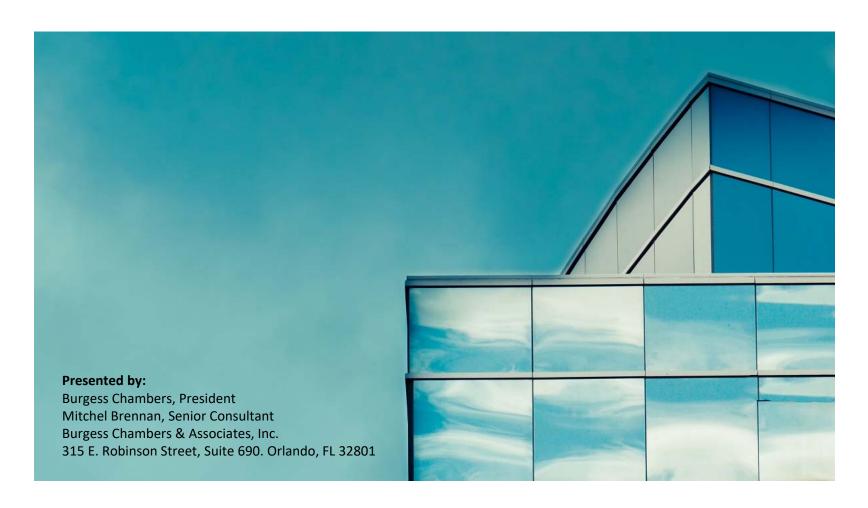


PUBLIC PENSION INVESTMENT OVERVIEW

FPPTA - CEU

September 2024

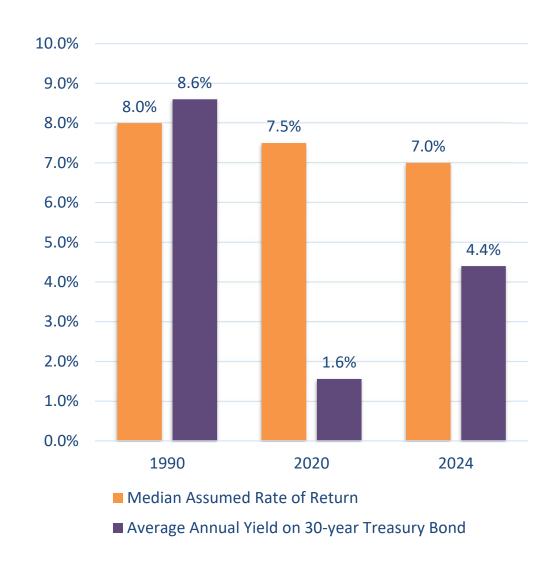


BACKGROUND

Pension plans were designed to achieve an expected rate of return with a high degree of probability.

When fixed income securities produced a yield above the assumed rate of return, pension plans invested mostly in fixed income assets.

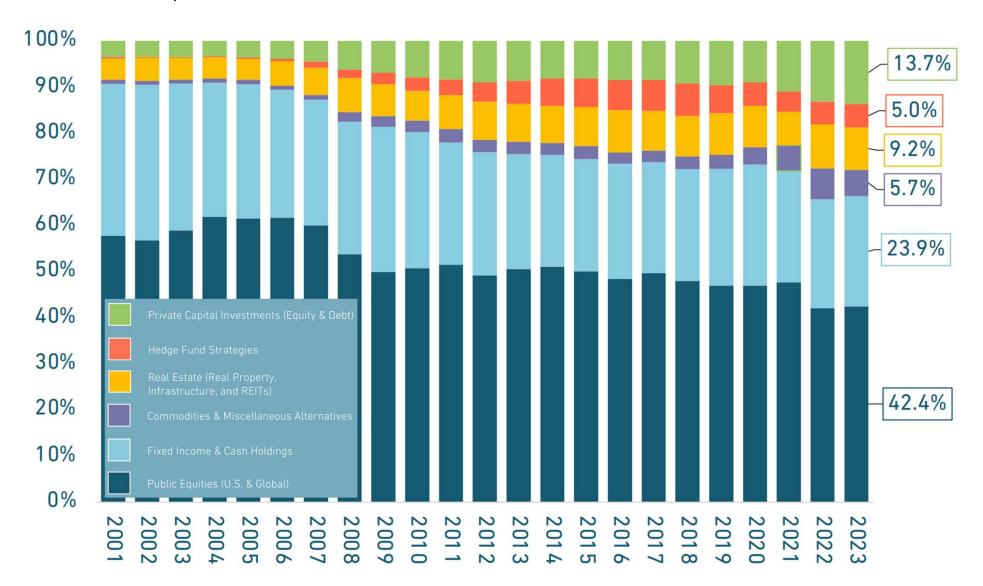
In contrast, the low interest environment from the 2010s through 2022 forced pension plans into risk-on assets, to achieve the expected rate of return. Lower assumption rates and higher yields reduced the gap with assumption rates, allowing pensions to actively derisk portfolios back to bonds.



ASSET ALLOCATION

Lower interest rates forced investors to diversify further into alternatives.

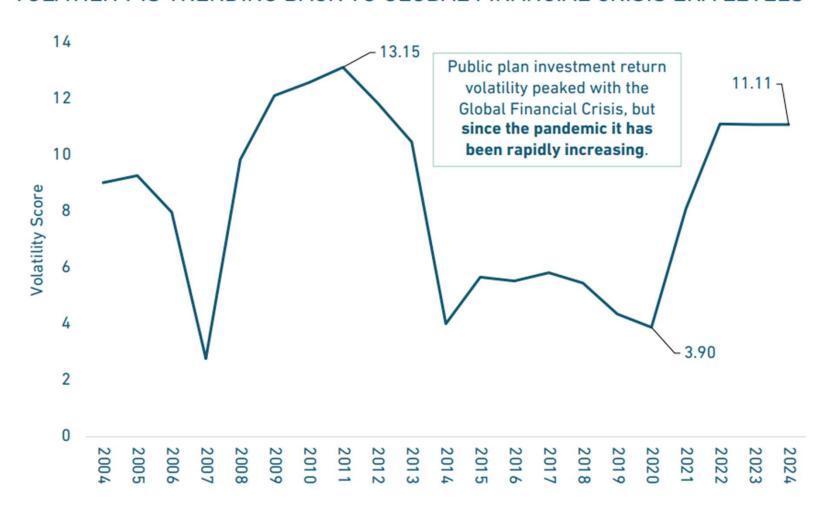
Most portfolios today are made up of 70% risk on (equity and alternatives) and 30% risk off (bonds and alternatives) assets.



VOLATILITY

Higher allocation toward "risk-on" and "alternative" assets translates into higher volatility.

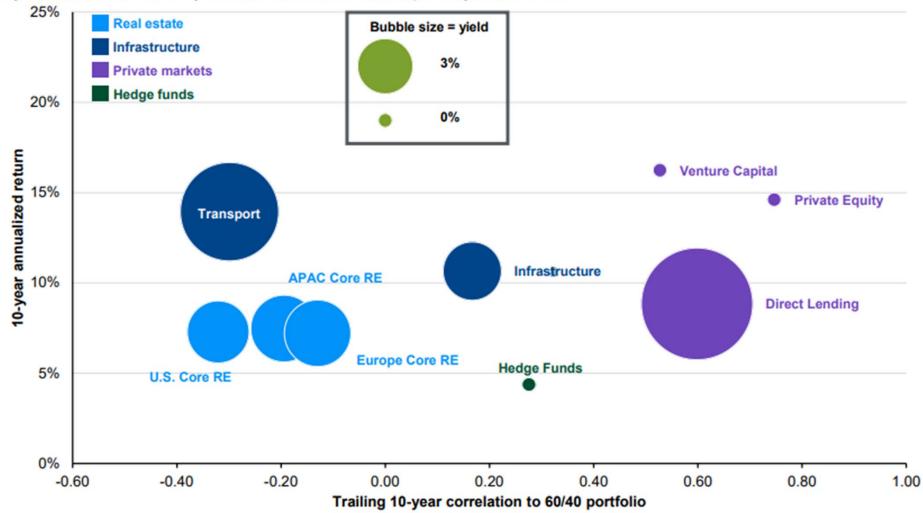
INCREASING ANNUAL INVESTMENT RETURN VOLATILITY VOLATILITY IS TRENDING BACK TO GLOBAL FINANCIAL CRISIS ERA LEVELS



ASSET ALLOCATION

Correlations, returns and yields

10-year correlations and 10-year annualized total returns, quarterly, 2014 - 2023



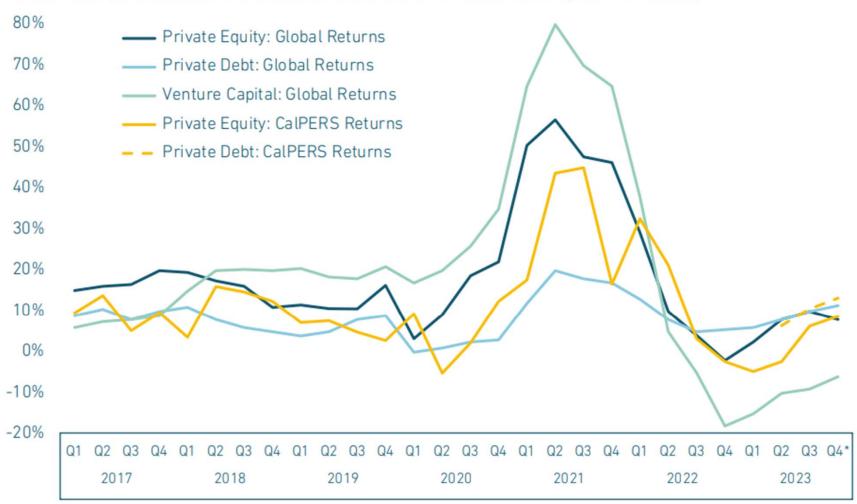
• Diversification doesn't always lower plan risks. Private equity programs have a high correlation to traditional allocations like the 60/40.

ALTERNATIVE INVESTMENTS

Lower interest rates inflated valuations. Higher interest rates collapsed them.

VOLATILITY IN PRIVATE CAPITAL RETURNS





VALUATION RISK

The share of pension fund investments reported based on valuation methods instead of market prices has increased sharply over the past decade, meaning an increasing share of pension portfolios are exposed to the risk of being overpriced.

- Lack of transparency in valuation-priced asset classes like private equity and private real estate exacerbates concerns about valuation risk.
- Increased volatility in investment returns also adds to concerns about the extent pension fund assets are exposed to valuation risk.

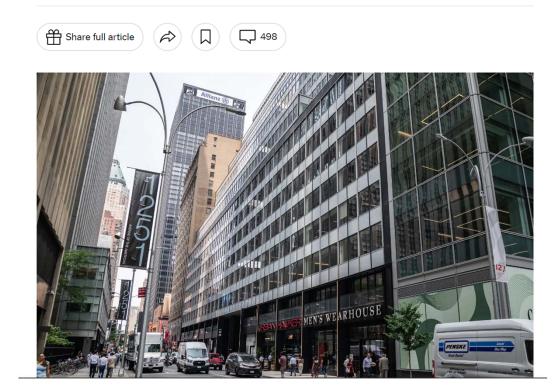
Overstated portfolio values for asset classes like private capital and real estate can lead to significant unfunded liability problems in the future.

Example: Consider that general partners managing a private equity fund often value their
portfolio companies using the valuation of a recent funding round, which may or may not
reflect an overstated price agreed to by a small set of exuberant investors. This potentially
pricing approach can lead to an overstated valuation of a pension fund's limited partner share
in that private equity fund, which in turn can lead to reporting overvalued assets. This may
translate to lower contribution rates than otherwise would be appropriate.

The New Hork Times

This 23-Floor Manhattan Office Building Just Sold at a 97.5% Discount

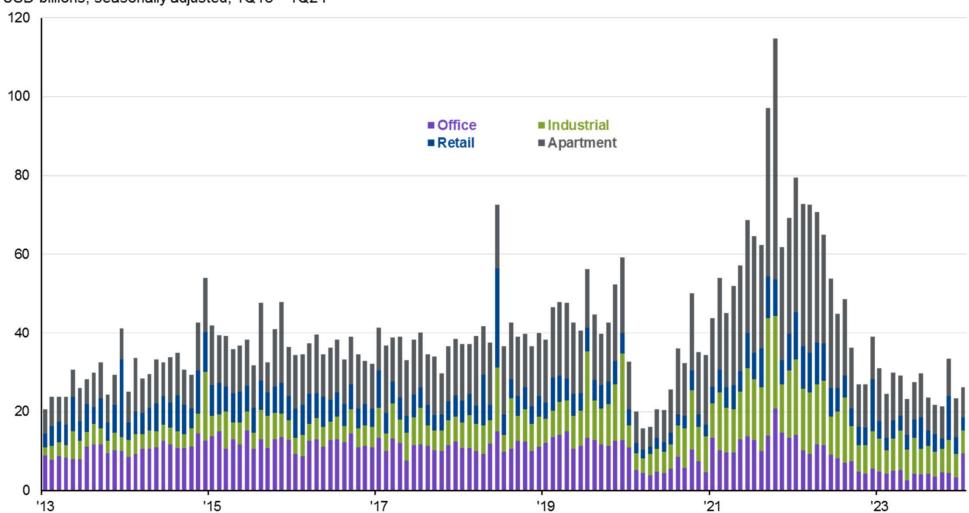
The sale price of 135 West 50th Street in Midtown, which is only 35 percent full, was a sign of how much the pandemic upended the market for office buildings in New York City.



In August UBS auctioned off a Manhattan office building to a single bidder for \$8.5 million. The building previously sold in 2006 for \$332 million.

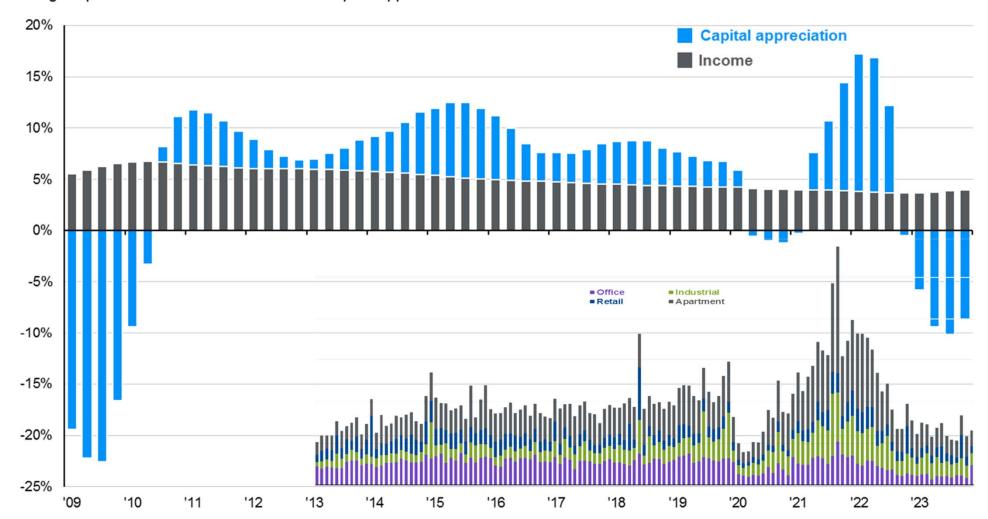
U.S. real estate transaction volumes

USD billions, seasonally adjusted, 1Q13 - 1Q24



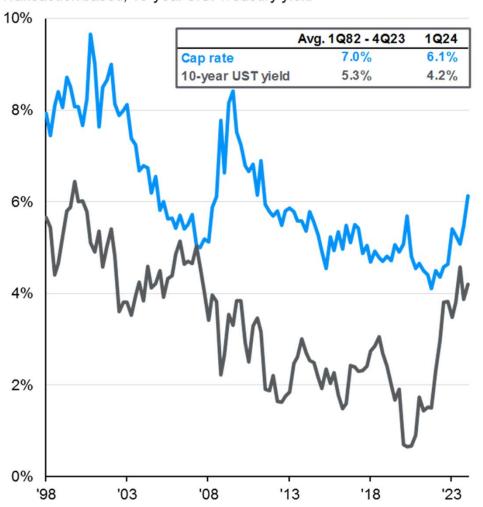
Global private real estate returns

Rolling 4-quarter returns from income and capital appreciation



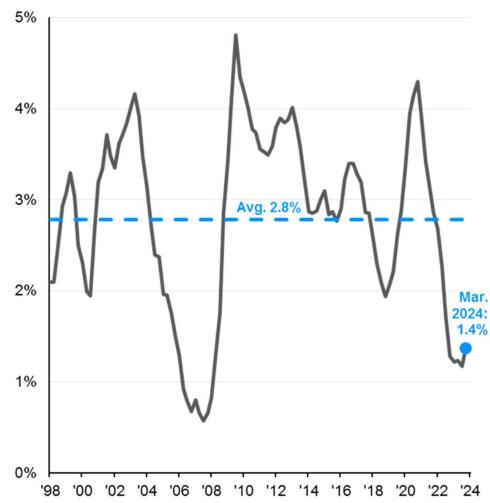
U.S. real estate cap rates and interest rates

Transaction based, 10-year U.S. Treasury yield



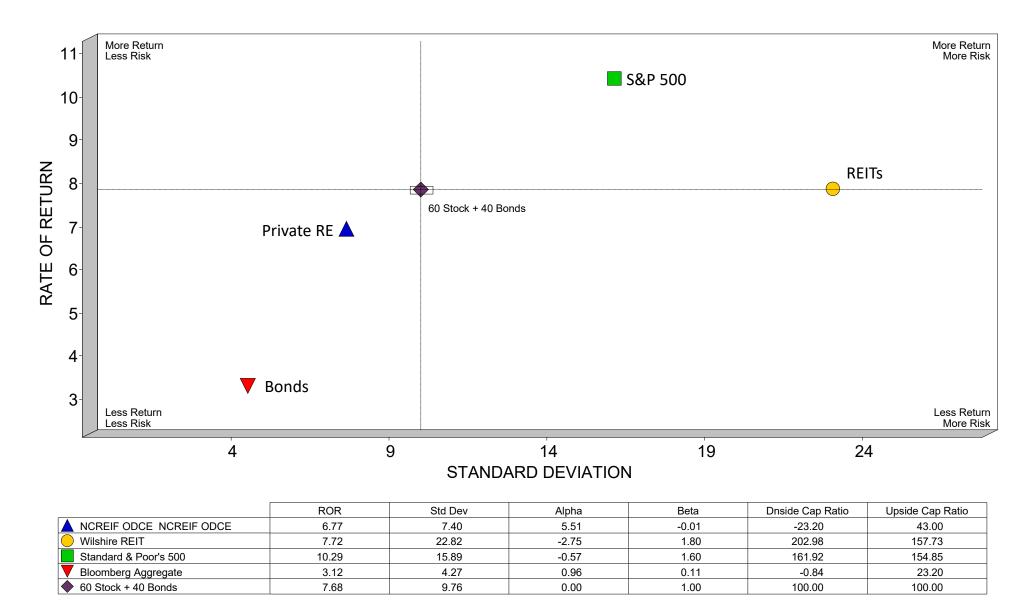
U.S. real estate cap rate spreads

Transaction based, spread to 10y UST, 4-quarter rolling average



REAL ESTATE [PRIVATE VS. PUBLIC]

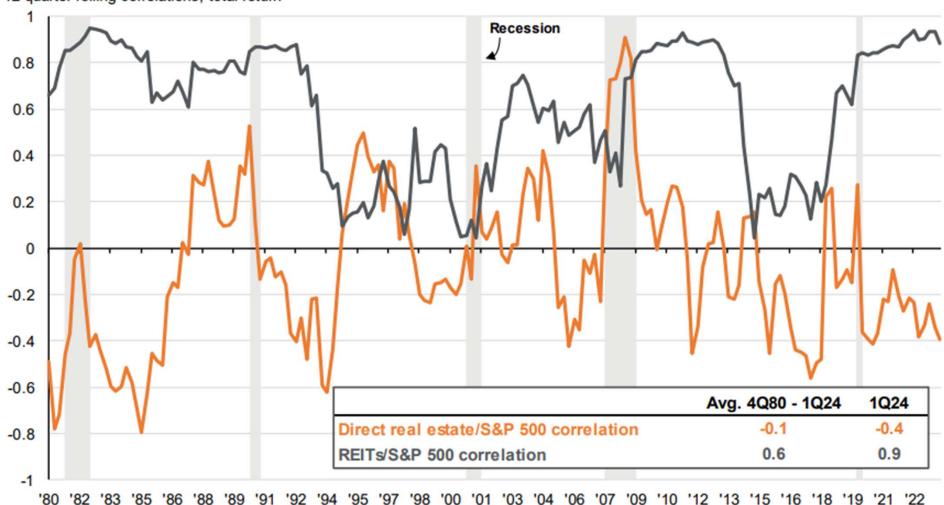
JUNE 30, 2004 TO JUNE 30, 2024



REAL ESTATE [PRIVATE VS. PUBLIC]

U.S. REITs, direct real estate and equities

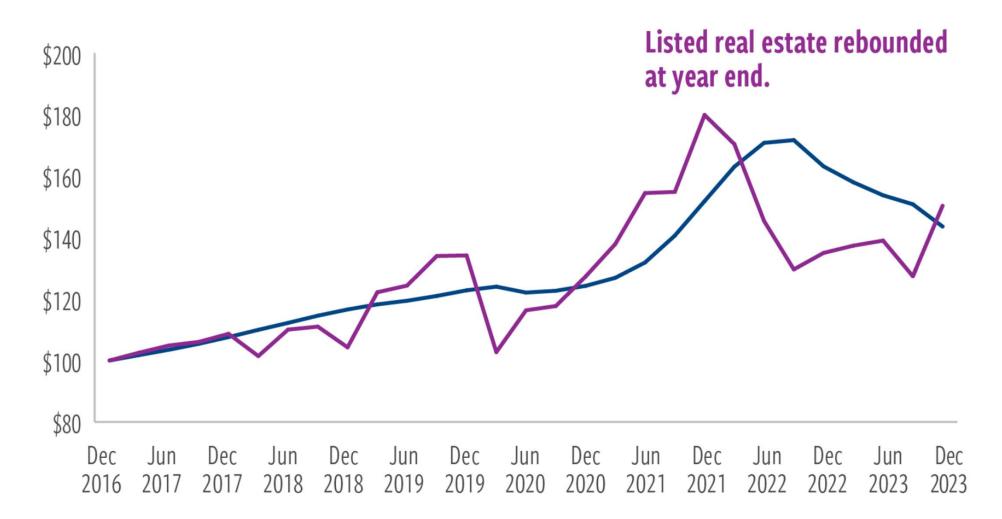
12-quarter rolling correlations, total return



REAL ESTATE [PRIVATE VS. PUBLIC]

REITs rebounded to end 2023, potentially indicating that a bottoming in Private Real Estate valuations may come by the end of 2024 or early 2025.

— NCREIF ODCE Index (Private) — FTSE Nareit All Equity REITs Index (Listed)



INTEREST RATES

1%

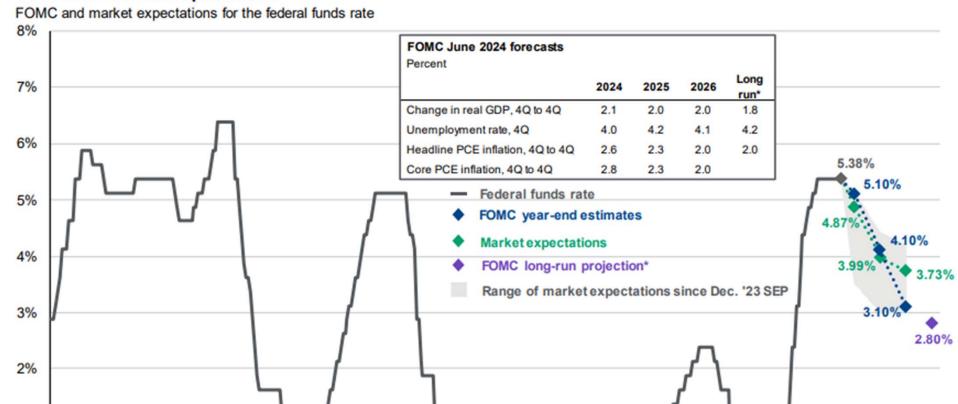
0%

'93

'95

'97

Federal funds rate expectations



'99

'01

'03

'05

'07

'09

'11

'13

'15

'17

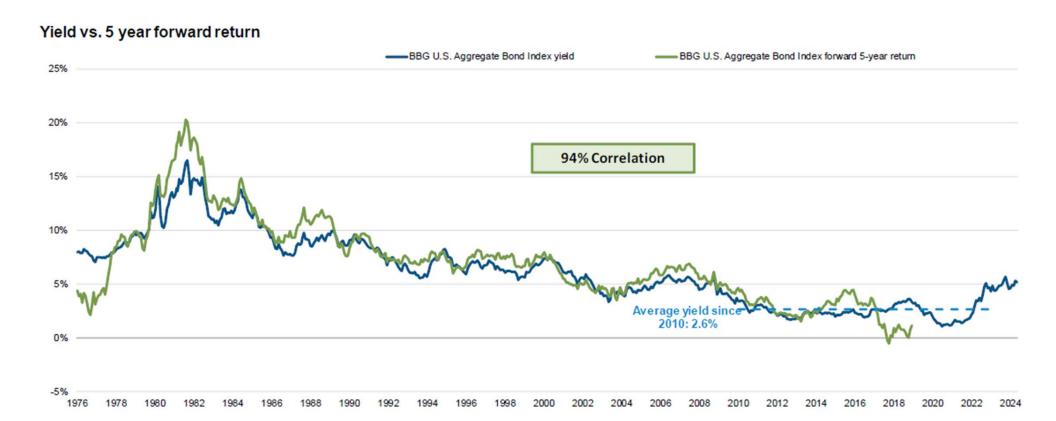
'19

'21

'23

Long run

FIXED INCOME YIELD

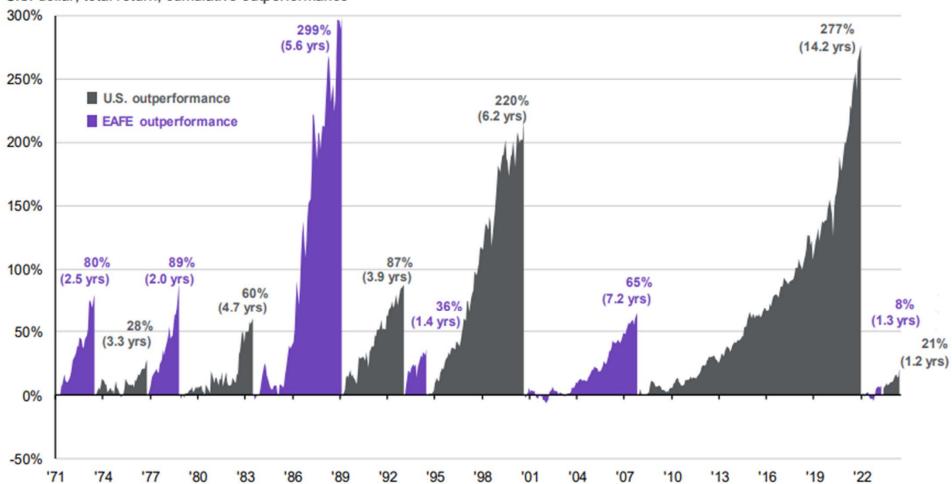


- There is a high correlation between current yield and future returns.
- Bloomberg Aggregate Index yield was 5.0% as of June 30, 2024.

GLOBAL EQUITIES

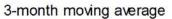
MSCI EAFE and MSCI USA relative performance





CURRENCY VOLATILITY

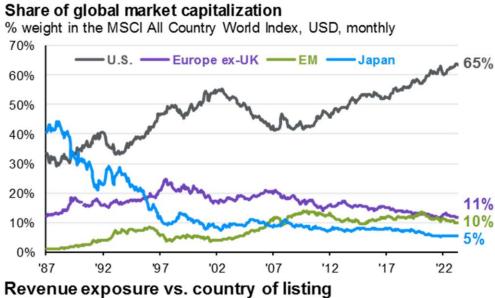
U.S. dollar and interest rate differentials



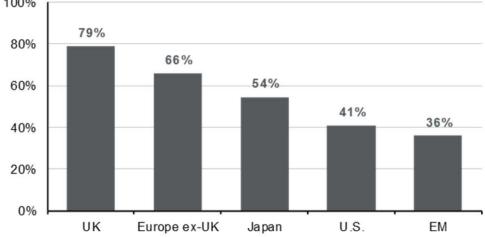


CURRENCY VOLATILITY

Returns	YTD	2024	2023		15-y	ears
	Local	USD	Local	USD	Ann.	Beta
Regions						
U.S. (S&P 500)	-	16.7	÷	26.3	14.4	1.0
AC World ex-U.S.	12.3	8.5	14.7	16.2	6.2	1.0
EAFE	12.4	8.9	16.8	18.9	6.8	1.0
Europe ex-UK	11.0	7.9	17.3	22.7	7.4	1.2
Emerging mark ets	11.9	8.1	10.3	10.3	4.5	1.0
Selected Countries						
Japan	20.2	12.6	29.0	20.8	6.5	0.7
United Kingdom	10.6	11.4	7.7	14.1	6.2	1.0
France	3.0	0.9	18.1	22.3	7.3	1.2
Canada	12.3	7.2	13.3	16.4	6.3	1.1
Germany	10.6	8.4	19.8	24.0	6.3	1.3
China	3.8	3.5	-10.6	-11.0	2.0	0.9
Taiwan	33.1	24.3	31.1	31.3	12.6	1.0
India	22.6	21.8	22.0	21.3	8.6	0.9
Brazil	-4.0	-17.5	22.7	33.4	0.4	1.3

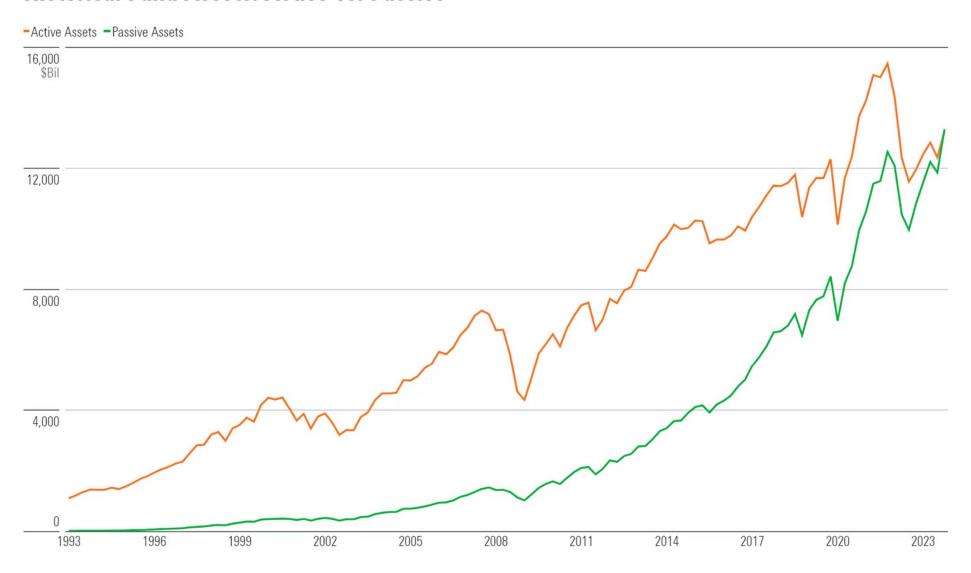






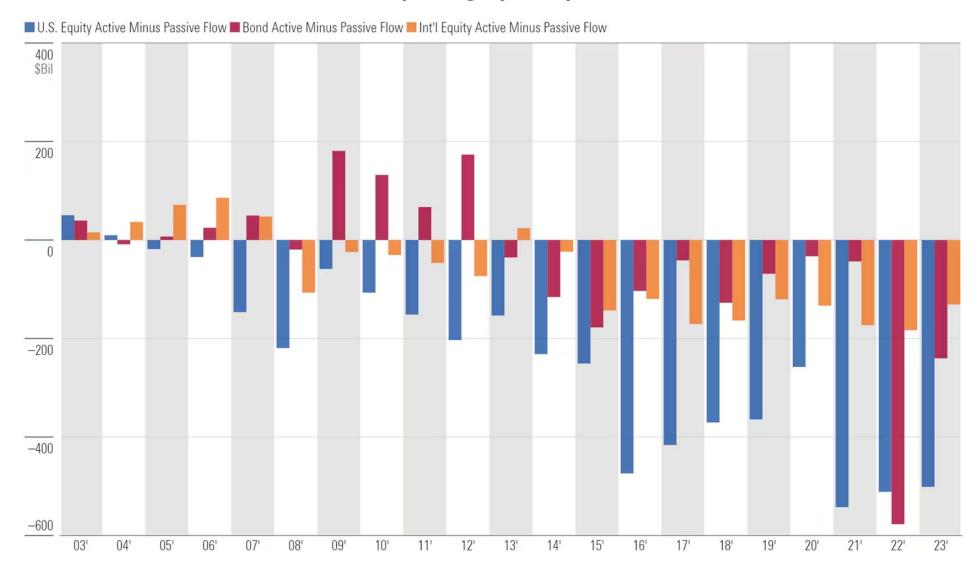
ACTIVE VS. PASSIVE

Historical Fund Assets: Active vs. Passive

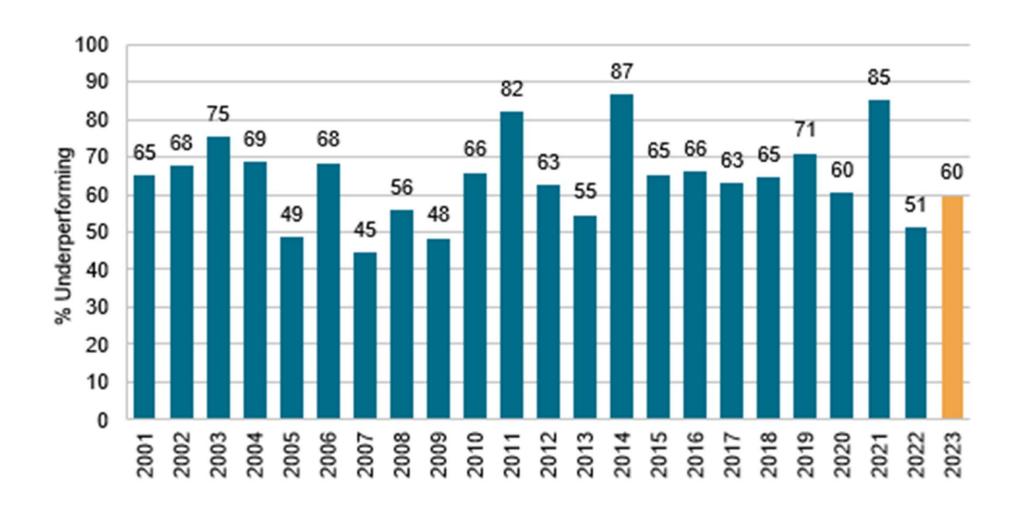


ACTIVE VS. PASSIVE

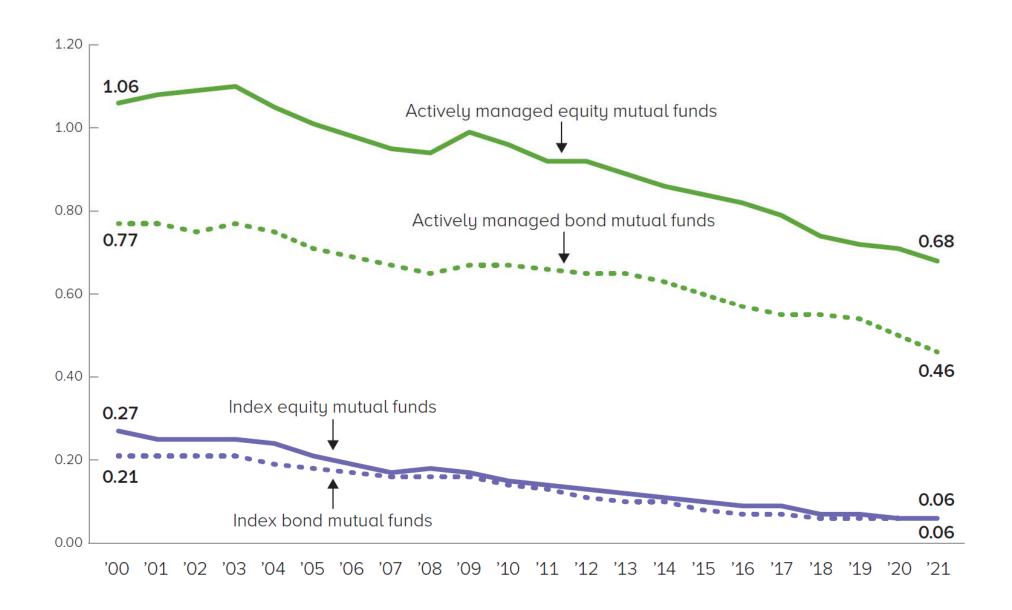
Historical Active vs. Passive Flows by Category Group



ACTIVE VS. PASSIVE [OUTPERFORMANCE]



ASSET MANAGEMENT FEES



ACTIVE VS. PASSIVE [FRS ILLUSTRATION]

Asset Class	Active As % of Asset Class	Passive As % of Asset Class	Internal As % of Asset Class	External As % of Asset Class	As % of Total Fund
Cash ¹	85.4%	14.6%	100.0%	0.0%	1.3%
Fixed Income ²	55.6%	44.4%	64.3%	35.7%	16.1%
Global Equity ³	50.1%	49.9%	52.2%	47.8%	50.6%
Private Equity	100.0%	0.0%	0.0%	100.0%	9.4%
Real Estate	100.0%	0.0%	66.4%	33.6%	11.2%
Strategic Investments	100.0%	0.0%	0.3%	99.7%	11.4%
Total Fund	67.4%	32.6%	45.5%	54.5%	100.0%

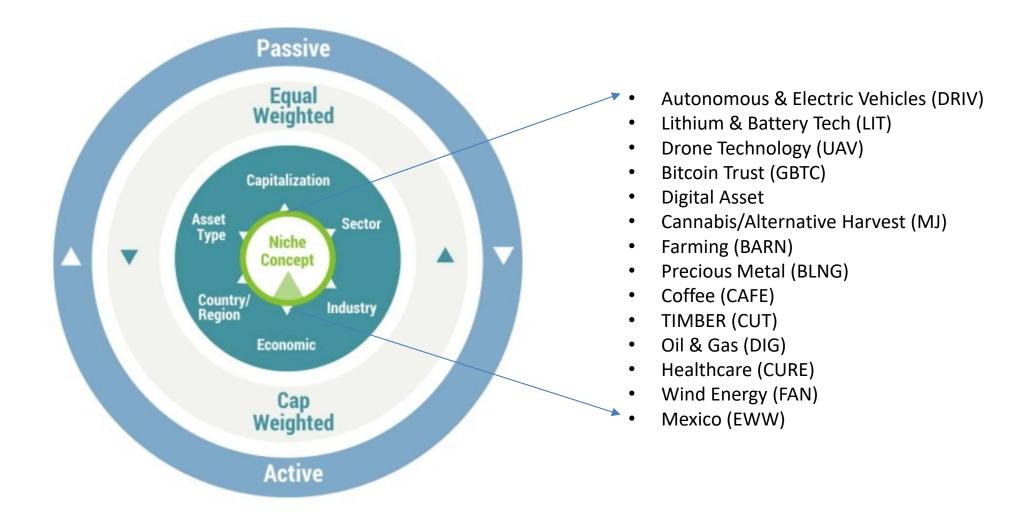
Asset Class	Mar	Active Market Value (in Millions)		Passive Market Value (in Millions)		Internal Market Value (in Millions)		External Market Value (in Millions)		Total Fund Market Value (in Millions)	
Cash ¹	\$	2,053	\$	350	\$	2,402	\$		\$	2,402	
Fixed Income ²		16,668		13,319		19,273		10,714		29,987	
Global Equity ³		47,056		46,891		49,016		44,931		93,947	
Private Equity		17,489				-		17,489		17,489	
Real Estate		20,751				13,769		6,982		20,751	
Strategic Investments		21,133				57		21,076		21,133	
Total Fund	\$	125,150	\$	60,560	\$	84,518	\$	101,191	\$	185,709	

PASSIVE INVESTMENTS [CONCENTRATION]





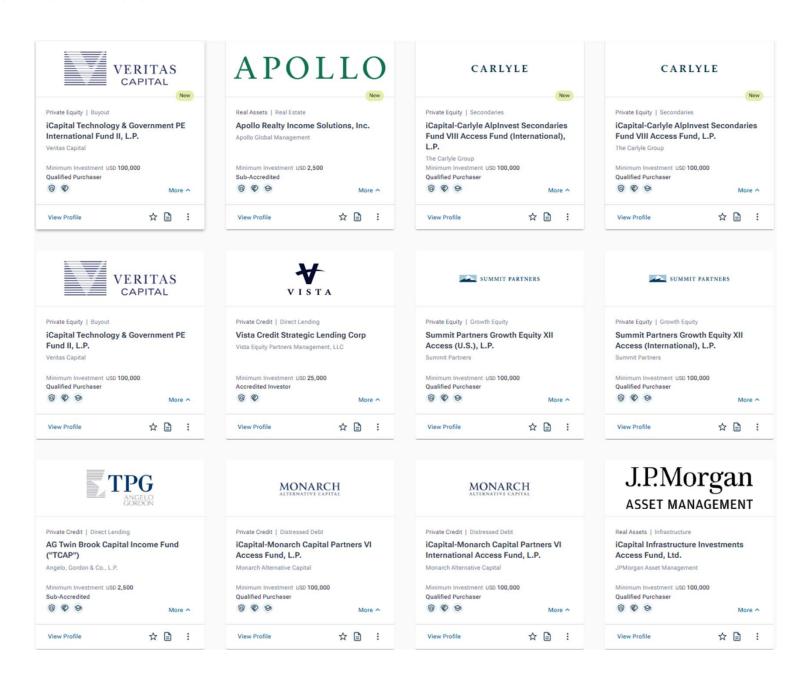
NICHE INVESTMENTS



- Index funds are becoming more niche, but not all funds have experienced similar success.
- Cathie Wood, CEO of ARK Invest, closed her Transparency ETF (CTRU) after 7 months.

ALTERNATIVE VEHICLES

- Private fund managers are exploring different ways to unitize their fund, offering partial "liquidity" to investors.
- Different share classes may be available to meet the need of smaller institutions / private wealth investors.



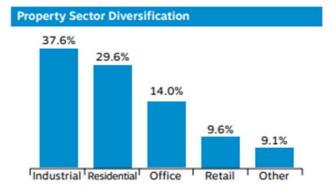
ALTERNATIVE VEHICLES [NCREIF-ODCE]

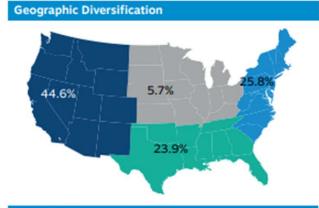
 USQ created an interval fund to construct an index-like strategy that replicates the NCREIF-ODCE index.

USQ Core Real Estate Fund

Fund Facts						
	Ticker	CUSIP	Inception date	Investment Minimum*	12b-1 Fee	Net Expense Ratio
Class I Shares	USQIX	90351Y101	9/27/2017	\$25,000	None	1.42%

Portfolio Holdings	
CBRE U.S. Core Partners	12.1%
Madison Core Property Fund	10.0%
Clarion Lion Properties Fund	8.9%
TA Realty Core Property Fund	5.6%
Strategic Property Fund	5.4%
Smart Markets Fund	5.3%
Bailard Real Estate Investment Trust	5.2%
CIM Urban Income Investments	5.1%
GWL US Property Fund	5.0%
PRISA	4.8%
BlackRock US Core Property Fund	4.0%
ASB Allegiance Real Estate Fund	3.9%
AEW Core Property (U.S.)	3.9%
Barings Core Property Fund	3.4%
Prime Property Fund	3.0%
U.S. Real Estate Investment Fund	2.7%
BGO Daily Value Fund	2.6%
ARA Core Property Fund	2.4%
RREEF America II	2.0%
BGO Diversified US Property Fund	1.3%
MetLife Core Property Fund	1.2%
PGIM Retirement Real Estate Fund II	0.9%
Trumbull Property Fund	0.9%
U.S. Real Property Income Fund	0.6%
Total Portfolio	100%





Portfolio Characteristics	
Number of Properties	2,883
Gross Asset Value	\$244.9B
Underlying Leverage (Weighted Average)	28.5%
Occupancy Rate	91.7%

SUMMARY POINTS

- Time to de-risk?
- Alternatives: Volatility and Valuation Risk.
- Real Estate: Private, REIT, Bottoming Valuations?
- Interest Rates and Bond Returns.
- Global Equities: Currency Impacts.
- Active vs. Passive.
- Passive Risks: Concentration and Niche.
- Alternative Vehicles.

THANK YOU