



Fire & Police Pension Association Investment Committee Meeting Minutes

Meeting Date, Time, and Location

Wednesday, June 10, 2026, at 1:00 p.m.
The Hythe Vail
Mountain View Conference Room (2nd Level)
715 Lionshead Circle
Vail, CO 81657

Investment Committee Members Present

Chair Karen Frame, William Clayton, Jason Mantas, and Caleb Sevia.

Other Board Members Present

Joan Brown, Tammy Hitchens, and Kim McDaniel.

Staff Members Present

Kevin Lindahl, Scott Simon, Ahni Smith, Chip Weule, Adam Franklin, Elaine Gorton, Teresa Dupree, Jack Wilson, Sean Ross, Tim O'Connell, and Andrea Koelzer.

Others Present

Stuart Cameron, Cambridge Associates

Notice of this meeting and a copy of the agenda were posted on the FPPA website and at 7979 East Tufts Avenue, at least twenty-four hours prior to the meeting.

Call to Order

At 1:01 p.m., Chair Frame called the meeting to order.

Consent Calendar

At 1:01 p.m., Mr. Clayton moved the Committee to approve the Consent Calendar which consisted of the April 8, 2026, Ad Hoc Meeting Minutes. Mr. Mantas seconded the motion. The motion passed.

1Q 2026 Risk Report

At 1:02 p.m., Mr. Wilson presented the Q1 2026 risk report.

Private Markets Review – Executive Session

At 1:19 p.m., Mr. Clayton moved the Committee to adjourn into executive session to discuss confidential investment information presented during the Private Markets Review as allowed under sections 24-6-402(4)(c) and 31-31-302 of the Colorado Revised Statutes. Mr. Mantas seconded the motion. The motion passed and the meeting entered executive session.

At 1:45 p.m., the meeting exited executive session. No motions were made and no formal actions were taken while in executive session.

Benchmark Implementation

At 1:45 p.m., Mr. Simon reviewed benchmark implementation with the Committee. The Committee discussed Internal Rate of Return calculations.

At 2:15 p.m., Chair Frame called for a break.

At 2:28 p.m., the meeting reconvened.

Asset Allocation Recommendation

At 2:28 p.m., Mr. Clayton moved the Committee to adjourn into executive session to discuss confidential investment information presented during the Hedge Fund Review as allowed under section 24-6-402(4)(c) and 31-31-302 of the Colorado Revised Statutes. Mr. Mantas seconded the motion. The motion passed and the meeting entered executive session.

At 3:00 p.m., the meeting exited executive session. No motions were made and no formal actions were taken while in executive session.

At 3:04 p.m., Mr. Mantas moved the Committee to recommend the changes to the Investment Policy Statement as presented in Tab 6.3 to the Board for approval. Mr. Sevan seconded the motion. The motion passed.

Adjournment

At 3:05 p.m., the meeting adjourned.



Fire & Police Pension Association Investment Committee Meeting Agenda

Meeting Date, Time, and Location

Wednesday, September 30, 2026, at 1:00 p.m.
7979 East Tufts Avenue, Ste. 900
Thunderbird Conference Room
Denver, CO 80237

<u>Time</u>	<u>Topic / Speaker</u>
1:00 p.m.	Call to Order
1:00 p.m.	Consent Calendar <i>Karen Frame, Chair</i> a. Approval of June 10, 2026, meeting minutes
1:00 p.m.	Real Estate – Machine Investment Group <i>Eric Rosenthal, Co-Founder and Managing Partner</i> <i>Charlie Leonard, Partner</i>
1:45 p.m.	<u>Executive Session:</u> Real Estate Portfolio Update – CORE Real Estate Focus <i>Sean Ross</i>
2:00 p.m.	<u>Executive Session:</u> Currency Overlay <i>Jack Wilson</i>
2:15 p.m.	2Q 2026 Risk Report <i>Jack Wilson</i>
2:30 p.m.	Break
2:45 p.m.	Benchmark Verification <i>Cambridge Associates</i>
3:00 p.m.	Cambridge Associates Questionnaire & Survey <i>Cambridge Associates & Scott Simon</i>
3:15 p.m.	Asset Liability Study – Preview of Board Materials <i>Cambridge Associates & Scott Simon</i>
3:30 p.m.	Other Business
3:30 p.m.	Adjournment



MACHINE

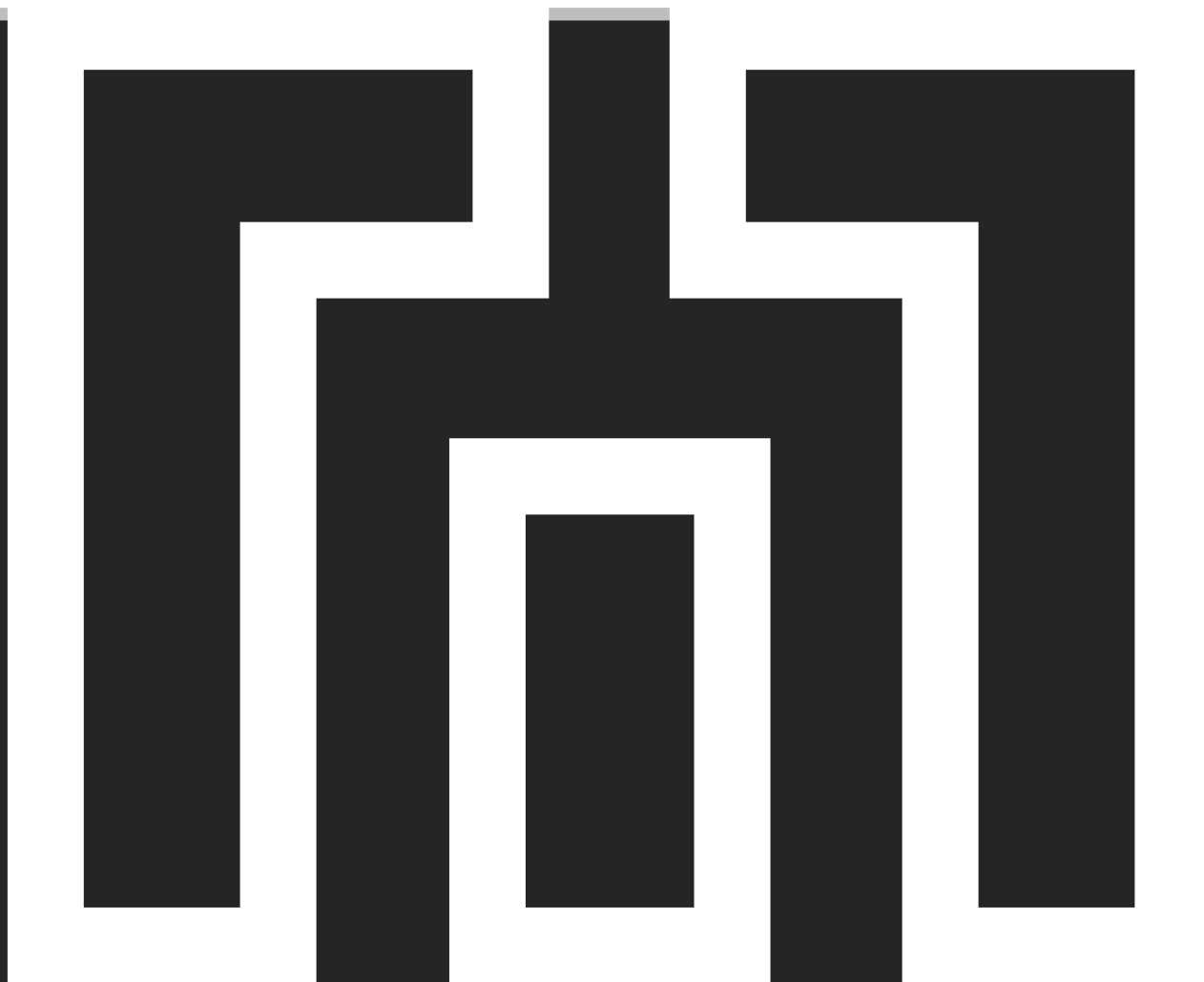
INVESTMENT GROUP

Commercial Real Estate *Market Overview*

Fire & Police Pension
Association of Colorado

Denver, CO

September 2026



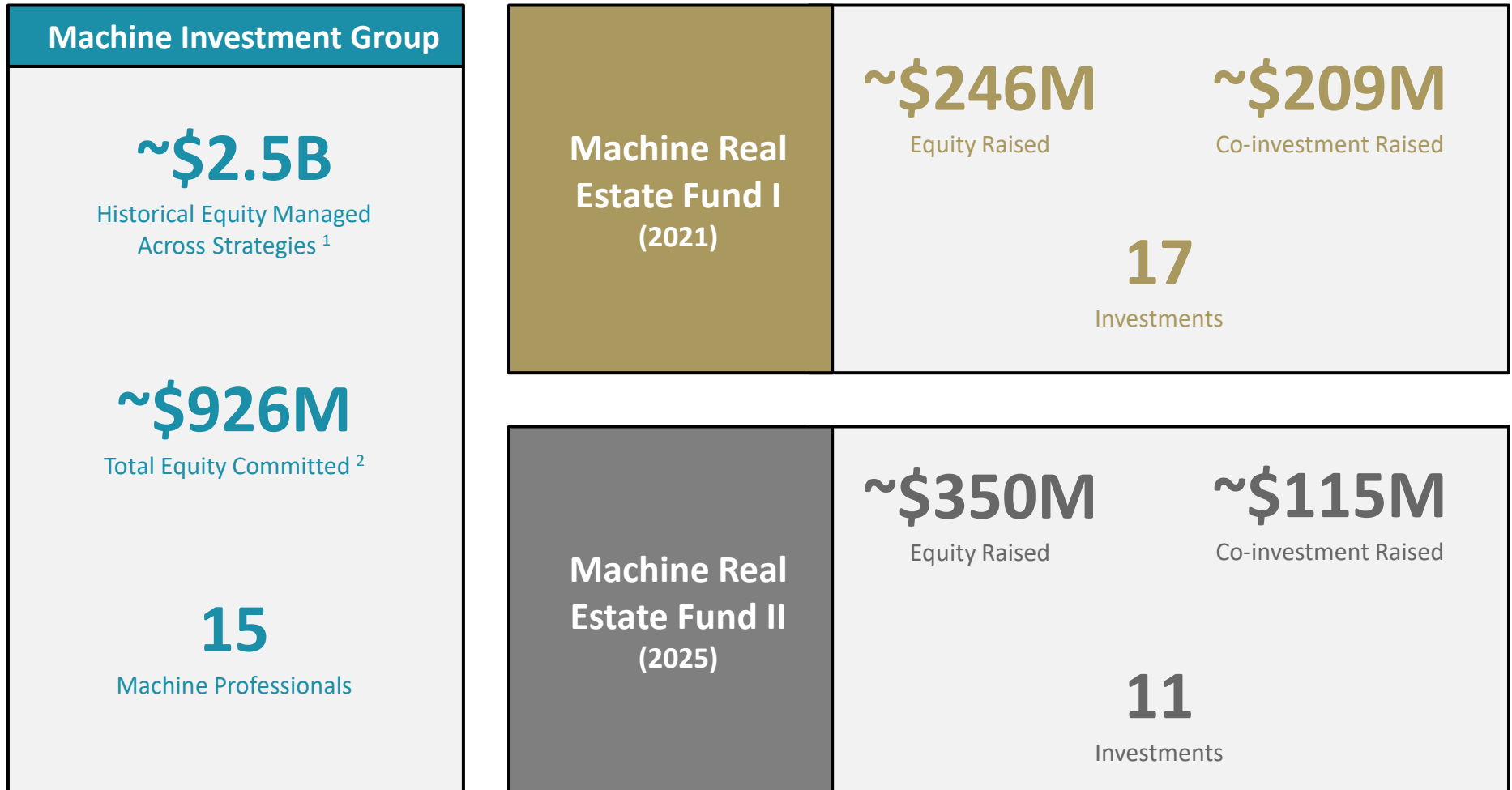
AGENDA

MACHINE

- **Machine Investment Group Overview**
- **Commercial Real Estate Capital Markets**
- **Machine Opportunity Set**
- **Machine Case Studies**
- **Closing Remarks and Q&A**

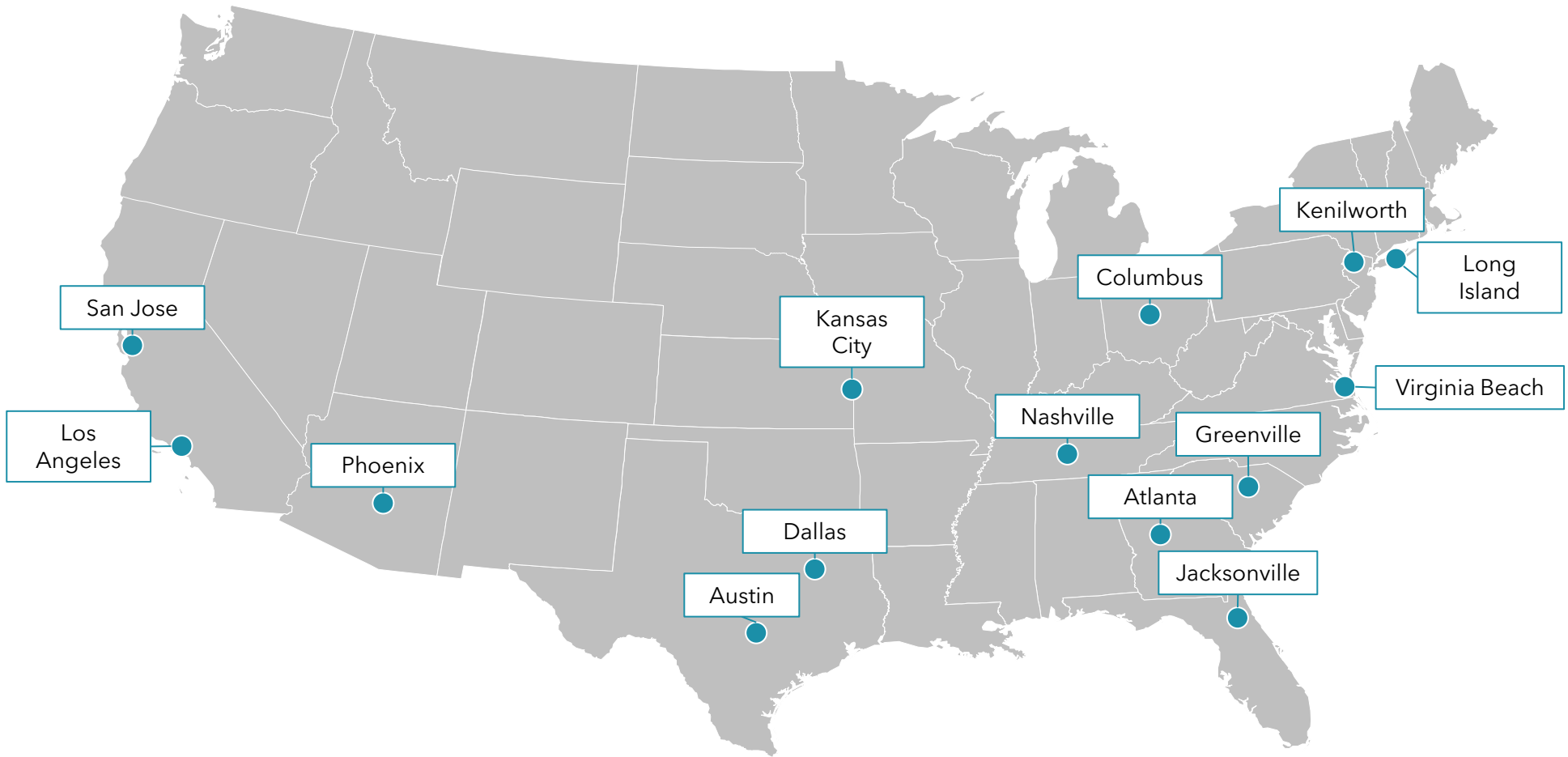
MACHINE INVESTMENT GROUP OVERVIEW

Opportunistic equity fund manager targeting distressed and special situations primarily within the middle market



1. Includes total equity committed for MREF II & MREF I investments, inclusive of co-investment capital and joint venture partner capital, as well as capital deployed at Garrison for historical realized and unrealized investments across multiple strategies for investments in which one of the Machine Founders had significant involvement
2. Represents total equity committed to investments, including MREF II, MREF I and co-investment capital. Includes co-investment capital for two under contract assets that are projected to close near-term

FUND I & II INVESTMENTS



Fund I Product Types



Retail



Multi-family



Industrial



Hotel



Life Sciences



Powered Land

Fund II Product Types



Multi-family



Seniors



Industrial



Hotel

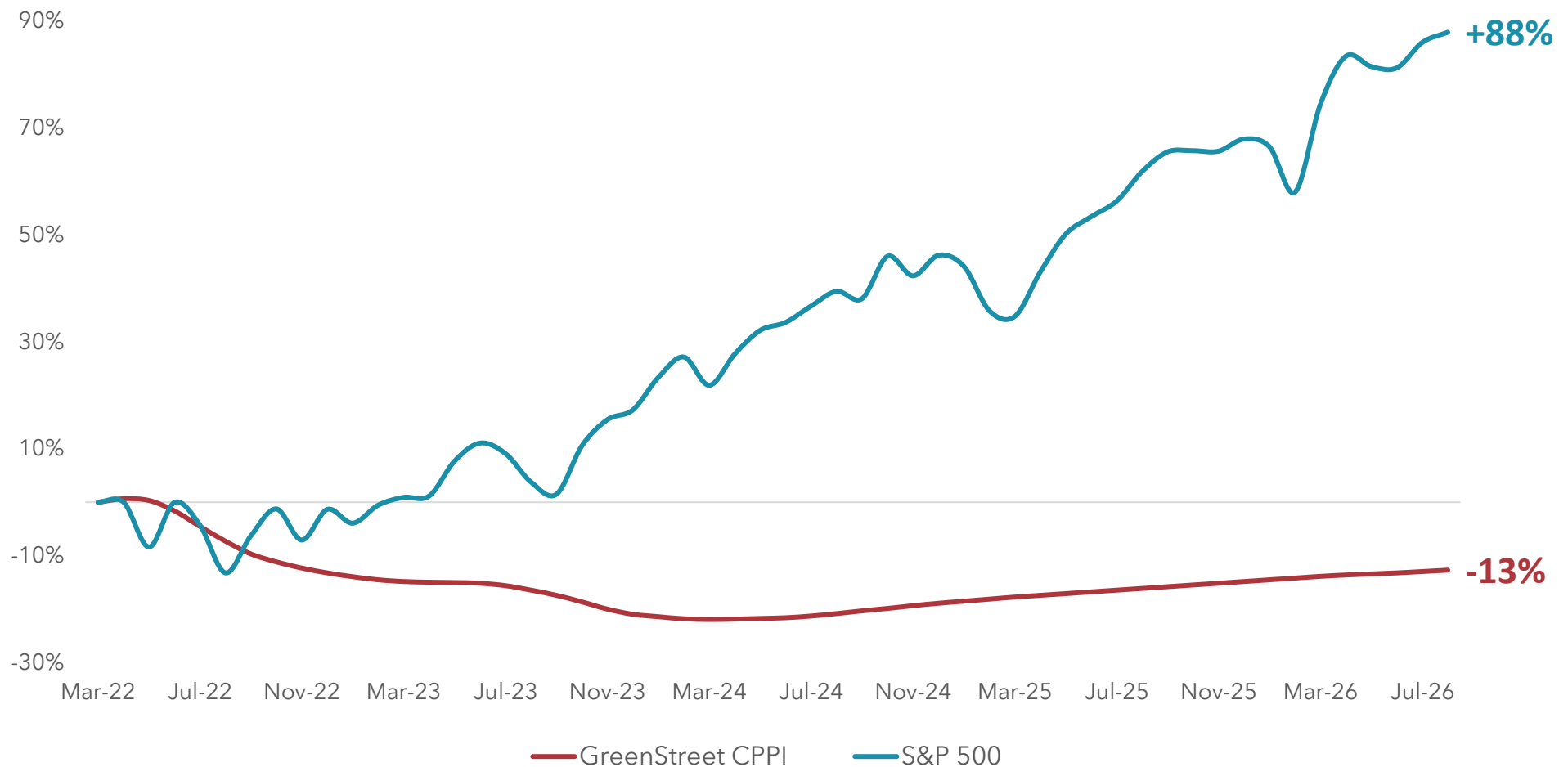


Powered Land

DISCONNECT BETWEEN EQUITY MARKETS & CRE

Since the Fed began raising the Fed Funds rate in March 2022, the S&P 500 is up ~88% while GreenStreet's CPPI (a benchmark for CRE values) is down ~13%

S&P 500 AND GREENSTREET COMMERCIAL PROPERTY INDEX - CUMULATIVE VALUE CHANGE SINCE MARCH 2022



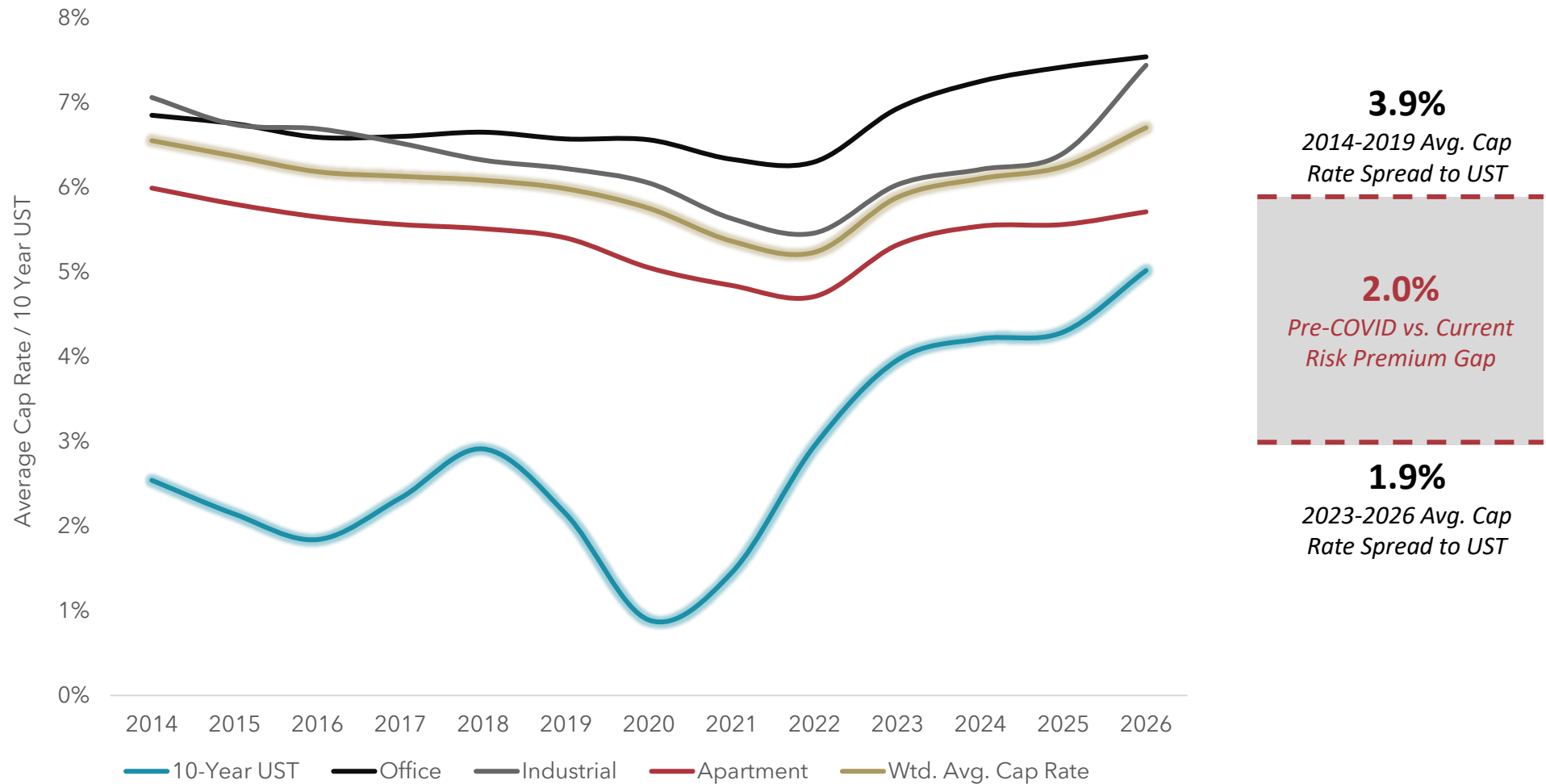
Source: GreenStreet, Investing.com

CAP RATES & THE 10-YEAR UST

$$\text{Cap Rate} = \frac{\text{NOI}}{\text{Purchase Price}}$$

Comparing the spread between cap rates (unlevered cash yield) and the 10-year Treasury (risk-free rate) from 2014–2019 to 2023–2026, the risk premium compressed by 2.0%, implying a value dislocation

AVERAGE CAP RATE BY ASSET CLASS VS. 10 YEAR UST

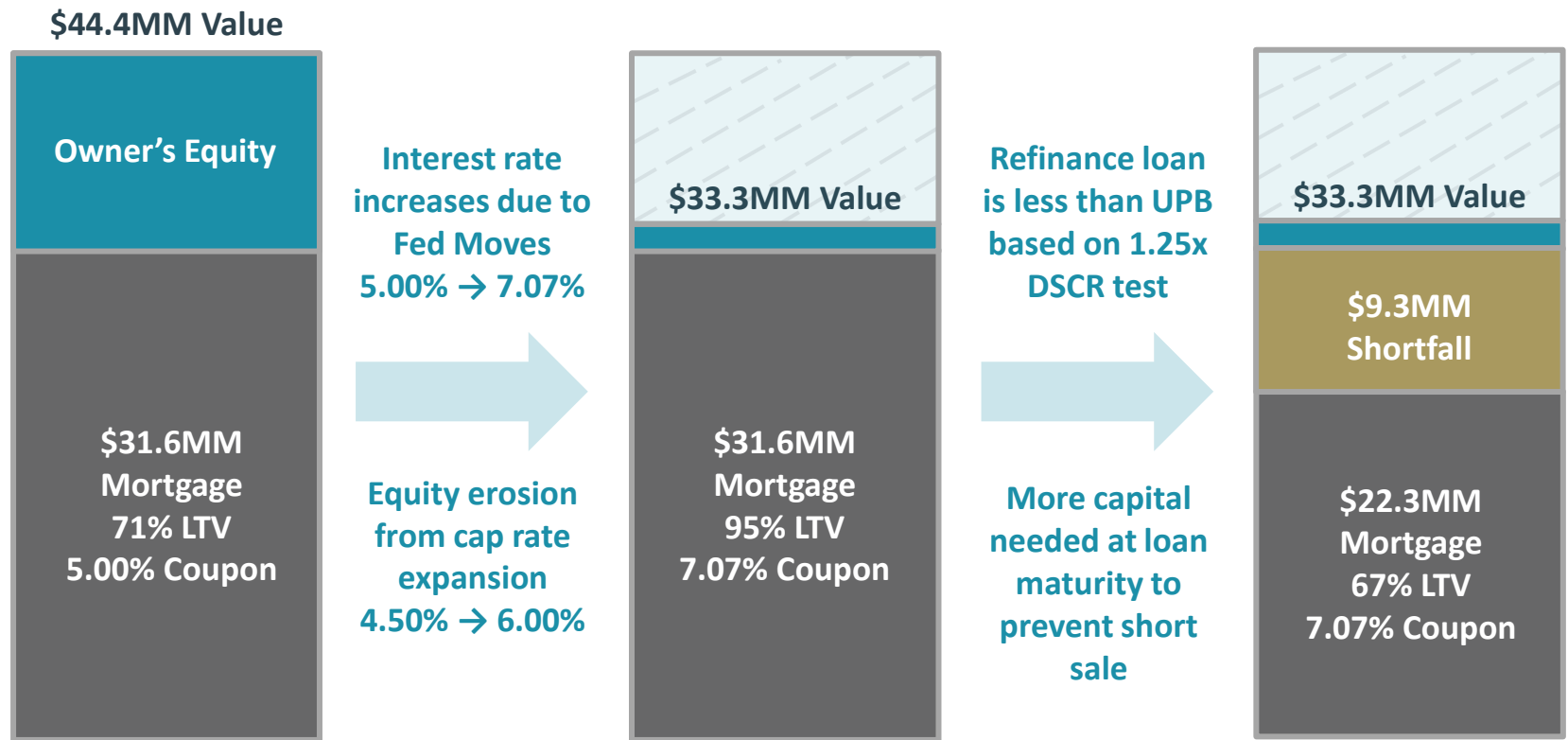


Source: Real Capital Analytics

THE VALUE RESET – IT'S JUST MATH

$$\text{DSCR} = \frac{\text{NOI}}{\text{Debt Service}}$$

	Loan Origination Sept-21		Value Reset Sept-23		Loan Maturity Sept-24
Property Value	\$44,400,000		\$33,300,000		\$33,300,000
Cap Rate	4.50%	+150 bps	6.00%		6.00%
Loan Amount	\$31,600,000		\$31,600,000	70.6% UPB	\$22,300,000
Interest Rate	5.00%	+ 207 bps	7.07%		7.07%
DSCR	1.25x		0.88x		1.25x

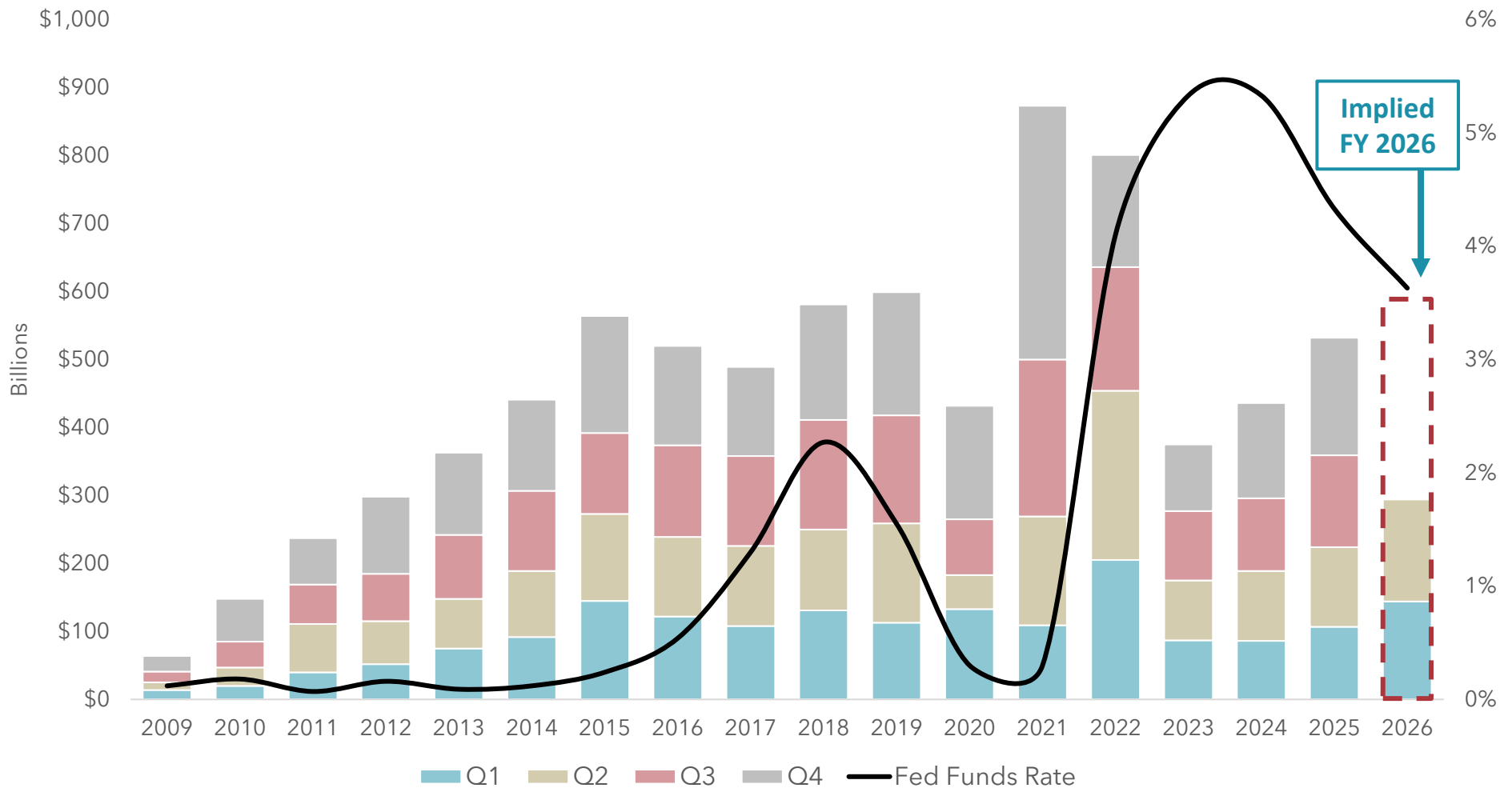


Source: Illustrative example. Loan sized to a 1.25x DSCR, interest-only: $\text{Loan} = \text{NOI} \div (1.25 \times \text{Rate})$

U.S. CRE SALES VOLUME

Post-GFC sales volume recovered linearly, with stable investor appetite during 16'-18' rate hikes. A transitory 0% COVID rate environment spurred record sales volume, which quickly retreated in 23'

U.S. INVESTMENT SALES VOLUME AND FED FUNDS RATE

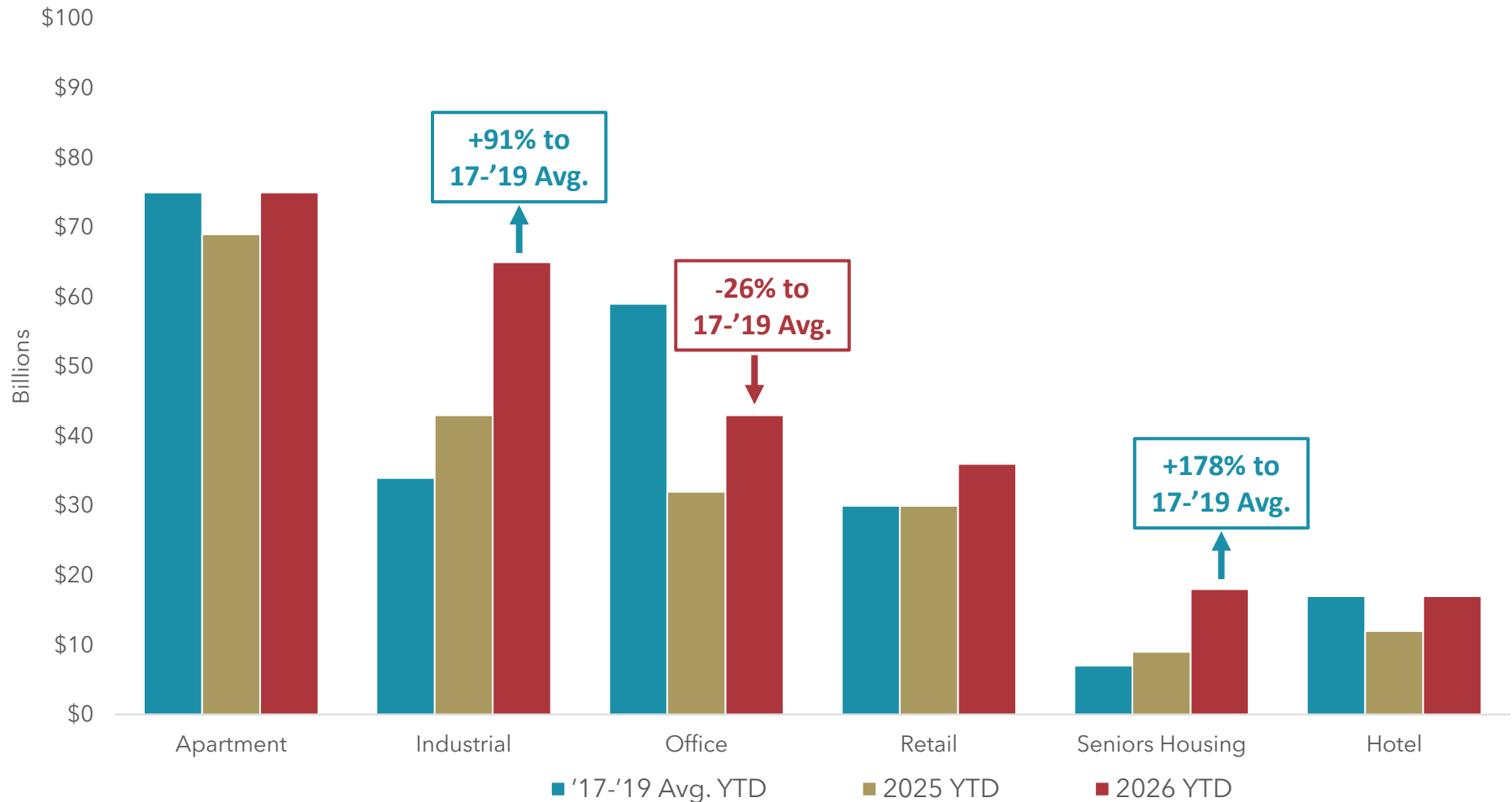


Source: Real Capital Analytics, Newmark Research, FRED

U.S. SALES VOLUME BY ASSET CLASS

1H 2026 investment sales volume outpaced 1H 2025 across nearly every asset class, with all classes now at or above pre-COVID averages, Office alone remains 26% below

COMMERCIAL REAL ESTATE SALES VOLUME BY ASSET CLASS

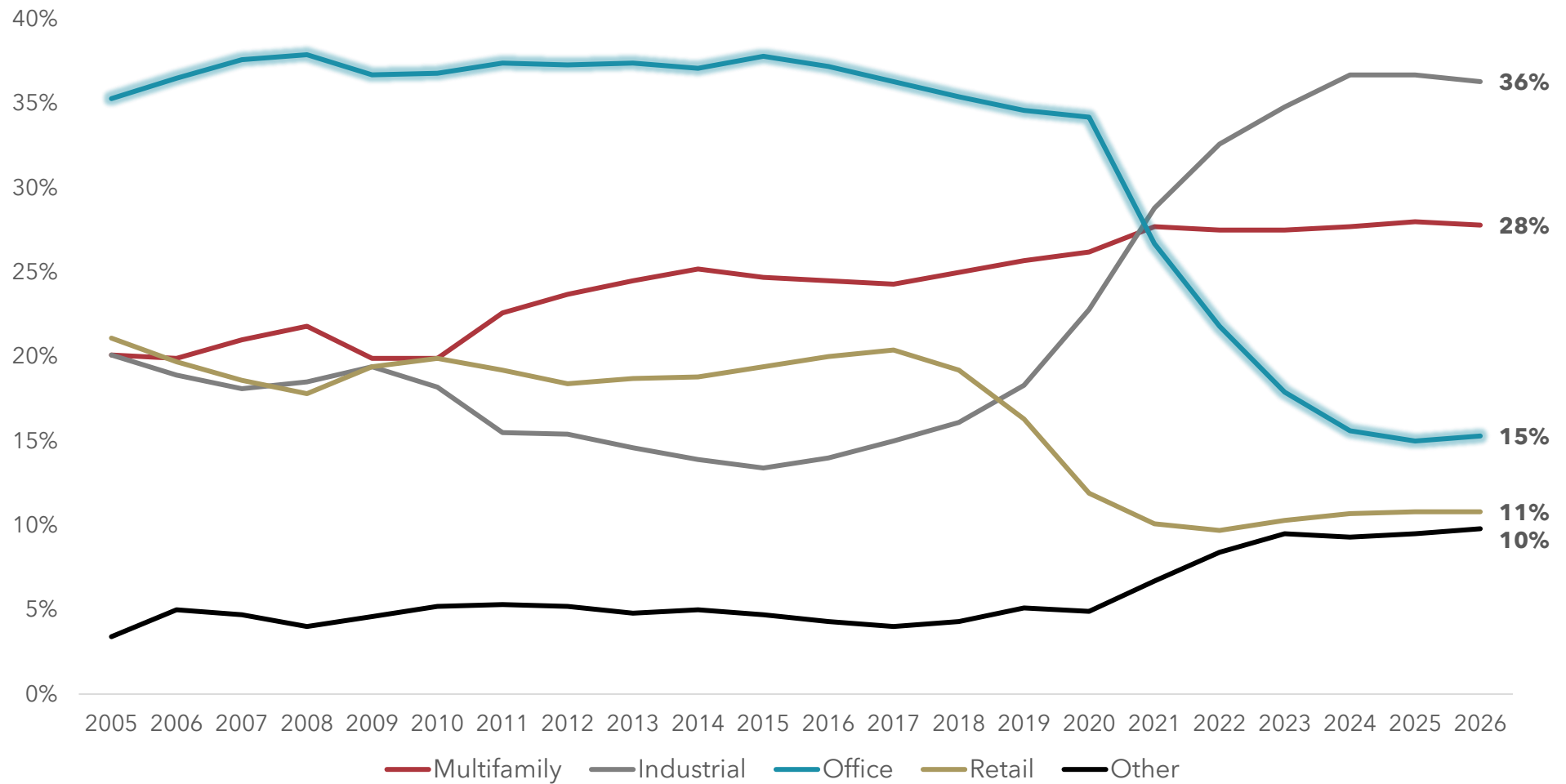


Source: Real Capital Analytics, Newmark Research

CORE PROPERTY ALLOCATION

Post-COVID rotation out of Office resulted in an allocation shift to Industrial, however, the falling Office allocation has stabilized

ODCE VALUE-WEIGHTED PROPERTY ALLOCATION

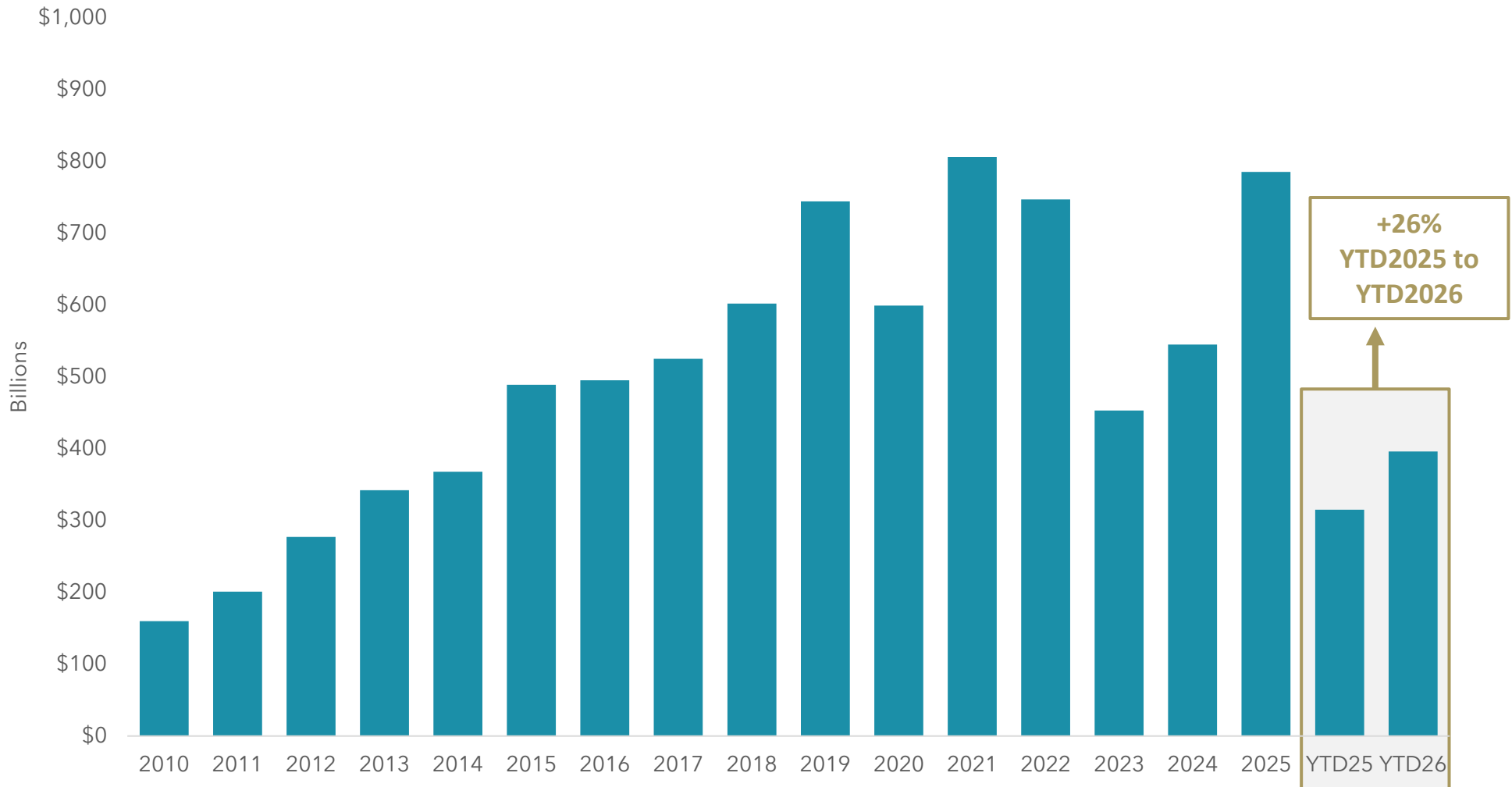


Open Ended Diversified Core Equity ("ODCE") tracks the financial performance and property sector allocations of large private open-ended core real estate funds in the United States.
Source: Real Capital Analytics, Newmark Research

CRE ORIGINATION VOLUME

Following the 22'-23' Fed Funds increase that stymied sales volume and debt availability, attractive risk adjusted returns for credit spurred a 73% increase in origination volume between 23'-25'

COMMERCIAL REAL ESTATE DEBT ORIGINATION VOLUME

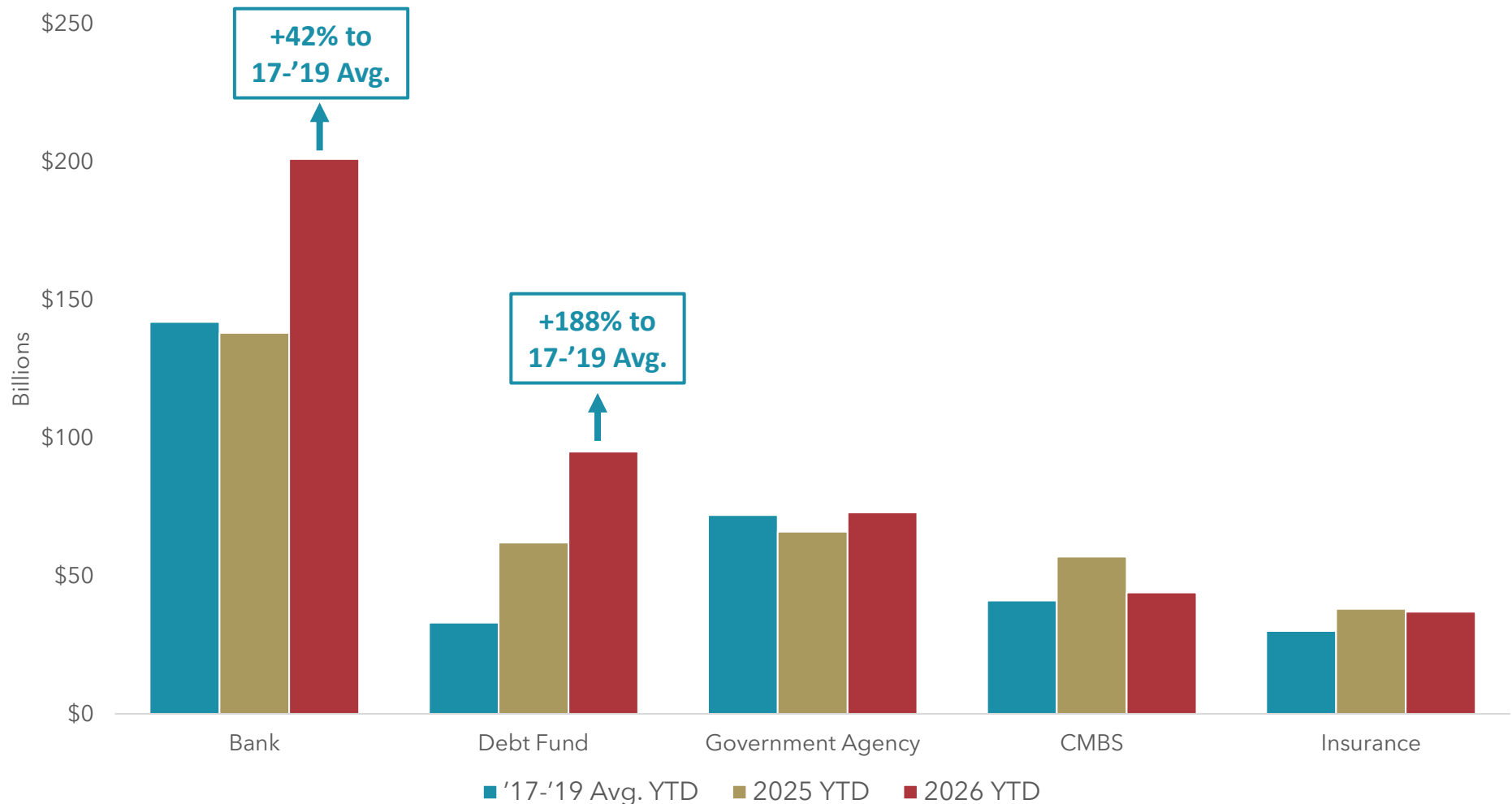


Source: Real Capital Analytics, Newmark Research

ORIGINATION VOLUME BY LENDER TYPE

While Banks were partially sidelined 23'-25' during the regional bank crisis, Debt Funds approximately tripled their origination volume; Banks resumed lending above their 17'-19' average in 26'

COMMERCIAL REAL ESTATE DEBT ORIGINATION VOLUME BY LENDER TYPE

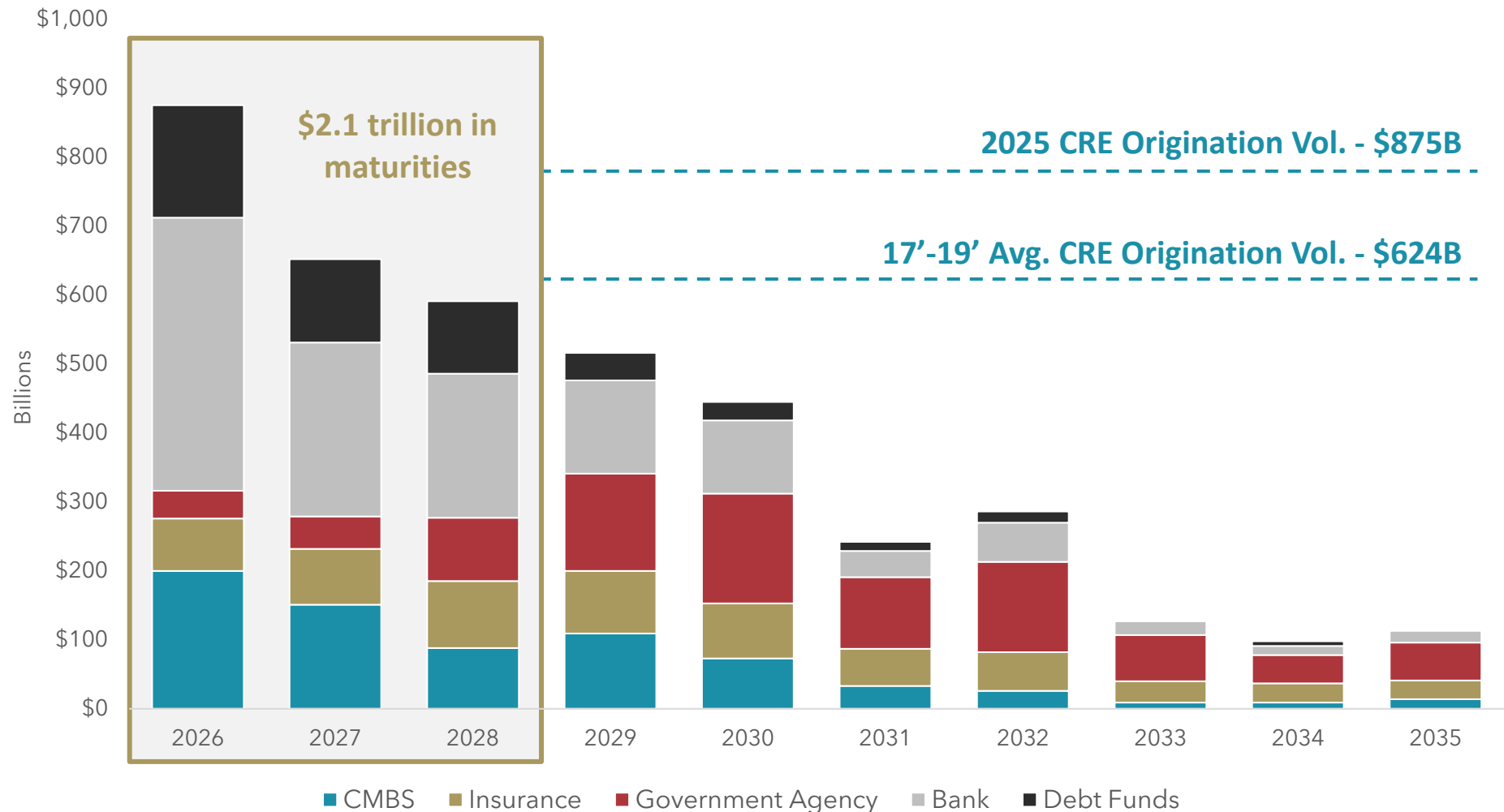


Source: Real Capital Analytics, Newmark Research
CMBS originations are based on the underlying loan origination date rather than securitization date

"IMPENDING" MATURITY WAVE

\$2.1 trillion of CRE loans mature between 2026 and 2028. Based on 2025 annual origination volume of \$875B, roughly 80% of total lending over the next three years would need to go toward refinancing these maturities

NEAR TERM MATURITIES BY LENDER TYPE

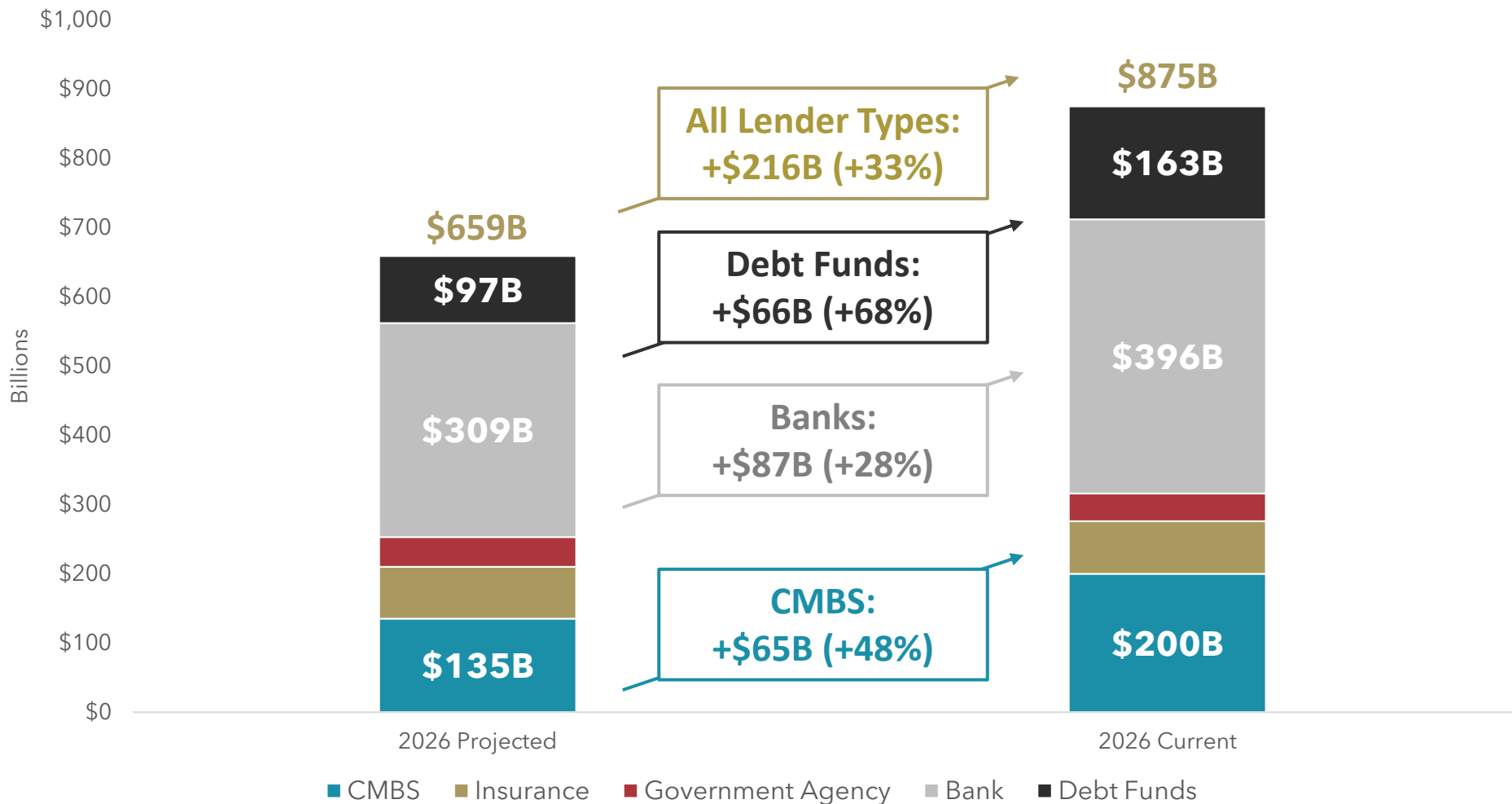


Source: Real Capital Analytics, Newmark Research

TROUBLED LOANS DELAY MATURITY WAVE

Compared to 2025, CRE loans expected to mature in 2026 increased by 33% or by \$216B YOY, driven by further extensions and modifications

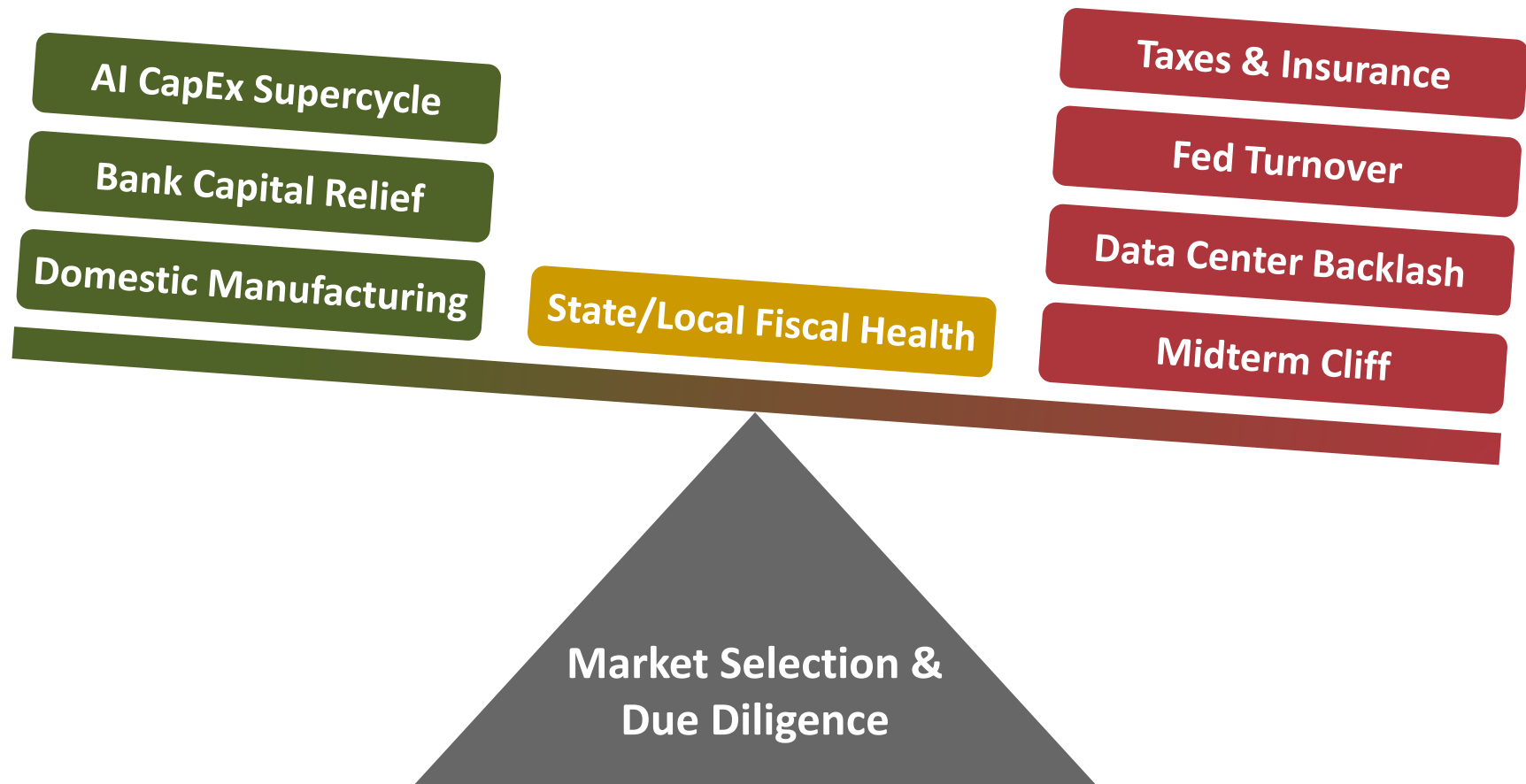
2026 CRE LOAN MATURITIES



Source: MBA, Trepp, Newmark Research

UNPREDICTABLE POLICY AGENDA

The current domestic policy landscape is fragmented and frequently evolving, forcing CRE investors to be deliberate in market selection and focus on political risks during due diligence



RESULTING OPPORTUNITY SET

Machine does not rely solely on distressed asset and loan sales to find opportunistic returns. Dislocation creates opportunity, and Machine is capitalizing across a few themes



“STUCK” CAPITAL STACK

Equity needed to recapitalize projects that are impacted by the “Math Problem”

DISTRESSED SALE

Owner led sales of assets facing impairment or sales of troubled loans

VALUE RESET CASH FLOW

Wider cap rates result in opportunistic cash flowing opportunities

SECTOR TAILWINDS

Asset class tailwinds (Senior Housing, Data Center, etc.) drive return potential

MACHINE FUND II PORTFOLIO & PIPELINE

Machine's sourcing channels and creative structuring approach result in attractive entry points, downside protection, and more than one path to a positive outcome for portfolio investments

Investment	Type	Asset Class	Sourcing	Theme
Lancaster Powered Land	Equity	Powered Land	Distressed PE PortCo	Sector Tailwinds
San Jose Luxury Condo	Equity	Multifamily	Distressed MREIT	Distressed Sale
Long Island Senior Living	Equity	Senior Living	Bankruptcy Sale	Distressed Sale, Sector Tailwinds
Columbus Industrial Loan	Debt	Industrial	Broken Equity Process	"Stuck" Capital Stack
Austin Multifamily	Equity	Multifamily	Distressed Loan Acquisition	Distressed Sale, Value Reset Cash Flow
Phoenix Industrial	Equity	Industrial	Distressed Loan Acquisition	Distressed Sale
Columbus Shallow-Bay Industrial	Equity	Industrial	Off-Market	Value Reset Cash Flow, Sector Tailwinds
Atlanta Airport Marriott	Equity	Hospitality	Off-Market	Value Reset Cash Flow
Dallas Multifamily	Equity	Multifamily	Distressed Loan Acquisition	Distressed Sale
Vulcan Infrastructure & Power	Equity / Debt	Public	Public Equity	Sector Tailwinds
Pipeline				
Pittsburgh Industrial	Equity	Industrial	Off-Market	Value Reset Cash Flow
Mesa Data Center	Equity	Data Center	Off-Market	Sector Tailwinds, "Stuck" Capital Stack



MACHINE
INVESTMENT GROUP

MACHINE FUND II CASE STUDIES

INDUSTRIAL: CASE STUDY

DETAILS

LOCATION:	Phoenix, AZ
PROPERTY SECTOR:	Industrial
SIZE:	1.3M SF
INVESTMENT TYPE:	Equity, Special Situation
INVESTMENT DATE:	May 2026



DEAL SUMMARY:

➤ Sourcing & Entry

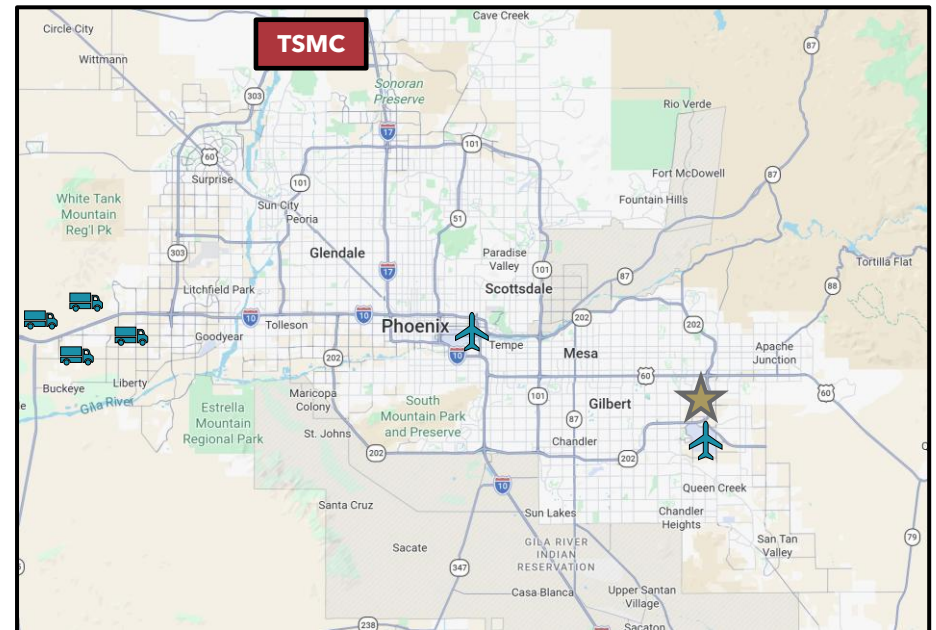
Following a massive supply wave in the region, Machine acquired a newly constructed industrial park from the lender at ~40% discount to the developer's basis.

➤ Business Plan

Leverage the reset cost basis to reposition the asset through the development of move in ready suites and undercut the market to capture an outsized share of leasing activity, stabilizing at a 7.5% yield-on-cost.

➤ Key Market Stat

Phoenix was one of the nations leaders in industrial net absorption as a percentage of total inventory in 2025, the region's third-highest year on record.

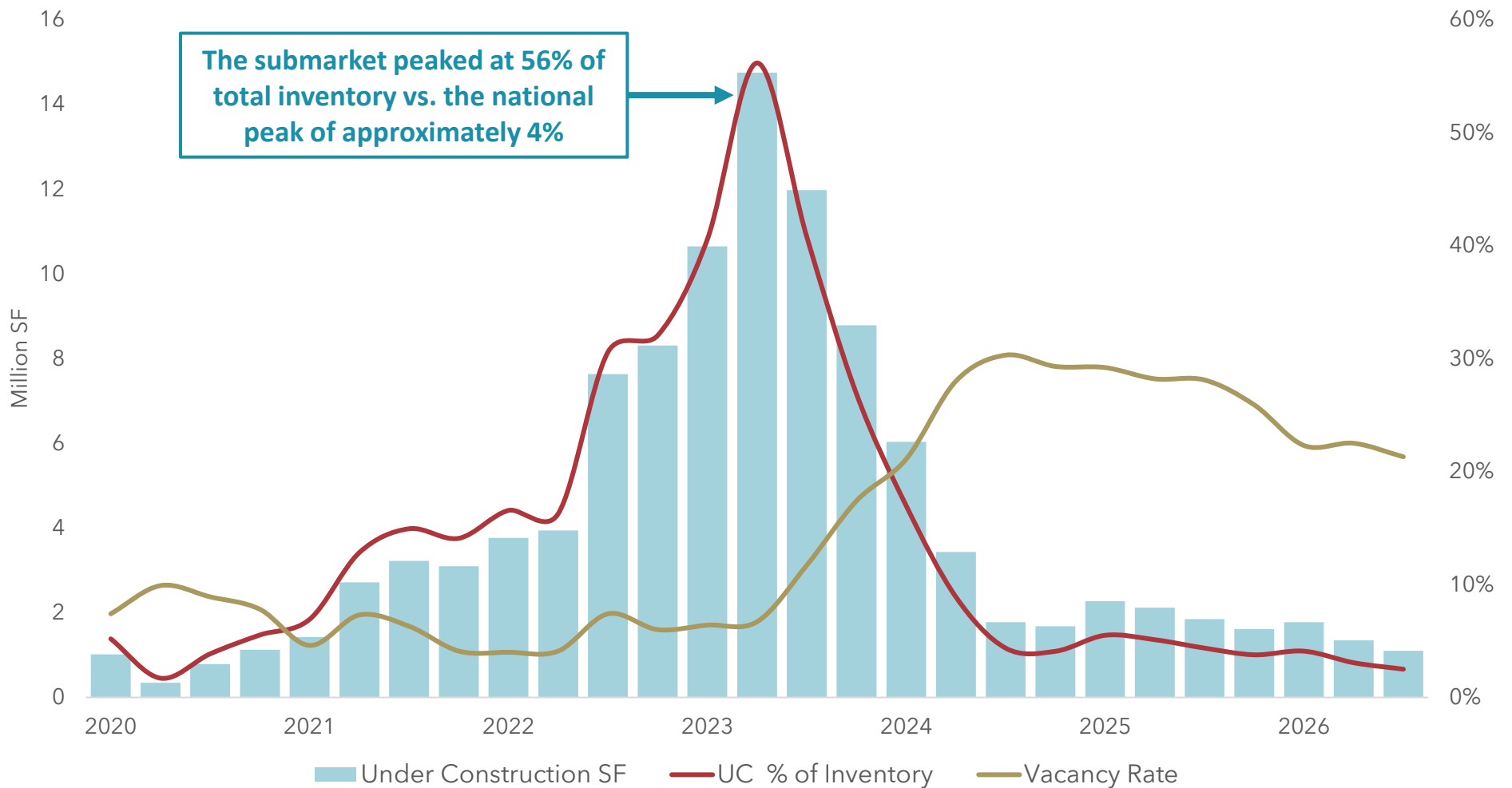


Source: Cushman & Wakefield, CoStar

INDUSTRIAL: CASE STUDY

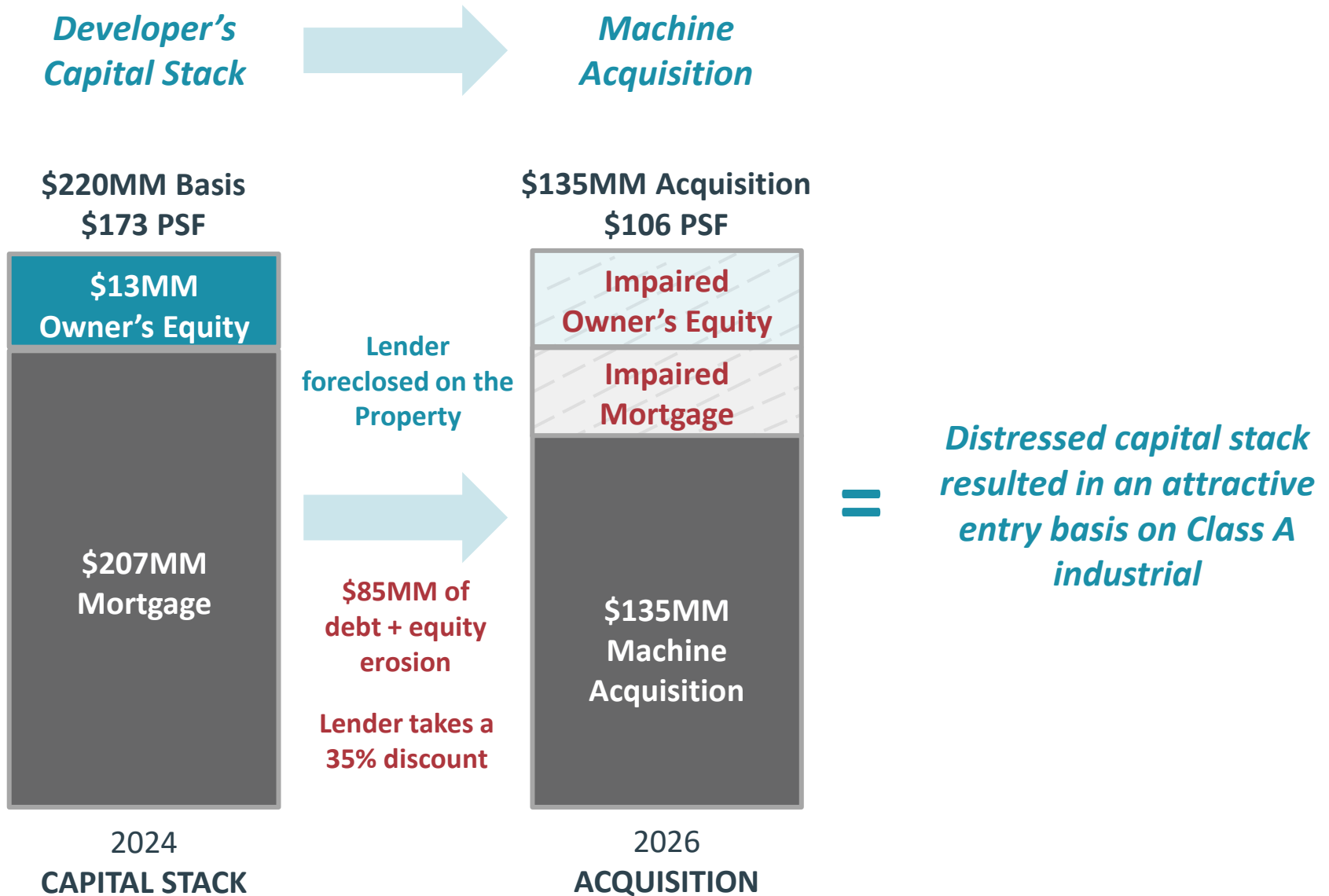
The submarket's industrial construction pipeline peaked at 56% of inventory in 2023 and has since fallen sharply, materially reducing future supply pressure

SUBMARKET INDUSTRIAL CONSTRUCTION & VACANCY RATE



Source: CoStar

INDUSTRIAL: CASE STUDY

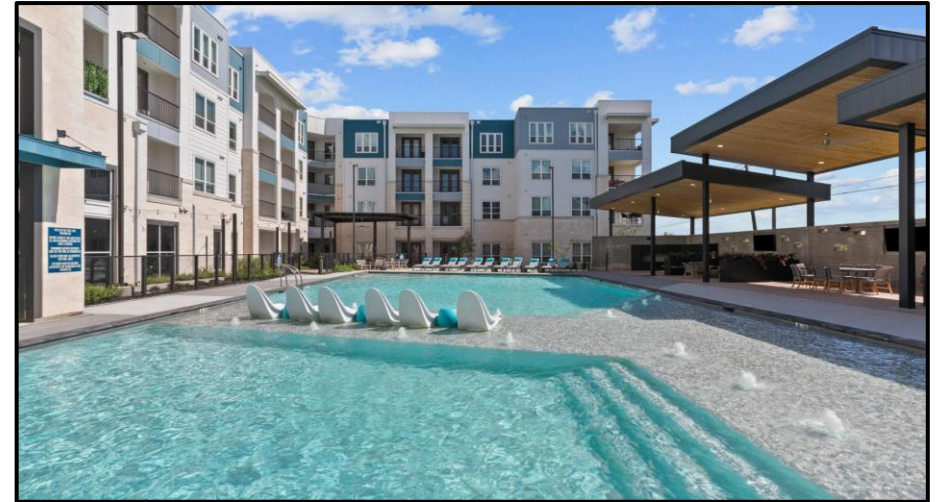


Original Developer's Capital Stack is estimated on a per-square-foot cost basis.

MULTIFAMILY: CASE STUDY

DETAILS

LOCATION:	Austin, TX
PROPERTY SECTOR:	Multifamily
SIZE:	227 Units
INVESTMENT TYPE:	Equity, Special Situation
INVESTMENT DATE:	December 2025



DEAL SUMMARY:

› Sourcing & Entry

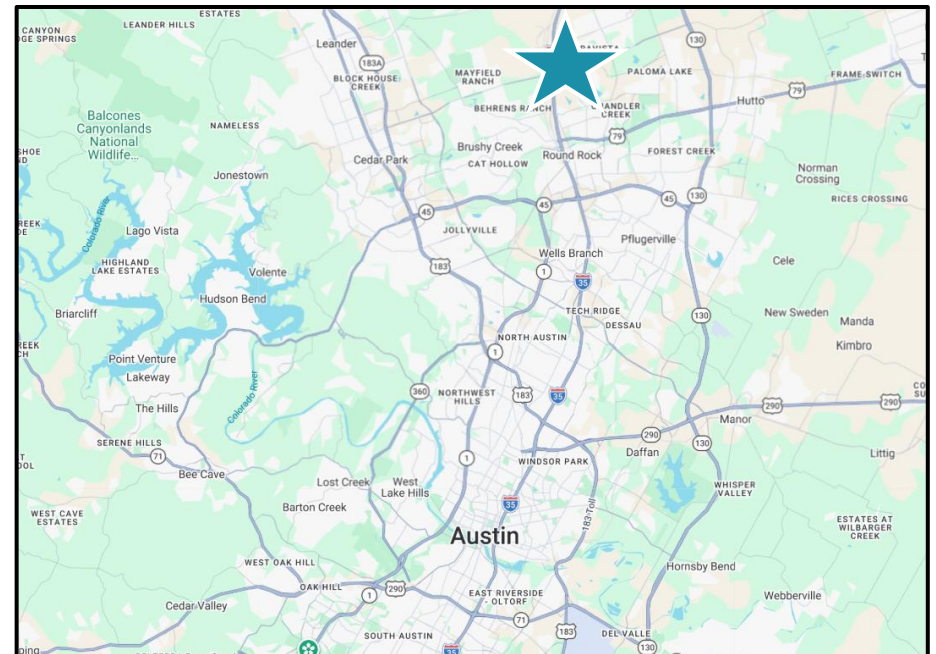
Machine acquired a 2024 vintage, multifamily asset at a 30% discount to the Developer's basis following a slow lease-up and the elevated interest rate environment.

› Business Plan

Enhance the amenity package to differentiate the asset and leverage the discounted basis to undercut competition, stabilizing at a 6.8% yield-on-cost.

› Key Market Stat

Rent and occupancy in Austin rose together for the first time since 2022, signaling that fundamentals are stabilizing after inventory increased by 30% between 2022-2025.

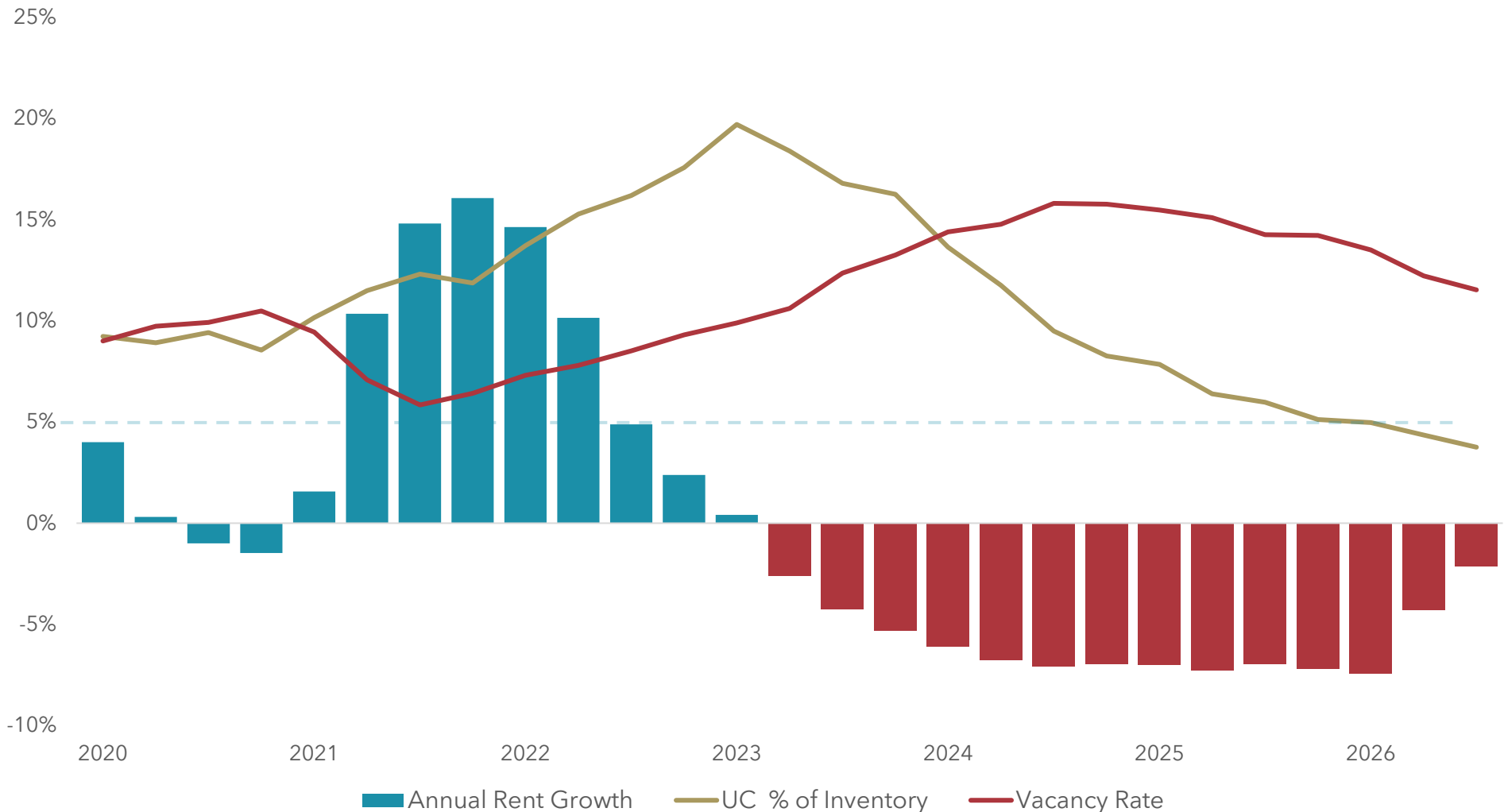


Source: Colliers, CoStar

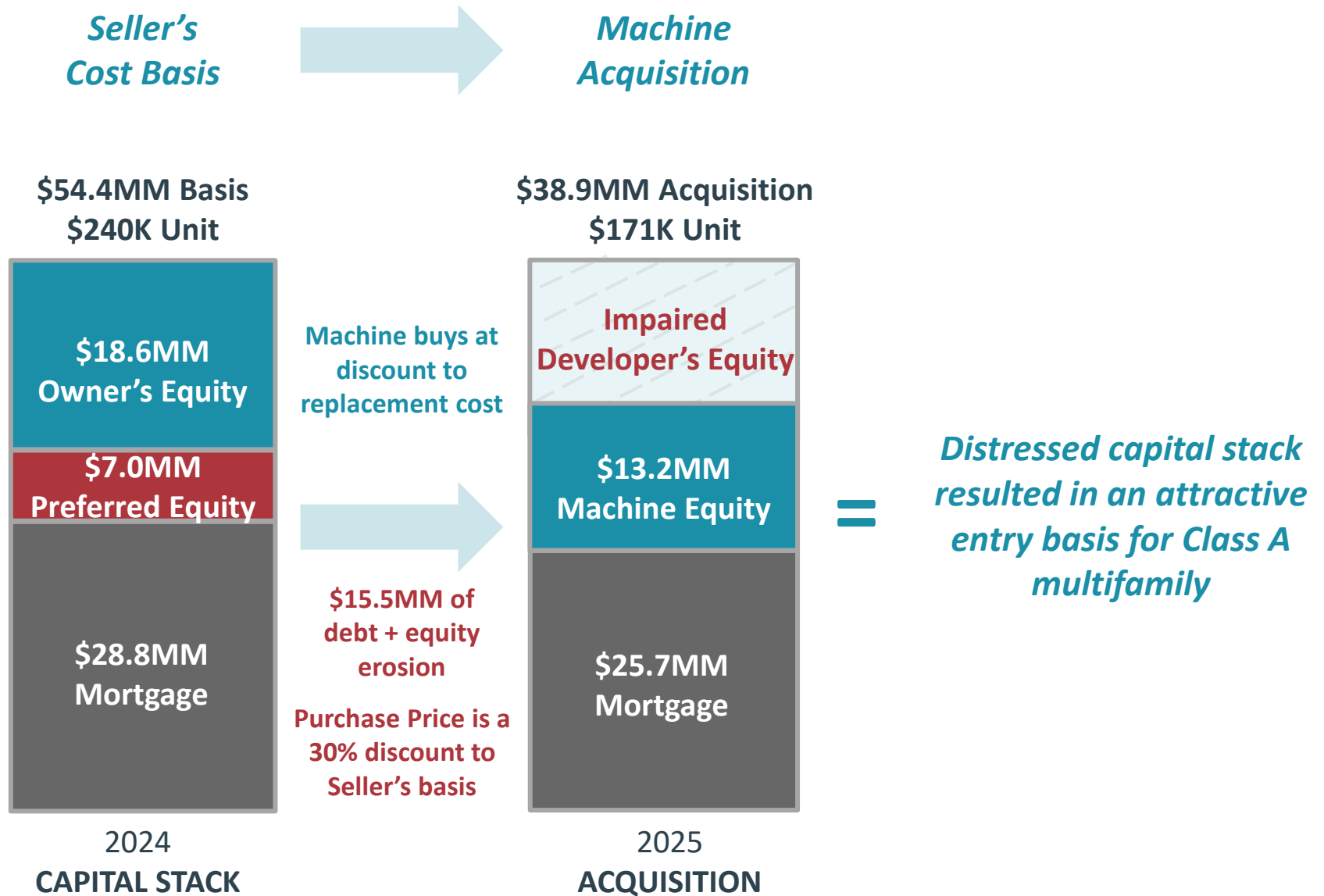
MULTIFAMILY: CASE STUDY

With supply falling sharply from its 2023 peak, Austin is entering a period of improving occupancy and moderating rent declines

AUSTIN MULTIFAMILY RENT GROWTH, SUPPLY & VACANCY

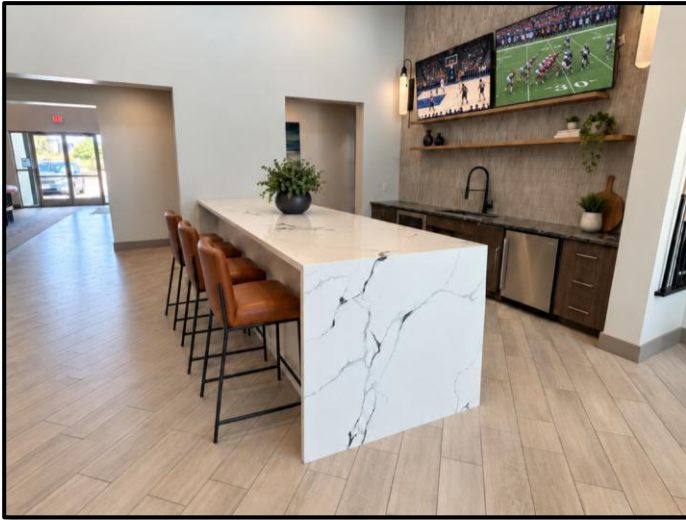


MULTIFAMILY: CASE STUDY



MULTIFAMILY: CASE STUDY

Machine invested in the amenity programming (golf simulator, cold plunge, tenant lounge) to differentiate the property from the competition



SENIOR HOUSING: CASE STUDY

DETAILS

LOCATION:	Long Island, NY
PROPERTY SECTOR:	Senior Living
SIZE:	229 Units
INVESTMENT TYPE:	Equity, Special Situation
INVESTMENT DATE:	May 2025

DEAL SUMMARY:

› Sourcing & Entry

Following the bankruptcy of the seller and failed auction MIG capitalized on the dysfunction and acquired the asset at a 70% discount to the seller's development basis.

› Business Plan

Implement a capital improvement program to refresh all common areas, upgrade all independent living units, and address deferred maintenance, alongside rebranding and leasing up the community.

› Key Market Stat

Attractive entry basis allowed MIG to conservatively UW rents \$2,000+ below the only two Class A competitors within 10 miles.

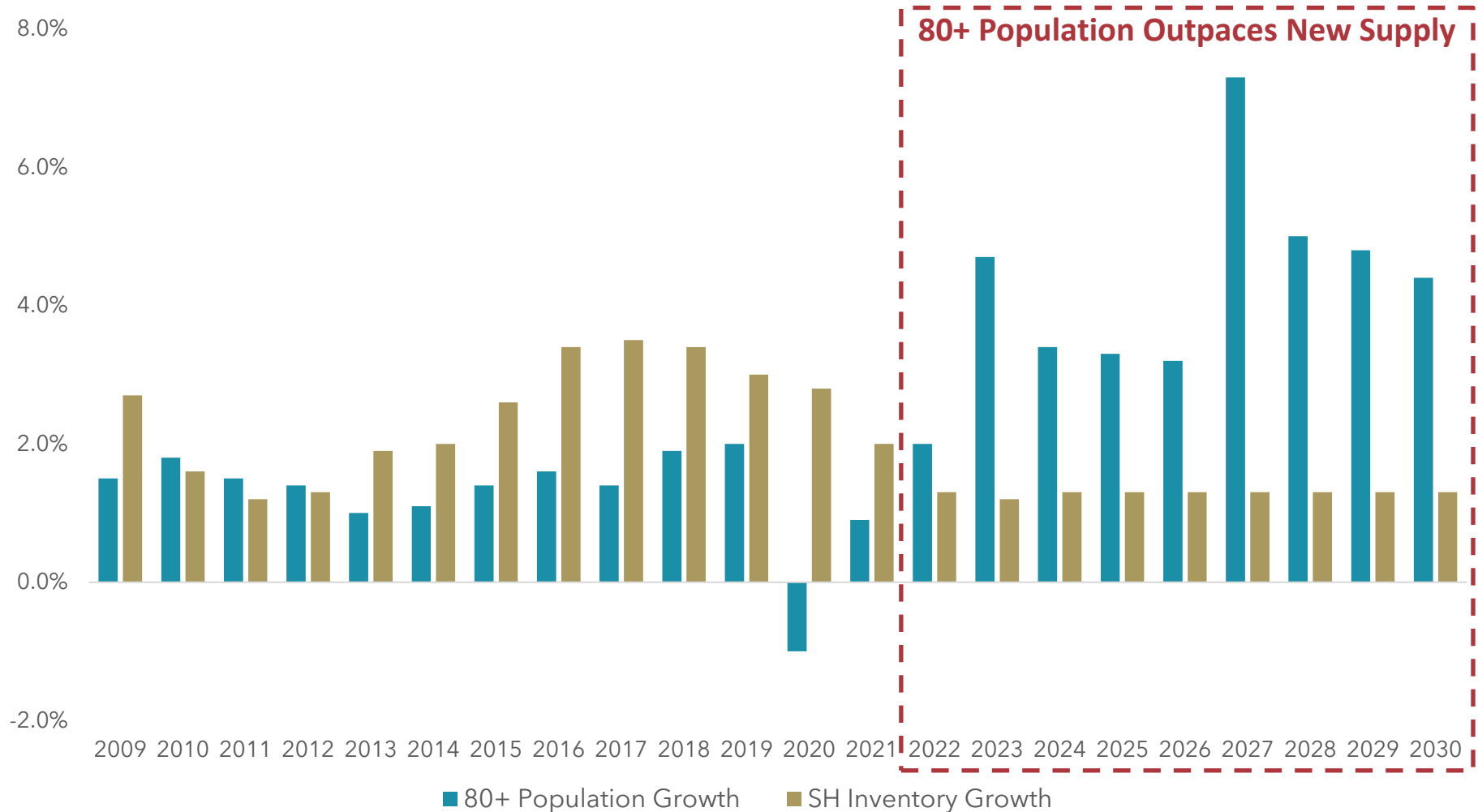


Source: Rent figures are sourced directly from competitive properties public information

SENIOR HOUSING: CASE STUDY

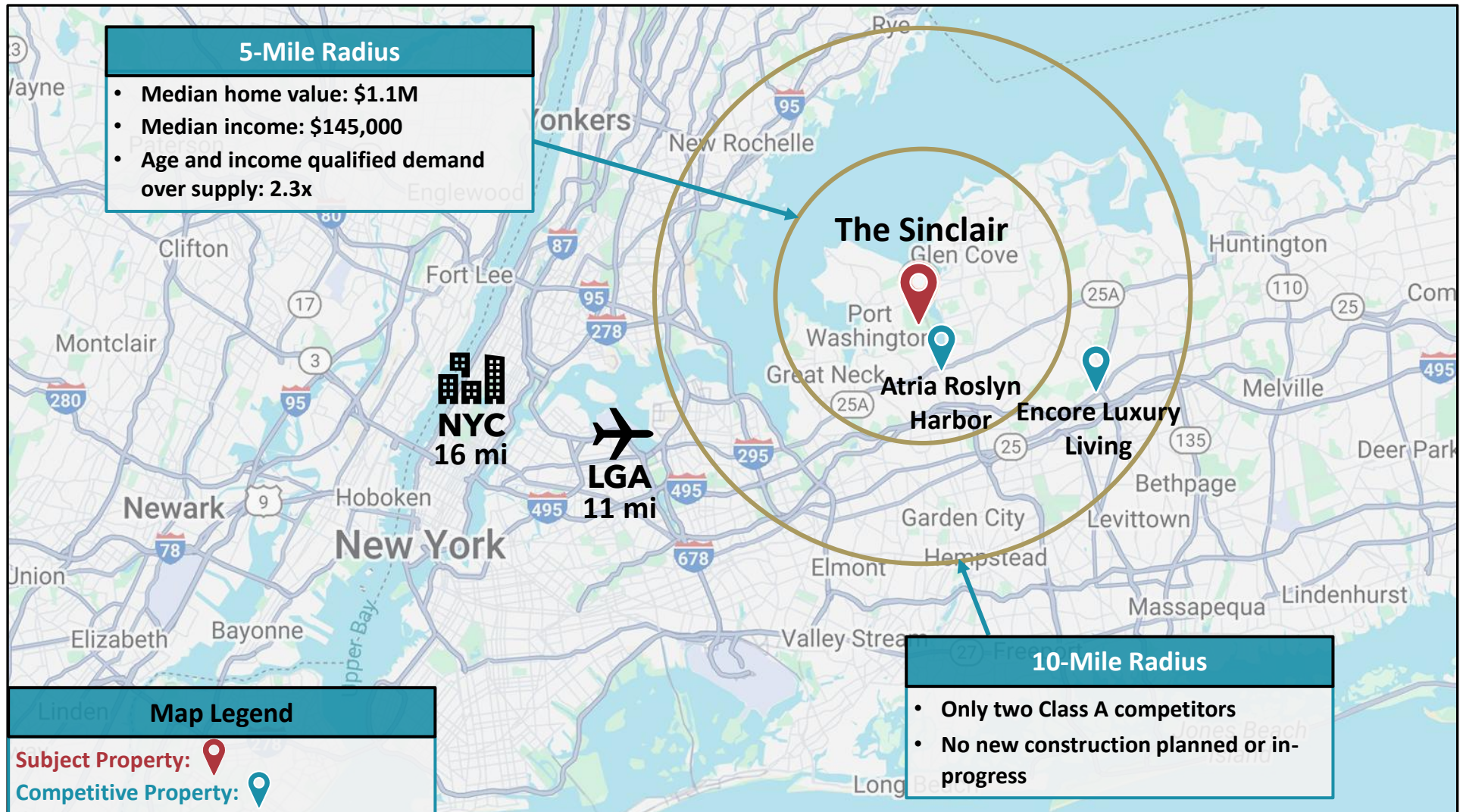
The 80+ population began outpacing new supply in 2022. With limited development and strong senior population growth ahead, demand is set to outstrip supply at an accelerating pace

SENIOR HOUSING INVENTORY GROWTH vs. 80+ POPULATION GROWTH



Source: NIC MAP® Data, powered by NIC MAP®, Primary and Secondary Markets; OECD

SENIOR HOUSING: CASE STUDY



*Circles represent a 5 and 10-mile radius from The Sinclair

Source: NIC, Moody's

SENIOR HOUSING: CASE STUDY

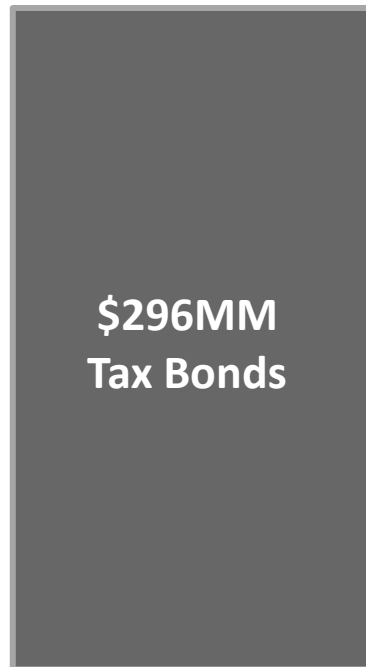
*Original Owner's
Capital Stack*



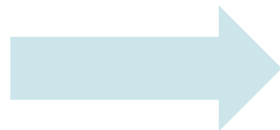
*Machine
Acquisition*

\$296MM
Development Basis

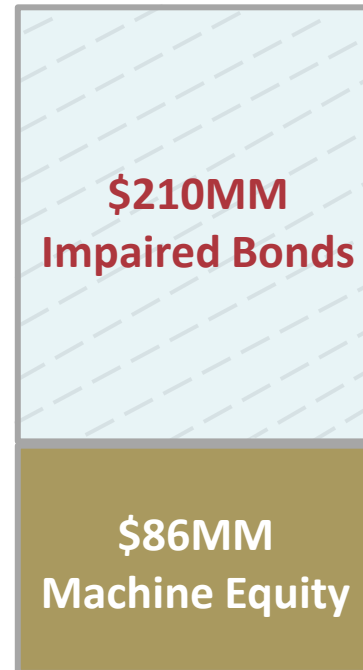
\$86MM
Purchase Price



All-cash acquisition
via bankruptcy
auction



Price represents a
71% discount to
seller's cost basis



=

*Distress results in an
attractive entry basis
to fully reposition the
asset*

2010
DEVELOPMENT
BASIS

2025
BANKRUPTCY
AUCTION SALE

SENIOR HOUSING: CASE STUDY

**Units
Before**



**Units
After**



RESIDENTIAL: CASE STUDY

DETAILS

LOCATION:	San Jose, CA
PROPERTY SECTOR:	Condominium
SIZE:	539 Units
INVESTMENT TYPE:	Equity, Distressed
INVESTMENT DATE:	May 2025

DEAL SUMMARY:

› Sourcing & Entry

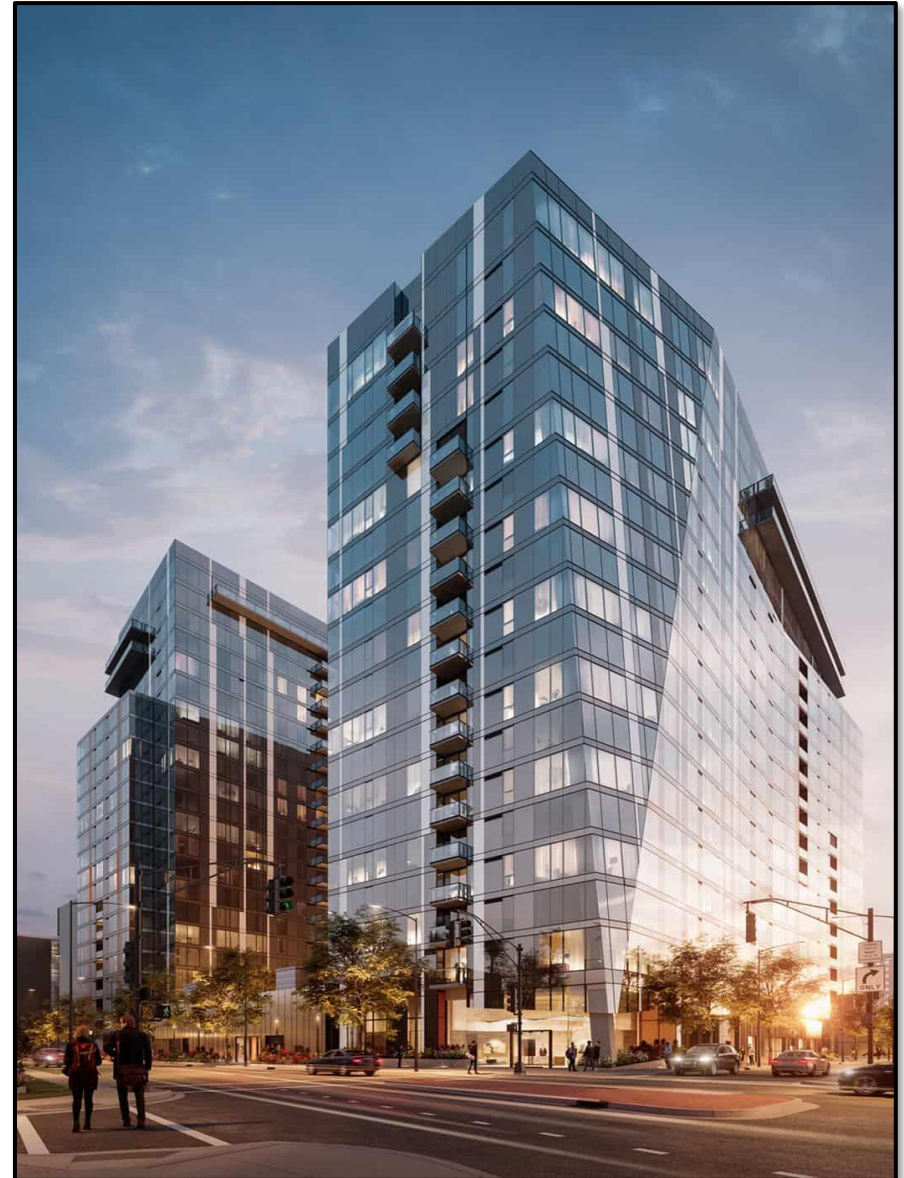
Following the default of the borrower and a failed loan sale, Machine capitalized on the dysfunction and acquired the loan at a ~70% discount to the developer's basis.

› Business Plan

Execution of the business plan included taking fee title via deed-in-lieu, completing unit interiors, corridors and common areas, resuming condominium sales in both towers, and leasing the ground floor retail.

› Key Market Stat

The transaction reflects an attractive basis at ~50% below replacement cost, with the projected sale price still ~25% below replacement cost.



RESIDENTIAL: CASE STUDY

*Original Developer's
Capital Stack*

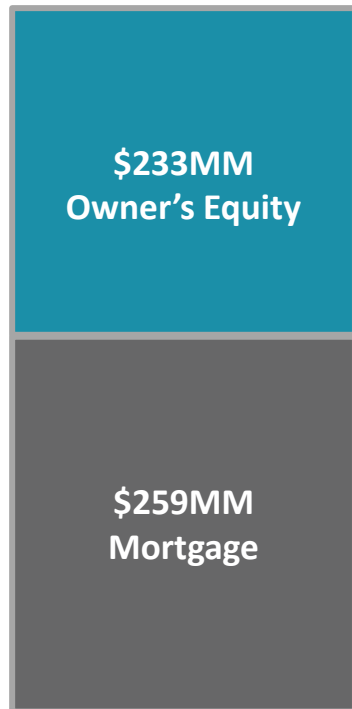


MIG Buys Loan



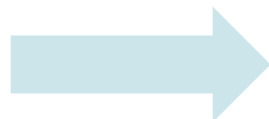
MIG All-In Basis

**\$492MM Basis
\$874 PSF**



2019
CAPITAL STACK¹

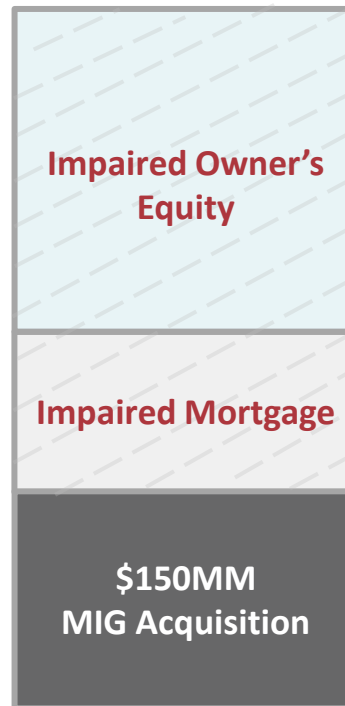
MIG buys existing
Mortgage and
forecloses out
equity



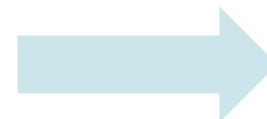
**\$342MM
debt + equity
erosion**

**Mortgage
lender takes a
~40% discount**

**\$150MM MIG
Loan Acquisition
\$266 PSF**



2025
RESTRUCTURE



Machine obtains
new loan and
invests equity to
complete
construction and
sell remaining
units

**\$259MM
MIG Basis
\$460 PSF**



2025
**MIG FULLY
FUNDED BASIS**

¹Includes loan balance plus protective advances plus unpaid interest does not include additional \$28 million of default interest

SAN JOSE DISTRESSED RESIDENTIAL

UNITS BEFORE



SAN JOSE DISTRESSED RESIDENTIAL

UNITS AFTER





MACHINE

INVESTMENT GROUP

Q&A

DISCLAIMERS AND OTHER IMPORTANT INFORMATION

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Case Studies and Illustrative Examples. The investments described in this Presentation have been selected by Machine to illustrate its investment themes and sourcing approach, were not selected on the basis of performance, and do not represent all of the investments made by Machine or the funds it manages. It should not be assumed that any investment described herein has been or will be profitable, or that future investments will be comparable in quality, basis or outcome. Acquisition prices, cost bases (including estimates of a prior owner’s or developer’s cost basis), capital structures and property statistics are approximate, unaudited, may be based on estimates and are subject to change. Business plans described herein reflect Machine’s current intentions, may change and may not be achieved. Hypothetical or illustrative examples, including the example on the “Value Reset” page, are provided solely to illustrate a concept, do not reflect any actual investment and are not a representation of any results. Firm-level statistics may include capital associated with investments made by Machine’s principals at prior firms, as described in the accompanying footnotes, and are not a measure of Machine’s regulatory assets under management.

Third-Party Information; Estimates. Except in instances where third-party sources are cited, statements contained in this Presentation are solely based on current expectations, estimates, opinions and beliefs of Machine as of the date hereof. Such statements involve known and unknown risks and uncertainties, and undue reliance should not be placed thereon. Neither Machine nor any of its affiliates makes any representation or warranty, express or implied, as to the accuracy or completeness of the information contained herein, and nothing contained herein should be relied upon as a promise or representation as to past or future performance of any fund, investment or other entity. Past performance and historical market trends are not necessarily indicative of future results. Unless otherwise noted, the information contained herein is as of September 2026, is unaudited, preliminary, may be based on estimates, is for discussion purposes only and is subject to change. Certain market, index and other data contained herein have been obtained from published and non-published sources, including the third-party sources cited, and in certain cases have not been updated through the date hereof. While such information is believed to be reliable for the purposes of this Presentation, Machine assumes no responsibility for the accuracy or completeness of such information, which has not been independently verified by it. References to indices are for illustrative purposes only; indices are unmanaged and cannot be invested in directly.

Forward-Looking Statements. Certain information contained in this Presentation constitutes “forward-looking statements” that may be identified by the use of forward-looking terminology such as “may,” “will,” “should,” “expect,” “anticipate,” “estimate,” “intend,” “continue,” “target” or “believe” or the negatives thereof or other variations thereon or comparable terminology. Any projections or other estimates in this Presentation, including estimates of market conditions, supply, demand, transaction volumes or property-level results, are forward-looking statements, are based upon certain assumptions that may change, and are provided for informational purposes only. Actual results and trends could differ materially, positively or negatively, from those described or contemplated in such forward-looking statements, and actual events often depend upon factors beyond Machine’s control. No forward-looking statement contained herein constitutes a guarantee, promise, projection, forecast or prediction of, or representation as to, the future. Machine neither (i) assumes responsibility for the accuracy or completeness of any forward-looking statements, nor (ii) undertakes any obligation to update or revise any forward-looking statements for any reason after the date of this Presentation. The delivery of this Presentation at any time shall not under any circumstances create an implication that the information contained herein is correct as of any time after the earlier of the relevant date specified herein and the date of this Presentation. Unless the context otherwise requires, the words “include,” “includes” and “including” and words of similar import are illustrative rather than restrictive and shall be deemed to be followed by the phrase “without limitation.”

Portfolio Risk Summary

June 30, 2026

Section I - Total Portfolio Summary

Strategic Asset Allocation	(2)
Strategic Asset Allocation	(3)
Pools Summary	(4)

Section II - Asset Class Summaries

Global Public Equity	(5)
Fixed Income - Rates	(6)
Fixed Income - Credit	(7)
Diversifiers	(8)
Long/Short	(9)
Private Markets	(10)

Appendix - Terms and Definitions

Terms and Definitions	(11)
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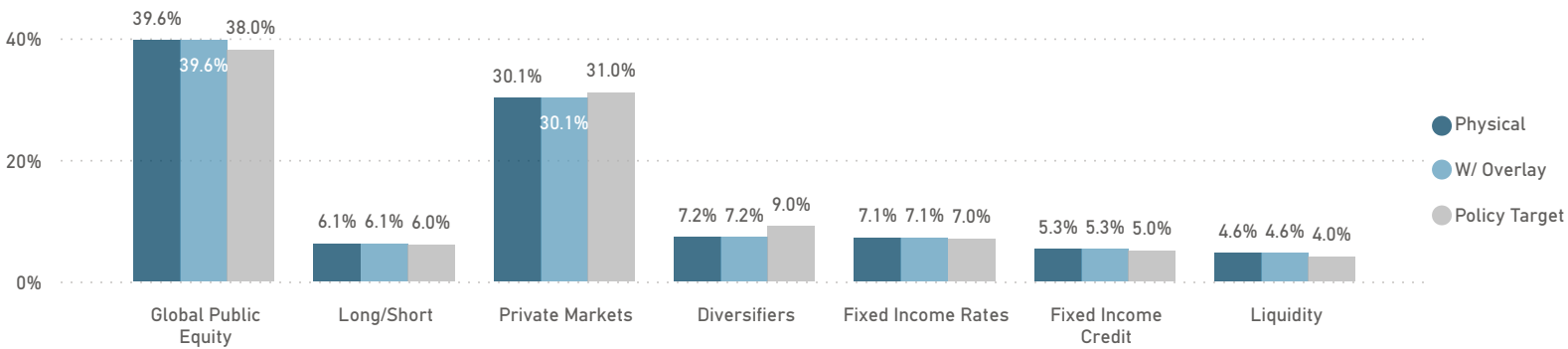
Section I - Strategic Asset Allocation

Asset Allocation

Asset allocation is a key component of risk management. Each pool has its own asset allocation targets that reflect the individual risk tolerance and goals of each plan. The policy targets indicated below are interim asset allocation targets.

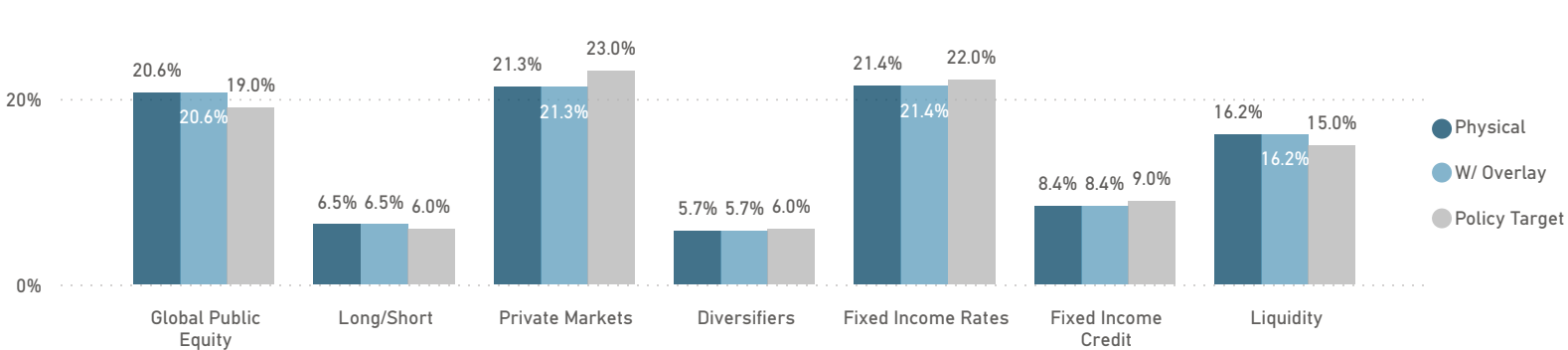
Long-Term Pool

FPPA LTP - Asset Allocation as of June 30, 2026



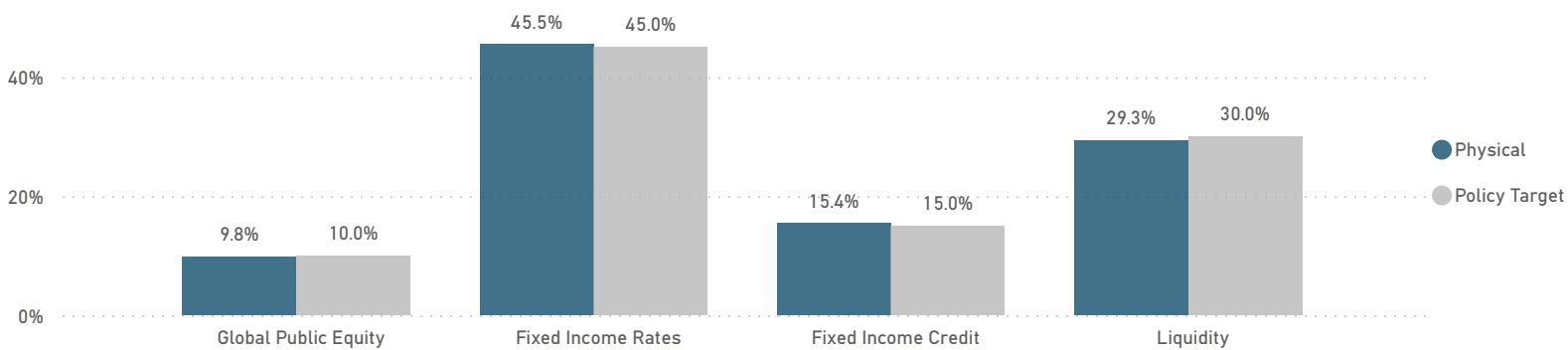
Glide-Path Pool

FPPA GPP - Asset Allocation as of June 30, 2026



Short-Term Pool

FPPA STP - Asset Allocation as of June 30, 2026



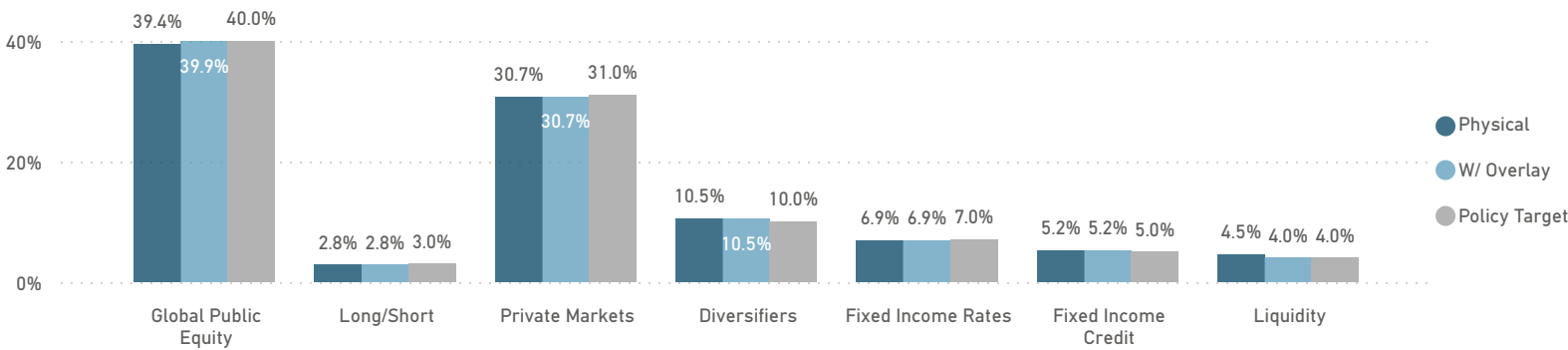
Section I - Strategic Asset Allocation

Asset Allocation

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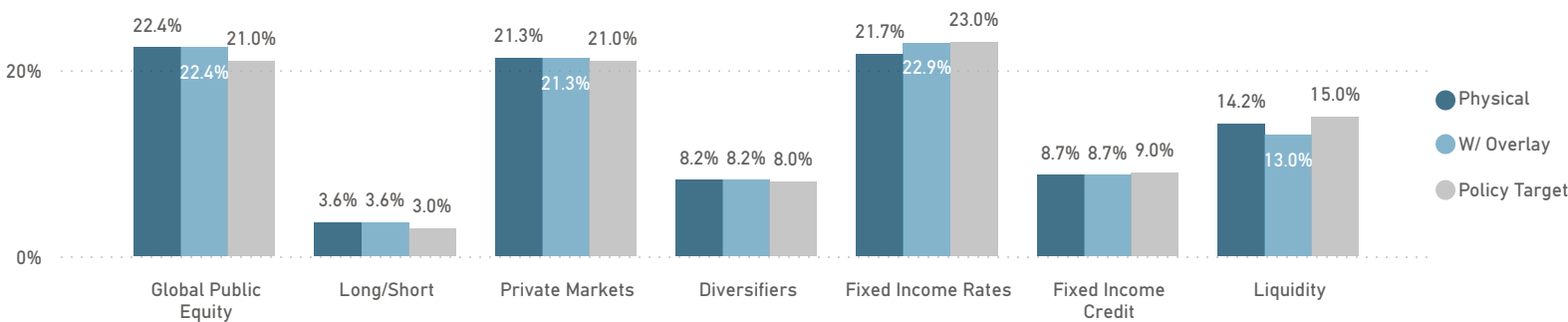
Long-Term Pool

FPPA LTP - Asset Allocation as of August 31, 2026



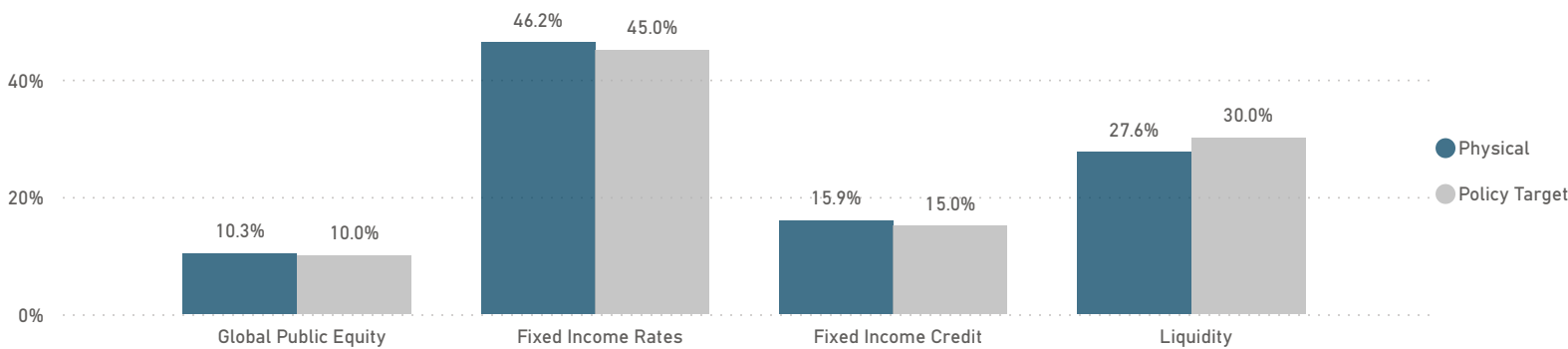
Glide-Path Pool

FPPA GPP - Asset Allocation as of August 31, 2026



Short-Term Pool

FPPA STP - Asset Allocation as of August 31, 2026

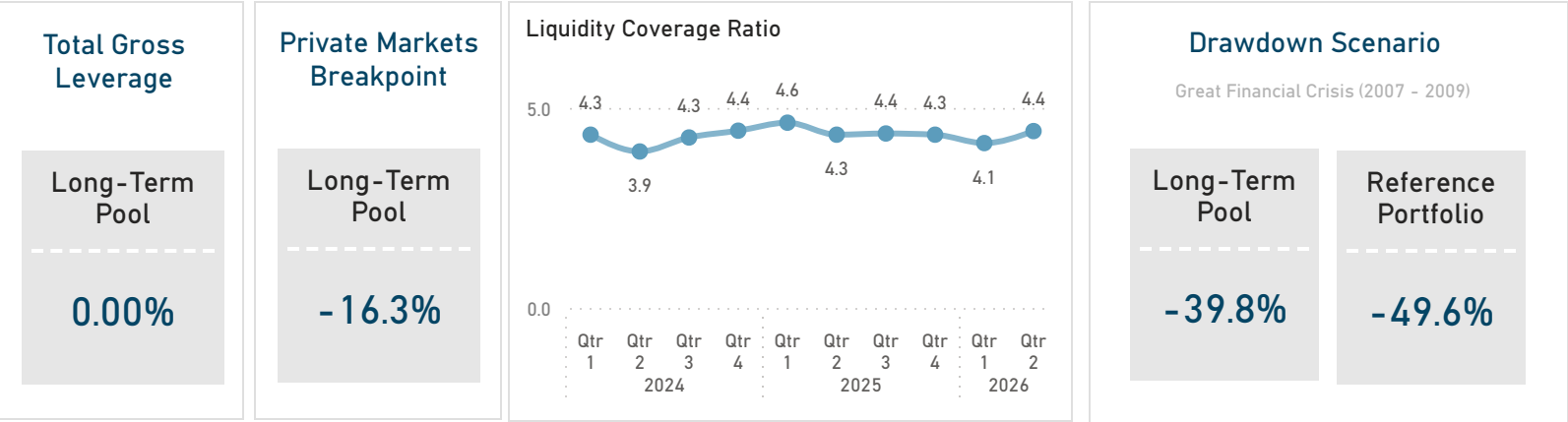


Section I - Pool Summary

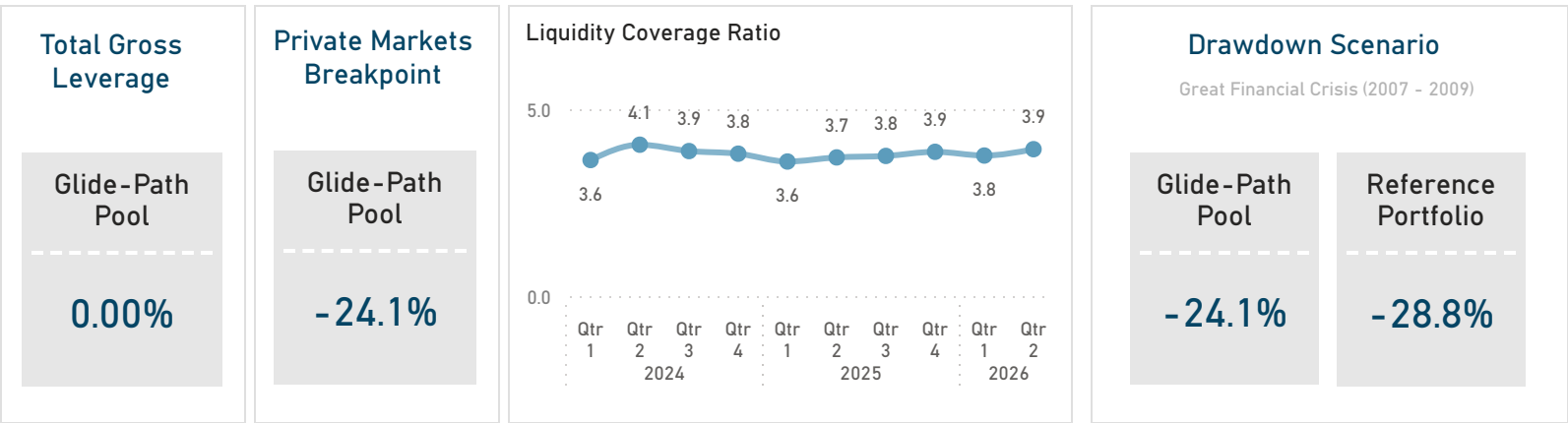
Pool Level Risk

The pool-level metrics below highlight the leverage, liquidity, and potential reaction to a market drawdown (where applicable).

Long-Term Pool



Glide-Path Pool



Short-Term Pool

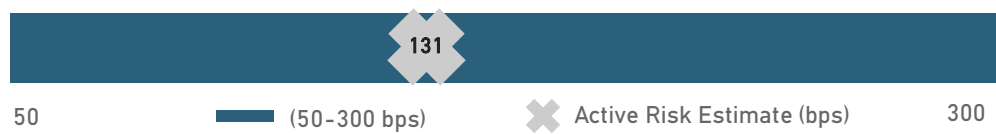


Section II - Global Public Equity

Global Public Equity

MSCI All Country World IMI w/US Gross | Policy Benchmark

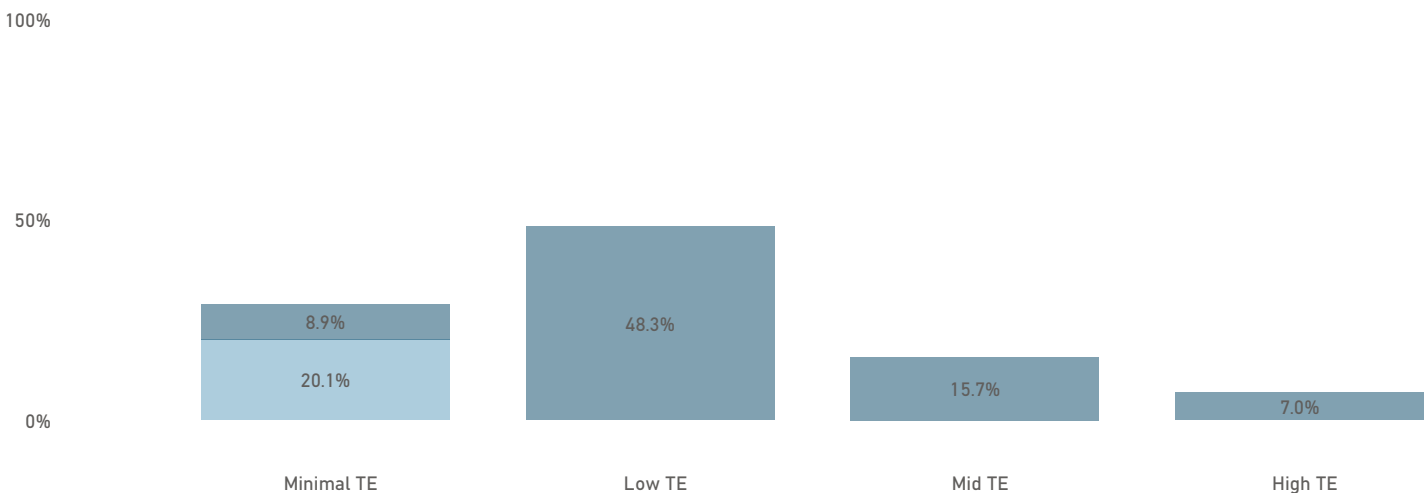
The role of Global Public Equity is to drive long-term returns through exposure to publicly traded companies and markets.



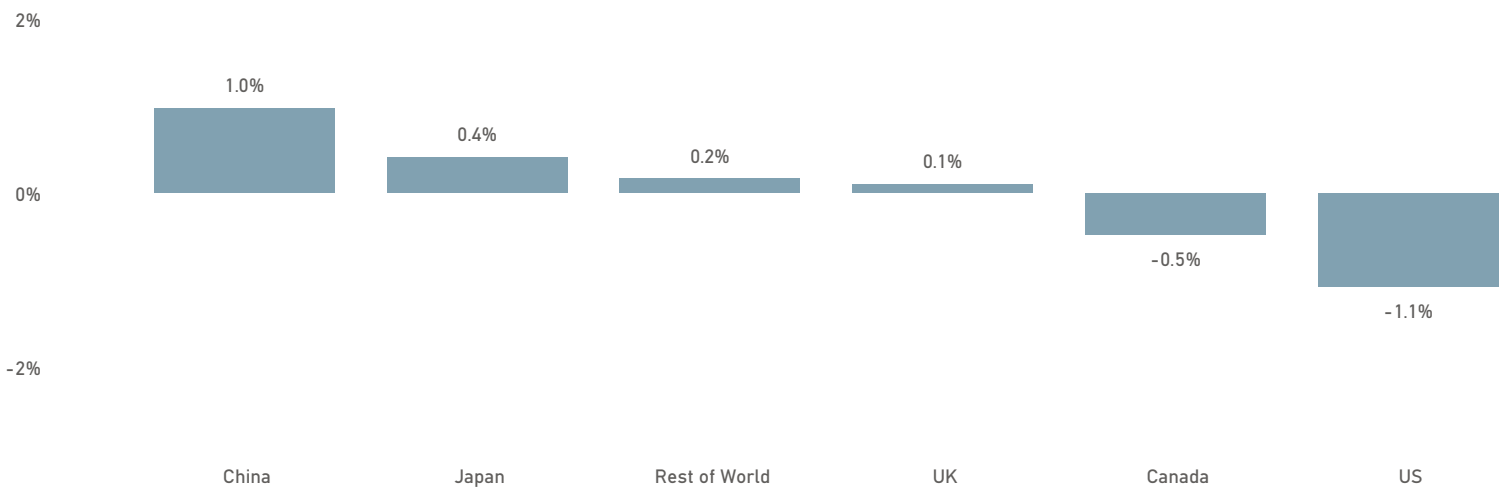
Portfolio Risk and Exposures

Public Equity Portfolio Construction

● Passive ● Active



Geographic Active Exposures



* Active Risk Estimate - Forward looking estimate calculated by BlackRock Aladdin

Section II - Fixed Income Rates

Fixed Income - Rates

Bloomberg US Aggregate Bond Index | Policy Benchmark

The Rates portfolio is meant to provide both liquidity and portfolio balance compared to the equity bias (public and private) of the FPPA portfolio.

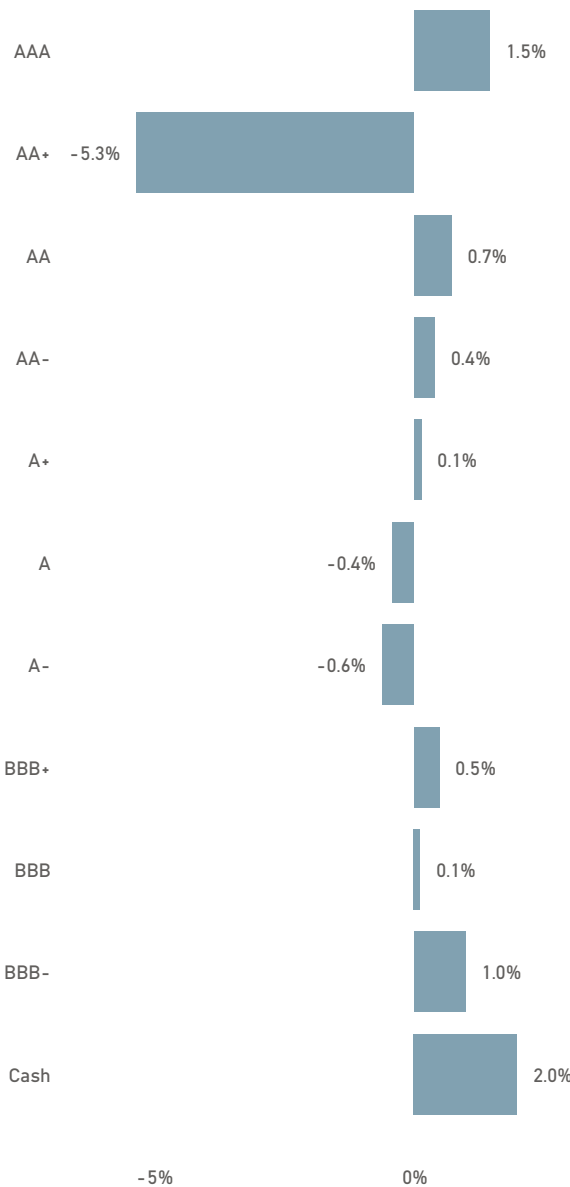


Portfolio Risk and Exposures

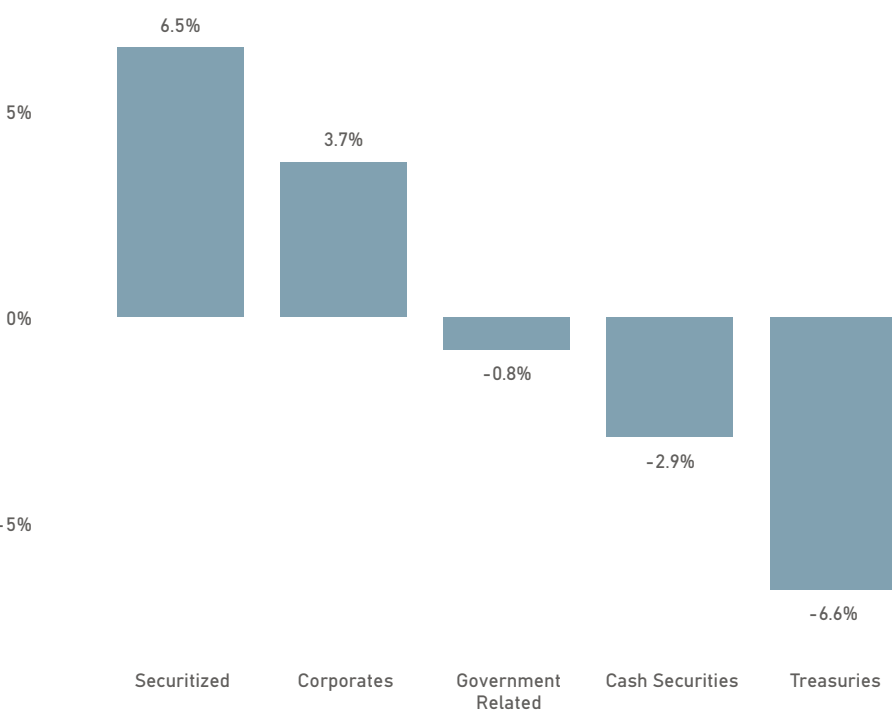
Portfolio Metrics

	FPPA Portfolio	Benchmark
Duration	5.8	5.8
OAS	32.0 (bps)	25.4 (bps)
Spread Duration	3.4 %	3.2 %
Yield to Maturity	4.8 %	4.8 %

Active Credit Rating Exposures



Sector Active Exposures



* Active Risk Estimate - Forward looking estimate calculated by BlackRock Aladdin

Section II - Fixed Income Credit

Fixed Income Credit

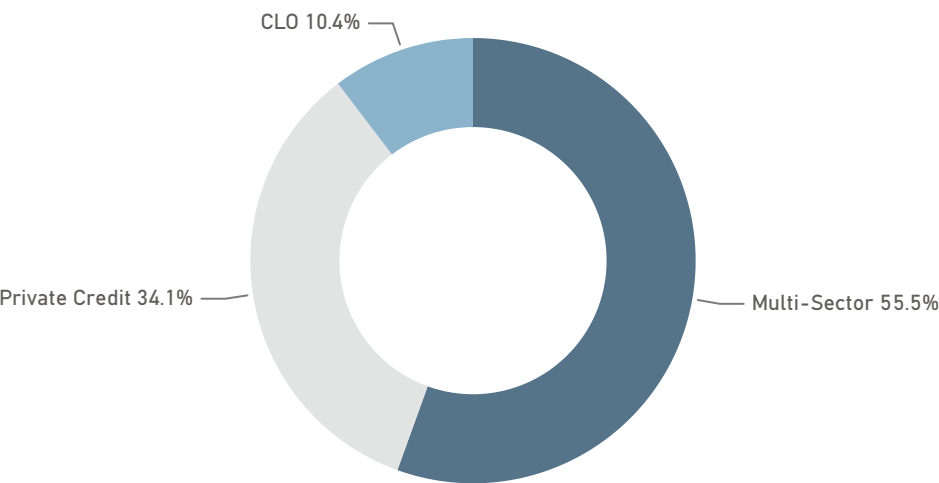
Bloomberg US Credit | Policy Benchmark

The Credit portfolio is meant to provide higher risk-adjusted returns compared to both Rates and Equities. This portfolio may have higher correlations to equities.

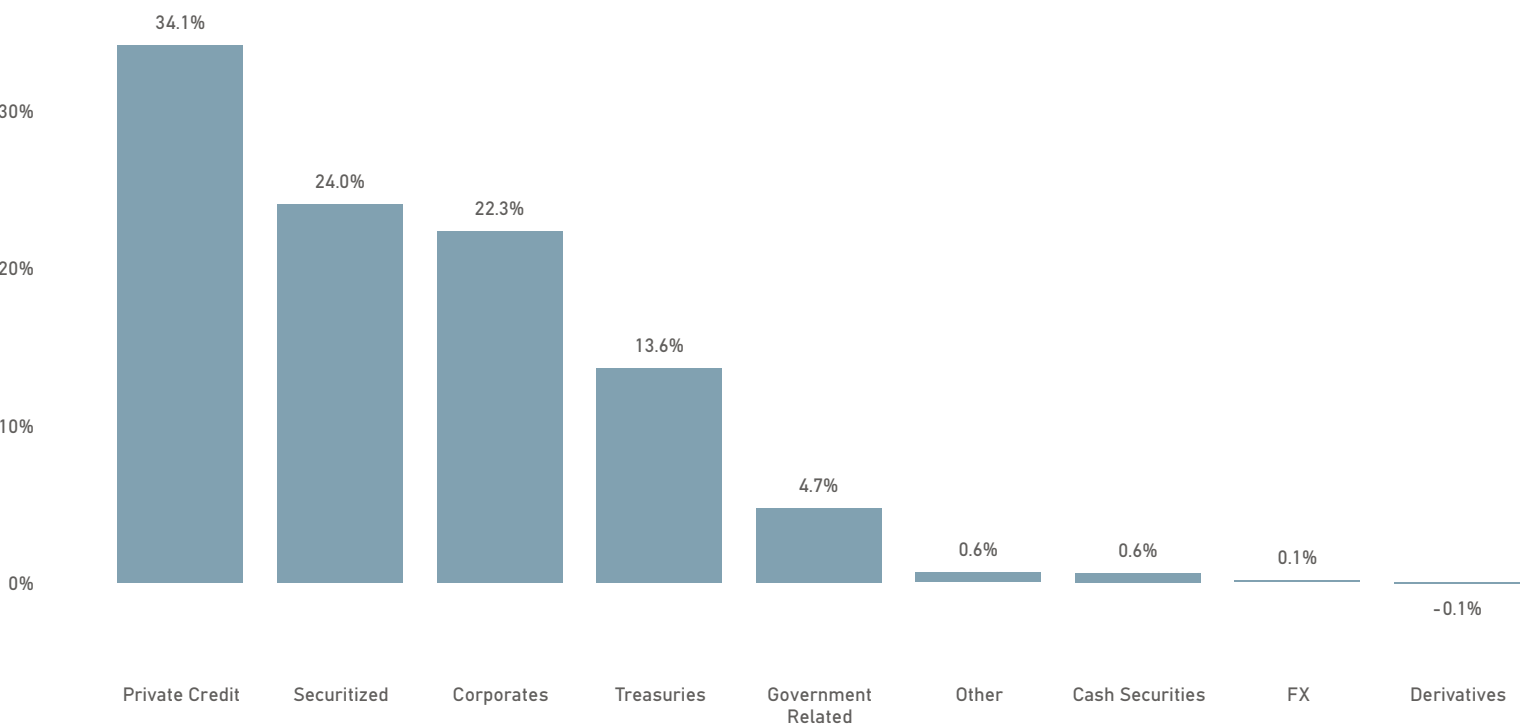
Portfolio Risk and Exposures

Strategy Allocations

● Multi-Sector ● Private Credit ● CLO



Sector NAV Exposures



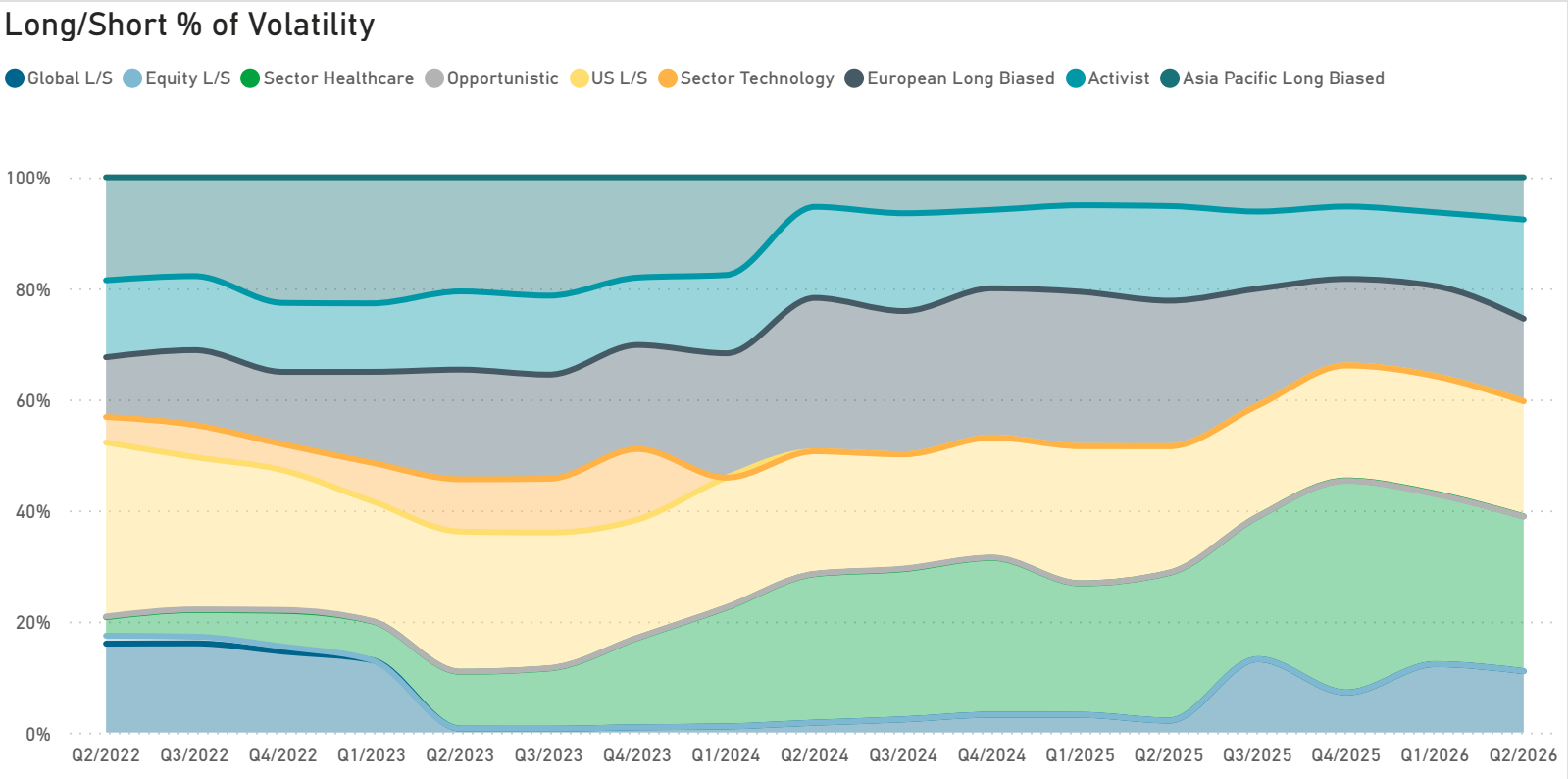
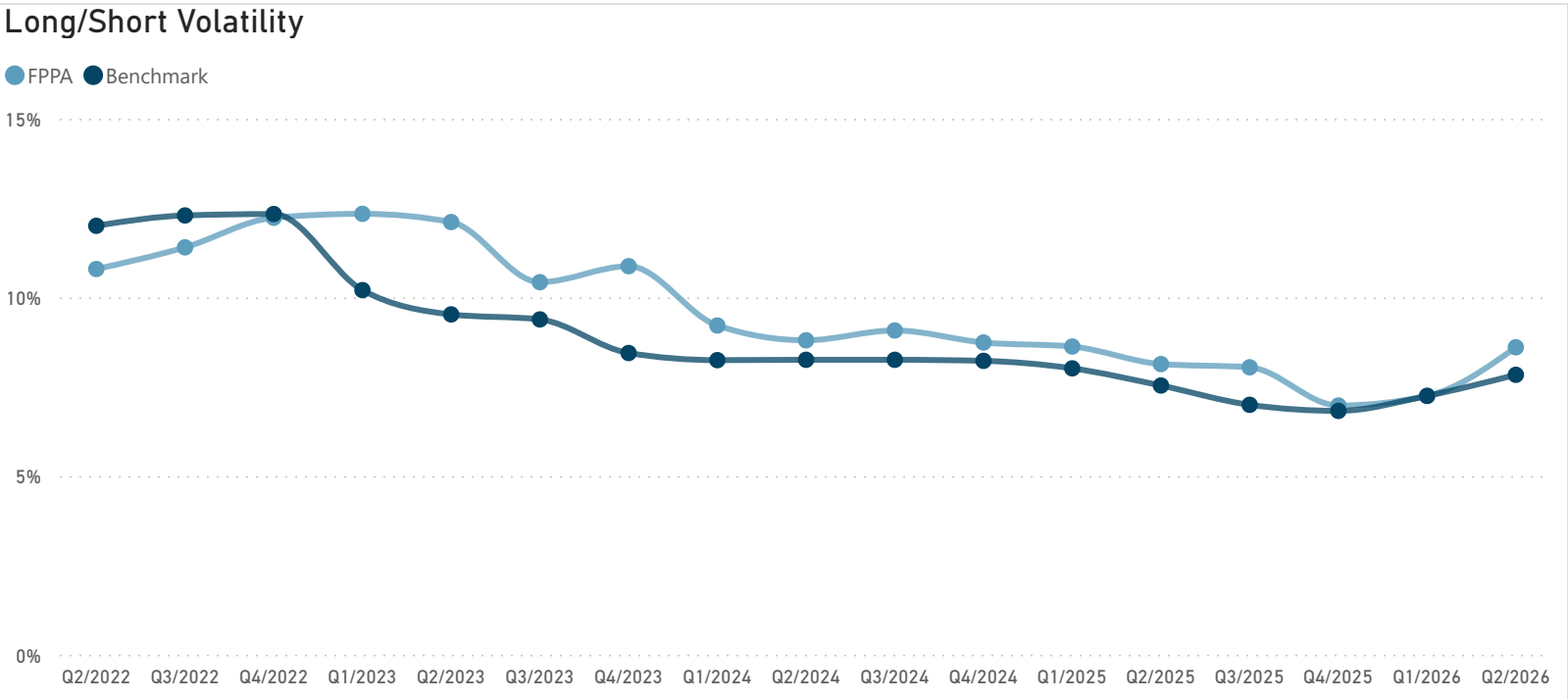
Section II - Long/Short

Long/Short

HFRI Equity Hedge Index | Policy Benchmark

The Long/Short allocation is expected to add significant risk-adjusted returns and add opportunities for potential returns in both rising and falling markets.

Portfolio Risk and Exposures



* Diversifiers Volatility - Represents 36 months rolling annualized

Section II - Diversifiers

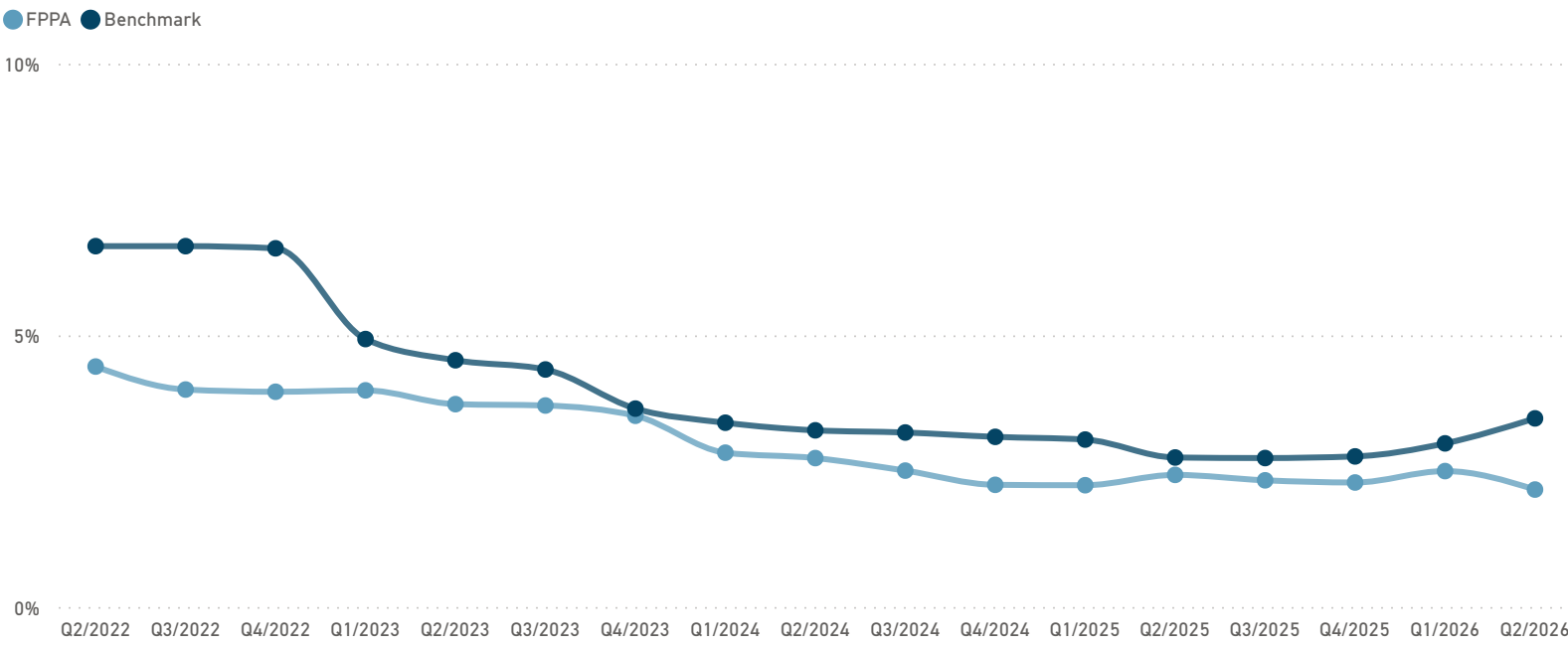
Diversifiers

HFRI FoF Diversified Index | Policy Benchmark

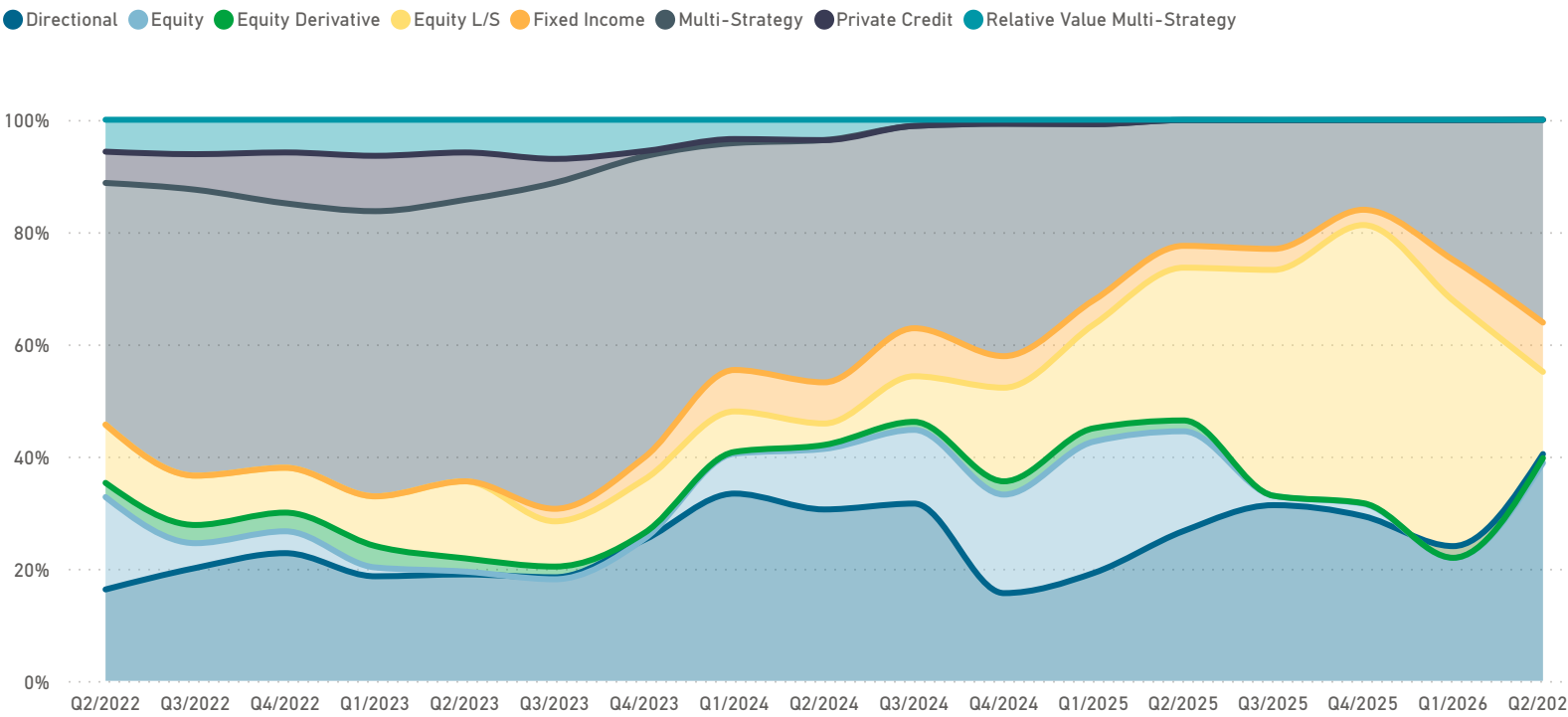
The role of the Diversifiers allocation is to provide a source of uncorrelated returns independent of equity and fixed income markets and to reduce the volatility of total portfolio returns.

Portfolio Risk and Exposures

Diversifiers Volatility



Diversifiers % of Volatility



* Diversifiers Volatility - Represents 36 months rolling annualized

Section II - Private Markets

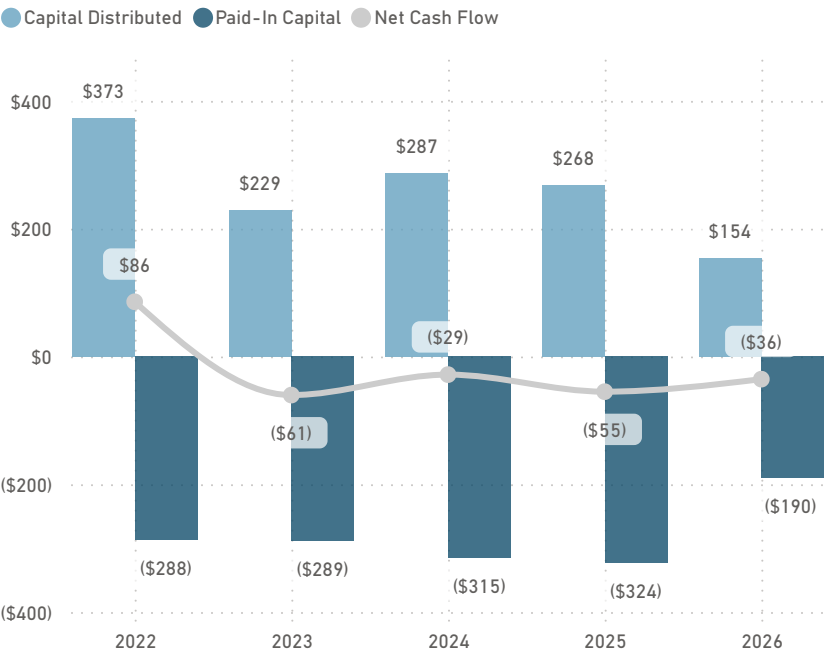
Private Markets

Private Markets Benchmark| Policy Benchmark

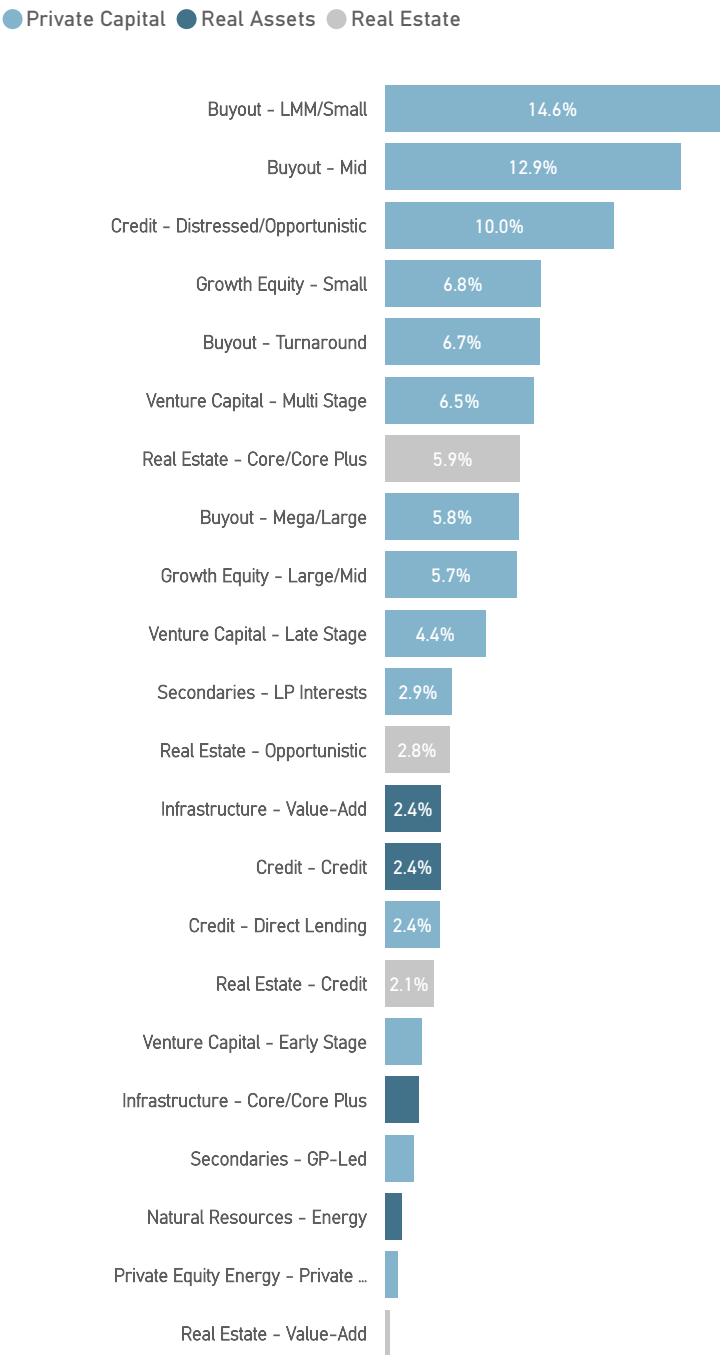
Private Capital’s role is to drive long term returns in exchange for illiquidity. A secondary goal is for this asset class to provide substantial diversification benefits to the overall portfolio.

Portfolio Risk and Exposures

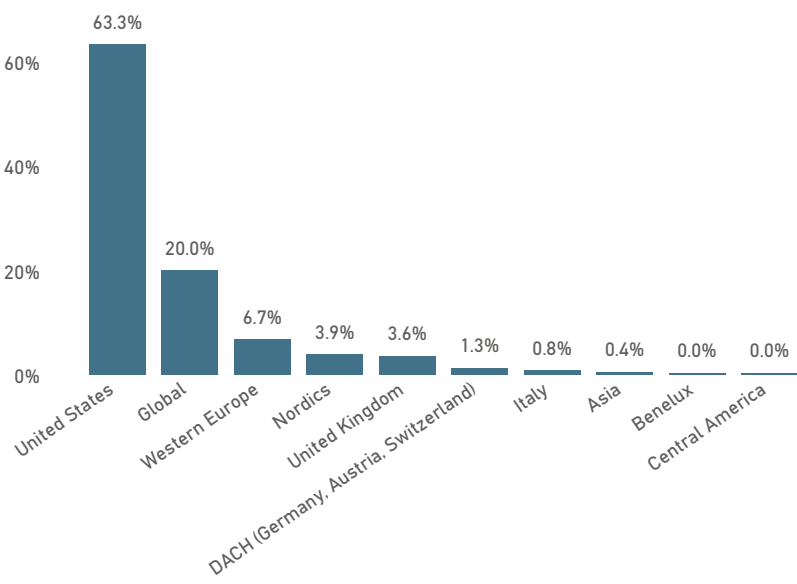
Annual Cash Flow Summary (\$M)



Sector NAV Exposures (Total Strategy)



Sector NAV Exposures (Geography)



Annual Cash Flow Summary (\$M) - 2026 cashflow data is through 6/30/2026.

** Sector NAV Exposures (Geography) - 81% funds NAV as of 6/30/2026, 16% funds NAV as of 3/31/2025, 2% funds NAV as of 12/31/2025, 1% funds NAV as of 9/30/2025.

*** Sector NAV Exposures (Total Strategy) - 81% funds NAV as of 6/30/2026, 16% funds NAV as of 3/31/2025, 2% funds NAV as of 12/31/2025, 1% funds NAV as of 9/30/2025.

Appendix - Terms and Definitions

TERM ▲	Definition
Total Gross Leverage	Total Gross Leverage is calculated as the leverage taken by FPPA to gain additional exposure to an asset class. This will typically be in the form of Overlay exposure that is greater than excess cash. There are many forms of leverage. This metric does not consider explicit hedges, such as currency, which are risk reducing, or activities which do not change our economic exposure, such as securities lending.
Private Markets Breakpoint	The total amount by which the portfolio would have to decrease in value for the private markets allocation to reach its upper rebalancing band.
Liquidity Coverage Ratio	The Liquidity Coverage Ratio measures our ability to pay benefits and meet capital obligations. This demonstrates our Liquidity and Fixed Income – Rates portfolio over an estimate of one-year forward benefit payments and capital obligations. This calculation considers the unique circumstances of each pool.
Drawdown Scenario	This is the hypothetical performance of each pool during the Great Financial Crisis (2007-2009). Each pool's performance is compared to a "reference portfolio" of stock and bond market indexes. The scenarios represent economic shocks, meaning all assets move at the same time. These scenario shocks are for discussion purposes only.
Active Risk Estimate	Active Risk represents the amount that portfolio returns are expected to deviate from benchmark returns in normal market conditions. This is an estimate calculated by Blackrock Aladdin.
Public Equity Portfolio Construction	Exposure and bands to the primary investment strategies; active, passive and opportunistic. These bands are set by the Global Public Equity team.
Active Exposures	The portfolio's relative over- or under-weight allocations to a given metric versus the policy benchmark.
Duration	Duration measures the percentage price change for a 1% parallel shift in interest rates. This is one measure of bond risk.
OAS	The OAS is the average spread of a security over its entire respective curve after factoring out the embedded option value. OAS is a measure of how much yield an investors receives after accounting for the risk of embedded options. Bonds such as mortgage-backed securities have embedded options.
Spread Duration	Spread Duration measures the sensitivity of a security's price to a movement in its credit spread. This is another view on bond risk by focusing on credit risk instead of interest rate risk.
Yield to Maturity (YTM)	The rate of return anticipated on a bond if held till maturity. YTM is considered a long-term bond yield expressed as an annual rate. The YTM calculation assumes that all coupon payments are reinvested at the same rate as the bond's current yield and takes into account the bond's current market price, par value, coupon interest rate and time to maturity. YTM allows investors to compare different bonds on a consistent basis.
Volatility	Volatility is measured by the annualized three-year standard deviation. This is one way to measure how much risk FPPA's Long/Short or Diversifiers allocations are taking versus their benchmarks.
% of Volatility	The % of Volatility chart highlights the different strategies within a portfolio and how each strategy contributes to the realized volatility. This chart provides insight to the strategy diversification within the portfolios, and how the contribution to risk can change over time.
Capital Distributed	Cash or stock disbursed to the investors of an investment.
Paid-In Capital	Capital contributed from an investor's capital commitment to fund partnership investments, organizational expenses and management fees.

C | AMBRIDGE ASSOCIATES

To: Board of Trustees
Fire & Police Pension Association of Colorado (FPPA)

From: Cambridge Associates (C | A)

Date: September 24th, 2026

Re: Updated eFront IRR Methodology

Summary

Following substantial work by FPPA staff, FPPA developed an updated methodology for benchmarking private investments. At a high level, the methodology compares FPPA's point-to-point portfolio IRRs with the corresponding CA benchmark performance, weighted by the portfolio's average annual NAV over the measurement period.

For example, for a three-year period ending in December, the methodology compares FPPA's three-year portfolio IRRs with the three-year median IRRs of the relevant CA benchmarks. The results are weighted using the average of FPPA's December NAVs for the current year and the two preceding years.

For measurement, the lower band threshold is against the weighted median figure. The upper threshold is the weighted midpoint between the CA benchmark median and upper-quartile IRRs—representing to the top 37.5% of quartile performance.

Discussion

C | A has reviewed the updated methodology and considers it reasonable, accurate, and independently verifiable by Cambridge Associates. Focusing on top-third performance also provides a sound basis for assessment while avoiding optics between pooled and median returns. Further, we believe eFront's calculation methodology to be consistent with best practices and independently verifiable, extending Cambridge's comfort with the calculation.

Additionally, the next Board meeting, Cambridge plans to provide a separate verification memo reviewing the existing benchmarks and presenting reasonable alternatives for the Board's consideration.



Memorandum

C|AMBRIDGE ASSOCIATES

C|A will incorporate the updated methodology into its annual verification of FPPA's benchmark performance that will occur in Q1 2027.

MEMORANDUM

To: Board

From: Staff

Re: Cambridge Associates Evaluation

Date: 10/1/2026

FPPA conducted an Investment Consultant search process during 2017 which resulted in the engagement of Cambridge Associates in January 2018. Cambridge Associates is based in Boston, has 14 global office locations, 280 senior investment professionals, and \$688.5 billion assets under advisement. FPPA's lead consultants are Brian McDonnell, Global Head of Retirement, Insurance, & Government Practice (24 Years experience), and Stuart Cameron, Managing Director, Retirement, Insurance, & Government Practice (17 Years experience).

Cambridge Associates serves as FPPA's General Consultant to the Board:

- Attends and participates in Board meetings (9 annually) and Investment Committee meetings (4 annually)
- Provides market overviews and investment educational sessions and materials
- Leads the asset liability study process
- Provides quarterly performance reporting, fee analyses, and annual performance verification
- Source of private markets benchmarks

Cambridge Associates also serves as Staff's primary Investment Consultant:

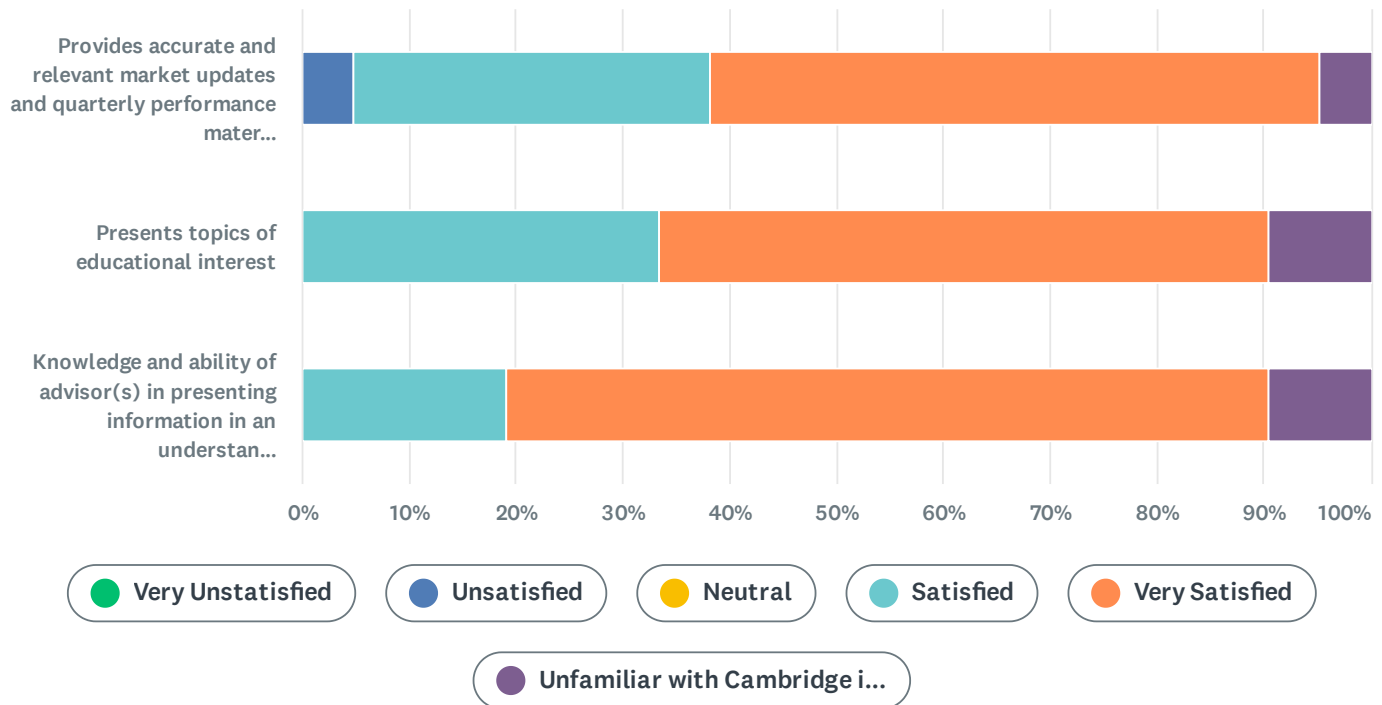
- Attends and participates in Internal Investment Committee meetings (approx. 24 annually)
- Provides compliance concurrence on new investments
- Supports sourcing new investment opportunities and oversight of existing investment portfolio
- Acts as a resource particularly when the Investment Staff has personnel vacancies

See the following results and comments from a recent survey (sent to the Board, Executive Team and Investment Team) evaluating the Cambridge Associates relationship.

Overall the responses were largely positive. Staff will work with Cambridge Associates to address specific comments and to continue improving their support of FPPA.

Q1 21 responses

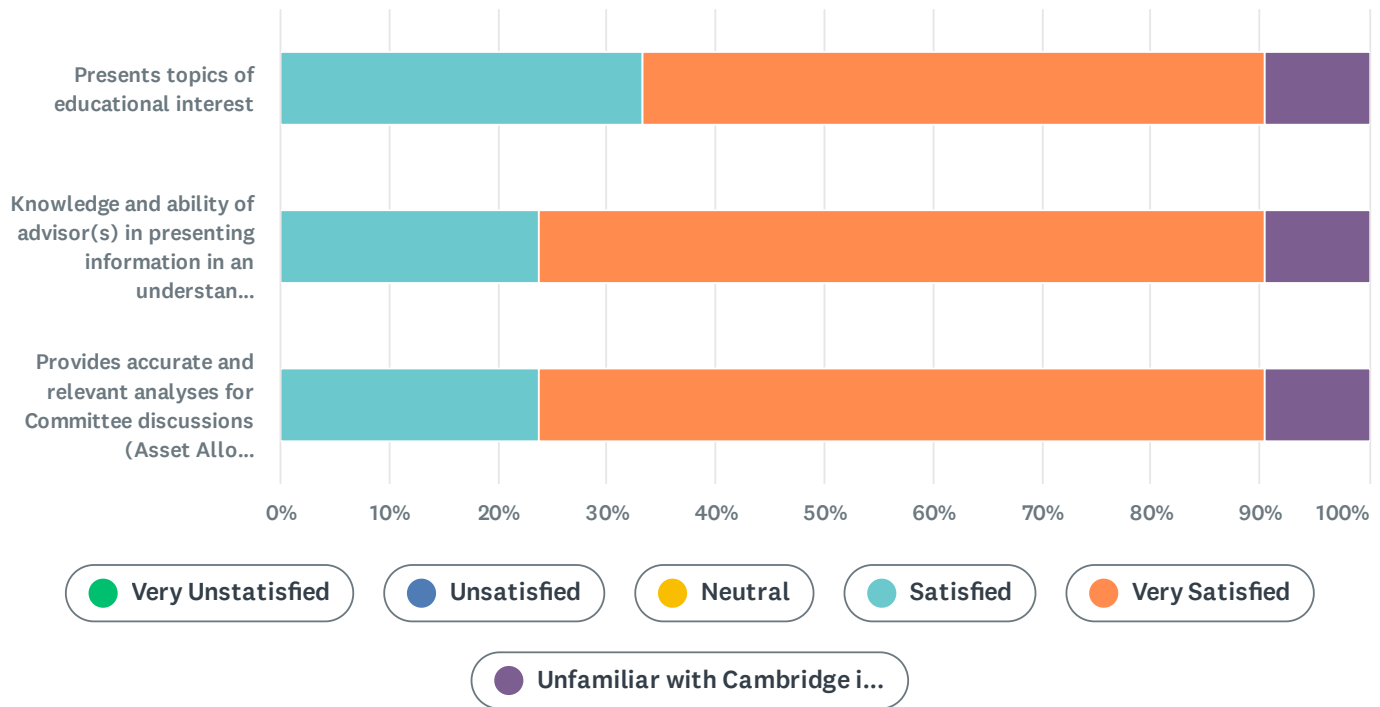
Board Meetings



	Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	Unfamiliar with Cambridge in this area	Total
Provides accurate and relevant market updates and quarterly performance materials	0% 0	4.76% 1	0% 0	33.33% 7	57.14% 12	4.76% 1	21
Presents topics of educational interest	0% 0	0% 0	0% 0	33.33% 7	57.14% 12	9.52% 2	21
Knowledge and ability of advisor(s) in presenting information in an understandable manner and the ability to respond to questions	0% 0	0% 0	0% 0	19.05% 4	71.43% 15	9.52% 2	21
							63

Q2 21 responses

Board Investment Committee Meetings

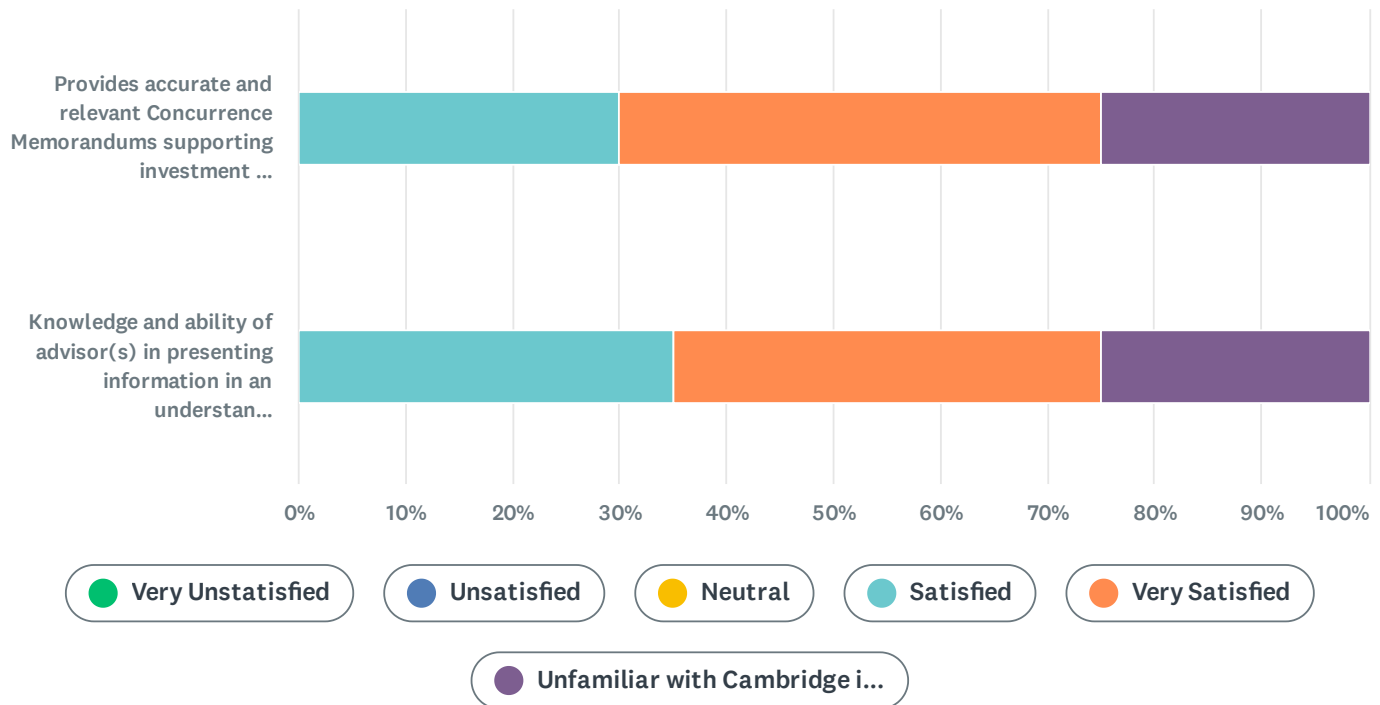


	Very Unstatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	Unfamiliar with Cambridge in this area	Total
Presents topics of educational interest	0% 0	0% 0	0% 0	33.33% 7	57.14% 12	9.52% 2	21
Knowledge and ability of advisor(s) in presenting information in an understandable manner and the ability to respond to questions	0% 0	0% 0	0% 0	23.81% 5	66.67% 14	9.52% 2	21

	 Very Unsatisfied	 Unsatisfied	 Neutral	 Satisfied	 Very Satisfied	 Unfamiliar with Cambridge in this area	Total
Provides accurate and relevant analyses for Committee discussions (Asset Allocation, Risk Reviews, Asset Class Reviews)	0% 0	0% 0	0% 0	23.81% 5	66.67% 14	9.52% 2	21
							63

Q3 20 responses

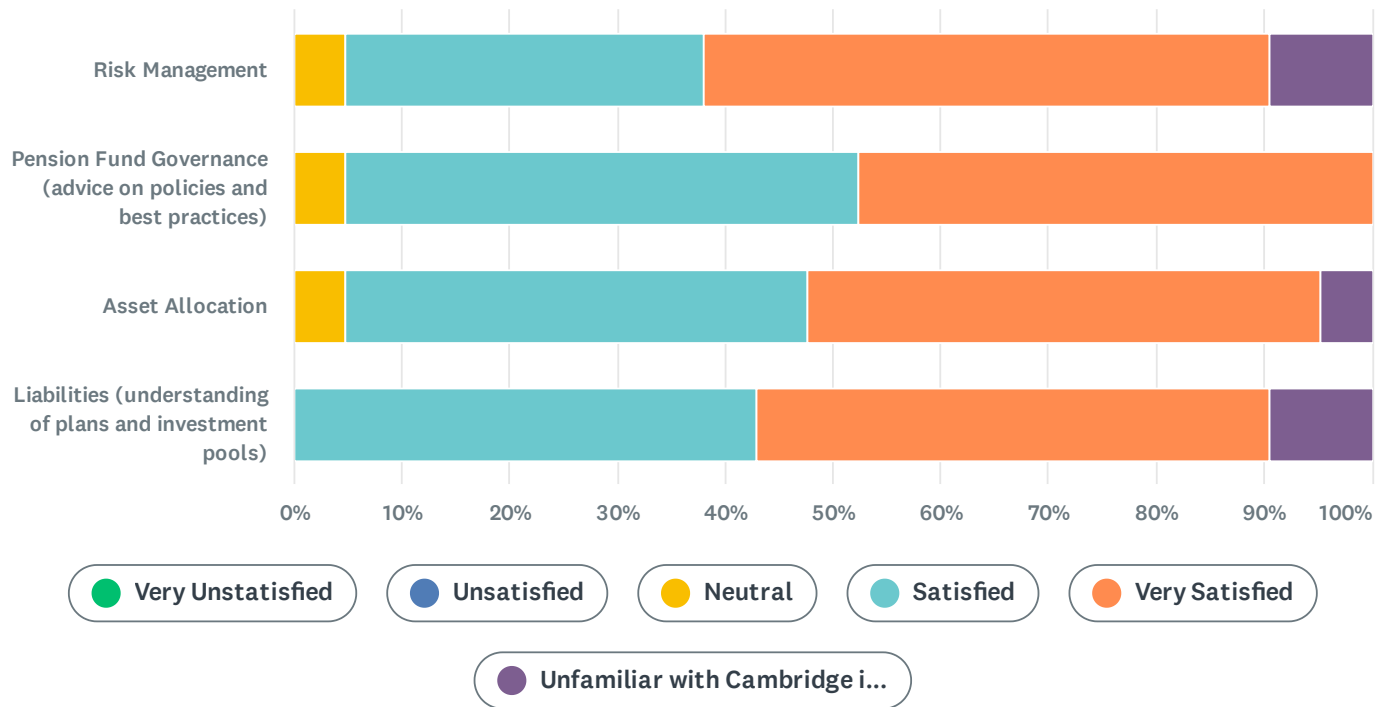
Internal Investment Committee Meetings



	Very Unstatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	Unfamiliar with Cambridge in this area	Total
Provides accurate and relevant Concurrence Memorandums supporting investment recommendations	0% 0	0% 0	0% 0	30.00% 6	45.00% 9	25.00% 5	20
Knowledge and ability of advisor(s) in presenting information in an understandable manner and the ability to respond to questions	0% 0	0% 0	0% 0	35.00% 7	40.00% 8	25.00% 5	20
							40

Q4 21 responses

Specific Area (Expertise, Resources):

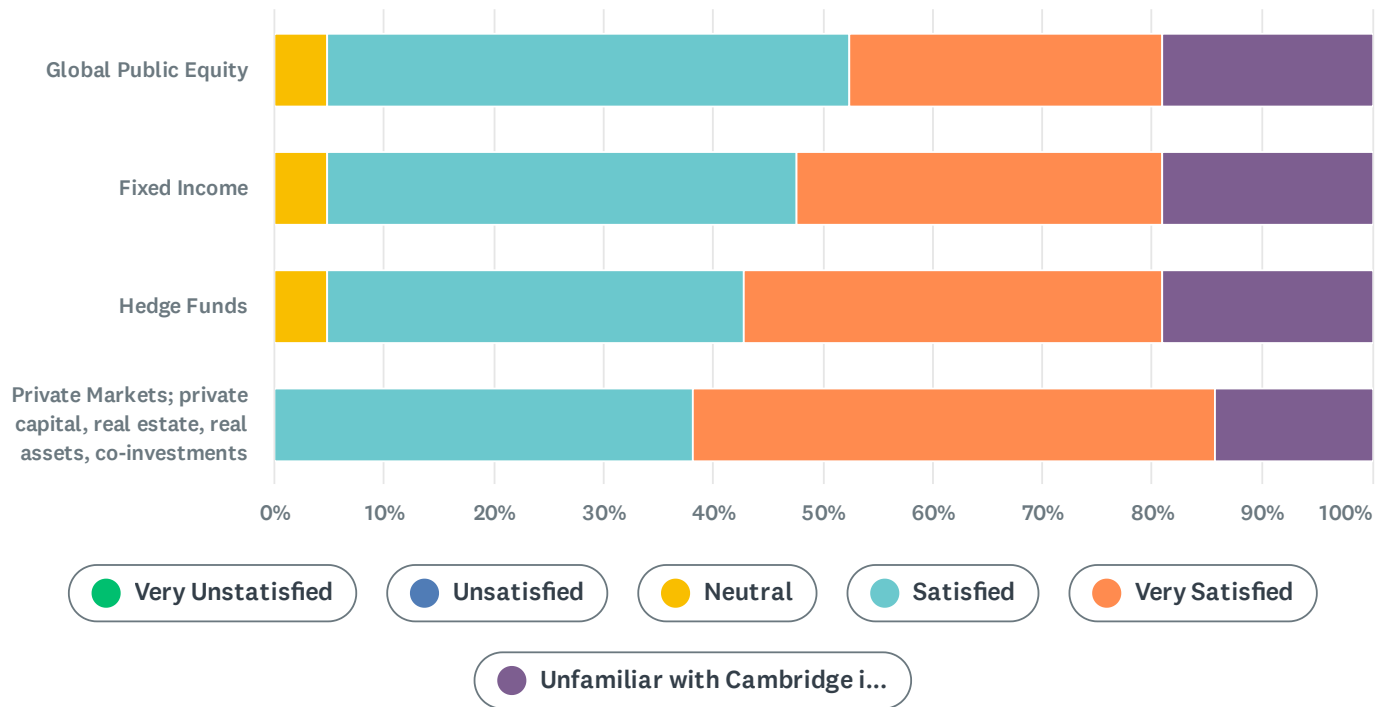


	Very Unstatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	Unfamiliar with Cambridge in this area	Total
Risk Management	0% 0	0% 0	4.76% 1	33.33% 7	52.38% 11	9.52% 2	21
Pension Fund Governance (advice on policies and best practices)	0% 0	0% 0	4.76% 1	47.62% 10	47.62% 10	0% 0	21
Asset Allocation	0% 0	0% 0	4.76% 1	42.86% 9	47.62% 10	4.76% 1	21
Liabilities (understanding of plans and investment pools)	0% 0	0% 0	0% 0	42.86% 9	47.62% 10	9.52% 2	21
							84

#	OTHER (PLEASE SPECIFY)	DATE
1	I know we are discussing an updated asset/liability study which will help us with determining any needed changes to allocations.	8/31/2026 7:33 PM

Q5 21 responses

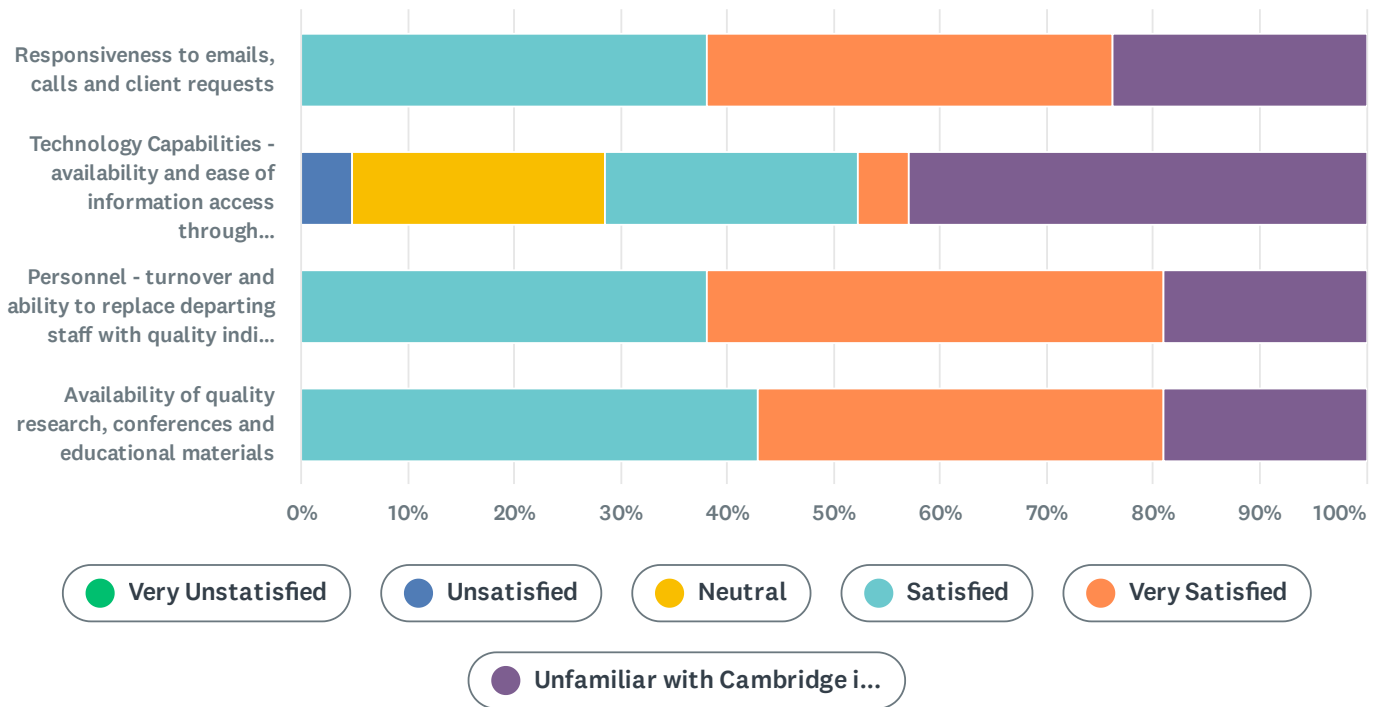
Specific Area (Expertise, Resources, Deal Flow, Monitoring):



	Very Unstatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	Unfamiliar with Cambridge in this area	Total
Global Public Equity	0% 0	0% 0	4.76% 1	47.62% 10	28.57% 6	19.05% 4	21
Fixed Income	0% 0	0% 0	4.76% 1	42.86% 9	33.33% 7	19.05% 4	21
Hedge Funds	0% 0	0% 0	4.76% 1	38.10% 8	38.10% 8	19.05% 4	21
Private Markets; private capital, real estate, real assets, co-investments	0% 0	0% 0	0% 0	38.10% 8	47.62% 10	14.29% 3	21
							84

Q6 21 responses

Client Service:

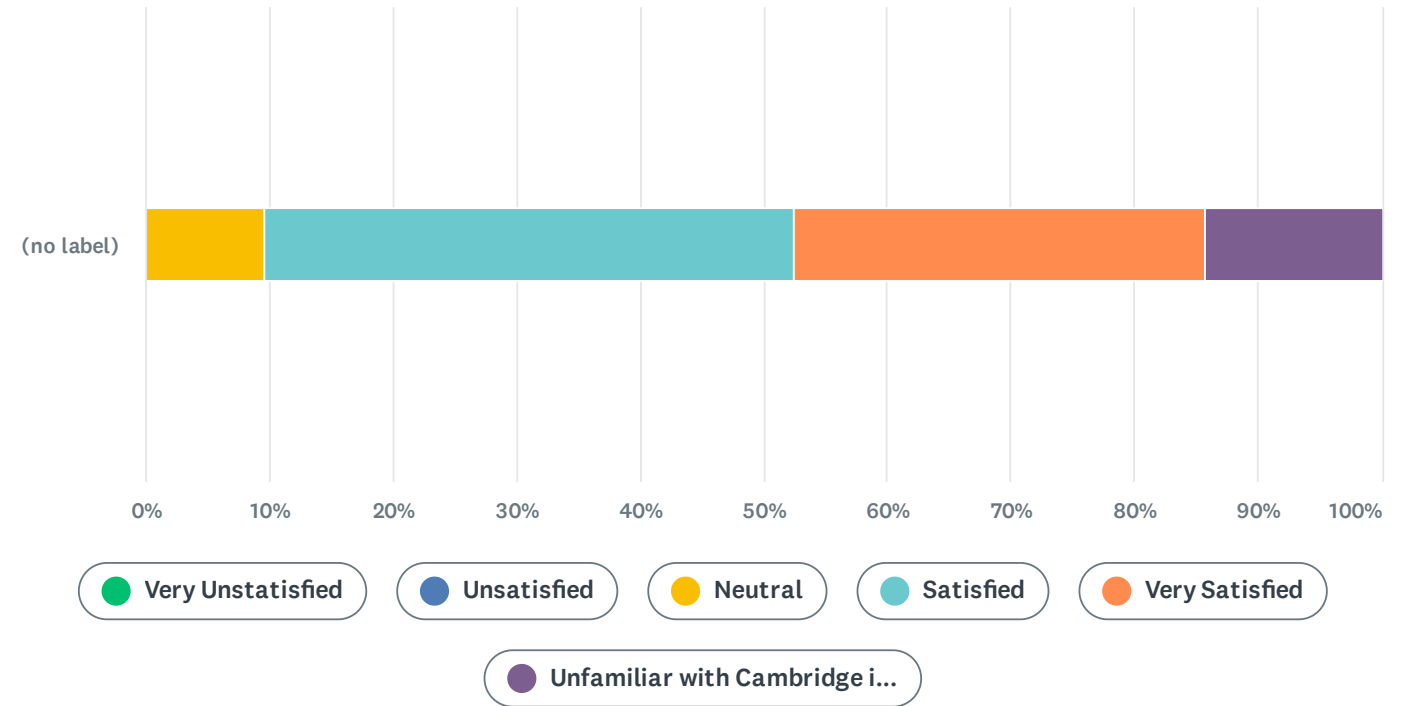


	Very Unstatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	Unfamiliar with Cambridge in this area	Total
Responsiveness to emails, calls and client requests	0% 0	0% 0	0% 0	38.10% 8	38.10% 8	23.81% 5	21
Technology Capabilities - availability and ease of information access through their website	0% 0	4.76% 1	23.81% 5	23.81% 5	4.76% 1	42.86% 9	21
Personnel - turnover and ability to replace departing staff with quality individuals	0% 0	0% 0	0% 0	38.10% 8	42.86% 9	19.05% 4	21

	 Very Unsatisfied	 Unsatisfied	 Neutral	 Satisfied	 Very Satisfied	 Unfamiliar with Cambridge in this area	Total
Availability of quality research, conferences and educational materials	0% 0	0% 0	0% 0	42.86% 9	38.10% 8	19.05% 4	21
							84

Q7 21 responses

Value of advisory services for the level of fees (annual fee remains \$1,380,000). Cambridge has not raised FPPA's fee since they have been hired.



	Very Unstatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	Unfamiliar with Cambridge in this area	Total
(no label)	0% 0	0% 0	9.52% 2	42.86% 9	33.33% 7	14.29% 3	21
							21

#	OTHER (PLEASE SPECIFY)	DATE
1	Deserving of a premium fee - just not sure how much	8/26/2026 8:14 AM

Q8 Any other comments or questions?

Answered: 5 Skipped: 16

#	RESPONSES	DATE
1	Both Brian and Stu do a good job presenting at Board meetings.	9/9/2026 11:58 AM
2	I have never viewed Cambridge as an educational resource	8/26/2026 7:31 PM
3	Cambridge is a great partner for FPPA	8/26/2026 4:45 PM
4	Cambridge provides a valuable resource to staff and the board. FPPA should always be looking for additional ways to make use of their expertise.	8/26/2026 9:42 AM
5	Cambridge has built a lot of credibility with the Board	8/26/2026 8:14 AM

Questionnaire for Cambridge Associates as General Consultant for the FPPA Board

Cambridge Associates was appointed by the Board to serve as its General Consultant. Their primary fiduciary role is to serve as an independent and unbiased source of investment information and advice, assist the Board in determining policies and objectives for the investment program, monitor the implementation of the investment program, and ensure compliance with investment policies and objectives. The purpose of this questionnaire is for Cambridge to provide the Board with insights regarding the delegation of certain investment and management responsibilities.

1. Given the types of assets and the size of the investment portfolio, is the FPPA Investment Group appropriately staffed with qualified investment professionals?

Response:

Yes. Turnover among the team has meaningfully stabilized relative to prior periods, and the continued mentorship (which requires a significant investment of time) provided to newer hires has now manifested in a noticeable and welcome breadth of investment team members presenting ideas at each IIC for approval. While this appropriately creates great opportunity for leadership development and sharpening of investment judgement across investment professionals at every level of the organization, importantly at all times the CIO and asset class heads retain ultimately accountability for recommendations on investments that enter the portfolio. There is also (positively) been recent examples of new team members bringing relationships from prior jobs to initiate engagement on behalf of FPPA with access constrained managers.

We had previously noted that the private investment team might experience capacity strain should the fundraising pace revert to the torrid pace of ~five years ago. While the pace has increased at a more modest clip than that, there continue to be developments in the overall private equity landscape that warrant monitoring. In particular, the expectation of ongoing continuation vehicle transaction proliferation that requires evaluation and decision-making by the investment team (often in a tight timeframe, regardless of competing priorities) should be monitored from a volume perspective to ensure that both team capacity and processes are sufficient to handle.

2. Does the Investment Group work collaboratively with Cambridge? From your perspective, does the Investment Group work collaboratively within and across each of the teams?

Response:

In Cambridge's view, our collaborative relationship with FPPA staff is as strong as it has been at any point in the partnership. This continues to be reflected in the team's willingness to leverage Cambridge's written due diligence materials and investment professionals in situations where FPPA staff time and resources can be deployed more effectively elsewhere, including Cambridge professionals directly presenting manager recommendations to the IIC.

The recent Core Fixed income manager search is a concrete illustration of how the collaboration can work, with both sides independently determining their list of top candidates, and then after familiarizing each other (sometimes through direct meetings with the manager) on different names, we collectively compared notes and talked through the pros and cons (with a particular emphasis on portfolio construction / complementing existing exposures in the portfolio). FPPA staff also had the opportunity to meet with the Cambridge research

lead on core fixed income to hear her views on specific managers, the overall manager landscape, and key questions for consideration when conducting a core manager search.

We similarly observe strong collaboration across internally teams, particularly with the risk team being viewed today by the investment teams as a partner for helping them to make better investment decisions.

3. In its oversight and fiduciary role, does the Board receive the appropriate level of information regarding risk exposures of the portfolio (including material losses and/or permanent impairment of capital)?

Response:

In our view, which we believe the Board and Board Investment Committee shares, staff has at all times been fully transparent with all relevant constituencies about exposures, risks, specific managers issues/concerns. We have never observed any efforts by the staff to withhold any information from the Board or Board Investment Committee. That said, we are firm believers that a fully transparent “data dump” of underlying exposures, risk metrics, etc. is not an effective approach to risk governance and it is not reasonable to expect a Board or Investment Committee to synthesize and digest such breadth of information.

Our opinion is that this is probably the area of most notable progress since the last questionnaire (Spring 2025) when Cambridge noted “*the bigger risk is that the risk reports shared with the IC have been if anything, too comprehensive, at the expense of highlighting the most salient / actionable metrics for the IC to consider.*” The revised reports strike us as much more effective ways to convey the key, salient and material risks to a Board member, including providing context and longitudinal trend information for information. The active discussion between staff, Cambridge and the Board during each risk report presentation conveys much more comfort and confidence in the current approach without sacrificing engagement and inquiry.

4. Is the current investment program appropriate given the stated goals and objectives of the Plan? That is, do the strategies employed provide a high probability of meeting the investment objectives provided for in the Investment Policy Statement?

Response:

Based on our current understanding of the goals and objectives of the plan, expected “Beta” returns are in-line over full market cycles to deliver the EROA with an acceptable level of risk and low risk of permanent capital impairment (as the liquidity of the plan remains well managed); excess returns delivered by the investment team (value relative to a Policy Benchmark) create the possibility of exceeding required returns.

That said, and importantly, it is clear that there are ongoing dialogues both internally and with Plan constituencies about the benefit structure and we anticipate an important dialogue over the next ~12 months between Cambridge, actuaries, Plan staff and the Board around any required changes to the investment program to support any evolution to the benefit structure goals & objectives, and the associated changes to the risk posture inherent in any shift.

5. Do the manager search and due diligence processes (including the involvement of the Internal Investment Committee) provide the Investment Group with a reasonable basis for making prudent investment decisions?

Response:

The investment teams furnish thorough due diligence materials, and each investment opportunity is subject to multiple detailed discussions by the Internal Investment Committee. These include a broad range of qualitative and quantitative considerations, including but not limited to: investment philosophy and process, team quality and organization, track record and performance, risk management, portfolio construction, operations and infrastructure, alignment of interests & business and firm stability.

The final recommendation reflects both the investments and merits and any remaining risks, open questions, or conditions for approval. Importantly (and increasingly) the context for the fit of the investment within the broader existing portfolio is also a key area of discussion. This has been particularly reflected in the manager hiring / firing decisions that were undertaken as part of the reshaping of the global public equity portfolio.

IIC members engage thoroughly, asking thoughtful questions and receiving substantive answers. Subject to further IIC member feedback, there may be scope to improve efficiency by narrowing the content of successive IIC presentations—for instance, continuing to focus on having the final recommendation focus on newly identified issues and responses to questions raised or left outstanding during earlier previews.

If volume increases materially, there may be an opportunity to reduce the recommendation report out on co-invests. While co-invests are a complicated and newer asset class that requires substantial and detailed evaluation, given that they almost always involve a materially smaller capital investment than a standard fund commitment we have seen other organizations effectively narrow the recommendation report out to confirmation that the opportunity fits with previously identified characteristics of an attractive and appropriate co-investment (while still having the investment teams complete detailed due diligence).

See notes on other elements of this topic in the responses to various questions elsewhere.

6. Is adequate consideration given regarding the fee structure of the investment portfolio?

Response:

Yes. Asset allocation ultimately is the primary driver of the overall fee burden, and as such it is important that the underlying fee level is evaluated within the context of the asset allocation that the organization has determined is most appropriate for its objectives. While it is measured, Staff appropriately does not primarily compare or attempt to “compete” with other plans that may have lower implementation costs but very different asset allocations. Each year we work with the investment team to provide our views on “industry” standard fees and trends broken down by asset class, which enables a comprehensive evaluation of the FPPA fee burden given the FPPA-specific asset allocation.

FPPA has continued to take a thoughtful approach around implementation costs, using passive strategies primarily in markets where active management is less likely to add value. This appropriately directs active-

management fees toward areas where the opportunity set is more compelling. The team also actively seeks to improve terms with active managers, including by using Cambridge's relationships and negotiated preferred arrangements where applicable.

Some institutions focus so heavily on minimizing total implementation costs that they avoid asset classes or strategies that cannot be accessed passively, potentially sacrificing stronger net-of-fee risk-adjusted outcomes. Importantly, in the upcoming A/L study conversations while we anticipate flagging higher implementation costs for certain asset classes as a consideration, we appreciate staff and the Board's willingness to continue pursuing asset classes providing differentiated returns despite higher implementation costs. We ultimately believe that, net of fees, this will deliver better outcomes for constituents.

Two examples of note:

- The public market team eliminated the dedicated exposure to equity long/short hedge funds, in part because there was a meaningful portion of the return contribution that could be attributed to market beta, and it was deemed an expensive means to achieve that beta contribution regardless of the alpha component
- The private markets team has continued to actively pursue co-investment opportunities, which has the effect of further reducing the blended cost of implementation over time in an asset class that typically carries the highest fee burden

7. Identify the key differences in models used by Cambridge to determine its capital market expectations.

Response:

We are pleased to provide some high level background information on this topic via the questionnaire. We understand it to be an important area of interest for the Board with potential implications the benefit structure that can be delivered; as such, we anticipate dedicating a deep dive to the topic (currently tentatively scheduled for February '27) as part of the upcoming A/L study process.

Cambridge develops and maintains three primary sets of Capital Market Assumptions: Equilibrium, Return-to-Normal, and Steady-State. Each paints a somewhat different picture and has varying use cases by clients and investment teams. Additionally, many clients use a combined Return-to-Normal and Equilibrium figure (which is what we have traditionally presented to FPPA). Our Capital Markets team generates expectations for three main variables: return, volatility, and cross-asset correlations. However, our research finds that over medium to long-term horizons, the most material changes are forward looking return-assumptions – volatility and correlations stay more constant.

A brief description of each set and its primary use case below:

Equilibrium: Takes the longest history of individual asset classes and is agnostic to current valuations or forward looking expectations. These rarely move year to year and are typically only adjusted if there is a significant change in the asset composition or profile.

Return-to-Normal: Takes Equilibrium assumptions as a starting point and then adjusts based on current measures of valuation, incorporating a reversion to long-term median valuations and the corresponding price impact. When asset classes are valued more richly than their historical medians, the price impact is negative, depressing return assumptions. Conversely, when asset classes are valued more cheaply than their historical

medians, the price impact is positive, boosting return assumptions. Over the last five years, asset classes, we have seen impacts in both directions for varying asset classes.

Steady-State: A set of assumptions that uses equilibrium, long-term inputs but seeks to model asset classes from where they are valued today with *no* change in valuation. i.e. there is no positive or negative impact from a reversion to long-term median valuations. However, the starting valuations are reflected where they have a direct relation to forward returns.

Blends: The most common blend (and what FPPA uses) is taking our 10-year Return-to-Normal assumptions and splicing this with Equilibrium assumptions for 15 or 20 years depending on the requested horizon. This has the effect of providing a valuation cognizance but provides a set of return assumptions that do not move as significantly year to year with the gyrations of the market.

8. Discuss how Cambridge's role has expanded over time. As the General Consultant to the Board, are there additional opportunities for involving Cambridge that could be considered?

Response:

We have continued to expand our relationship with FPPA over our almost 10 years together and have looked for ways to contribute in new ways that add value to the FPPA organization. We have seen a number of concrete examples of this over the years and see more opportunities to do this going forward in conjunction with the CIO and investment team.

We expect Cambridge to much more visible with the Board in the coming ~12 months as a result of leading the Asset / Liability study. As previously discussed, this will be a much more engaged, structured and iterative process than previous iterations which have focused primarily on confirming the asset allocation was supportive of EROA assumptions.

We would suggest other likely areas of role / contribution expansion in the coming 12 months include:

1. Significantly more complicated performance and benchmark calculation verification given the complex evolution of the methodology for benchmarking private investments within incentive comp
2. We plan to attend and observe all upcoming COLA Task Force meetings, and would be pleased to play whatever direct and active role that Plan staff and the Board deem appropriate
3. Imminent roll-out of our enhanced digital tools suite for investment staff (CATALYST) providing better screening, market landscapes, forward calendars and access to Cambridge manager research comments and due diligence that we expect will make Cambridge/staff collaboration better and more efficient
4. Finally, we were pleased to welcome a number of staff and Board members to our annual client conference earlier this year and hope to see even more FPPA participants at our Spring '27 PI Summit in Washington DC



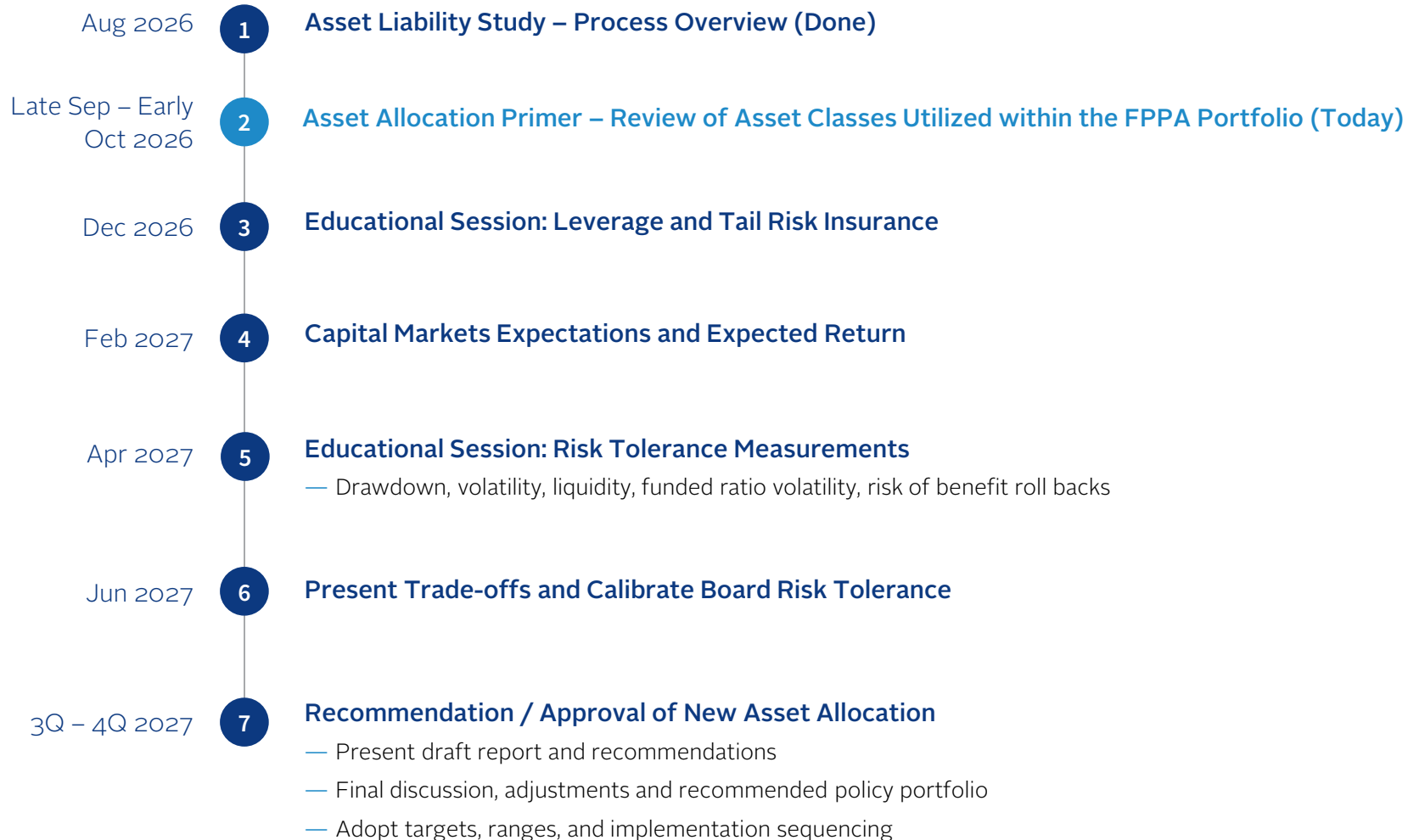
CAMBRIDGE
ASSOCIATES

Colorado FPPA

Asset Allocation Primer

October 2026

Expected topics built around Board meeting calendar



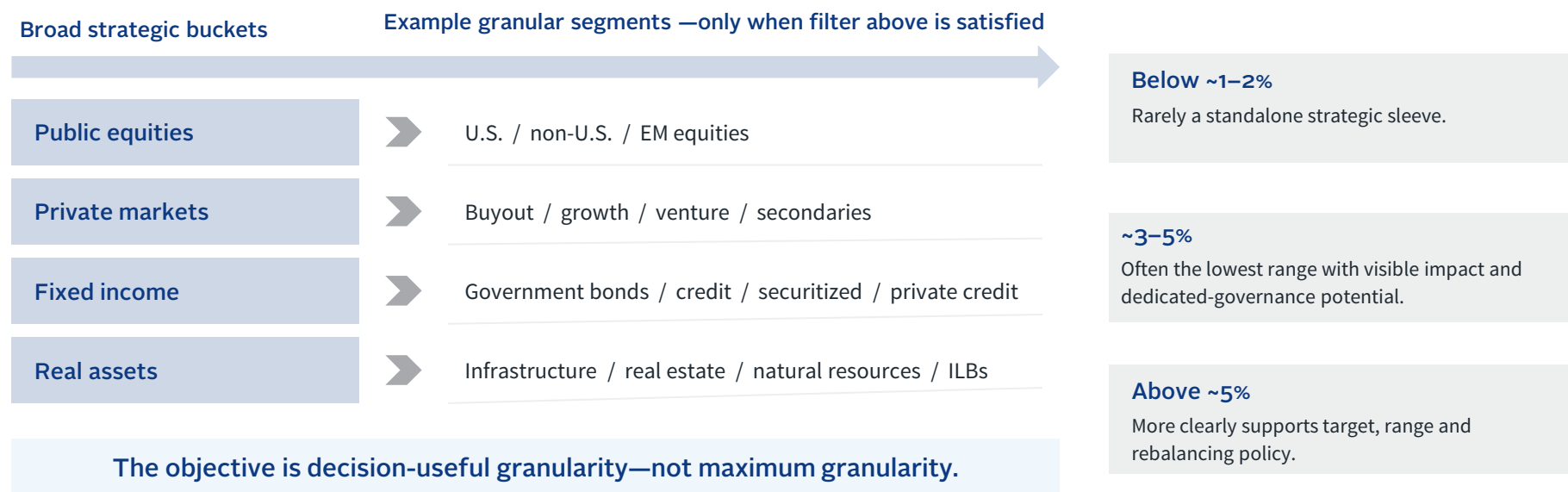
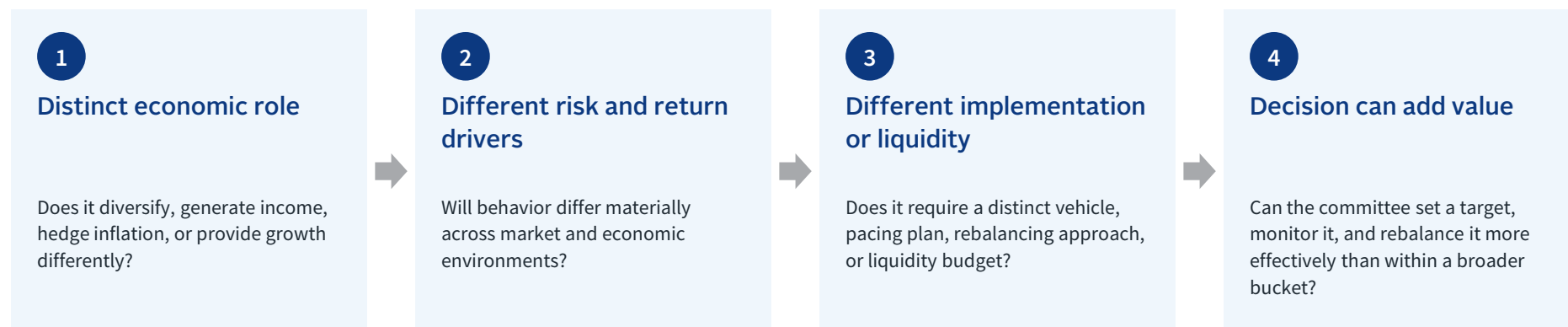
Sequence and timeline illustrative; final dates will come into more focus as timeline and project evolves.

Asset Allocation Background

- **Asset Allocation is the Primary Driver of Long-Term Portfolio Performance**
 - The decision of *what* to own and *in what proportion* matters even more than individual manager selection
 - Two core questions drive the process: which asset classes belong in the portfolio, and how should they be combined?
- **Every Asset Class in the FPPA Portfolio Serves a Distinct Purpose**
 - Each is included not for standalone return, but for the specific role it plays in managing total portfolio risk and return
 - Asset classes span the risk/return spectrum — from capital preservation to long-term growth
- **Diversification Expands the Efficient Frontier**
 - Combining uncorrelated assets shifts the risk/return curve, enabling more return for a given level of risk — or less risk for the same return target
 - A "well-diversified" portfolio outperforms a simple stock/bond mix over a full market cycle
- **Quantitative Inputs Inform the Model, But Qualitative Judgment Drives Implementation**
 - Expected return, volatility, and correlation assumptions are critical inputs
 - Understanding *why* an asset class belongs in the portfolio is equally as important as the numbers behind it
- **In Today's Environment, a Multi-Asset Approach Is Essential**
 - Achieving FPPA's required risk-adjusted returns demands deliberate exposure across public equity, private capital, fixed income, diversifiers, and credit

Segment asset classes only when the distinction changes a decision

Strategic segmentation should reflect economically distinct choices—not simply more detailed labels.

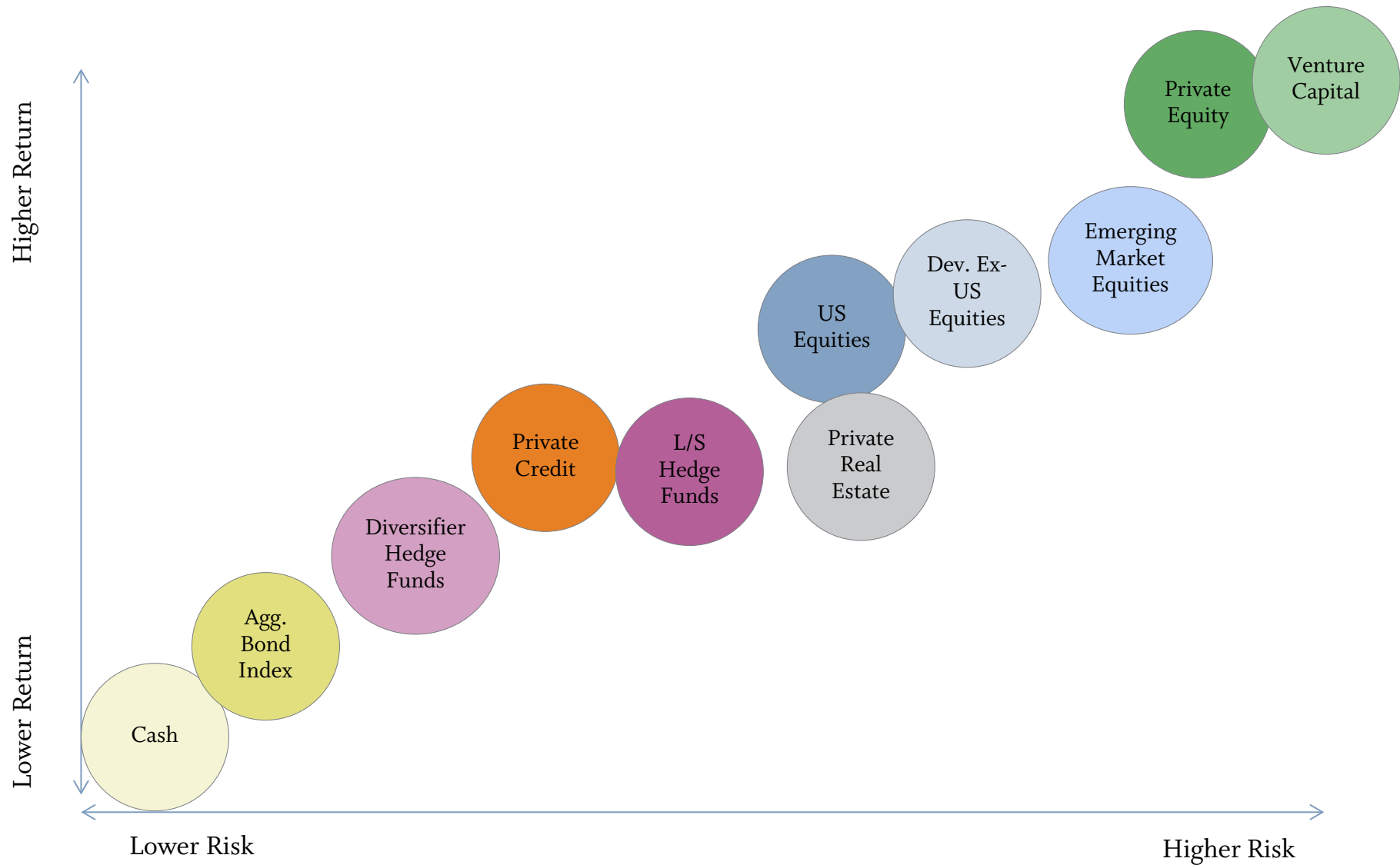


Create a separate policy allocation when the exposure has a distinct portfolio role and the governance process can act on that distinction. Otherwise, retain flexibility within a broader strategic bucket.

Overview of Portfolio Construction

Asset Class Risk/Return Spectrum

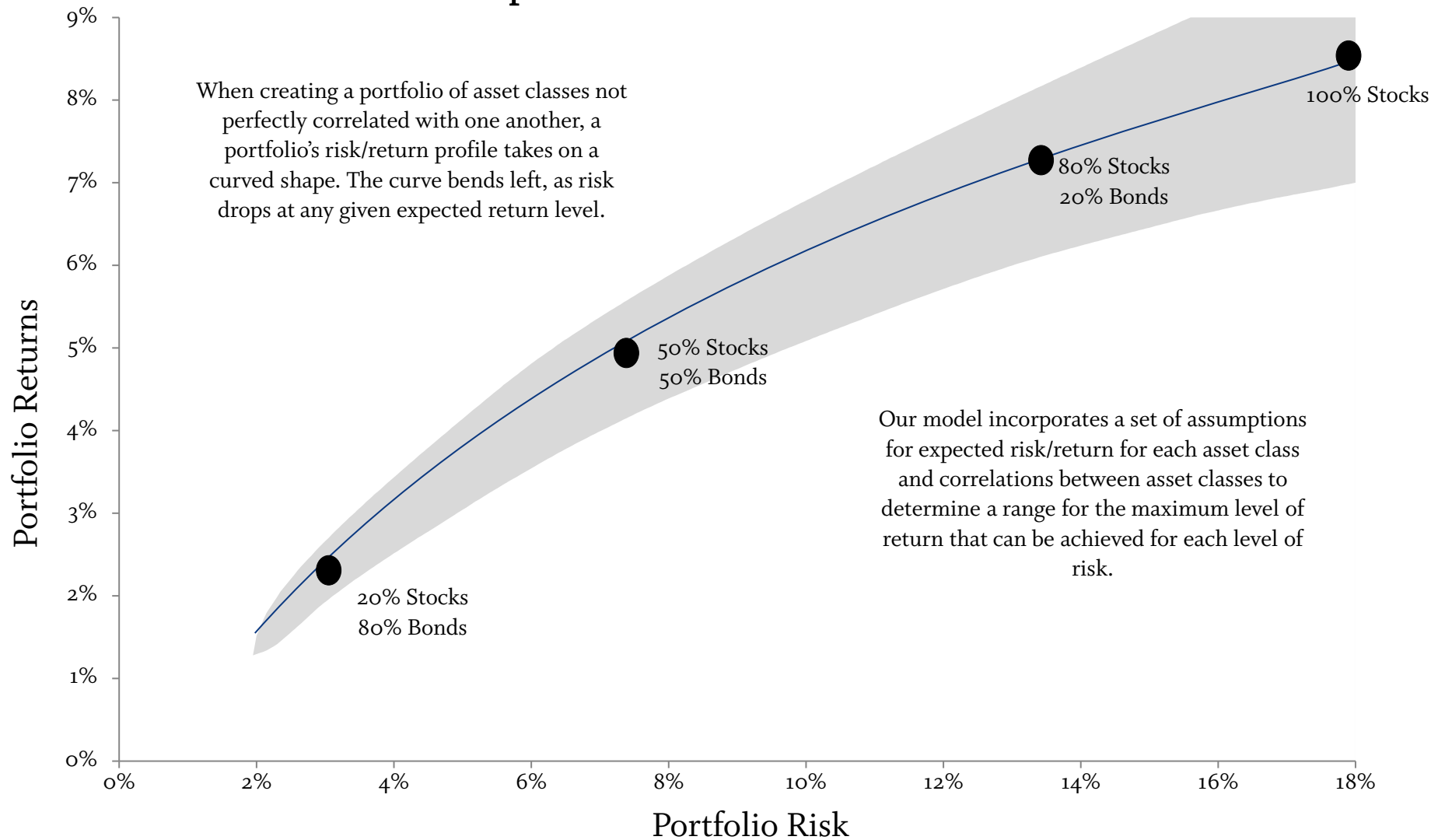
Different asset classes are characterized by different levels of risk



Correlation

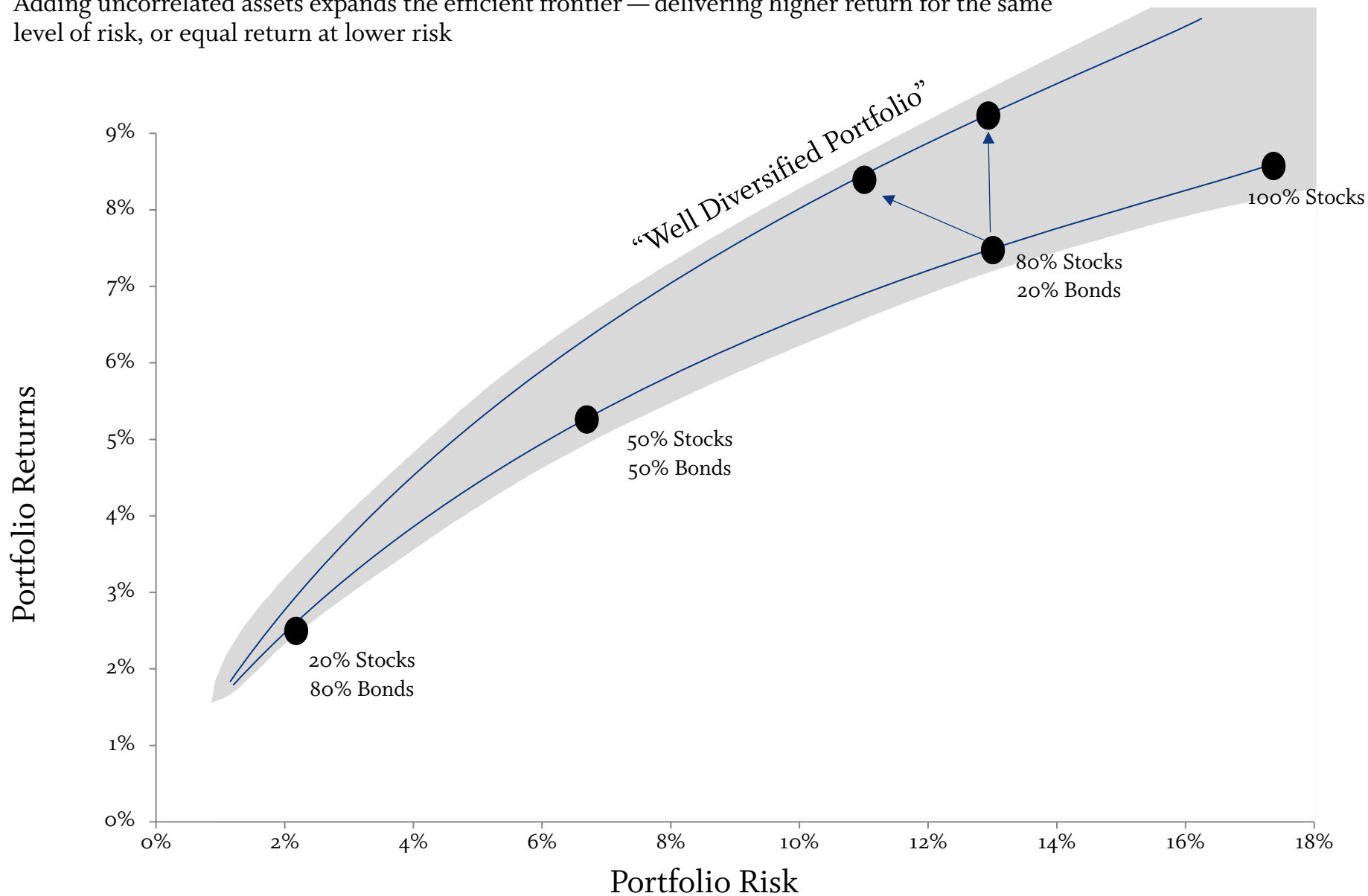
Goal is to optimize the risk-adjusted return in a portfolio

Example: A Portfolio of Stocks and Bonds



A “Well Diversified” Portfolio

- Adding uncorrelated assets expands the efficient frontier — delivering higher return for the same level of risk, or equal return at lower risk



Sensitivity of Asset Class Returns to Inflation

Sensitivity of asset class returns to inflation

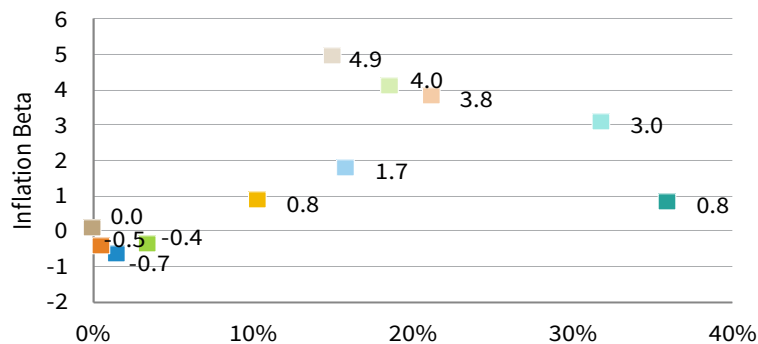
1973–2025

This exhibit portrays one measure of inflation sensitivity (inflation beta) over a specific period in history.

The table to the right shows the strength of that relationship (R^2) and the standard deviation. The equal-weighted basket represents the impact of diversification within an inflation-protection strategy and is not necessarily an appropriate or desirable policy.

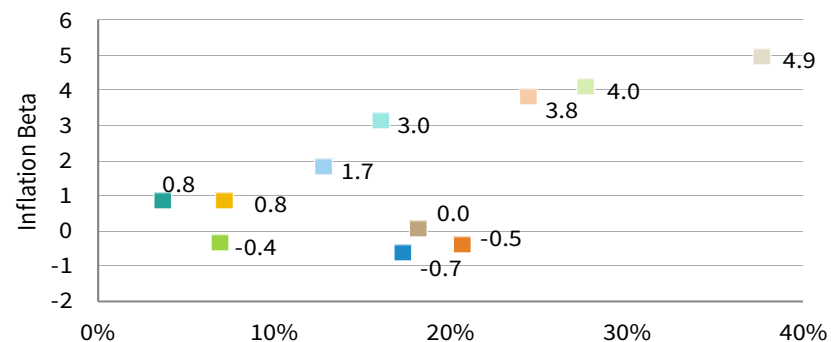
The graphs below plot the statistics shown in the table. The R^2 versus inflation is quite low for all of the asset classes and for the basket. However, the basket is generally less volatile and has a somewhat stronger and more stable relationship with inflation than the individual asset classes.

Strength of inflation relationship



	Symbol	Vs. inflation		Standard deviation
		Beta	R^2	
US Equity	USE	-0.7	2%	17%
Global ex US Equity	GE	-0.5	1%	21%
US Fixed Income	FI	-0.4	3%	7%
REITs	REIT	0.0	0%	18%
Cash	CASH	0.8	36%	4%
Real Estate	RE	0.8	10%	7%
Timber	TBR	1.7	16%	13%
Commodities	COMM	3.8	21%	24%
Gold (Prices)	GOLD	4.0	19%	28%
Oil & Gas (Prices)	OG	4.9	15%	38%
Equal Weighted	BSKT	3.0	32%	16%

Inflation beta vs. volatility



Sources: Bloomberg Index Services Limited, FTSE International Limited, Hancock Timber Resources Group, Intercontinental Exchange Inc., MSCI Inc., National Association of Real Estate Investment Trusts, National Council of Real Estate Investment Fiduciaries, Standard & Poor's, Thomson Reuters Datastream, and U.S. Department of Labor - Bureau of Labor Statistics. MSCI data provided "as is" without any express or implied warranties.

Notes: Inflation betas measure the sensitivity to inflation. An inflation beta of more than 1 implies that an asset class is expected to return in multiples over inflation during periods of high inflation. The 91-Day Treasury Bill Index represents returns calculated using yield data from the Federal Reserve from 1970 to 1977 and the ICE BofA ML 91-Day Treasury Bill Index from 1978 to present. Timberland data for 1973 through 1986 are the John Hancock Timberland Index, 1987 through present are the NCREIF Timberland Index.

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Global Public Equities

Global Public Equity

- The role of the Global Public Equity allocation is to drive long-term returns through exposure to publicly traded companies and markets
 - Within global public equity, investments may be considered based upon exposures such as geography, market capitalization, and style
- Exposure to public equity can be accessed through passive funds, active managers, and equity overlays
- Public equities provide an excellent source of liquidity when growth assets are performing well
 - Conversely, drawing liquidity from public equities during periods of decline can prove costly
- Strategies in this asset class are primarily long-only, meaning managers do not take short positions
- Public equity markets are mark to market daily (when markets are open) and are subject to periods of significant volatility

Public Equity Considerations



Risk of Loss

Public equity markets are subject to both market and company-specific risks which can greatly diminish the value of an investment. Equity investing is a zero-sum game: one individual's gain are offset by another's losses.



Volatility

Public equity market characteristics vary by size, region, type, etc.; however, all display significant uncertainty leading to price volatility. The use of derivative securities can either enhance or reduce the volatility felt by investors.



Fees

Public markets can be accessed through a variety of means with different fees attached to each. Investors incur broker fees, transaction fees, management fees, and tax associates with realized gains. Fees can range from minimal to pronounced.

Key Dimensions of Public Equity Investing

Geography

- US Equity
- Developed Markets (i.e. Japan, Germany, France, etc.)
- Emerging Markets (i.e. China, Brazil, Russia, etc.)
- Single Country/Regional

Market Cap

- Mega, Large, Mid, Small, Micro – this is the size of the company
- Smaller caps may generate higher risk-adjusted returns vs. larger caps, but they are typically less liquid

Style

- Value – investing in companies that are undervalued, often using metrics like P/B, P/E, and dividend yield; often invest in companies/industries that are out of favor
- Growth – investing in companies that will grow faster than the market expects

There is a wide range of sub-asset classes and strategies under global public equities

Sub-Asset Class	Key Characteristics	Highlights	Considerations	Risk Level	Return Potential
Developed Market Large Cap e.g. S&P 500, MSCI World	Highly liquid, well-researched companies in mature economies; low tracking error to broad benchmarks; dominated by mega-cap technology and consumer names	High liquidity; low cost of implementation; strong long-term return history; easy to access via passive vehicles	Highly efficient market limits alpha generation; concentrated in a small number of mega-cap names; limited valuation upside in expensive markets	Medium	Medium
Developed Market Small/Mid Cap	Less analyst coverage and liquidity than large cap; greater exposure to domestic economic cycles; higher dispersion of returns across names	Greater alpha opportunity due to market inefficiency; higher long-term return premium vs. large cap; more diverse sector exposure	Higher volatility and drawdowns; less liquidity; more sensitive to economic slowdowns	Medium-High	Medium-High
Emerging Markets (EM)	Exposure to faster-growing economies in Asia, Latin America, and EMEA; higher geopolitical and currency risk; significant index concentration in China, India, Taiwan, and Korea	Long-term growth potential; diversification benefits; valuation discount vs. developed markets	Political and regulatory risk; currency volatility; governance concerns; liquidity can be limited in frontier markets	High	High
Frontier Markets	Pre-emerging market economies with nascent capital markets; very low liquidity and limited institutional infrastructure; high country-specific risk	Very low correlation to developed markets; significant long-term growth potential; early-mover valuation advantage	Very illiquid; high governance and political risk; limited data and transparency; difficult to exit positions	Very High	Very High
Global Equity e.g. MSCI ACWI	Blended exposure across developed and emerging markets; managed against broad benchmarks such as MSCI ACWI; allows tactical allocation across geographies	Broad diversification; single portfolio solution; flexibility for managers to rotate across regions	Benchmark hugging risk; EM allocation often too small to meaningfully diversify; currency complexity	Medium	Medium
Factor / Smart Beta	Rules-based strategies targeting systematic risk premia such as value, momentum, quality, low volatility, and size; sits between passive and active management	Lower cost than active management; transparent and rules-based; proven long-term factor premia	Factor cyclicality can lead to prolonged underperformance; crowding risk as strategies become popular; limited downside protection	Medium	Medium-High
Sector / Thematic Equity	Concentrated exposure to specific sectors (e.g. technology, healthcare) or themes (e.g. clean energy, AI); higher idiosyncratic risk than broad market strategies	Targeted expression of high-conviction views; potential for outsized returns in high-growth themes	High concentration risk; theme or sector can underperform for extended periods; valuation risk in popular themes	High	High

Note(s): Risk level and return potential are relative assessments across public equity sub-asset classes, not absolute forecasts. Index examples are illustrative.

Private Capital

Private Capital

- Private Capital consists of investments in private partnerships or direct ownership interests that are not publicly for sale
- The role of the Private Capital allocation is implemented to drive long term returns in excess of public equity markets
- Private Capital exposure can only be accessed through active managers
 - Large dispersion of individual fund performance make the asset class ripe for research driven alpha-generation
 - Managers have multiple levers available to drive value in fund investments
- Funds are illiquid and may take many years to realize a return on invested capital
- Investment opportunities within Private Capital span the risk/reward spectrum and include Growth/Enhanced returns (Private Equity, Venture Capital), Hybrid (Real Estate, Natural Resources), less correlated/inflation sensitive (infrastructure, timberland, etc)
- It may take years to build a Private Capital program in a portfolio and capital calls may occur at any time – necessitating robust commitment and liquidity planning
- Private investments are not valued as often as public equity, leading to lower observed volatility – though they are still economically linked to public markets
- Retail-oriented "semi-liquid/interval" funds purporting to offer liquid access to private company exposure remain unproven and less relevant for institutional portfolios

Private Investment Considerations



Liquidity

LPs are 'locked-in' for the duration of the investment period (or fund) and are unable to redeem their committed capital on request during that period.

Private investments have relatively long holding periods until realization.



Risk of Loss

Private investments are difficult to source, and managers must create value during the holding period.

Private companies face significant business and operational risks, with a high probability of capital loss for investors.



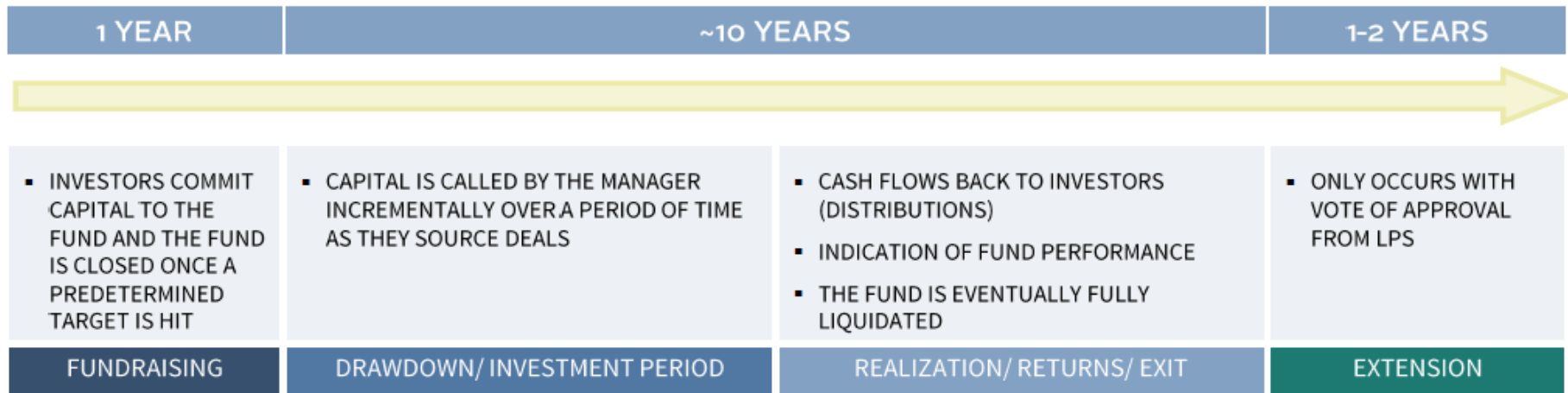
Fees

Private equity managers typically charge higher fees as compared to public equity managers.

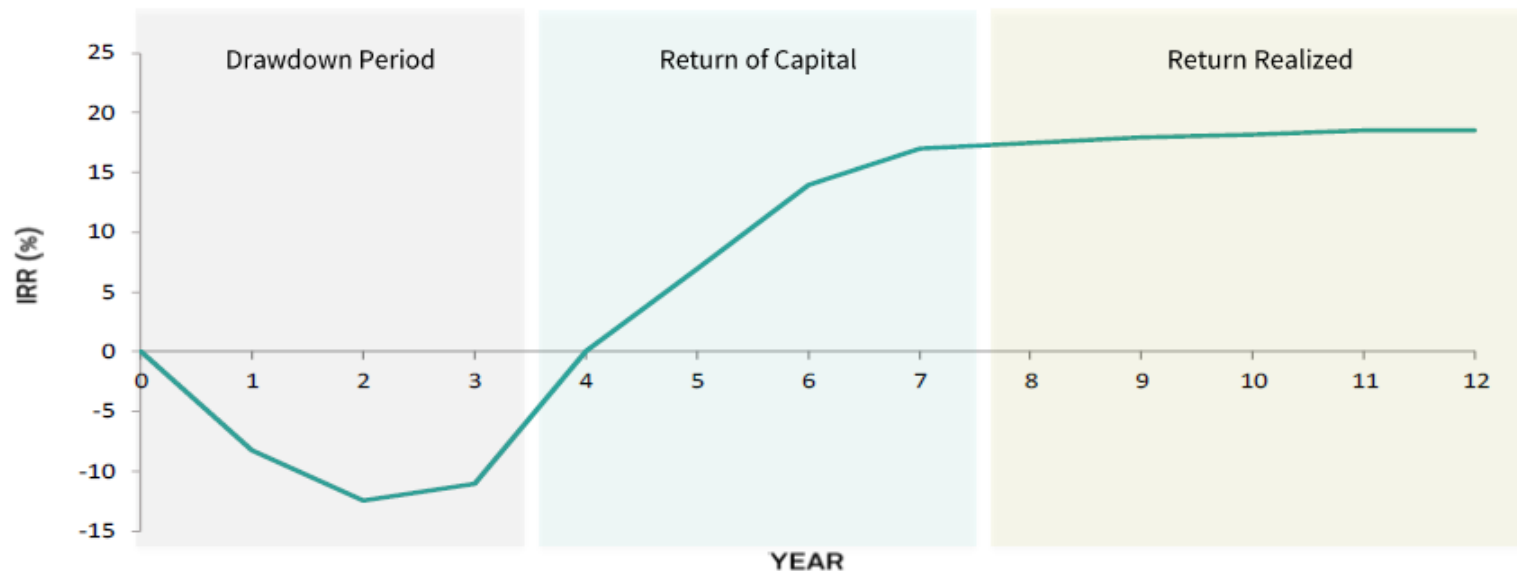
Fees include both high management fees and carried interest charged on profits earned by the manager.

Lifecycle of a Private Investment

Private funds are raised in series; a typical private investment firm raises a new fund every 2-4 years



ILLUSTRATIVE CASH FLOWS FOR A PRIVATE FUND ("J-CURVE")



Private Capital Sub-Asset Classes

Private capital span a broad range of sub-asset classes

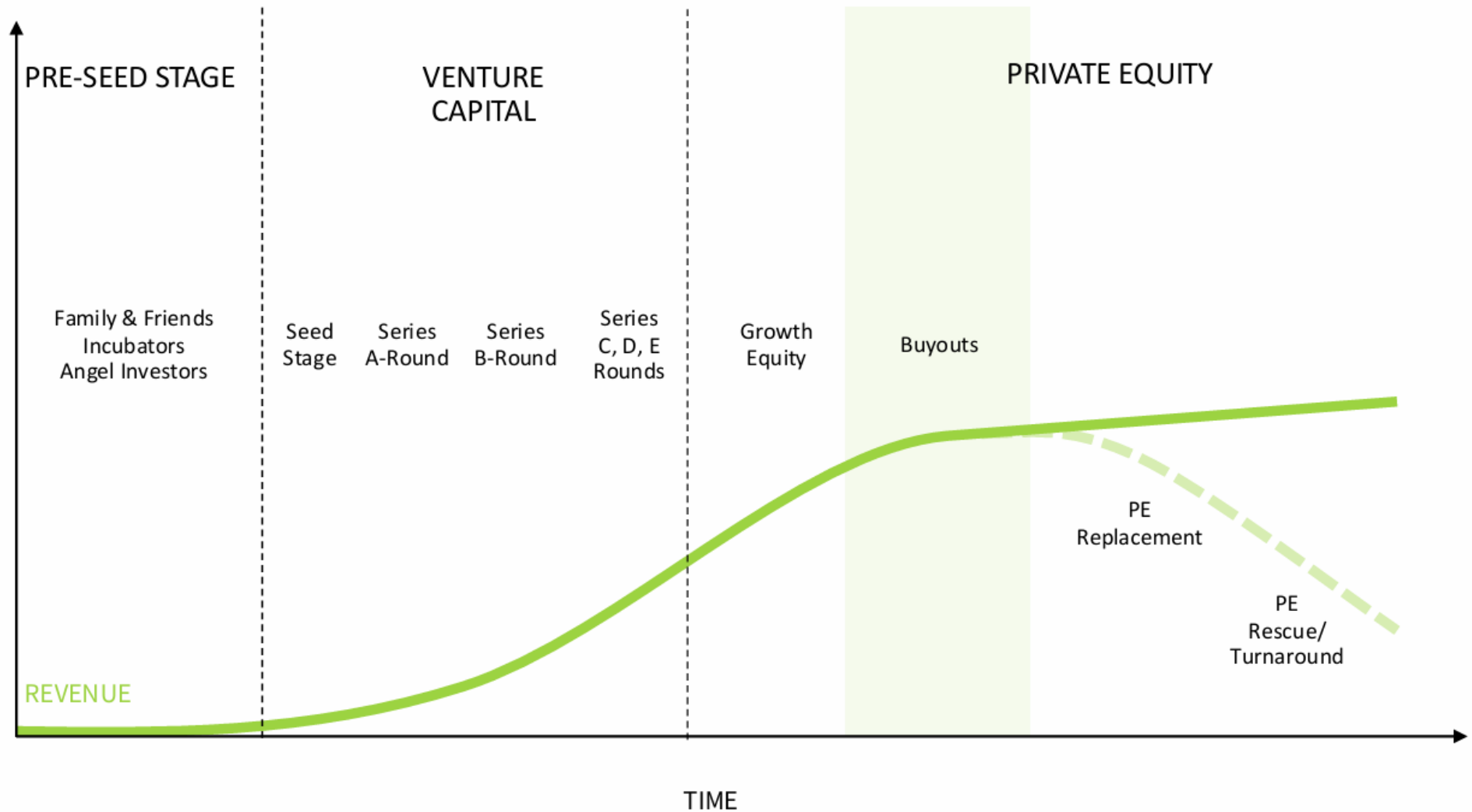
Category	Asset Class	DEFINED	ROLE IN Portfolio	Return Potential	VOLATILITY / Risk of Capital Loss ¹	LIQUIDITY
PUBLIC EQUITIES	Public Equities	Ownership in public companies	Long-term growth driver; liquidity	Medium-High	Medium	High
FIXED INCOME (BONDS)	Bonds	Loans to issuers	Liquidity; downside protection	Low	Low	High
DIVERSIFIERS	Hedge Funds	Pursuit of various strategies across asset classes	Downside protection	Medium	Medium	Medium
PRIVATE INVESTMENT	Venture Capital	Minority ownership in nascent companies	Growth in excess of public markets	High	High	Low
	Growth Equity	Majority or minority ownership in growing companies that are more established than venture targets	Growth in excess of public markets	High	High	Low
	Buyouts ("LBOs") ¹	Controlling share in a business with positive earning potential	Growth in excess of public markets	High	High	Low
	Secondaries	Purchase of existing stakes in private investment funds or portfolios from existing investors seeking liquidity	Diversification; accelerated capital deployment with reduced J-curve effect	Medium-High	Medium	Low
	Private Credit	Investments in the form of loans to a company, or against a pool of assets, in exchange for interest payments; can also include investments in companies or assets under stress	Diversification	Medium	Medium	Medium
	Real Assets	Ownership in tangible properties	Yield, diversification, return enhancement, and/or inflation sensitivity ¹	Low-Medium	Low-Medium	Low-Medium

¹For private investments, risk is measured as the potential of capital loss (not volatility)

²Also commonly referred to as Leveraged Buyouts (LBOs)

³Role of real estate depends on the risk profile of the investment. For example, investments in core real estate properties offer yield vs. investments in ground of development, which offer return enhancement for a portfolio.

Private Investing and the Target Company's Life Cycle

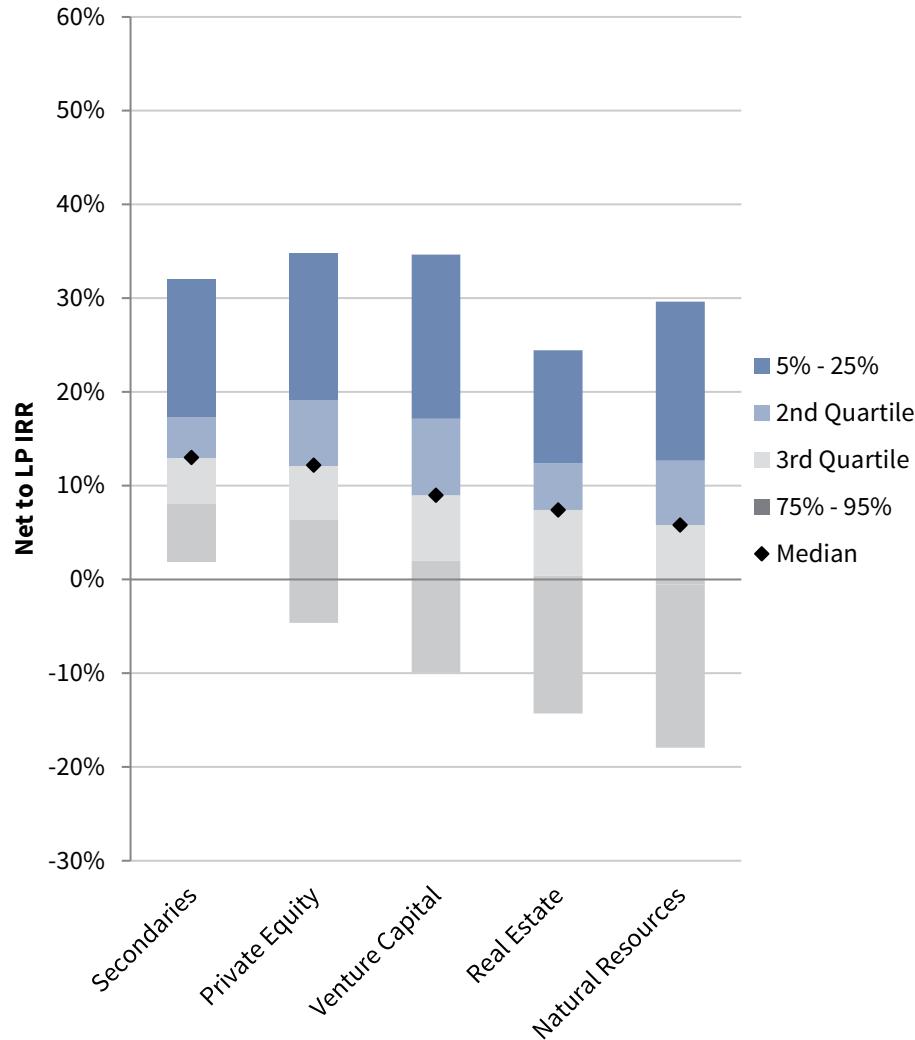


Note(s): revenue line for illustrative purposes only.

There is a wide dispersion in returns within private investments

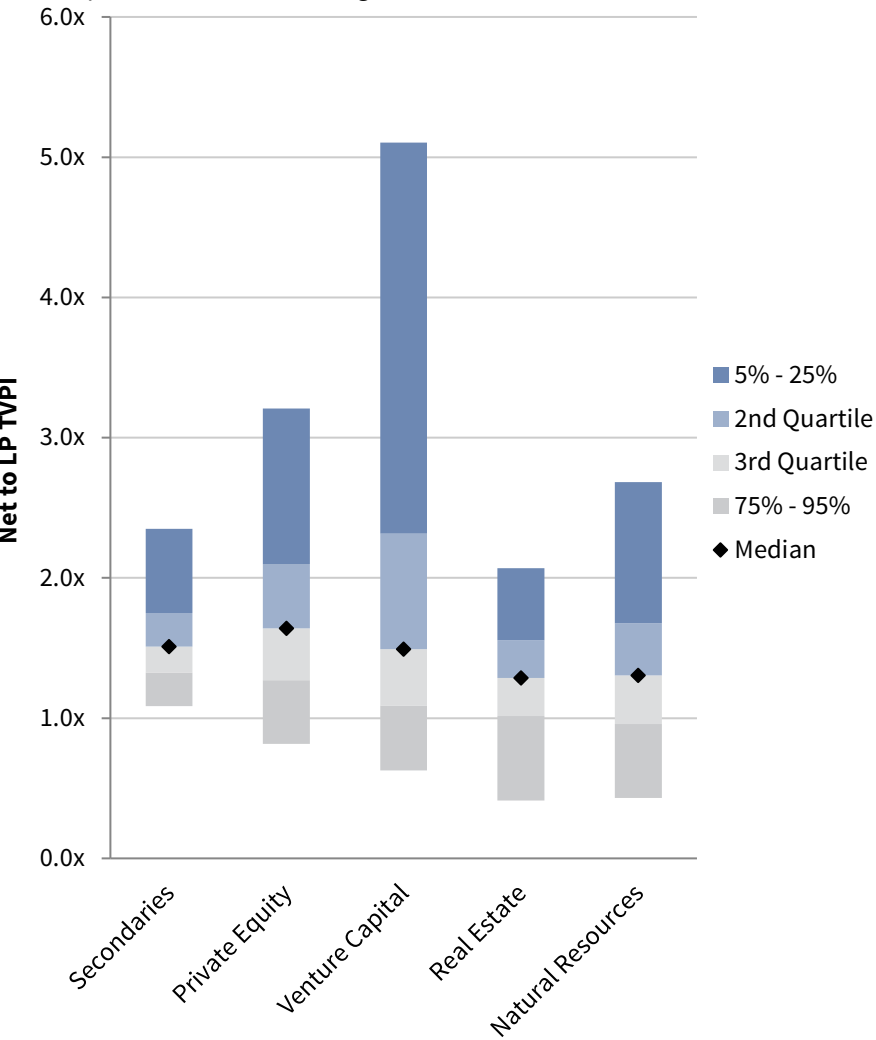
Return Dispersion by Asset Class: IRR

As of September 30, 2025 • Vintage Years 2003-2022



Return Dispersion by Asset Class: TVPI

As of September 30, 2025 • Vintage Years 2003-2022



Source(s): Cambridge Associates LLC.

Note(s): Pooled returns are net of fees, expenses, and carried interest. Private equity includes buyout and growth equity funds. Natural resources includes private equity energy, energy upstream & royalties, and timber funds. All asset classes listed are global. Funds less than three years old are considered too young to have produced meaningful returns; those vintages have been excluded from this analysis.

Private Equity

Buyouts

Controlling stakes in mature, private or public companies using equity + debt

Key Characteristics

- Buyouts involve acquiring a controlling stake in a company using a combination of equity and debt, with leverage typically comprising 50–70% of the purchase price, amplifying potential returns for the PE sponsor.
- Target companies are generally mature, cash-flow-generative businesses that can reliably service acquisition debt, often including corporate carve-outs, family-owned businesses, or undervalued public companies taken private.
- Value creation is driven by operational improvements, financial deleveraging, and multiple expansion, with sponsors actively working to reduce costs, grow revenues, and pay down debt over the holding period.
- The typical investment horizon spans 3–7 years, after which sponsors exit via an IPO, strategic sale to a corporate buyer, or a secondary sale to another PE firm.
- As an asset class, buyouts sit at the higher end of the private equity risk/return spectrum, offering the potential for outsized gains relative to public equities in exchange for illiquidity, concentration risk, and a typical fund life of 10 years.
- **Targeted gross IRRs for buyout strategies typically range from 20–25%**, translating to net IRRs of approximately 15–20% after fees and carry

Highlights

- ✓ **Higher return potential** — buyouts have historically delivered a meaningful premium over public equities, driven by leverage, operational improvements, and active ownership.
- ✓ **Active value creation** — sponsors take a hands-on approach to improving operations and strategy, giving them direct influence over outcomes.
- ✓ **Portfolio diversification** — buyouts provide exposure to private companies and industries not accessible through public markets.
- ✓ **Lower risk profile** — buyout targets are generally mature, cash-flow-generative businesses, resulting in a more modest risk profile relative to VC and Growth Equity strategies.
- ✓ **Alignment of interests** — the carried interest and GP co-investment structure ensures managers are incentivized to generate strong returns for LPs.

Considerations

- ✗ **Leverage risk** — significant use of debt amplifies losses as well as gains, leaving portfolio companies more vulnerable in downturns or rising rate environments.
- ✗ **Illiquidity** — capital is locked up for typically 10 years, making it unsuitable for investors with near-term liquidity needs.
- ✗ **High fees** — the “2 and 20” structure meaningfully erodes net returns compared to lower-cost public market alternatives.
- ✗ **Wide manager dispersion** — buyout returns vary significantly across managers, making manager selection critical and difficult to get right.
- ✗ **Deferred returns** — capital is typically locked up for the duration of the fund life, with meaningful distributions often not realized until years after the initial investment.

Growth Equity

Minority or majority stakes in fast-growing, proven businesses

Key Characteristics

- Growth equity occupies the space between venture capital and buyouts, targeting companies that have proven their business model and reached an inflection point requiring capital to scale.
- Target companies are typically founder-owned, have received little or no prior institutional capital, and are generating substantial organic revenue growth, often in excess of 10-20% annually.
- Managers generally take minority stakes using little or no leverage, and secure protective shareholder rights and governance provisions to mitigate the risks of minority ownership.
- As an asset class, growth equity sits between venture capital and buyouts on the risk/return spectrum, offering more downside protection than venture capital due to investing in proven business models, while capturing more upside than traditional buyouts through higher growth trajectories.
- Value creation is primarily driven by revenue growth and business scaling rather than financial engineering or cost cutting, making it more dependent on the underlying company's ability to execute on its growth plan.
- **Targeted net IRRs typically range from 20–30%**, reflecting the higher growth potential of target companies but also the greater execution risk compared to mature buyout targets.

Highlights

- ✓ **High growth potential** — by investing in companies at an inflection point, growth equity offers significant upside as businesses scale revenues and expand into new markets.
- ✓ **Lower leverage risk** — transactions are predominantly equity-financed, meaning portfolio companies are not burdened with debt and are less vulnerable to economic downturns or rising interest rates.
- ✓ **Downside protection relative to VC** — target companies are already proven, revenue-generating businesses, reducing the binary risk of early-stage venture investing.
- ✓ **Diversification across sectors** — growth equity strategies frequently invest across technology, healthcare, and consumer sectors, providing broad exposure to innovative, high-growth industries.
- ✓ **Shorter path to exit** — compared to buyouts, growth equity companies are often closer to an IPO-ready stage, potentially offering a faster route to liquidity and realized returns.

Considerations

- ✗ **Minority stake limits control** — without a controlling interest, sponsors have limited ability to influence strategic decisions or force operational changes if the company underperforms.
- ✗ **Execution risk** — returns are heavily dependent on the company's ability to sustain high growth, which is inherently uncertain and sensitive to competitive and market dynamics.
- ✗ **Valuation risk** — target companies often command high valuations despite not yet being profitable.
- ✗ **Illiquidity** — like buyouts, capital is locked up for several years with limited options for early exit, particularly if an IPO market is unfavorable.
- ✗ **Competitive sourcing landscape** — as private markets have grown, deal flow has become increasingly crowded, making it harder to identify and win access to the most attractive opportunities at reasonable valuations.

Venture Capital

Minority ownership in early-stage, high-growth innovative companies

Key Characteristics

- Venture capital involves taking minority equity stakes in early-stage, high-growth companies with disruptive potential but unproven business models, making it the highest-risk, highest-reward segment of the private equity spectrum.
- Transactions are entirely equity-financed with no leverage, as portfolio companies typically lack the stable cash flows needed to service debt, with value creation driven almost entirely by revenue growth and business model validation.
- Portfolio construction is deliberately diversified across many investments, as managers expect a small number of outsized winners to drive the majority of fund returns while many investments may return little or nothing.
- As an asset class, VC sits at the highest end of the private equity risk/return spectrum, offering the greatest potential for transformative returns but also the highest rate of total loss at the individual investment level.
- The typical investment horizon is 7–10 years, with exits achieved through an IPO or strategic acquisition
- **Targeted net IRRs typically range from 20–35%+,** reflecting the higher risk and return expectations of early-stage investing, though realized returns vary enormously across managers and vintages.

Highlights

- ✓ **Exceptional return potential** — a small number of outsized winners can generate returns that far exceed those of any other asset class, driving strong overall fund performance.
- ✓ **Exposure to innovation** — VC provides access to transformative, early-stage companies in high-growth sectors like technology and healthcare that are not accessible through public markets.
- ✓ **No leverage risk** — the absence of debt means portfolio companies are not at risk of financial distress from interest payments or covenant breaches.
- ✓ **Diversification** — VC returns have a low correlation to public markets, providing meaningful portfolio diversification benefits for institutional investors
- ✓ **Early-mover advantage** — investing at the earliest stages allows LPs to gain exposure to companies at the lowest possible valuations, maximizing the potential return multiple if the business scales successfully.

Considerations

- ✗ **Highest capital loss potential among private asset classes** — the majority of early-stage investments fail to return capital
- ✗ **Concentration risk** — often only 1–2 investments “make” a fund
- ✗ **Longest illiquidity** — with fund lives of 10+ years and uncertain exit timelines, VC is the most illiquid segment of the private equity spectrum.
- ✗ **High fees** — many VC charge higher management fees and carries interest even compared to Buyout managers
- ✗ **Extreme manager dispersion** — the difference in returns between top-quartile and bottom-quartile VC managers is wider than in any other asset class, making manager selection paramount.
- ✗ **Valuation uncertainty** — early-stage companies are difficult to value, leading to significant mark-to-model subjectivity and potential for abrupt write-downs.

Secondaries

Purchasing existing LP interests or portfolios of private assets in the secondary market

Key Characteristics

- Secondary investments involve purchasing pre-existing LP interests or portfolios of private assets from investors seeking liquidity in the secondary market, rather than committing capital to a new primary fund.
- Buyers acquire exposure to a diversified set of private assets spanning PE, VC, growth equity, credit, and real assets, often at a discount to the fund's net asset value (NAV), which enhances return potential.
- Secondaries significantly reduce the J-curve effect versus primary commitments because capital is deployed into more mature, partially realized assets, resulting in a faster return of capital to investors.
- Since the underlying assets are already partially visible and de-risked, secondaries carry lower blind-pool risk than primary commitments, allowing buyers to conduct more informed due diligence.
- The typical investment horizon is shorter than primary funds, often 3–5 years, as the underlying assets are already partway through their lifecycle and closer to exit.
- **Targeted net IRRs typically range from 10–15%**, reflecting the lower risk profile relative to primary funds, though returns vary depending on the discount achieved and the quality of the underlying portfolio.

Highlights

- ✓ **Mitigated J-curve** — buying into seasoned portfolios means investors avoid the early fee drag and negative returns typical of primary fund commitments.
- ✓ **Discounted entry** — purchasing interests below NAV provides an immediate margin of safety and enhances return potential.
- ✓ **Greater portfolio visibility** — buyers can conduct due diligence on an already-known portfolio of companies, reducing blind pool risk significantly.
- ✓ **Faster capital return** — shorter hold periods and more mature underlying assets mean distributions are returned to investors more quickly than in primary funds.
- ✓ **liquidity solution** — provides an exit mechanism for existing LPs needing to divest their interests ahead of a fund's natural end, adding flexibility to an otherwise illiquid asset class.

Considerations

- ✗ **Relatively lower return potential** — the reduced risk profile of secondaries comes at the cost of lower upside compared to primary buyout or VC funds.
- ✗ **Competitive market** — the secondaries market has grown significantly, increasing competition for deals and compressing discounts, which reduces the return advantage buyers once enjoyed.
- ✗ **Complexity and due diligence burden** — evaluating large portfolios of fund interests or direct assets requires significant resources and expertise to assess accurately.
- ✗ **Dependent on seller motivation** — the best deals arise from distressed or motivated sellers, which are not always available, making deal flow and pricing highly situational.
- ✗ **GP consent and transfer restrictions** — many fund agreements require GP approval for secondary transfers, which can slow or complicate deal execution and limit the universe of actionable opportunities.

Private Real Assets

Private Real Assets

Tangible, inflation-sensitive assets spanning real estate, infrastructure, natural resources, and energy

Key Characteristics

- Private real assets encompass a broad range of tangible, physical asset classes including real estate, infrastructure, natural resources, and timberland, united by their ability to generate stable cash flows and preserve capital over long time horizons.
- Returns are driven by a combination of current income and capital appreciation, with the income component typically derived from rents, tolls, royalties, or other contracted cash flows that provide a degree of return certainty.
- The asset class offers a natural hedge against inflation, as the value of physical assets and their associated cash flows tend to rise with inflation, making real assets a valuable diversifier in periods of rising prices.
- Transactions are typically large, capital-intensive, and illiquid, requiring long investment horizons and patient capital, with fund lives often extending to 10–15 years depending on the sub-strategy.
- Targeted net IRRs typically range from 4–15%, varying significantly by sub-strategy, with core infrastructure and real estate at the lower end and value-add or opportunistic strategies at the higher end.

Highlights

- ✓ **Inflation hedge** — physical assets and contracted cash flows tend to appreciate with inflation, providing meaningful protection in rising price environments.
- ✓ **Stable current income** — contracted cash flows from rents, tolls, and royalties provide a reliable income stream less dependent on market conditions.
- ✓ **Portfolio diversification** — real assets have a low correlation to traditional equity and fixed income markets, providing meaningful diversification benefits.
- ✓ **Capital preservation** — the tangible nature of physical assets provides downside protection, as underlying assets retain intrinsic value even in adverse conditions.
- ✓ **Illiquidity premium** — investors are compensated with a yield premium over comparable liquid instruments for committing capital to illiquid real assets.
- ✓ **Broad opportunities spectrum** — wide range of strategies from conservative core (income-focused) to high-return opportunistic (15%+ IRR), allowing portfolio customization by risk appetite.

Considerations

- ✗ **Illiquidity** — real asset investments are among the most illiquid in a portfolio, with long fund lives and limited secondary market activity making early exit difficult.
- ✗ **High capital requirements** — large transaction sizes can make it difficult for smaller institutions to achieve adequate diversification across sub-strategies.
- ✗ **Regulatory and political risk** — infrastructure and natural resource assets are subject to regulatory changes and government intervention that can materially impact returns.
- ✗ **Environmental and ESG risk** — natural resource and energy assets face increasing exposure to environmental liabilities, stranded asset risk, and evolving ESG standards.
- ✗ **High fees** — management fees and carried interest can meaningfully erode net returns compared to lower-cost public market alternatives.

The Building Blocks of a Real Assets Portfolio

Asset Class	Risk Profile	Sector	Strategy	Return Drivers	Target Returns	Target Income	Investment Options
REAL ESTATE	Core	Traditional—stabilized	Stabilized real estate assets in good locations, with in-place cashflows, inflation-linked and/or long duration leases, and typically open ended structures	Income	4–6%	3–4%	Offices, selective retail, logistics
	Core+	Traditional—standing assets	Standing real estate assets usually with in-place cashflows, inflation-linked and/or long duration leases, requiring minimal repositioning	Income	8–10%	3–4%	Logistics, ground leases (U.K.), Net Lease Strategies
	Value Add	Traditional and alternative with asset management/ (re)development	Assets requiring some repositioning with de-risked development. Alternative sectors typically demographic driven so provide a defensive return profile	Income, capital growth	11–13%	1–3%	Student Housing, Private Rented Sector (“PRS”), Senior Living, Healthcare
	Opportunistic	Traditional and alternative with (re)development, distress, corporates	Assets requiring significant repositioning, development risk, complex corporate or distress situations, operational risks	Capital growth	14%+	n/a	Public-to-Private, distress corporate transactions, ground up development
INFRASTRUCTURE	Core	PFI/PPP, Regulated	Assets with long term concession agreements with government or high credit worthy counterparties, equivalent landlord assets, or regulated assets that offer essential services with minimal competition, long term inflation linked revenues	Income	8–9%	5–9%	Gas and electricity networks, water / waste facilities, hospitals, schools, toll roads
	Core+	Economic Infrastructure	Monopoly like characteristics with some demand / economic risks and upside potential, some price regulation	Income, capital growth	9–12%	3–9%	Hub airports, seaports, contracted power assets, some mid-stream energy assets
	Value Add	Greenfield, demand exposed assets	Asset heavy unregulated operating companies, with complex operational risks and higher growth potential. Greenfield risk, particularly within renewables.	Income, capital growth	12–15%	5%	Regional transportation, greenfield renewables, digital infrastructure.
	Opportunistic	Emerging market, private equity like	Operating companies with monopolistic characteristics, but more demand risk and less price protection. Emerging markets particularly focused on energy and renewables.	Capital growth	15%+	n/a	Digital infrastructure, social healthcare, development, merchant power, emerging infrastructure assets.

Note: Target returns, investment periods, and terms are based on selected reported metrics by real assets fund managers in Cambridge Associates’ network.

The Building Blocks of a Real Assets Portfolio (Cont.)

Asset Class	Sector	Strategy	Return Drivers	Target Returns	Target Income	Investment Options
NATURAL RESOURCES	Energy	Assets that directly own or support Oil & Gas production and transportation, focused on acquisitions at discounted valuations and growing cash flows via increased production, improved operating efficiencies, and new contracts, significant commodity price risk	Income, capital growth	12–20%	0-12%	PE Energy, upstream oil & gas royalties, oilfield services, MLPs
	Mining	Assets directly tied to the discovery and production of raw materials, offers inflation protection, significant commodity price risk	Capital growth	20%	0-12%	PE M&M, precious metals, base metals, clay materials, quarry and mining services
	Agriculture	Farmland assets with long term investment horizons and protection against inflation, PE investments with short term cash flow growth initiatives, some commodity risk exposure	Income, capital growth	Tradition Farmland - 6% Agribusiness – 2%	4-6% (farmland)	Farmland REITS, land leases, crop royalties, harvest companies, farming services
	Timber	Assets with low correlation to traditional investments and long-term investment horizons, macro-economic performance drivers like housing and commercial construction	Income	4-12%	4-8%	Timber REITs, direct land resources, hardwood and softwood resource royalties

Note: Target returns, investment periods, and terms are based on selected reported metrics by real assets fund managers in Cambridge Associates' network.

Private Credit

What is private credit and what role does it play in a portfolio?



DEFINITION

Private credit represents borrowed money. In return for loaning money, investors receive a set level of cash flows, interest (coupon) payments, until a designated maturity date at which point repayment is made to the investor. Unlike a traditional bond, this investment occurs in a privately held company.

Private credit is typically higher yielding, illiquid investments. The structure of investments is more flexible given the private "one-off" nature of deals.



ROLE IN PORTFOLIO

Return Potential

Given investments are illiquid, returns are higher in private credit than traditional fixed income. Managers also have a greater ability to structure financing in an advantageous manner.

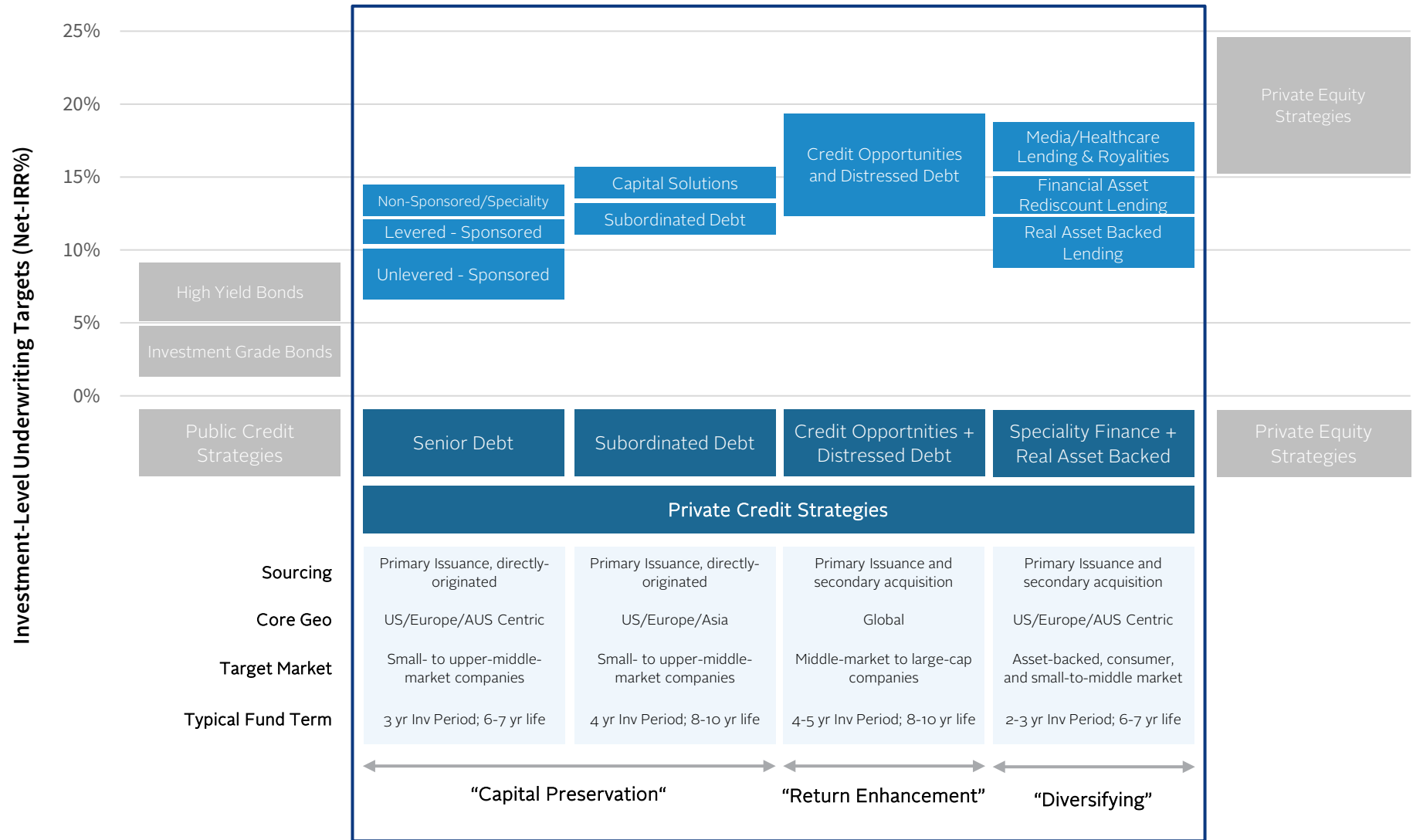
Deflation Hedging

Private credit acts as a store of value in a downturn and hedges against deflationary pressure. It helps further diversify a private investment program.

Characteristics of Private Credit Strategies

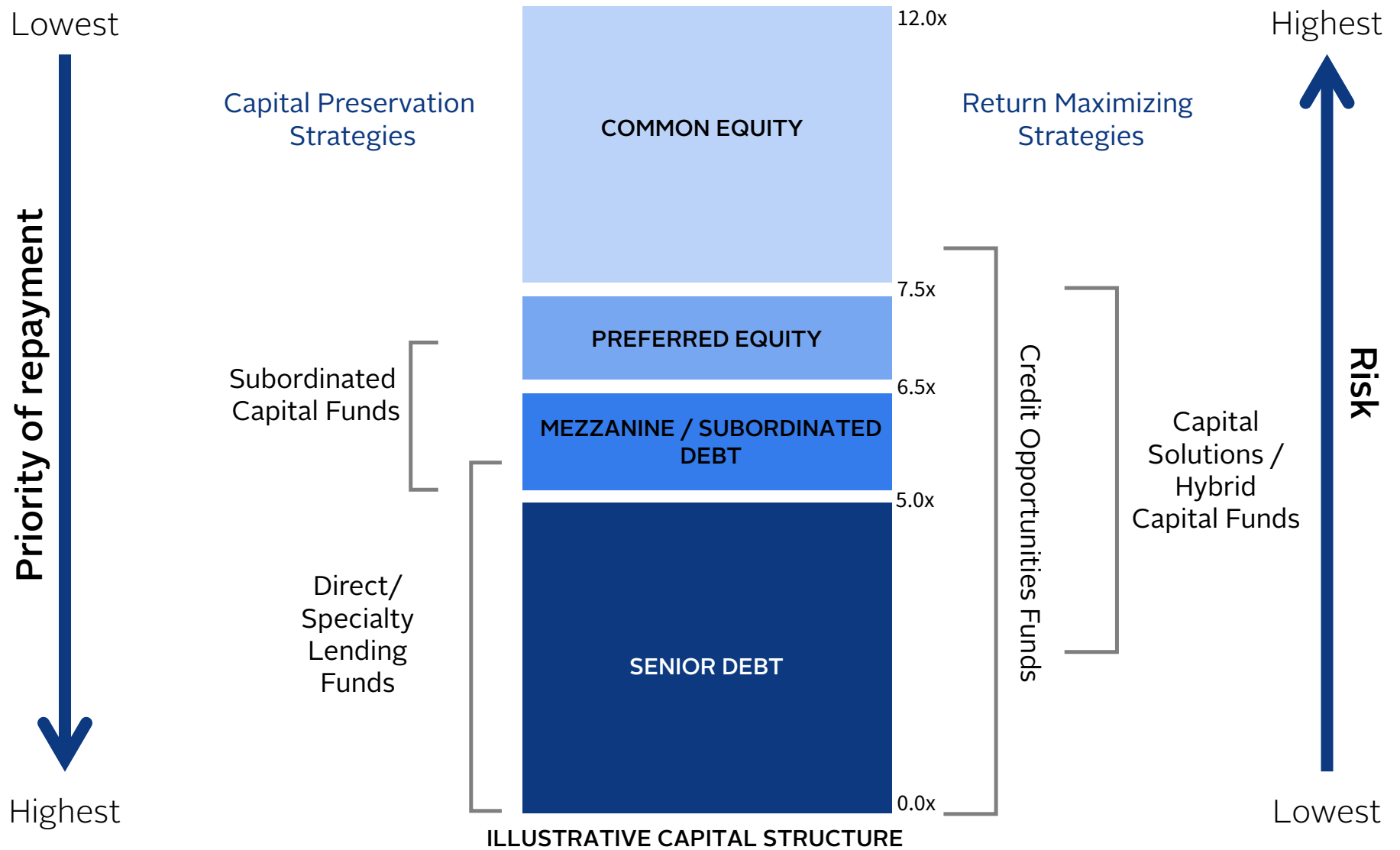
	Capital Preservation		Return Maximizing		Opportunistic, Niche	
	Senior Debt	Mezzanine	Capital Appreciation	Distressed Credit	Credit Opportunities	Specialty Finance
Strategy	Managers offer senior capital to finance private equity managers' buyouts	Managers offer junior capital to finance private managers' buyouts	Managers typically offer junior capital or purchase preferred equity of low-, mid-market firms seeking capital but reluctant to surrender control (to the extent of a private equity buyout)	Managers purchase debt obligations of distressed mid-, large-cap companies (distressed debt)	Managers offer complex financing arrangements across a broad array of industries	Managers purchase cash flows streams generated by a physical or financial asset within specific industries
Return Drivers	Interest payments	Interest payments	Interest payments Equity gains; Fees	Recovery of debt prices; Interest payments; Restructurings	Interest payments	Cash flow recovery through active servicing
Target Returns (Gross IRR)	6-10% (unlevered) 11-15% (levered)	13-17%	>15%	>15%	>15%	7-20%
Investment Period	2-3 years	4-5 years	4-5 years	2-3 years	2-4 years	2-4 years
Fund Life	5-8 years	8-10 years	8-10 years	6-10 years	5-7 years	5-8 years

Private credit is a broad opportunity set with a varying risk-return spectrum



Note: For illustrative purposes only.

Private Credit Strategies' Placement in the Capital Structure



Note: For illustrative purposes only.

Diversifiers

Diversifiers

- The role of the Diversifiers allocation is to provide a source of uncorrelated returns independent of equity and fixed income markets and reduce the volatility of total portfolio returns
 - Diversifier funds tend to exhibit low or negative correlation to equity markets and significantly lower volatility
- Fund managers have the flexibility to invest in many different asset classes
 - Equity
 - Fixed income, currencies
 - Futures, derivatives, commodities
- When the economy is strong, Diversifier funds are likely to lag equities but outperform bonds
- When the economy is weak, Diversifier funds are likely to outperform equities but lag bonds
- Diversifier managers should be evaluated based on their return potential, net of fees (management and performance)

Diversifiers Considerations



Fees

Diversifier managers typically charge higher fees as compared to public equity managers due to outperformance potential.



Organizational Risk

Volatility and/or underperformance may lead to organizational risk if investors move to pull their money from diversifier managers, creating a redemption spiral.



Low Transparency

Diversifiers remain largely unregulated and disclosure requirements to LPs are low. Managers require a level of secrecy due to the competitive nature of the industry.



Liquidity

Diversifier liquidity is subjective and determined by the manager. Investor agreements typically include a gate provision, which allows a manager to halt redemptions, or withdrawals, from the fund.

Long/Short

- The role of the Long/Short allocation is to add significant risk-adjusted returns and an opportunity for potential returns in both rising and falling markets
 - As the name implies, managers use short selling to bet against a stock or hedge a long position
- The breadth of strategies in the Long/Short asset class provide an opportunity to build a Long/Short program with diversified alpha return stream
- Exposures include:
 - Regional specialists (U.S, China, etc)
 - Sector specialists (technology, industrials, etc)
 - Style orientation (growth, value)
- When the economy is strong, Long/Short funds are likely to lag equities but outperform bonds
- When the economy is weak, Long/Short funds are likely to outperform equities but lag bonds
- Long/Short managers should be evaluated based on their return potential, net of fees (management and performance)

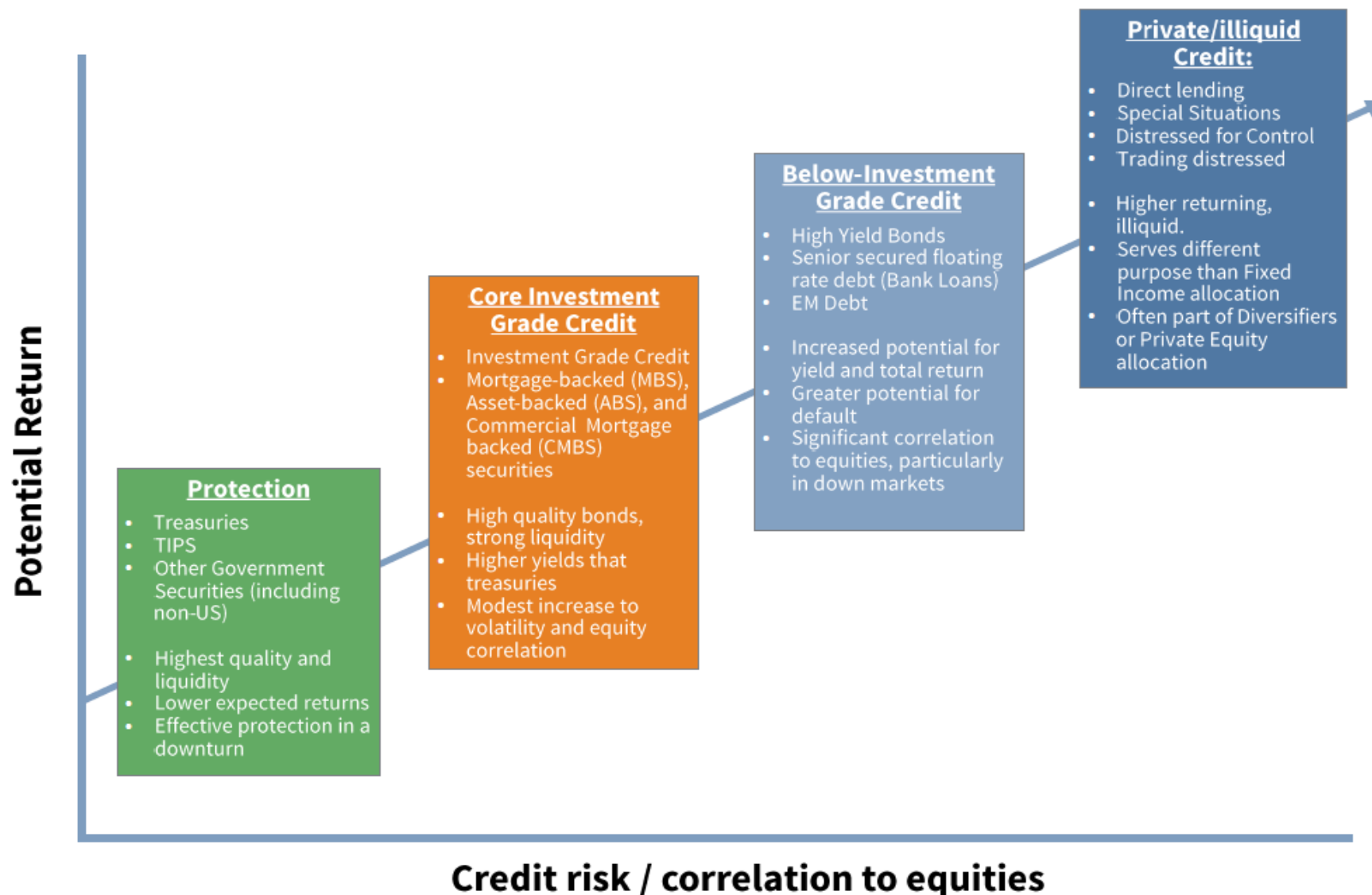
Fixed Income

“Rates and Credit”

Fixed Income

- The Fixed Income allocation plays several roles in a diversified portfolio including:
 - Defense against equity market corrections or economic slowdowns
 - This primarily comes in the form of government bonds, with intermediate to long duration
 - Liquidity in nearly any environment
 - High quality bonds exhibit strong liquidity
 - Low quality bonds (high yield, bank loans) are generally less liquid, which can increase price volatility
 - Steady source of yield
 - Increasing yield generally comes with increased credit risk and volatility. As you move down the credit ladder, there is also increasing correlation to equity markets
- FPPA has separated the fixed income allocation into two distinct strategic asset classes
 - Rates
 - Credit

Range of Fixed Income Sub-Asset Classes



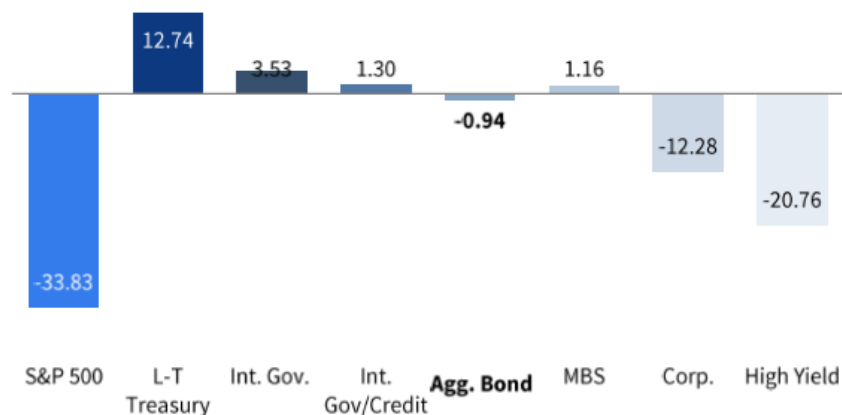
Note: Investment Strategies are applicable across all geographies, sectors, and market capitalizations. Strategies are not exhaustive of all investment strategies and the above chart is for illustrative purposes only.

How do different types of fixed income perform in market declines?

High quality and long duration bonds offer the most protection during times of market or economic contraction

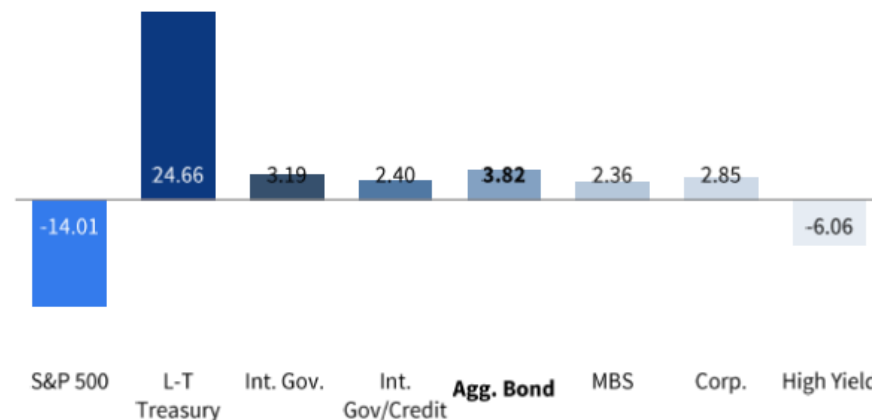
2020 COVID-19

February 19, 2020 - March 23, 2020



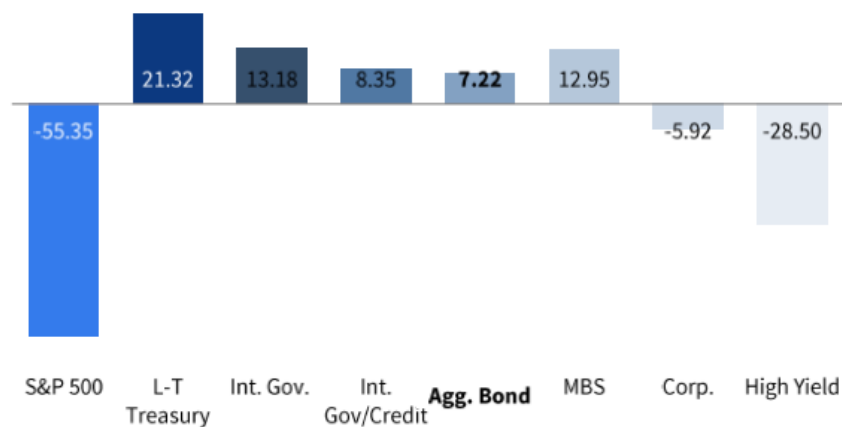
Q3 2011

July 1, 2011 - September 30, 2011



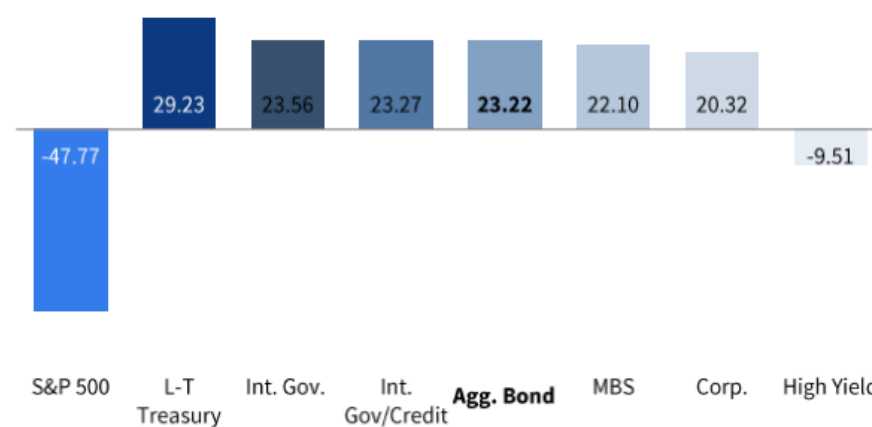
2008 GREAT RECESSION

October 7, 2007 - March 9, 2009



POST DOT-COM BUBBLE CRASH

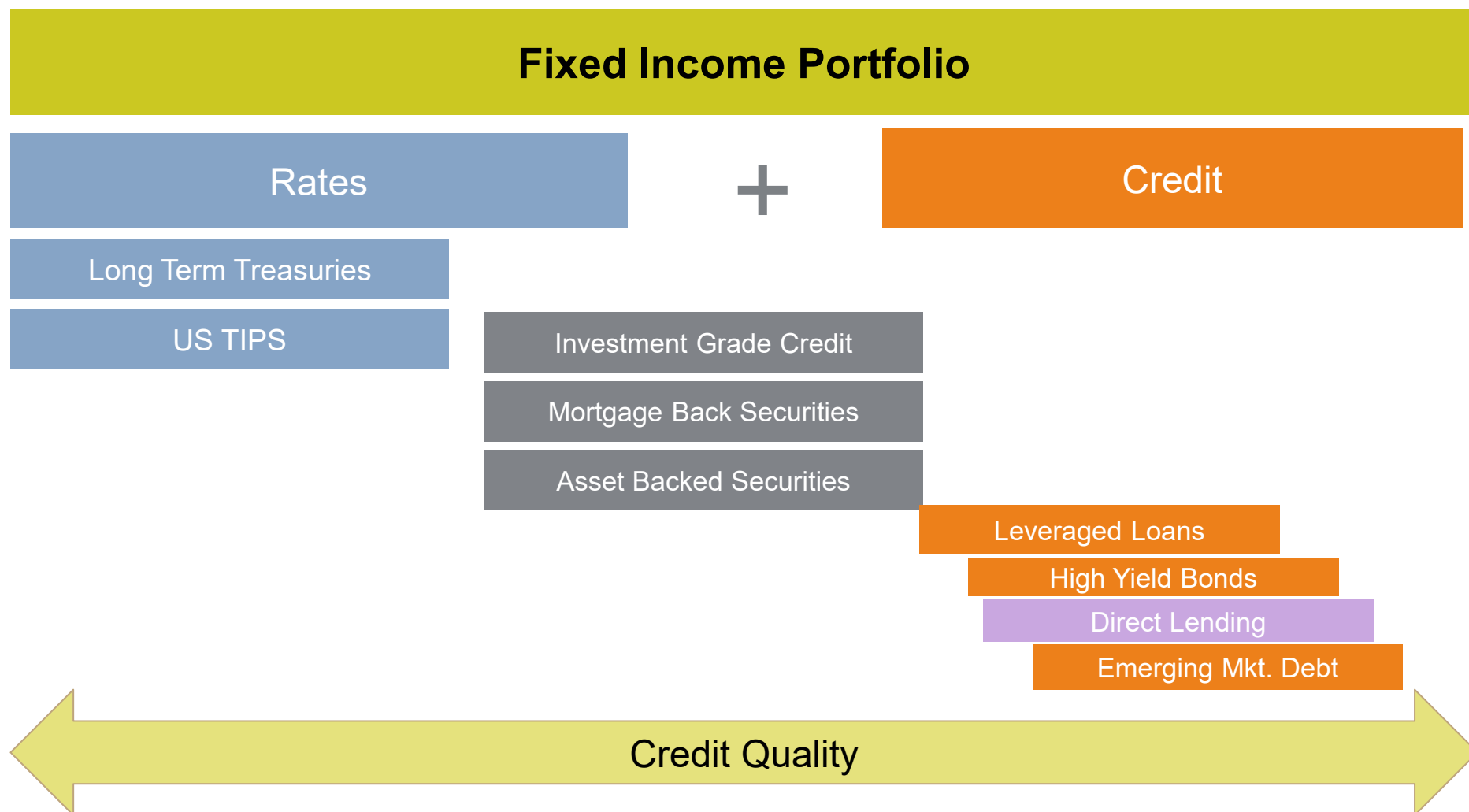
September 1, 2000 - October 9, 2002



Note: Index returns used are as follows: S&P 500 (S&P 500 Index), L-T Treasury (Bloomberg Barclays Long-Term Treasury Bond Index), Int. Gov. (Bloomberg Barclays Intermediate-Term Government Bond Index), Int. Gov./Credit (Bloomberg Barclays Intermediate-Term Gov/Credit A or Better Index), Agg. Bond (Bloomberg Barclays Aggregate Bond Index), MBS (Bloomberg Barclays Mortgage-Backed Securities Index), High Yield (Bloomberg Barclays High Yield Composite Index).

Role of Fixed Income in Current Portfolio

A fixed income portfolio diversified with both protective and diversification/growth assets can provide downside protection while providing upside potential via higher yielding securities.



Rates

Rates

- The Rates allocation is primarily focused on allocating to managers that invest in Treasuries, TIPS, and other government securities as well as high quality bonds.
- The allocation is highly liquid and uncorrelated to equities, providing ballast during times of market volatility.
- Rates are the highest quality and most liquid allocation in fixed income.
- They generally have the lowest expected return but retain the most effective protection characteristics during a market downturn.
- In the current low yield environment, the return prospects from the Rates allocation have diminished, creating an increased opportunity cost to hold



Interest Rates

Fixed income prices move in the opposite direction of interest rates, affecting both the yield and ability to find a buyer for a fixed income security.



Inflation

Inflation can negatively harm fixed income investments as the purchasing power, or "power of a dollar", of coupon payments declines when high inflation exists

High inflation may also have a significant effect on interest rates, limiting yield of a fixed income investment.

Credit

Credit

- The Credit allocation is primarily focused on corporate investment grade, below investment grade, and structured products.
- Investing in Credit is expected to provide higher returns than investing in Rates, because corporate securities carry additional risks such as credit risk and illiquidity.
- Steady source of yield
 - Increasing yield generally comes with increased credit risk and volatility.
- Credit, particularly non-investment grade, tends to be more correlated to equity during times of market distress and volatility.

Credit Considerations



Prepayment/ Call Risk

Borrowers may either become unable to repay borrowed capital or the assessment of their ability to repay borrowed capital may change. This affects the price, value, and yield of a fixed income position.



Credit Risk

A fixed income issuer is sometimes able to call or repurchase a security at their discretion. Alternatively, borrowers may also prepay their required payments before they are due. For an investor, this can rapidly change expectations of an investment. This can affect the price and yield.



Interest Rates

Fixed income prices move in the opposite direction of interest rates, affecting both the yield and ability to find a buyer for a fixed income security.



Inflation

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Liquidity

Liquidity

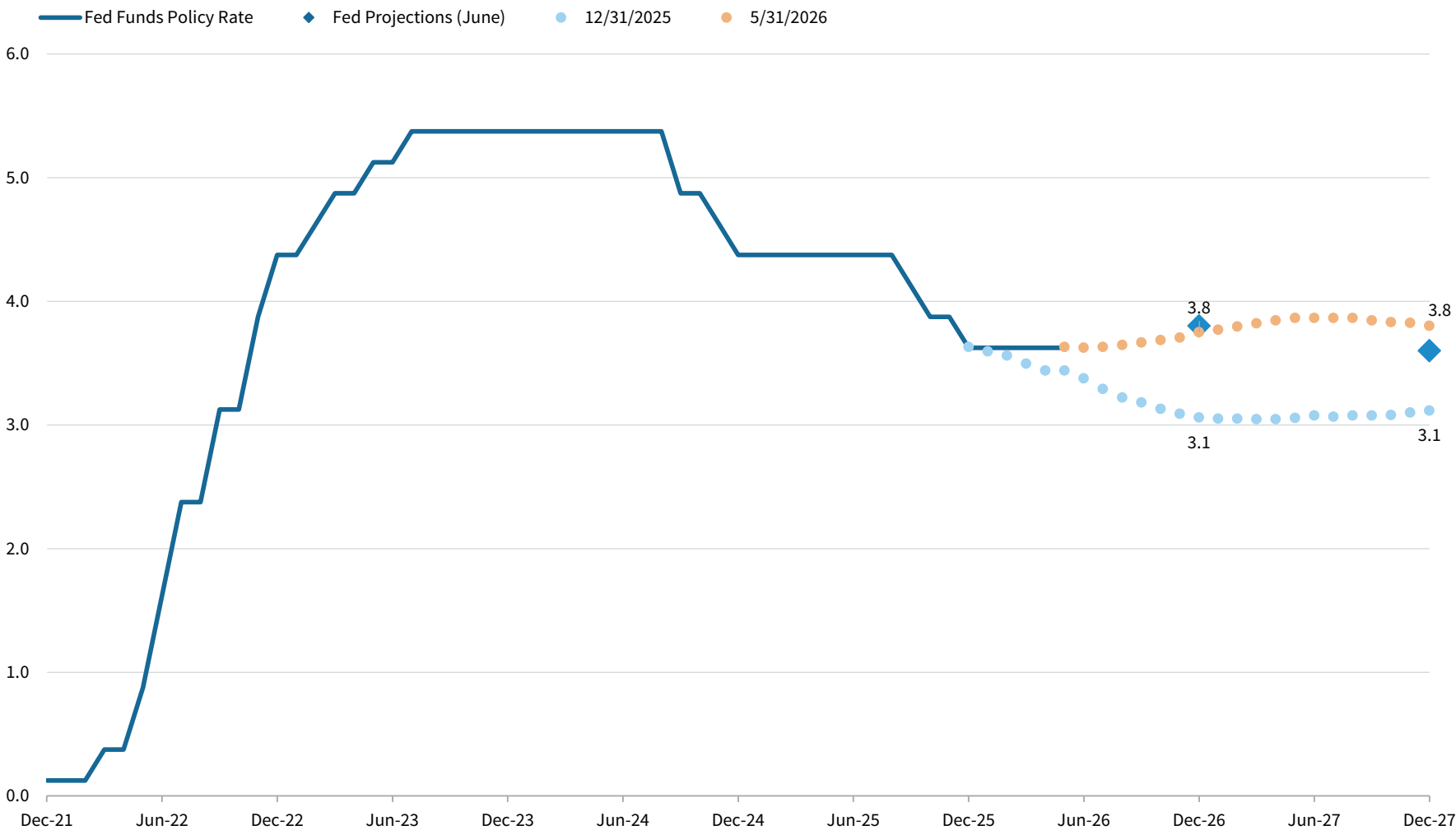
- The role of the Liquidity allocation is to ensure the portfolio can meet near-term cash flow needs — capital calls, distributions, or operating expenses — without being forced to sell longer-term holdings at inopportune times
- Holdings are designed to minimize exposure to price volatility, interest rate risk, and credit risk, with the trade-off of modest returns relative to other asset classes
- Common instruments include:
 - Money market funds — highly liquid, low-risk vehicles investing in short-term government and corporate obligations
 - Savings accounts and bank deposits — FDIC-insured with immediate accessibility
 - Short-duration bond funds and T-bills — slightly higher yield with minimal price risk
 - Higher-yielding cash substitutes (e.g., ultra-short bond funds, floating rate notes) — for portfolios with some appetite for incremental return
- When the economy is strong, Liquidity holdings are likely to lag equities and most fixed income but reliably preserve capital
- When the economy is weak, Liquidity holdings are likely to outperform most risk assets and serve as a stabilizing force in the portfolio

Asset Allocation in Higher Rates

Markets have shifted toward a higher-for-longer Fed outlook

Federal funds policy rate and forward expectations

December 31, 2021 – December 31, 2027 • Percent (%)



Sources: CME Group, Federal Reserve, and Thomson Reuters Datastream.
Note: Market data is based on fed funds futures contracts.

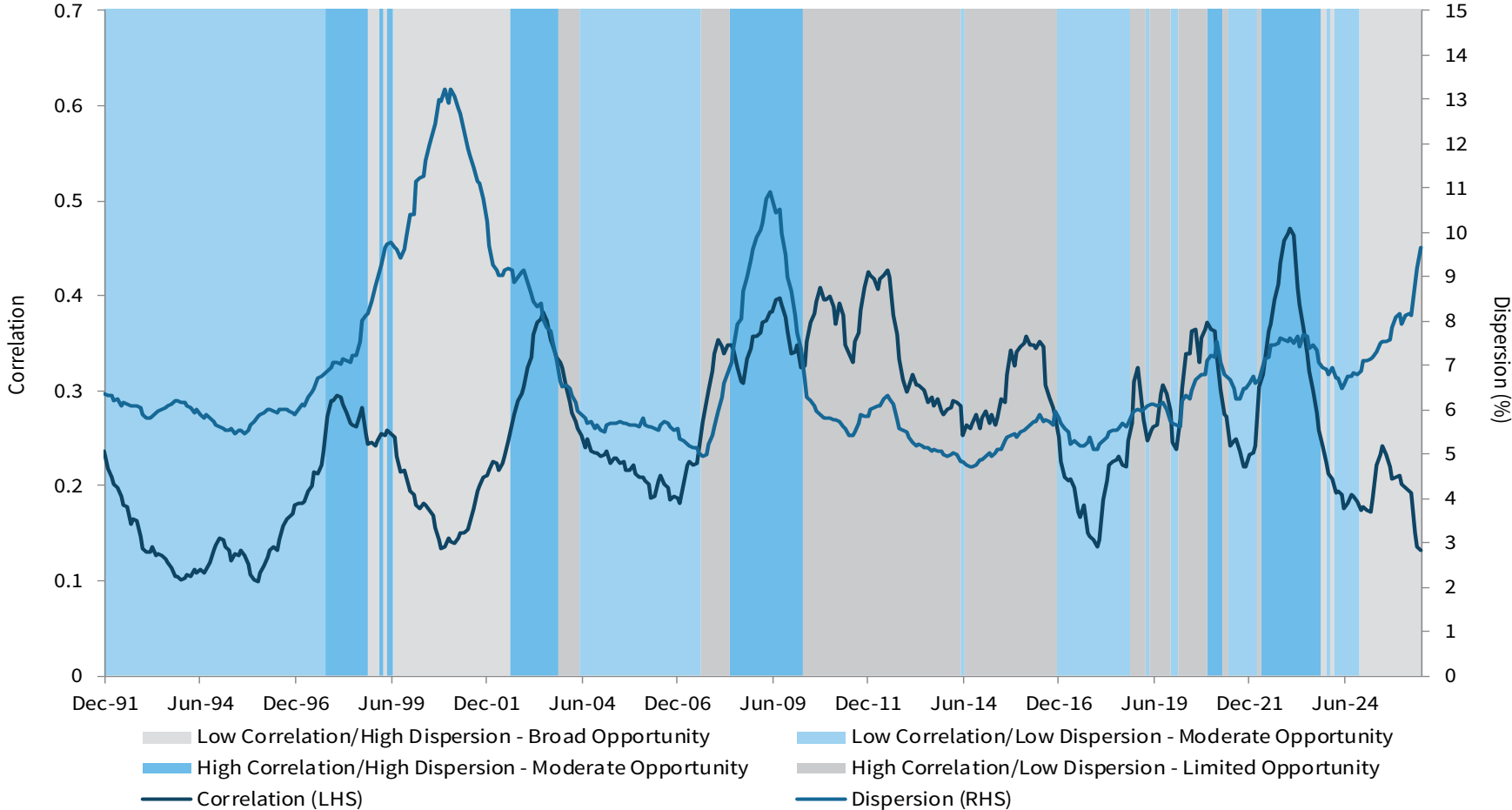
Higher Rates for Longer: Impact on Portfolios

Asset Class	Potential impact	Potential Implementation
Diversifiers	Continued source for higher uncorrelated returns	- Maintain full/overweight to lower beta, uncorrelated Diversifiers - Consider exposure to opportunistic areas (e.g. credit, bridge financing, rail car leasing)
U.S. Equities	- Stretched valuations in Magnificent 7 / FAANG+ - Given the environment, higher volatility driven by increased risk surrounding future earnings	- Rebalance overweight positions to neutral - Maintain exposure to active managers where appropriate
Non-U.S. Equities	Tighter monetary policy supported U.S. \$ appreciation, putting pressure on foreign currencies and markets. Going forward, this trend could reverse	- Rebalance underweight positions - Maintain geographic diversification within portfolio
Fixed Income	Attractive risk/reward within Fixed Income	- Rebalance underweight positions - Revisit duration - Focus on high quality bonds
Private Equity	Slower deployment of capital, extended periods of markdowns	- Continue consistent commitment pacing - Take advantage of increased access to high conviction managers - Focus on managers that demonstrate operational skill and add real value - Consider exposure to secondaries

Greater dispersion, higher volatility and lower correlations create a broader opportunity set for active managers after the Magnificent 7 led rally

Rolling 12-month S&P 500 correlation and dispersion

December 31, 1991 – June 30, 2026



Source: Standard & Poor's.

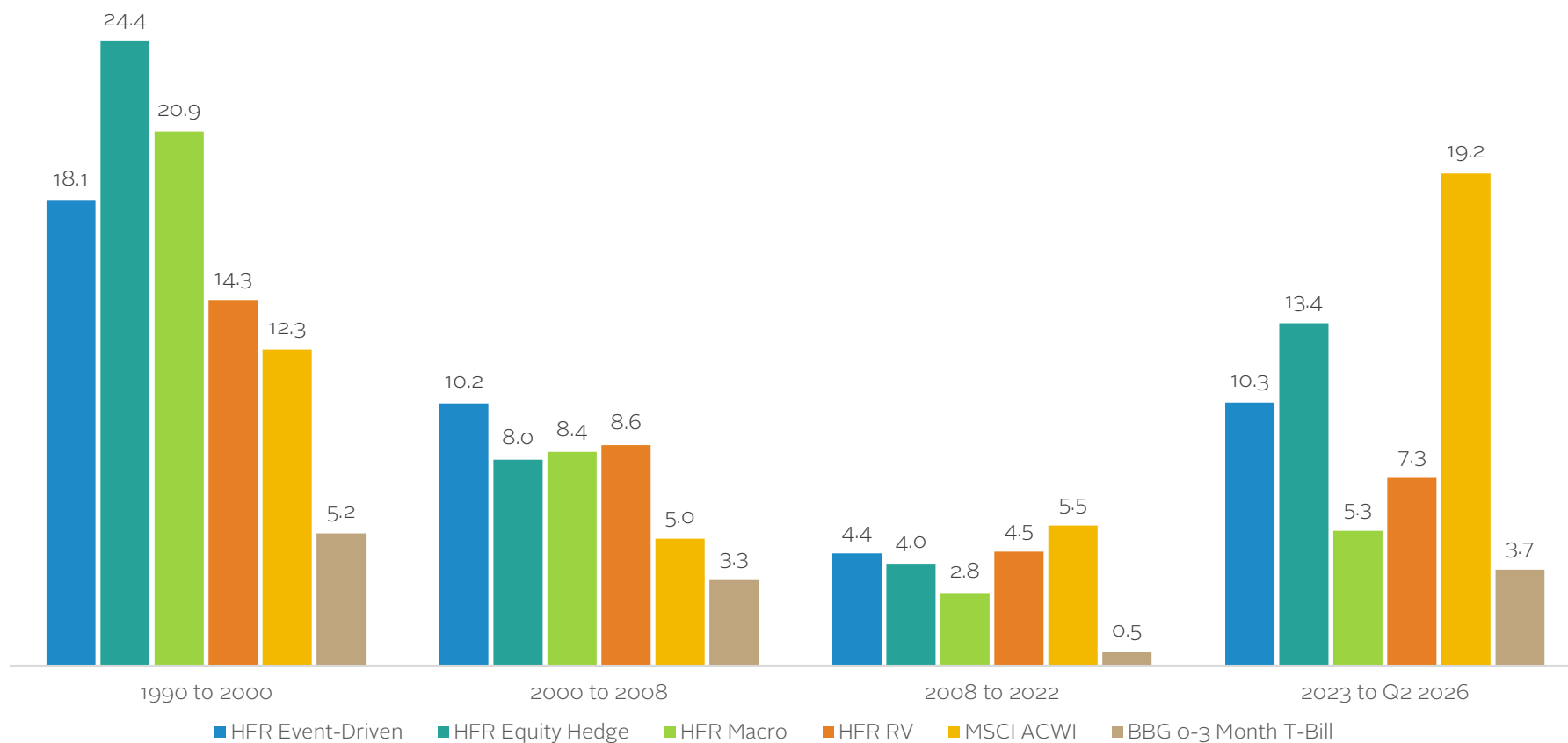
Notes: Correlation is calculated as the weighted average pair-wise correlation across the stocks in the index over one month. Dispersion is calculated as the weighted cross-sectional standard deviation of the performance of stocks within the index during one month. Lines are 12-month moving average. "High" and "Low" are based on above or below long-term historical average correlation and dispersion (0.3 and 6.8%, respectively).

6045m

Higher interest rates should lead to an increase in the expected returns of hedge fund portfolios, partly due to the increased short rebate (i.e. the interest return on collateral).

ASSET CLASS INDEX RETURNS GIVEN DIFFERENT RATE ENVIRONMENTS

USD



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