

SB|cert

# 2025 PRIVATE EQUITY PACING

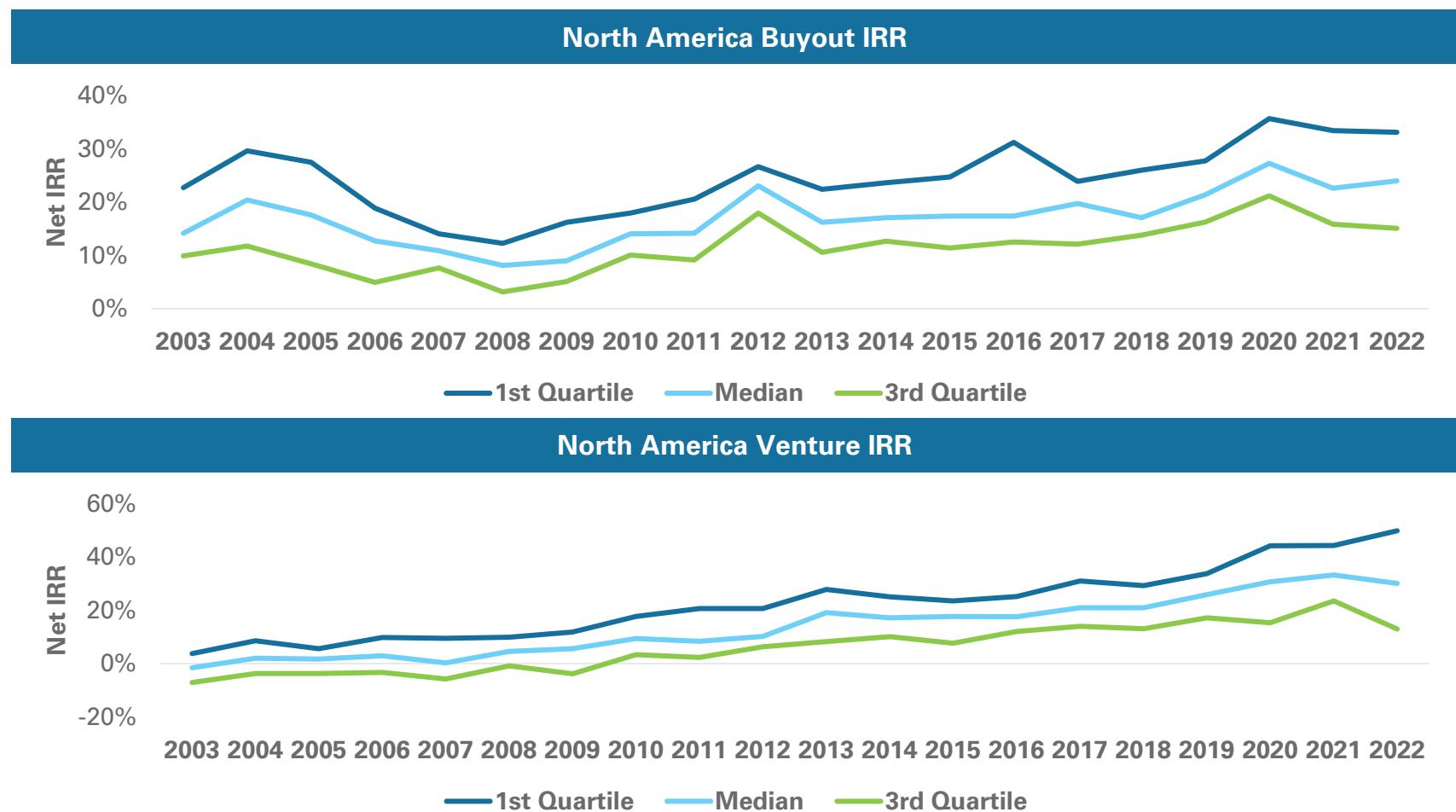
SAN BERNARDINO COUNTY  
EMPLOYEES' RETIREMENT  
ASSOCIATION

NEPC Research

# MARKET ENVIRONMENT

# PRIVATE EQUITY RETURNS

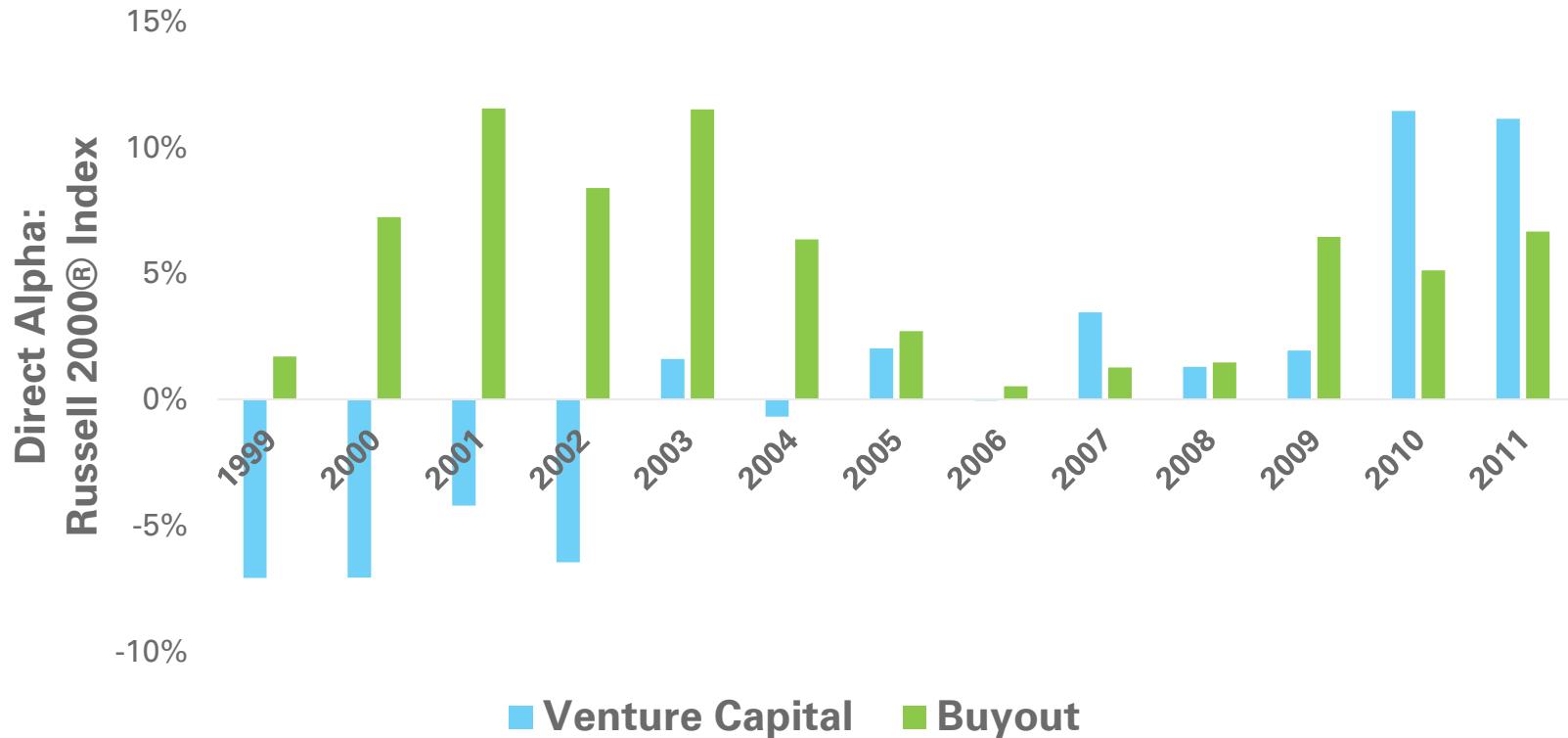
## ATTRACTIVE VINTAGE YEAR RETURNS



Source: Thomson One/C|A as of 12/31/2023. Performance for most recent vintage funds not yet meaningful.

# PRIVATE MARKET EQUIVALENT

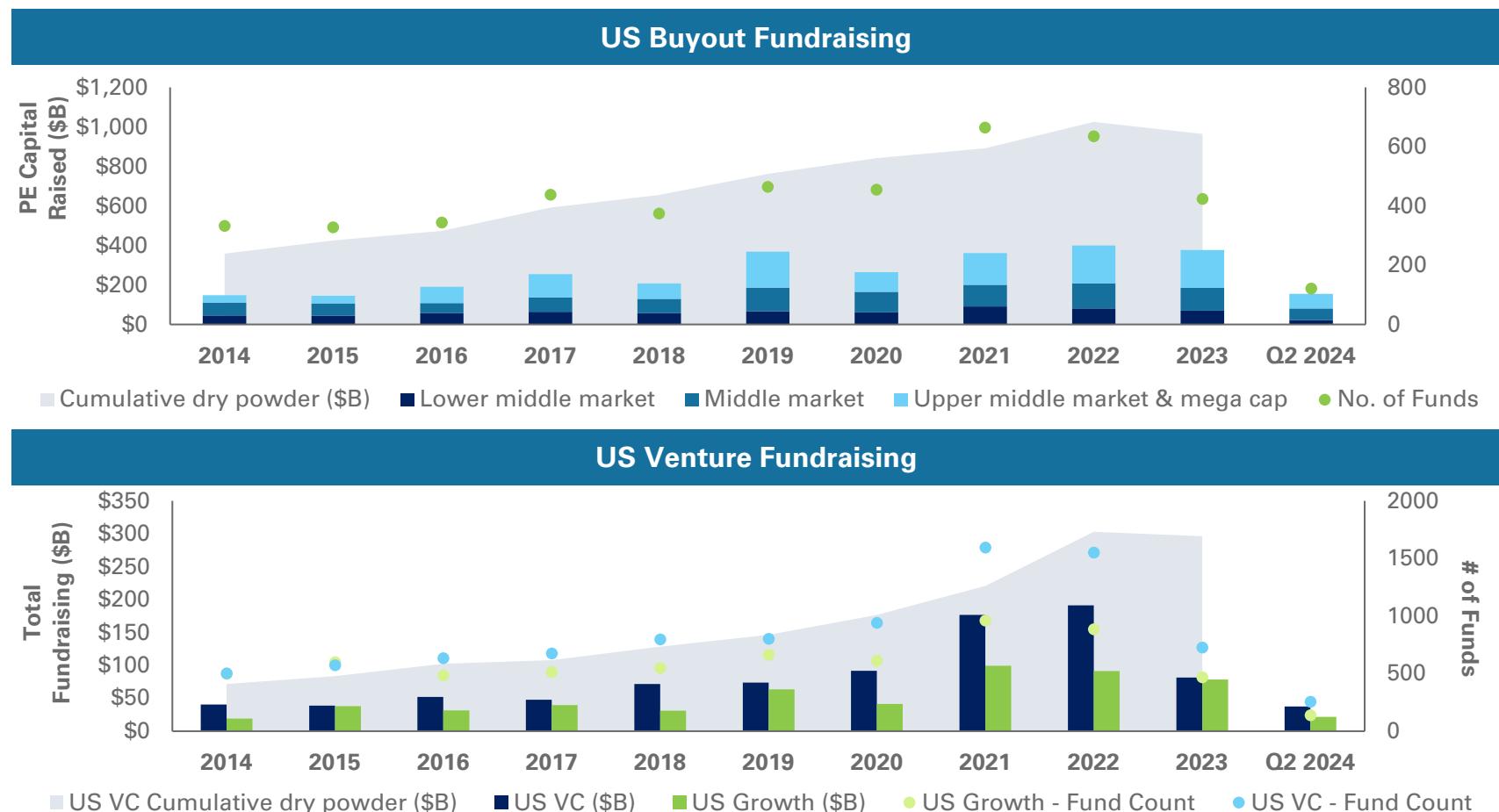
## STRONG RISK ADJUSTED RETURNS POST-RECESSION PERIODS



Source: Thomson One/CJA as of 12/31/2023. PE Out/Underperformance is shown based on a PME using the pooled cash flows of all funds. 1st Quartile outperformance will be meaningfully higher. PME method is Direct Alpha and benchmark is Russell 2000.

# PRIVATE EQUITY FUNDRAISING

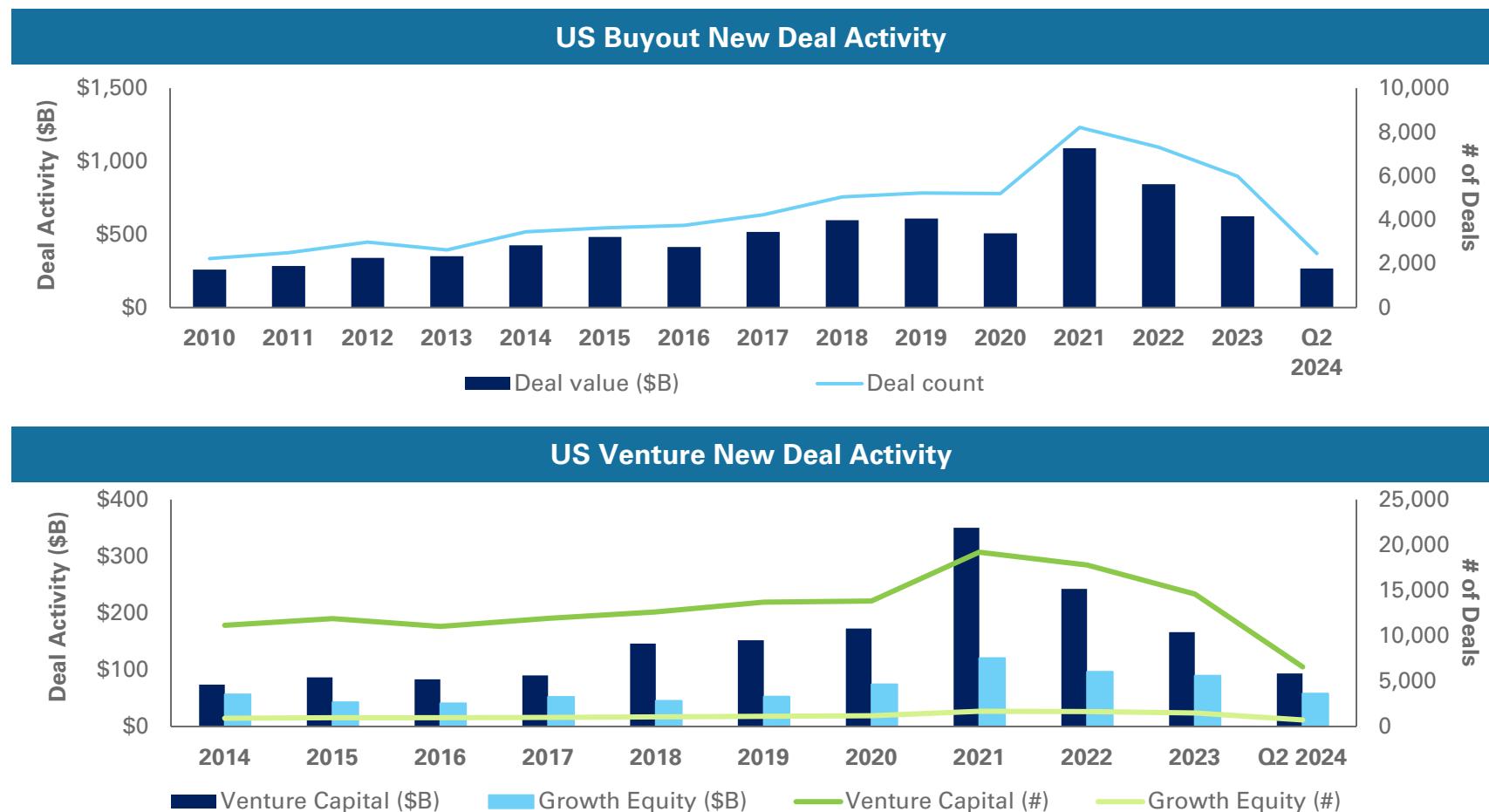
FUNDRAISING DOWN FROM ITS PEAK IN 2021-2022



Source: Venture fundraising data from Q1 2024 Pitchbook NVCA Venture Monitor Report as of 03/31/2024. Venture dry powder data from Pitchbook Q2 2024 Pitchbook NVCA Venture Monitor Report as of 09/30/2023. Growth equity and buyout fundraising data from Pitchbook Q2 2024 US PE Breakdown Report as of 06/30/2024. Buyout dry powder data from Pitchbook Q2 2024 US PE Breakdown Report as of 09/30/2023.

# PRIVATE EQUITY DEAL ACTIVITY

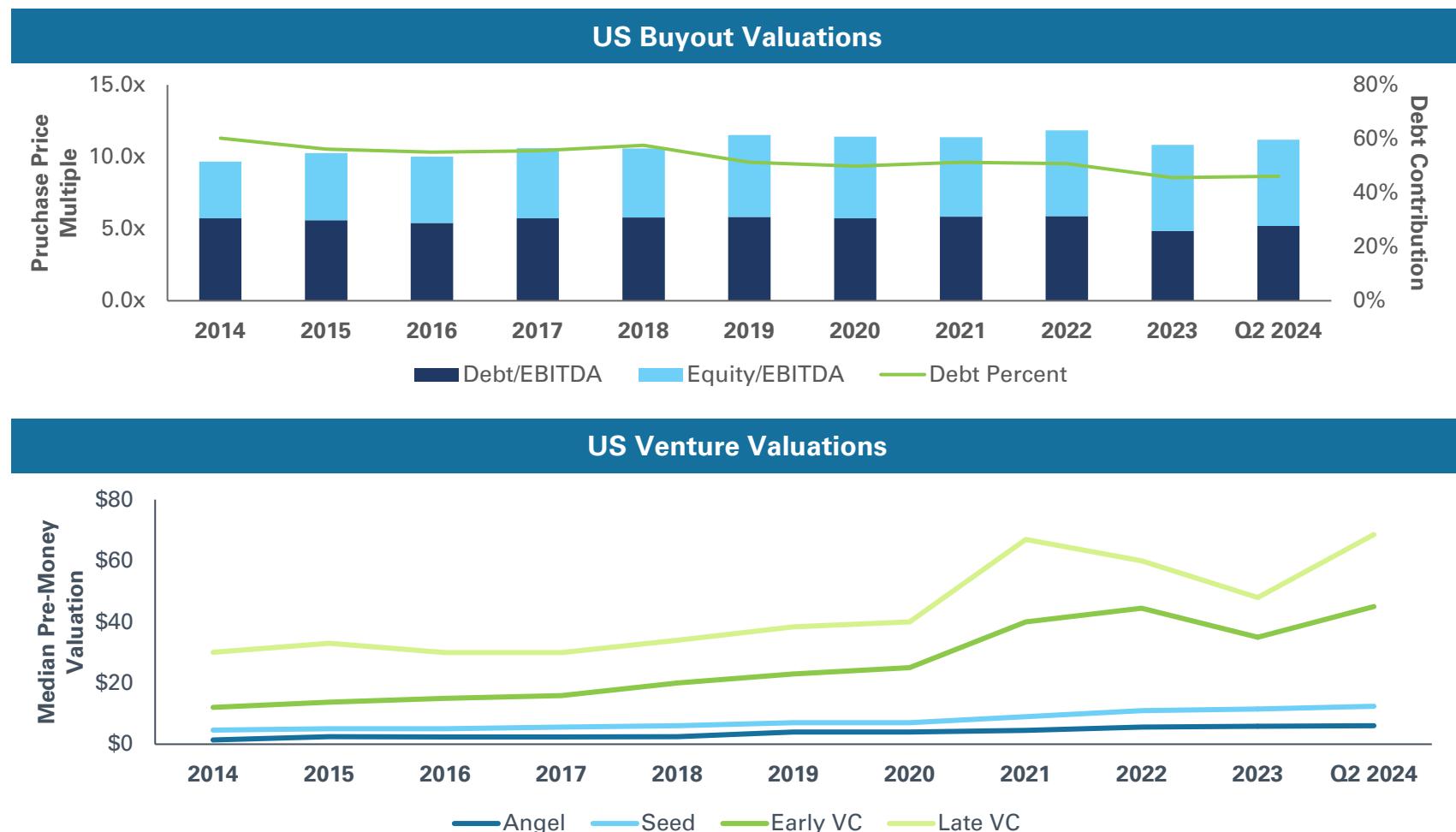
PRIVATE EQUITY ACTIVITY HAS SLOWED MEANINGFULLY



Source: Venture investment data from Q2 2024 Pitchbook NVCA Venture Monitor Report as of 06/30/2024. Growth equity and buyout investment data from Pitchbook Q2 2024 US PE Breakdown Report as of 06/30/2024.

# PRIVATE EQUITY VALUATIONS

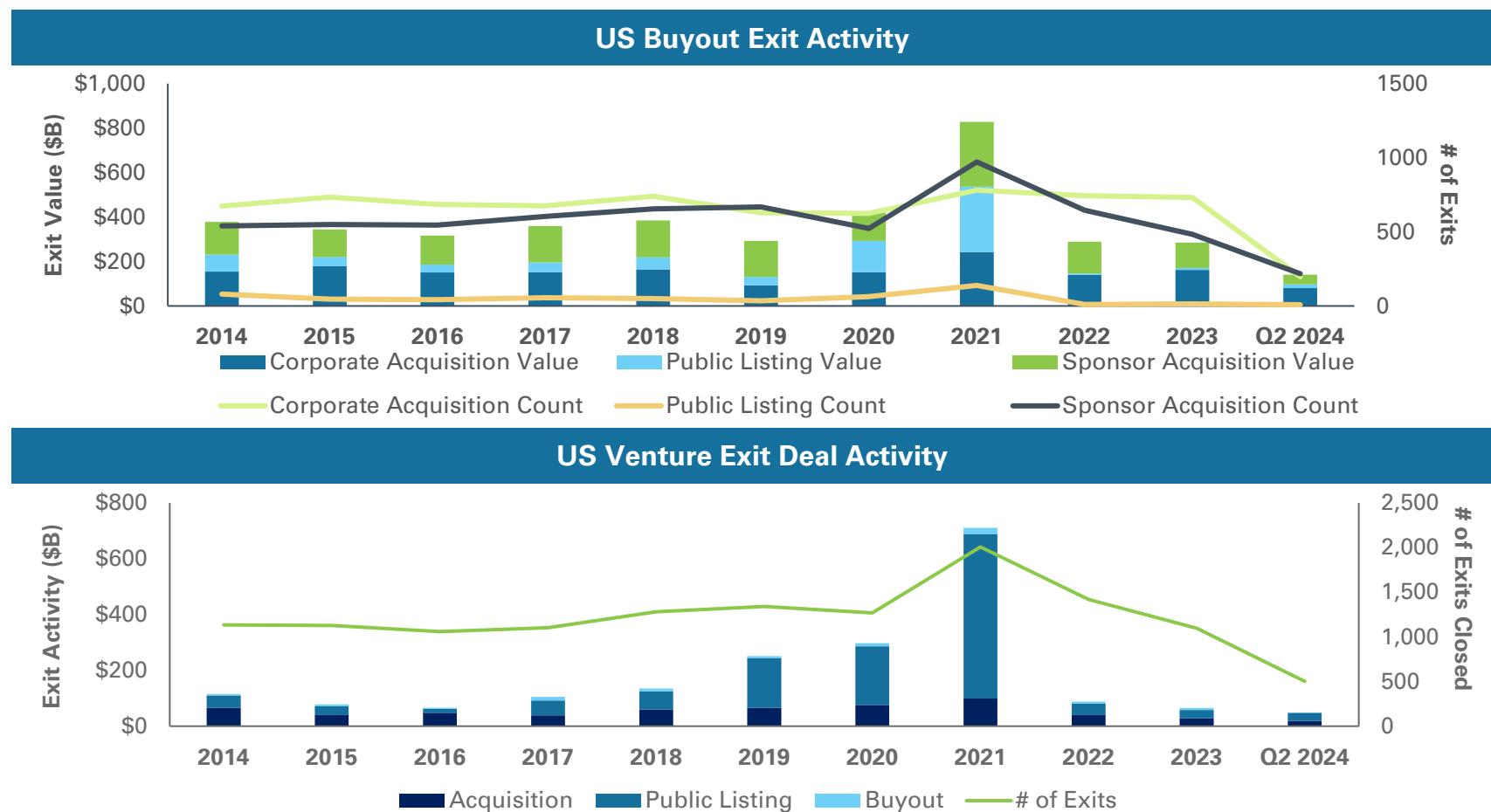
## VALUATIONS HAVE STALLED



Source: Buyout valuation data from Pitchbook Q2 2024 US PE Breakdown Report as of 06/30/2024.  
 Venture valuation data from Q2 2024 Pitchbook NVCA Venture Monitor Report as of 06/30/2024.

# PRIVATE EQUITY EXITS

## EXIT ACTIVITY HAS PLUMMETED



Source: Buyout exit data from Pitchbook Q2 2024 US PE Breakdown Report as of 06/30/2024.  
 Venture exit data from Q2 2024 Pitchbook NVCA Venture Monitor Report as of 06/30/2024.

# RECOMMENDATION

# OVERVIEW

- **Each year, NEPC will provide a review of the private markets allocations to determine the commitment budget for the upcoming year.**
  - We consider: existing manager commitments and anticipated calls/distributions, adjustments to the target allocation and the forecasted net growth rate.
  - An annual review provides an opportunity to make adjustments to any of the above factors and assess the program carefully so as to not over-allocate to illiquid investments.
- **The strategy is to maintain an active commitment pace in each vintage year going forward, being mindful of the liquidity needs.**
  - Fund and manager recommendations are made in the context of the existing portfolio along with NEPC's market views.
  - Our goal is to develop a program that will invest in various strategies and achieve returns in excess of public market returns.

# RECOMMENDATION

- **San Bernardino County Employee's Retirement Association ("SBCERA") should consider committing \$650 million to private equity in 2025 to achieve and maintain the target allocation.**
- **Private Equity Allocation**
  - The investment policy has a target allocation to private markets of 18.0% with a permitted range of 6% to 23%.
  - As of 6/30/24, there was approximately \$2.7 billion in private equity Net Asset Value ("NAV"), which translated to approximately 17% of the total SBCERA portfolio and was within the policy range.
  - As of 3/31/24, the PE allocation has produced a 10.8% net IRR and a 1.69 net cash-on-cash (TVPI) multiple.
- **Given current inputs, we anticipate SBCERA should commit \$650 million per year over the next 2-3 years.**

# RECOMMENDATION (CONTINUED)

- NEPC recommends committing approximately \$650 million to private equity in 2025 with current MCA obligations included in this amount. Historical and expected MCA commitments are shown below.

Total PE Budget	\$575,000,000	\$650,000,000
Manager/Fund	2024	2025
Adams Street MCA	\$75,000,000	\$75,000,000
Industry Ventures MCA	\$50,000,000	\$50,000,000
Partners Group MCA	\$75,000,000	\$50,000,000
Pathway Capital MCA	\$100,000,000	\$75,000,000
Patria SOF V	\$75,000,000	-
<b>Total PE Budget Spend</b>	<b>\$375,000,000</b>	<b>\$250,000,000</b>
<b>PE Dry Powder</b>	<b>\$200,000,000</b>	<b>\$400,000,000</b>

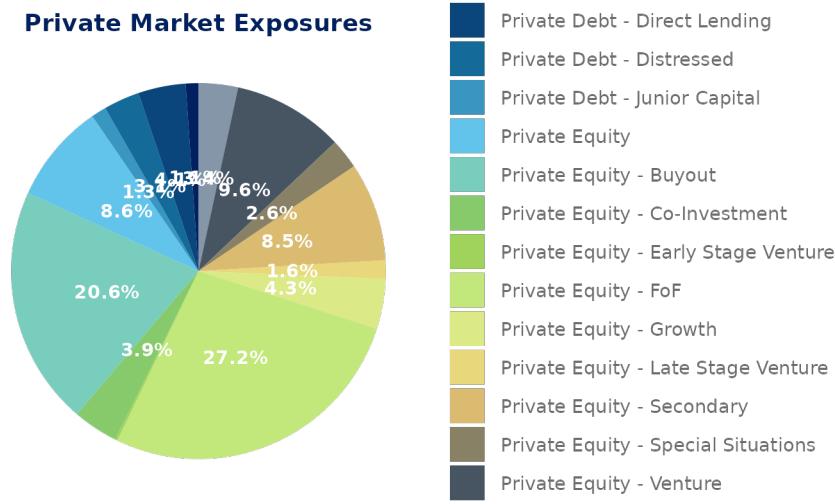
- The allocations will continue to be biased toward strategies with stronger early distribution characteristics. The \$650 million target will allow SBCERA to maintain target exposures while investing in private assets across all the sub-strategies including but not limited to distressed debt, direct lending, mezzanine debt, equity buyout, growth equity, and venture capital.
- These recommendations are intended to be used as a directional guideline based on market conditions and revisited annually.

# PRIVATE MARKETS PACING PLAN

# SUMMARY

Plan Summary	
Total Portfolio Assets	\$15,906.3
Current NAV %	16.7%
Current Total Exposure %	28.3%
Target Allocation %	18.0%
Ann. Expected Return %	7.5%

## Private Market Exposures



- Total portfolio assets is as of 9/30/24.
- Private market valuation data is as of 6/30/24.
- Annual expected return is based on NEPC capital market assumptions as of 9/30/24.

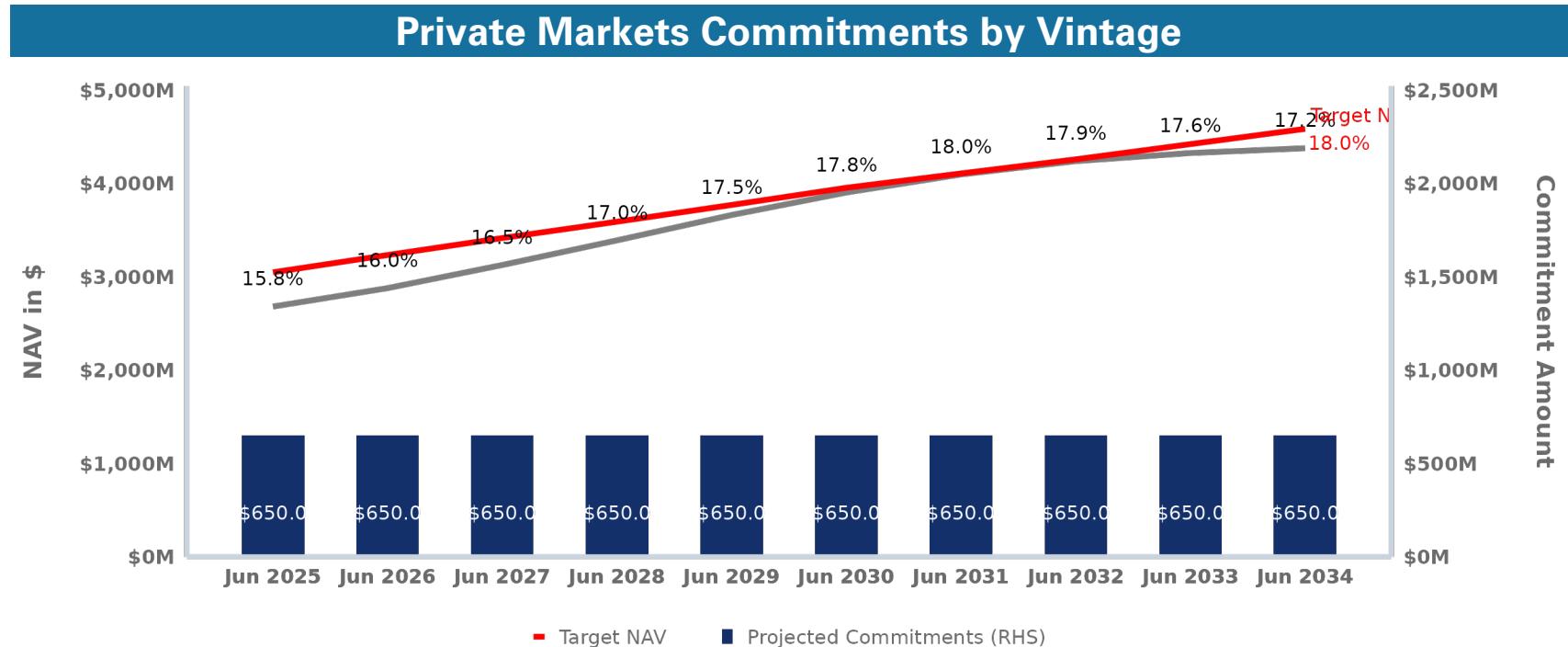
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# SUMMARY

### Current Allocations (in millions)

Asset Class	Investment Strategy	Commitment	Unfunded Commitment	NAV	Total Exposure
Private Equity	Private Debt	\$50.0	\$50.0	\$0.0	\$50.0
	Private Debt - Direct Lending	\$195.0	\$83.4	\$98.9	\$182.3
	Private Debt - Distressed	\$239.2	\$49.7	\$89.7	\$139.4
	Private Debt - Junior Capital	\$70.0	\$6.9	\$51.4	\$58.3
	Private Equity	\$385.4	\$372.8	\$11.5	\$384.3
	Private Equity - Buyout	\$1,271.7	\$336.6	\$589.5	\$926.1
	Private Equity - Co-Investment	\$173.1	\$9.4	\$164.6	\$174.1
	Private Equity - Early Stage Venture	\$56.1	\$0.2	\$7.8	\$8.0
	Private Equity - FoF	\$1,554.0	\$493.2	\$730.6	\$1,223.7
	Private Equity - Growth	\$211.1	\$76.0	\$118.2	\$194.2
	Private Equity - Late Stage Venture	\$96.1	\$9.0	\$63.4	\$72.4
	Private Equity - Secondary	\$530.0	\$212.3	\$169.2	\$381.5
	Private Equity - Special Situations	\$100.0	\$73.2	\$42.1	\$115.3
	Private Equity - Venture	\$379.9	\$77.7	\$352.0	\$429.7
	Private Real Assets - Infrastructure	\$20.0	\$0.3	\$0.4	\$0.7
	Private Real Assets - Natural Resources	\$180.0	\$-14.7	\$168.6	\$153.9
<b>Grand Total</b>		<b>\$5,511.7</b>	<b>\$1,835.9</b>	<b>\$2,658.0</b>	<b>\$4,493.9</b>

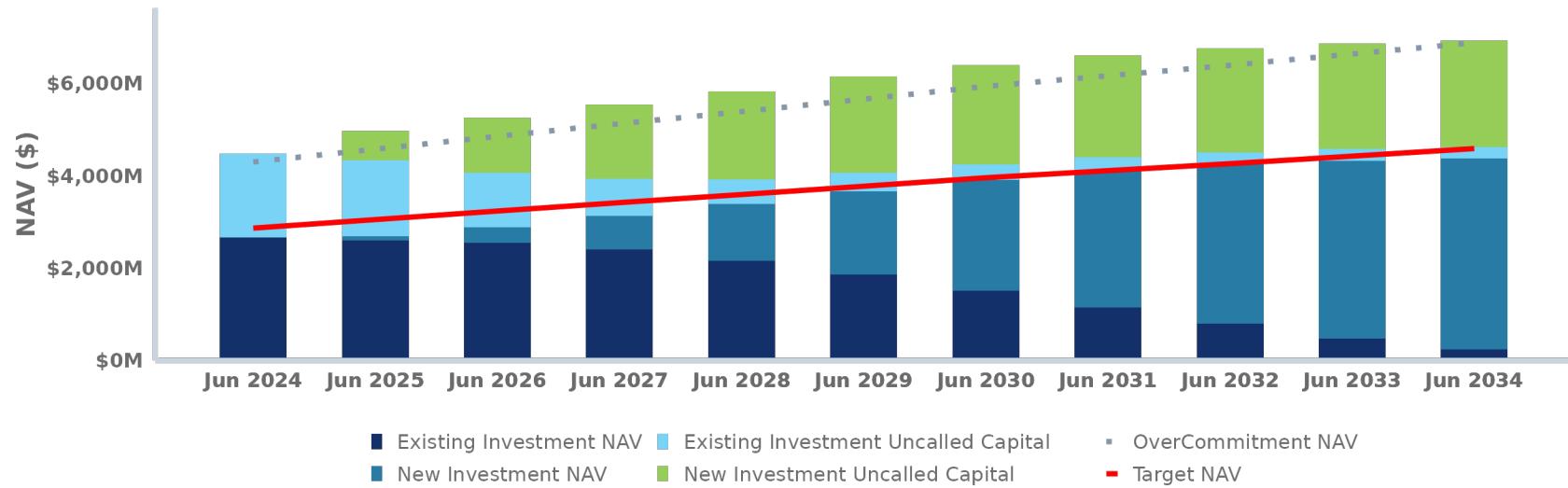
# COMMITMENTS & ALLOCATION PROJECTIONS



Description	More Certain						Less Certain				
	2025-06-30	2026-06-30	2027-06-30	2028-06-30	2029-06-30	2030-06-30	2031-06-30	2032-06-30	2033-06-30	2034-06-30	
Total Commitments (\$M)	\$650.0	\$650.0	\$650.0	\$650.0	\$650.0	\$650.0	\$650.0	\$650.0	\$650.0	\$650.0	
Target (%)	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	
Projected NAV / Total Portfolio Assets	15.8%	16.0%	16.5%	17.0%	17.5%	17.8%	18.0%	17.9%	17.6%	17.2%	

# ASSET PROJECTIONS

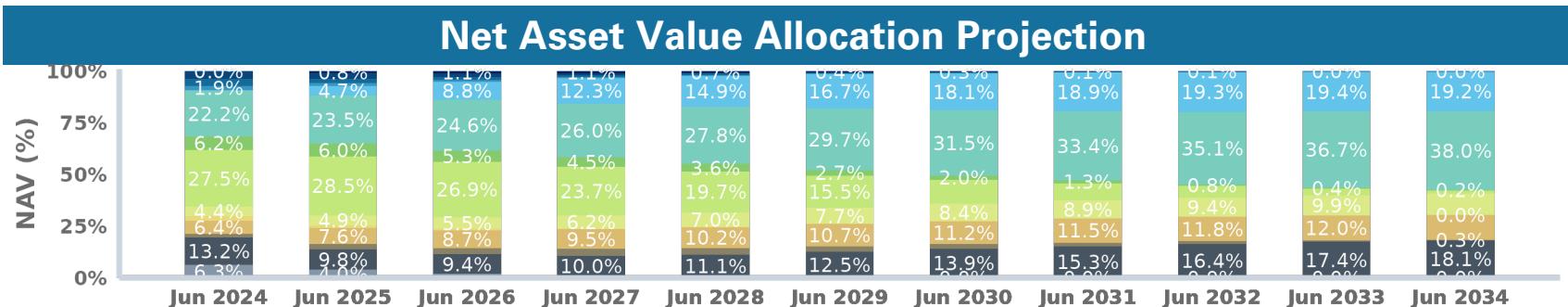
## Private Markets Portfolio Projections



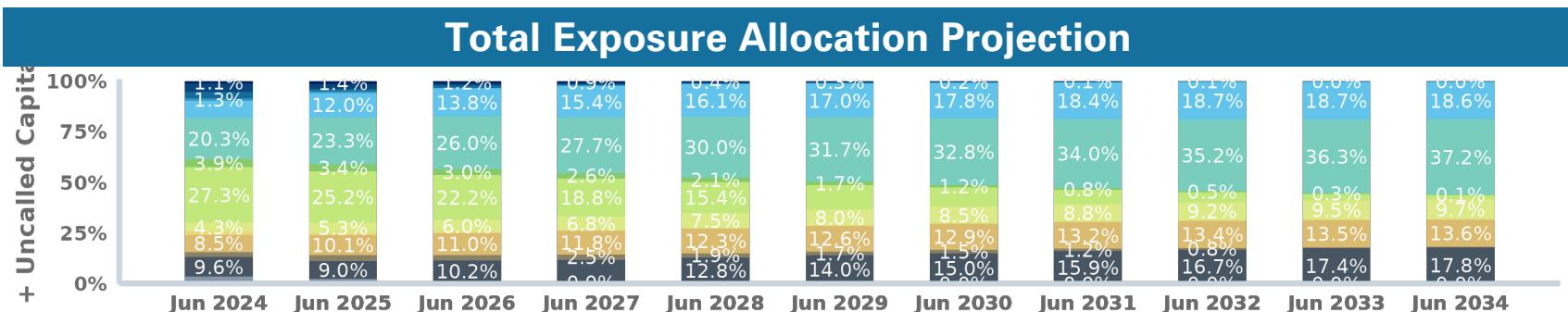
### Projection Summary

Description	2024-06-30	2025-06-30	2026-06-30	2027-06-30	2028-06-30	2029-06-30	2030-06-30	2031-06-30	2032-06-30	2033-06-30	2034-06-30
Net Asset Value (NAV)	\$2,658.0	\$2,680.9	\$2,878.5	\$3,126.0	\$3,390.6	\$3,662.1	\$3,902.8	\$4,096.3	\$4,239.0	\$4,325.5	\$4,377.0
Uncalled Capital	\$1,816.8	\$2,280.2	\$2,374.4	\$2,416.8	\$2,426.6	\$2,485.8	\$2,492.1	\$2,502.1	\$2,514.0	\$2,528.1	\$2,550.1
NAV + Uncalled Capital	\$4,474.7	\$4,961.1	\$5,252.9	\$5,542.9	\$5,817.2	\$6,147.9	\$6,394.8	\$6,598.4	\$6,753.0	\$6,853.6	\$6,927.1
Target NAV	\$2,863.1	\$3,047.8	\$3,233.1	\$3,414.8	\$3,590.1	\$3,769.8	\$3,953.5	\$4,106.8	\$4,258.3	\$4,421.1	\$4,584.6
NAV (%)	16.7%	15.8%	16.0%	16.5%	17.0%	17.5%	17.8%	18.0%	17.9%	17.6%	17.2%
NAV + Uncalled Capital (%)	28.1%	29.3%	29.2%	29.2%	29.2%	29.4%	29.1%	28.9%	28.5%	27.9%	27.2%
Target Allocation (%)	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%

# ALLOCATION PROJECTIONS

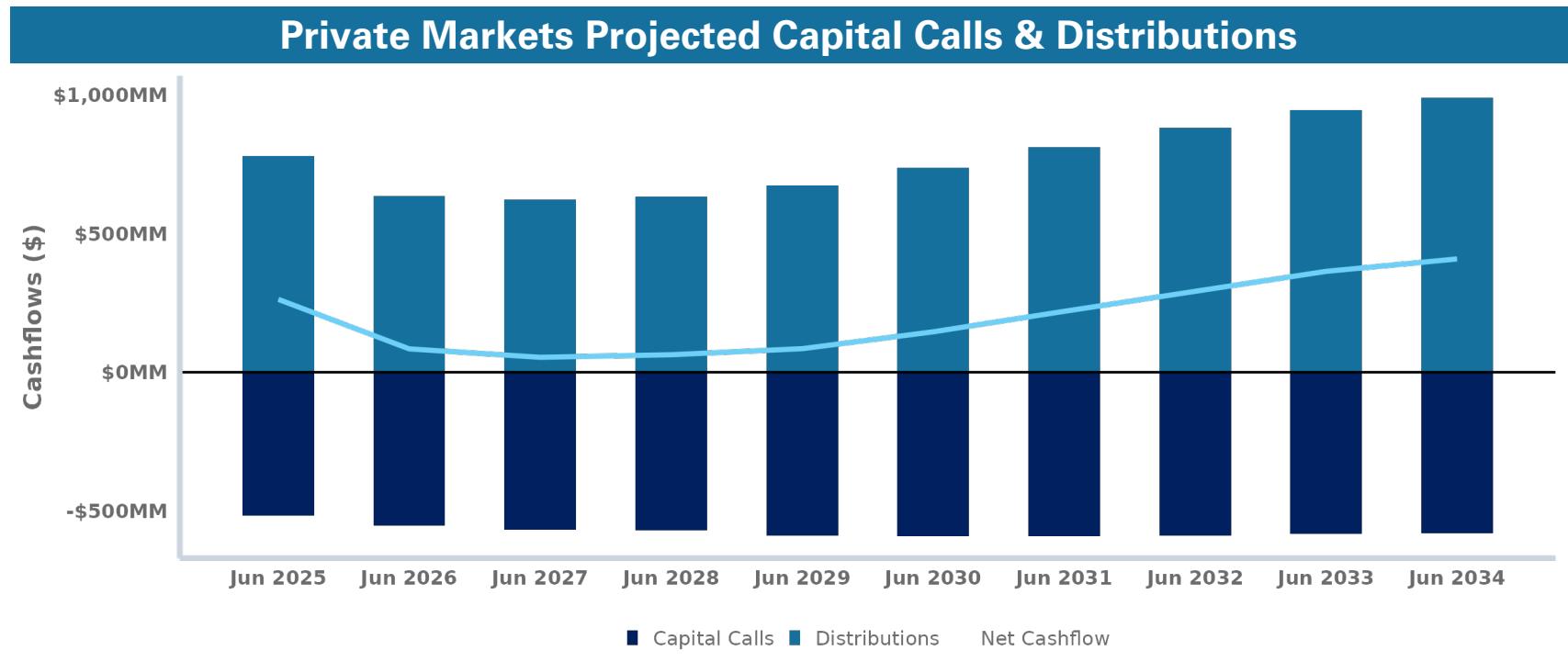


- Private Debt
- Private Debt - Direct Lending
- Private Debt - Distressed
- Private Debt - Junior Capital
- Private Equity
- Private Equity - Buyout
- Private Equity - Co-Investment
- Private Equity - Early Stage Venture
- Private Equity - FoF
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- Private Equity - Special Situations
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# CASH FLOW PROJECTIONS



Projected Cashflows (in millions)

Description	2025-06-30	2026-06-30	2027-06-30	2028-06-30	2029-06-30	2030-06-30	2031-06-30	2032-06-30	2033-06-30	2034-06-30
Capital Calls	-\$516.9	-\$552.0	-\$567.8	-\$569.7	-\$588.9	-\$590.6	-\$591.3	-\$590.1	-\$581.8	-\$581.0
Distributions	\$779.6	\$636.3	\$621.6	\$632.8	\$673.8	\$736.3	\$810.8	\$881.9	\$945.5	\$989.5
Net Cash Flow	\$262.7	\$84.3	\$53.8	\$63.1	\$85.0	\$145.7	\$219.5	\$291.8	\$363.8	\$408.5

# APPENDIX

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# APPENDIX

### Projection Summary

Description	2024-06-30	2025-06-30	2026-06-30	2027-06-30	2028-06-30	2029-06-30	2030-06-30	2031-06-30	2032-06-30	2033-06-30	2034-06-30
Net Asset Value (NAV)	\$2,658.0	\$2,680.9	\$2,878.5	\$3,126.0	\$3,390.6	\$3,662.1	\$3,902.8	\$4,096.3	\$4,239.0	\$4,325.5	\$4,377.0
Uncalled Capital	\$1,816.8	\$2,280.2	\$2,374.4	\$2,416.8	\$2,426.6	\$2,485.8	\$2,492.1	\$2,502.1	\$2,514.0	\$2,528.1	\$2,550.1
NAV + Uncalled Capital	\$4,474.7	\$4,961.1	\$5,252.9	\$5,542.9	\$5,817.2	\$6,147.9	\$6,394.8	\$6,598.4	\$6,753.0	\$6,853.6	\$6,927.1
Target NAV	\$2,863.1	\$3,047.8	\$3,233.1	\$3,414.8	\$3,590.1	\$3,769.8	\$3,953.5	\$4,106.8	\$4,258.3	\$4,421.1	\$4,584.6
OverCommitment Pace	1.5x										
OverCommitment Target NAV	\$4,294.7	\$4,571.7	\$4,849.6	\$5,122.2	\$5,385.2	\$5,654.6	\$5,930.2	\$6,160.2	\$6,387.4	\$6,631.7	\$6,876.9
NAV (%)	16.7%	15.8%	16.0%	16.5%	17.0%	17.5%	17.8%	18.0%	17.9%	17.6%	17.2%
Uncalled Capital (%)	11.4%	13.5%	13.2%	12.7%	12.2%	11.9%	11.3%	11.0%	10.6%	10.3%	10.0%
NAV + Uncalled Capital (%)	28.1%	29.3%	29.2%	29.2%	29.2%	29.4%	29.1%	28.9%	28.5%	27.9%	27.2%
Target Allocation (%)	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%
Plan NAV	\$15,906.3	\$16,932.1	\$17,961.7	\$18,971.2	\$19,945.2	\$20,943.1	\$21,963.7	\$22,815.6	\$23,657.2	\$24,561.7	\$25,470.0

### Existing and New Funds included in this Pacing Study

Asset Class	Risk Proxy	Account Name	Vintage Year	Commitment Amount	Paid in Capital	Unfunded Commitment	Cumulative Distribution	Current NAV
Private Equity	Private Debt	Irradiant MCA	2023	50,000,000	0	50,000,000	0	0
Private Equity	Private Debt - Direct Lending	Ares Private Credit Solutions	2017	50,000,000	26,209,881	23,790,119	36,599,332	20,977,419
Private Equity	Private Debt - Direct Lending	Ares Private Credit Solutions II	2021	75,000,000	44,050,349	30,949,651	7,604,308	52,289,989
Private Equity	Private Debt - Direct Lending	TCP Direct Lending Fund VIII-L, LLC	2016	40,000,000	14,552,885	25,447,115	54,494,085	12,856,512



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### Existing and New Funds included in this Pacing Study

Asset Class	Risk Proxy	Account Name	Vintage Year	Commitment Amount	Paid in Capital	Unfunded Commitment	Cumulative Distribution	Current NAV
Private Equity	Private Debt - Direct Lending	Waterfall Sentinel Fund	2019	30,000,000	26,743,233	3,256,767	33,908,433	12,772,888
Private Equity	Private Debt - Distressed	Apollo European Principal Finance Fund, L.P.	2009	42,870,019	41,248,742	1,621,277	105,185,289	106,344
Private Equity	Private Debt - Distressed	Ares Special Situations Fund IV, LP	2015	50,000,000	47,686,469	2,313,531	37,362,661	35,810,367
Private Equity	Private Debt - Distressed	Catalyst Fund Limited Partnership II	2007	10,000,000	10,000,000	0	8,048,486	21,267,233
Private Equity	Private Debt - Distressed	Pathway MCA	2009	10,000,000	10,000,000	0	15,252,881	7,712
Private Equity	Private Debt - Distressed	Pathway MCA	2011	5,000,000	5,000,000	0	7,763,783	730,624
Private Equity	Private Debt - Distressed	Pathway MCA	2012	26,351,215	19,762,215	6,589,000	20,719,672	512,204
Private Equity	Private Debt - Distressed	Pathway MCA	2013	10,000,000	10,000,000	0	11,809,251	6,348,175
Private Equity	Private Debt - Distressed	Pathway MCA	2014	7,000,000	4,878,685	2,121,315	8,250,744	1,602,192
Private Equity	Private Debt - Distressed	Pathway MCA	2015	8,000,000	7,243,306	756,694	7,891,933	7,406,159
Private Equity	Private Debt - Distressed	Pathway MCA	2016	3,000,000	2,693,632	306,368	4,334,207	540,163
Private Equity	Private Debt - Distressed	Pathway MCA	2019	8,000,000	4,985,645	3,014,355	1,832,408	5,045,711
Private Equity	Private Debt - Distressed	Pathway MCA	2020	7,000,000	6,487,046	512,954	5,335,919	6,025,854
Private Equity	Private Debt - Distressed	Pathway MCA	2022	12,000,000	2,759,243	9,240,757	45,443	2,881,158
Private Equity	Private Debt - Distressed	Siguler Guff Distress Opp Fund III, L.P.	2008	10,000,000	9,700,000	300,000	14,970,297	821,084
Private Equity	Private Debt - Distressed	Tennenbaum Opportunity Fund V, L.P.	2007	10,000,000	3,471,661	6,528,339	14,435,464	505,765

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# APPENDIX

### Existing and New Funds included in this Pacing Study

Asset Class	Risk Proxy	Account Name	Vintage Year	Commitment Amount	Paid in Capital	Unfunded Commitment	Cumulative Distribution	Current NAV
Private Equity	Private Debt - Distressed	Tennenbaum Opportunity Fund VI, L.P.	2011	20,000,000	3,641,509	16,358,491	28,218,377	81,276
Private Equity	Private Debt - Junior Capital	Tennenbaum Waterman Fund, LP	2013	70,000,000	63,140,000	6,860,000	87,785,987	51,436,830
Private Equity	Private Equity	Industry Ventures MCA	2023	100,000,000	0	100,000,000	0	0
Private Equity	Private Equity	Industry Ventures MCA	2024	50,000,000	0	50,000,000	0	0
Private Equity	Private Equity	Pathway Capital MCA Additional Commitment	2023	10,400,000	0	10,400,000	0	0
Private Equity	Private Equity	Pathway Capital MCA Additional Commitment	2024	25,000,000	0	25,000,000	0	0
Private Equity	Private Equity	Pathway Capital MCA Base Commitment	2023	75,000,000	0	75,000,000	0	0
Private Equity	Private Equity	Pathway Capital MCA Base Commitment	2024	75,000,000	0	75,000,000	0	0
Private Equity	Private Equity	Tennenbaum Special Situations Fund IX	2015	50,000,000	12,590,483	37,409,517	54,461,260	11,491,114
Private Equity	Private Equity - Buyout	Aurora Equity Partners IV L.P.	2012	20,000,000	17,065,189	2,934,811	40,232,619	481,953
Private Equity	Private Equity - Buyout	Industry Ventures Tech Buyout II, LP	2022	100,000,000	31,033,556	68,966,444	181,108	35,319,350
Private Equity	Private Equity - Buyout	Industry Ventures Tech Buyout LP	2018	50,000,000	47,083,562	2,916,438	1,944,420	67,292,773
Private Equity	Private Equity - Buyout	Pathway MCA	2005	78,000,000	76,416,929	1,583,071	131,935,394	86,011
Private Equity	Private Equity - Buyout	Pathway MCA	2006	94,700,000	92,036,317	2,663,683	140,549,257	685,373
Private Equity	Private Equity - Buyout	Pathway MCA	2007	75,000,000	73,114,075	1,885,925	133,706,065	5,751,070
Private Equity	Private Equity - Buyout	Pathway MCA	2008	45,000,000	43,477,318	1,522,682	77,597,022	2,560,061

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# APPENDIX

### Existing and New Funds included in this Pacing Study

Asset Class	Risk Proxy	Account Name	Vintage Year	Commitment Amount	Paid in Capital	Unfunded Commitment	Cumulative Distribution	Current NAV
Private Equity	Private Equity - Buyout	Pathway MCA	2009	16,750,000	16,247,901	502,099	37,741,207	331,644
Private Equity	Private Equity - Buyout	Pathway MCA	2011	60,000,000	56,940,531	3,059,469	137,392,824	6,663,058
Private Equity	Private Equity - Buyout	Pathway MCA	2012	20,750,000	19,924,420	825,580	58,983,380	1,113,464
Private Equity	Private Equity - Buyout	Pathway MCA	2013	89,250,000	79,801,529	9,448,471	136,917,833	31,866,322
Private Equity	Private Equity - Buyout	Pathway MCA	2014	31,957,301	27,389,600	4,567,701	58,740,699	17,292,424
Private Equity	Private Equity - Buyout	Pathway MCA	2015	44,198,931	34,901,410	9,297,521	71,391,690	26,606,143
Private Equity	Private Equity - Buyout	Pathway MCA	2016	46,699,596	40,011,455	6,688,141	58,132,657	46,020,913
Private Equity	Private Equity - Buyout	Pathway MCA	2017	30,642,533	27,350,505	3,292,028	26,086,194	34,068,785
Private Equity	Private Equity - Buyout	Pathway MCA	2018	60,402,015	54,017,918	6,384,097	50,627,756	66,164,926
Private Equity	Private Equity - Buyout	Pathway MCA	2019	39,527,071	35,282,361	4,244,710	18,939,606	46,826,126
Private Equity	Private Equity - Buyout	Pathway MCA	2020	53,076,000	43,553,828	9,522,172	7,110,185	54,832,922
Private Equity	Private Equity - Buyout	Pathway MCA	2021	83,882,504	57,268,696	26,613,808	7,876,900	67,923,101
Private Equity	Private Equity - Buyout	Pathway MCA	2022	97,000,000	41,341,428	55,658,572	544,252	45,912,758
Private Equity	Private Equity - Buyout	Pathway MCA	2023	61,122,424	19,635,801	41,486,623	128,200	20,381,991
Private Equity	Private Equity - Buyout	Pathway MCA	2024	54,646,037	1,206,352	53,439,685	70,942	11,280,397
Private Equity	Private Equity - Buyout	Pathway MCA	2025	19,140,000	0	19,140,000	0	0

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# APPENDIX

### Existing and New Funds included in this Pacing Study

Asset Class	Risk Proxy	Account Name	Vintage Year	Commitment Amount	Paid in Capital	Unfunded Commitment	Cumulative Distribution	Current NAV
Private Equity	Private Equity - Co-Investment	Flywheel Co-investment LLC	2018	8,000,000	6,400,000	1,600,000	11,211,296	13,373,013
Private Equity	Private Equity - Co-Investment	Pathway MCA	2014	4,500,000	4,500,000	0	10,155,368	1,600,049
Private Equity	Private Equity - Co-Investment	Pathway MCA	2015	800,000	800,000	0	0	0
Private Equity	Private Equity - Co-Investment	Pathway MCA	2016	16,596,216	15,974,377	621,839	29,052,985	14,109,188
Private Equity	Private Equity - Co-Investment	Pathway MCA	2017	9,450,000	9,450,000	0	15,149,481	3,831,216
Private Equity	Private Equity - Co-Investment	Pathway MCA	2018	16,057,749	15,528,707	529,042	16,192,952	12,377,714
Private Equity	Private Equity - Co-Investment	Pathway MCA	2019	12,516,125	10,245,622	2,270,503	17,397,508	6,557,576
Private Equity	Private Equity - Co-Investment	Pathway MCA	2020	12,740,480	12,011,934	728,546	1,878,141	17,936,387
Private Equity	Private Equity - Co-Investment	Pathway MCA	2021	24,375,907	22,178,457	2,197,450	824,961	39,669,183
Private Equity	Private Equity - Co-Investment	Pathway MCA	2022	16,211,248	16,211,248	0	5,986,453	19,120,869
Private Equity	Private Equity - Co-Investment	Pathway MCA	2023	19,290,814	17,808,814	1,482,000	89,211	29,005,741
Private Equity	Private Equity - Co-Investment	Pathway MCA	2024	2,600,000	2,600,000	0	0	2,810,410
Private Equity	Private Equity - Co-Investment	Waterfall Sentinel Co-Investments	2019	30,000,000	30,000,000	0	59,352,631	4,252,063
Private Equity	Private Equity - Early Stage Venture	Pathway MCA	2005	4,700,000	4,700,000	0	10,628,625	732,242
Private Equity	Private Equity - Early Stage Venture	Pathway MCA	2006	31,700,000	31,700,000	0	56,073,289	1,606,939
Private Equity	Private Equity - Early Stage Venture	Pathway MCA	2007	10,000,000	9,900,000	100,000	14,163,562	888,018

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# APPENDIX

### Existing and New Funds included in this Pacing Study

Asset Class	Risk Proxy	Account Name	Vintage Year	Commitment Amount	Paid in Capital	Unfunded Commitment	Cumulative Distribution	Current NAV
Private Equity	Private Equity - Early Stage Venture	Pathway MCA	2012	9,700,000	9,603,000	97,000	15,854,841	4,605,082
Private Equity	Private Equity - FoF	Adams Street MCA	2023	50,000,000	0	50,000,000	0	0
Private Equity	Private Equity - FoF	Adams Street MCA	2024	50,000,000	0	50,000,000	0	0
Private Equity	Private Equity - FoF	Adams Street MCA Add	2023	25,000,000	0	25,000,000	0	0
Private Equity	Private Equity - FoF	Adams Street MCA Add	2024	25,000,000	0	25,000,000	0	0
Private Equity	Private Equity - FoF	Adams Street SBCERA Fund 1 LP	2020	150,000,000	137,525,298	12,474,702	19,168,594	156,847,360
Private Equity	Private Equity - FoF	Adams Street SBCERA Fund 2 LP	2023	80,000,000	31,800,000	48,200,000	0	36,519,746
Private Equity	Private Equity - FoF	European Strategic Partners 2004	2004	195,037,152	177,040,410	17,996,742	282,336,847	171,069
Private Equity	Private Equity - FoF	European Strategic Partners 2008	2010	26,793,762	25,168,731	1,625,031	40,512,113	1,997,966
Private Equity	Private Equity - FoF	Kayne Anderson MCA	2023	25,000,000	0	25,000,000	0	0
Private Equity	Private Equity - FoF	Partners Group MCA	2004	24,977,233	24,750,568	226,665	40,398,863	712,268
Private Equity	Private Equity - FoF	Partners Group MCA	2006	57,883,897	54,673,865	3,210,032	64,859,097	5,849
Private Equity	Private Equity - FoF	Partners Group MCA	2007	26,375,191	23,574,721	2,800,470	34,947,799	614,081
Private Equity	Private Equity - FoF	Partners Group MCA	2011	3,664,396	2,911,509	752,887	4,485,574	153,385
Private Equity	Private Equity - FoF	Partners Group MCA	2012	18,080,269	16,497,573	1,582,696	27,581,490	6,613,393
Private Equity	Private Equity - FoF	Partners Group MCA	2013	12,965,429	12,965,429	0	33,090,297	17,935

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# APPENDIX

### Existing and New Funds included in this Pacing Study

Asset Class	Risk Proxy	Account Name	Vintage Year	Commitment Amount	Paid in Capital	Unfunded Commitment	Cumulative Distribution	Current NAV
Private Equity	Private Equity - FoF	Partners Group MCA	2014	22,605,209	22,605,209	0	48,244,857	597,152
Private Equity	Private Equity - FoF	Partners Group MCA	2015	35,637,203	33,712,411	1,924,792	43,651,149	26,770,530
Private Equity	Private Equity - FoF	Partners Group MCA	2016	24,866,649	24,042,448	824,201	24,688,112	22,979,214
Private Equity	Private Equity - FoF	Partners Group MCA	2017	61,397,026	61,351,426	45,600	106,427,727	24,312,707
Private Equity	Private Equity - FoF	Partners Group MCA	2018	64,522,286	57,467,243	7,055,043	31,846,487	55,908,012
Private Equity	Private Equity - FoF	Partners Group MCA	2019	87,985,087	75,877,616	12,107,471	35,775,087	86,865,398
Private Equity	Private Equity - FoF	Partners Group MCA	2020	40,660,783	40,660,783	0	2,505,695	37,998,633
Private Equity	Private Equity - FoF	Partners Group MCA	2021	103,734,875	91,343,246	12,391,629	667	115,451,339
Private Equity	Private Equity - FoF	Partners Group MCA	2022	98,004,135	66,133,351	31,870,784	0	86,995,057
Private Equity	Private Equity - FoF	Partners Group MCA	2023	28,433,741	26,617,845	1,815,896	0	23,649,490
Private Equity	Private Equity - FoF	Partners Group MCA	2024	65,406,991	54,153,911	11,253,080	0	45,397,076
Private Equity	Private Equity - FoF	Partners Group MCA PE	2023	75,000,000	0	75,000,000	0	0
Private Equity	Private Equity - FoF	Partners Group MCA PE	2024	75,000,000	0	75,000,000	0	0
Private Equity	Private Equity - Growth	Kayne Partners Fund IV (QP), L.P.	2017	20,000,000	18,205,690	1,794,310	18,379,835	20,857,397
Private Equity	Private Equity - Growth	Kayne Partners Fund V LP	2021	50,000,000	28,724,713	21,275,287	1,297,099	37,114,600
Private Equity	Private Equity - Growth	Pathway MCA	2010	15,000,000	14,100,000	900,000	42,975,876	862,579

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# APPENDIX

### Existing and New Funds included in this Pacing Study

Asset Class	Risk Proxy	Account Name	Vintage Year	Commitment Amount	Paid in Capital	Unfunded Commitment	Cumulative Distribution	Current NAV
Private Equity	Private Equity - Growth	Pathway MCA	2012	20,000,000	17,345,893	2,654,107	50,280,447	5,441,180
Private Equity	Private Equity - Growth	Pathway MCA	2014	12,000,000	11,224,647	775,353	30,696,735	11,352,206
Private Equity	Private Equity - Growth	Pathway MCA	2015	8,000,000	7,704,002	295,998	14,879,607	4,132,557
Private Equity	Private Equity - Growth	Pathway MCA	2016	2,100,000	1,797,422	302,578	1,047,360	880,026
Private Equity	Private Equity - Growth	Pathway MCA	2018	11,000,000	9,528,115	1,471,885	8,262,037	10,519,317
Private Equity	Private Equity - Growth	Pathway MCA	2019	8,000,000	7,300,862	699,138	4,726,744	9,114,614
Private Equity	Private Equity - Growth	Pathway MCA	2021	12,000,000	10,596,000	1,404,000	477,261	9,403,238
Private Equity	Private Equity - Growth	Pathway MCA	2022	12,000,000	3,325,636	8,674,364	0	3,766,385
Private Equity	Private Equity - Growth	Pathway MCA	2023	19,205,655	5,259,329	13,946,326	5,845	4,832,747
Private Equity	Private Equity - Growth	Pathway MCA	2024	21,806,659	0	21,806,659	0	-93,755
Private Equity	Private Equity - Late Stage Venture	Pathway MCA	2008	15,000,000	14,760,000	240,000	45,695,368	403,499
Private Equity	Private Equity - Late Stage Venture	Pathway MCA	2011	8,500,000	8,475,863	24,137	23,925,532	5,300,602
Private Equity	Private Equity - Late Stage Venture	Pathway MCA	2013	26,500,000	25,911,108	588,892	50,343,134	19,231,928
Private Equity	Private Equity - Late Stage Venture	Pathway MCA	2014	20,000,000	17,435,003	2,564,997	25,441,951	14,550,582
Private Equity	Private Equity - Late Stage Venture	Pathway MCA	2016	14,061,722	11,756,076	2,305,646	20,405,212	10,853,613
Private Equity	Private Equity - Late Stage Venture	Pathway MCA	2018	3,000,000	2,484,617	515,383	140,066	1,262,153

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# APPENDIX

### Existing and New Funds included in this Pacing Study

Asset Class	Risk Proxy	Account Name	Vintage Year	Commitment Amount	Paid in Capital	Unfunded Commitment	Cumulative Distribution	Current NAV
Private Equity	Private Equity - Late Stage Venture	Pathway MCA	2019	8,000,000	6,004,264	1,995,736	1,963,447	11,552,572
Private Equity	Private Equity - Late Stage Venture	Pathway MCA	2022	1,000,000	260,000	740,000	0	253,830
Private Equity	Private Equity - Secondary	Crestline Portfolio Financing Fund	2018	50,000,000	32,620,978	17,379,022	38,433,515	19,235,822
Private Equity	Private Equity - Secondary	Crestline Portfolio Financing Fund II	2020	50,000,000	30,551,955	19,448,045	23,371,742	36,288,212
Private Equity	Private Equity - Secondary	Industry Ventures Fund VI	2011	20,000,000	18,400,000	1,600,000	24,850,771	276,216
Private Equity	Private Equity - Secondary	Industry Ventures Secondary IX, L.P.	2021	50,000,000	45,054,461	4,945,539	3,138,966	52,810,133
Private Equity	Private Equity - Secondary	Industry Ventures Secondary VII, L.P.	2013	25,000,000	23,175,000	1,825,000	40,178,883	5,487,911
Private Equity	Private Equity - Secondary	Industry Ventures Secondary VIII, L.P.	2016	25,000,000	22,525,000	2,475,000	26,114,468	17,513,636
Private Equity	Private Equity - Secondary	Industry Ventures Secondary X, L.P.	2023	75,000,000	11,250,000	63,750,000	0	15,686,393
Private Equity	Private Equity - Secondary	Lexington Capital Partners VI-B, L.P.	2006	25,000,000	24,591,319	408,681	36,944,696	127,565
Private Equity	Private Equity - Secondary	Lexington Capital Partners VII Offshore	2011	25,000,000	21,163,480	3,836,520	33,519,197	2,285,050
Private Equity	Private Equity - Secondary	Lexington Middle Market Investors II, L.P.	2008	10,000,000	9,773,736	226,264	16,519,214	1,555,726
Private Equity	Private Equity - Secondary	Lexington Middle Markets Investors, L.P.	2005	25,000,000	24,771,942	228,058	40,456,311	50,891
Private Equity	Private Equity - Secondary	Patria SOF V SCSp	2024	75,000,000	0	75,000,000	0	0
Private Equity	Private Equity - Secondary	SL Capital SOF I LP	2013	25,000,000	21,408,596	3,591,404	30,427,565	1,316,176
Private Equity	Private Equity - Secondary	SL Capital SOF II LP	2015	25,000,000	13,771,935	11,228,065	31,374,281	115,359



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# APPENDIX

### Existing and New Funds included in this Pacing Study

Asset Class	Risk Proxy	Account Name	Vintage Year	Commitment Amount	Paid in Capital	Unfunded Commitment	Cumulative Distribution	Current NAV
Private Equity	Private Equity - Secondary	SL Capital SOF III LP	2017	25,000,000	18,683,639	6,316,361	29,850,118	16,475,394
Private Equity	Private Equity - Special Situations	LUMINARX OAS ONSH FUND LP	2023	100,000,000	26,808,905	73,191,095	209	42,118,953
Private Equity	Private Equity - Venture	IV Arrowhead, L.P.	2022	30,000,000	23,099,190	6,900,810	334,379	24,009,968
Private Equity	Private Equity - Venture	Industry Vent Part Holdings III, LP	2013	25,000,000	23,277,042	1,722,958	43,070,586	31,071,102
Private Equity	Private Equity - Venture	Industry Vent Part Holdings III-A, LP	2013	12,500,000	11,162,500	1,337,500	7,376,927	3,452,658
Private Equity	Private Equity - Venture	Industry Vent Part Holdings IV, L.P.	2015	25,000,000	22,750,000	2,250,000	8,419,172	41,432,564
Private Equity	Private Equity - Venture	Industry Ventures Direct II, L.P.	2019	50,000,000	46,316,957	3,683,043	28,611	67,083,584
Private Equity	Private Equity - Venture	Industry Ventures Direct III, LP	2022	40,000,000	11,887,206	28,112,794	1,408	10,712,026
Private Equity	Private Equity - Venture	Industry Ventures Direct, L.P.	2016	25,000,000	23,920,424	1,079,576	11,577,501	35,008,564
Private Equity	Private Equity - Venture	Industry Ventures Fund II	2012	25,000,000	23,500,000	1,500,000	62,508,083	42,267,507
Private Equity	Private Equity - Venture	Industry Ventures Partnership Holdings V, LP	2018	25,000,000	23,375,000	1,625,000	626,933	40,004,153
Private Equity	Private Equity - Venture	Industry Ventures Partnership Holdings VI, LP	2021	40,000,000	24,017,383	15,982,617	683,933	26,413,780
Private Equity	Private Equity - Venture	Industry Ventures Special Opportunitiess II-A, L.P.	2016	12,500,000	7,944,029	4,555,971	4,005,516	1,071,288
Private Equity	Private Equity - Venture	Pathway MCA	2004	6,250,000	6,250,000	0	5,064,227	5,106
Private Equity	Private Equity - Venture	Pathway MCA	2006	21,600,000	21,600,000	0	28,523,022	10,952
Private Equity	Private Equity - Venture	Pathway MCA	2010	5,000,000	5,000,000	0	3,684,680	2,953,145

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## APPENDIX

### Existing and New Funds included in this Pacing Study

Asset Class	Risk Proxy	Account Name	Vintage Year	Commitment Amount	Paid in Capital	Unfunded Commitment	Cumulative Distribution	Current NAV
Private Equity	Private Equity - Venture	Pathway MCA	2011	10,000,000	9,780,000	220,000	23,908,839	719,256
Private Equity	Private Equity - Venture	Pathway MCA	2012	15,000,000	14,700,000	300,000	16,407,017	22,697,604
Private Equity	Private Equity - Venture	Pathway MCA	2022	12,000,000	3,552,000	8,448,000	0	3,086,421
Private Equity	Private Real Assets - Infrastructure	Energy Spectrum Partners VI, L.P.	2010	20,000,000	19,719,642	280,358	20,849,798	424,706
Private Equity	Private Real Assets - Natural Resources	Kayne Anderson Energy Fund VII, L.P.	2017	10,000,000	9,634,386	365,614	4,893,870	5,767,255
Private Equity	Private Real Assets - Natural Resources	Kayne Private Energy Income Fund II, LP	2018	20,000,000	17,303,363	2,696,637	10,135,237	29,700,805
Private Equity	Private Real Assets - Natural Resources	Kayne SBCERA MLP	2017	130,000,000	166,225,037	-36,225,037	72,547,346	131,577,522
Private Equity	Private Real Assets - Natural Resources	Tennenbaum Energy Opportunities Fund, LP	2015	20,000,000	1,567,938	18,432,062	20,575,902	1,539,224
Private Equity	Private Equity	Diversified	2025	120,000,000	0	120,000,000	0	0
Private Equity	Private Equity	Diversified	2026	120,000,000	0	120,000,000	0	0
Private Equity	Private Equity	Diversified	2027	120,000,000	0	120,000,000	0	0
Private Equity	Private Equity	Diversified	2028	120,000,000	0	120,000,000	0	0
Private Equity	Private Equity	Diversified	2029	120,000,000	0	120,000,000	0	0
Private Equity	Private Equity	Diversified	2030	120,000,000	0	120,000,000	0	0
Private Equity	Private Equity	Diversified	2031	120,000,000	0	120,000,000	0	0
Private Equity	Private Equity	Diversified	2032	120,000,000	0	120,000,000	0	0



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# APPENDIX

### Existing and New Funds included in this Pacing Study

Asset Class	Risk Proxy	Account Name	Vintage Year	Commitment Amount	Paid in Capital	Unfunded Commitment	Cumulative Distribution	Current NAV
Private Equity	Private Equity	Diversified	2033	120,000,000	0	120,000,000	0	0
Private Equity	Private Equity	Diversified	2034	120,000,000	0	120,000,000	0	0
Private Equity	Private Equity - Buyout	Buyout	2025	245,900,000	0	245,900,000	0	0
Private Equity	Private Equity - Buyout	Buyout	2026	250,000,000	0	250,000,000	0	0
Private Equity	Private Equity - Buyout	Buyout	2027	250,000,000	0	250,000,000	0	0
Private Equity	Private Equity - Buyout	Buyout	2028	250,000,000	0	250,000,000	0	0
Private Equity	Private Equity - Buyout	Buyout	2029	250,000,000	0	250,000,000	0	0
Private Equity	Private Equity - Buyout	Buyout	2030	250,000,000	0	250,000,000	0	0
Private Equity	Private Equity - Buyout	Buyout	2031	250,000,000	0	250,000,000	0	0
Private Equity	Private Equity - Buyout	Buyout	2032	250,000,000	0	250,000,000	0	0
Private Equity	Private Equity - Buyout	Buyout	2033	250,000,000	0	250,000,000	0	0
Private Equity	Private Equity - Buyout	Buyout	2034	250,000,000	0	250,000,000	0	0
Private Equity	Private Equity - Growth	Growth Equity	2025	60,000,000	0	60,000,000	0	0
Private Equity	Private Equity - Growth	Growth Equity	2026	65,000,000	0	65,000,000	0	0
Private Equity	Private Equity - Growth	Growth Equity	2027	65,000,000	0	65,000,000	0	0
Private Equity	Private Equity - Growth	Growth Equity	2028	65,000,000	0	65,000,000	0	0

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# APPENDIX

### Existing and New Funds included in this Pacing Study

Asset Class	Risk Proxy	Account Name	Vintage Year	Commitment Amount	Paid in Capital	Unfunded Commitment	Cumulative Distribution	Current NAV
Private Equity	Private Equity - Growth	Growth Equity	2029	65,000,000	0	65,000,000	0	0
Private Equity	Private Equity - Growth	Growth Equity	2030	65,000,000	0	65,000,000	0	0
Private Equity	Private Equity - Growth	Growth Equity	2031	65,000,000	0	65,000,000	0	0
Private Equity	Private Equity - Growth	Growth Equity	2032	65,000,000	0	65,000,000	0	0
Private Equity	Private Equity - Growth	Growth Equity	2033	65,000,000	0	65,000,000	0	0
Private Equity	Private Equity - Growth	Growth Equity	2034	65,000,000	0	65,000,000	0	0
Private Equity	Private Equity - Secondary	Secondary	2025	90,000,000	0	90,000,000	0	0
Private Equity	Private Equity - Secondary	Secondary	2026	90,000,000	0	90,000,000	0	0
Private Equity	Private Equity - Secondary	Secondary	2027	90,000,000	0	90,000,000	0	0
Private Equity	Private Equity - Secondary	Secondary	2028	90,000,000	0	90,000,000	0	0
Private Equity	Private Equity - Secondary	Secondary	2029	90,000,000	0	90,000,000	0	0
Private Equity	Private Equity - Secondary	Secondary	2030	90,000,000	0	90,000,000	0	0
Private Equity	Private Equity - Secondary	Secondary	2031	90,000,000	0	90,000,000	0	0
Private Equity	Private Equity - Secondary	Secondary	2032	90,000,000	0	90,000,000	0	0
Private Equity	Private Equity - Secondary	Secondary	2033	90,000,000	0	90,000,000	0	0
Private Equity	Private Equity - Secondary	Secondary	2034	90,000,000	0	90,000,000	0	0

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# APPENDIX

### Existing and New Funds included in this Pacing Study

Asset Class	Risk Proxy	Account Name	Vintage Year	Commitment Amount	Paid in Capital	Unfunded Commitment	Cumulative Distribution	Current NAV
Private Equity	Private Equity - Venture	Venture	2025	115,000,000	0	115,000,000	0	0
Private Equity	Private Equity - Venture	Venture	2026	125,000,000	0	125,000,000	0	0
Private Equity	Private Equity - Venture	Venture	2027	125,000,000	0	125,000,000	0	0
Private Equity	Private Equity - Venture	Venture	2028	125,000,000	0	125,000,000	0	0
Private Equity	Private Equity - Venture	Venture	2029	125,000,000	0	125,000,000	0	0
Private Equity	Private Equity - Venture	Venture	2030	125,000,000	0	125,000,000	0	0
Private Equity	Private Equity - Venture	Venture	2031	125,000,000	0	125,000,000	0	0
Private Equity	Private Equity - Venture	Venture	2032	125,000,000	0	125,000,000	0	0
Private Equity	Private Equity - Venture	Venture	2033	125,000,000	0	125,000,000	0	0
Private Equity	Private Equity - Venture	Venture	2034	125,000,000	0	125,000,000	0	0

- **NEPC's private markets pacing analysis projects a potential level of future assets and cash flows for a single scenario based on a series of assumptions. This analysis is intended to help estimate future exposure levels. It is not a guarantee of future cash flows, appreciation or returns.**
- **The timing and amounts of projected future cash flows and market values of investments could vary significantly from the amounts projected in this pacing analysis due to manager-specific and industry-wide macroeconomic factors.**
- **Estimates of projected cash flows and market values for existing private markets commitments were made at the Fund level and do not incorporate any underlying portfolio company projections or analysis.**
- **The opinions presented herein represent the good faith views of NEPC as of the date of this report and are subject to change at any time.**
- **Data used to prepare this report was obtained directly from the investment managers and other third parties. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.**
- **This report may contain confidential or proprietary information and is intended only for the designated recipient(s). If you are not a designated recipient, you may not copy or distribute this document.**

# ALTERNATIVE INVESTMENT DISCLOSURES

**It is important that investors understand the following characteristics of non-traditional investment strategies including hedge funds and private equity:**

- 1. Performance can be volatile and investors could lose all or a substantial portion of their investment**
- 2. Leverage and other speculative practices may increase the risk of loss**
- 3. Past performance may be revised due to the revaluation of investments**
- 4. These investments can be illiquid, and investors may be subject to lock-ups or lengthy redemption terms**
- 5. A secondary market may not be available for all funds, and any sales that occur may take place at a discount to value**
- 6. These funds are not subject to the same regulatory requirements as registered investment vehicles**
- 7. Managers may not be required to provide periodic pricing or valuation information to investors**
- 8. These funds may have complex tax structures and delays in distributing important tax information**
- 9. These funds often charge high fees**
- 10. Investment agreements often give the manager authority to trade in securities, markets or currencies that are not within the manager's realm of expertise or contemplated investment strategy**