

San Jose Police and Fire Department Retirement Plan

Private Markets Program Update

January 22, 2025

Private Markets Asset Classes

Buyout



- Large Buyout
 - Small-/Mid- Buyout
 - Special Situations
 - Other
- Equity investments in growing, established, and mature companies, with enterprise values generally ranging from \$20mm to \$20bn.

Venture



- Early Stage
 - Mid Stage
 - Late Stage
 - Diversified
- Primarily equity investments in start-ups and high growth companies.

Debt



- Par Credit
 - Securitized
 - Stress/Distress
 - Other
- Debt investments include credit expected to pay back original principal and interest (par credit), loans and bonds that have been packaged into special purpose vehicles (securitized), securities where the obligor is in a stressed or distressed financial situation (stress/distress), and unique strategies that have some or all the characteristics of debt investments.

Real Estate



- Value-Added
 - Opportunistic
 - Real Estate Debt
 - Other
- Equity and debt investments in operating companies and physical properties where the economic value is derived primarily through real estate-related activities. Value-added and opportunistic are distinguished by the level of risk associated with an investment.

Real Assets



- Infrastructure
 - Energy
 - Natural Resources
 - Other
- Investments in operating companies and physical assets where the economic value is derived primarily from the development, production, transport, or processing of natural resources, and the facilities supporting their downstream progress.

Objectives

Economic objectives leading to inclusion of private markets within the asset allocation

The purpose of Private Markets is to get exposure to investment strategies that are not available in public markets, thereby capturing an illiquidity premium. The factor exposures will be comparable to those of public markets – primarily growth, supplemented by credit and inflation. The sub-asset classes are Buyout, Venture Capital, Private Debt, Growth Real Estate, and Private Real Assets.

Quantified “absolute” objectives as a result of the asset allocation

- Be near target Net Asset Value for Private Markets and individual private asset classes.
- Achieve performance consistent with asset allocation assumptions:

<i>Measurement Group</i>	<i>Net Return</i>	<i>Time Horizon and Methodology</i>
Private Markets Program	10%	20Y, Meketa geometric expected return
Buyout	11%	
Venture	12%	
Debt	9%	
Real Estate	10%	
Real Assets	9%	

Quantified “relative” objectives as a result of asset class characteristics

- Achieve performance that justifies use of private markets versus public markets.
- Achieve performance that demonstrates a level of staff skill.

<i>Measurement Group</i>	<i>Net Return</i>	<i>Time Horizon and Methodology</i>
Private Markets Program	Global Equity + 100 bps	20Y, Meketa geometric expected return
Individual investments	1 st & 2 nd Quartile	Investments’ peer groups, by vintage year

Key Elements of Private Markets Strategy

1. **Ensure beta exposure above all else.**

Failure to execute the pacing plan guarantees not meeting objectives envisioned within the asset allocation.

Implication is that consistent commitments and vintage diversification matter more than anything else, including manager selection.

2. **Alpha is an outcome of process.**

Sources of alpha can be picking: better sub-sectors (beta timing), managers who are better at choosing the right investments (security selection), manager who operate more effectively (value creation), capital structure optimization (risk decomposition).

Consistently harvesting alpha from those sources requires a competitive advantage relative to all sources of private capital, which must be deliberately developed and maintained.

3. **Alignment of interests can overwhelm most other investment factors.**

Long-term illiquid commitments require careful due diligence and selection of partners.

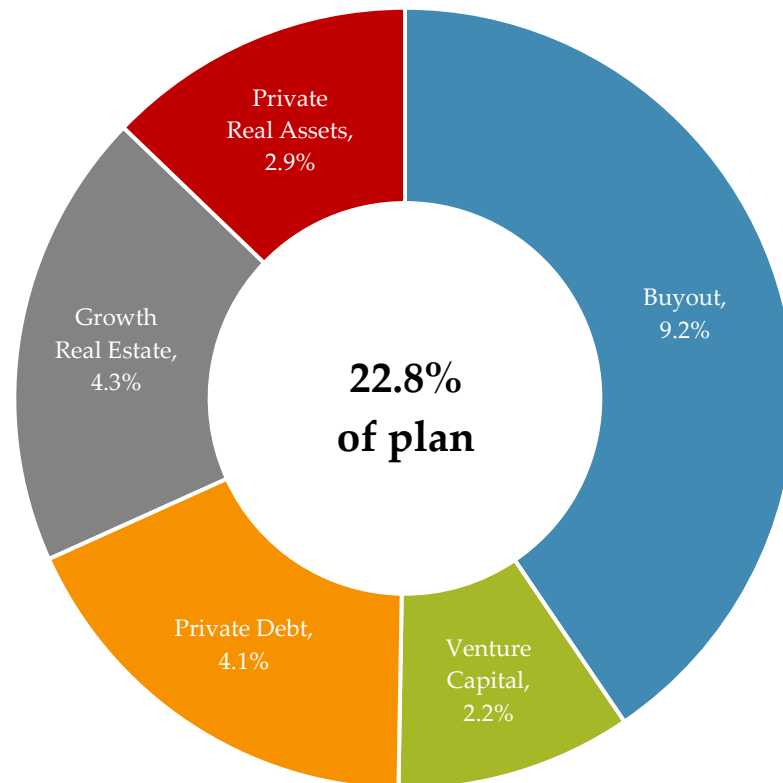
Agency conflicts increase with (a) distance from the asset and (b) dispersion of ownership.

Fees are the result of a buy-versus-build decision and market forces.

Private Markets Allocation Snapshot

	% of Plan	Target	Difference
Buyout	9.2%	10%	-0.8%
Venture Capital	2.2%	4.5%	-2.3%
Private Debt	4.1%	5%	-0.9%
Growth Real Estate	4.3%	4%	0.3%
Private Real Assets	2.9%	4%	-1.1%
Total Private Markets	22.8%	27.5%	-4.7%

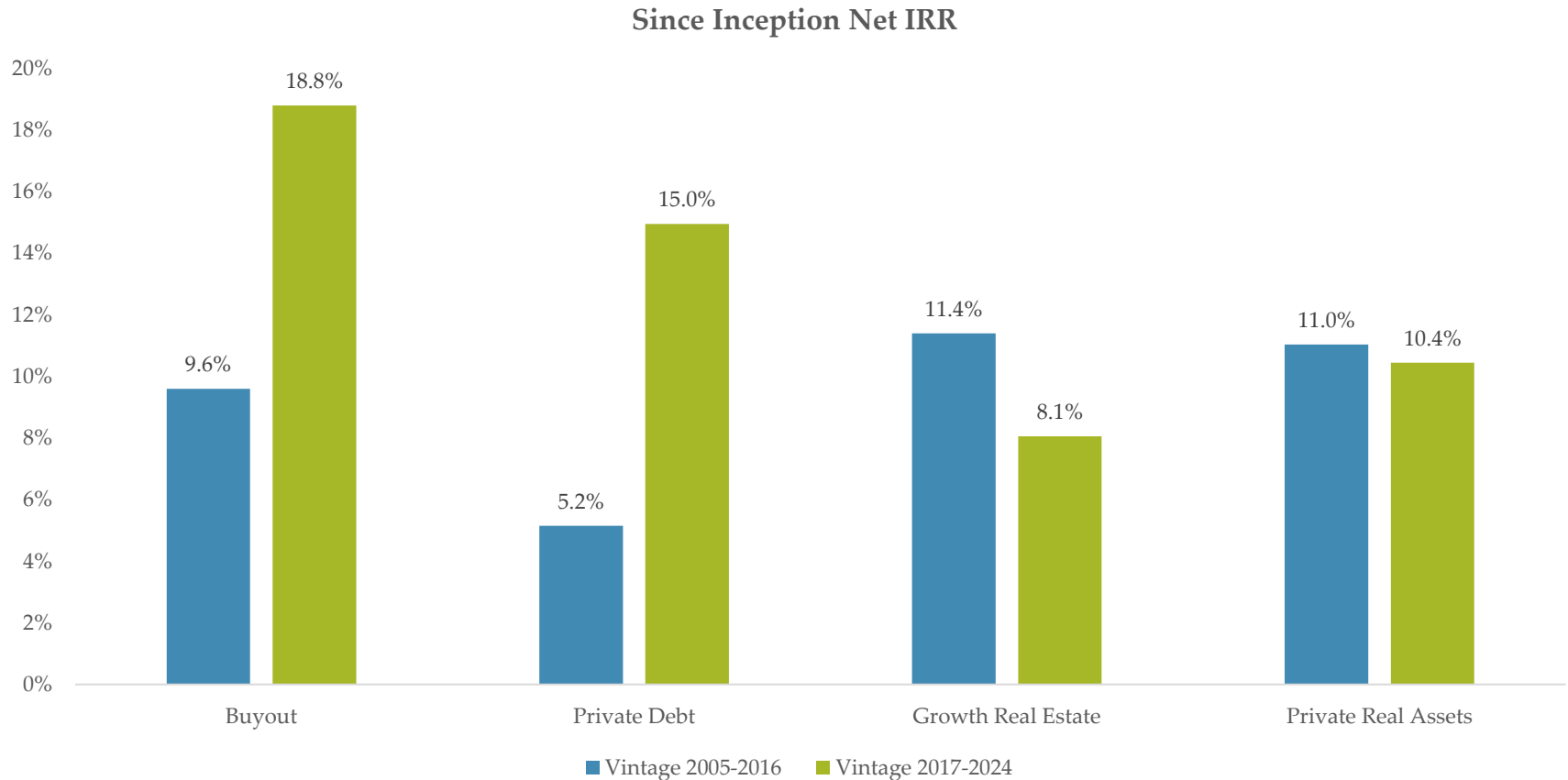
Pro Forma as of December 31, 2024



Post-2017 Commitments Generally Outperforming

Commitments in vintage years 2017-2024 are outperforming legacy commitments in vintage years 2005-2016 for Buyout and Private Debt.

A formal private markets investment strategy, team, and enhanced resources were put in place in 2017.



As of June 30, 2024

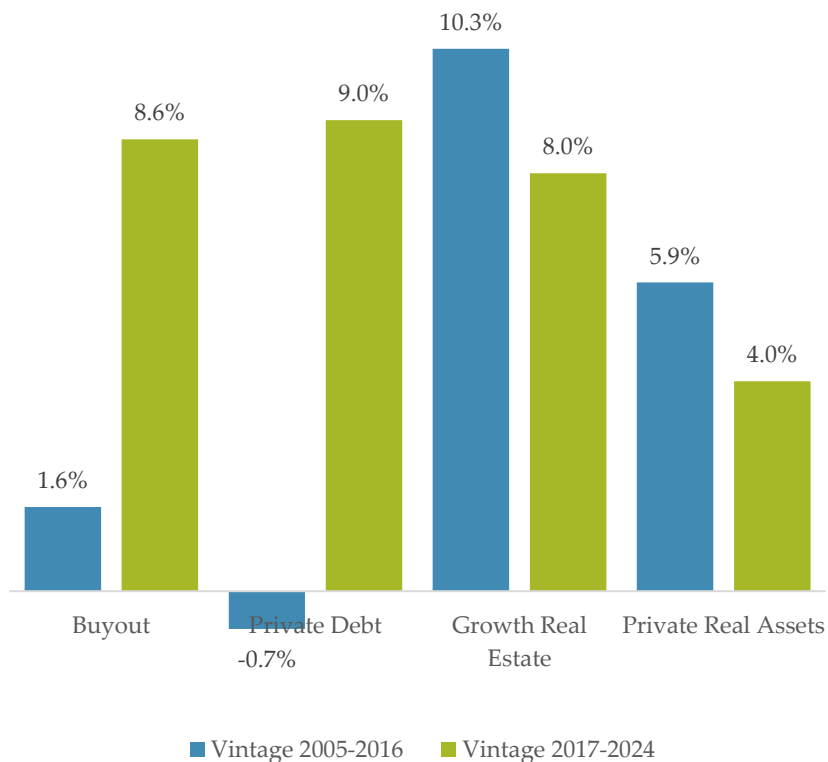
Source: Meketa, Neuberger Berman

Private Returns Relative to Public Markets

Commitments in vintage years 2017-2024 are outperforming legacy commitments in vintage years 2005-2016 except for Growth Real Estate and Private Real Assets.

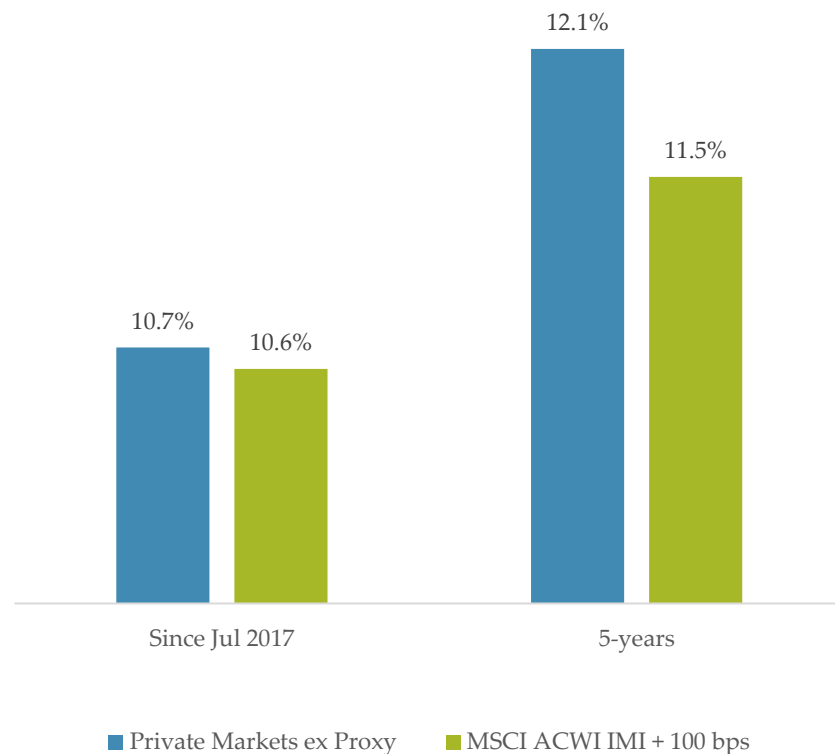
The Private Markets portfolio is also exceeding the return of the MSCI ACWI IMI + 100 bps by 10 bps per year since July 2017.

Excess Return to PME by Vintage Year



As of June 30, 2024
Source: Meketa, Neuberger Berman

Time-Weighted Net Returns



As of June 30, 2024
Source: Meketa, BNY Mellon

Pacing Plan Execution

92% of FY 2024-25 pacing plan committed (including closed and pending closes).

	Style	Date	Executed (\$mm)	Target (\$mm)	% of Target
Buyout			150	/ 150	100%
PE Strategic Partnership SJPF	Fund-of-one	7/1/2024	150		
Venture Capital			28	/ 35	80%
Tiger Iron SJPF	Fund-of-one	7/1/2024	10		
Friends & Family Capital III	Mid Stage	12/30/2024	3		
Lerer Hippeau IX	Early Stage	12/31/2024	5		
<i>Expected to close soon</i>	<i>Early Stage</i>	<i>TBD</i>	5		
<i>Expected to close soon</i>	<i>Early Stage</i>	<i>TBD</i>	5		
Private Debt			112	/ 80	140%
Silver Point Specialty Credit Fund III	Par Credit	11/15/2024	28		
Arbour Lane Credit Opportunity Fund IV	Stress	12/9/2024	28		
Strategic Value Special Situations Fund VI	Stress	12/19/2024	28		
<i>Expected to close soon</i>	<i>Stress</i>	<i>TBD</i>	28		
Growth Real Estate			24	/ 70	34%
IPI Partners Fund III	Value Added	12/11/2024	24		
Private Real Assets			48	/ 60	80%
Primary Wave Music IP Fund 4	Infra	9/27/2024	18		
Pelican Energy Partners Base Zero	Energy	10/25/2024	18		
Lime Rock New Energy II	Infra	12/3/2024	12		
Total Private Markets			362	/ 395	92%

AI

AI – What is it?

A brief history of Artificial Intelligence

From cybernetics to AI
The idea that humans and machines are essentially the same gives rise to a project where scientists began to seriously consider what it would take to develop machines with human-like intelligence.

The "birth of AI" in the wake of the cybernetics movement
Bringing together the functioning of machines and organic beings.

Accelerated code breaking
Alan Turing used the Bombe machine to decode messages encrypted using the Enigma machine at an accelerated pace during WWII.

"The Manchester Baby" runs its first program

1940's

1941 "Cyclops"
The study of control and communication in the animal and the machine by Norbert Wiener

1942 "Fast Brain" or "Machine Boy Train"
Edmund Berkeley compares machines to human brains. It was made of "hardware and wires instead of fish and nerves."

1943 "Machines and behavior"
Behavior, Purpose, and Teleology by Rosenbuth, Wiener, & Bigelow

1943 "Artificial Neurons"
A Logical Calculus of the Ideas Immanent in Nervous Activity by McCulloch & Pitts

The birth of neural networks

"Artificial Intelligence"
Introduced into the nomenclature by John McCarthy

The construction of computer programs that engage in tasks that are currently more satisfactorily performed by human beings because they require high-level mental processes such as, perceptual learning, memory organization and critical reasoning - Marvin Minsky

1970 "From three to eight years we will have a machine with the general intelligence of an average human being" - Marvin Minsky

1956: "AI will beat a human at chess within the next 10 years" - Herbert Simon

1955: First AI Workshop Proposed to be held at Dartmouth in 1956
McCarty, Minsky, Rochester, Shannon

1956: GENERAL Expert System
Hypothesis formation and science
Inference & Logical Conclusions
Feigenbaum & Lederberg

1958: The Imitation Game
Computing Machinery and Intelligence
by Alan Turing

1958: LISP
List Processing
First Programming Language
Created by John McCarthy

1959: "Machine Learning"
Introduced into the nomenclature by Arthur Samuel of IBM

1950's

1952: Program that can play checkers is developed by Arthur Samuel

1959: "Machine Learning"
Introduced into the nomenclature by Arthur Samuel of IBM

1956: The first program Logic Theorist - gave theorem in symbolic logic from scratch and proved it through methods created by Newell & Simon

1957: General Problem Solver Means-End Problem Solving
Newell, Simon, & Shaw

1958: SHORL
Natural language processing program that converted a book word using English language reductions created by Terry Winograd

1958: "The Stanford Cart"
First autonomous vehicle created by James Adams

1958: Adal Viro Mohr uses punch card instructions to create digital world using the Fortran program - the first "autonomous art"

1960: 1st National Conference on Artificial Intelligence
Held at Stanford University, August 18-21

1960-1967 "AI Boom"
machine learning shifts from knowledge driven approaches to data-driven approaches

1961: 5th Generation Computer Project
Japan spends \$850 million to create computers that could translate and use human language + express human-level reasoning

1962: WAKAT
The first "robot" Wakes, communicated in Japanese and gripped objects
Wataru University

1967: Physical Symbol System Hypothesis
"Computer science as empirical hypothesis"
by Newell & Simon

1969: Commanded bots champion of back-gammon
Created by Hans Berliner

1973: Reduced funding for AI due to lack of promised progress in Britain

1970's

1970: The Stanford Cart successfully navigates a room without human assistance

1971: AARON
Autonomous Drawing Program creates the first "AI Art" - paints a "turtie"
Designed by Harold Cohen

1975: SAM
Program meant to "understand" stories from a script
Created by Roger Schank

1976: XCON
First expert system on the commercial market
Used to configure customer orders and reduce shipping times

1974-1980 1st AI Winter
Natural language processing program that converted a book word using English language reductions created by Terry Winograd

1971: Maccor program invented by Ted Hoff
Laying in the "Golden Age" of Expert Systems
Hoff revealed the hidden magic of microprocessors in 2018

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"Deep Learning"
Inspired by Geoffrey Hinton to explain how algorithms that can be trained to recognize objects and text in images and videos

1967: VR, Data Cloak
A VR glove that controlled a virtual hand

1969: CYBERFACE
VR glasses created by Ivan Sutherland

1967: The "Web" is invented by Tim Berners-Lee

1968: 3rd job released by simulation methods
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IBM T. J. Watson Research Center

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1990's

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1967: Market for specialized LISP-based hardware collapses
Low consumer, public, and private interest in AI

2006: "SOCIAL MEDIA"
1965: AI, LCC
1967: The "Web" is invented by Tim Berners-Lee

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2014: Convnet Architecture Networks produce complex new images for the first time other than copying an image using a program developed by Ian Goodfellow

2017: Google Deep Mind AI avatar teaches itself how to walk

2010: XBOX 360 Kinect
First gaming hardware to track body movements and translate 3-D into gaming directions

2011: AlphaGo
Google AI wins a complex network of 19,504 computer programs with 1 million connections to solve Go puzzles. The AI defeats world champion Go player Lee Sedol.

2016: Google AI's AlphaGo beats Lee Sedol at GO

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2020's

2011: WATSON
IBM's Jeopardy! champion

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Information collected and poster designed by Danielle J. Williams, PhD | Washington University in St. Louis
daniellejwilliams.com

AI – What is it and why should we care?

- AI is a concept that has been around since the 1940s
 - Any technology that allows a machine to simulate human cognition
- Sum of technological improvements and advancements in AI has created this immense investment opportunity today
 - *Cheap and powerful compute*
 - *Efficient networks*
 - *Accessibility through mobile*
 - *Proliferation of data online*
- Software is able to do things that was not possible before
 - *Create content (multimodal....text, video, music)*
 - *Reason*
 - *Interact in a human capacity*
- Allows software to address markets that were previously inaccessible

Enterprise AI Opportunity



Source: Gartner Market Databook 3Q24

AI – What does this opportunity look like?

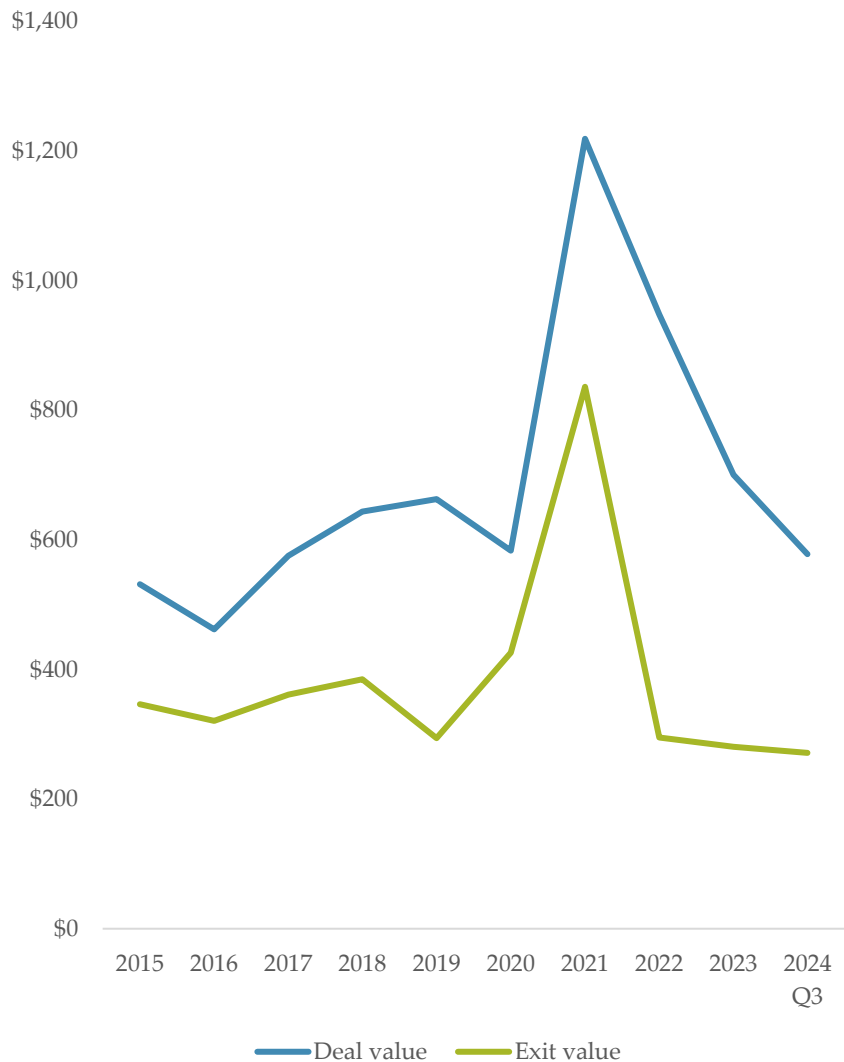
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	CLOUD	MOBILE	AI
APPS			
DEVELOPER			
DATA			
SECURITY			
INFRA			

Buyout

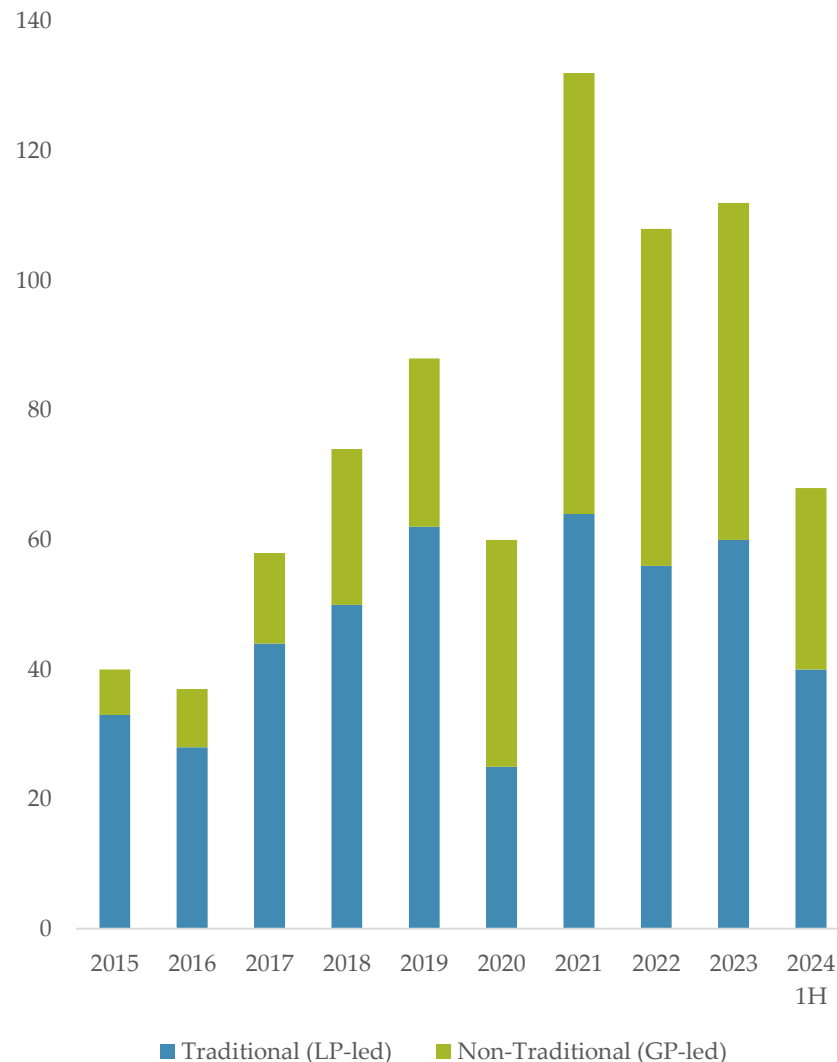
Deal activity remains slow

U.S. Private Equity Deal Activity (\$ billions)



Source: Pitchbook, as of September 30, 2024

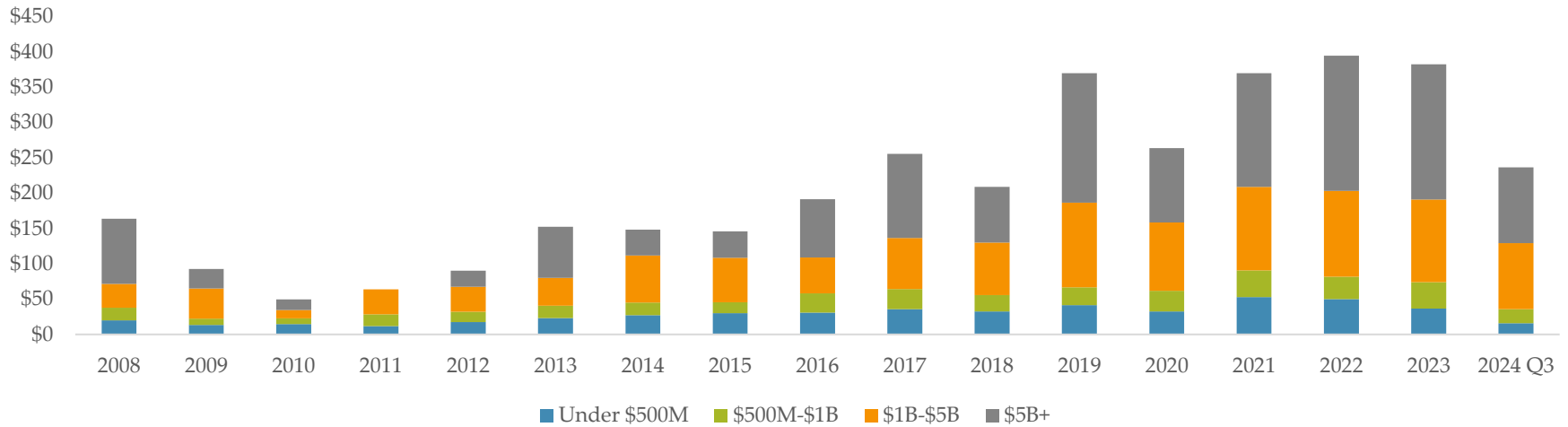
Secondary Transaction Volume (\$ billions)



Source: Jefferies Global Secondary Market Review, as of June 30, 2024

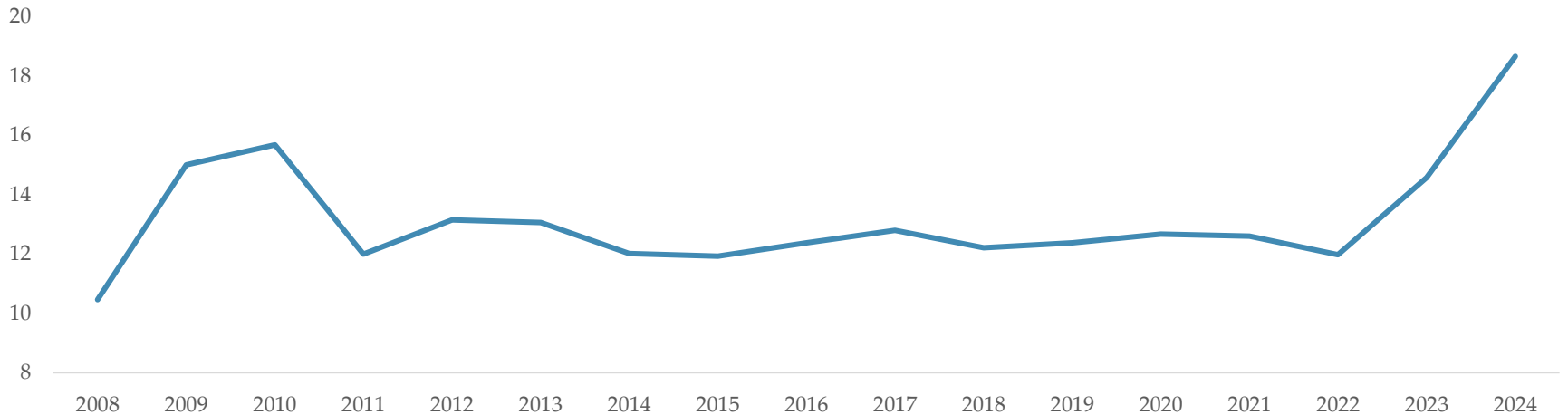
Larger funds raising more capital and fundraising taking longer

U.S. Private Equity Capital Raised by Fund Size (\$ billions)



Source: Pitchbook, as of September 30, 2024

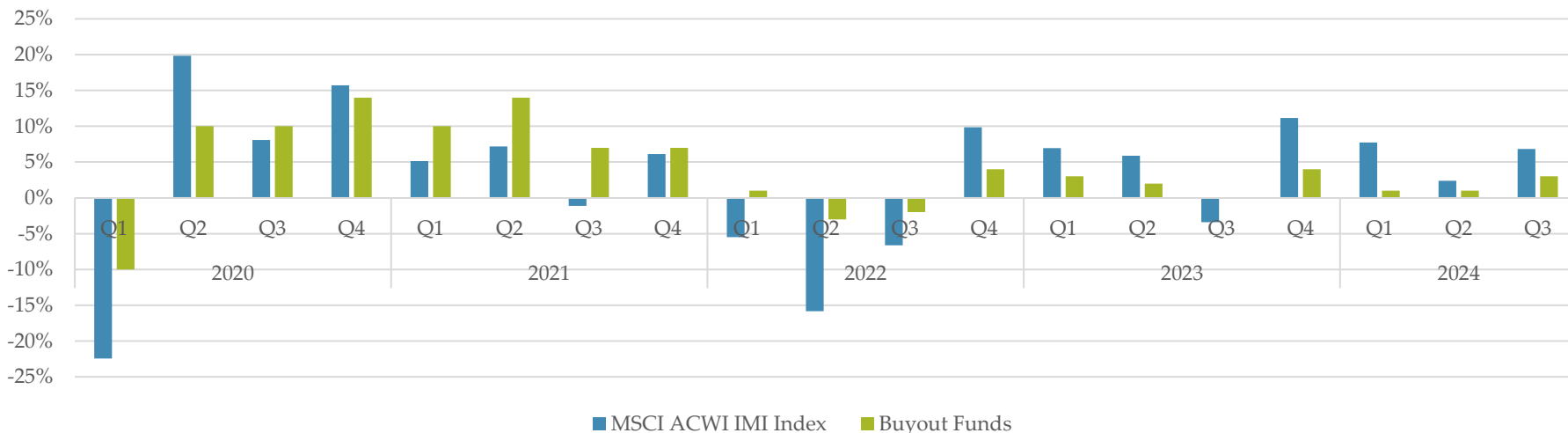
Median Number of Months to Close Private Capital Funds



Source: Pitchbook, as of September 30, 2024

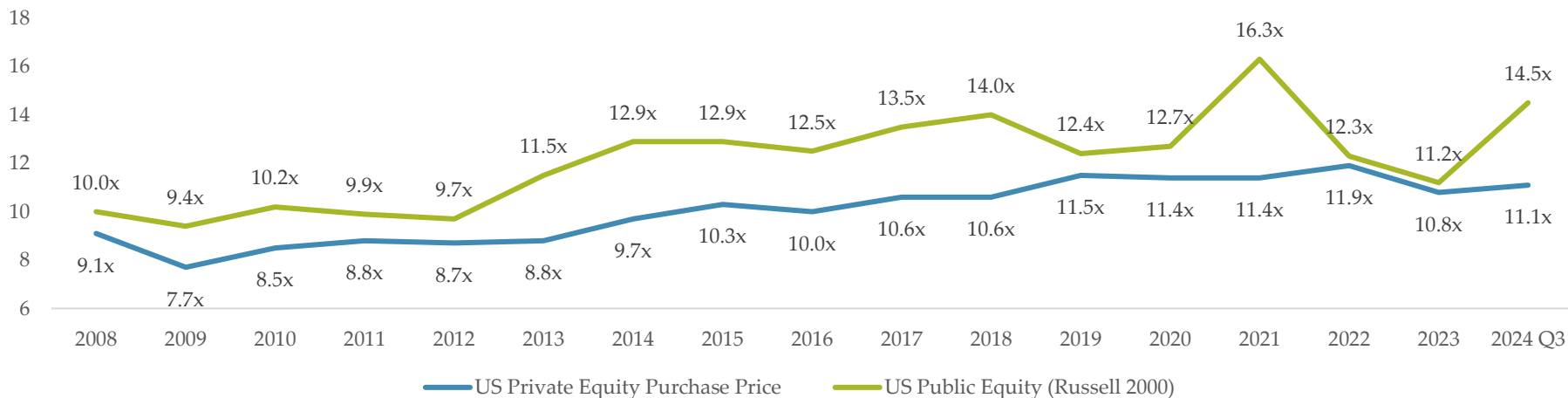
Private valuations lagging public markets

MSCI ACWI IMI Index and Buyout Funds Quarterly Returns



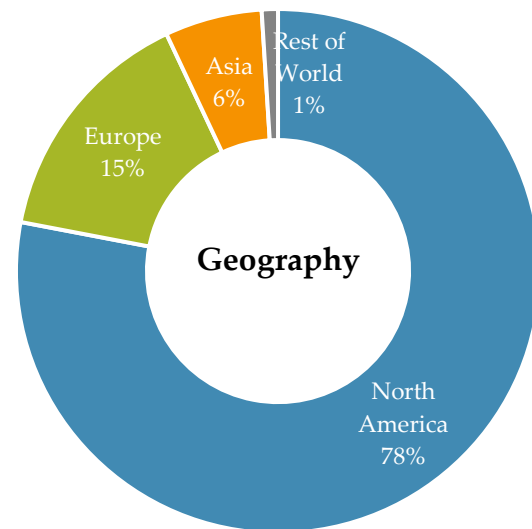
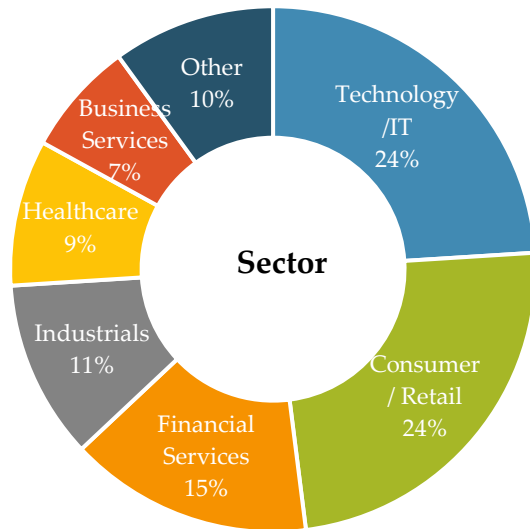
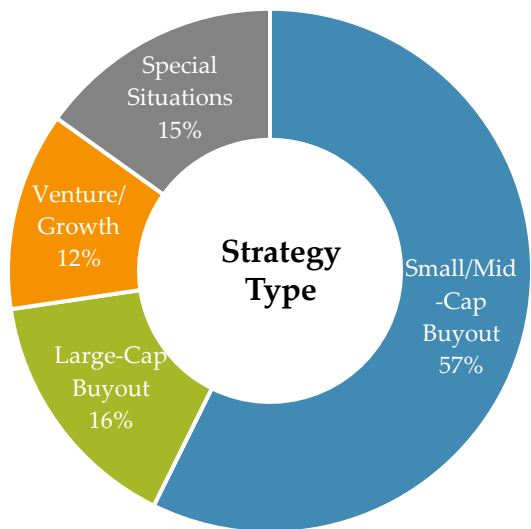
Source: Bloomberg (MSCI ACWI IMI Index), Neuberger Berman (Buyout Funds), as of September 30, 2024

EV / EBITDA Multiple



Source: Pitchbook LCD and S&P Capital IQ, as of September 30, 2024

Buyout Portfolio Update



Source: Neuberger Berman
As of June 30, 2024, values based on NAVs
Only includes PE Strategic Partnership

Buyout Portfolio Update

Primary Fund Commitments	Status	Region	Strategy Type	\$ mm
Redacted Fund A	Committed	North America	Small/Mid-Cap Buyout	14.6
Redacted Fund B	Committed	Europe	Small/Mid-Cap Buyout	21.4
Redacted Fund C	Committed	North America	Small/Mid-Cap Buyout	24.9
<i>Redacted Fund D</i>	<i>Model</i>	<i>North America</i>	<i>Small/Mid-Cap Buyout</i>	<i>24.9</i>
Total – Primary Fund Commitments				85.7
Co-Investments / Secondaries	Status	Region	Strategy Type	\$ mm
Redacted Co-Investment A	Committed	North America	Small/Mid-Cap Buyout	2.3
Redacted Co-Investment B	Committed	Asia	Small/Mid-Cap Buyout	5.1
Redacted Co-Investment C	Committed	Europe	Small/Mid-Cap Buyout	5.9
Redacted Co-Investment D	Committed	North America	Small/Mid-Cap Buyout	3.3
Redacted Co-Investment E	Committed	North America	Large-Cap Buyout	4.3
Redacted Co-Investment F	Committed	North America	Small/Mid-Cap Buyout	1.5
Redacted Secondary G	Committed	North America	Small/Mid-Cap Buyout	6.8
<i>Unallocated Co-Investments / Secondaries</i>	<i>Model</i>	<i>n/a</i>	<i>n/a</i>	<i>42.9</i>
Total – Co-Investments / Secondaries				72.1
Total				157.8

Source: Neuberger Berman, as of November 30, 2024

Private Debt

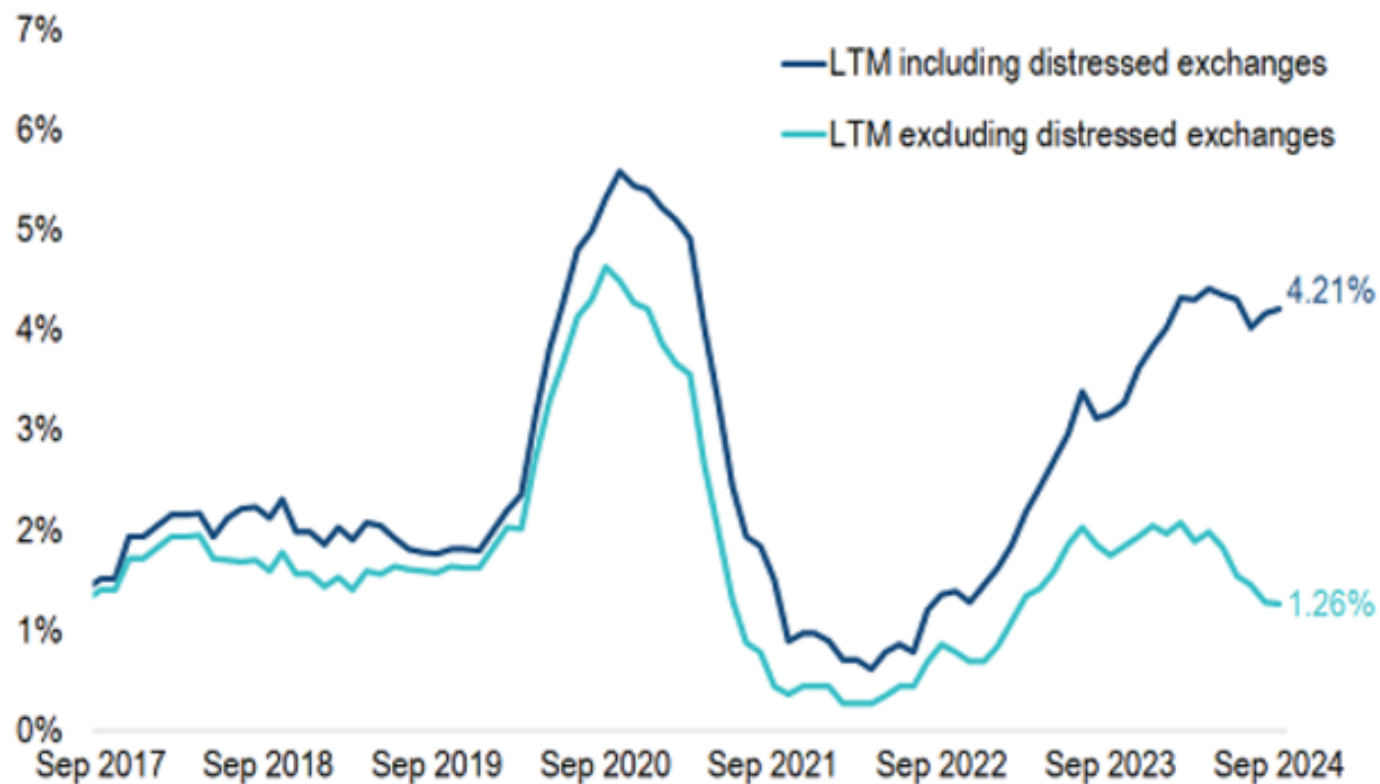
Yields remain elevated despite credit spreads tightening



Source: Bloomberg, as of October 31, 2024

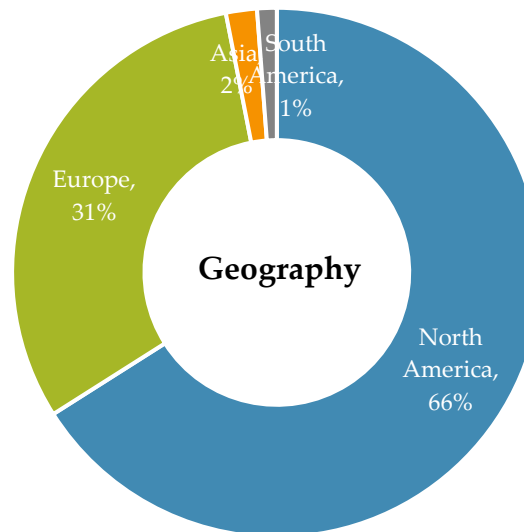
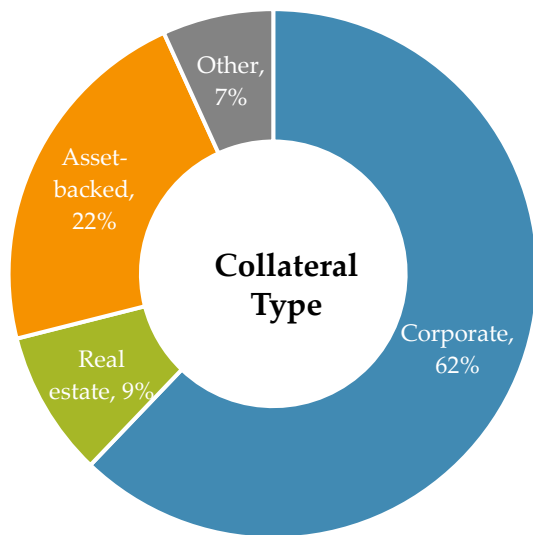
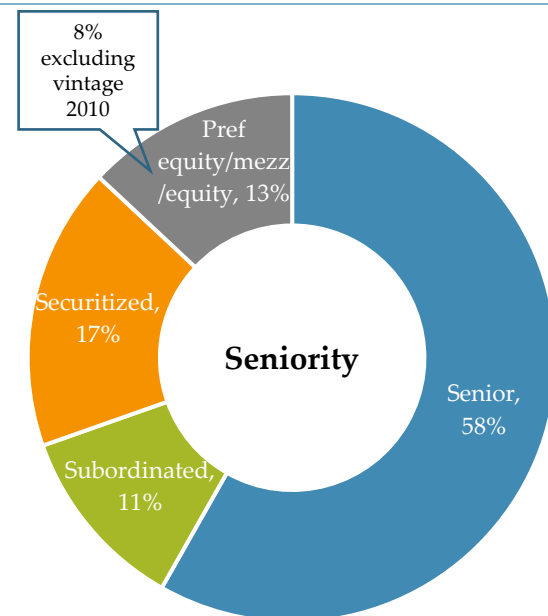
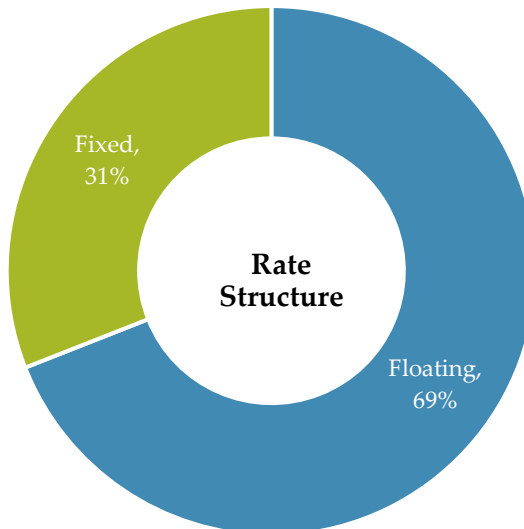
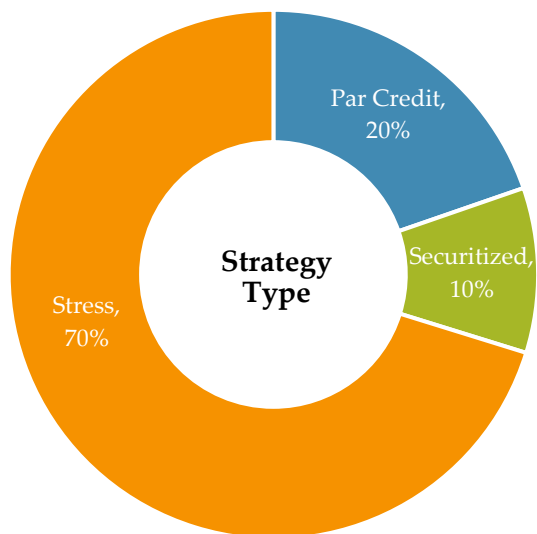
Defaults down, but distressed exchanges rise

Dual-track US loan default rate: issuer count



Sources: PitchBook | LCD; Morningstar LSTA US Leveraged Loan Index • Data through Sept. 30, 2024

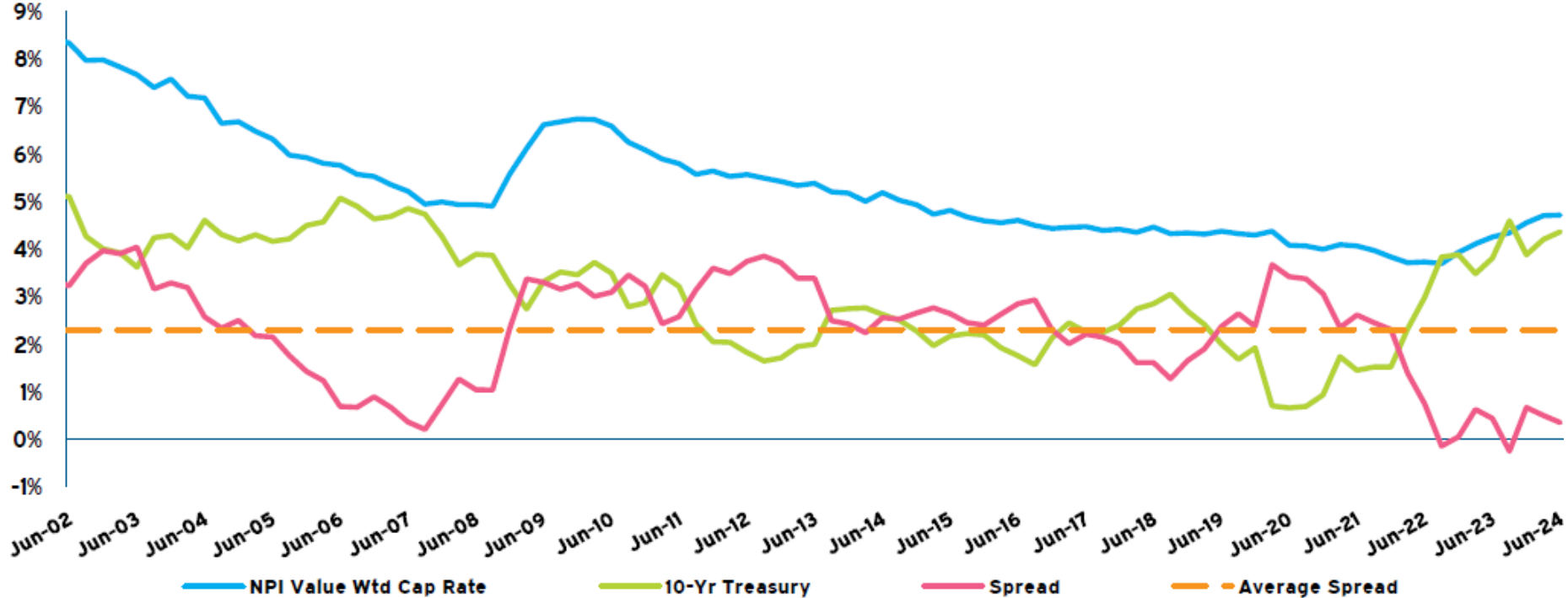
Private Debt Portfolio Update



Source: San Jose Staff, as of June 30, 2024
 Values based on NAVs plus unfunded commitments

Growth Real Estate

Cap rate spread to 10-Year Treasury remains flat

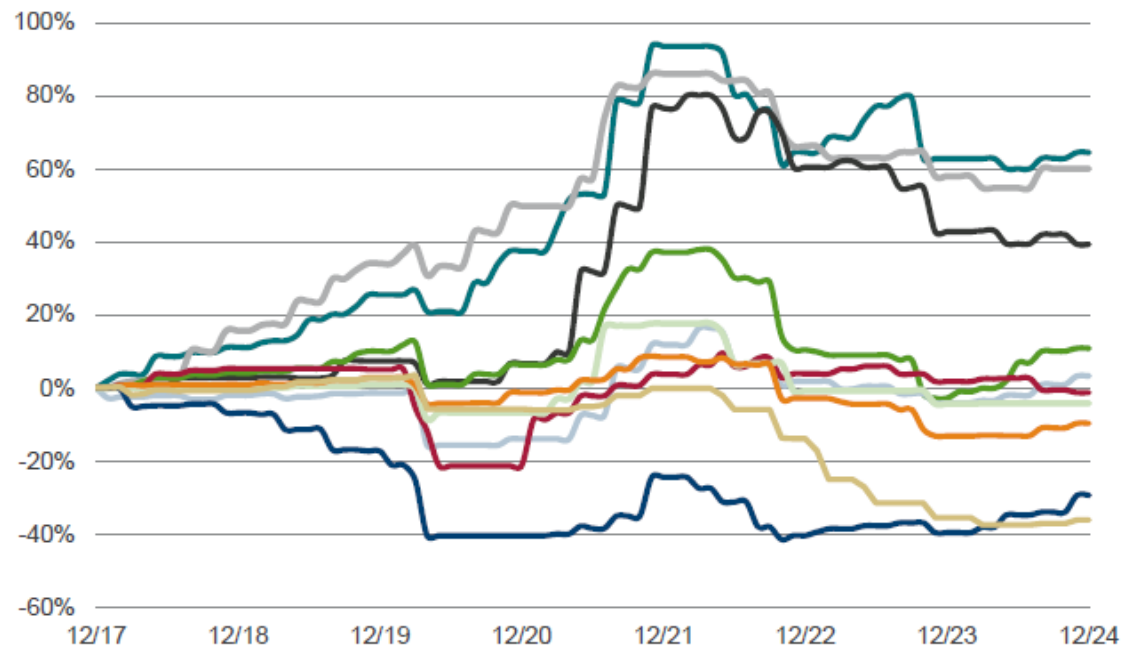


Source: Meketa, NCREIF, US Department of Treasury

Valuations rising for transactions going into contract

Green Street's Commercial Property Price Index® is a time series of unleveraged U.S. commercial property values that captures the prices at which commercial real estate transactions are currently being negotiated and contracted.

Cumulative Change in CPPI®: Past Seven Years

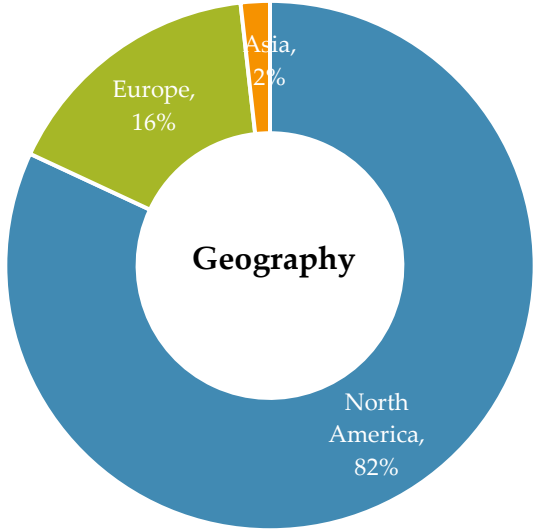
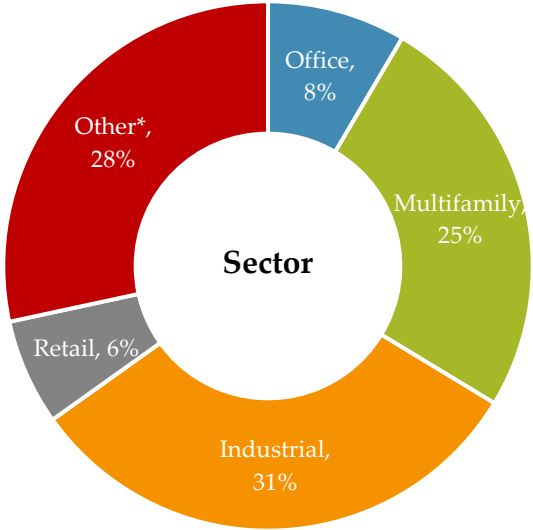
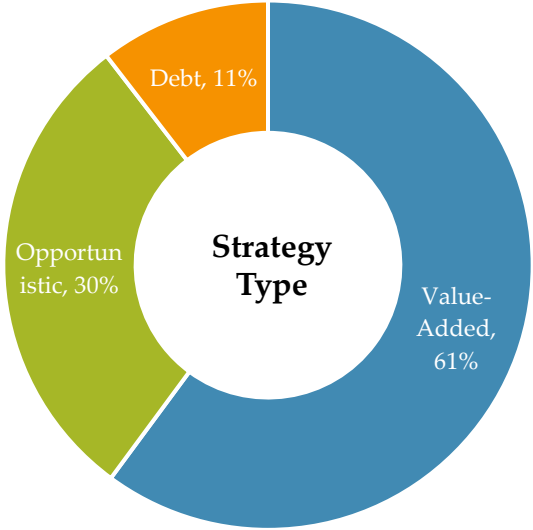


		TTM	From Peak
Indust	Industrial	1%	-15%
Man Home	Man Home	1%	-14%
Self-Storage	Self-Storage	-2%	-23%
Apartment	Apartment	14%	-20%
Strip Retail	Strip Retail	8%	-11%
Lodging	Lodging	-3%	-10%
Net Lease	Net Lease	0%	-19%
Health Care	Health Care	4%	-17%
Mall	Mall	17%	-6%
Office	Office	-1%	-36%

Source: Green Street Commercial Property Price Index®, as of January 7, 2025

TTM: Trailing twelve months

Growth Real Estate Portfolio Update



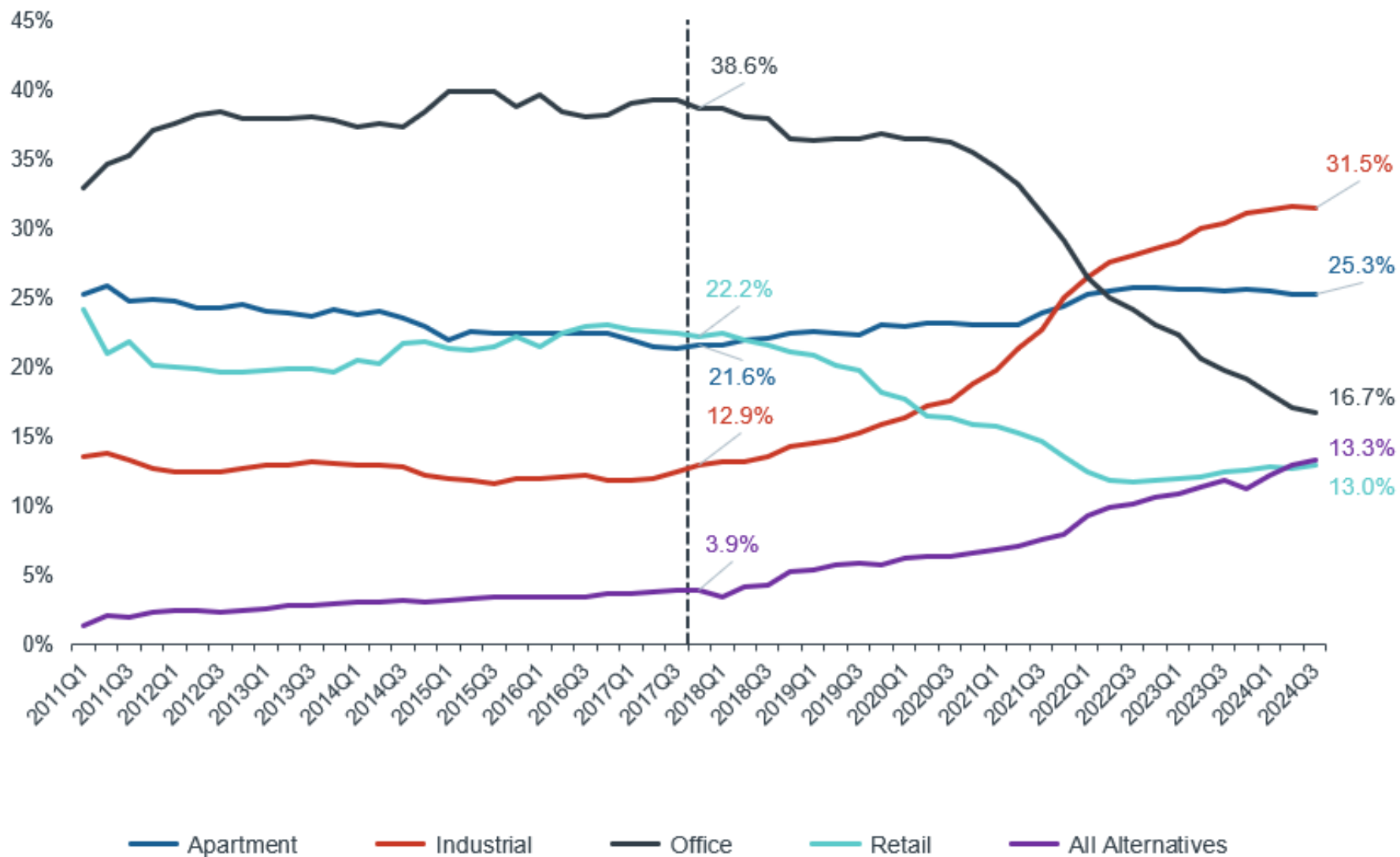
Source: San Jose Staff, as of June 30, 2024

Values based on NAVs plus unfunded commitments

* Other Sector category includes 11% hospitality, 8% data centers, 5% self-storage, 2% each in single-family rentals, lab office, student housing

Core Real Estate

NCREIF ODCE Index Sector Allocations Shifting



Source: NCREIF, Clarion Partners Investment Research

Core Real Estate Portfolio Update

- The Pension and Health Care Trust closed their second secondary purchase of LP interests in TA Realty Core Property Fund on October 31, 2024 for \$9.5 million and \$1.9 million, respectively.
- The Pension and Health Care Trust committed \$49 million and \$9 million, respectively, to Kayne Anderson Core Real Estate on December 20, 2024.
- The Pension and Health Care Trust closed a secondary sale of all exposure in Clarion Lion Industrial Trust on January 6, 2025 for proceeds (excluding income) of \$17.9 million and \$2.4 million, respectively.

<u>Core Real Estate Allocation</u>	<u>% of Plan</u>	<u>Target</u>	<u>Difference</u>
Police & Fire Pension	4.7%	5%	-0.3%
Police & Fire Health Care Trust	10.8%	12%	-1.2%

Over \$21 million of alpha over 6 years

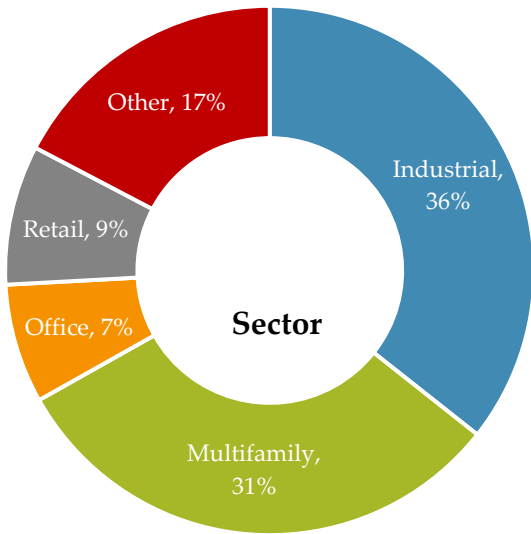
Core Real Estate Alpha (\$ millions)

	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>6-years</u>
Police & Fire Pension	\$2.2	\$3.8	\$2.3	\$2.3	\$9.9	\$0.1	\$20.7
Police & Fire Health Care Trust	n/a	n/a	n/a	n/a	n/a	n/a	\$1.1

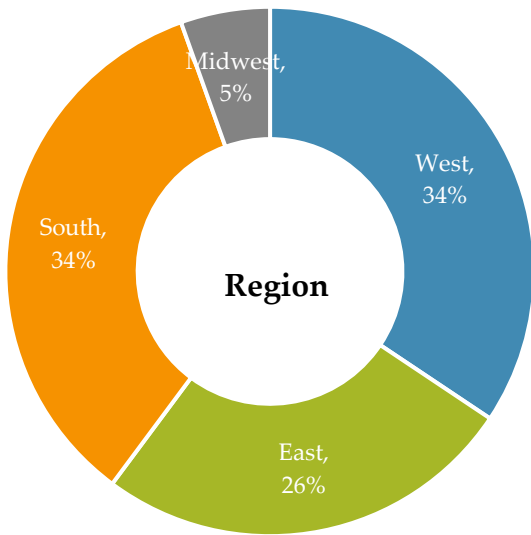
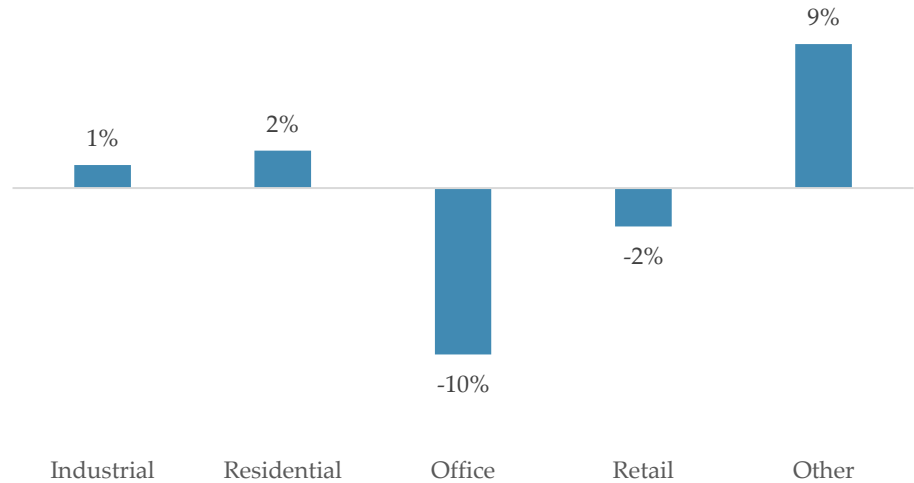
The Core Real Estate asset class manager lineup was restructured in 2019 and has generated meaningful alpha over the asset class benchmark (NCREIF ODCE Index).

Source: Meketa, BNY Mellon
% of Plan is Pro Forma as of December 31, 2024

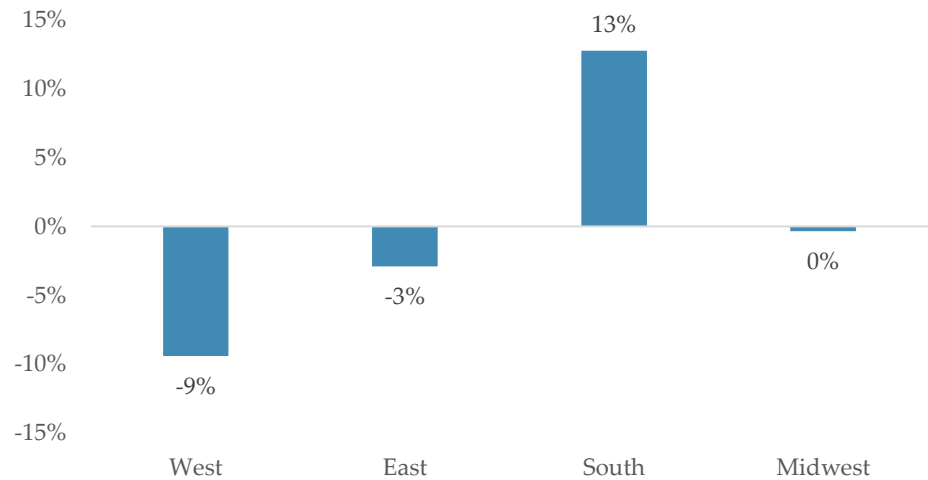
Core Real Estate Portfolio Update



Active Sector Weights



Active Regional Weights

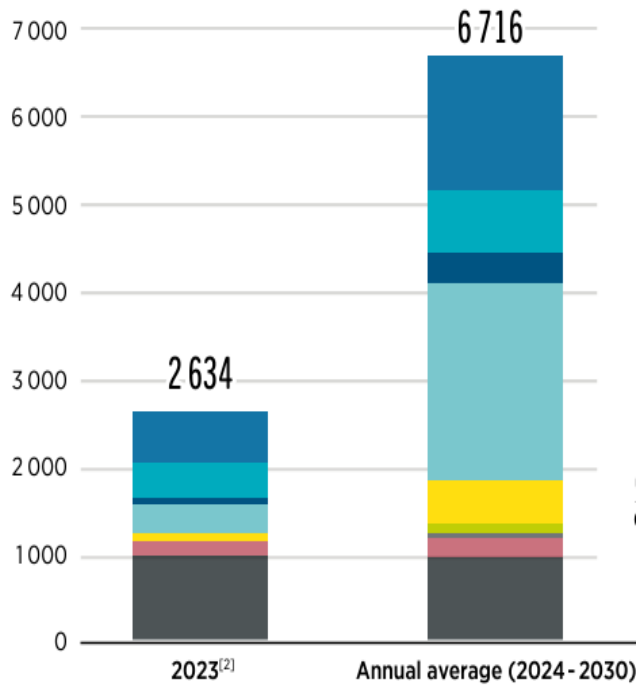


Pro Forma as of January 2025

Private Real Assets

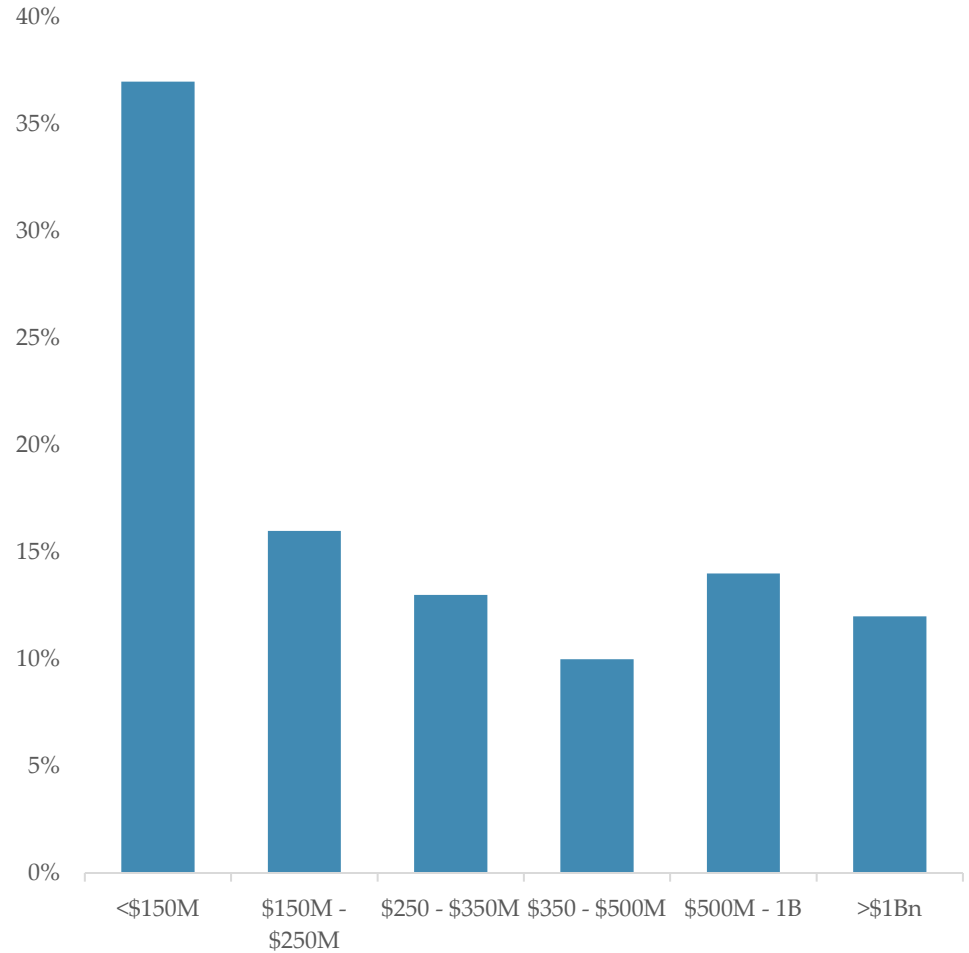
More Real Assets Spending Needed

Global investment (USD billion, 2023)^[1]



Source: IRENA World Energy Transitions Outlook

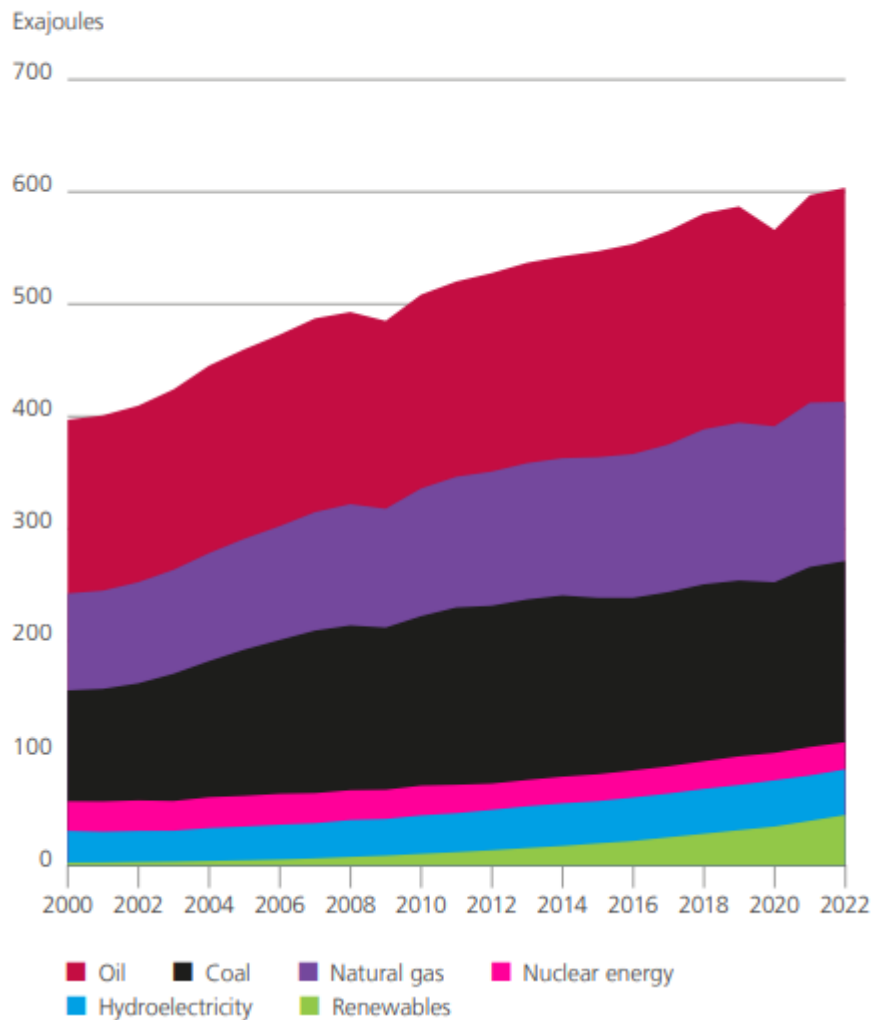
North American Infrastructure Equity Transactions by Size



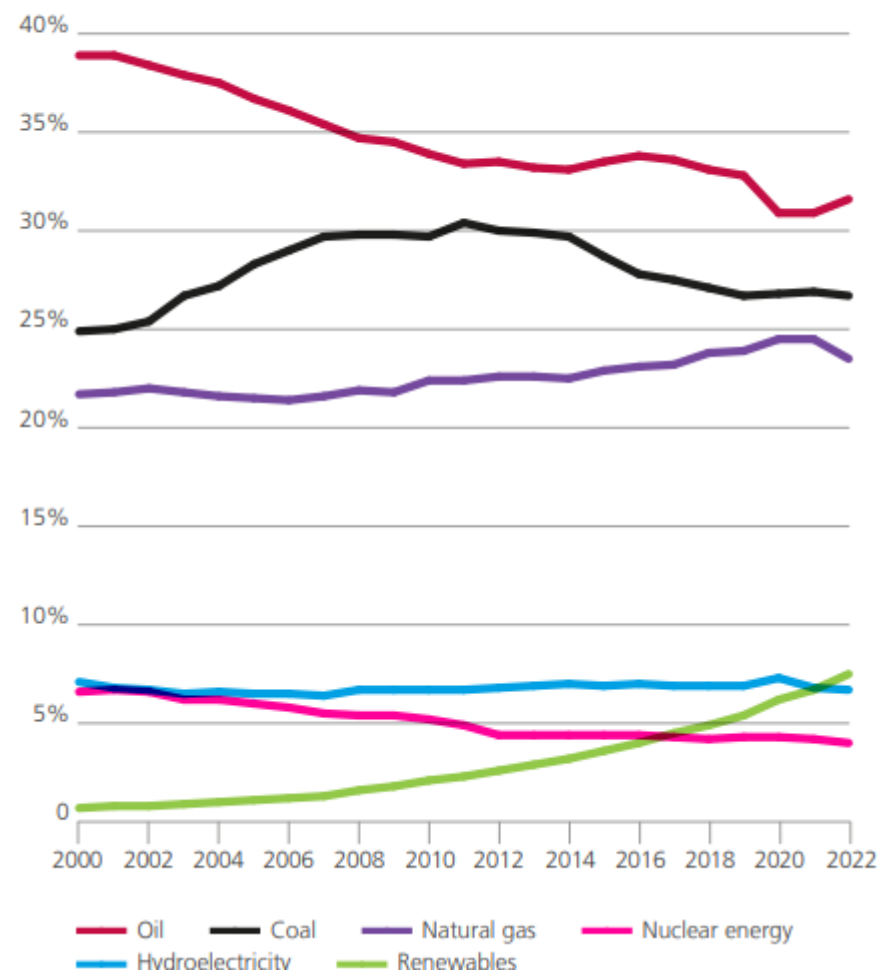
Source: Inframation, Ridgewood Infrastructure

Hydrocarbons still account for over 80% of world energy consumption

World consumption

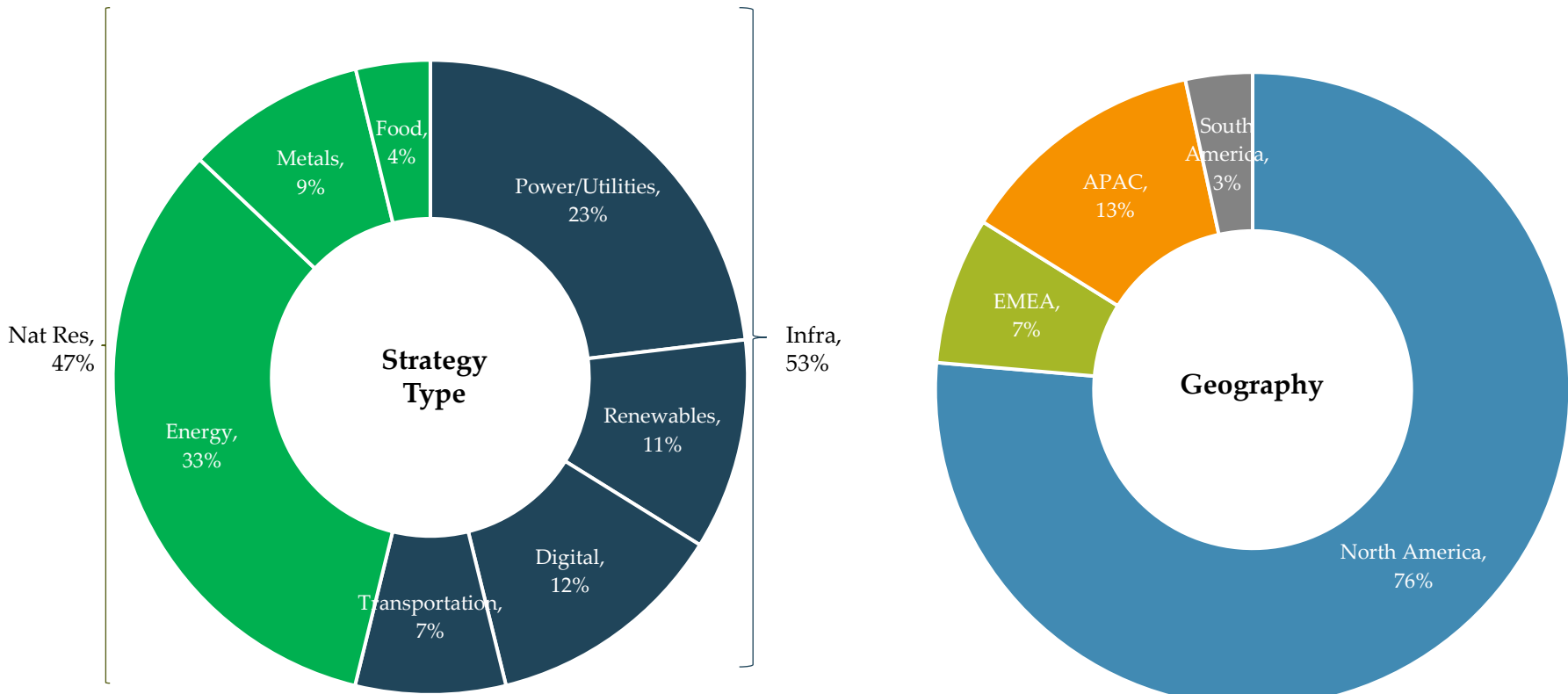


Share of global primary energy



Source: Energy Institute Statistical Review of World Energy, June 2023

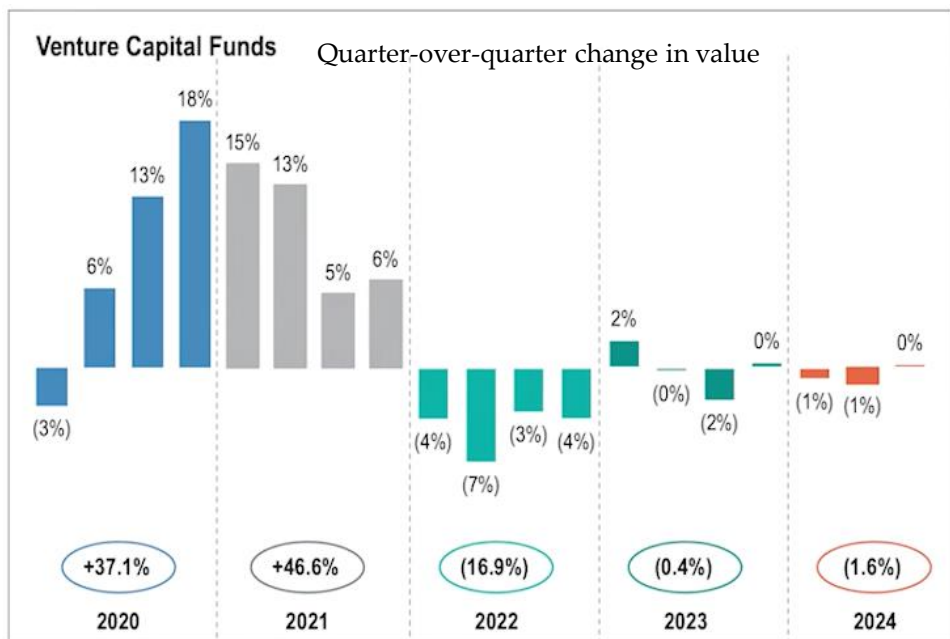
Private Real Assets Portfolio Update



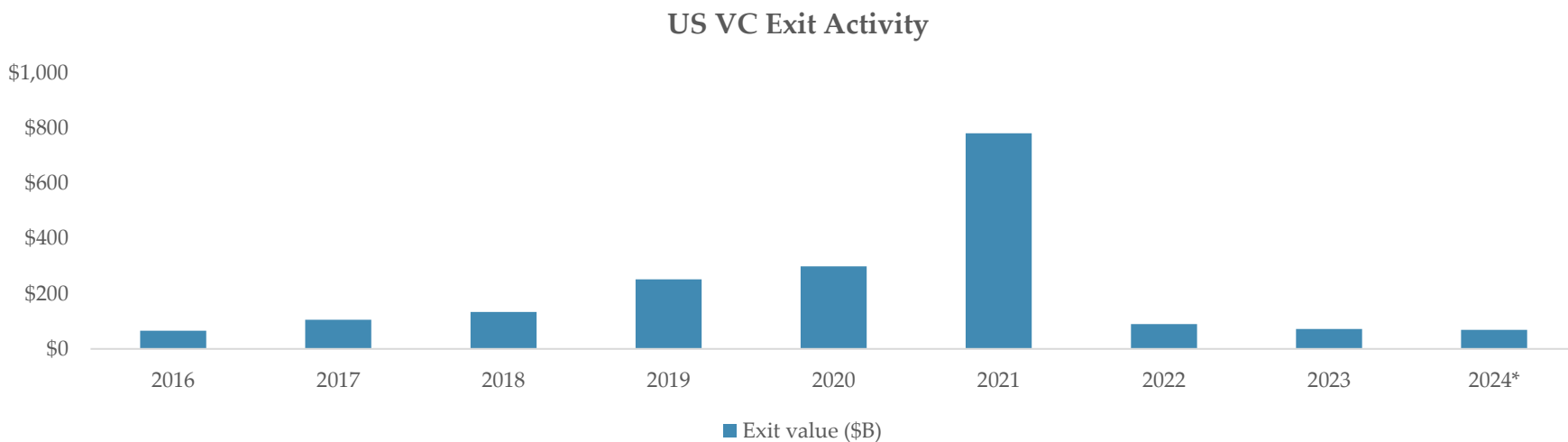
Source: San Jose Staff, as of June 30, 2024
Values based on NAVs plus unfunded commitments

Venture Capital

Challenging period for VC – Poor returns coupled with a challenging exit environment



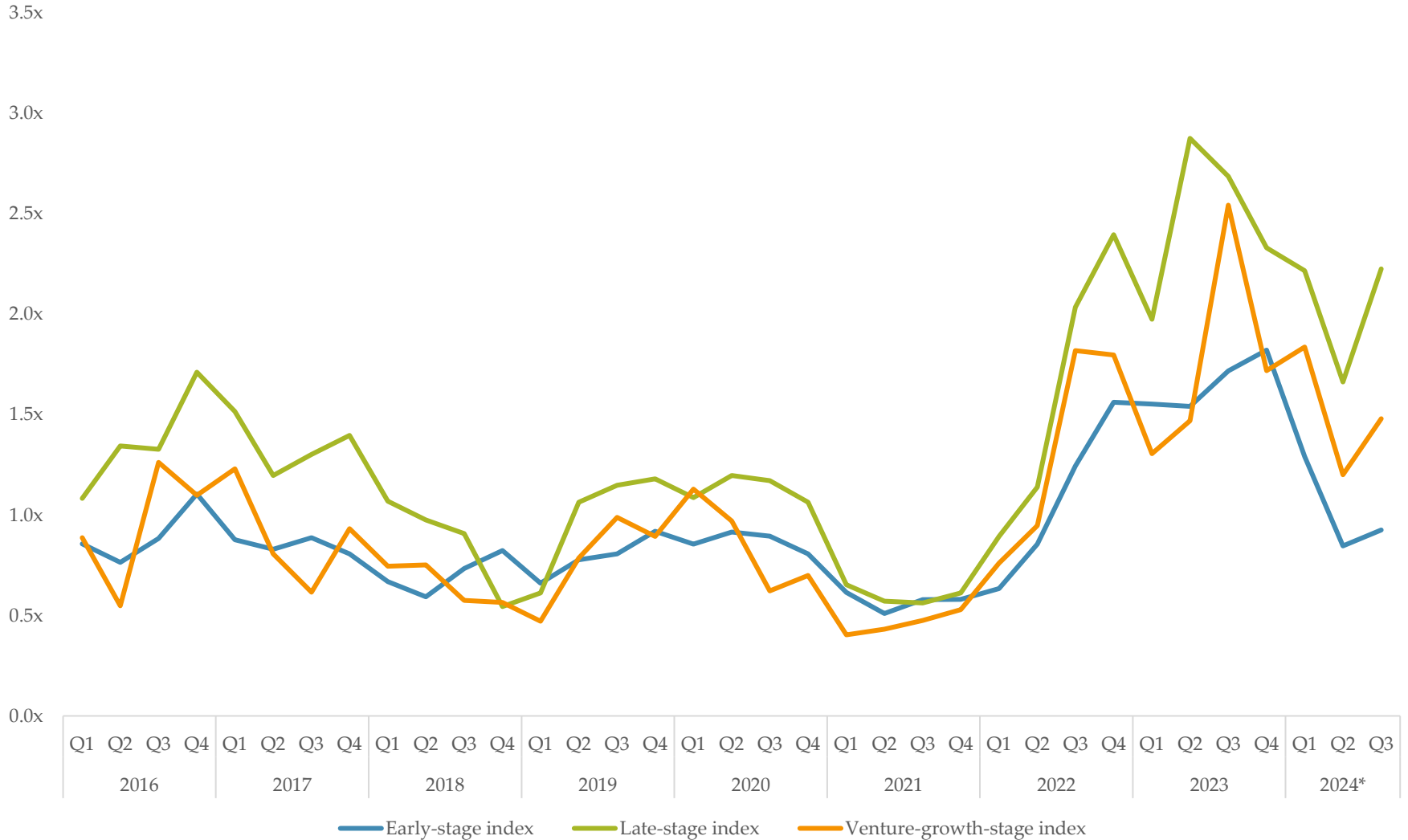
Source: Neuberger Berman Q3 2024 Valuation Summary



Source: Pitchbook, as of September 30, 2024

AI Optimism Driving Early Stage Investment Interest

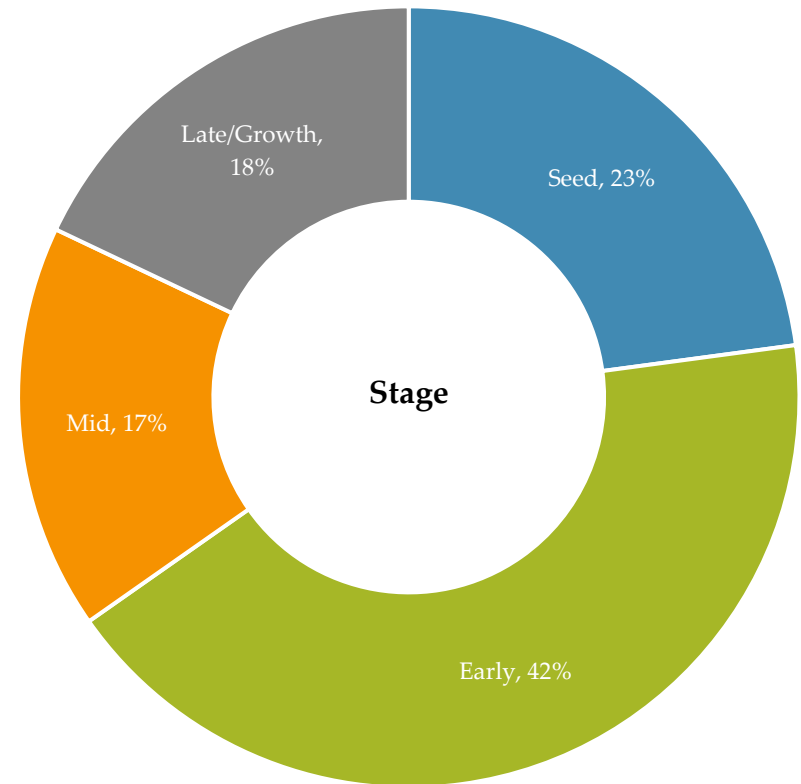
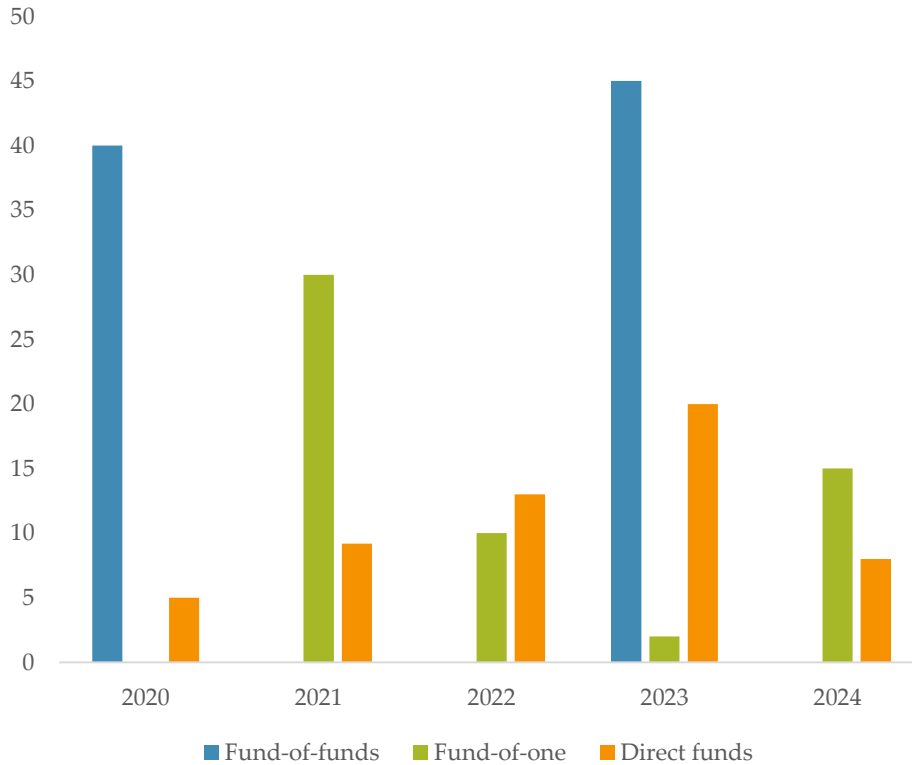
Capital Demand/Supply Ratio



Source: Pitchbook, as of September 30, 2024

Venture Capital Portfolio Update

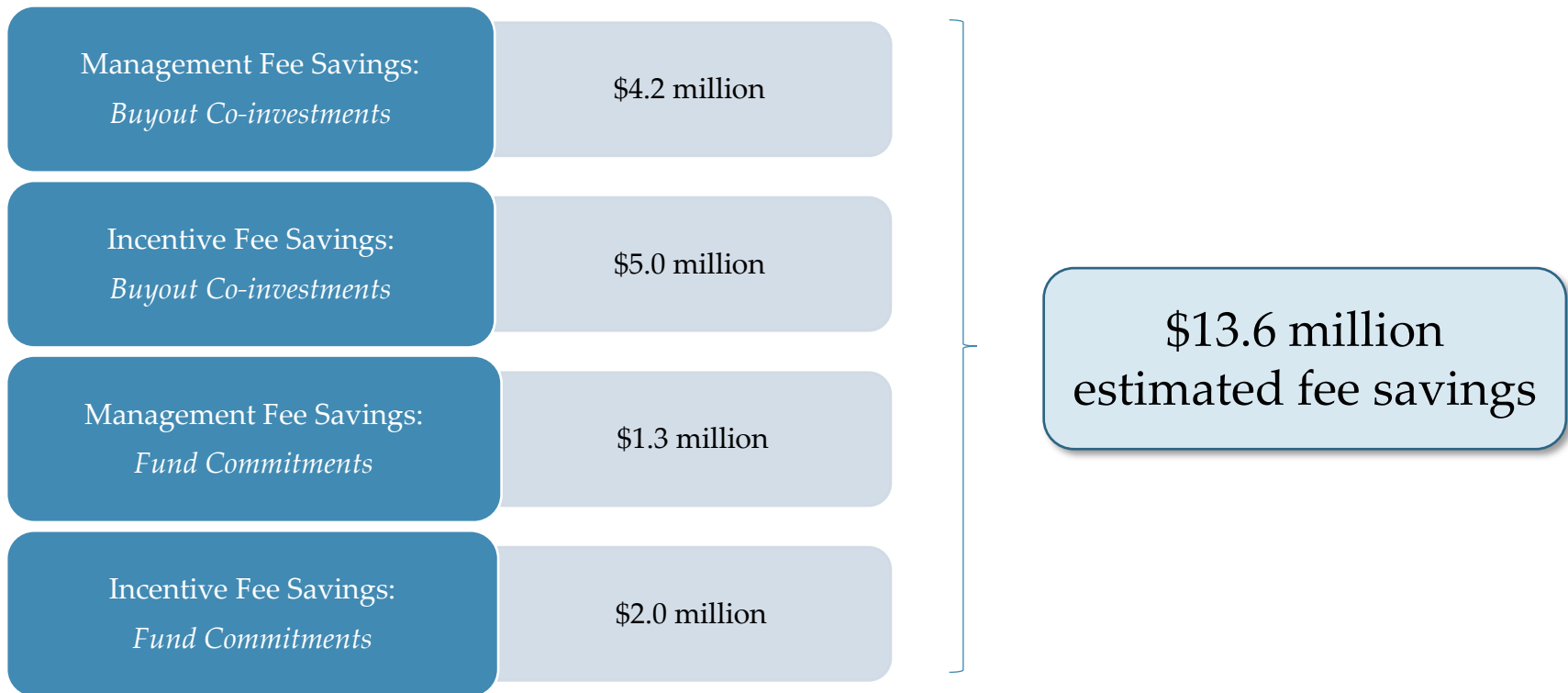
Commitments (\$ mm) by Vintage and Fund Type



Source: San Jose Staff, as of June 30, 2024
Values based on committed capital

\$13.6mm estimated fee savings for CY 2023 investments

- Estimated fee savings from commitments made in calendar year 2023 over the projected life of the investments for both San Jose Police and Fire and Federated plans:



- Fund Commitments fee savings from Staff negotiations, early closing discounts, and volume discounts.
- Additional fee savings not modeled: fee structures of fund-of-ones compared to fund-of-funds alternative, upside performance of investments with incentive fee discounts, commitments to funds with standard fees below asset class averages, and fee savings from investments made prior to January 2023.