
Share companies with PIK interest	0.265	0.342*	0.136	2.635***	2.743***	1.021
	(0.570)	(0.198)	(0.184)	(1.000)	(0.839)	(0.661)
R^2		0.55	0.66		0.68	0.86
Mean Outcome	0.62	0.62	0.62	18.86	18.86	18.86
Year FEs	X	X	X	X	X	X
BDC FEs			X			X
N	577	577	577	317	317	317

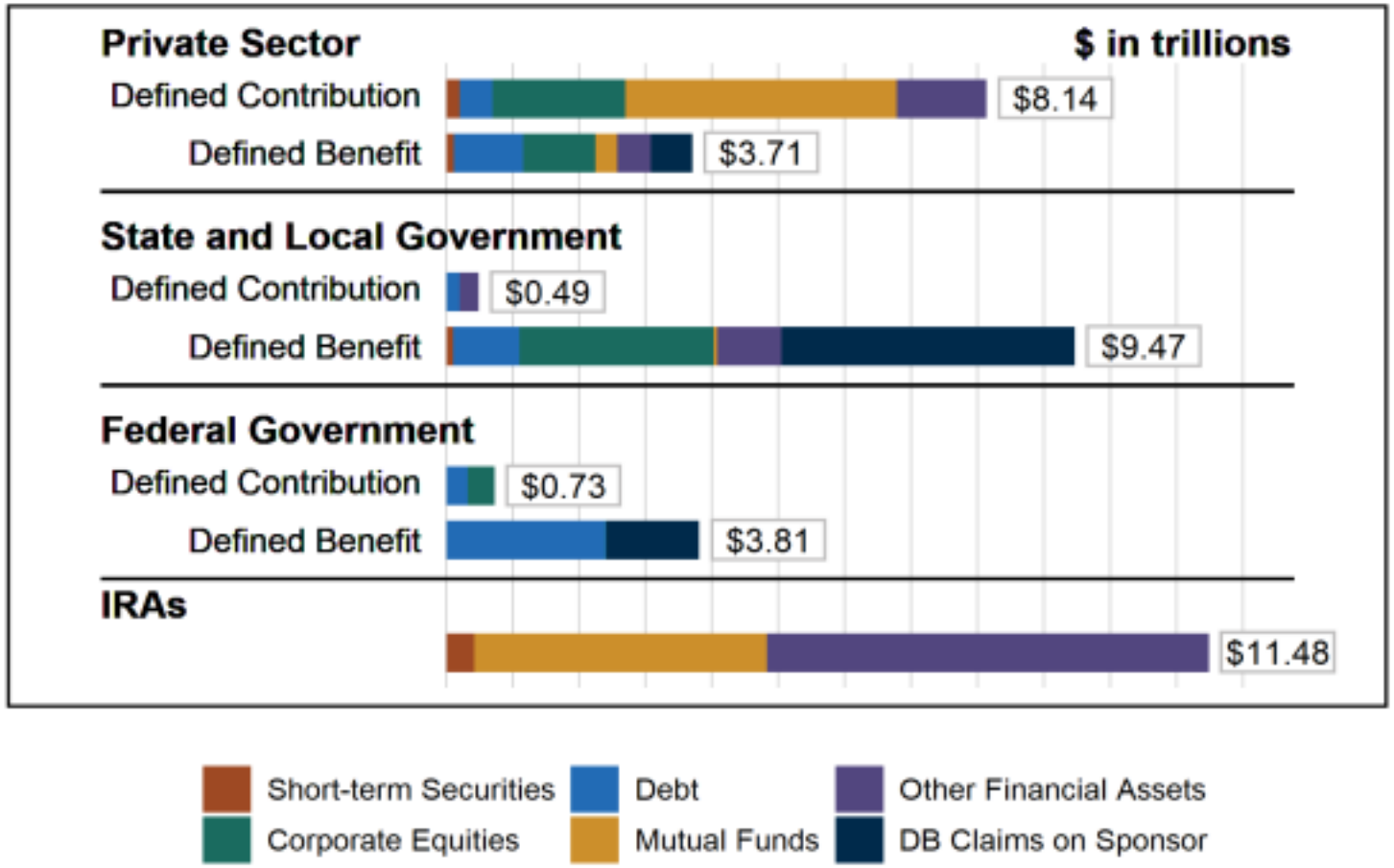
SO WHAT? THE RISE OF RETAIL INVESTORS

How does loan-level risk/complexity aggregate to the BDC-equity level?

RIAs:	15,396
Clients:	56.7M
Non-HNW:	7T AUM
HNW:	13T AUM

Source: https://www.investmentadviser.org

Colleges:	$850B
Top-10 SWFs:	$13T
S&P500:	$45T
Mag. 7:	$15T

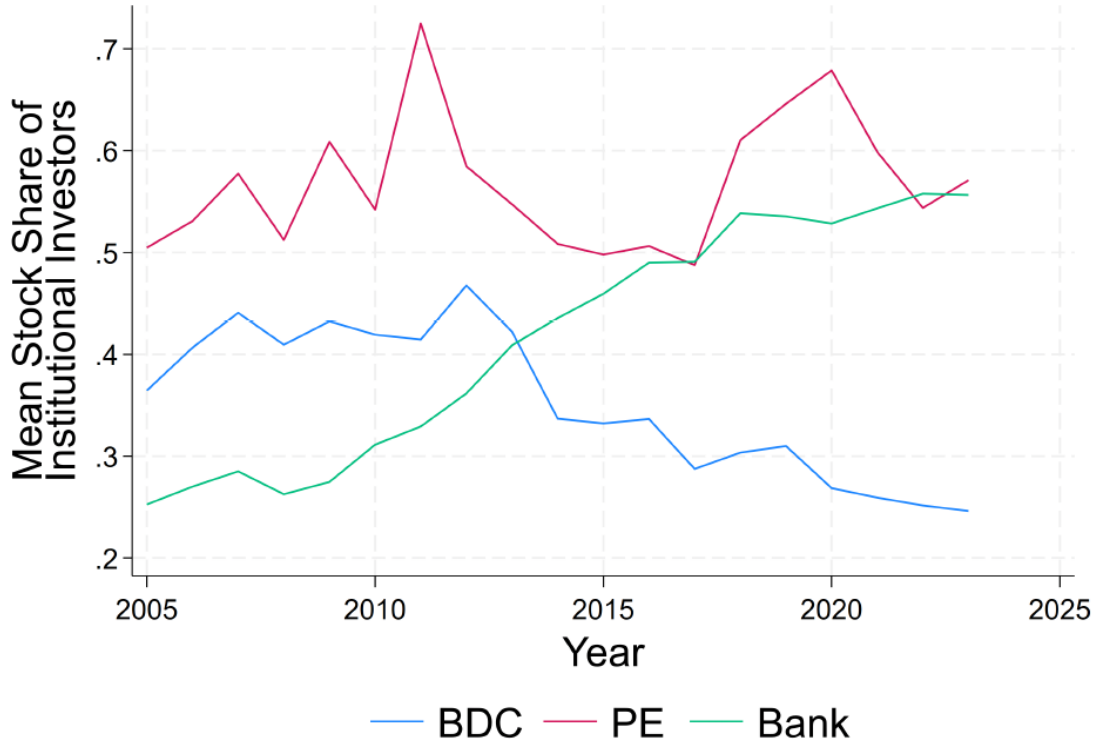


Source: https://www.congress.gov/crs-product/R47699

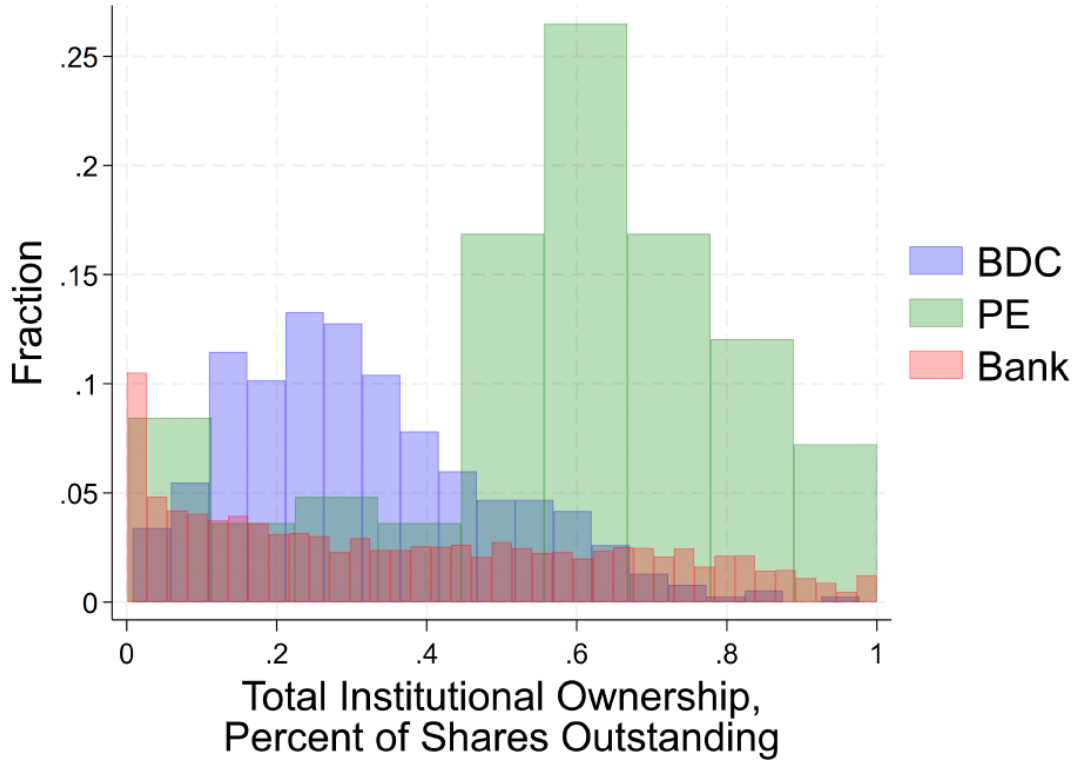
BDCs are increasingly *not* owned by institutional investors

BDCs may offer a "safer" version of PE, making them attractive to retail investors

(a) Trends



(b) Distributions



2003-2024 institutional ownership rates are sourced from 13F filings, sourced from LSEG

PE for Retail Investors?

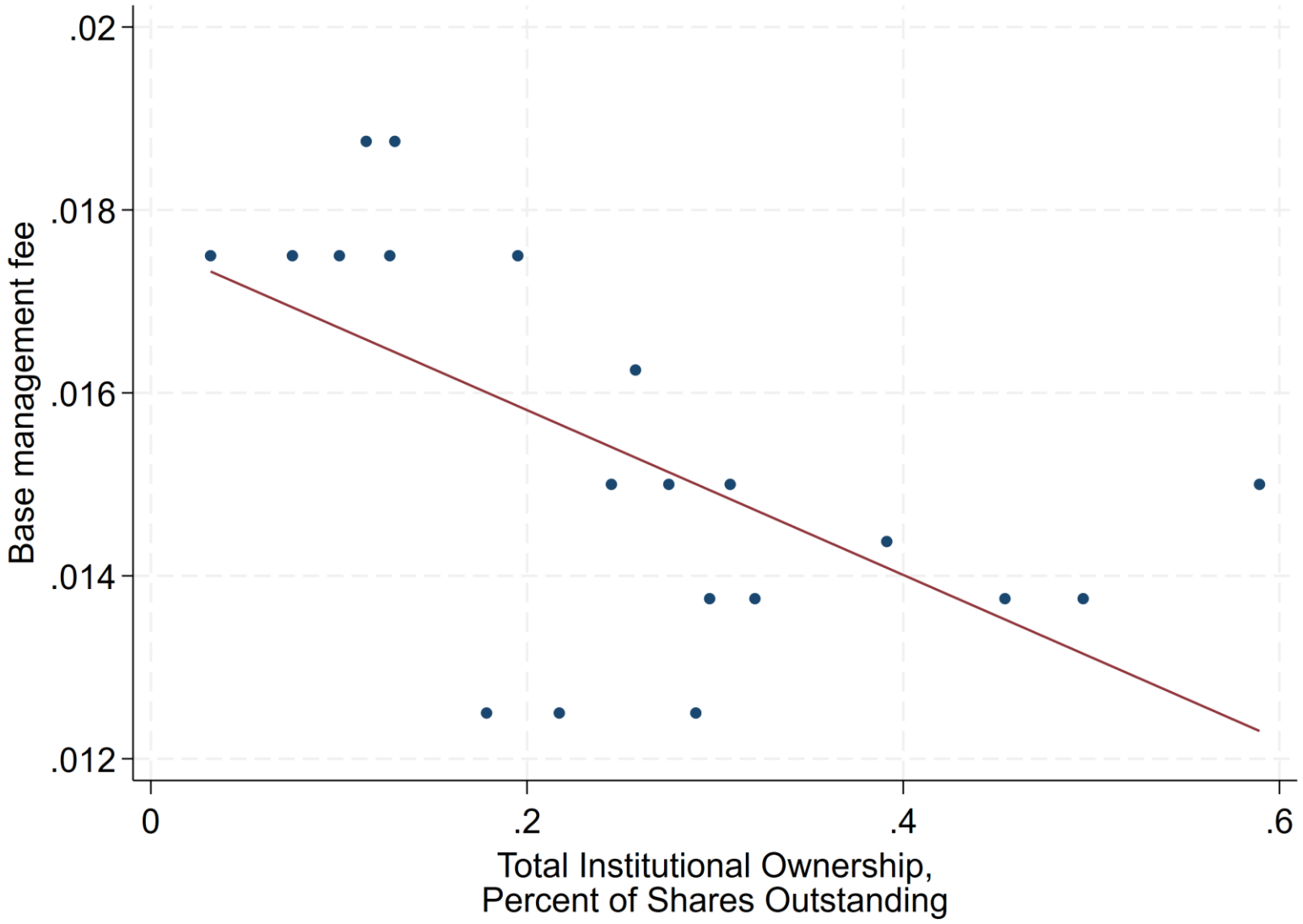
Complex securities used more often in BDCs with lower institutional ownership.

Table 9: Institutional ownership correlations with complexity

Dependent variable:	Stock Share of Institutional Investors					
Regression type:	Separate	Pooled	Separate	Pooled	Separate	Pooled
	(1)	(2)	(3)	(4)	(5)	(6)
PE-affiliated	0.166***	0.152***			0.143***	0.109***
	(0.032)	(0.022)			(0.023)	(0.026)
Share companies with debt + PIK or preferred	-0.279	-0.190*	-0.066	0.004	-0.299***	-0.200**
	(0.181)	(0.094)	(0.090)	(0.088)	(0.064)	(0.090)
Share companies with debt + common or warrant	-0.090	0.052	-0.166	-0.167	-0.133***	0.028
	(0.091)	(0.060)	(0.102)	(0.101)	(0.043)	(0.052)
R^2		0.63		0.85		0.56
Mean Outcome	0.32	0.32	0.32	0.32	0.29	0.29
Year FEs	X	X	X	X		
BDC FEs			X	X		
Sample	2001-2023	2001-2023	2001-2023	2001-2023	2023	2023
N	407	407	407	407	43	43

Higher Fees for Retail

Base management fees decline with institutional ownership



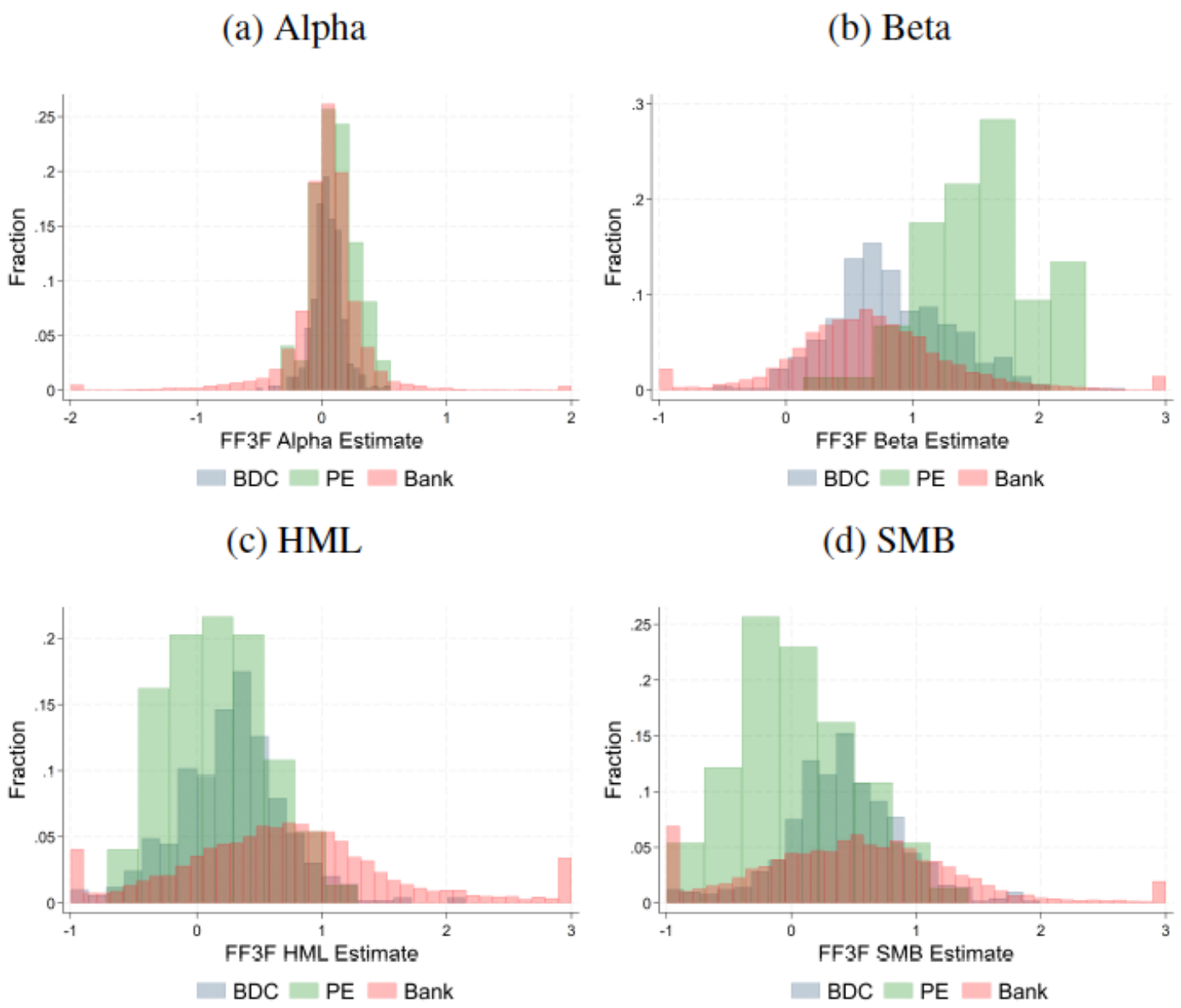
Factor loadings

Table 7: Average factor estimates

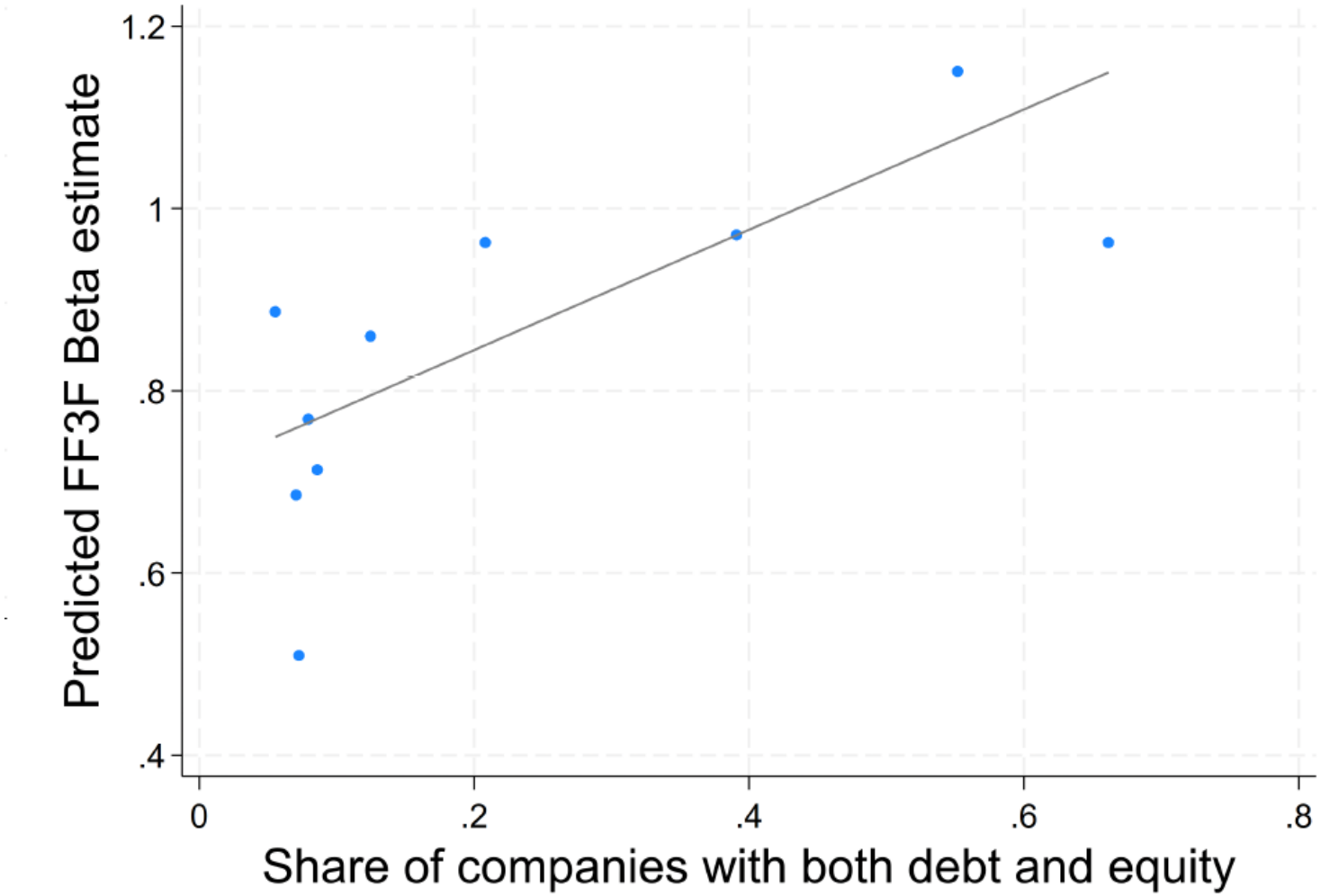
	CAPM estimates		Fama-French Three-Factor Model estimates			
	(1) Alpha	(2) Beta	(3) Alpha	(4) Beta	(5) HML	(6) SMB
Mean	0.062	0.968	0.082	0.866	0.314	0.323
StdDev	0.119	0.374	0.098	0.395	0.300	0.328
N	490	490	490	490	490	490
Null hypothesis value	0	1	0	1	0	0
p(mean not equal to null value)	0.000	0.008	0.000	0.000	0.000	0.000

If BDCs sit somewhere between banks and PE, how do they compare?

Figure 5: Fama-French Three-Factor Model estimates: BDCs vs. PE vs. banks



Value-weighted binscatter
(b) with BDC and year fixed effects



THE ROLE OF PE AFFILIATION

Dual roles as “lenders” to small businesses and debt providers in PE transactions

Two distinct investment strategies

Direct Lending

- Provide the debt portion of a private equity transaction
- Source the deal through relationships with PE sponsors
- Typically provide a basket of securities:
  - Senior Term Loan A (amortizing; 5 yr)
  - Senior Term Loan B (balloon; 5-7 yr)
  - Revolver

Private Debt

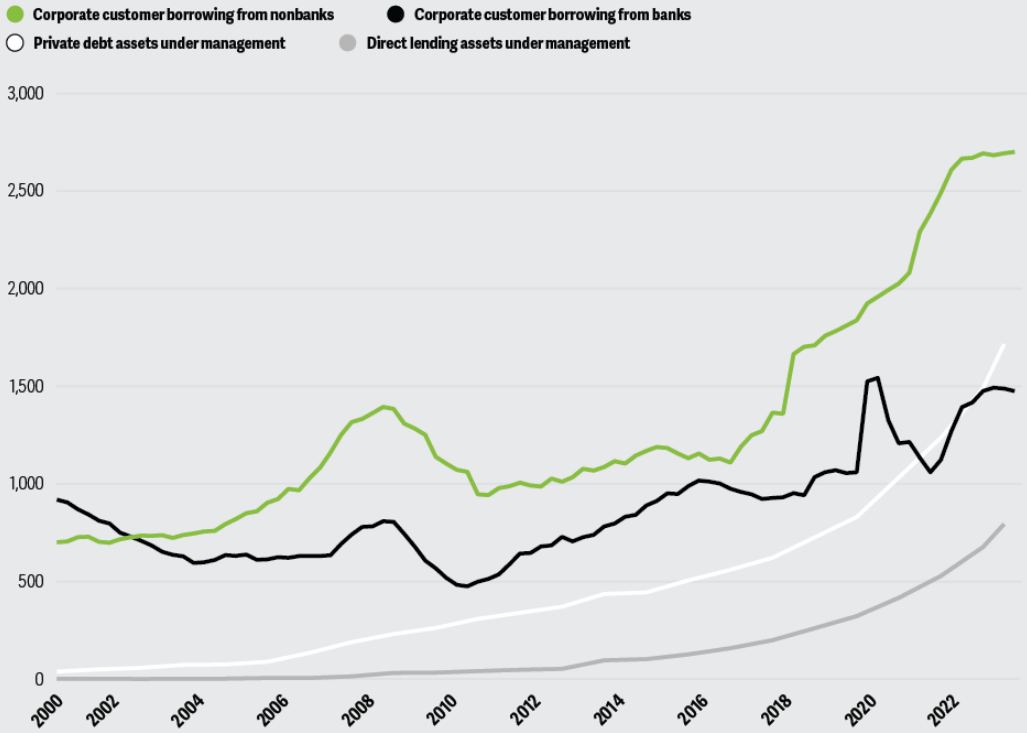
- Provide a less dilutive form of investment capital for growth-oriented firms
- Source the deal through “proprietary deal flow”
- Invest through mix of debt and equity:
  - Secured or unsecured debt
  - Preferred Equity
  - Common Equity
  - Warrants

The PE part of the story is important, especially lately

Figure 1

Corporate borrowing from nonbanks continues its steady growth, eclipsing bank borrowing

Borrowing from banks and nonbanks, 2000 to 2023 (US$ billion)



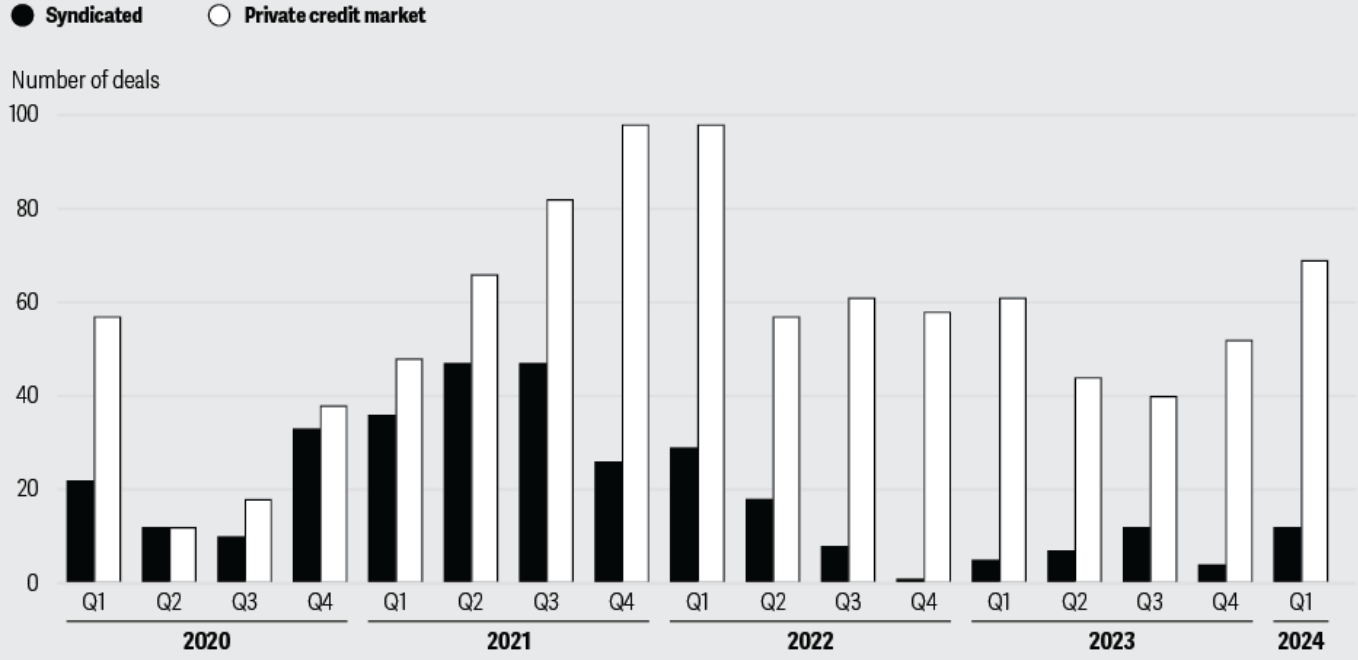
Source: Deloitte Center for Financial Services analysis of data from the Board of Governors of the Federal Reserve System, The Federal Reserve Bank of New York, and Preqin Ltd.

Deloitte. | deloitte.com/us/en/insights/research-centers/center-for-financial-services.html

Figure 2

Since 2020, the leveraged buyout market has skewed toward private credit

LBO financing, syndicated versus private credit, 2020 to 2024



Source: PitchBook LCD.

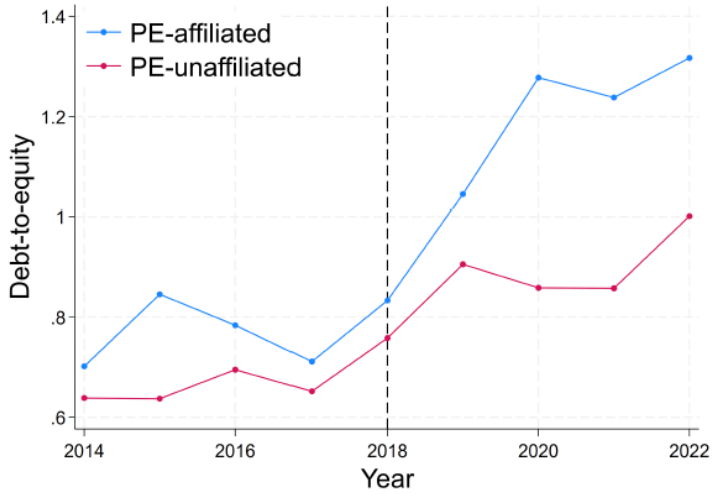
Deloitte. | deloitte.com/us/en/insights/research-centers/center-for-financial-services.html

Regulatory Shock

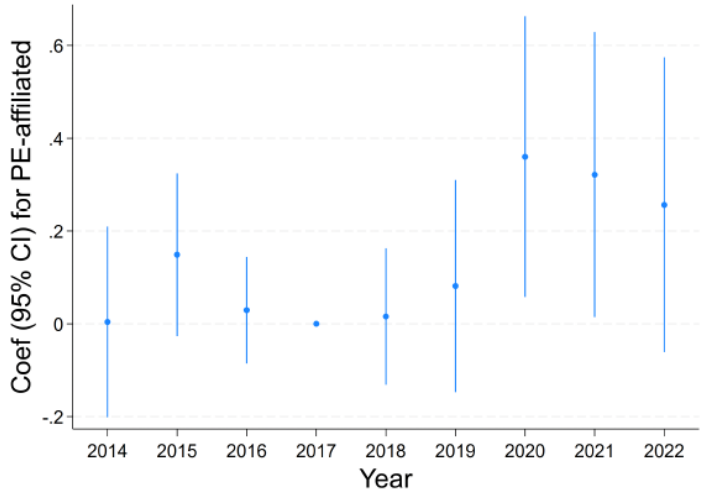
- In 2018, a regulatory change allowed BDCs to increase their maximum leverage from 1:1 to 2:1
- Use this to explore how the tilt towards providing debt to PE-sponsored transactions versus direct investing in SMEs plays out.
- Key assumption:
  - BDCs which lean towards lending to PE will exploit the additional leverage more fully because they can deploy the additional capital more quickly
  - Free-riding on PE-sponsors due diligence vs doing their own deal sourcing

Figure 7: Event study analysis

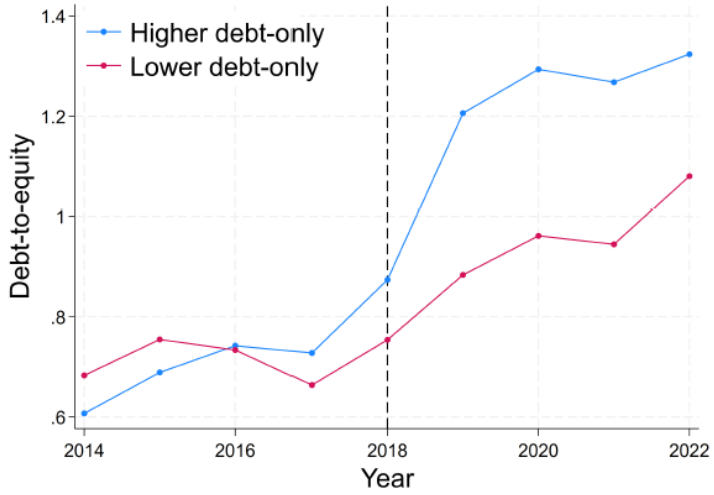
(a) Averages by PE-affiliation



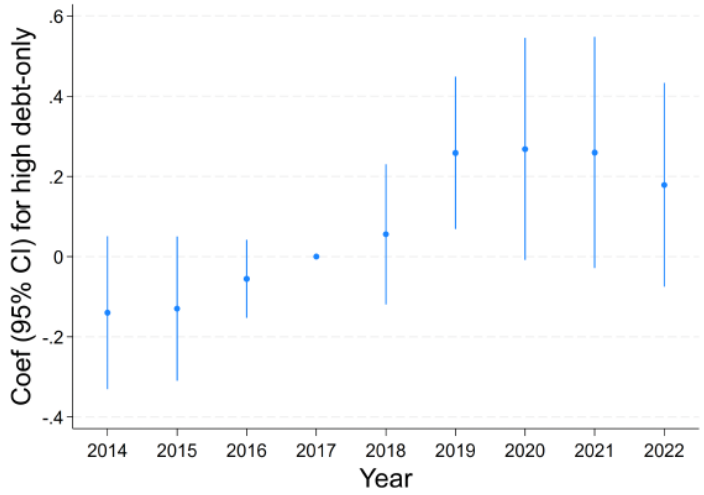
(b) Event study by PE-affiliation



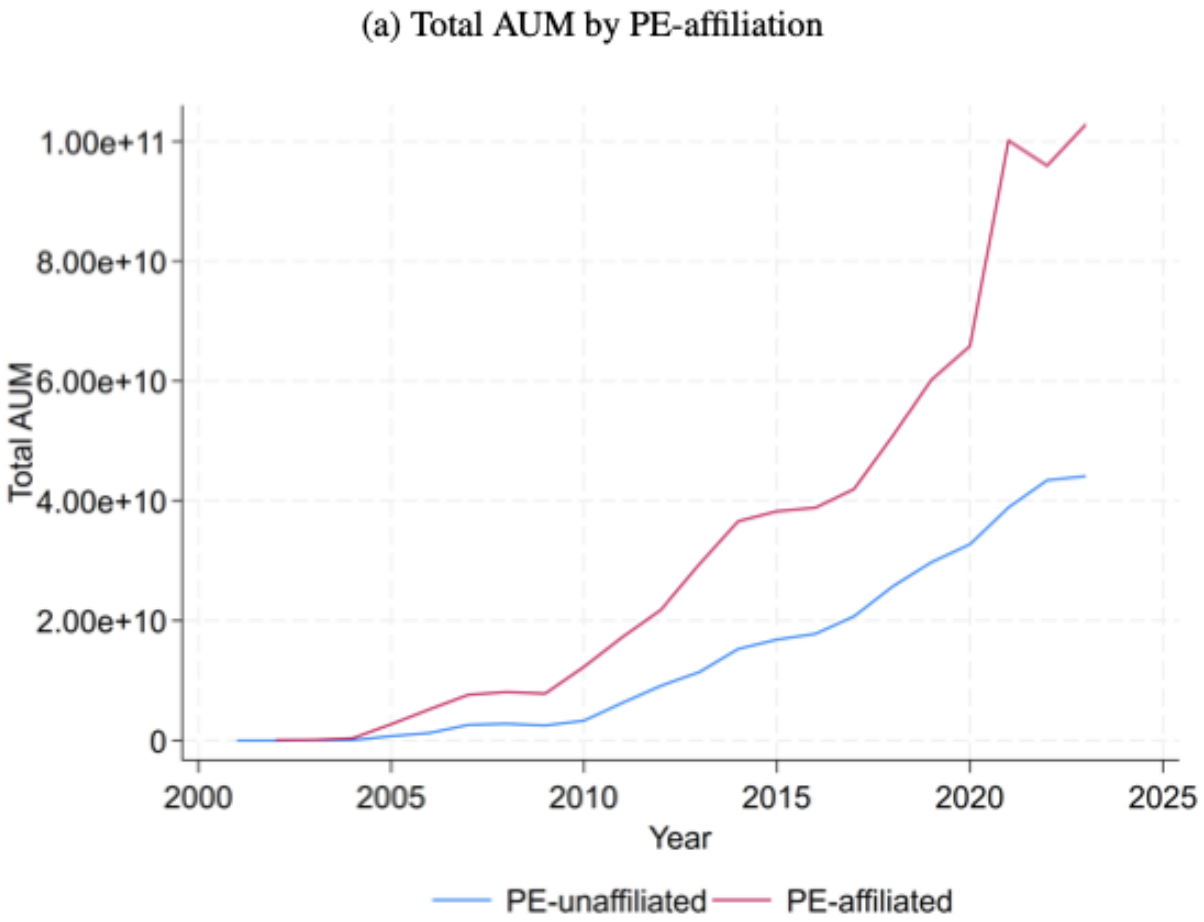
(c) Averages by share of companies with only plain debt

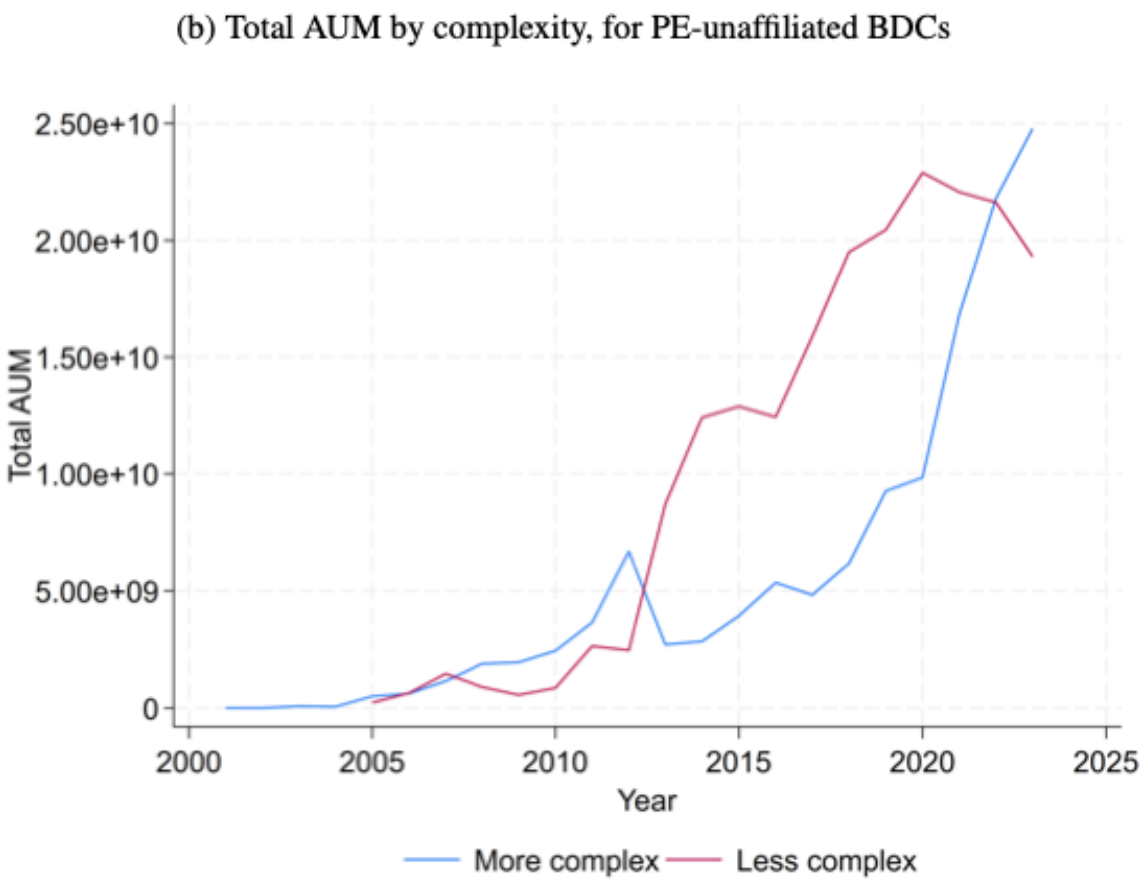


(d) Event study by share of companies with plain debt



Decomposing AUM Growth





Why should we care from a regulatory standpoint?

- Regulatory Implications I:
  - If a lot of the surge in BDC activity is in the service of PE-sponsored transactions, then Hotchkiss, Smith and Stromberg (2014) suggests that we should maybe think differently about the systemic risks of private lending than if the surge were in the service of providing debt to unbankable companies.
  - Is this an illustration of PE "capturing" the option to renegotiate in financial distress from the syndicated loan market, where holders of debt are harder to track down?
- Regulatory Implication II:
  - BDC investments "set the dials" in a way that is more naturally attractive to lenders with less tolerance for illiquidity
  - Could be important for thinking about the outreach of PE to retail investors.
- Important to understand the changing composition of business activity across two potentially distinct lines of business to understand regulatory stance.
- Do we want to twist banking regulations to fit private lenders, or do we want to twist the 40 Act, the 33 Act, etc., to fit this new activity?

CONCLUSION

Why is private lending so popular? Is it because banking has shrunk…or because PE has grown?