

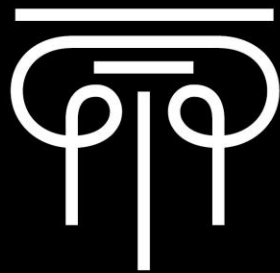
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August 2024

# Private markets should be used to replace public equities.

Matthew Michelini

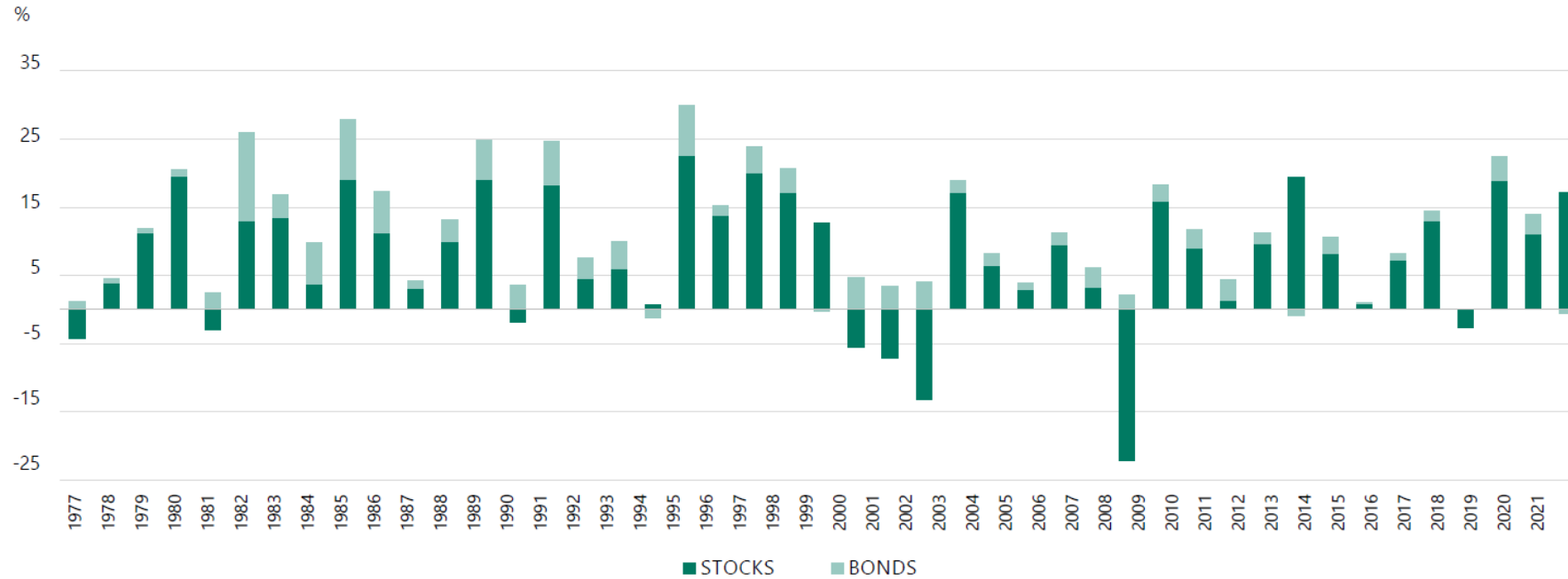
Partner & Head of Asia Pacific, Apollo Global  
Management (Singapore)



Portfolio  
Construction  
**Forum**

# What role did equities play in a portfolio?

Performance of a 60/40 investment portfolio (1977–2021)



Stocks (1977-2021)	
Annualized Return	Annualized Volatility
10.2%	16.1%

## 1. Diversification

~8,000 US-listed companies<sup>1</sup> in 2000, well-diversified industry mix

## 2. Liquidity

Highly liquid market

## 3. Complement to Fixed Income

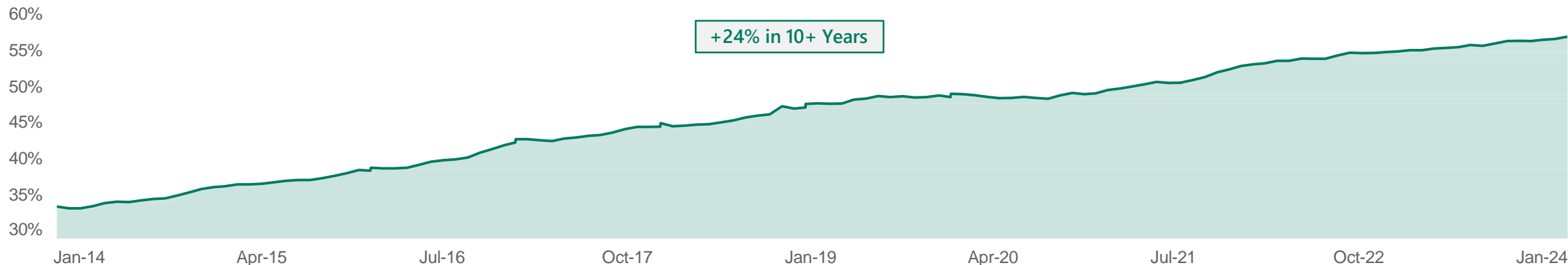
Negative correlation between equities and bonds

Data as of December 2021. Equity represented by the S&P 500 Index. Bonds represented by the Bloomberg US Agg Total Return Value Unhedged USD. 60/40 portfolio composed of 60% equity benchmark and 40% bond benchmark. Index performance data is shown for illustrative purposes only and has limitations when used for comparison or for other purposes. Past performance of indices are not indicative of future performance or any strategy or fund. Please refer to the Legal Disclaimer for additional information on the use of indices. Source: Bloomberg, Apollo Chief Economist as of December 2021. 1. WFE, PitchBook and World Bank as of December 2023.

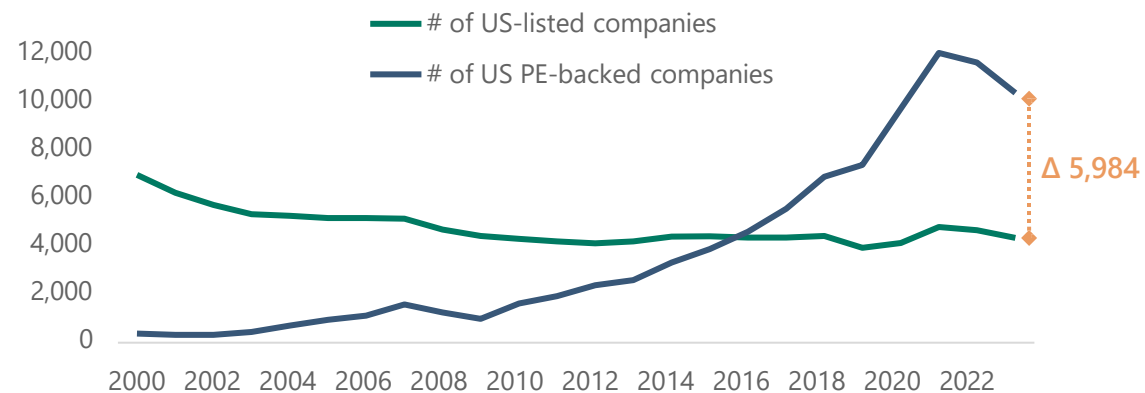
# Diversification: Public equity markets are structurally different today

## INDEX FUNDS TAKING OVER<sup>1</sup>

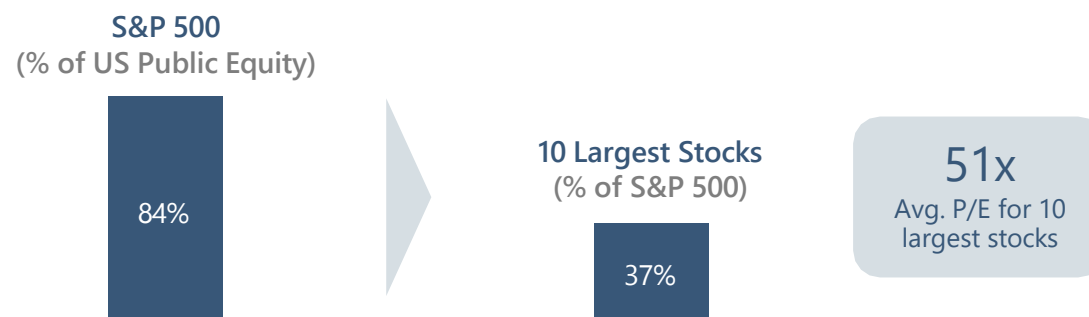
% Share of Equity Funds



## PRIVATE EQUITY LARGER THAN PUBLIC EQUITY<sup>2</sup>



## HIGH CONCENTRATION IN PUBLIC EQUITIES



Source: Bloomberg, S&P LCD and Apollo Chief Economist as of June 30, 2024, unless otherwise stated. Note: Based on the views and opinions of Apollo Analysts. Subject to change at any time without notice. There can be no assurances that any of the trends described herein will continue or will not reverse. Past events and trends do not imply, predict or guarantee, and are not necessarily indicative of future events or results. Index performance data is shown for illustrative purposes only and has limitations when used for comparison or for other purposes. Past performance of indices are not indicative of future performance or any strategy or fund. Please refer to the Legal Disclaimer for additional information on the use of indices. 1. As of May 2024. 2. Source: WFE, PitchBook and World Bank as of December 2023.

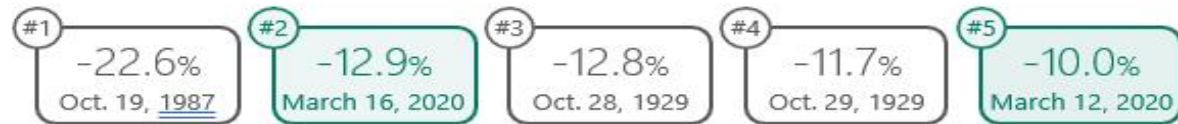
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## Liquidity: Typically exists on the way up, but not on the way down

### Dow Plummets Nearly 3,000 Points as Virus Fears Spread

U.S. stocks drop sharply, while bond yields plummet again, despite Fed stimulus efforts

Dow's Largest Single Day Declines (Since Dow began in 1896)<sup>1</sup>:



### Coronavirus Triggers the Worst Market Crash Since 1987

The historical comparisons are getting ugly.

### UK equities no longer a 'must own' asset class, shareholder group warns

Investor Forum says decline in market's relevance over past 25 years has been 'breathtaking'

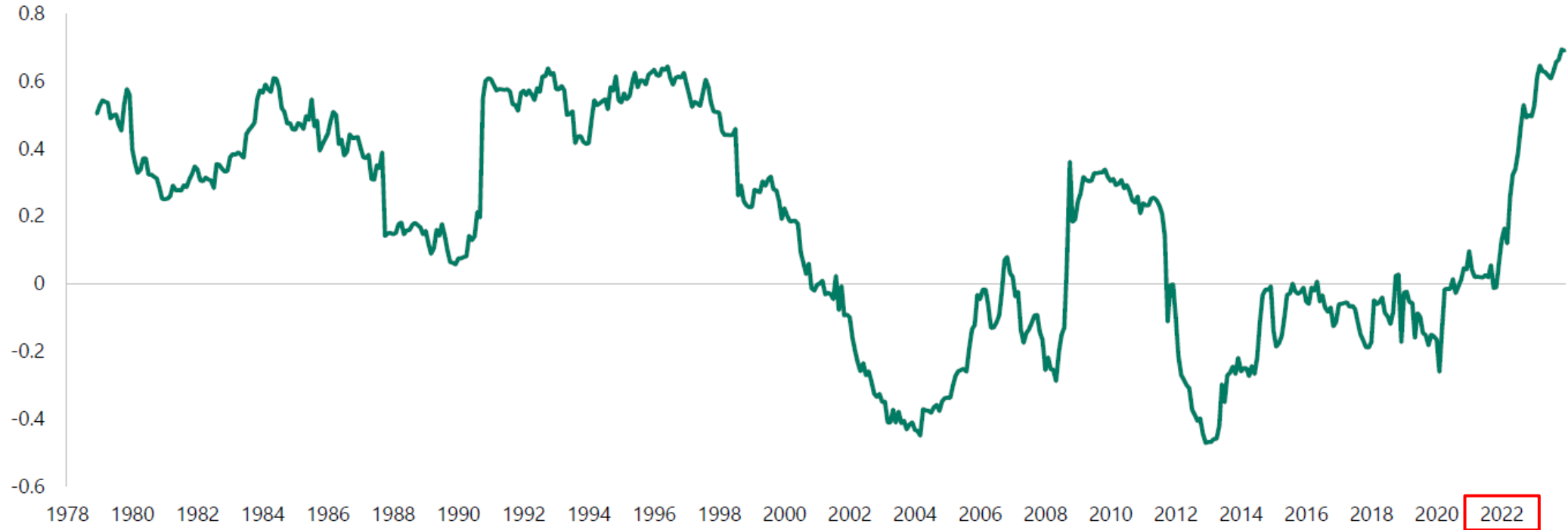
- As of 12 Aug, S&P's top book liquidity was ~\$5M.
- This marks a sharp decline from \$26M in July, representing an **80% drop** in the liquidity of the world's leading equity instrument **within just three weeks**.

Source: Goldman Sachs FICC and Equities Futures Markets Strats team, as of 8/12/24. There can be no assurances that any of the trends described herein will continue or will not reverse. Past events and trends do not imply, predict or guarantee, and are not necessarily indicative of future events or results. Index performance data is shown for illustrative purposes only and has limitations when used for comparison or for other purposes. Past performance of indices are not indicative of future performance or any strategy or fund. Please refer to the Legal Disclaimer for additional information on the use of indices. 1. Source: S&P Global as of July 2024

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# Correlation: Historical correlations between equities and bonds hit a snag when the Fed changed the monetary regime

Rolling three-year correlations between stocks and bonds



Performance of a 60/40 investment portfolio in 2022 (% YoY)		
Stocks	Bonds	60/40 (Stocks and Bonds)
-18.1%	-13.0%	-16.1%

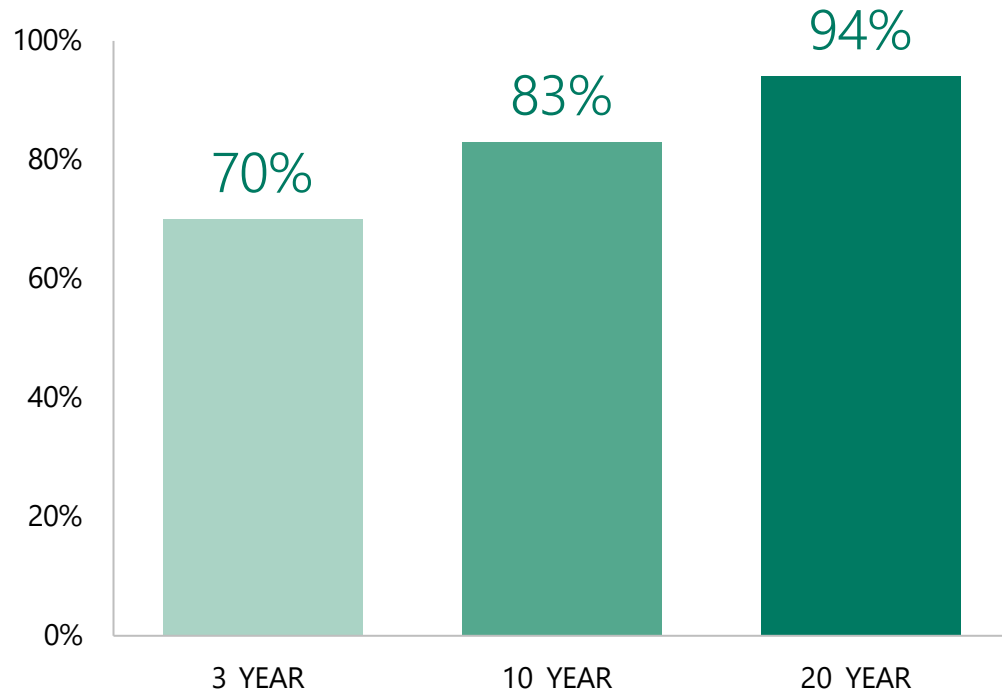
Data as of December 2022. Equity represented by the S&P 500 Index. Bonds represented by the Bloomberg US Agg Total Return Value Unhedged USD. 60/40 portfolio composed of 60% equity benchmark and 40% bond benchmark. Sources: Bloomberg, Apollo Chief Economist. There can be no assurances that any of the trends described herein will continue or will not reverse. Past events and trends do not imply, predict or guarantee, and are not necessarily indicative of future events or results. Index performance data is shown for illustrative purposes only and has limitations when used for comparison or for other purposes. Past performance of indices are not indicative of future performance or any strategy or fund. Please refer to the Legal Disclaimer for additional information on the use of indices.

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# Leading to the conclusion that equity markets are beta at best

## EQUITY MARKET UNDERPERFORMANCE<sup>1</sup>

% of managers underperforming the S&P 500



## AVERAGE MANAGEMENT FEE<sup>2</sup>

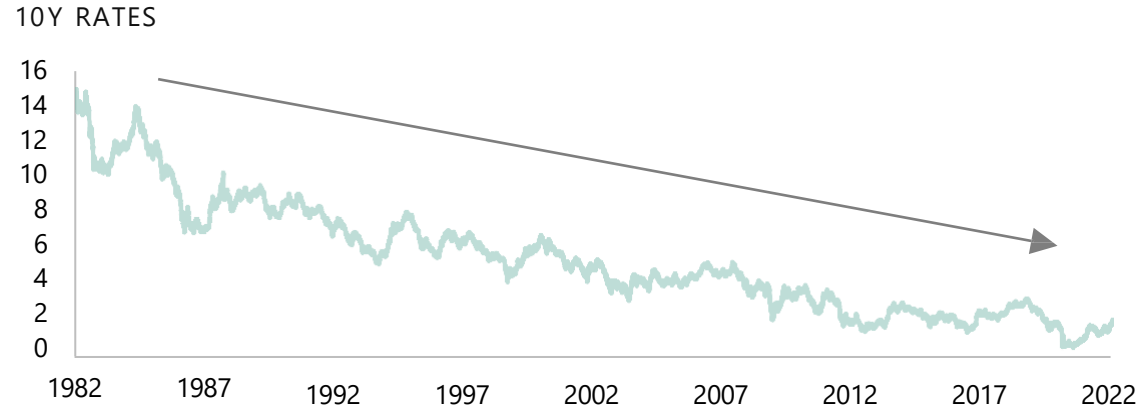
ETFs tracking broad equity market indices (AUM >\$100B)



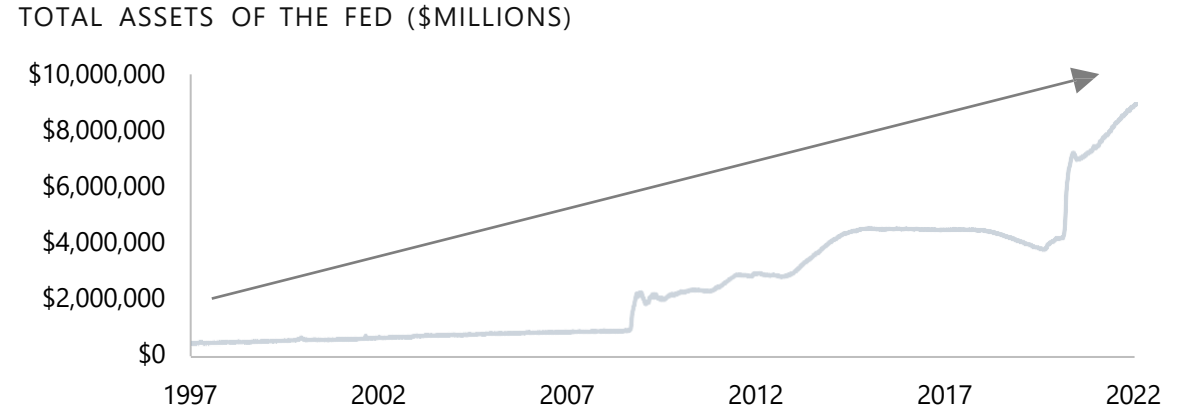
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# Investors did not realize this as they have benefited from macro tailwinds

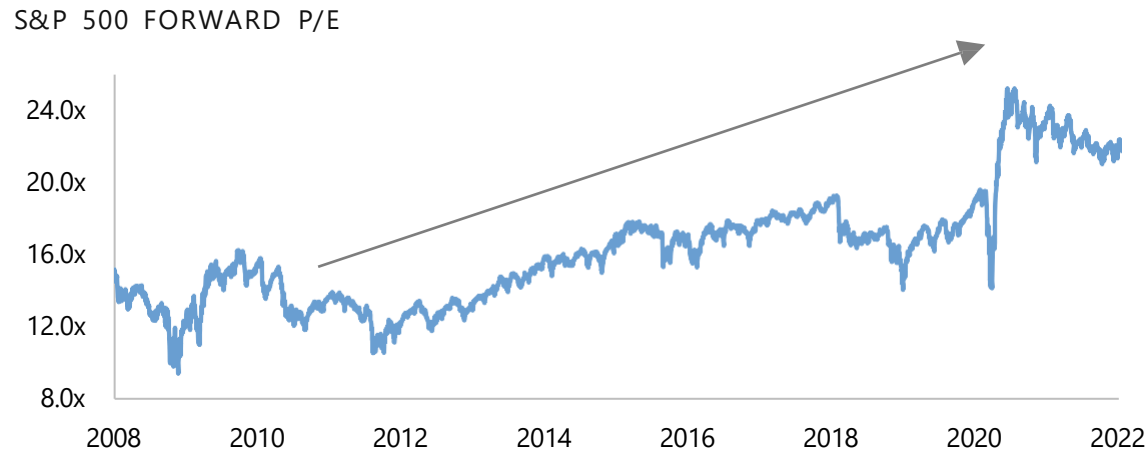
## 40 Year Bull Market in Rates



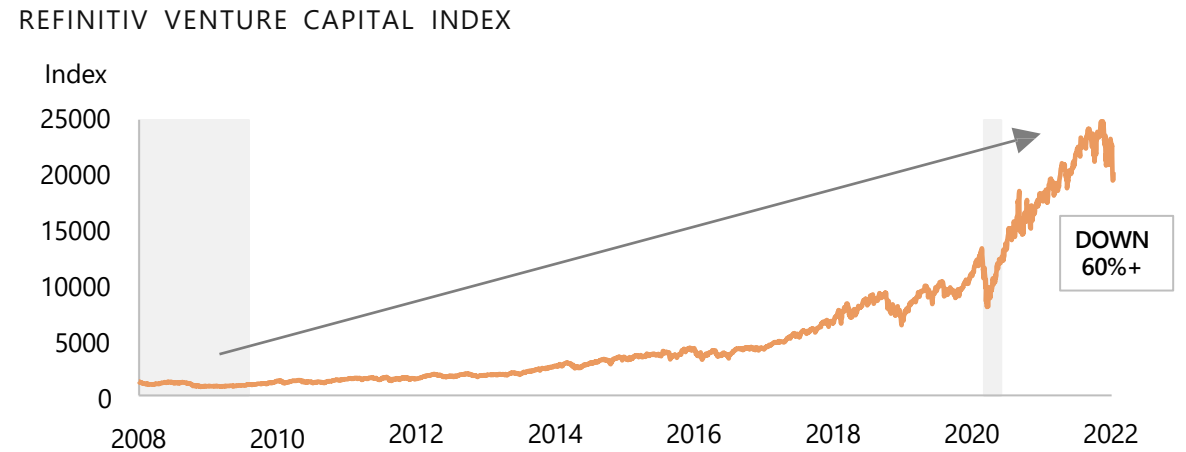
## Fed Balance Sheet on Steroids



## Public Equity Valuations



## Venture Valuations



Source: Apollo Chief Economist as of July 2024. Note: For discussion purposes only. Reflects the views and opinions of Apollo Analysts. Subject to change at any time without notice. There can be no assurances that any of the historical trends described herein will continue or will not reverse. Past events and trends do not imply, predict or guarantee, and are not necessarily indicative of future events or results.

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# Beta tailwinds have now become headwinds

	Pre-2022	Now
<b>Inflation</b>	Low and stable	Structurally higher
<b>Monetary Policy</b>	Low rates & quantitative easing	Higher rates & quantitative tightening
<b>Fiscal Policy</b>	Pulled forward demand through fiscal stimulus	High levels of government debt limits maneuverability
<b>Globalization</b>	Globalization (unipolar)	Fragmentation (multipolar)
<b>Financing</b>	Plentiful and cheap	Scarce and expensive
<b>Valuations</b>	Secularly growing	Less clear

The Cost and Availability of Capital Is Fundamentally Different Any Time in the Post-GFC Era

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“I think that one should recognize reality even when one doesn’t like it.

Indeed, especially when one doesn’t like it.”

CHARLIE MUNGER

“You have to keep learning if you want to become a great investor.

When the world changes, you must change.”

WARREN BUFFETT

# Can private markets provide what is missing from public equities?

# 1

Search for returns competitive with public equities.

# 2

Seek to dampen volatility.

# 3

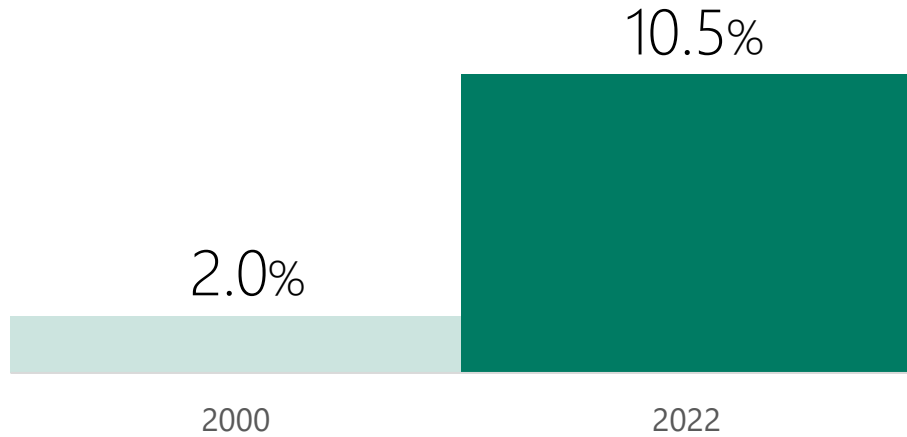
Look for protection against inflation.

# 4

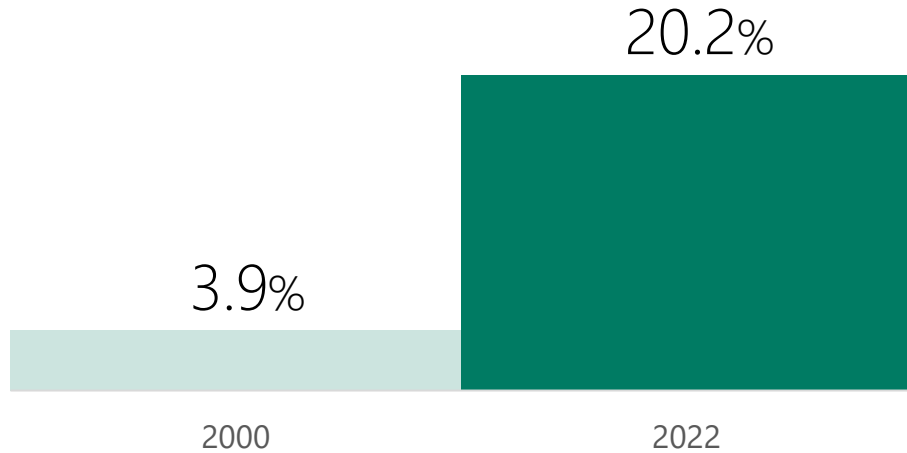
Expand investable universe to include private markets.

# Private markets can be a strong complement to traditional investment portfolios

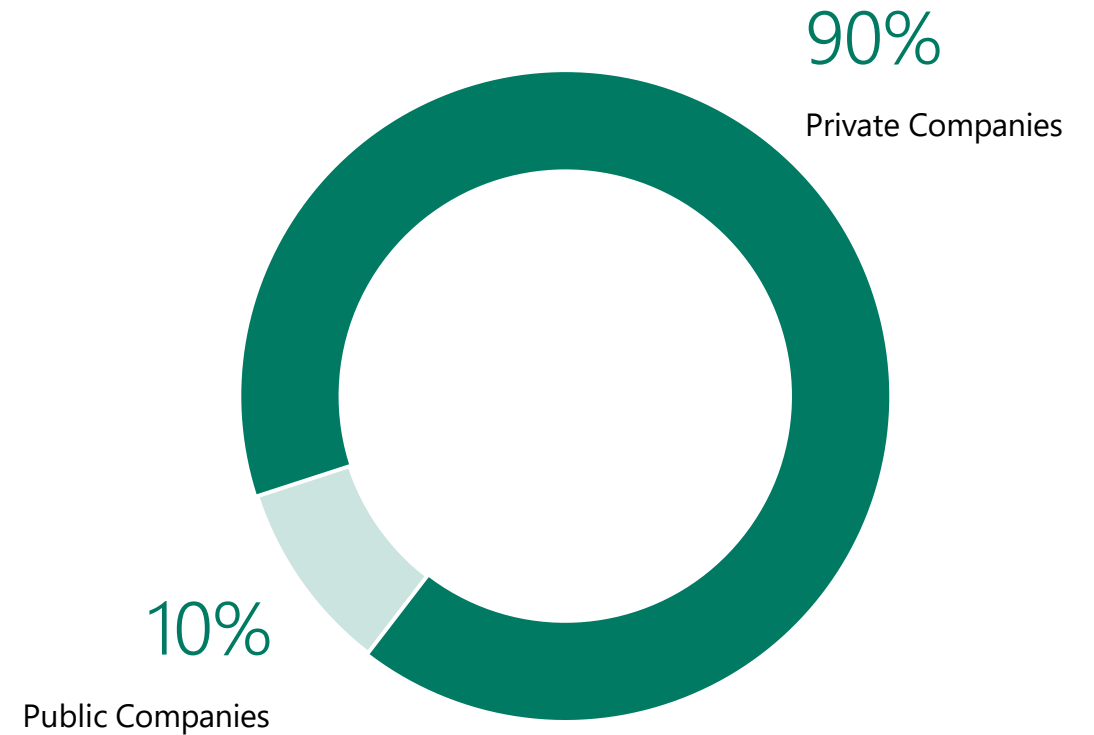
Private equity as % of total equity markets



Private credit as % of total credit markets



## Vast Majority of Companies are Private



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# They have historically exhibited lower volatility and provided higher return than public equivalents

## Performance Metrics of Various Asset Classes During 1999-2023

Asset Class	Annualized Return	Annualized Volatility	Sharpe Ratio
<b>Public Assets</b>			
US Corporate IG Bonds	4.9%	6%	0.5
S&P 500	7.1%	17%	0.3
Global Stocks	5.5%	18%	0.2
<b>Private Assets</b>			
Private Mortgage Loans	8.1%	9%	0.7
Private Debt	9.5%	6%	1.3
Alternatives	11.0%	9%	1.0

Source: "Leveraging Private Credit in Assets Allocation", Apollo White paper as of Nov 14, 2023

Performance is computed using the average of the returns of the following indices where available – **US IG Bonds:** ICE BofA US Investment Grade Corporate Bond Index (C0A0), **Global Stocks:** MSCI World Stock Index (NDDUWI), **Private Mortgage Loans:** Prequin Real Estate Debt, **Private Debt:** Pitch Book Private Debt Index, Prequin Private Debt Index, Cliffwater Direct Lending Index, **Alternatives:** Pitch Book Private Capital Index, Prequin Private Capital Index. There can be no assurances that any of the trends described herein will continue or will not reverse. Past events and trends do not imply, predict or guarantee, and are not necessarily indicative of future events or results. Index performance data is shown for illustrative purposes only and has limitations when used for comparison or for other purposes. Past performance of indices are not indicative of future performance or any strategy or fund. Please refer to the Legal Disclaimer for additional information on the use of indices.

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# “Volatility drag” could have substantially negative impact on portfolios’ terminal value

	RETURNS		INVESTED CAPITAL	
	Portfolio A	Portfolio B	Portfolio A	Portfolio B
Year 0			\$5,000,000	\$5,000,000
Year 1	6.5%	-5.0%	\$5,325,000	\$4,750,000
Year 2	6.5%	18.0%	\$5,671,125	\$5,605,000
Year 3	6.5%	-15.0%	\$6,039,748	\$4,764,250
Year 4	6.5%	-1.0%	\$6,432,332	\$4,716,608
Year 5	6.5%	9.8%	\$6,850,433	\$5,178,835
Year 6	6.5%	14.0%	\$7,295,711	\$5,903,872
Year 7	6.5%	-1.0%	\$7,769,933	\$5,844,833
Year 8	6.5%	28.0%	\$8,274,978	\$7,481,387
Year 9	6.5%	7.0%	\$8,812,852	\$8,005,084
Year 10	6.5%	10.0%	<b>\$9,385,687</b>	<b>\$8,805,592</b>
<b>Geometric Mean Returns</b>	<b>6.5%</b>	<b>5.8%</b>		
<b>Arithmetic Mean Returns</b>	<b>6.5%</b>	<b>6.5%</b>		
<b>Volatility</b>	<b>0.0%</b>	<b>12.4%</b>		

- This hypothetical example shows two portfolios (A and B).
- Portfolio A had a fixed annual rate of return during a 10-year period (i.e., no volatility)
- Portfolio B, however, experienced much more volatile returns, alternating between highly positive years to periods of sharp drawdowns

Source: Apollo Chief Economist. For illustrative purposes only. Not representative of any Apollo fund or strategy. No representation is being made by the inclusion of any illustrative portfolio composition presented herein. The information provided herein is based on the views and opinions of Apollo Analysts. As such, the analysis is based on certain assumptions which are subject to change without notice. Hypothetical or simulated performance results have certain inherent limitations. Unlike an actual performance record, simulated results do not represent actual investment results. Also, since the performance presented does not represent an actual investment portfolio, the results may have under- or over-compensated for the impact, if any, of certain market factors, such as lack of liquidity or market disruptions. Hypothetical or simulated performance results set forth herein are based on a number of assumptions (not all of which are described herein) which may or may not be accurate, and therefore actual returns may be substantially less than those illustrated. No representation is being made by the inclusion of any hypothetical or simulated illustration presented herein that the returns for any Apollo Fund will achieve similar results. Simulated investment programs in general are also subject to the fact that they are designed with the benefit of hindsight.

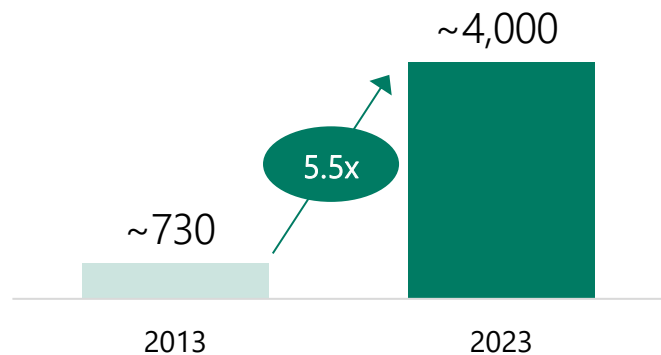
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How can investors  
incorporate private markets  
into their portfolios?

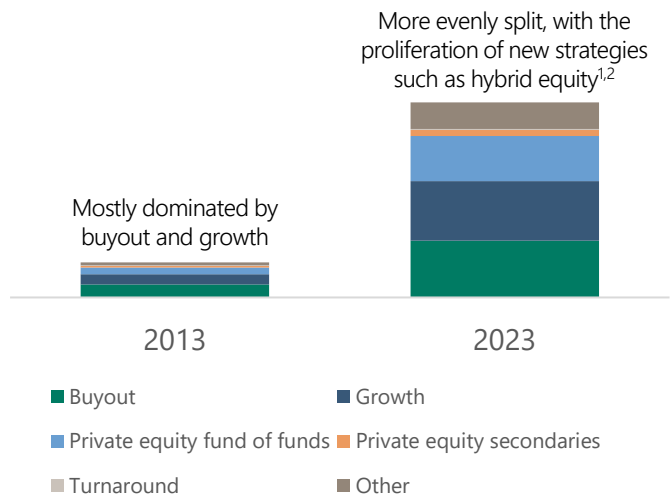
# There is no shortage of products, strategies, or managers...

## PRIVATE EQUITY

Private equity funds in market<sup>1</sup>

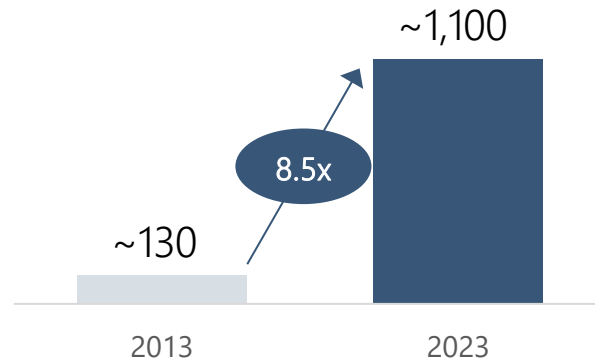


Private equity funds by strategy / product<sup>1</sup>

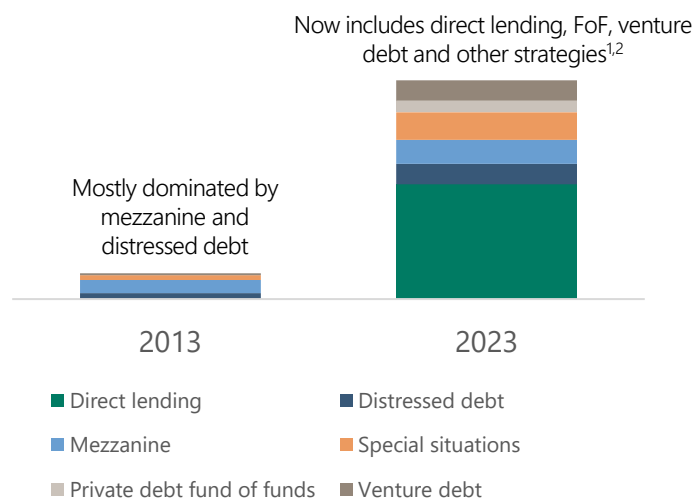


## PRIVATE CREDIT

Private credit funds in market<sup>1</sup>

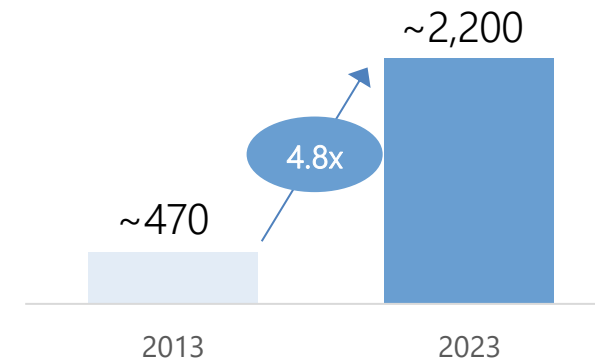


Private credit funds by strategy / product<sup>1</sup>

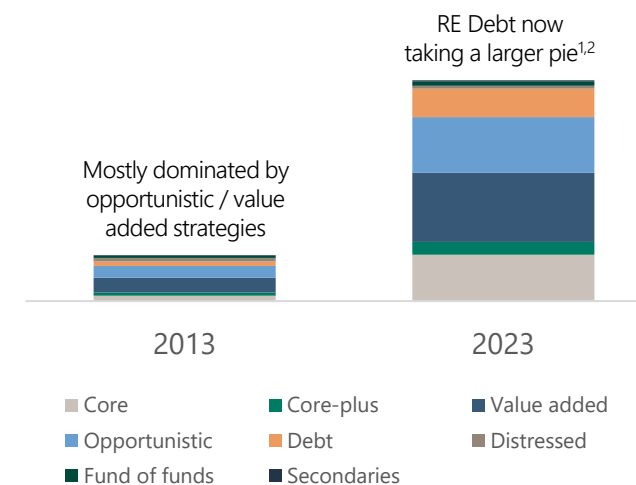


## PRIVATE REAL ESTATE

Private real estate funds in market<sup>1</sup>



Private real estate funds by strategy / product<sup>1</sup>



1. Preqin Global Reports 2024 – Private Equity, Private Debt and Private Real Estate; 2023 data represents October 2023 (PE and PC) / September 2023 (Private RE). 2. McKinsey Global Private Markets Review 2024.

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...so how can one navigate the landscape of privates?



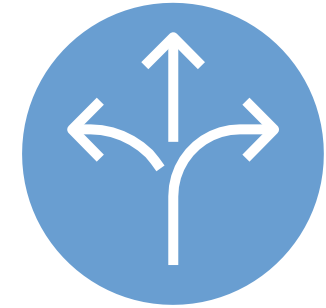
## ASSET CLASS DIVERSIFICATION

Despite heightened correlations, asset-class diversification may still minimize volatility and risk.



## VINTAGE DIVERSIFICATION

The value, pricing dynamics and underwriting conditions of private markets vary from year to year, which could create important variations in vintages.



## FLEXIBILITY

A flexible alternatives portfolio helps managers to make dynamic relative-value decisions, deploying incremental dollars to potentially attractive opportunities.

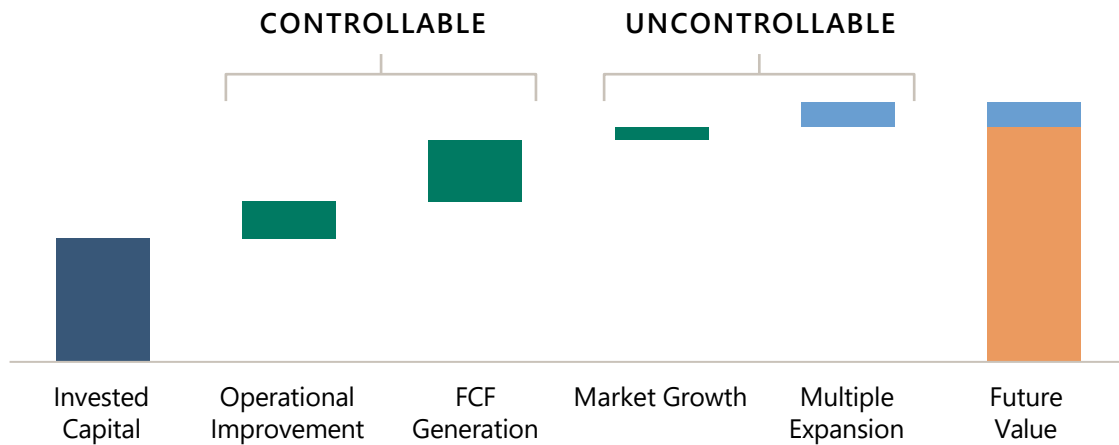
Reflects the views and opinions of Apollo Analysts. Subject to change without notice. Diversification does not guarantee positive performance or protect against losses.

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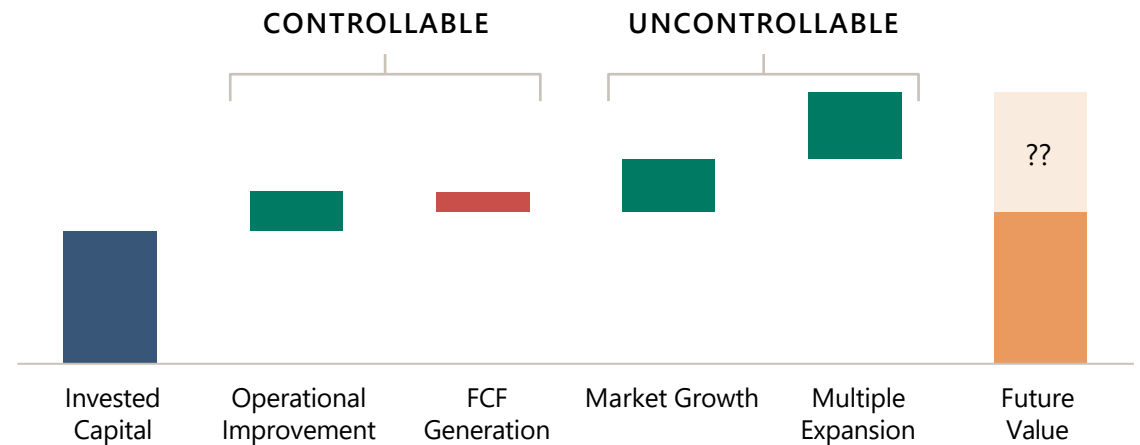


# Taking a “factor-aware” approach focused on cash flows + value in private assets

## Illustrative Value Creation Bridge with Pricing Discipline



## Illustrative Value Creation Bridge for the Broader Market



## Differentiated Strategy to Build Value Across Cycles

Average Creation Multiple	~6-7x Purchase Price
Average Leverage	~4x at entry
Base Case	Underpinned by cash flow and readily achievable operational improvements

## Common Strategy, Highly Correlated to Market Cycles

Average Creation Multiple	~11.5x Purchase Price
Average Leverage	~6x at entry
Base Case	Reliance on continued top-line growth, persistently low rates, and multiple expansion at exit

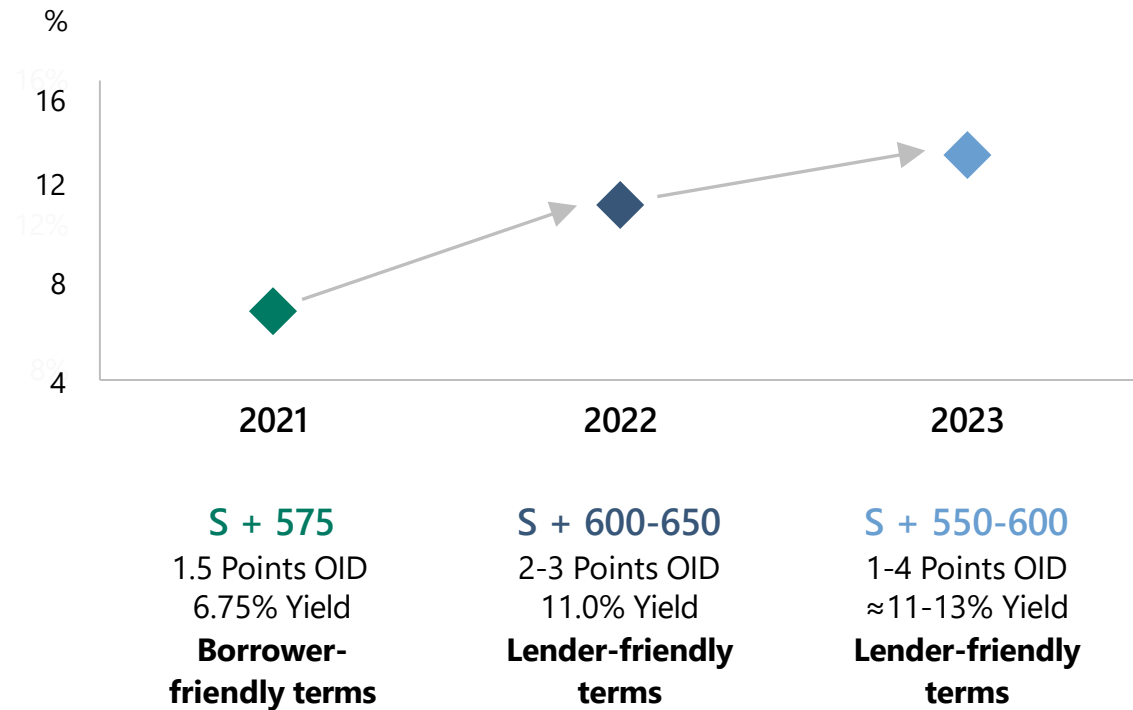
Source: Apollo Analysts Note: The information provided herein is based on the views and opinions of Apollo Analysts. As such, the analysis is based on certain assumptions which are subject to change without notice. Provided for illustrative purposes only. Not representative of any Apollo fund or strategy. No representation is being made by the inclusion of any illustrative value creation presented herein. Hypothetical results have certain inherent limitations and do not represent actual investment results. No representation is being made by the inclusion of any hypothetical or simulated illustration presented herein that the results for any Apollo fund or strategy will achieve similar results.

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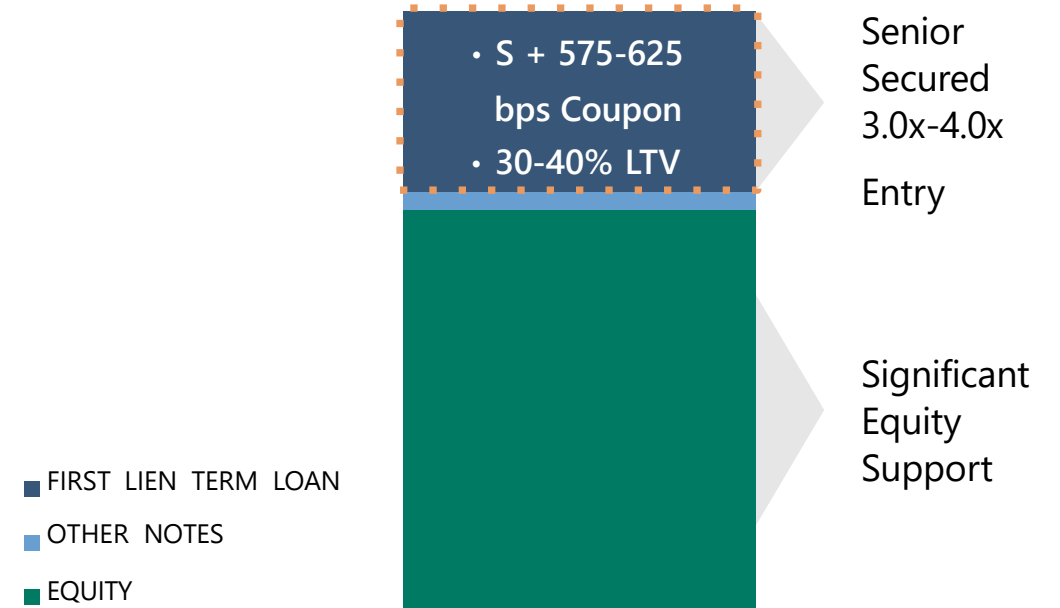
# Private credit seeks to offer attractive returns while prioritizing downside protection and capital preservation

Emphasis on credit quality, high cash flows, selectivity, and seniority in capital structure

## YIELDS AND LENDER PROTECTION



## ILLUSTRATIVE CAPITAL STRUCTURE



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Source: Apollo Analysts as of December 2023 and PitchBook LCD as of September 2023.

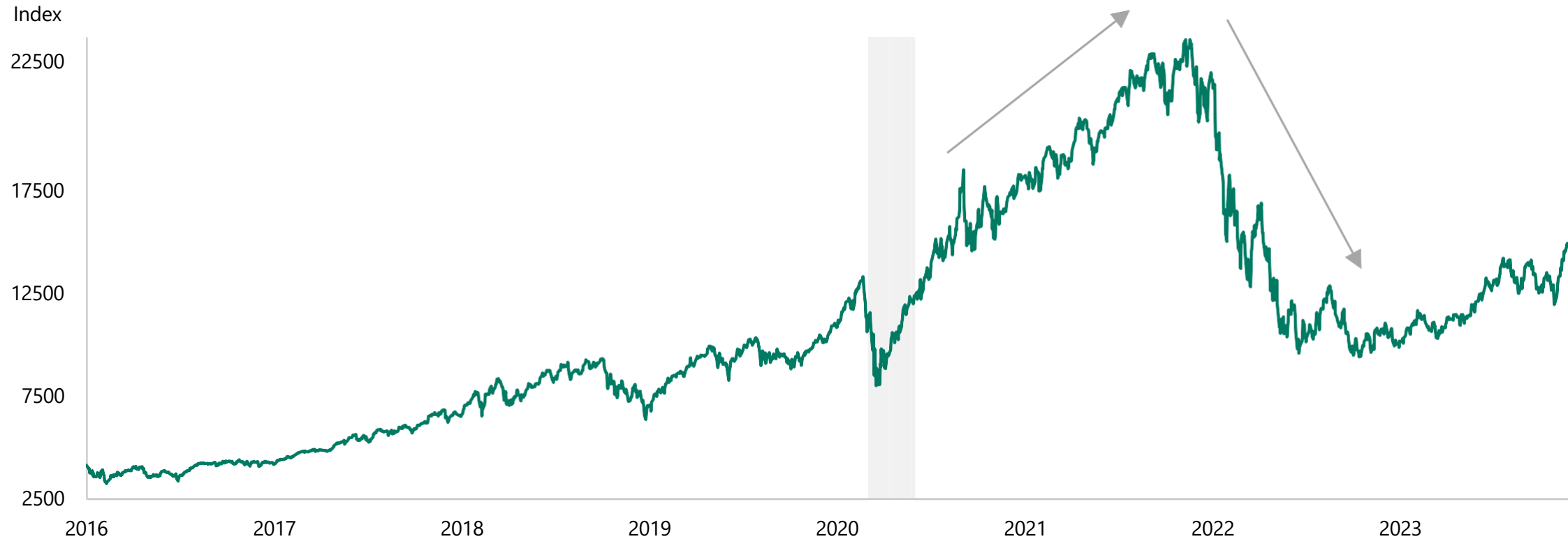
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# Most importantly... purchase price matters!

It is critical to avoid overpriced assets – in any market environment. Using venture capital performance as a growth proxy may provide further support for the impact of factor investing in private markets.

## US venture capital valuations are down 50% from their peak

Refinitiv Venture Capital index



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Note: The Refinitiv Venture Capital Index is designed to measure the value of the US-based venture private company universe in which venture capital funds invest. Sources: Bloomberg, Apollo Chief Economist as of November 29, 2023

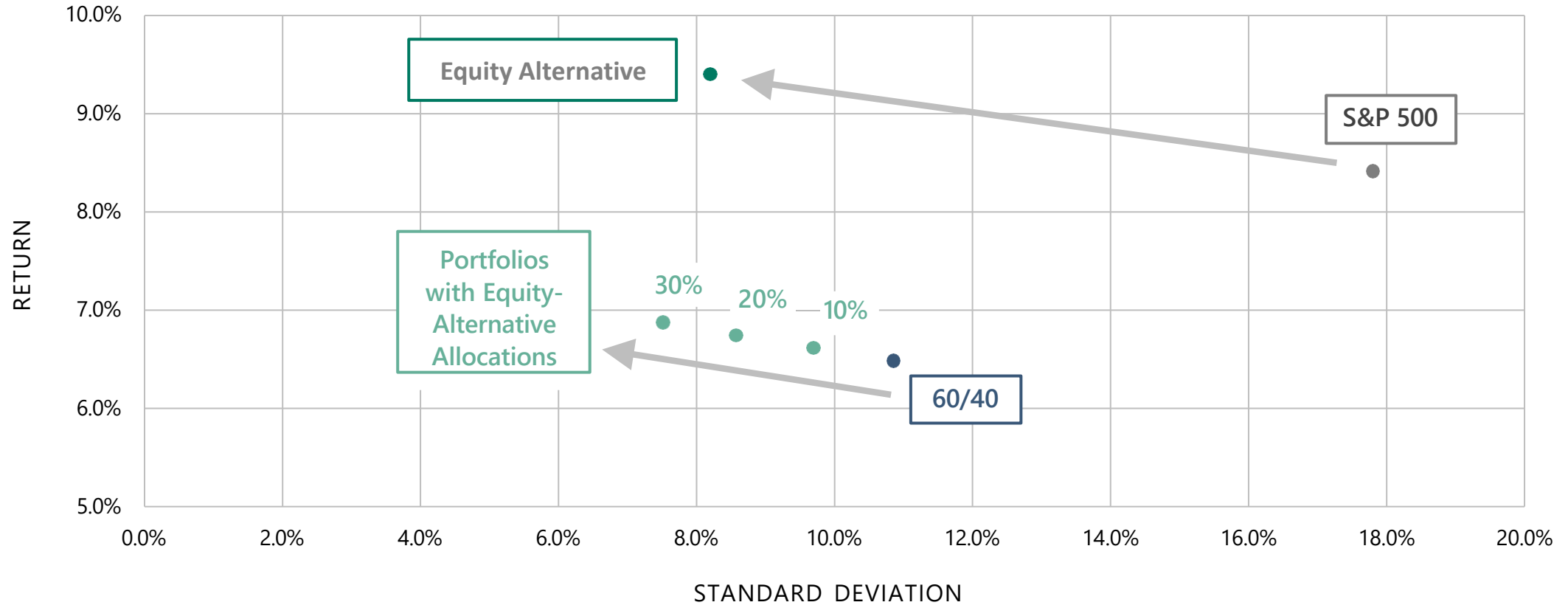
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# Alignment supports shared outcomes...



...if done well, private markets could have a positive and meaningful impact on portfolios

PORTFOLIO IMPACT OF ALLOCATIONS TO A PUBLIC EQUITY-ALTERNATIVE PORTFOLIO



Source: Bloomberg, Preqin. Investments include S&P 500 equity index (total return) for stocks, Bloomberg US Aggregate Total Return Value Unhedged USD for bonds/fixed income, Preqin Private Equity, and Preqin Private Debt. Real assets equally weight three indices: Preqin Natural Resources, Preqin Infrastructure, NCREIF NPI. Public equity-replacement portfolio is 50% Private Equity, 25% Private Debt, 25% Real Assets. 60/40 Portfolio is 60% Stocks, 40% Bonds; Q1 2008-Q3 2022. "Illiquid portfolio" was not rebalanced. There can be no assurances that any of the trends described herein will continue or will not reverse. Past events and trends do not imply, predict or guarantee, and are not necessarily indicative of future events or results. Index performance data is shown for illustrative purposes only and has limitations when used for comparison or for other purposes. Past performance is not indicative of future performance or any strategy or fund. Please refer to the Legal Disclaimer for additional information on the use of indices.

# Key takeaways



Traditional portfolio diversification techniques are becoming less effective as correlations among asset classes heighten.



Amid market uncertainty, private markets can diversify portfolios and help manage volatility.



But not all private assets are created equal.  
Potential to create resilience by targeting assets with certain inherent traits and exposure to specific investment factors.



Focusing on cash-flow generating assets at attractive valuations has historically led to enhanced risk-adjusted returns<sup>1</sup>

1. Source: "Building Resilience: Selecting the Right Assets For an Alternatives Portfolio", Apollo White Paper as of Apr 2024.

# Important Disclosure Information

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