# iCapital.

## **Alternatives Decoded**

Navigating the World of Alternative Investments

As of 1Q 2025

For Investment Professionals and Institutional Investors Only

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#### **Primary Stakeholders**

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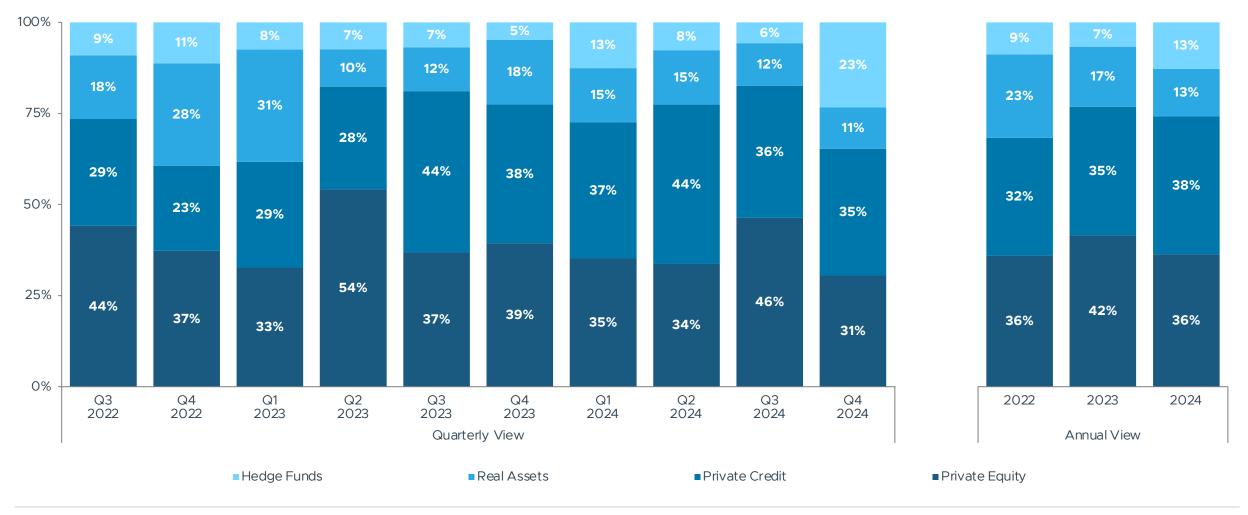
## Alternatives Decoded iCapital Flow-of-Funds



## Private wealth clients favored private credit and hedge funds in the fourth quarter of 2024

## iCapital Alternative Investments Flow-of-Funds

Breakdown of quarterly and annual subscription flows on the iCapital platform by asset class (%, as of December 2024)



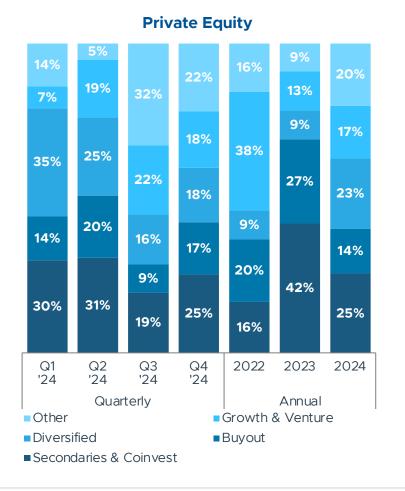
Source: iCapital Alternatives Platform, with data based on availability as of Jan. 31, 2025. Note: Data is through December 2024 and is subject to change based on potential updates to source(s) database. iCapital Flow-of-Funds data is based upon the notional flow on the iCapital Alternatives platform, which does not necessarily reflect the entire universe of Alternatives that were available in the market during the above time frame. The data above includes data on a range of products and funds and do not necessarily reflect any particular fund. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

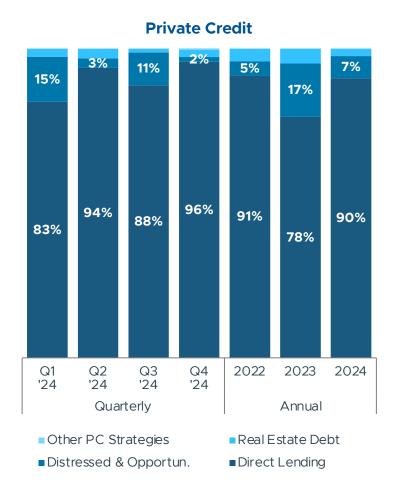


## Private wealth clients are increasing allocations to direct lending and infrastructure strategies

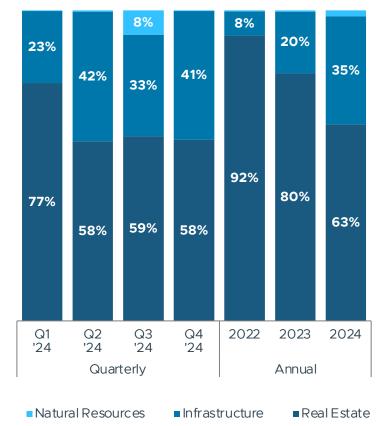
#### iCapital Alternative Investments Flow-of-Funds

Breakdown of quarterly and annual subscription flows on the iCapital platform by sub-strategy (%, as of December 2024)





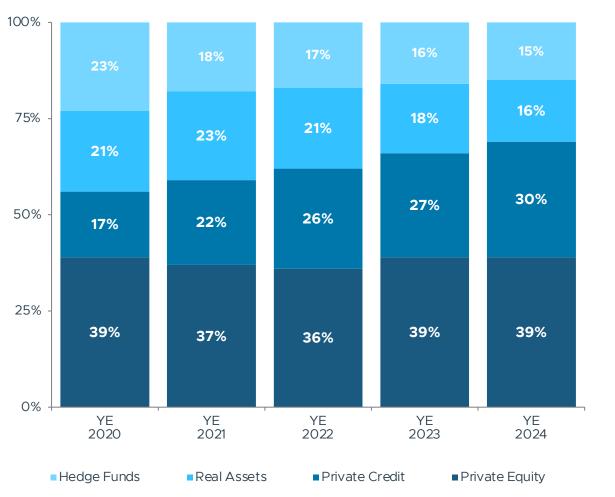




Source: iCapital Alternatives Platform, with data based on availability as of Jan. 31, 2025. Note: Data is through December 2024 and is subject to change based on potential updates to source(s) database. iCapital Flow-of-Funds data is based upon the notional flow on the iCapital Alternatives platform, which does not necessarily reflect the entire universe of Alternatives that were available in the market during the above time frame. The data above includes data on a range of products and funds and do not necessarily reflect any particular fund. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



## In the last five years, private wealth clients boosted allocations to private credit, registered funds



### iCapital Alternative Investments Platform Composition

Breakdown of iCapital platform assets by asset class (%, as of December 2024)

#### iCapital Alternative Investments Platform Composition

Breakdown of iCapital platform assets by fund structure (%, as of December 2024)



Source: (left and right) iCapital Alternatives Platform, with data based on availability as of Jan. 31, 2025. Note: Data is through December 2024 and is subject to change based on potential updates to source(s) database. iCapital Flow-of-Funds data is based upon the notional flow on the iCapital Alternatives platform, which does not necessarily reflect the entire universe of Alternatives that were available in the market during the above time frame. The data above includes data on a range of products and funds and do not necessarily reflect any particular fund. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



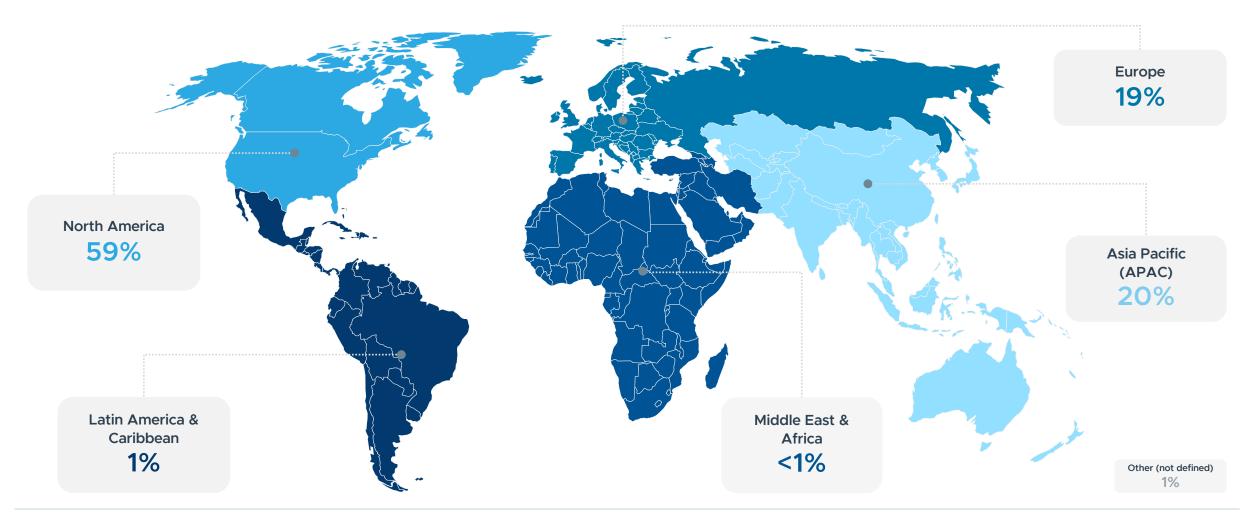
# Alternatives Decoded Overview



## Alternatives hold \$17.2 trillion in assets under management globally across strategies

#### Global Alternatives assets under management (AUM)

Share of private capital and hedge fund AUM based on primary region of focus (%, as of June 2024)



Source: Preqin, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Global Alternatives AUM includes all private market and hedge fund AUM broken down by primary region of focus as defined by Preqin. Private market AUM data is as of June 2024. Hedge fund AUM data is as of December 2023. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of the deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



## Alternatives have grown significantly and are projected to grow further in years ahead

#### **Global AUM**



Cumulative AUM by asset class, 2010 - 2029E (\$ trillion, as of June 2024)

### Expected growth rates in alternatives sub-asset classes

Current and estimated global AUM by asset class (\$ trillion, as of June 2024)



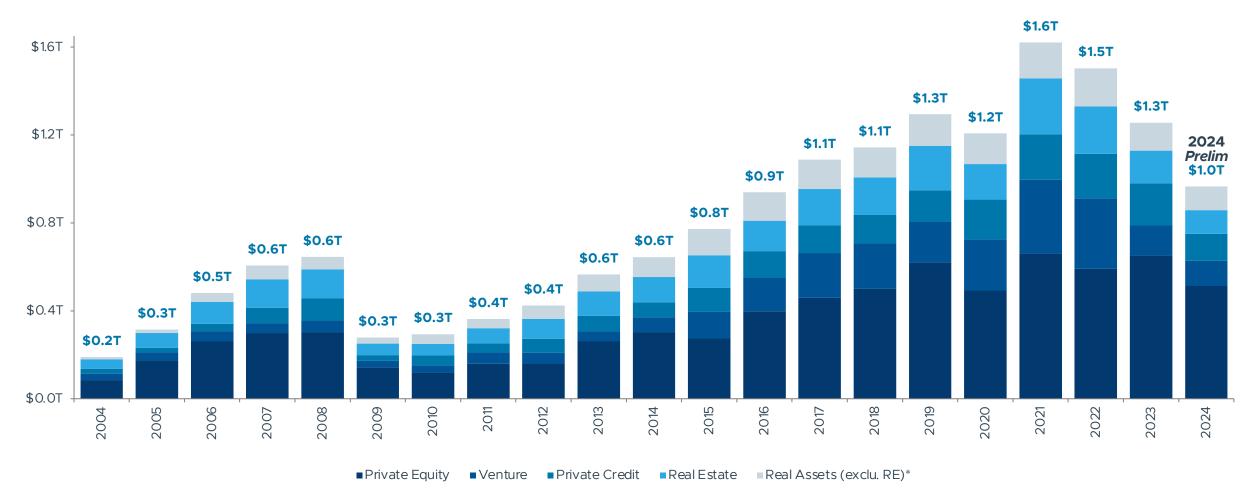
Source: (left and right) Hedge Fund Research (HFR), Preqin, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Historical AUM is through June 2024 and forecasted AUM is through December 2029. Data is subject to change based on updates to the source(s) database. Both historical and forecasted AUM exclude RMB-denominated funds for data accuracy, as well as fund of funds and secondaries to prevent double counting of available capital and unrealized value. Historical AUM for private equity, venture, private credit, and real assets is sourced from Preqin, while hedge fund data is from HFR. Forecasted AUM for all strategies, include all private capital asset classes broken down by primary strategy as defined by Preqin. Natural Resource-type funds only. with more traditional/old-school natural resource-type funds on SOI & Gas, categorized under Private Equity as defined by Preqin. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



## Alternatives fundraising activity is stabilizing and increasing in certain asset classes

## Global private capital fundraising activity

Annual closed-end fund capital raising by asset class (\$ trillion, as of December 2024)



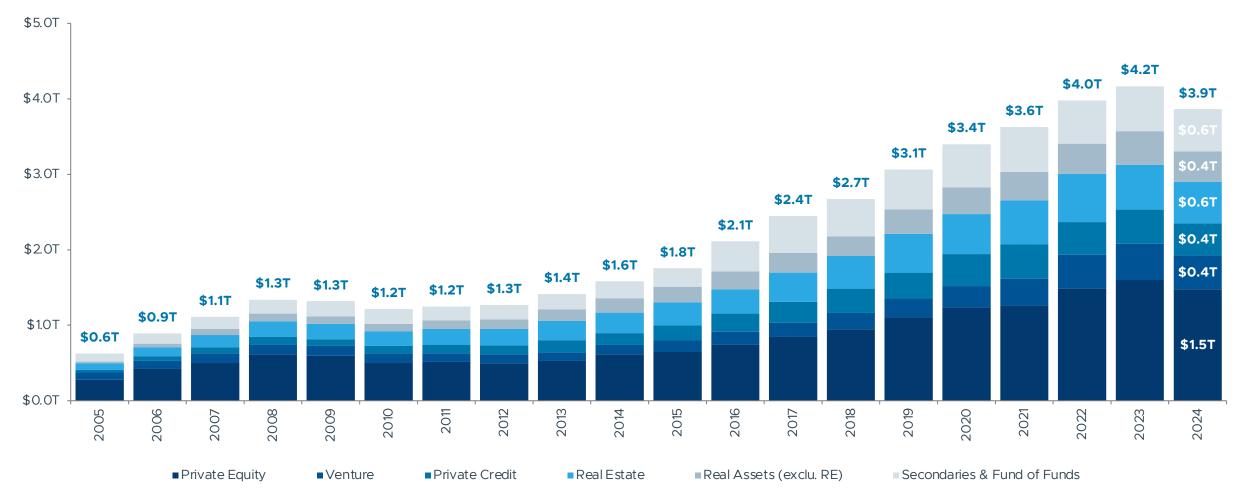
Source: Preqin, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data is year-to-date through December 2024 as of Jan. 27, 2025. Data is subject to change based on potential updates to source(s) database. Prior four quarters' fundraising levels are extremely likely to be revised higher/lower as data is updated in the source database and/or funds get re-classified per Preqin. Fundraising activity shown is for all private capital asset dassets as defined by Preqin. Real Assets includes Infrastructure and Natural Resources-type funds. Natural Resources is based on pure-play natural resource-type funds only, with more traditional/old-school natural resource-type funds. So as of gets as defined by Preqin. To avoid double counting of capital raised, funds and secondaries are excluded where applicable. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results. Future results. Future results.



## Dry powder has declined to \$3.9 trillion as committed capital begins to get deployed globally

#### Global private capital dry powder

Cumulative dry powder by asset class (\$ trillion, as of June 2024)



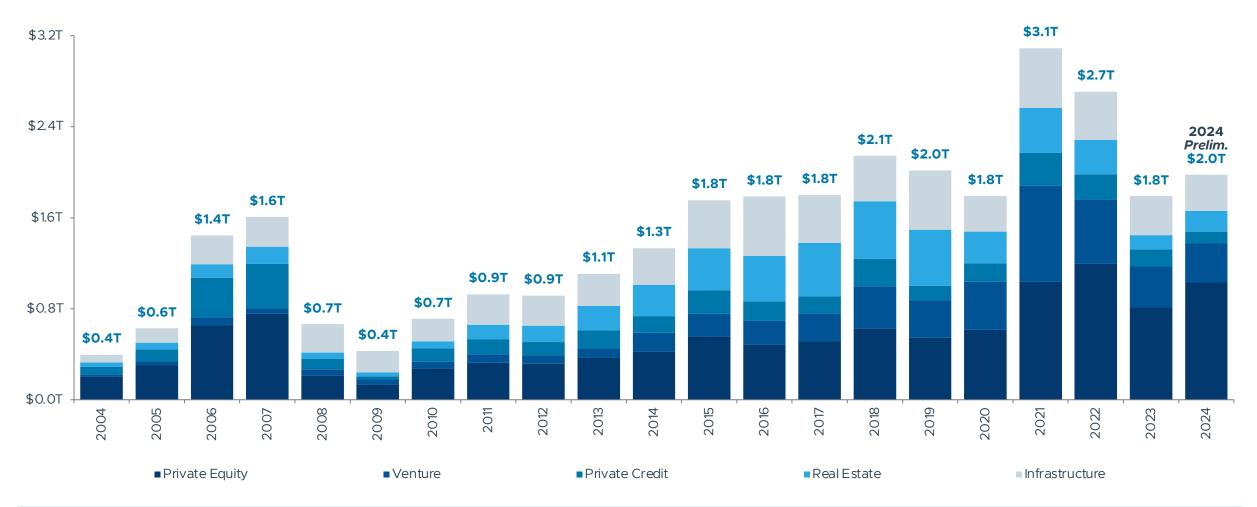
Source: Preqin, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data through June 2024 and is subject to change based on potential updates to source(s) database. Dry powder refers to committed but uninvested capital. Dry powder shown is for all private capital asset classes as defined by Preqin. In this analysis, Real Assets includes Infrastructure and Natural Resources but excludes Real Estate. Within Real Assets, Natural Resources is based on pure-play natural resource-type funds only, with more traditional/old-school natural resource-type funds, such as Oil & Gas, categorized under Private Equity as defined by Preqin. Secondaries and Fund of Funds includes and fund of funds categories as defined by Preqin, RMB-denominated funds are excluded for greater data accuracy. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



## Deal momentum is rebounding to more normalized levels as GPs put dry powder to work

#### Global private capital deal activity

Annual closed-end fund deal value by asset class (\$ trillion, as of December 2024)



Source: Preqin, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data is year-to-date through December 2024 as of Jan. 27, 2025. Data is subject to change based on potential updates to source(s) database. Prior four quarters' deal activity levels are extremely likely to be revised higher/lower as data is updated in the source database and/or funds get re-classified per Preqin. Deal activity shown is based on the aggregate deal value for Private Equity (Buyout), Venture Capital, Private Debt, Real Estate, and Infrastructure, as defined by Preqin. Due to the size of the dataset, there may be a select few instances of duplicative transactions across asset classes; however, the figure should be insignificant and not impact the overall figures. To limit duplication, Preqin has distinctions made between what they classify as an RE Deal/Asset and a PE Deal/Asset. Real Estate would be a property or properties portfolio/property management, while Private Equity/Venture Capital/Private Debt would be an actual company with a business that goes beyond the objective of property management. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of fluture results. Future results are not guaranteed.



#### Alternative asset class historical returns

Annual and time-period returns ranked in order of performance (%, as of September 2024)

Annual Return (%)									[	Time-Period Return (%, per annum)					
2015	2016	2017	2018	2019	2020	2021	2022	2023	2024 YTD	3YR	5YR	10YR	15YR		
15.0%	13.1%	21.2%	14.3%	18.7%	35.7%	54.1%	13.7%	15.6%	12.6%	11.1%	14.7%	14.6%	15.2%		
Core CRE	Buyout	Buyout	Growth	Global 60/40	Venture	Secondaries	Infrastructure	Global 60/40	Global 60/40		Buyout	Buyout	Buyout		
12.6%	11.2%	20.9%	13.4%	17.3%	29.5%	48.0%	7.5%	12.1%	8.5%	9.8%	13.7%	12.5%	13.0%		
Buyout	Direct Lending	Growth	Secondaries	Growth	Growth	Venture	Core CRE	Direct Lending	Direct Lending	Direct Lending	Growth	Growth	Secondaries		
12.3%	9.2%	17.4%	12.7%	16.9%	21.2%	39.0%	6.3%	8.1%	8.2%	6.7%	13.3%	11.8%	12.8%		
Venture	Infrastructure	Secondaries	Venture	Venture	Buyout	Buyout	Direct Lending	Buyout	Hedge Funds	Buyout	Secondaries	Secondaries	Growth		
9.5%	8.8%	17.3%	11.3%	16.2%	13.4%	36.3%	1.5%	8.1%	6.3%	4.0%	10.8%	10.8%	11.5%		
Secondaries	Core CRE	Global 60/40	Buyout	Buyout	Global 60/40	Growth	Cash	Hedge Funds	Growth	Hedge Funds	Venture	Venture	Venture		
7.9%	5.6%	12.8%	8.3%	10.4%	12.4%	22.2%	0.5%	7.3%	5.7%	4.0%	9.5%	9.6%	10.2%		
Infrastructure	Global 60/40	Infrastructure	Core CRE	Hedge Funds	Secondaries	Core CRE	Buyout	Infrastructure	Infrastructure	Secondaries	Infrastructure	Infrastructure	Direct Lending		
5.7%	5.4%	10.8%	8.1%	9.7%	11.8%	16.1%	-3.2%	5.3%	4.2%	3.6%	9.4%	8.9%	9.6%		
Growth	Hedge Funds	Venture	Direct Lending	Infrastructure	Hedge Funds	Infrastructure	Secondaries	Cash	Cash	Cash	Direct Lending	Direct Lending	Infrastructure		
5.5%	5.2%	8.6%	7.5%	9.5%	5.5%	12.8%	-4.1%	4.9%	3.5%	3.6%	7.4%	6.1%	8.1%		
Direct Lending	Growth	Direct Lending	Infrastructure	Secondaries	Direct Lending	Direct Lending	Hedge Funds	Growth	Buyout	Global 60/40	Hedge Funds	Core CRE	Core CRE		
0.0%	4.5%	8.6%	1.9%	9.0%	3.9%	10.2%	-8.1%	4.7%	1.7%	1.8%	7.0%	5.9%	6.3%		
Cash	Secondaries	Hedge Funds	Cash	Direct Lending	Infrastructure	Hedge Funds	Growth	Secondaries	Secondaries	Growth	Global 60/40	Global 60/40	Global 60/40		
-1.1%	0.3%	7.6%	-4.7%	5.3%	1.2%	9.2%	-15.4%	-6.3%	0.1%	-0.2%	2.9%	5.1%	5.1%		
Hedge Funds	Cash	Core CRE	Hedge Funds	Core CRE	Core CRE	Global 60/40	Venture	Venture	Venture	Core CRE	Core CRE	Hedge Funds	Hedge Funds		
-2.7%	0.2%	0.8%	-6.1%	2.3%	0.6%	0.0%	-17.5%	-12.1%	-2.6%	-5.9%	2.4%	1.7%	1.1%		
Global 60/40	Venture	Cash	Global 60/40	Cash	Cash	Cash	Global 60/40	Core CRE	Core CRE	Venture	Cash	Cash	Cash		

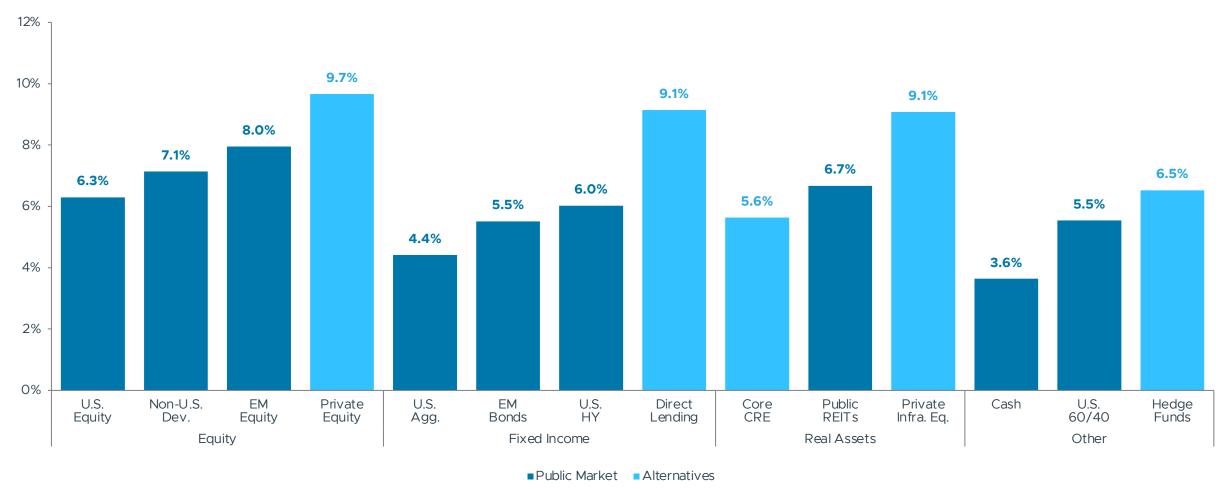
Source: Bloomberg Index Services Limited, Cliffwater Direct Lending Index, FTSE Russell, Hedge Fund Research (HFR), MSCI, NCREIF, Preqin, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of September 2024 and is subject to change based on potential updates to source(s) database. Buyout proxied by Preqin Private Equity Buyout Index. Growth proxied by Preqin Growth Equity Index. Venture proxied by Preqin Venture Capital Index. Secondaries proxied by Preqin Infrastructure proxied by Preqin Infrastructure proxied by Preqin Growth Equity Index. Note: Data as of September 2024 and is subject to change based on potential updates to source(s) database. Buyout proxied by Preqin Private Equity Buyout Index. Growth proxied by Preqin Growth Equity Index. Venture proxied by Preqin Venture Capital Index. Secondaries proxied by Preqin Secondaries Index. Infrastructure proxied by Preqin Infrastructure Index. Direct Lending proxied by Cliffwater Direct Lending Index. Real Estate proxied by NCREIF Open End Diversified Core Equity (NFI-ODCE) Index. Hedge Fund Research HFRI Fund Weighted Composite Index. Global 60/40 proxied by MSCI ACWI Total Return Index and 40% Bloomberg Global Aggregate Index. Cash proxied by the TSE 3 Month US T Bill Index, which is intended to track the daily performance of 3-month US Treasury bill, a measure we consider a proxy for cash proxing a return if one had access to all active funds. Not all the above indices are practically investable and are subject to change as datasets are continually updated. All returns are calculated in U.S. dollars. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



## Over the next decade, alternatives are projected to outperform their public counterparts

#### Capital market returns for public and private markets asset classes

Average 2024 long-term capital market assumptions (LTCMA) expressed as expected compound returns over next 10 years, net of fees where applicable (%)



Source: BlackRock, Cliffwater, Envestnet, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Analysis is based on the average long-term capital market assumption for each strategy, using 2024 long-term capital market assumptions from BlackRock, Cliffwater, and Envestnet. For the selected sub-asset classes and strategies, returns are expressed as compound returns over a 10-year outlook period, net of applicable fees. Data is subject to change based on potential updates to source(s) database. See disclosure section for further index definitions, disclosures, and source attributions. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



## Several private market strategies offer higher yields than those available in public markets

#### Public and private markets cross-asset class yields

Yields (%, as of December 2024)



Alternatives Public Market Benchmarks

Source: Bloomberg Index Services Limited, Federal Reserve, FTSE Russell, INREV, Lincoln International, MSCI, Morningstar, NCREIF, OECD, S&P Dow Jones, ICapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Public market yields are as of December 2024 with an exception to Private Infrastructure Equity, which is as of June 2024, and Direct Lending, Private Europe CRE, and Private CRE bebt via NCREIF/CREFC Open-end Debt Index, private infrastructure Asset Index, Private Infrastructure Asset Index, Private Europe CRE via INREV European ODCE Index, Private CRE Debt via NCREIF/CREFC Open-end Debt Fund Aggregate Index, Private Infra Equity via MSCI Global Infrastructure Composite Index, Global Equity via MSCI ACWI Net Total Return USD Index, Listed U.S. ReITs via FTSE NAREIT Equity REITs Indeex, Listed Infra Equity via MSCI Global Infrastructure Composite Index, Global Equity via MSCI Global Bond via Bloomberg Global Aggregate Index, U.S. MIN is a Bloomberg Global Infrastructure Composite Index, Cash via US 90 Day Average SOFR Secured Overnight Financing Rate, G7 Inflation via OECD Major 7 CPI Inflation Rate YOY Inflation Rate YOY Index. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guarantee is not indicative of future results. Fut



## Alternatives can be a powerful diversifier due to their low correlation to public markets

#### Alternative asset class correlations

Public and private market correlation matrix based on trailing 15 years of quarterly data (as of September 2024)

		Private Equity			Private Credit			Real Assets			Hedge Funds			Public Markets			
		Buyout	Growth	Venture	Direct Lending	Distressed	Real Estate	Infra- structure	Natural Resources	Macro	Multi-Strategy	Event Driven	Equity Hedge	Global Equity	Global Bonds	Global 60/40	Cash
	Buyout	1.00															
Private Equity	Growth	0.88	1.00														
	Venture	0.82	0.85	1.00													
	Direct Lending	0.67	0.58	0.40	1.00												
Private Credit	Distressed	0.71	0.60	0.46	0.69	1.00											
	Real Estate	0.18	0.00	0.25	-0.04	0.09	1.00										
Real Assets	Infrastructure	0.53	0.36	0.24	0.45	0.52	0.12	1.00									
	Natural Resources	0.37	0.34	0.11	0.53	0.57	0.26	0.49	1.00								
	Macro	0.28	0.28	0.31	0.22	0.27	0.12	0.17	0.20	1.00							
Hedge Funds	Multi-Strategy	0.65	0.71	0.49	0.77	0.62	-0.17	0.32	0.34	0.39	1.00						
Fur	Event Driven	0.73	0.76	0.54	0.81	0.60	-0.24	0.38	0.35	0.28	0.91	1.00					
	Equity Hedge	0.71	0.78	0.58	0.70	0.50	-0.27	0.31	0.22	0.31	0.86	0.95	1.00				
	Global Equity	0.64	0.70	0.47	0.65	0.43	-0.26	0.28	0.20	0.24	0.80	0.88	0.95	1.00			
Public Markets	Global Bonds	0.16	0.19	0.08	0.14	-0.11	-0.25	-0.06	-0.14	-0.18	0.21	0.25	0.32	0.43	1.00		
Pul	Global 60/40	0.59	0.65	0.43	0.60	0.34	-0.28	0.23	0.14	0.17	0.75	0.83	0.91	0.98	0.62	1.00	
	Cash	-0.35	-0.20	-0.40	-0.05	-0.19	-0.70	-0.15	-0.14	-0.04	-0.04	0.02	0.05	0.10	0.14	0.12	1.00

Source: Bloomberg Index Services Limited, Cliffwater Direct Lending Index, FTSE Russell, Hedge Fund Research (HFR), MSCI, NCREIF, Preqin, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of September 2024 and is subject to vhorage based on potential updates to source(s) database. Buyout provide by Preqin Natural Resources index. Growth provided by Preqin Growth provided by Preqin Growth provided by Preqin Growth provided by Preqin Statural Resources index. Macro HFs provided by HFRI Macro Total Index. Nulti Strat HFs provided by HFRI Veruit-Direct Lending Index. Event Driven HFs provided by HFRI Veruit-Direct Lending Index. Event Driven HFs provided by HFRI Veruit-Driven Total Index. Multi Strat HFs provided by HFRI Veruit-Direct Detal Return USD Index. Global Bonds proxied by Bloomberg Global Aggregate Index. Global 60/40 proxied by MSCI ACWI Net Total Return USD Index and 40% Bloomberg Global Aggregate Index. Global 60/40 proxied by Growth US T Bill Index, which is intended to track the daily performance of 3-month US Treasury bill, a measure we consider a proxy for cash returns. Correlations, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results are not guaranteed.



## Alternatives offer higher returns and lower volatility vs. a traditional 60/40 portfolio

### Alternatives risk/return profile vs. traditional assets

Annualized volatility and returns based on trailing 15 years of quarterly data (%, as of September 2024)

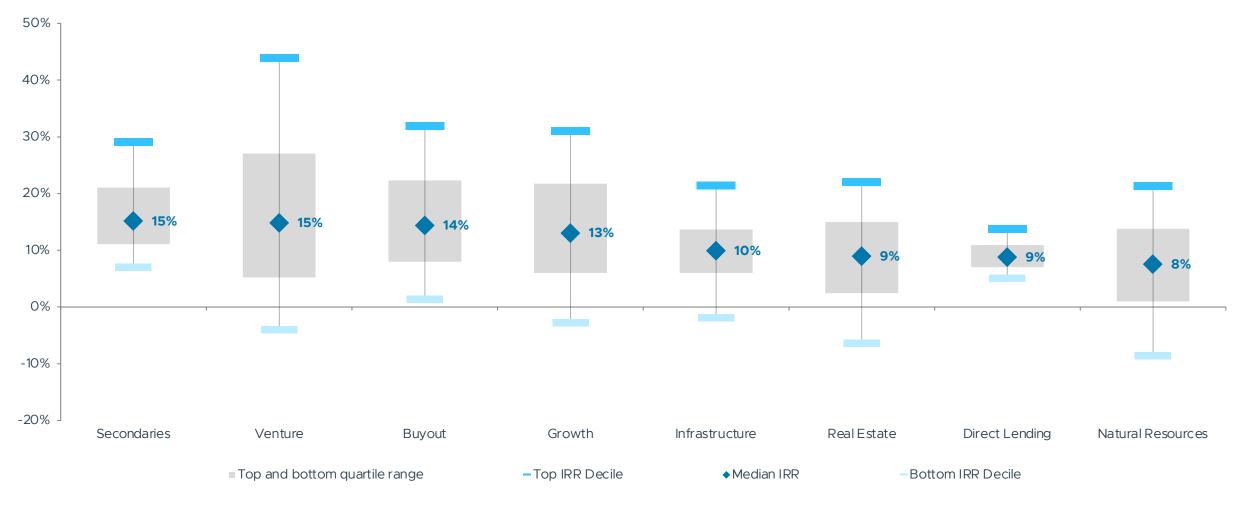




## Manager selection has been an important driver of return outcomes in alternatives

#### Manager performance dispersion across alternatives strategies

Net IRR dispersion by asset class based on 2006-2021 vintages, global (%, as of September 2024)



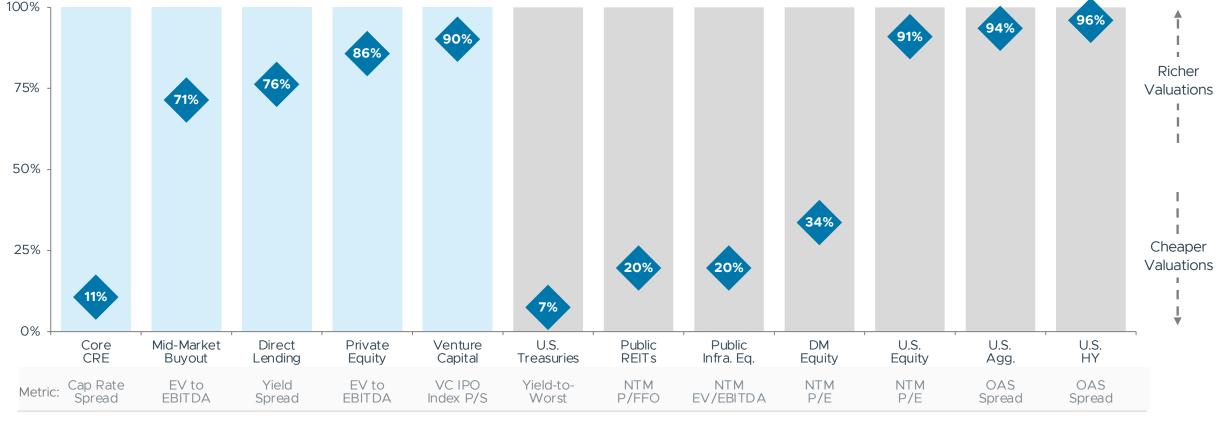
Source: PitchBook | LCD, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of September 2024 and is subject to change based on potential updates to source(s) database. Analysis shows the net IRR of all global funds with vintages between 2006 and 2021 and is broken out by strategy as defined by PitchBook. Private markets typically have a longer time horizon, and returns are realized over several years. Therefore, the 2022-2023 vintages are excluded since the investments may still be in their early stages, and the full impact on returns might not have been realized yet. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



## Several private market strategies are inexpensive relative to public markets and history

#### Relative valuations across traditional and alternative asset classes

Rolling 10-year percentile rank of current valuation metrics across asset classes (%, as of December 2024)



◆Current %-tile

Source: Bloomberg Index Services Limited, Cliffwater Direct Lending Index, Federal Reserve, FTSE Russell, MSCI, Morningstar, NCREIF, PitchBook | LCD, S&P Dow Jones, U.S. Department of the Treasury, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Valuation metrics are as of December 2024 with an exception to Direct Lending, which is as of September 2024. Data is subject to change based on potential updates to source(s) database. Data used to compute percentiles is based on quarterly or monthly data. Private Equity measured using the training price-to-sales ratio on the PitchBook V-CBITDA multiple. Venture Capital measured using the training price-to-sales rate and Biotech). Direct Lending measured using the spread between quarterly income return on the Cliffwater Direct Lending undex and 3-month SOFR. Private Real Estate measured using the spread between transaction-based cap rates and UST 10yr yield. U.S. Equity measured using the blended forward price-to-earnings ratio on the S&P 500 Index. Non-U.S. Developed Market Equity measured using the blended forward price-to-earnings ratio on the Bloomberg U.S. Aggregate measured using the option-adjusted spread (OAS) on the Bloomberg U.S. Aggregate measured using the blended forward price-to-earnings ratio on the Bloomberg U.S. Corp. High Yield Index. Public REITs measured using the blended forward price-to-EFO (Funds From Operations) ratio on the FTSE NAREIT Equity REITs Index. Public REITs measured using the blended EV/EBITDA ratio on the Dow Jones Brookfield Global Infrastructure Composite Index. For more information, please refer to the Index Definitions, Attributions, Attributions, Attributions, and Important Information sections are the end of this deck. For illustrative purposes only. Past performance is not undicative of future results are not quaranteed.



## Private clients to increase alternatives allocation from \$4 trillion to \$13 trillion by 2032

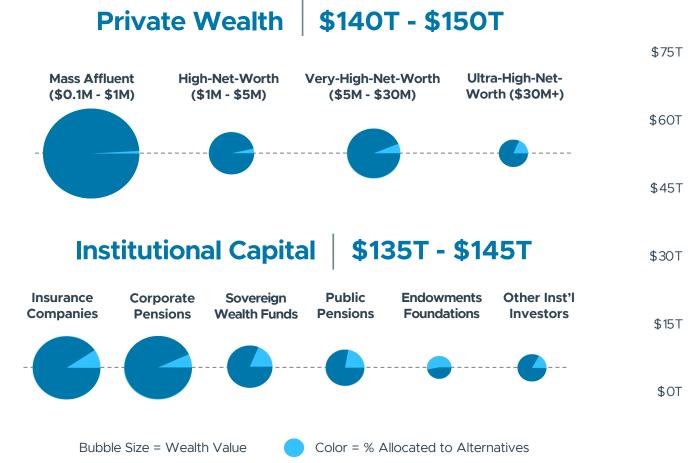
Private clients globally control approx. same wealth as institutions Global wealth and allocation by investor type (\$ trillion) **Private clients are expected to sizably increase their allocation to alts** Estimated global alternatives AUM by investor type (\$ trillion)

9%

**\$61T** 

2022-32 CAGR

8%



SOT 45T 30T 526T 526T 522T 522T 513T 54T 513T 51

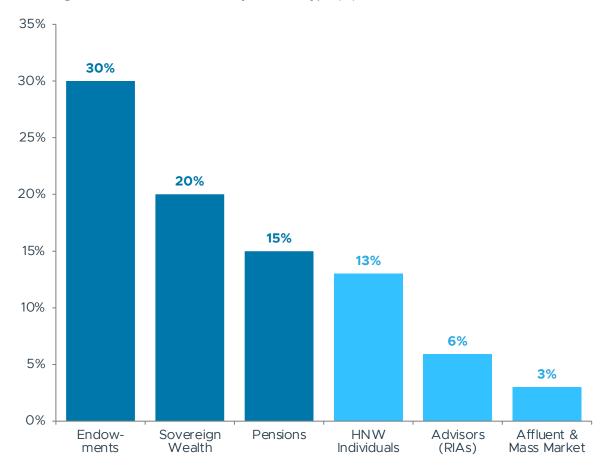
■ 2022 ■ 2032

Source: (left and right) Bain & Company, GlobalData, Preqin Pro, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of Nov. 9, 2023, and is sourced from the Bain & Company Analysis "Global Private Equity Report 2023". Used with permission from Bain & Company. Column totals are rounded. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



12%

## **Opportunity to increase allocation is sizable given low portfolio allocation and advisor use**

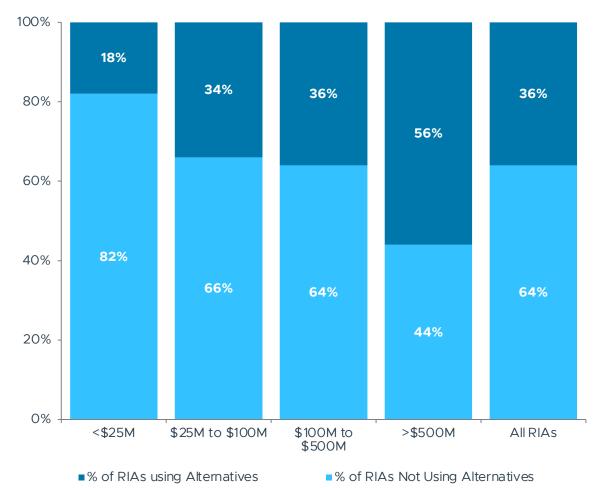


Percentage allocation to alternatives by investor type (%)

Allocation to alternatives in private wealth lags institutional use

## Out of 263k advisors in the U.S., only 36% allocate to alternatives

% of advisors who allocate client assets to Alts broken down by advisor AUM



Source: (left) Cerulli Associates, PwC, iCapital Investment Strategy with data based on availability as of Jan. 31, 2025. Note: For endowments, sovereign wealth funds, and pensions, data is sourced from PwC Asset Management Study 2022. For high-net-worth individuals and affluent & mass market, data is sourced from Cerulli Associates 2023 U.S. High-Net-Worth and Ultra-High-Net-Worth Markets report. For advisors (RIAs), data is sourced from Cerulli Associates 2023 U.S. RIA Marketplace report. (right) Cerulli Associates, iCapital Investment Strategy with data based on availability as of Oct. 31, 2024. Note: Data is from Cerulli's 2023 U.S. RIA Marketplace report and is subject to change based on potential updates to source(s) database. Analysis looks at the percentage of advisors who allocate client assets to Alternatives, categorized by advisor AUM size. Allocation figures are based on the average product mix reported by surveyed advisors. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



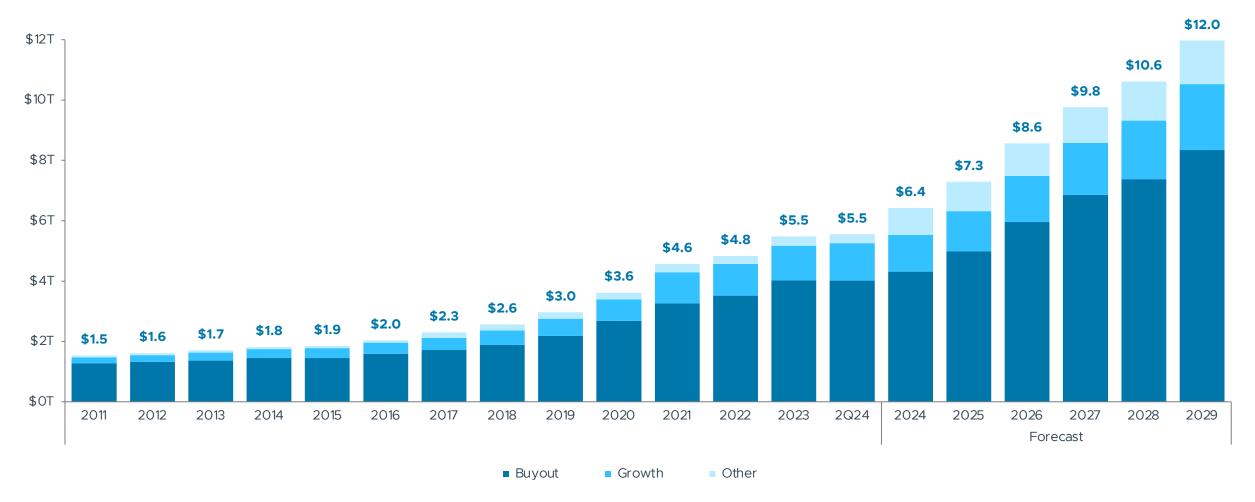
# Alternatives Decoded Private Equity



## Private equity is the largest asset class within alternatives and has grown significantly

### Private equity assets have nearly quadrupled in size since 2011 and are forecasted to grow further

Total assets under management in global private equity funds (\$ trillion, as of June 2024)

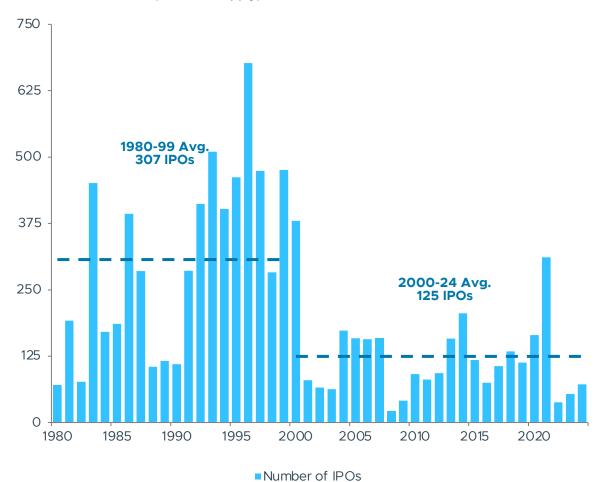


Source: Preqin, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Historical AUM is through June 2024 and forecasted AUM is through December 2029. Data is subject to change based on updates to the source(s) database. AUM is broken down by private equity sub-asset classes as defined by Preqin. "Other" includes Balanced, Co-investment, Co-inv



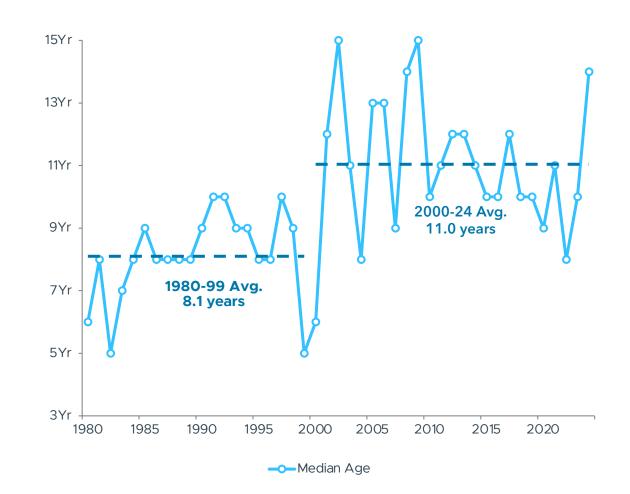
## Companies are delaying their IPO (some indefinitely) as they stay private for longer

There have been fewer IPOs over the last 20+ years relative to the 1990s Annual number of IPOs (exclusions apply)



As companies stayed private longer, the median age at IPO has risen

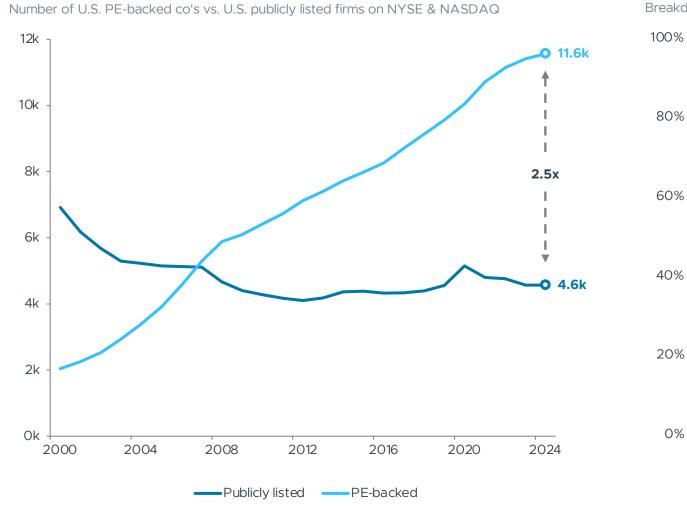
Median age of companies at IPO (in years)



Source: (left and right) Jay R. Ritter Cordell Eminent Scholar, Eugene F. Brigham Department of Finance, Insurance, and Real Estate Warrington College of Business, University of Florida, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of Jan. 30, 2025, and is through year-end 2024. Analysis looks at all IPOs and excludes those with an offer price below \$5.00 per share (penny stocks), unit offers, ADRs, closed-end funds, oil & gas limited partnerships, SPACs, REITs, bank and S&L IPOs, and stocks not listed on Nasdaq or the NYSE (including NYSE MKT LLC, the former American Stock Exchange). Given that certain stocks and companies have been excluded, IPO figures may be smaller than what is reported by other sources. Data is subject to change based on potential updates to source(s) database. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

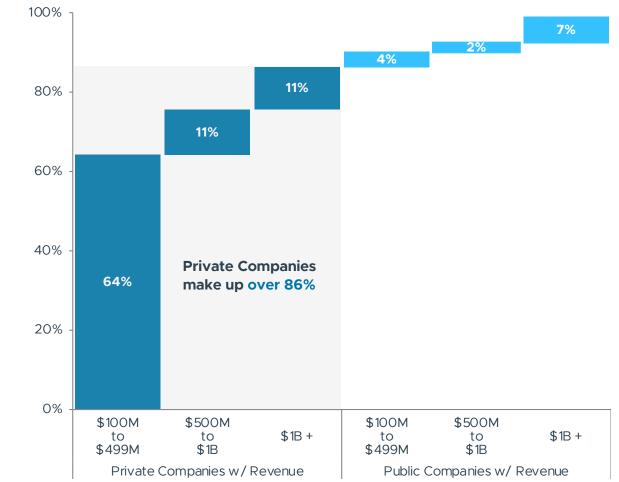


## Private companies outnumber publicly traded ones, across most revenue segments



The number of private companies grew, but listed co's stayed steady86% of U.S. companies with >\$100M in revenue are private

Breakdown of private and public companies in the U.S. by revenue



Source: (left) PitchBook | LCD, World Federation of Exchanges database, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of June 2024 for PE-backed and as of December 2023 for publicly listed. Data is subject to change based on potential updates to source(s) database. U.S. PE-backed companies are all privately held companies with private equity backing. We exclude VC-backed companies, (right) S&P Capital IQ, iCapital Investment Strategy, with data based on availability as of February 2023. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



## Private markets offer investors an opportunity to tap into a larger pool of innovation

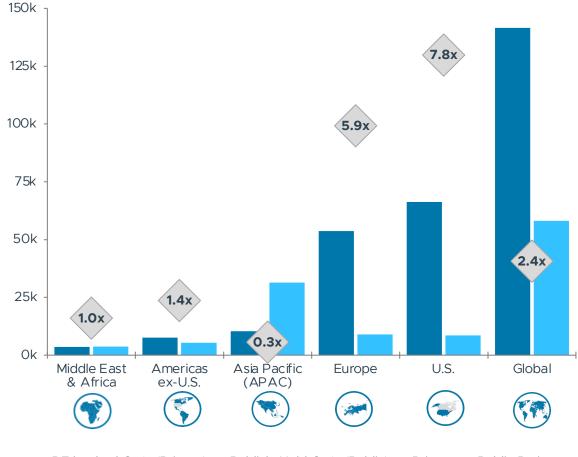
Global number of PE-backed vs. public companies, globally, by industry (in thousands) 60k **4.0**x 50k 40k 30k 20k 1.0x 10k 0.6x Ok Energy Health Consumer Materials & Financial Information **Business** Technology Resources Services Products Products Care :\*\*

PE is a dominant investor in IT, healthcare, business/consumer sectors

■ PE-backed Co.'s (Private) ■ Publicly Held Co.'s (Public) ♦ Private-to-Public Ratio

PE-backed companies outnumber public ones across geographies

Number of PE-backed vs. public companies by geography (in thousands)

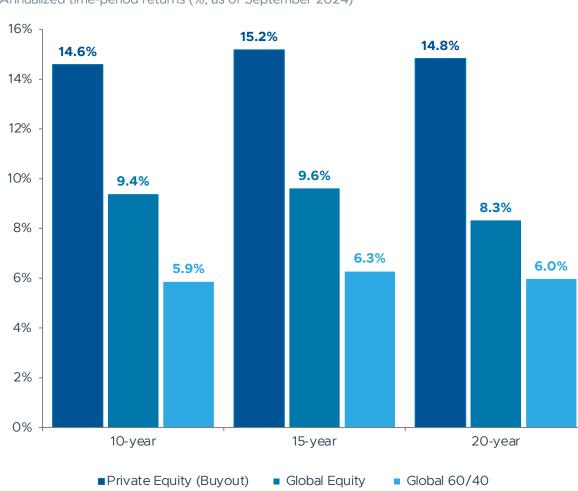


■PE-backed Co.'s (Private) ■Publicly Held Co.'s (Public) ♦Private-to-Public Ratio

Source: (left) PitchBook | LCD, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of Jan. 31, 2025 and is subject to change based on potential updates to source(s) database. Industry breakdown is based on primary industry only. Private Equity backed companies include any company that is currently financed by private equity investors regardless of ownership status, as defined by PitchBook. (right) PitchBook | LCD, Icapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of Jan. 31, 2025 and is subject to change based on potential updates to source(s) database. Geography breakdown is based on availability as of Jan. 31, 2025. Note: Data as of Jan. 31, 2025 and is subject to change based on potential updates to source(s) database. Geography breakdown is based on specifically on where each company is headquartered. Geographies are on guaranteed. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



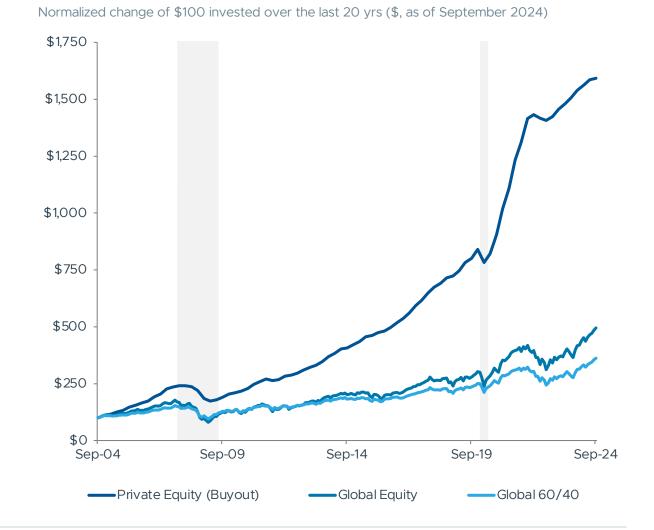
## Private equity outperformed public equities over various time horizons



Annualized time-period returns (%, as of September 2024)

Private equity vs. public benchmark returns show outperformance

## Assets invested in private equity grew faster vs. public benchmarks



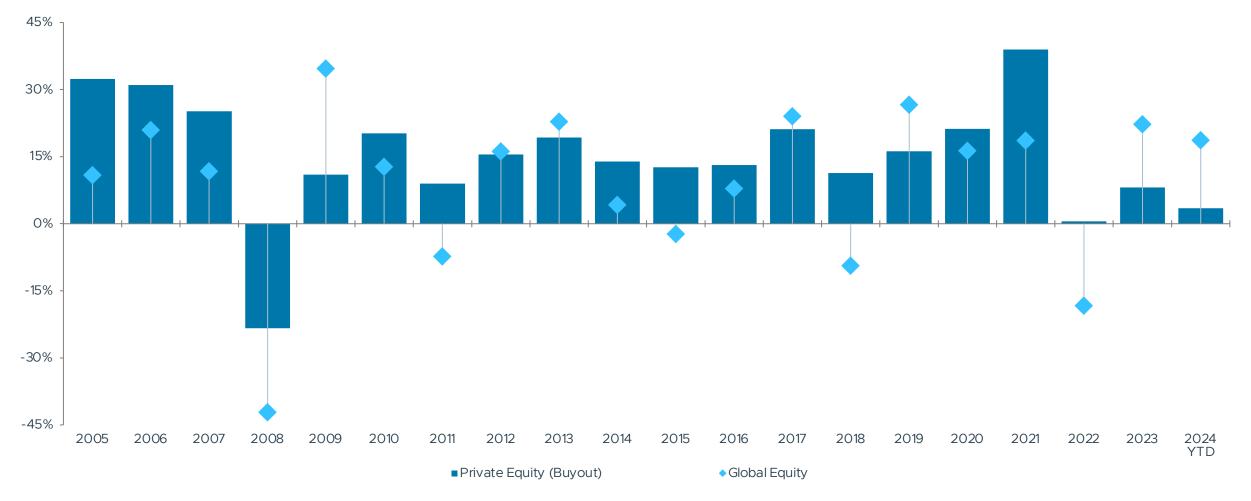
Source: (left and right) Bloomberg Index Services Limited, MSCI, Preqin, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as September 2024 and is subject to change based on potential updates to source(s) database. Global Equity proxied by MSCI ACWI Index. Global 60/40 proxied by 60% MSCI ACWI Index and 40% Bloomberg Global Aggregate Bond Index. Private Equity provied by the Preqin Private Equity Buyout Index. It is important to note that the returns listed are based on indices, that are meant to estimate the asset class performance, hypothetically creating a return if one had access to all active funds. Not all the above indices are practically investable and use subject to change as datasets are continually updated. All returns are calculated in U.S. dollars. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



## Private equity has delivered more consistently positive returns with fewer negative years

Private equity vs. public benchmark returns show just one drawdown year over the 20-year time horizon

Annual total returns (%, as of September 2024)



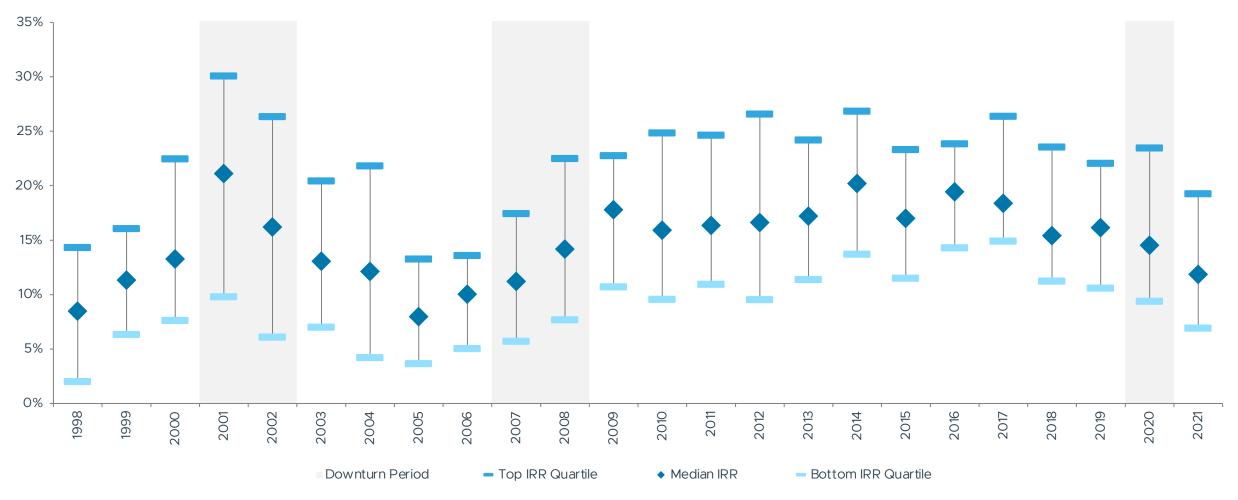
Source: MSCI, Preqin, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as September 2024 and is subject to change based on potential updates to source(s) database. Global Equity proxied by MSCI ACWI Index. Private Equity proxied by the Preqin Private Equity Buyout Index. It is important to note that the returns listed are based on indices that are meant to estimate the asset class performance, hypothetically creating a return if one had access to all active funds. Not all the above indices are practically investable and are subject to change as datasets are continually updated. All returns are calculated in U.S. dollars. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



## Private equity performance generally improves when investing during downturn year vintages

Vintage returns varied by year, improving during economic downturns

Net IRR dispersion by vintage year for U.S. private equity buyout funds (%, as of September 2024)



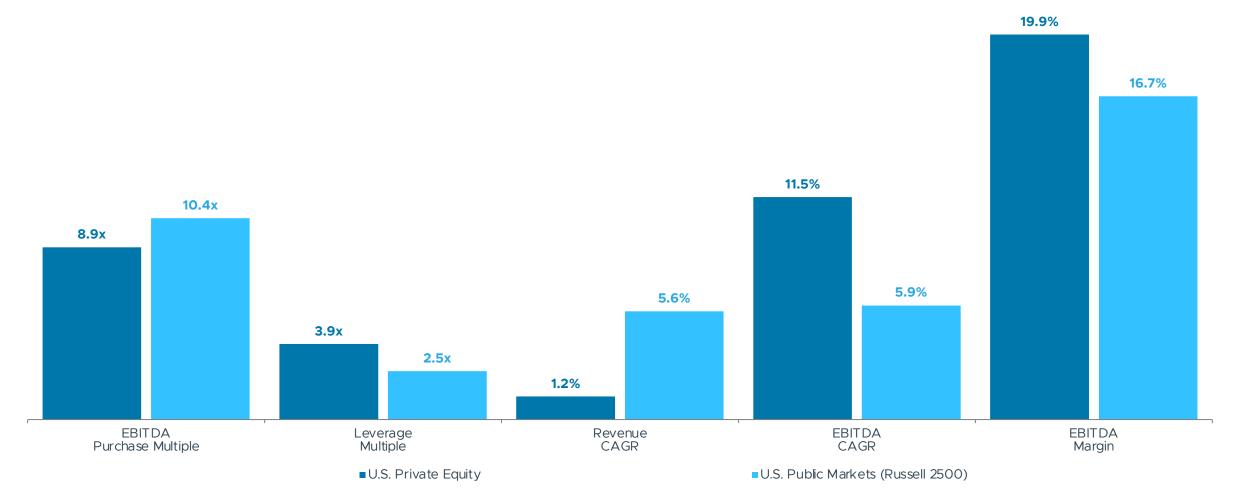
Source: PitchBook | LCD, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of September 2024 and is subject to change based on potential updates to source(s) database. Private equity investments typically have a longer time horizon, and returns are realized over several years. Therefore, the 2022-2024 vintages are excluded since the investments may still be in their early stages, and the full impact on returns might not have been realized yet. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results are not guaranteed.



## Private equity fund managers have multiple ways to create value vs. public markets

Private equity focused on lower multiples and faster EBITDA growth

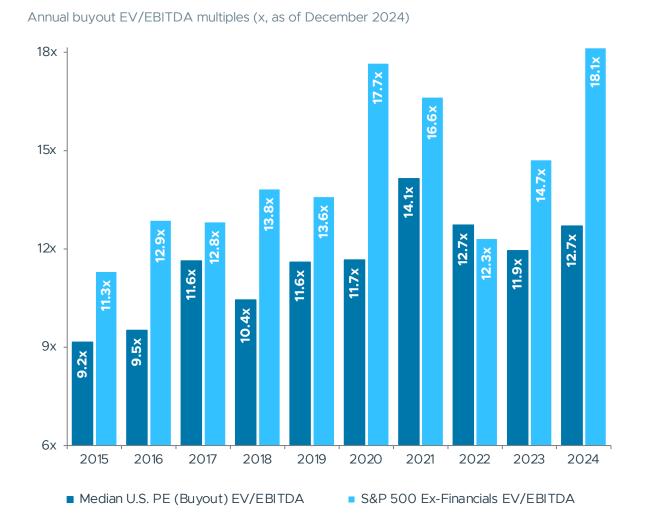
Private equity (Cambridge Associates) and public equity (Russell 2500) median operating metrics



Source: ) Cambridge Associates, FactSet, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of March 2022 and is subject to change based on potential updates to source(s) database. Operating metrics data is as of Dec. 31, 2020, and returns data is as of March 31, 2022. U.S. private equity metrics and gross returns are based on fully realized US-based growth equity and buyout deals acquired in 2000-2020. EBITDA PPM (purchase paid multiple), leverage multiples, and EBITDA margins are medians. Revenue and EBITDA growth are median CAGRs. U.S. PE sample sizes range from 1,740 to 2,114 companies and depend on information available. Public company data for revenue, EBITDA growth, and EBITDA margins are averages with outliers removed based on calendar years 2008-2020. The return for the Russell 2500 is an average annual compound return from Jan. 1, 2000 to March 31, 2022. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results are not guaranteed.

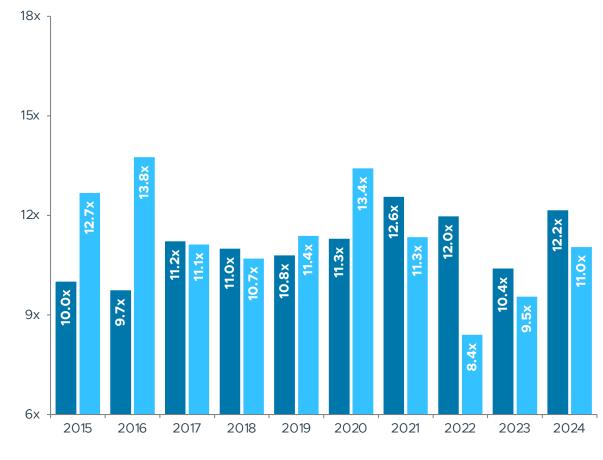


## Private equity valuations have stabilized and are lower than public markets in the U.S.



U.S. private equity multiples remain lower than the S&P 500

## In Europe, private equity multiples are above those for public markets Annual buyout EV/EBITDA multiples (x, as of December 2024)



Median Europe PE (Buyout) EV/EBITDA

MSCI Europe EV/EBITDA

Source: (left) PitchBook | LCD, S&P Dow Jones, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data through December 2024. 2024 TTM is the trailing twelve months ending December 2024. S&P 500 Ex-Financials excludes companies within the S&P 500 that are in the Financial sector as defined by GICS sector-level classifications. See disclosures, and source attributions. Data is subject to change based on potential updates to source(s) database. (right) MSCI, Pitchbook | LCD, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data through December 2024. TM is the trailing twelve months ending December 2024. TM is the trailing twelve months ending December 2024. Sector-level classifications. See disclosures, and source attributions. Data is subject to change based on potential updates to source(s) database. (right) MSCI, Pitchbook | LCD, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data through December 2024. TM is the trailing twelve months ending December 2024. TM MSCI Europe Index captures large and mid cap representation across 15 Developed Markets (DM) countries in Europe. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



## Middle market Buyout may be in favor this year given valuations and capital market activity

15x 14,13 12.7 12x ő 11.7× 11.6x 11.6x 10.8x 10.4× 9x ດ 9.2x <u>б</u> š 6x 2016 2017 2018 2019 2020 2021 2022 2023 2024 2015

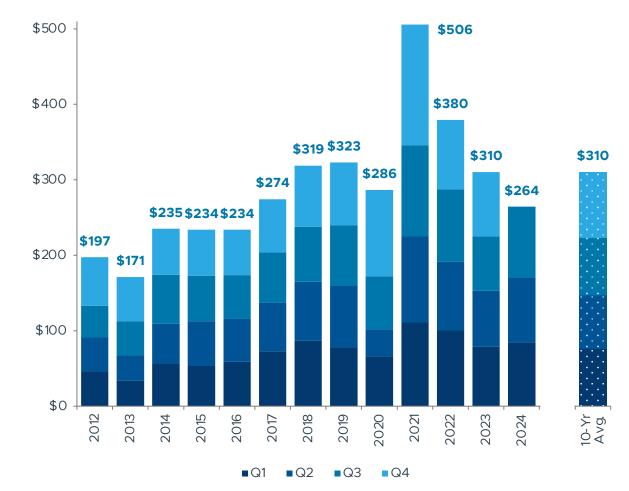
Middle market multiples are still lower than that of broader buyout

Annual buyout EV/EBITDA multiples (x, as of December 2024)

Median U.S. Buyout EV/EBITDA

MM deal volumes increased in recent quarter, are above 10-yr average

U.S. middle market private equity deal activity by year (\$ billions, as of September 2024)



Source: (left) PitchBook | LCD, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data through December 2024. TTM is the trailing twelve months ending December 2024. The middle market is defined as companies acquired through buyout transactions between 25 million and 1 billion USD, as defined by PitchBook. Minority deals are not included. (right) Pitchbook | LCD, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of September 2024. The middle market is defined as companies acquired through buyout transactions between 25 million and 1 billion USD, as defined by PitchBook. Minority deals are not included. (right) Pitchbook | LCD, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of September 2024. The middle market is defined by PitchBook. Minority deals are not included. (right) Pitchbook | LCD, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of September 2024. The middle market is defined by PitchBook. Minority deals are not included. (right) Pitchbook | LCD, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of September 2024. The middle market is defined by PitchBook. Support the availability as of Jan. 31, 2025. Note: Data as of September 2024. The middle market is defined by PitchBook. Support the availability as of Jan. 31, 2025. Note: Data as of September 2024. The middle market is defined by PitchBook. Support the availability as of Jan. 31, 2025. Note: Data as of September 2024. The middle market is defined by PitchBook. Support the availability as of Jan. 31, 2025. Note: Data as of September 2024. The middle market is defined by PitchBook. The middle market is defined by PitchBook. The middle market is defined by PitchBook estimates future data availability as of Jan. 31, 2025. Note: Data as of September 2024. The middle market is defined by PitchBook. The middle market is define

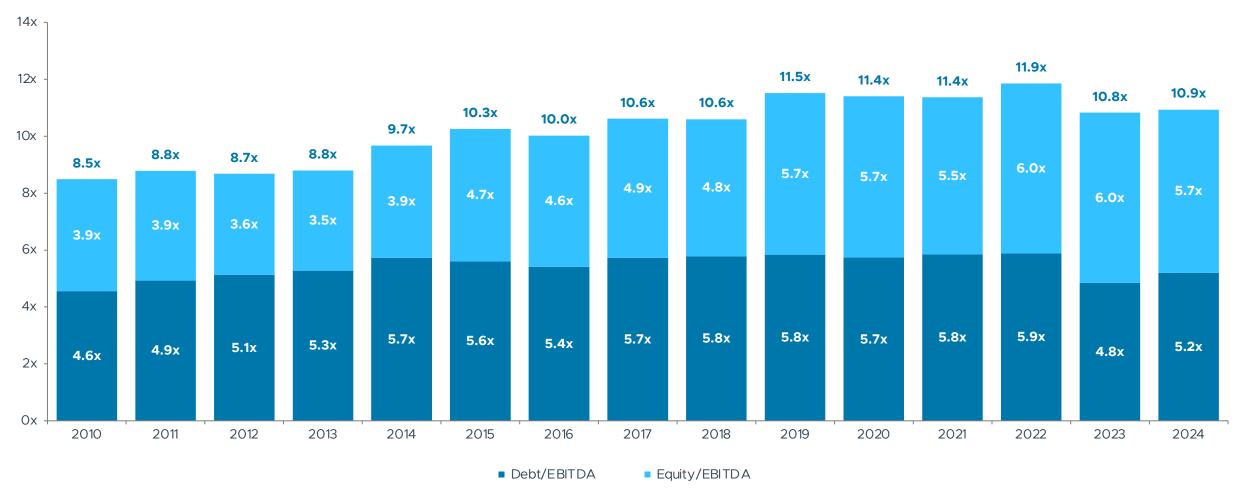
Median U.S. Middle Market Buyout EV/EBITDA



## Fund managers have adjusted to higher cost of capital by reducing the use of leverage

### The use of leverage in buyout transactions has recently declined

Median EV/EBITDA multiple on U.S. BSL-funded leveraged buyout (LBO) transactions broken down by equity and debt financing (x, as of December 2024)



Source: PitchBook | LCD, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of December 2024. U.S. BSL-funded LBOs are Leveraged Buyout (LBO) transactions within the U.S. that were funded by the broadly syndicated loan (BSL) market. Median EV/EBITDA multiple on U.S. BSL-funded LBOs will likely not equal Median U.S. PE Buyout EV/EBITDA multiples due to varying sample size and construction methodology. Data is subject to change based on potential updates to source(s) database. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



## Realization of further rate cuts may help improve levered company financials

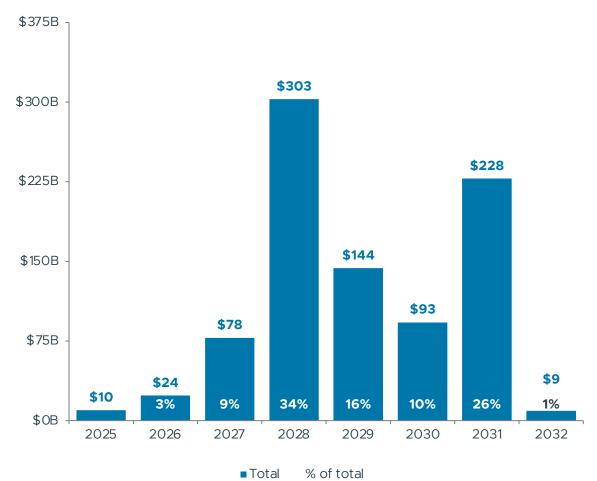
#### Change in rates rapidly impacts company financials

Impact of leverage and rates on PE portfolio companies interest coverage ratio (x)

		Reference Rate (%)									
		3.0%	3.5%	4.0%	4.5%	5.0%	5.5%	6.0%	6.5%		
	35%	3.4x	3.2x	3.0x	2.8x	2.7x	2.5x	2.4x	2.3x		
	40%	3.0x	2.8x	2.6x	2.5x	2.3x	2.2x	2.1x	2.0x		
	45%	2.7x	2.5x	2.3x	2.2x	2.1x	2.0x	1.9x	1.8x		
	50%	2.4x	2.2x	2.1x	2.0x	1.9x	1.8x	1.7x	1.6x		
	55%	2.2x	2.0x	1.9x	1.8x	1.7x	1.6x	1.5x	1.5x		
	60%	2.0x	1.9x	1.8x	1.7x	1.6x	1.5x	1.4x	1.3x		
	65%	1.8x	1.7x	1.6x	1.5x	1.4x	1.4x	1.3x	1.2x		
	70%	1.7x	1.6x	1.5x	1.4x	1.3x	1.3x	1.2x	1.2x		

## Private equity debt maturity wall is rising but still well off in the future

Private equity sponsor-backed leveraged loan maturities (\$ billion)



Source: (left) iCapital Investment Strategy Analysis, PitchBook | LCD, Federal Reserve, with data based on availability as of Jan. 31, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. Analysis done on loans backing leveraged buyouts. We assumed an EBITDA multiple of 11.5x is based on a rolling 10-year (2015-24) average of the annual median North America PE buyout EV/EBITDA multiple per Pitchbookk. Reference rate (i.e., SOFR/FFR) changes but spread above that rate on the loan remains constant. Spreads have ranged from 400-500bps over the last decade. We assume a spread of 425bps. (right) PitchBook | LCD, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of Jan. 31, 2025 and is subject to change based on potential updates to source(s) database. Data is based on availability as of Jan. 31, 2025. Note: Data as of Jan. 31, 2025 and is subject to change based on potential updates to source(s) database. Data is based on availability as of Jan. 31, 2025 and is subject to change based on potential updates to source(s) database. Data is based on availability as of Jan. 31, 2025 and is subject to change based on potential updates to source(s) database. Data is based on availability as of Jan. 31, 2025 and is subject to change based on potential updates to source(s) database. Data is based on availability as of Jan. 31, 2025 and is subject to change based on paramount outstanding. For more information, please refer to the Index. Data excludes defaulted facilities and is based on par amount outstanding. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



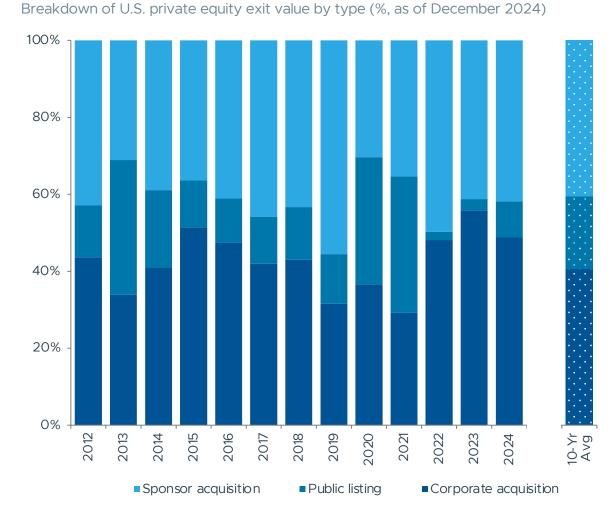
\_everage Used (%)

## Private equity exit activity is recovering given higher valuations in public markets

U.S. private equity exit activity by year (\$ billions, as of December 2024) \$900 \$841 \$750 \$600 \$433 \$450 \$413 \$364<sup>\$385</sup> \$395 \$379 \$347 \$321 \$312 \$302 \$301 \$277 \$300 \$251 \$150 \$0 2013 2014 2012 2015 2016 2018 2019 2020 2021 IO-Yr Avg. 2017 2022 2023 2024 Q3 **Q**4 Q1 Q2

Exit activity volumes are well off the 2021 peaks but are turning higher

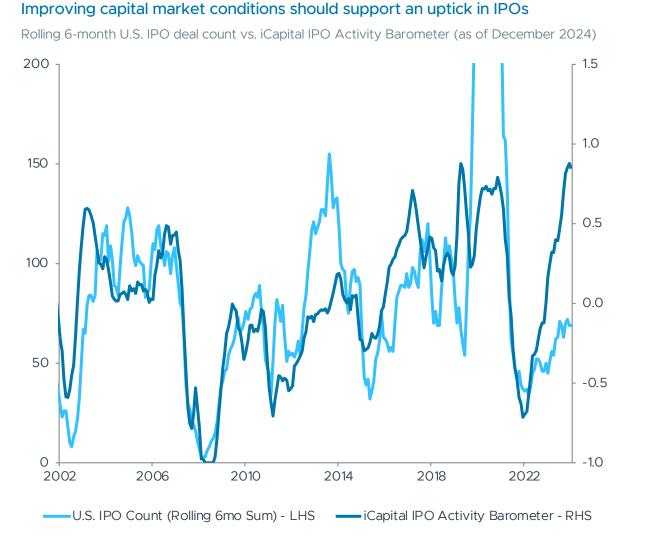
Sponsor & corporate acquisitions account for the vast majority of exits



Source: (left and right) Pitchbook | LCD, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. Exit data reflects U.S. private equity strategies as defined by PitchBook and incorporates adjusted figures for the most recent four-quarters to account for private market reporting lags. PitchBook estimates future data availability by assessing the average percentage change in deal count over the trailing 24 months, measured four quarters after initial reporting. These estimate are added to the most recent four-quarter figures. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

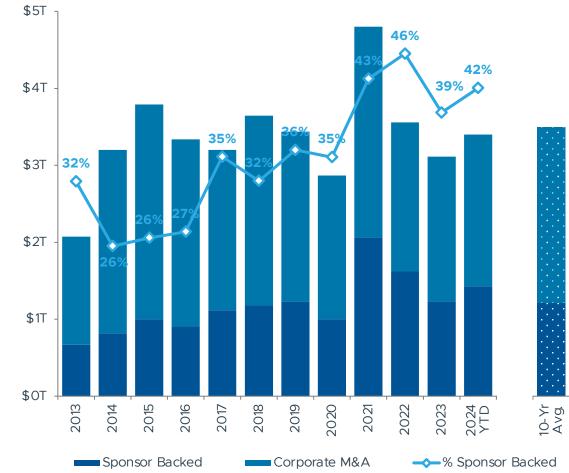


# Capital markets activity is gradually improving across both IPO and M&A markets



#### M&A moved higher in 2024 with expectations of further strength in 2025

Global M&A deal volume, annually (\$ trillion, as of December 2024)



Source: (left) S&P Capital IO, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. Aggregated IPO data can differ across sources and based on inputted criteria. U.S. IPO activity. It draws on seven key factors that have historically provided reliable signals of IPO activity going back to 2001: 1) Valuations, 2) Yields/Rates, 3) Volatility, 4) Drawdowns, 5) Business Conditions, 6) Investor Sentiment, and 7) CEO Sentiment. Given the indicator's structure, the focus should be on overall trends rather than short-term fluctuations or specific levels at any given time. (right) PitchBook I LCD, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on potential updates to source(s) database. Aggregated M&A deal volume data can differ across sources and based on inputted criteria. M&A data is sourced from PitchBook data is served for mPitchBook data is served for mpitchBook data is not orticative of future results. Future results are not guaranteed.

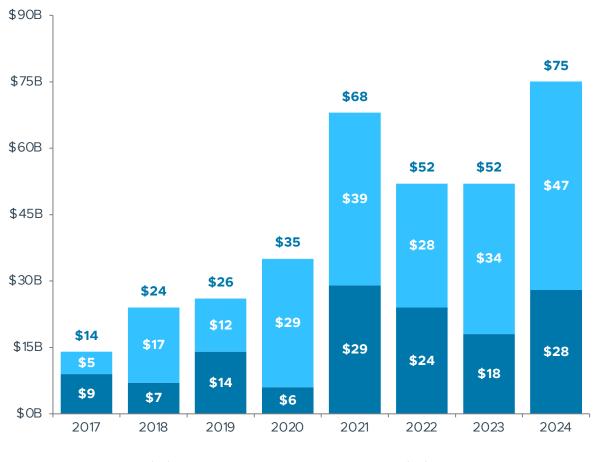


## Extended holding periods increase the need for sources of liquidity



The time period between deal and exit is longer than the average

GP-led secondaries offer a path to liquidity for well seasoned funds



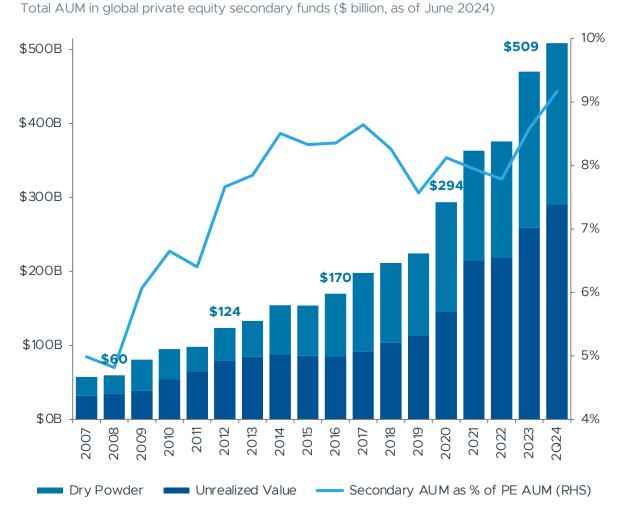
First Half of Year Volume

Second Half of Year Volume

Source: (left) Preqin, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. Analysis shows the average holding period of private equity buyout funds that exited between 2000 and year-to-date 2024 by target country. Target country includes U.S. or Europe. Excludes exits from LP Direct & Private Debt transactions. (right) Jefferies Global Secondary Market Review, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of December 2024 is subject to change based on potential updates to source(s) database. Estimate of GP-led secondary transaction volume for the full year 20224 is based on Jefferies estimates. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



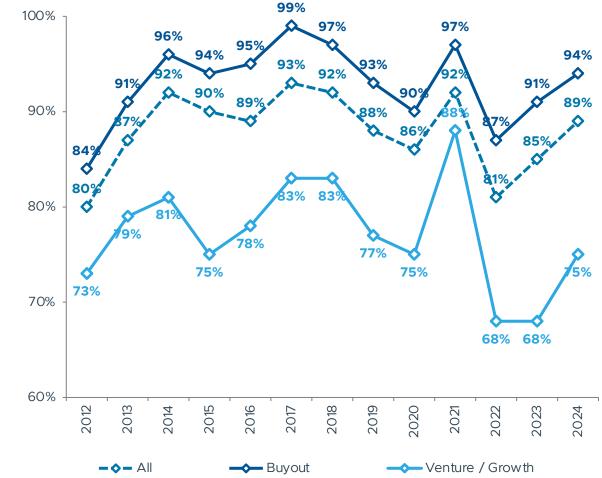
# Growth in private equity secondaries is driven by strong supply/demand dynamics



Secondaries funds have seen rapid growth as liquidity needs grow

#### Secondaries discounts have narrowed but remain larger than pre-2021

LP-led secondary market pricing (% of net asset value, as of December 2024)



Source: (left) Preqin, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2024. Note: Historical AUM data is through June 2024 and data is subject to change based on potential updates to source(s) database. Secondary AUM shown is broken down by unrealized value and dry powder. Secondary assets under management as a percentage of overall private equity assets under management is based on Secondary AUM divided by AUM within Balanced, Buyout, Growth, Co-investment, Co-inves



# Alternatives Decoded Private Credit



# Private credit AUM have grown rapidly to record levels

### Private credit AUM are at record levels and are forecast to increase by over 50% by 2029

Total assets under management (AUM) in global private credit funds (\$ trillion, as of June 2024)



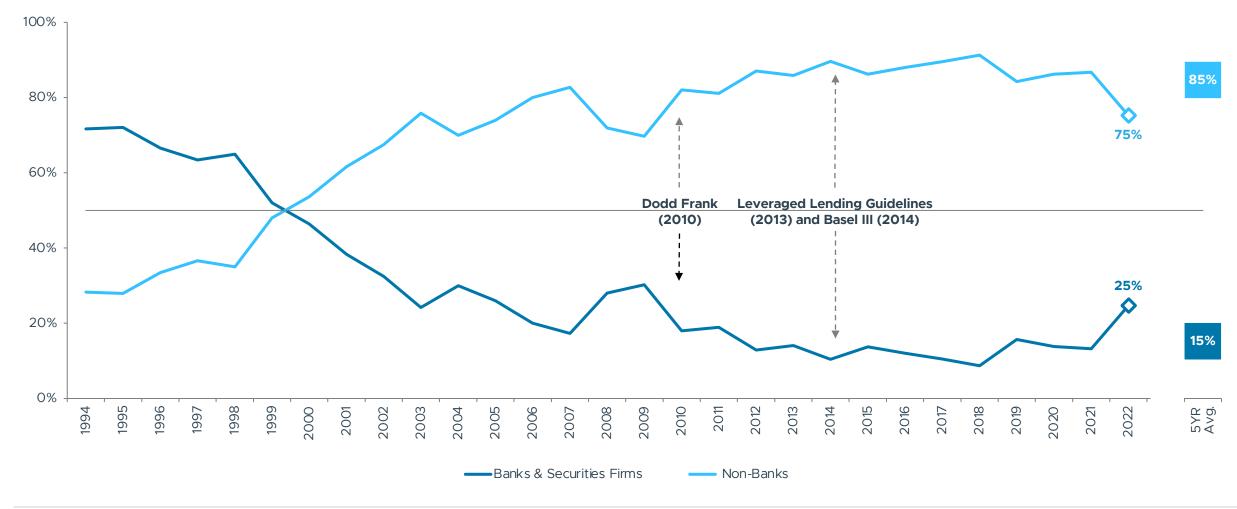
Source: Preqin, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Historical AUM is through June 2024 and forecasted AUM is through December 2029. Data is subject to change based on updates to the source(s) database. AUM is broken down by private credit sub-asset classes as defined by Preqin. "Other" includes Special Situation, Mezzanine, and Venture Debt strategies. Both historical and forecasted AUM exclude RMB-denominated funds for data accuracy, as well as fund of funds and secondaries to prevent double counting of available capital and unrealized value. Forecasted AUM subjects and Sucree from Preqin and is based on their Future of Alternatives report, which models projected AUM using various variables. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



### Secular decline in bank lending is being driven by regulation, capital requirements

Banks retrenched from middle market direct lending with its share of the leveraged loan market roughly 50pp lower since 1994





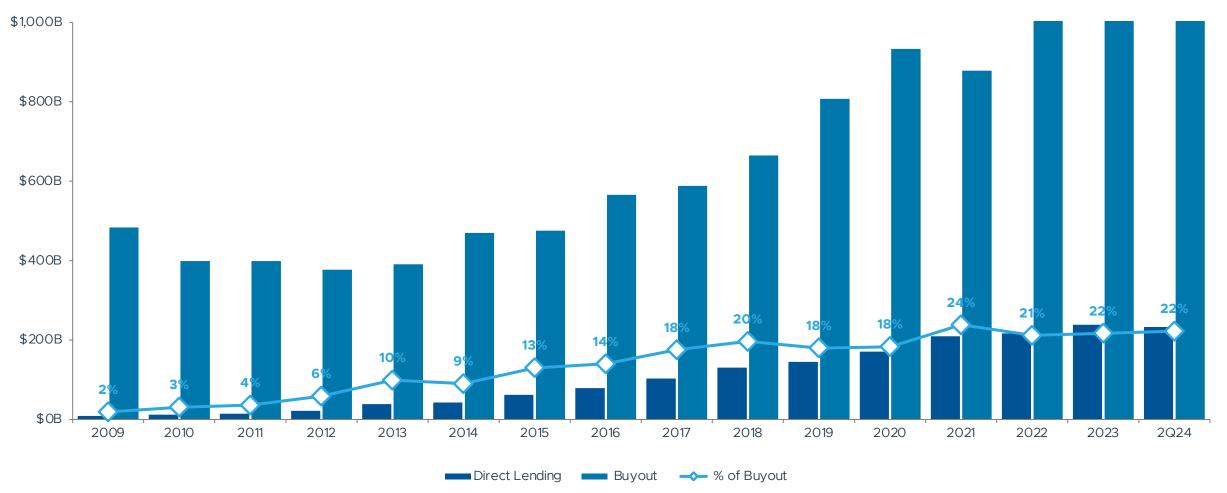
Source: PitchBook | LCD, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of December 2022 and is subject to change based on potential updates to source(s) database. Due to a significant decline in loan issuance in 2023, PitchBook | LCD did not track enough observations to compile meaningful averages for investor analysis of 2023. Nonbanks include institutional investors, insurance companies, and finance companies. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



# Growth in private equity buyout strategies drives further demand for private credit

As private equity dry powder continues to grow this drives the opportunity for direct lending

Global direct lending and private equity buyout dry powder (\$ billion, as of June 2024)



Source: Preqin, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025.. Note: Data as of June 2024 and is subject to change based on potential updates to source(s) database. Dry powder shown is for direct lending and buyout strategies, as defined by Preqin. Dry powder figures exclude RMB-denominated funds for greater data accuracy, as well as fund of funds and secondaries to prevent double counting of dry powder. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



#### Private credit and public fixed income returns

Annual and time-period returns ranked in order of performance (%, as of September 2024)

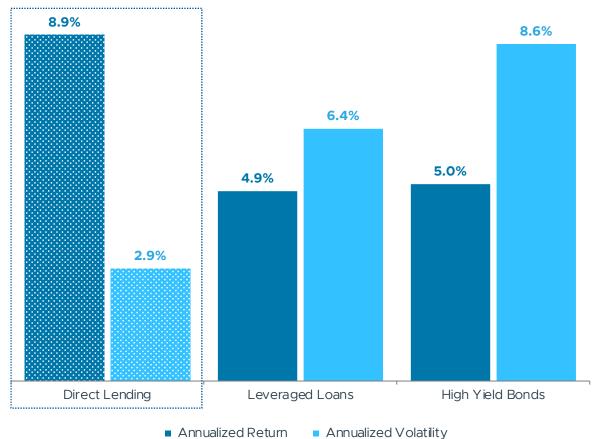
	Annual Return (%)										Time-Period Return (%, per annum)			
2015	2016	2017	2018	2019	2020	2021	2022	2023	2024 YTD	3YR	5YR	10YR	15YR	
5.5% Direct Lending	24.8% Public BDCs	11.4% Distressed Debt	8.1% Direct Lending	29.3% Public BDCs	7.5% US Aggregate	36.5% Public BDCs	6.3% Direct Lending	26.6% Public BDCs	8.7% Public BDCs	9.9% Public BDCs	10.0% Public BDCs	8.9% Direct Lending	10.3% Public BDCs	
0.6% Distressed Debt	17.1% HY Bonds	8.6% Direct Lending	3.5% Distressed Debt	14.3% HY Bonds	7.1% HY Bonds	22.4% Distressed Debt	4.6% Distressed Debt	13.4% HY Bonds	8.5% Direct Lending	9.8% Direct Lending	9.4% Direct Lending	8.2% Public BDCs	10.2% Direct Lending	
0.5% US Aggregate	11.2% Direct Lending	7.5% HY Bonds	1.9% Cash	9.0% Direct Lending	5.5% Direct Lending	12.8% Direct Lending	1.5% Cash	13.3% Leveraged Loans	8.0% HY Bonds	6.8% Distressed Debt	8.3% Distressed Debt	6.7% Distressed Debt	9.0% Distressed Debt	
0.0% Cash	10.2% Leveraged Loans	4.1% Leveraged Loans	0.5% Leveraged Loans	8.7% US Aggregate	3.1% Leveraged Loans	5.3% HY Bonds	-0.8% Leveraged Loans	12.1% Direct Lending	6.6% Leveraged Loans	6.5% Leveraged Loans	5.7% Leveraged Loans	5.0% HY Bonds	6.9% HY Bonds	
-0.7% Leveraged Loans	8.5% Distressed Debt	3.5% US Aggregate	0.0% US Aggregate	8.6% Leveraged Loans	1.8% Distressed Debt	5.2% Leveraged Loans	-9.6% Public BDCs	10.4% Distressed Debt	4.4% US Aggregate	3.6% Cash	4.7% HY Bonds	4.9% Leveraged Loans	5.4% Leveraged Loans	
-3.1% Public BDCs	2.6% US Aggregate	0.9% Public BDCs	-2.1% HY Bonds	2.3% Cash	0.6% Cash	0.0% Cash	-11.2% HY Bonds	5.5% US Aggregate	4.2% Cash	3.1% HY Bonds	2.4% Cash	1.8% US Aggregate	2.6% US Aggregate	
-4.5% HY Bonds	0.3% Cash	0.8% Cash	-4.6% Public BDCs	2.2% Distressed Debt	-9.7% Public BDCs	-1.5% US Aggregate	-13.0% US Aggregate	5.3% Cash	3.6% Distressed Debt	-1.4% US Aggregate	0.3% US Aggregate	1.7% Cash	1.1% Cash	

Source: Bloomberg Index Services Limited, Cliffwater, Cliffwater Direct Lending Index, FTSE Russell, Morningstar, Preqin, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of September 2024 and is subject to change based on potential updates to source(s) database. U.S. Aggregate proxied by the Bloomberg U.S. Aggregate Bond Index. High Yield Index. Leveraged Loans proxied by Morningstar LSTA U.S. Leveraged Loan Index. Direct Lending proxied by Cliffwater Direct Lending proxied by the Bloomberg High Yield Index. Leveraged Loans proxied by Morningstar LSTA U.S. Leveraged Loans proxied by Cliffwater Direct Lending proxied by The Bloomberg High Yield Index. Leveraged Loans proxied by Morningstar LSTA U.S. Leveraged Loans proxied by Cliffwater Direct Lending proxied by The Bloomberg High Yield Index. Leveraged Loans proxied by Stering proxied by Cliffwater Direct Lending proxied by Teigting sed to track the daily performance of 3-month US Treasury bill, a measure we consider a proxy for cash returns. Distressed Debt is provided by Preqit Distressed Debt Distressed Debt is provided by Preqit Distressed Debt is prov



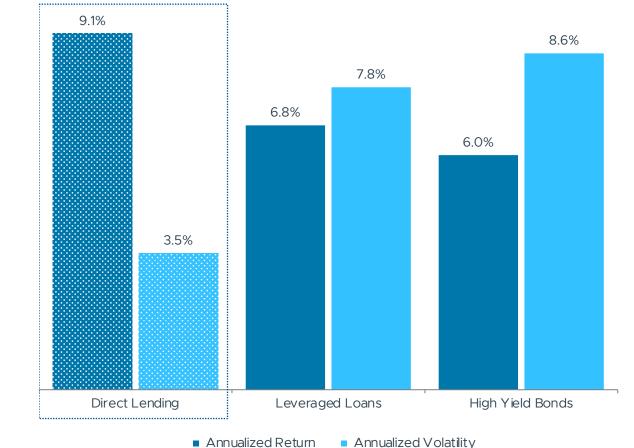
# Direct lending offered favorable risk-adjusted returns versus public fixed income

Private credit has historically produced superior risk-adjusted returns Historical 10-year annual risk/return for credit markets (%, as of September 2024)



Forecasts point to continued risk-adjusted outperformance of private credit

Forecasted 10-year annualized risk/return for credit markets (%)



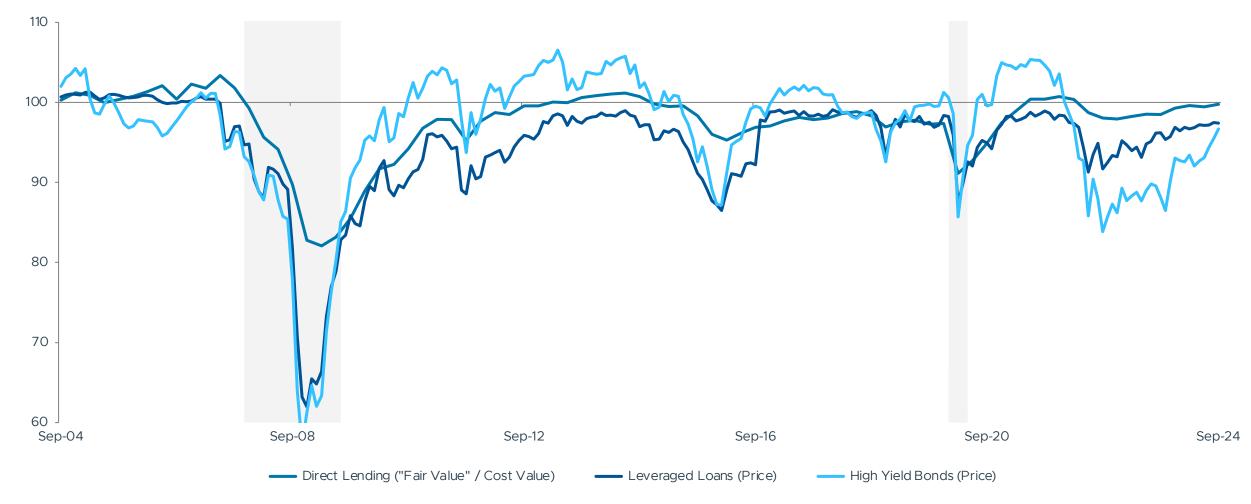
Source: (left) Bloomberg Index Services Limited, Cliffwater Direct Lending Index, Morningstar, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of September 2024. High Yield proxied by the Bloomberg High Yield Index. Leveraged Loans proxied by Morningstar LSTA U.S. Leveraged Loan Index. Direct Lending provide by Cliffwater Direct Lending Index, Historical 10-year annualized return and volatility is based on quarterly data from September 2014 to September 2024. (right) BlackRock, Cliffwater, Envestnet, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Analysis is based on the average long-term capital market assumption for each strategy, using 2024 long-term capital market assumptions from BlackRock, Cliffwater, and Envestnet. For the selected sub-asset classes and strategies, returns are expressed as compound returns over a 10-year outlook period, net of applicable fees. Data is subject to change based on potential updates to source(s) database. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



## Private credit drawdown risk is moderated by buy-and-hold nature, fewer dislocations

#### Private credit is less susceptible to drawdowns and dislocations due to daily market technicals

Ratio of fair (market) value to cost for direct lending with high yield bond and leveraged loan prices (cost = 100, as of September 2024)



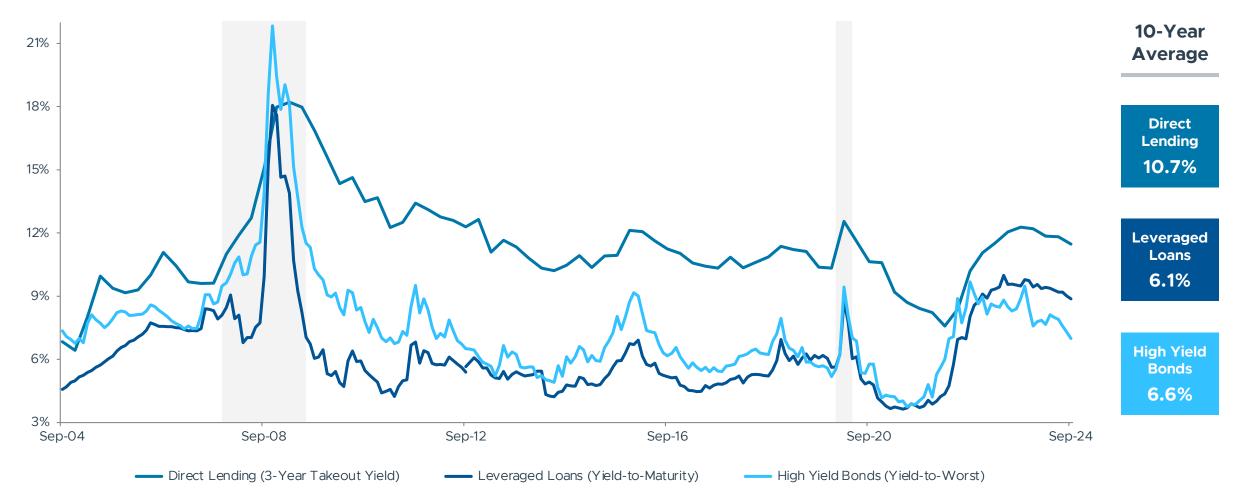
Source: Bloomberg Index Services Limited, Cliffwater Direct Lending Index, Morningstar, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of September 2024 and is subject to change based on potential updates to source(s) database. High Yield proxied by the Bloomberg High Yield Index and shows month-end. Leveraged Loan 100 Index and shows month-end price level. Direct Lending proxied by Cliffwater Direct Lending Index and shows the quarter-end "fair" value to cost (principal) value. Cliffwater Direct Lending "Fair Value" / Cost Value is calculated based on the SEC filings of the BDCs that comprise the Cliffwater Direct Lending Index. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



# Risk premium, complexity and market inefficiencies provides a backdrop for attractive yields

Private credit yields have compared favorably to public fixed income

Average yield (%, as of September 2024)



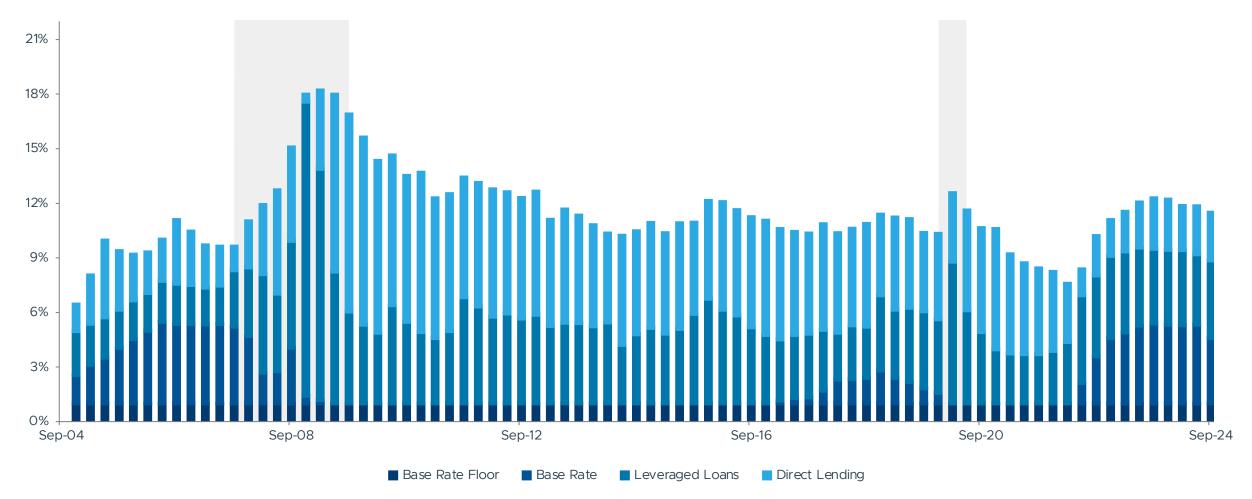
iCapital. 47

Source: Bloomberg Index Services Limited, Cliffwater Direct Lending Index, Morningstar, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of September 2024 and is subject to change based on potential updates to source(s) database. High Yield proxied by the Bloomberg High Yield Index and shows month-end yield-to-maturity. Direct Lending Index and shows month-end yield-to-maturity. Direct Lending Index and shows the quarter-end 3-year takeout yield. The 3-year takeout yield is calculated by assuming loans will be repaid at par in three years, the average life of direct loans. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

# Direct lending spreads recently widened, moving closer to historical excess spread

Direct lending yields have historically offered excess yield of around 500 bps vs. leveraged loans

Decomposition of the excess yield provided by direct lending (%, as of September 2024)

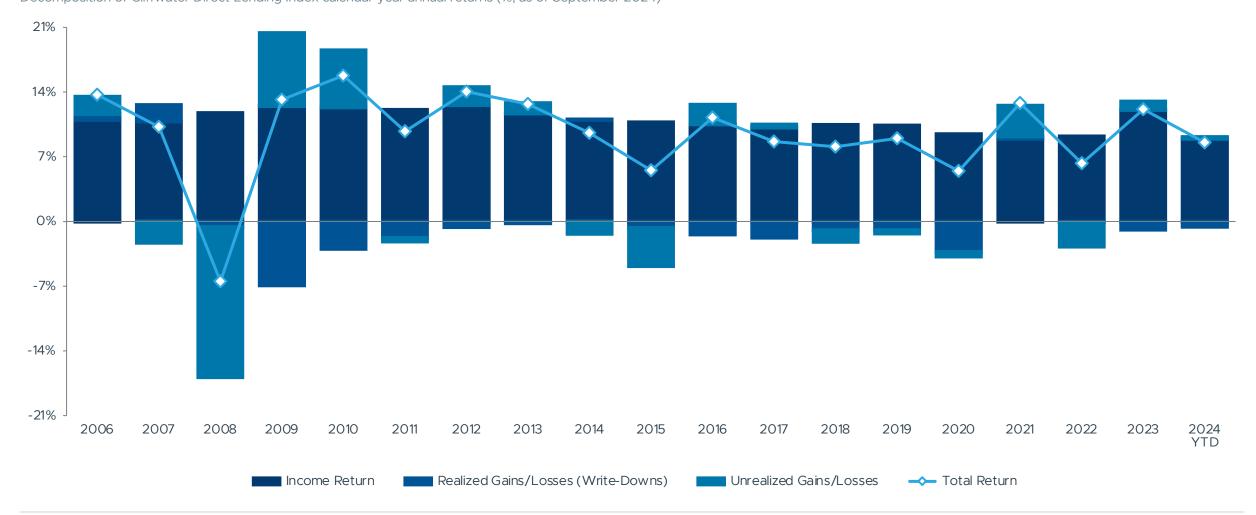


Source: Cliffwater Direct Lending Index, Intercontinental Exchange (ICE), Morningstar, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data reflects quarter-end figures as of September 2024 and is subject to change based on potential updates to source(s) database. The base rate is the benchmark interest rate, proxied by 3-Month Term SOFR (CME 3-Month Term SOFR (CME 3-Month LIBOR (ICE 3-Month LIBOR or SOFR. For more information, please rate is the averaged by assuming loans will be repaid at par in three years, the average life of direct loans. A base rate for the minimum interest rate applied to floating-rate loans tied to LIBOR or SOFR. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



### Income has been a steady component of private credit returns over time

Direct lending has only had one negative total return year (2008), given consistently high single-digit interest income returns Decomposition of Cliffwater Direct Lending Index calendar year annual returns (%, as of September 2024)

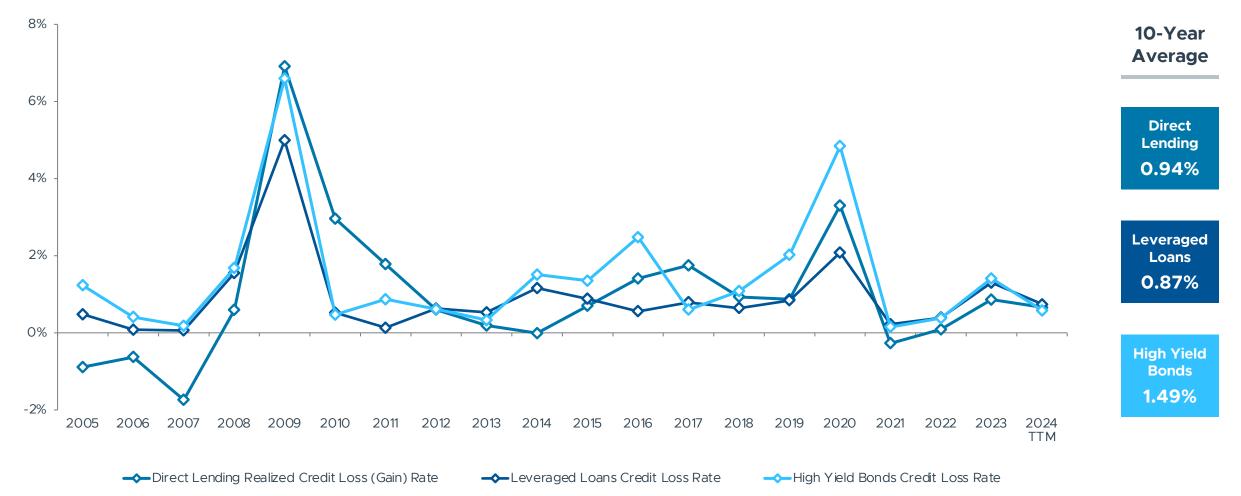


Source: Cliffwater Direct Lending Index, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of September 2024 and is subject to change based on potential updates to source(s) database. Direct Lending proxied by Cliffwater Direct Lending Index. Realized gains (losses) represent the component of valuation change for completed transactions. Unrealized gains (losses) represent the component of valuation change in market price or, in the case of a portfolio of loans, such as the Cliffwater Direct Lending Index, a change in "fair value" not attributable to a transaction. Return subcomponents may not add up exactly to the total return due to rounding and compound effects. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



# Credit losses for private credit have been in line with high yield and bank loan issuers

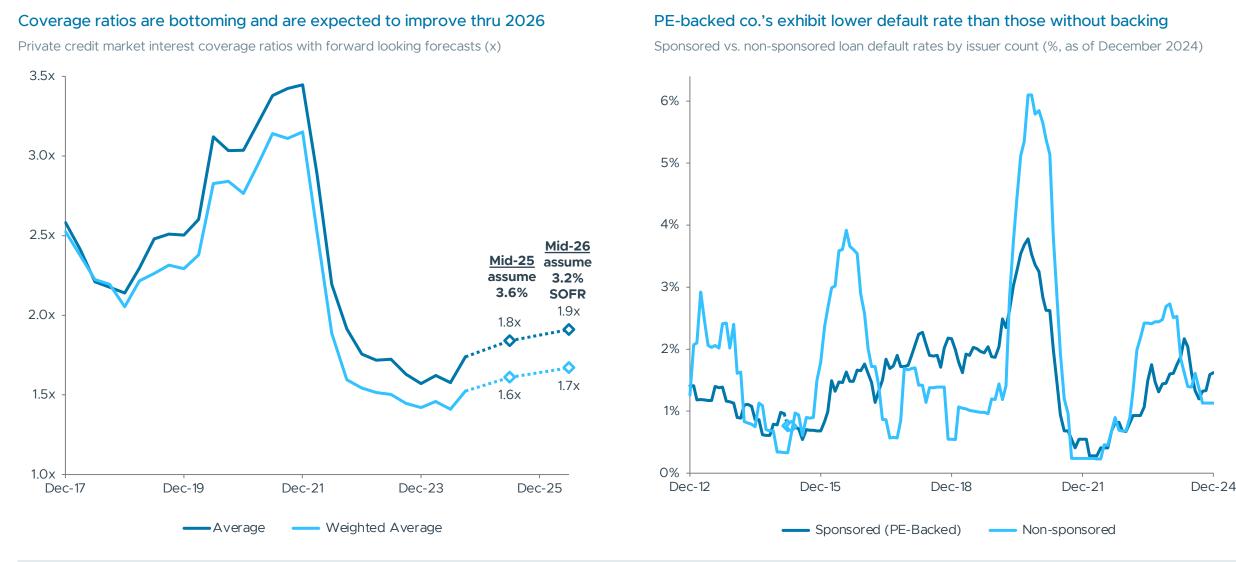
Direct lending annual loss rates have compared favorably to high yield and are in line with leveraged loans loss rates over the last 10 years Historical annual loss rates across public and private credit (%, as of September 2024)



Source: Bloomberg Index Services Limited, Cliffwater Direct Lending Index, Morningstar, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of September 2024 and is subject to change based on potential updates to source(s) database. High Yield proxied by the Bloomberg High Yield Index. Leveraged Loans proxied by Morningstar, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of September 2024 and is subject to change based on potential updates to source(s) database. High Yield proxied by Cliffwater Direct Lending Index. The credit loss rate for High Yield and Leveraged Loans equals the default rate multiplied by one minus the recovery rate. The credit loss rate for Direct Lending Index. The credit loss rates can be more informative than default rates, driven by the increased prevalence of covenants in private credit structures. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



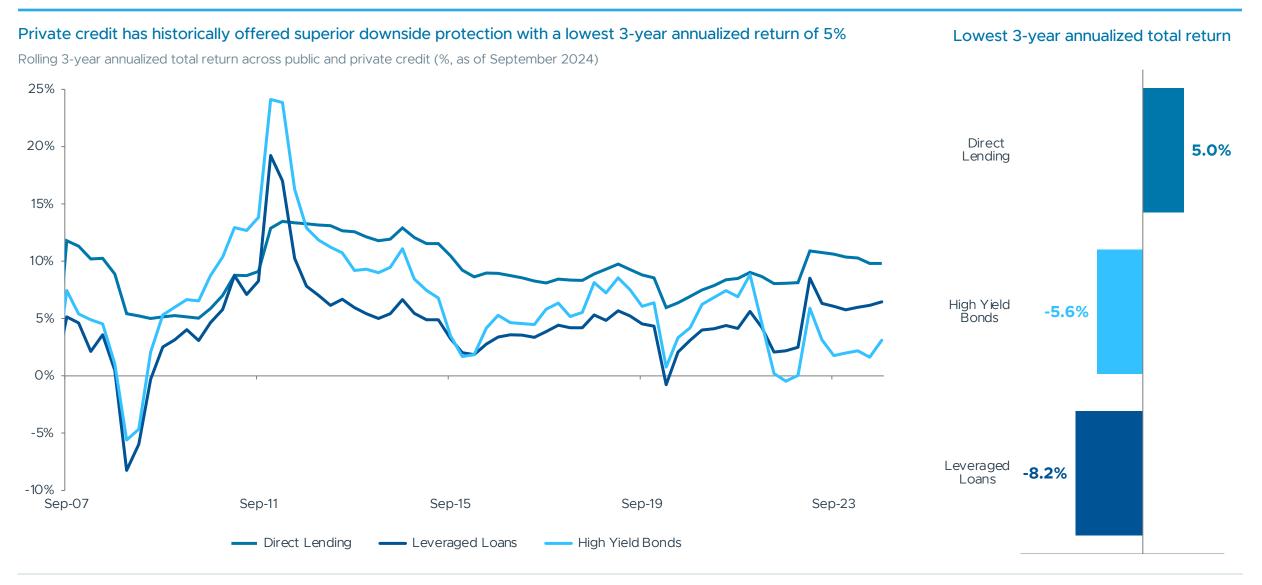
# Private credit coverage ratios are improving, which could help keep defaults in check



Source: (left) Houlihan Lokey Private Performing Credit Index, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of September 2024 and is subject to change based on potential updates to source(s) database. Forecasts are based on Houlihan Lokey and assume a 4.1% SOFR base rate in mid-2025 and a 3.7% SOFR base rate in mid-2026. Private credit market interest coverage ratio is calculated as adjusted EBITDA divided by total interest expense. It is based on underlying data within Houlihan Lokey's proprietary database of performing private credit loans. The data is adjusted as appropriate to calculate each borrowers' interest coverage ratio. Adjustments may include pro forma adjustments to EBITDA, annualization of quarterly interest expense, and estimation of interest expense when there is limited information. (right) PitchBook | LCD, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. U.S. Leveraged Loan default rates includes loans within the Morningstar LSTA US. Lev Loan Index and are based on issuer count and include issuers in the Morningstar LSTA US Leveraged Loan Index. For more information, please refer to the Index Definitions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



# Lower volatility, high income led to more consistently positive results for private credit

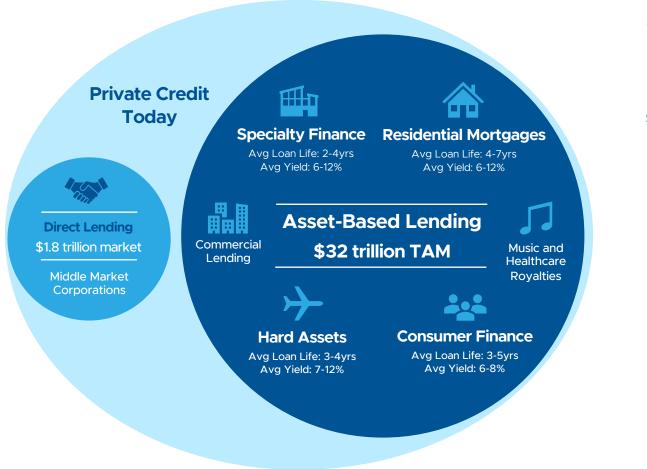


Source: Bloomberg Index Services Limited, Cliffwater Direct Lending Index, Morningstar, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of September 2024 and is subject to change based on potential updates to source(s) database. High Yield proxied by the Bloomberg High Yield Index. Leveraged Loans proxied by Morningstar LSTA U.S. Lev Loan Index. Direct Lending proxied by Cliffwater Direct Lending Index. Rolling 3-year annualized total return is based on quarterly. Lowest 3-year annualized total return shows the quarter where the strategy had the lowest rolling 3-year annualized return. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



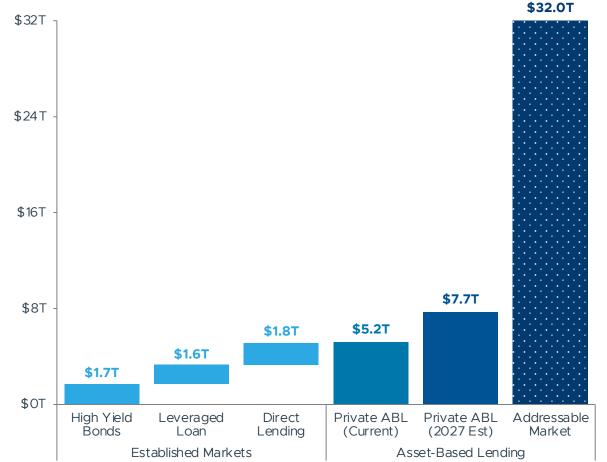
## The emergence of asset-based-lending in private credit unlocks a vastly larger opportunity set

Private credit opportunity set has expanded as it steps into asset-based lending Ecosystem of the private credit market today



Private ABL market is already larger than other parts of the credit market

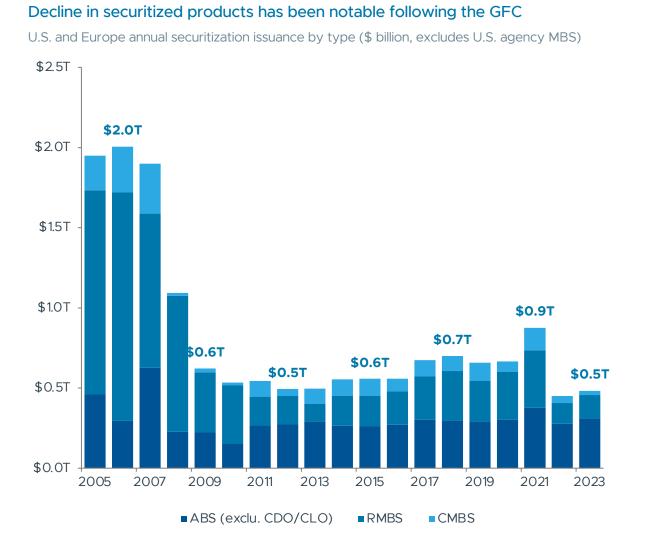
Current size of various credit markets and projected size of asset-based lending market (\$ trillion)



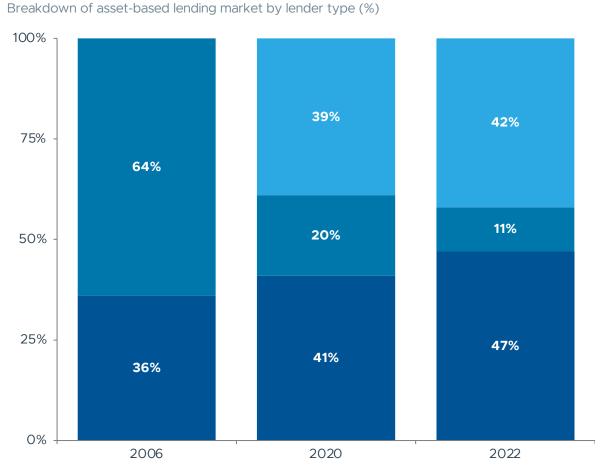
Source: (left) Apollo, John Hancock, KKR, Marathon Asset Management, S&P Global, UBS, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data is subject to change based on potential updates to source(s) database. Average yield is unlevered. Average loan life is the typical loan life for select type of loans within each category and may not fully reflect the average loan life of a asset-based lending portfolio. (right) iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of October 2022 and is subject to change based on potential updates to source(s) database. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



# Asset-based lending is becoming a meaningful alternative as banks pulled back post-GFC



Private credit is increasingly stepping in and making up a larger share of ABL mkt



Gov't & related funding Public asset-backed securities (ABS) Private asset-based lending (ABL)

Source: (left) AFME, SIFMA, Bank of America, JP Morgan, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of December 2023 and is subject to change based on potential updates to source(s) database. ABS (Asset-Backed Securities) are securities backed by residential mortgage-Backed Securities) are securities backed by commercial Mortgage-Backed Securities) are securities backed by residential mortgage-Backed Securities) are securities backed by commercial mortgage-Backed Securities backed by commercial mortgage-Backed Securities) are securities backed by commercial mortgage-Backed Securities) are securities backed by commercial mortgage-Backed Securities) are securitisation Data R



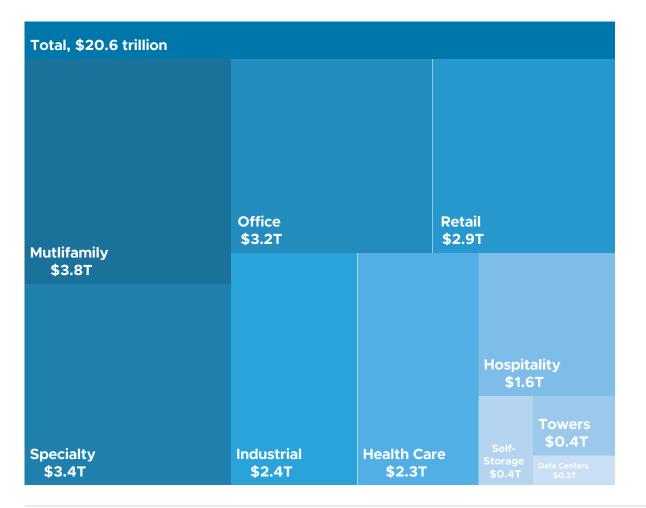
# Alternatives Decoded Commercial Real Estate



# CRE is a large, diversified asset class with growing interest from private capital investors

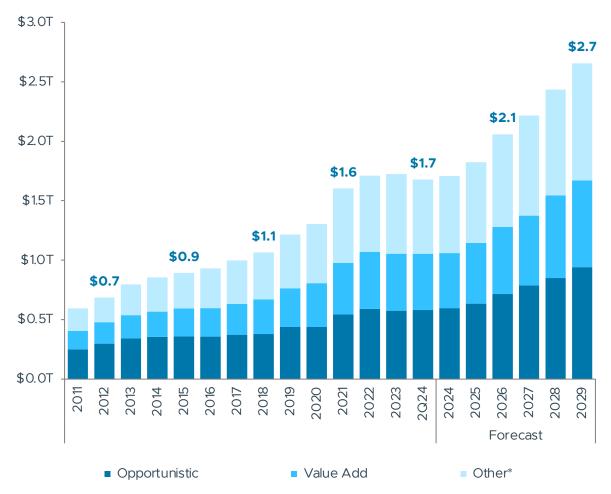
The U.S. commercial real estate market is estimated to be \$20.6T

Estimated size of the U.S. commercial real estate market by sector (\$ trillion)



#### Real estate funds AUM has grown over the years

Total AUM in global private real estate funds (\$ trillion, as of June 2024)



Source: (left) Nareit, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of June 2021 and is subject to change based on potential updates to source(s) database. Measurement issues with the underlying data suggest that the actual value of total CRE may differ from this point estimate. An examination of these sources of uncertainty suggests that the actual value is highly likely to fall within a range of \$18-22 trillion. These estimates are based on a bottom-up approach using the best available data for each property sector. (right) Preqin, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Historical AUM is through June 2024 and forecasted AUM is through December 2029. Data is subject to change based on updates to the source(s) database. AUM is brough June 2024 and forecasted AUM is through December 2029. Data is subject to change based on updates to the source(s) database. AUM is brough June 2024 and forecasted AUM exclude RMB-denominated funds for data accuracy, as well as fund of funds and secondaries to prevent double copital and unrealized value. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



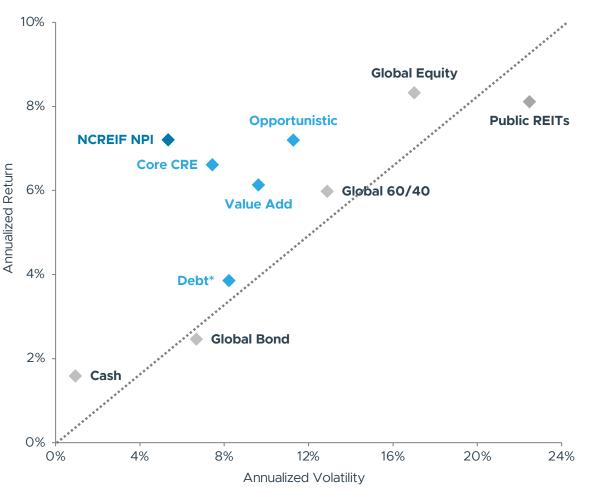
### CRE has had a low correlation to and better risk-adjusted returns than public markets

**Private real estate provides lower correlation to 60/40 than public REITs** Correlation matrix based on trailing 15 years of guarterly data (as of September 2024)



#### CRE has produced superior risk-adjusted returns over the long run

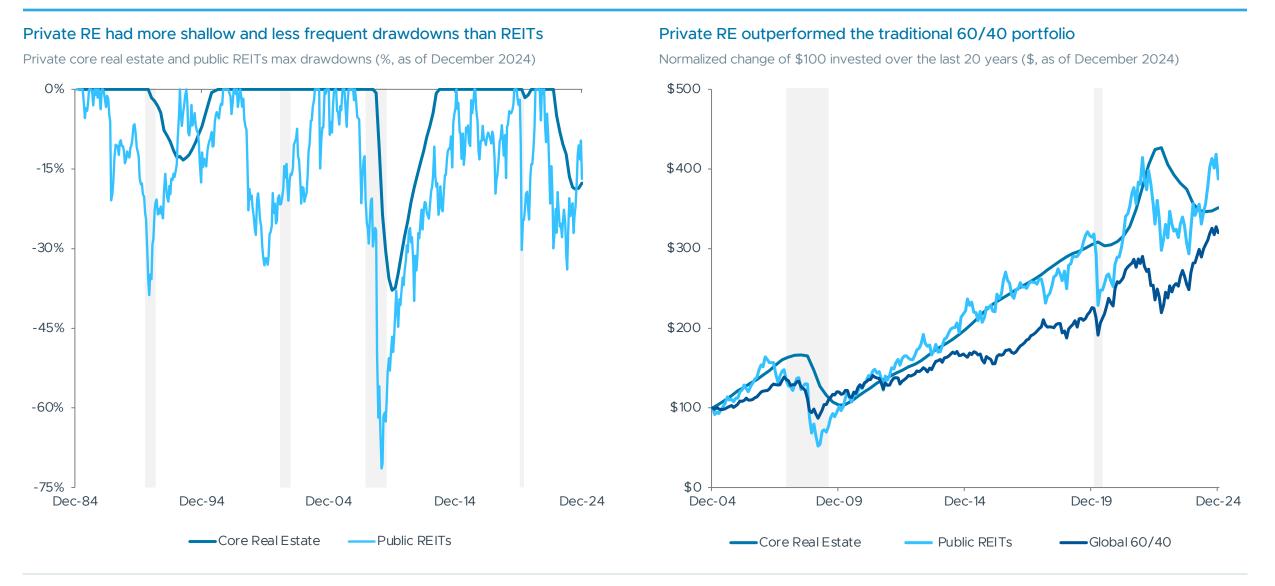
Annualized vol/return based on trailing 20 years of quarterly data (as of September 2024)



Source: (left and right) Bloomberg Index Services Limited, FTSE Russell, MSCI, NCREIF, Preqin, S&P Dow Jones, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of September 2024 and is subject to change based on potential updates to source(s) database. Public REITs proxied by FTSE Nareit Equity Index. Core CRE proxied by Preqin Real Estate Debt Index. Global 60/40 proxied by GNSCI ACWI Total Return Index and 40% Bloomberg Global Aggregate Index. Cash proxied by the FTSE 3 Month US T Bill Index which is intended to track the daily performance of 3-month US Treasury bill, a measure we consider a proxy for Cash returns. NCREIF NPI is a quarterly, unleveraged composite total return for private commercial real estate properties. It is important to note that the returns listed are based on indices which are meant to estimate the asset class performance, hypothetically creating a return if one had access to all active funds. Not all the above indices are practically investable and are subject to change as datasets are continually updated. All returns are calculated in U.S. dollars. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results are not guaranteed.



## Private real estate had less frequent drawdowns, which helped deliver returns overtime

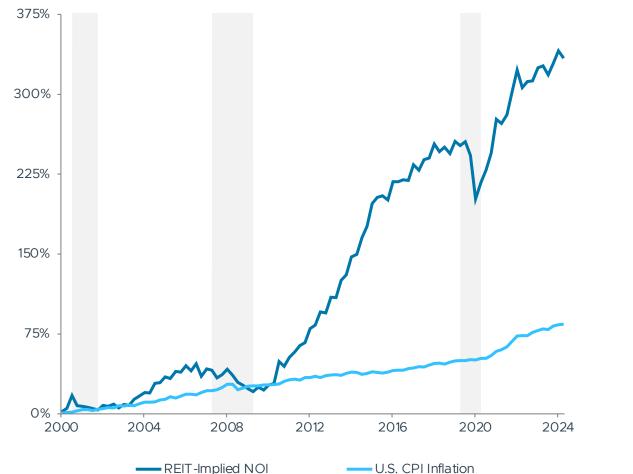


Source: (left) FTSE Russell, NCREIF, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. Maximum drawdown is the maximum loss from a peak to trough, before a new peak is attained. Public REITs proxied by FTSE Nareit Equity Index. Core CRE proxied by NCREIF ODCE Total Return Index. (right) Bloomberg Index Services Limited, FTSE Russell, MSCI, NCREIF, Icapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. Public REITs proxied by NCREIF ODCE Total Return Index. (right) Bloomberg Index Services Limited, FTSE Russell, MSCI, NCREIF, Icapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. Public REITs proxied by FTSE Nareit Equity Index. Core CRE proxied by PTSE Nareit Equity Index. Core CRE proxied by PTSE Nareit Equity Index. Core CRE proxied by PTSE Nareit Equity Index. Core CRE proxied by NCREIF ODCE Total Return Index. Global 60/40 proxied by MCI ACWI ACWI AcWI Bloomberg Global Aggregate Index. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For Illustrative purposes only. Past performance is not indicative of future results are not guaranteed.



# Growth in net operating income (NOI) has outpaced inflation and served as a core return driver

#### NOI grew significantly faster than inflation



Normalized change of inflation and CRE NOI (%, as of September 2024)

#### Income has been an important anchor of real estate returns

Decomposition of core real estate calendar year returns (%, as of December 2024)



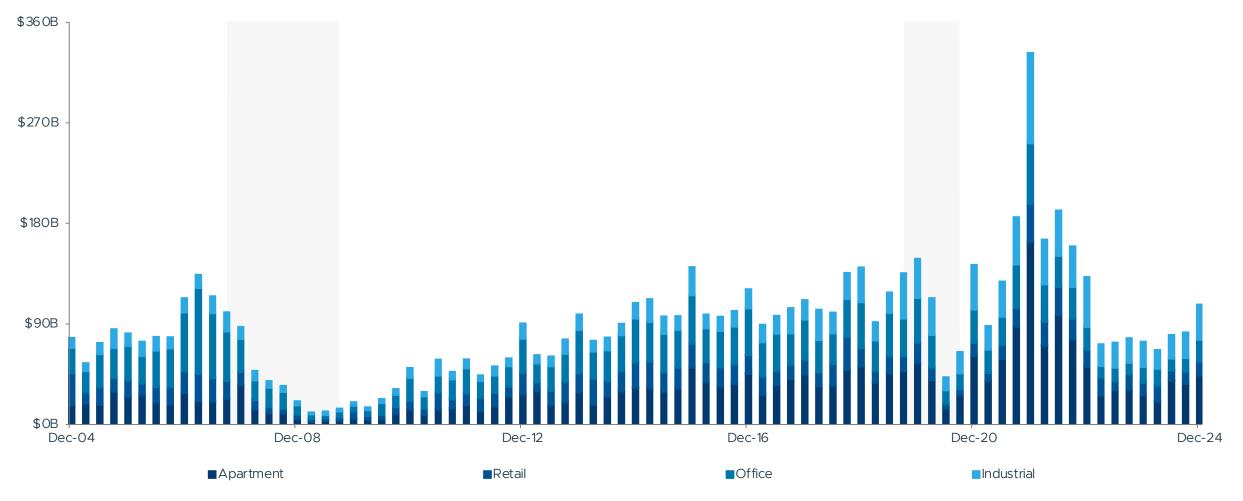
Source: (left) Bloomberg, Nareit, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of September 2024 and is subject to change based on potential updates to source(s) database. REIT-implied same-store net operating income ("NOI") is used as a proxy for overall CRE NOI growth. Net operating income is the total revenues earned by a property less operating expenses but before capital items and debt service. It is typically used to analyze the profitability of income-generating real estate investments and is computed as a year-over-year change (right) NCREIF, icapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. Calendar year 2024 return shown is based on 2024 year-to-date return shown is based off NCREIF NPI) which is a quarterly, appraisal-based index that track changes in core institutional property markets. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results are not guaranteed.



### Transaction volumes are recovering, should help provide more realistic pricing in coming quarters

Real estate transaction volumes are recovering after the steep declines in 2022-2023

U.S. transaction volume by property type, quarterly (\$ billions, as of December 2024)



Source: MSCI Real Capital Analytics, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. CRE transaction volumes are represented as the total dollar value of commercial properties bought, sold, or leased during a specific period. Transaction volumes above exclude refinancing transactions and are based on independent reports of properties and portfolios \$5 million and greater. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results are not guaranteed.



### Commercial real estate prices corrected sharply, but the recovery process is underway

Commercial real estate prices are recovering after a sharp pullback Prices of most property types are still well below their Q2 2022 peak Year-over-year change in commercial property prices by type (%, as of December 2024) Normalized change in property prices by type since June 2022 (%, as of December 2024) 10% 30% Industrial 5.7% 5% 20% 0% 10% 4.8% -5% Retail -5.5% 1.9% 0% -1.0% -10% **4.9%** Overall -11.5% -10% -15% Apartment -20% -19.2% -20% Office -24.1% -30% -25% Dec-04 Dec-09 Dec-14 Dec-19 Dec-24 Jun-22 Dec-22 Jun-23 Dec-23 Jun-24 Dec-24 Office Apartment Retail Industrial ••••• Overall ••••• Overal Retai Office Industrial Apartment

Source: (left and right) MSCI Real Capital Analytics, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. Change in commercial property types is based on RCA Commercial Property Price Indices (RCA CPP) by MSCI. The RCA CPPI indices are monthly, transaction-based metrics that track the actual price movements of commercial properties valued over \$2.5 million using a repeat-sales regression methodology, which requires that the included properties based on RCA CPPI indices are qual-weighted, while the property level indices are equal-weighted. Given that the RCA CPPI indices are published monthly rather than quarterly and are based on actual transaction prices rather than appraisals (such as the NCREIF Property Index), these indices may produce a more accurate and timely measurement of movements in property values. However, during periods of poveries transacted may be atypical and can skew underlying trends. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



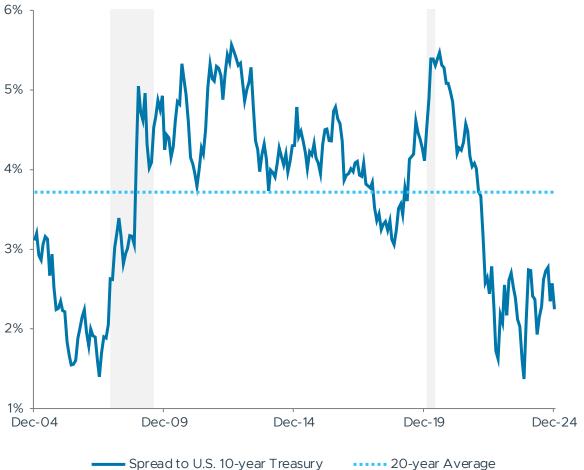
# Cap rates reset higher as the Fed raised interest rates, but remain low relative to bond yields

U.S. CRE transaction-based cap rates by property type (%, as of December 2024) 9% 6% 5% 8% 7% 4% 3% 6% 5% 2% 4% 1% Dec-04 Dec-09 Dec-14 Dec-19 Dec-24 Office Apartment Retail Industrial Overall

Capitalization (Cap) rates across property types reset significantly higher

#### The nominal spread of cap rates to Treasuries has compressed

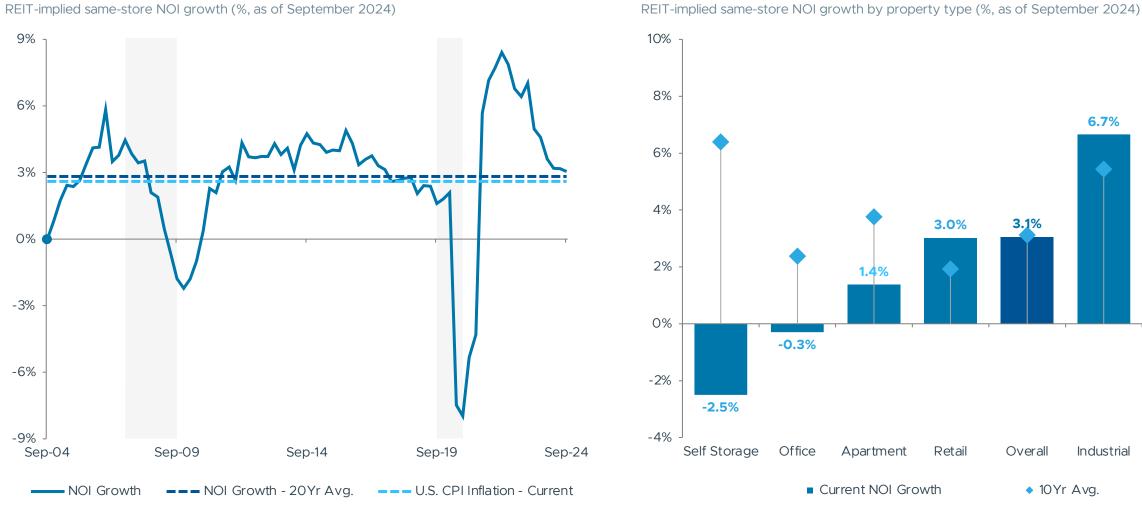
Spread of CRE cap rates over nominal U.S. 10-year Treasury (%, as of December 2024)



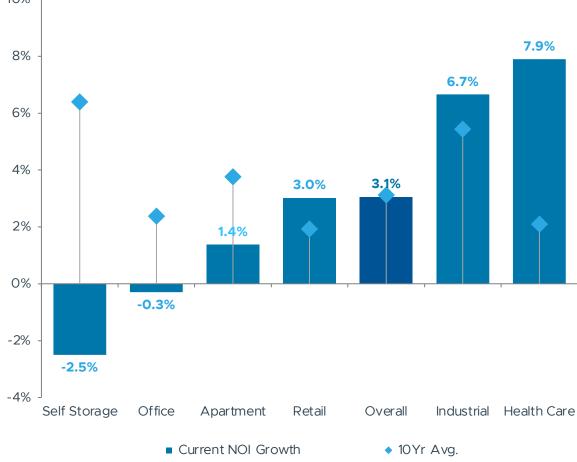
Source: (left) MSCI Real Capital Analytics, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. CRE cap rate is broadly defined as the ratio of NOI to current market value. The cap rates above are based on internal RCA data and are shown as a 3-month rolling average of all transactions of \$5 million or more. (right) MSCI Real Capital Analytics, U.S. Department of the Treasury, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of December 2024 and is subject to change based on internal RCA data and are shown as a 3-month rolling average of all transactions of \$5 million or more. (right) MSCI Real Capital Analytics, U.S. Department of the Treasury, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



### NOI growth is slowing from high levels but is still roughly above long-term averages and inflation



NOI growth is trending lower towards the 20-year average level



Secular growth sectors are outperforming structurally challenged sectors

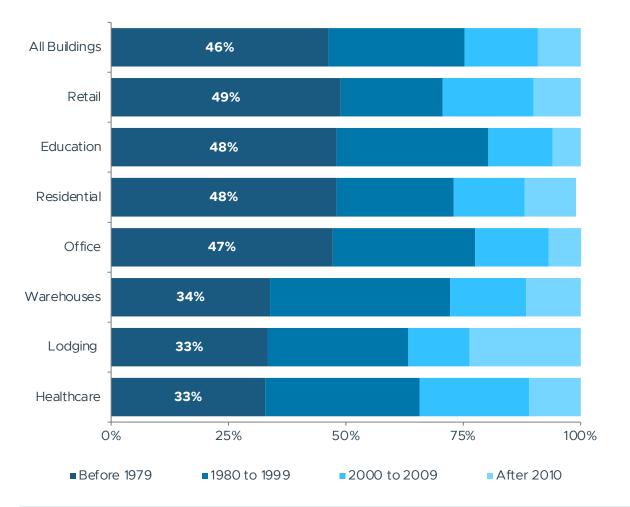
Source: (left and right) Bureau of Labor Statistics (BLS), FTSE Russell, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. REIT-implied same-store NOI growth represents the year-over-year change (i.e., the difference between the current quarter and the same quarter a year ago) and serves as a proxy for overall CRE NOI growth. Net operating income is the total revenues earned by a property less operating expenses but before capital items and debt service. It is typically used to analyze the profitability of income-generating real estate investments and is computed as a year-over-year change. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



# Value-add funds can help improve NOI given the growing need to improve aging structures

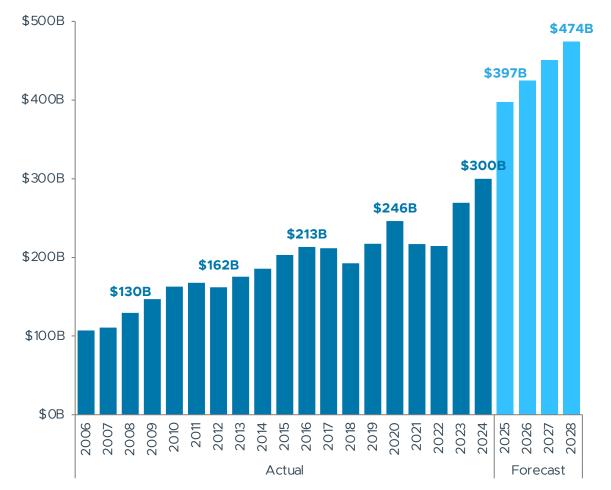
### Nearly 50% of all buildings in the U.S. are over 45 years old

Breakdown U.S. commercial real estate buildings by year constructed (%)



#### Spending on renovations is expected to move higher in the coming years

U.S. CRE renovation spending, actual and projected (\$ billions)



Source: (left) U.S. Energy Information Administration, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data is based on the 2018 Commercial Buildings Energy Consumption Survey (CBECS) and is subject to change based on potential updates to source(s) database. (right) ConstructConnect Insight, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



### Supply and demand dynamics remain relatively healthy and should also support NOI

Annual completions and net absorptions in the U.S. by property type Apartment sector (millions, as of September 2024)



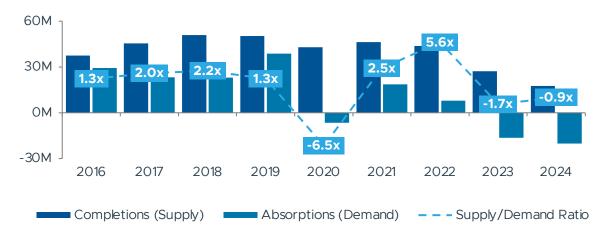
Industrial sector (millions, as of September 2024)



Retail sector (millions, as of September 2024)



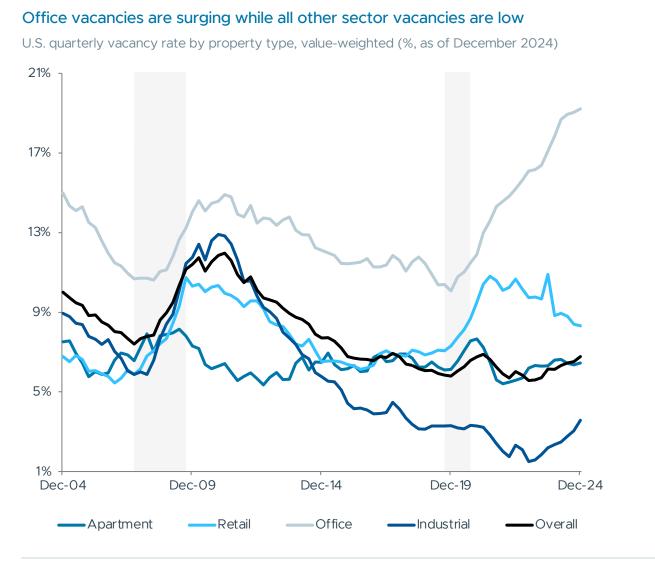
Office sector (millions, as of September 2024)



Source: Moody's Analytics, iCapital Investment Strategy, with data based on availability as of Oct. 31, 2024. Note: Data as of September 2024 and is subject to change based on potential updates to source(s) database. Completions is broadly considered as Supply as it represents new CRE space delivered to the market. Net Absorption is broadly considered as Demand as if reflects the change in occupied space (total space leased less total space vacated). A positive net absorption indicates more space was leased than vacated, signaling market strength, while negative net absorption suggests weaking demand. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



### Most CRE sectors have solid fundamentals, except for weakness in office



#### The surge in mortgage costs is making multifamily housing attractive

% of disposable income needed to cover cost of rent vs. mortgage (%, as of December 2024)

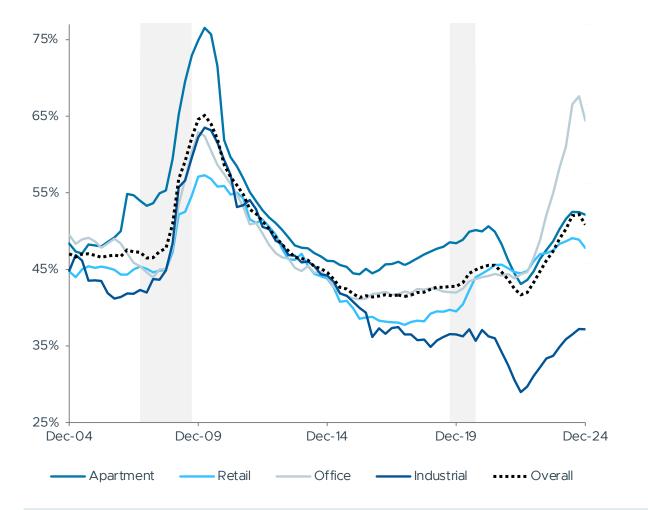


Source: (left) NCREIF, iCapital Investment Strategy, with data based on availability as of Oct. 31, 2024. Note: Data is through September 2024 and is subject to change based on potential updates to source(s) database. Vacancy rate shown is the quarterly value-weighted vacancy rate by property type within the NCREIF Property Index (NPI). (right) S&P Capital IQ, iCapital Investment Strategy Analysis, with data based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on potential updates to source(s) database. Analysis looks at the percentage of disposable income necessary to cover the cost of rent vs. a mortgage. Rent-to-Income ratio is the share of median disposable income needed to make the monthly principal and interest payment on the purchase of the average-priced home using a 20% down 30-year fixed rate mortgage at the prevailing interest rate. For more information, please refer to the Index Definitions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results are not guaranteed.



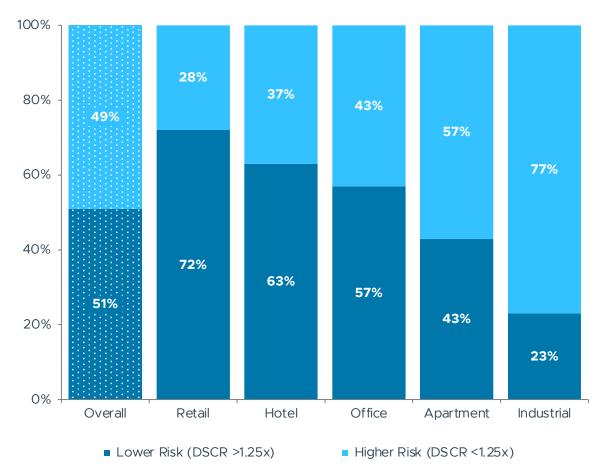
### Lower use of leverage and higher debt coverage ratios offset some of these concerns

Leverage fell over the past decade and remains below GFC levels Weighted average loan-to-value ratio for CRE properties using leverage (%)



#### Most real estate loans have sufficient coverage even at higher rates

Debt-service coverage ratio profile of outstanding CRE loans maturing before 2026 by property type (%)



Source: (left) NCREIF, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data is through December 2024 and is subject to change based on potential updates to source(s) database. The loan-to-value ratio (LTV) is a credit risk metric that compares principal amount on a mortgage to the appraised value of the collateral property. (right) Newmark Research, Trepp, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of October 29, 2024 and is subject to change based on potential updates to source(s) database. Analysis looks at the breakdown of maturing CRE loans by debt-service coverage ratio assuming current rates and is based on latest property financials. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



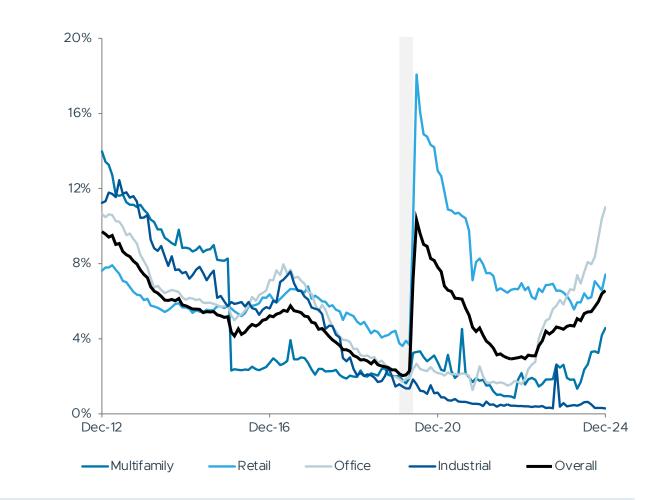
# Banks are still retrenching from commercial real estate lending amidst rising defaults

Rolling 6-month net new lending flow of CRE loans across all U.S. banks (\$ billion) \$200B \$150B \$100B \$50B \$OB -\$50B -\$100B Dec-04 Dec-09 Dec-14 Dec-19 Dec-24 Rolling 6-month net new lending 20Yr. Average

Banks' net lending to CRE has slowed notably from elevated levels

Office CMBS defaults are rising, other sector defaults are still in check

U.S. CMBS loan 30+ day delinquency rate by property type (%, as of December 2024)



Source: (left) Federal Reserve, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data is through December 2024 and is subject to change based on potential updates to source(s) database. Net new lending flow is a dollar value determined by taking the total outstanding loan amount at the start of the period and at the end of the measured period (6 months.) (right) Trepp, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data is through December 2024 and is subject to change based on potential updates to source(s) database. The CMBS Delinquency Rate refers to the percentage of loans across all property types that are late on their payments by at least 30 days. The delinquency results. Further esults. Further esul



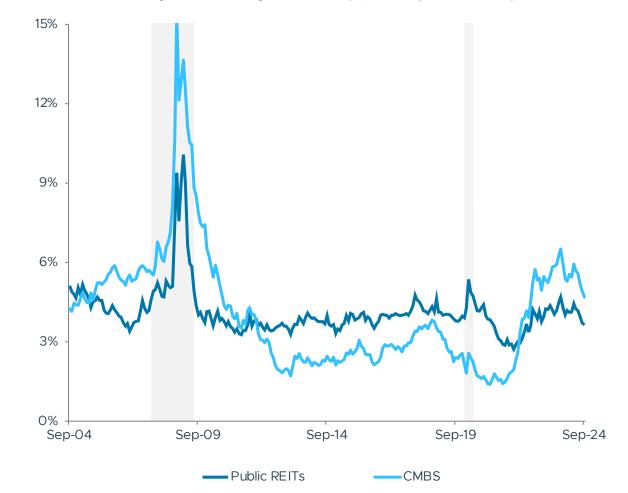
# CRE debt funds with ample dry powder should help partially fill the void

\$300B \$257 \$252 \$250B \$83 \$82 \$200B \$92 \$104 \$170 \$93 \$150B \$96 \$87 \$107 \$70 52 \$100B \$174 \$175 \$42 \$42 \$154 \$148 3 \$120 \$50B \$95 \$19 \$84 \$83 \$81 \$64 \$60 \$50 \$40 \$34 \$OB 2012 2016 2011 2013 2014 2015 2017 2018 2019 2020 2021 2022 2023 2Q24 Dry powder Unrealized Value

Real estate debt funds have amassed record AUM and dry powder

Total AUM in global private real estate debt funds (\$ billion, as of June 2024)

#### Real estate debt yields offer a relative pickup vs. equity yields



Public REITs dividend yield and CMBS yield-to-worst (%, as of September 2024)

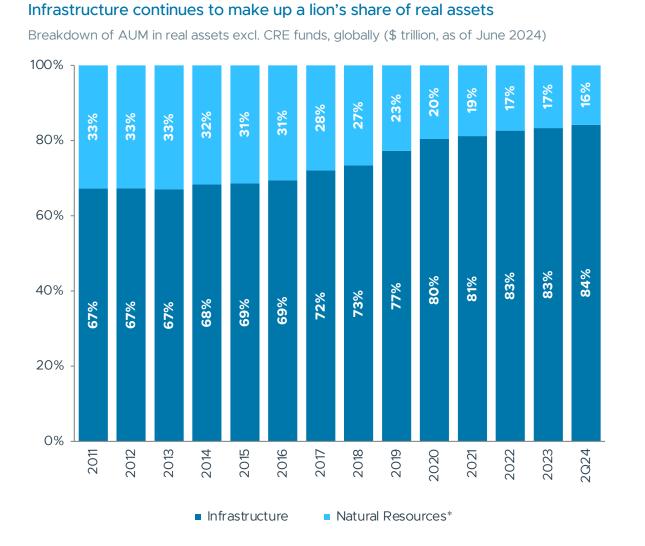
Source: (left) Preqin, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data is through June 2024 and is subject to change based on potential updates to source(s) database. AUM data is for closed-end private real estate debt funds as defined by Preqin. Figures exclude RMB-denominated funds for greater data accuracy, as well as fund of funds and secondaries to prevent double counting of available capital and unrealized value. (right) Bloomberg Index Services Limited, FTSE Russell, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data is through June 2024 and is subject to change based on potential updates to source(s) database. AUM data is for closed-end private real estate debt funds and secondaries to prevent double counting of available capital and unrealized value. (right) Bloomberg Index Services Limited, FTSE Russell, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data is thorough June 2024 and is subject to change based on potential updates to source(s) database. CMBS is Commercial mortgage-backed securities. Yield data is monthly. Yield for Public Equity REITs is the trailing 12-month dividend yield proxied by US Nareit REIT Dividend Yield. Yield for CMBS is yield-to-worst proxied by Bloomberg CMBS Investment Grade Yield To Worst. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



# Alternatives Decoded Infrastructure & Other Real Assets



### Infrastructure is a globally diverse asset class with significant fund assets in Europe



#### Infrastructure AUM have grown above \$1 trillion

Total AUM in infrastructure funds, globally (\$ trillion, as of June 2024)



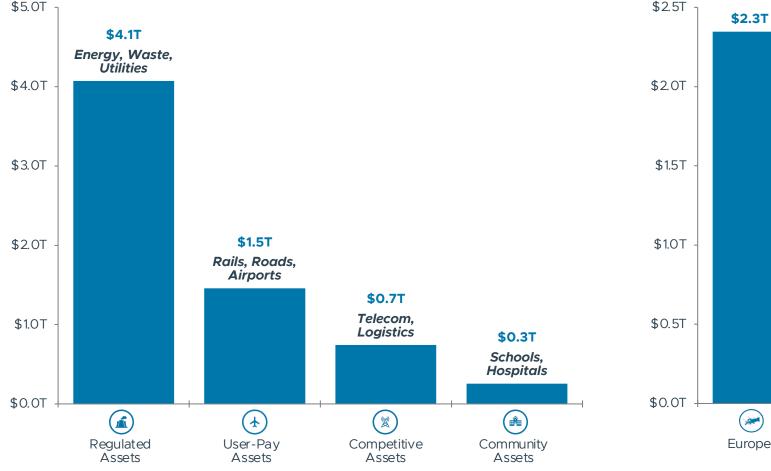
Source: (left) Preqin, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Historical AUM data as of June 2024 and is subject to change based on potential updates to source(s) database. AUM shown is broken down between infrastructure funds and hatural resources funds as defined by Preqin, Natural Resources includes pure-play natural resources and timberland-type funds only to avoid double counting. Also, to avoid further double counting of available capital and unrealized value, fund of funds and secondaries are excluded where applicable. (right) preqin, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Historical AUM data is included through June 2024. Forecasted AUM data is through December 2029, with forecasts based on Preqin's future of Alternatives report, which models projected AUM using various variables. These forecasts exclude funds denominated in yuan renminbi, potentially leading to more conservative estimates. Data is subject to change based on updates to the source(s) database. AUM is broken down by fund's primary region of focus as defined by Preqin. Rest of World includes Africa, Americas, Asia, Australasia, and Middle East & Israel, as defined by Preqin. To avoid double counting of available capital and unrealized value, fund of funds and secondaries are excluded where applicable. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



# Investors can consider four broad categories of infrastructure with varying characteristics

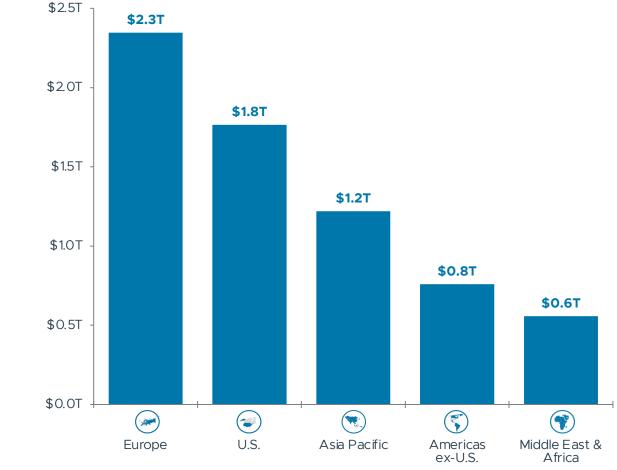
At least \$6.5T in infrastructure deals have been done globally since 2000

Cumulative value of all known infrastructure deals since 2000 by asset type



Over 60% of these deals represent European and U.S. assets

Cumulative value of all known infrastructure deals since 2000 by region



Source: (left) Preqin, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Analysis looks at the cumulative value of all known infrastructure deals since 2000. Breakdown by asset type includes Regulated Assets, User-Pay Assets, Competitive Assets, and Community Assets. Regulated Assets are based on the Preqin-defined sub-asset classes including Energy, Utilities, and Waste Management. User-Pay Assets are based on the Preqin-defined sub-asset classes including Energy, Utilities, and Waste Management. User-Pay Assets are based on the Preqin-defined sub-asset classes including Energy, Utilities, and Waste Management. User-Pay Assets are based on the Preqin-defined sub-asset classes including Defense, Education Facilities (Schools), HealthCare (Hospitals), and Government Buildings. (right) Preqin, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Analysis looks at the cumulative value of all known infrastructure deals since 2000. Breakdown by region includes U.S., Americas excluding U.S., Lerope, Asia Pacific, and Middle East & Africa. Numbers may not add up due to round reading U.S., Attricas excluding U.S



## Private real assets have produced superior risk-adjusted returns with low correlation

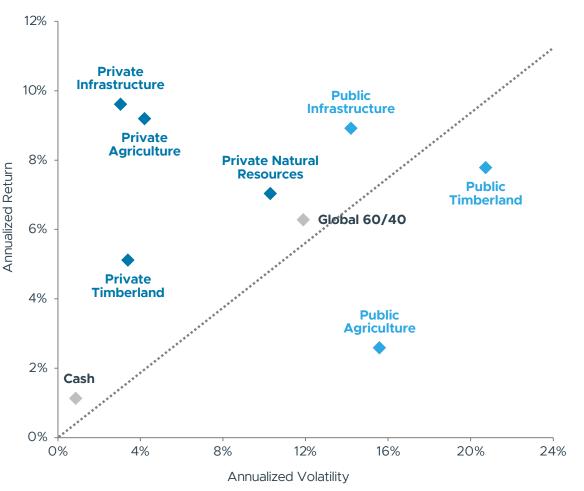
Infrastructure's correlation to the public 60/40 portfolio is low or negative

Based on trailing 15 years of quarterly data (as of September 2024)



#### Private real assets have produced superior risk-adjusted returns

Annualized volatility/returns based on trailing 15 years of quarterly data (as of September 2024)



Source: (left and right) Bloomberg Index Services Limited, FTSE Russell, MSCI, NCREIF, Preqin, S&P Dow Jones, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of September 2024 and is subject to change based on potential updates to source(s) database. Public infrastructure proxied by Dow Jones Brookfield Global Infrastructure composite Index. Public agriculture proxied by S&P Global Agribusiness Composite Index. Public imberland proxied by S&P Global Agribusiness Composite Index. Private Infrastructure proxied by VCREIF Farmland Property Index. Private Infrastructure proxied by NCREIF Farmland Property Index. Private Infrastructure proxied by NCREIF Farmland Property Index. Private Infrastructure proxied by Preqin Infrastructure proxied by the FTSE 3-Month US Tiell Index, which is intended to track the daily performance of 3-month US Treasury bill, a measure we consider a proxy for cash returns. It is important to note that the returns listed are based on indices that are meant to estimate the asset class performance, hypothetically creating a return if one had access to all active fluxes. Not all the above indices are practically investable and are subject to change as datasets are continually updated. All returns are calculated in U.S. dollars. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



#### Public and private real asset returns

Annual and time-period returns ranked in order of performance (%, as of September 2024)

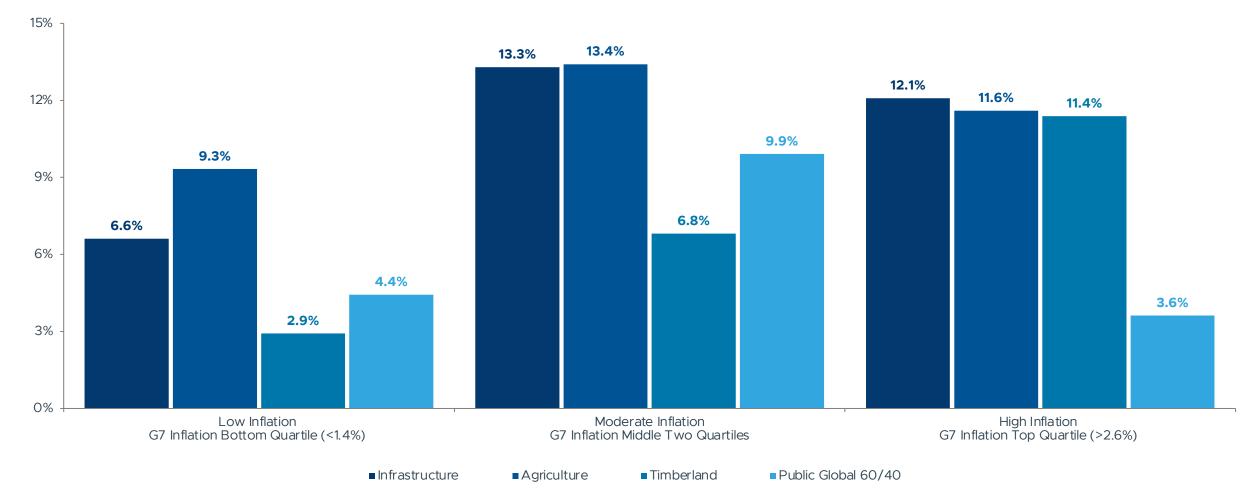
Annual Return (%)								Time-Period Return (%, per annum)					
2015	2016	2017	2018	2019	2020	2021	2022	2023	2024 YTD	3YR	5YR	10YR	15YR
10.3% Private Agriculture	13.0% Public Timberland	34.4% Public Timberland	7.5% Private Infrastructure	26.5% Public Infrastructure	20.4% Public Timberland	21.9% Public Agriculture	13.7% Private Infrastructure	15.6% Global 60/40	13.7% Public Infrastructure	11.1% Private Infrastructure	9.8% Public Timberland	9.6% Private Infrastructure	9.6% Private Infrastructure
7.9% Private Infrastructure	11.7% Public Infrastructure	17.3% Global 60/40	6.7% Private Agriculture	19.2% Public Timberland	13.4% Global 60/40	20.2% Public Infrastructure	12.9% Private Timberland	13.8% Public Timberland	12.6% Global 60/40	10.9% Private Timberland	9.5% Private Infrastructure	7.5% Public Timberland	9.2% Private Agriculture
5.0% Private Timberland	9.2% Private Infrastructure	12.8% Private Infrastructure	3.2% Private Timberland	18.7% Global 60/40	6.3% Public Agriculture	16.7% Public Timberland	9.6% Private Agriculture	9.5% Private Timberland	7.9% Public Timberland	7.0% Public Infrastructure	7.5% Private Timberland	6.7% Private Agriculture	8.9% Public Infrastructure
0.3% Inflation*	7.1% Private Agriculture	12.7% Public Infrastructure	2.1% Inflation*	9.7% Private Infrastructure	3.9% Private Infrastructure	16.1% Private Infrastructure	7.1% Inflation*	7.3% Private Infrastructure	5.7% Private Infrastructure	6.2% Private Agriculture	7.0% Global 60/40	5.9% Private Timberland	7.8% Public Timberland
-2.7% Global 60/40	5.6% Global 60/40	6.2% Private Agriculture	-6.1% Global 60/40	8.9% Public Agriculture	3.1% Private Agriculture	9.2% Global 60/40	4.9% Public Agriculture	6.2% Public Infrastructure	5.5% Private Timberland	5.0% Inflation*	5.6% Private Agriculture	5.9% Global 60/40	6.3% Global 60/40
-7.5% Public Timberland	3.1% Public Agriculture	5.5% Public Agriculture	-8.5% Public Infrastructure	4.8% Private Agriculture	0.8% Inflation*	9.2% Private Timberland	-4.9% Public Infrastructure	5.0% Private Agriculture	3.8% Public Agriculture	3.6% Global 60/40	5.3% Public Infrastructure	4.6% Public Infrastructure	5.1% Private Timberland
-14.3% Public Agriculture	2.6% Private Timberland	3.6% Private Timberland	-10.3% Public Agriculture	1.5% Inflation*	0.8% Private Timberland	7.8% Private Agriculture	-17.5% Global 60/40	4.5% Inflation*	2.7% Inflation*	2.3% Public Timberland	4.7% Public Agriculture	2.5% Inflation*	2.6% Public Agriculture
-14.5% Public Infrastructure	0.9% Inflation*	1.8% Inflation*	-17.7% Public Timberland	1.3% Private Timberland	-9.5% Public Infrastructure	3.5% Inflation*	-19.4% Public Timberland	-15.4% Public Agriculture	0.3% Private Agriculture	-0.6% Public Agriculture	3.7% Inflation*	1.1% Public Agriculture	2.2% Inflation*

Source: Bloomberg Index Services Limited, FTSE Russell, MSCI, NCREIF, Preqin, S&P Dow Jones, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of September 2024 and is subject to change based on potential updates to source(s) database. Public infrastructure proxied by Dow Jones Brookfield Global Infrastructure composite Index. Public dariculture proxied by S&P Global Agribusiness Composite Index. Public timberland proxied by S&P Global Timber and Forestry Index. Global 60/40 proxied by 60% MSCI ACWI Index and 40% Bloomberg Global Agrigegate Bond Index. Private agriculture proxied by NCREIF Farmland Property Index. Private timberland provied by NCREIF Firmberland Property Index. Private timberland provied by OCED G7 Countries Composite CPI to note that the returns listed are based on indices that are meant to estimate the asset class performance, hypothetically creating a return if one had access to all funds. Not all the above information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results are not guaranteed.



## Real assets provided higher returns during periods of moderate to high inflation

Private infrastructure and other real assets have outperformed when inflation is moderate to high given ability to link earnings to the level of inflation Average annual return of private real assets across different inflationary environments (%, December 2001 - September 2024)

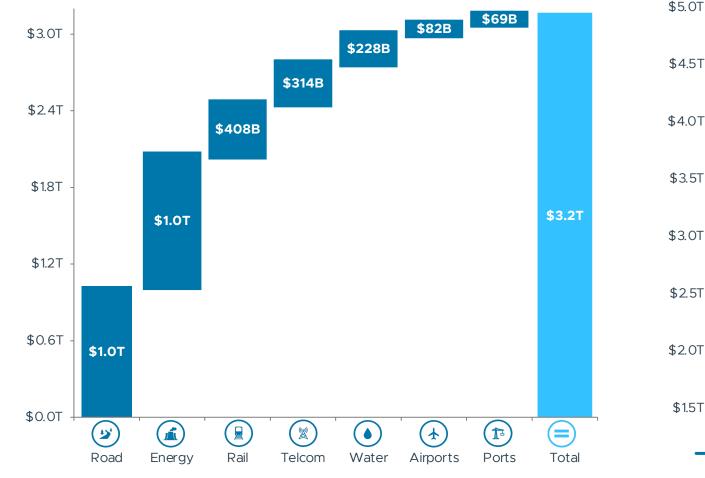


Source: Bloomberg Index Services Limited, FTSE Russell, MSCI, NCREIF, OECD, Preqin, S&P Dow Jones, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of September 2024 and is subject to change based on potential updates to source(s) database. Analysis looks at the average annual return (rolling 4-quarter return) of private real assets across different inflationary environments. Inflation rate used is OECD G7 CPI inflation and is bucketed into "Low Inflation", "Moderate Inflation", and "High Inflation" based on historical quartiles. Global 60/40 proxied by 60% MSCI ACWI Index and 40% Bloomberg Global Aggregate Bond Index. Private agriculture proxied by NCREIF Farmland Property Index. Private timberland provided by NCREIF Timberland Property Index. Private Infrastructure Infrastructure Infrastructure Infrastructure Index thereafter. Not all the above indices are practically investable and are subject to change as datasets are continually updated. All returns are calculated in U.S. dollars. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results are not guaranteed.

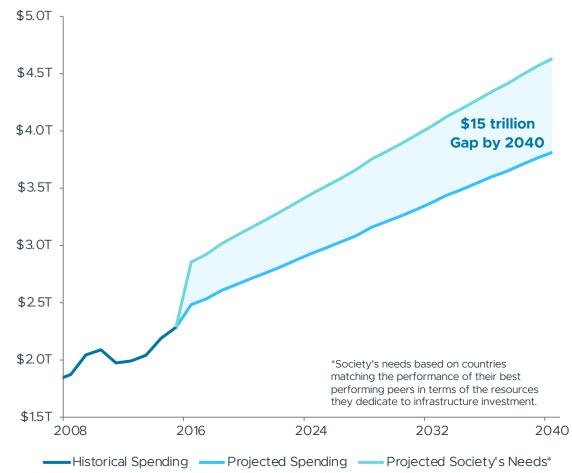


## Global economies are set to spend \$3.2 trillion per year on infrastructure through 2040

Annual infrastructure spending is projected to average \$3.2 trillion Annual global projected spending per year through 2040 to match 2.6% GDP growth



Gap between projected spending and society's needs will reach \$15T



Annual global projected infrastructure spending and society's needs\* through 2040

Source: (left and right) Global Infrastructure Hub (World Bank), iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Historical and projected infrastructure investment/spending is based on a World Bank analysis as of 2016. Data is subject to change based on potential updates to source(s) database. Infrastructure investment, replacement investment and spending on maintenance where the investment will substantially extend the lifetime of an asset, but excluding land purchases. The annual global infrastructure investment need through 2040 is a forecast based on the assumption that countries will continue to spend/invest in line with current trends and will match Oxford Economics baseline 2016-40 annual global GDP growth projection of +2.6%. The projected annual global infrastructure investment needed based on society's needs is based on countries matching the performance of their best performing peers in terms of the resources they dedicate to infrastructure investment. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



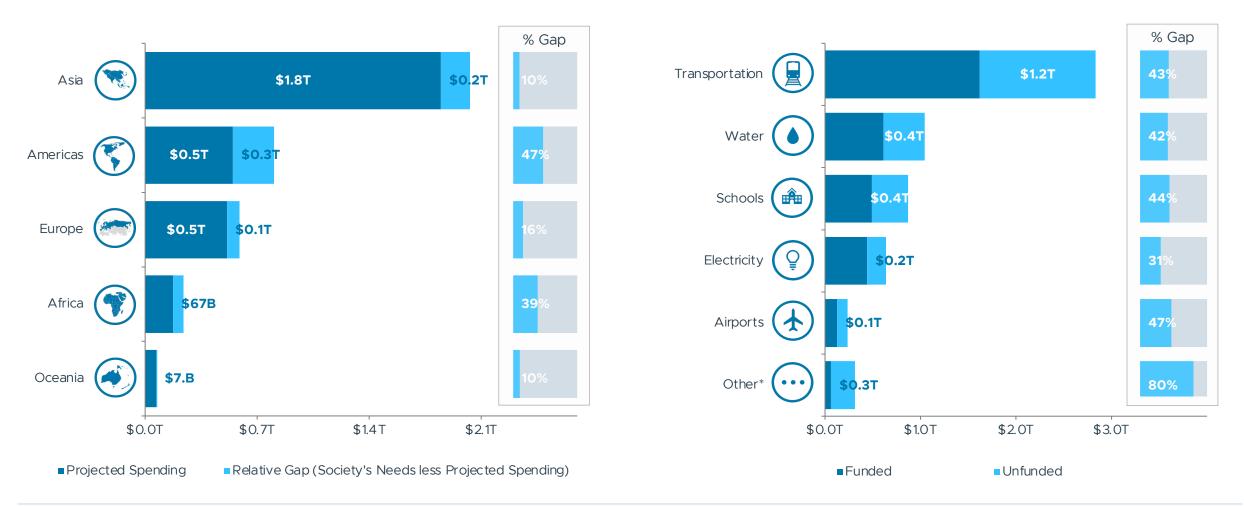
## There is a widening gap between projected infrastructure spending and society's needs

#### The largest relative gap is projected in the Americas

Annual infrastructure gap between projected spending and society's needs through 2040



Cumulative infrastucture investment needs in the U.S. from 2020 to 2029 (\$ trillion)

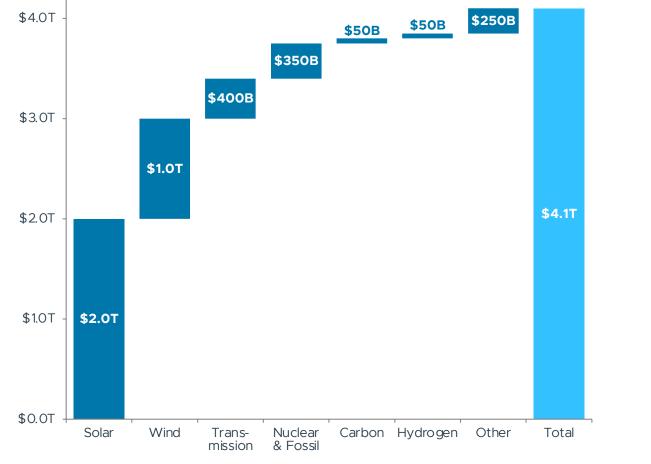


Source: (left) Global Infrastructure Hub (World Bank), iCapital Investment Strategy, with data based on availability as of J.an. 31, 2025. Note: Projected infrastructure spending and projected society's needs are based on a World Bank analysis as of 2016. Data is subject to change based on potential updates to source(s) database. Infrastructure investment is defined as new investment, replacement investment and spending on maintenance where the investment will substantially extend the lifetime of an asset, but excluding land purchases. The annual projected spending through 2040 is a forecast based on the assumption that continue to spend/invest in infrastructure investment needed based on society's needs are based on countries will continue to spend/invest. The projected annual global finfastructure investment needed based on society's needs are based on countries will continue to spend/invest. The projected annual global finfastructure investment reneeded based on society's needs are based on countries will the best-performing peers in terms of the socurce(s) database. Analysis looks at the projected infrastructure gap by category based on availability as of J.an. 31, 2025. Note: Data as of March 3, 2021, and is subject to change based on potential updates to source(s) database. Analysis looks at the projected infrastructure gap by category based on availability as of J.an. 31, 2025. Note: Data as of March 3, 2021, and is subject to change based on potential updates to source(s) database. Analysis looks at the projected infrastructure gap by category based on availability as of J.an. 31, 2025. Note: Data is functioned to investment needs. The infrastructure where necessary, such as transmission lines or water treatment plants, and for maintaining or rebuilding existing infrastructure that needs repair or replacement. For more information, please refer to the lndex Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indic

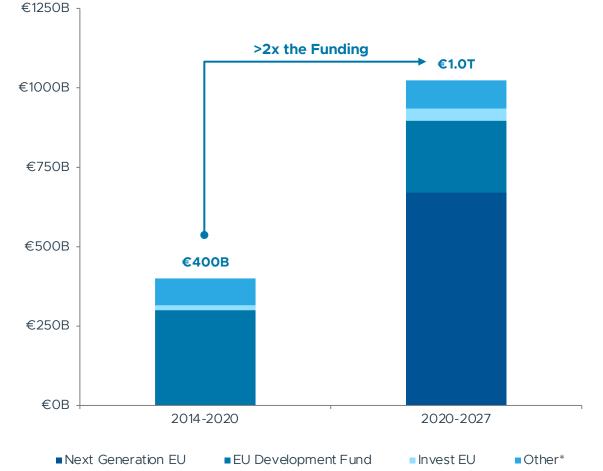


## U.S. and Europe have significantly stepped up their infrastructure-related investments

Inflation Reduction Act to drive \$4.1T of infrastructure investment Annual global projected spending per year through 2040 to match 2.6% GDP growth



Over €1T has been allocated across an array of EU funding initiatives Total European Union (EU) funding allocations for infastructure-related spending

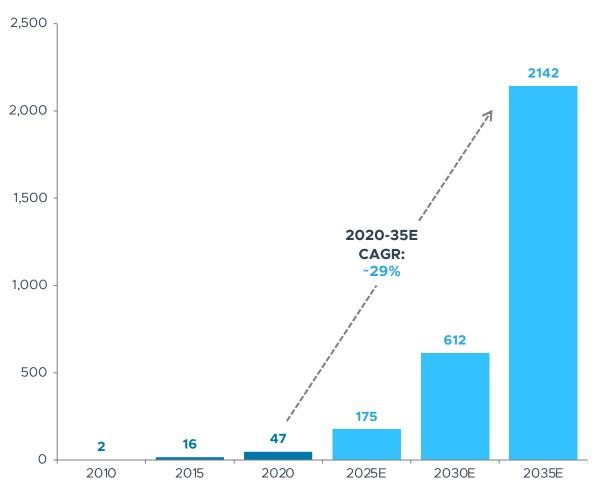


Source: (left) Princeton University ZERO Lab and REPEAT Project, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of Aug. 12, 2021, and is subject to change based on potential updates to source(s) database. Analysis looks at the cumulative capital investment in new American energy supply-related infrastructure between 2023 and 2032 as a result of the passage of the Inflation Reduction Act (IRA). (right) European Commission, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of Nov. 3, 2025, and is subject to change based on potential updates to source(s) database. Analysis looks at the 2014-20 and 2020-27 budgetary periods as they relate to EU's funding allocations for infrastructure projects based on the passage of the passage. Analysis looks at the 2014-20 and 2020-27 budgetary periods as they relate to EU's funding allocations for infrastructure projects based on the passage of the passage of the other potent information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results are out guaranteed.



## Digitization and growth in data centers is one of the prominent themes in infrastructure

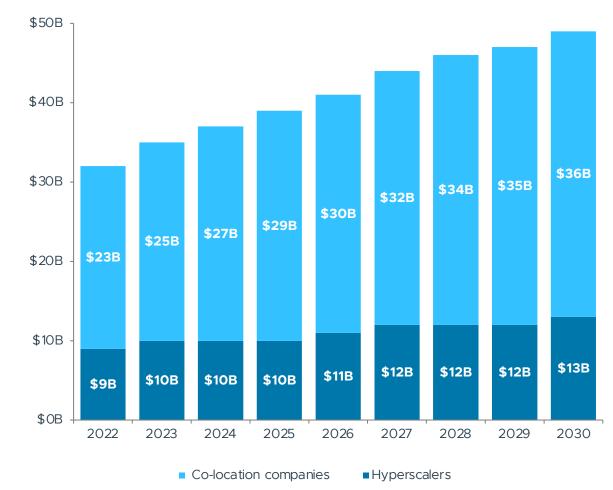




Global cumulative data creation in zettabytes

#### Spending on construction of data centers to reach \$49 billion by 2030

Forecasted annual data center construction spending, globally (\$ billion)



Source: (left) Statista, Ericson Mobility Report, Guardian, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of Jan. 13, 2023, and is subject to change based on potential updates to source(s) database. Analysis looks at historical and forecasted total global data creation by year. (right) McKinsey & Company, Synergy Research Group, ICapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of Jan. 13, 2023, and is subject to change based on potential updates to source(s) database. Analysis looks at global data creation by year. (right) McKinsey & Company, Synergy Research Group, ICapital Investment Strategy, with data based on availability as of Jan. 13, 2025. Note: Data as of Jan. 13, 2023, and is subject to change based on potential updates to source(s) database. Analysis looks at global data creation spending between hyperscalers and co-location companies and is based on money allocated to build more capacity. Includes construction spending by providers. Excludes enterprise spenditure outside of construction (such as equipment). For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results are not guaranteed.



### The investment need for additional decarbonized power generation is growing

1.200 1050 Twh **High Case** 900 △ +130% 800 Twh Base Case 600 620 Twh Low Case **△ +35%** 460 Twh 390 Twh 350 Twh 300 300 Twh 0 2020 2021 2026E 2019 2022 Forecast Actual

Global electricity demand from AI and data centers to double by 2026

Global electricity demand from data centers, AI, and cryptocurrencies (terawatt-hours)

#### Global electric grid needs \$14T in investments over next 30 years

Global annual power grid investment needed to meet net zero scenario

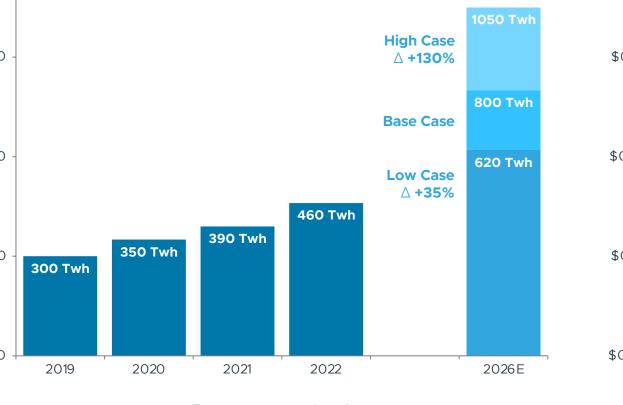
\$1.00T \$0.75T \$0.50T \$0.25T \$0.00T 2020 2040 2045 2025 2030 2035 2050

> Network Reinforcements New Connections

Asset Replacements

iCapita

Source: (left) International Energy Agency (IEA), iCapital Investment Strategy, with data based on availability as of Jan. 311, 2025. Note: Data as of Jan. 24, 2024, and is subject to change based on potential updates to source(s) database. Analysis looks at global electricity demand from data centers, AI, and cryptocurrencies through 2026. Includes traditional data centers, dedicated AI data centers, and cryptocurrency consumption; excludes demand from data transmission networks. Low- and high-case scenarios reflect the uncertainties in the pace of deployment and efficiency gains amid future technological developments. (right) BloombergNEF, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of December 2023 and is subject to change based on potential updates to source(s) database. Forecast is for 2024 to 2050 and is based on BloombergNEF net zero scenario, which is based on the world meeting the goals of the Paris Agreement. Global power grid investment includes both transmission and distribution grids. Network Reinforcements refers to upgrades to the utility power system to accommodate higher transfers and maintain reliability. New Connections refers to extensions of the power grid to integrate new generators or consumers. Asset Replacements refers to the costs to replace end-of-life power grid assets. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



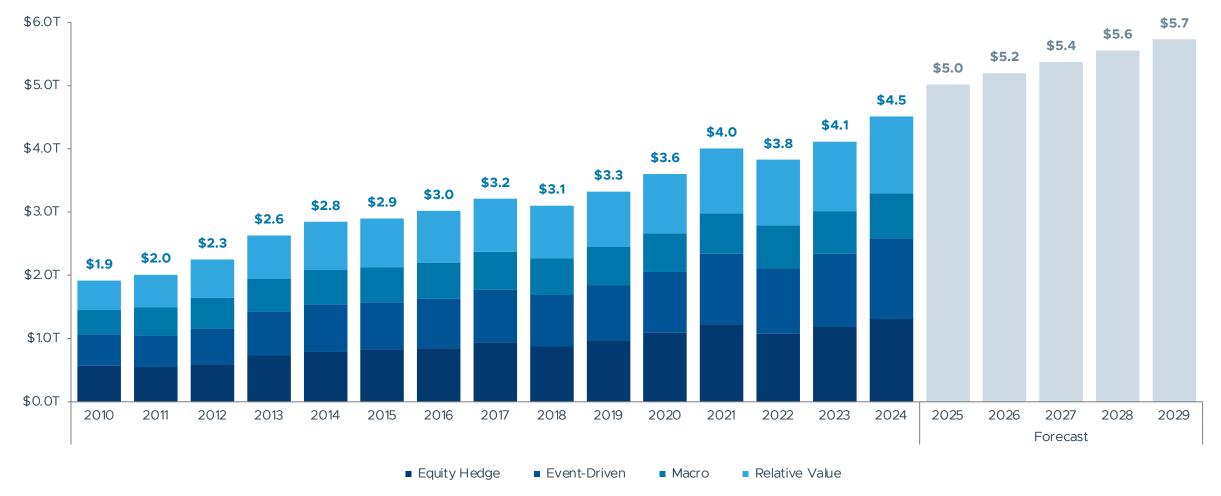
# Alternatives Decoded Hedge Funds



#### Hedge fund AUM has rebounded and has hovered near record levels

#### Total industry assets are at record levels as consistent hedge fund performance has been a contributor to recent AUM growth





Source: Hedge Fund Research (HFR), Preqin, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Historical AUM is through December 2024 and forecasted AUM is through December 2029. Data is subject to change based on updates to the source(s) database. Historical AUM is sourced from HFR and is broken down by hedge fund verticals as defined by HFR. Forecasted AUM is sourced from Preqin and is based on their Future of Alternatives report, which models projected AUM using various variables. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results are not guaranteed.



#### Hedge fund returns

Annual and time-period returns ranked in order of performance (%, as of September 2024)

Annual Return (%)									Time-Period Return (%, per annum)					
2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024 YTD	3YR	5YR	10YR	15YR
0.7% Multi-Strategy	10.6% Event Driven	17.3% Global 60/40	1.9% Cash	18.7% Global 60/40	17.9% Equity Hedge	12.4% Event Driven	9.0% Macro	15.6% Global 60/40	11.9% Equity Hedge	2.2% Global 60/40	6.0% Equity Hedge	8.7% Equity Hedge	6.6% Equity Hedge	6.3% Global 60/40
0.0% Cash	8.6% Credit	13.3% Equity Hedge	0.0% Credit	13.7% Equity Hedge	13.4% Global 60/40	11.7% Equity Hedge	1.5% Cash	11.4% Equity Hedge	10.0% Credit	2.1% Equity Hedge	5.9% Event Driven	7.5% Event Driven	5.9% Global 60/40	6.0% Equity Hedge
-1.0% Equity Hedge	6.4% Multi-Strategy	8.6% Hedge Fund Composite	-0.2% Multi-Strategy	10.4% Hedge Fund Composite	11.8% Hedge Fund Composite	10.2% Hedge Fund Composite	-0.7% Multi-Strategy	10.4% Event Driven	9.8% Global 60/40	1.4% Hedge Fund Composite	5.6% Hedge Fund Composite	7.4% Hedge Fund Composite	5.7% Event Driven	5.7% Event Driven
-1.0% Credit	5.6% Global 60/40	7.6% Event Driven	-2.1% Event Driven	7.5% Event Driven	9.3% Event Driven	9.2% Global 60/40	-2.6% Credit	8.1% Hedge Fund Composite	9.8% Event Driven	1.2% Multi-Strategy	5.3% Credit	5.9% Credit	5.4% Hedge Fund Composite	5.4% Credit
-1.1% Hedge Fund Composite	5.5% Equity Hedge	6.0% Credit	-4.1% Macro	6.5% Macro	6.7% Multi-Strategy	7.9% Credit	-4.1% Hedge Fund Composite	7.8% Credit	9.8% Hedge Fund Composite	1.0% Credit	4.7% Macro	5.8% Global 60/40	5.0% Credit	5.2% Hedge Fund Composite
-1.3% Macro	5.4% Hedge Fund Composite	4.1% Multi-Strategy	-4.7% Hedge Fund Composite	6.5% Credit	6.3% Credit	7.7% Macro	-4.8% Event Driven	6.3% Multi-Strategy	7.2% Multi-Strategy	1.0% Macro	4.5% Multi-Strategy	5.6% Macro	4.3% Multi-Strategy	4.7% Multi-Strategy
-2.7% Global 60/40	1.0% Macro	2.2% Macro	-6.1% Global 60/40	5.3% Multi-Strategy	5.4% Macro	7.0% Multi-Strategy	-10.1% Equity Hedge	5.3% Cash	5.5% Macro	0.9% Event Driven	4.2% Cash	5.4% Multi-Strategy	2.9% Macro	2.8% Macro
-3.6% Event Driven	0.3% Cash	0.8% Cash	-7.1% Equity Hedge	2.3% Cash	0.6% Cash	0.0% Cash	-17.5% Global 60/40	-0.3% Macro	5.4% Cash	0.4% Cash	3.6% Global 60/40	2.6% Cash	1.8% Cash	1.2% Cash

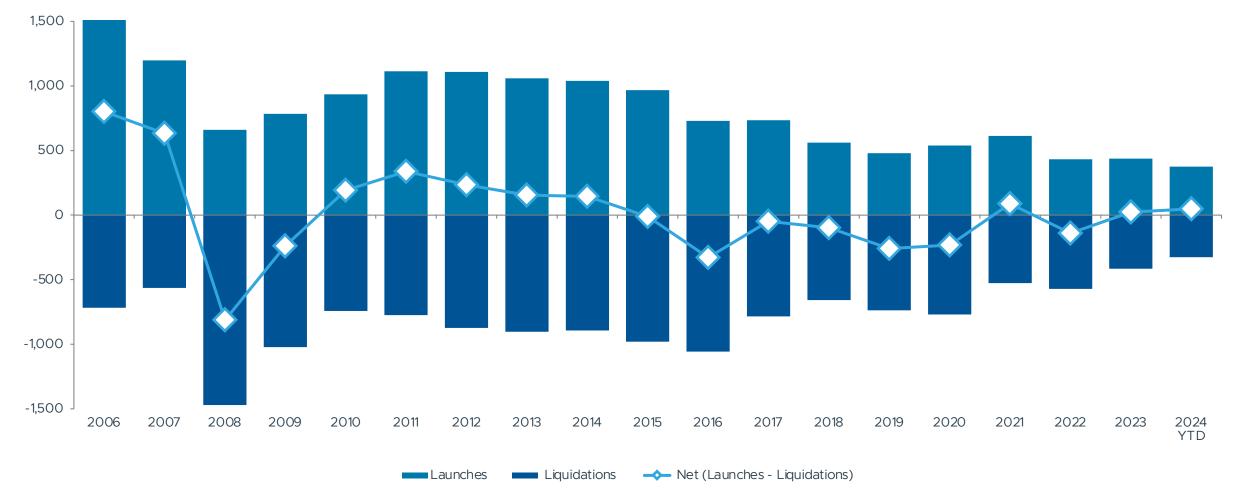
Source: Bloomberg Index Services Limited, FTSE Russell, Hedge Fund Research (HFR), MSCI, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on potential updates to source(s) database. Hedge Fund Composite proxied by HFRI Fund Weighted Composite Index. Multi-Strategy proxied by HFRI Relative Value Multi-Strategy Index. Macro proxied by HFRI Acro proxied by HFRI Equity Hedge proxied by HFRI Equity Hedge Index. Event Driven Index. Credit proxied by HFRI Macro proxied by HFRI Equity Hedge Index. Source(s) database. Hedge Fund Composite Index. Multi-Strategy proxied by HFRI Relative Value Multi-Strategy Index. Macro Index. Capity Hedge proxied by HFRI Equity Hedge Index. Event Driven Index. Credit proxied by HFRI Equity Hedge Index. Event Driven Index. Global 60/40 proxied by 60% MSCI ACWI Index and 40% Bloomberg Global Aggregate Bond Index. It is important to note that the returns listed are based on indices that are meant to estimate the asset class performance, hypothetically creating a return if one had access to all active funds. Not all the above indices are practically investable, and are subject to change as datasets are continually updated. All returns are calculated in U.S. dollars. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results. Future results. Future results. For more information.



## Similar number of hedge fund launches and liquidations highlight selection importance

Since the GFC, there has been roughly an equal amount of hedge fund liquidations as there were launches

Estimated number of hedge fund launches and liquidations per year (as of September 2024)



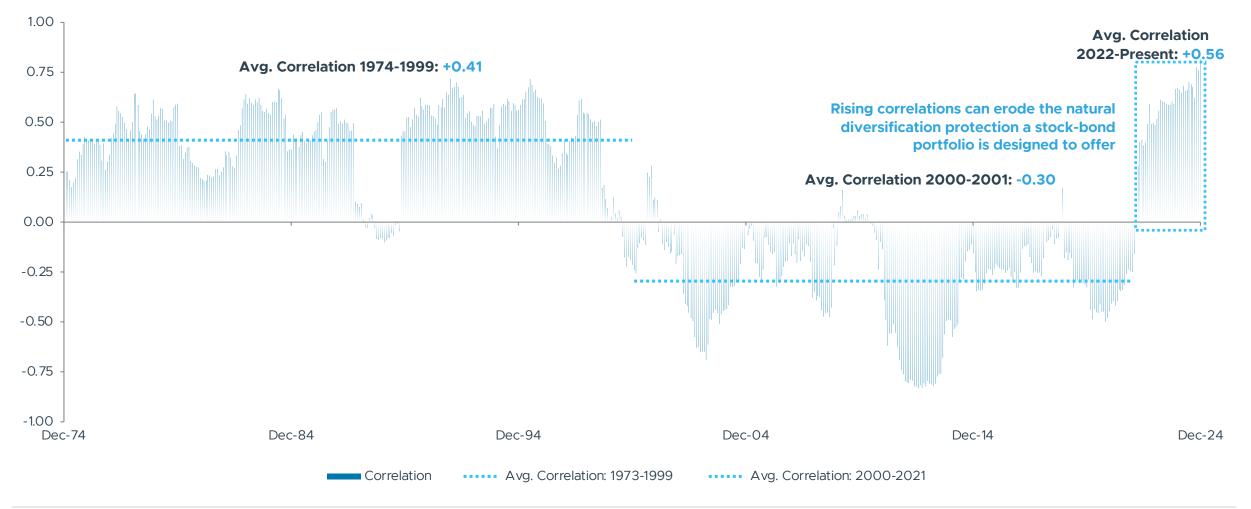
Source: Hedge Fund Research (HFR), iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data through September 2024 and is subject to change based on potential updates to source(s) database. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



## A traditional 60/40 portfolio is not offering the "natural" diversification it once did

Rising correlation between stocks and bonds suggests investors can increasingly rely on hedge funds for uncorrelated returns

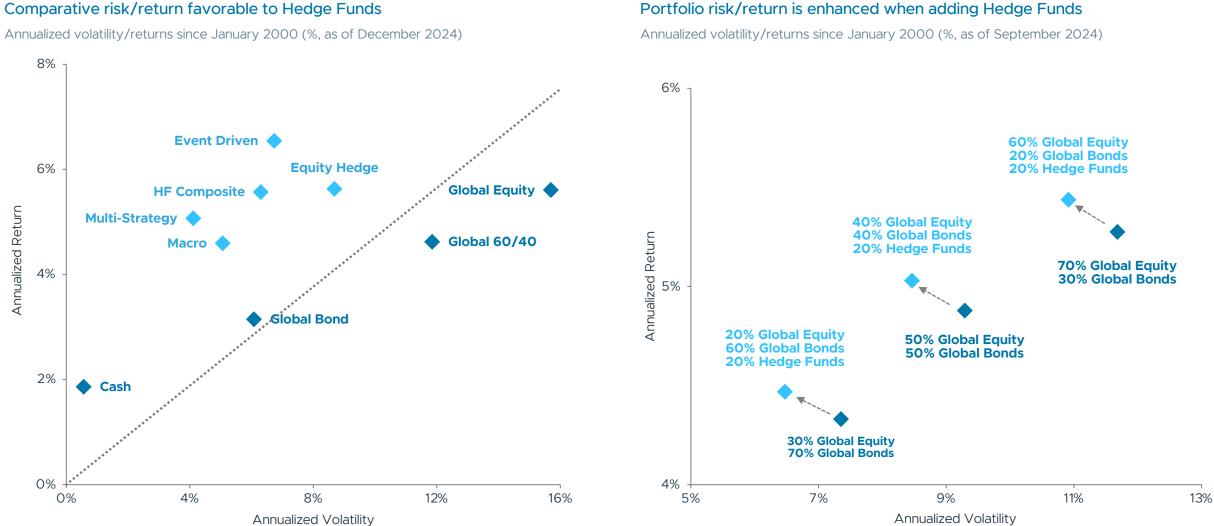
Trailing 24-month correlation between the S&P 500 and the Bloomberg U.S. Long Treasury index (as of December 2024)



Source: Bloomberg Index Services Limited, S&P Dow Jones, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on potential updates to source(s) database. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



## Historically, adding hedge funds to traditional portfolios has improved risk/return



#### Comparative risk/return favorable to Hedge Funds

Source: (left) Bloomberg, Hedge Fund Research (HFR), iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on potential updates to source(s) database. Annualized volatility and returns are based on the trailing 20-years worth of monthly data. Hedge Fund Composite proxied by HFRI Fund Weighted Composite Index. Multi Strategy proxied by HFRI Relative Value Multi-Strategy Index. Macro proxied by HFRI Macro Index. Equity Hedge proxied by HFRI Equity Hedge Index. HFRI Event-Driven Index. Cash proxied by FTSE 3 Month US T Bill Index. Global Bonds proxied by Bloomberg Global Aggregate Bond Index. (right) Bloomberg, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data through September 2024 and is subject to change based on potential updates to source(s) database. Hedge Fund Composite proxied by HFRI Fund Weighted Composite Index. Global Bonds proxied by Bloomberg Global Aggregate Bond Index. Global Equity proxied by MSCI ACWI Index. Global 60/40 proxied by 60% MSCI ACWI Index and 40% Bloomberg Global Aggregate Bond Index. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only, Past performance is not indicative of future results. Future results are not guaranteed.



## Over time, hedge funds offer equity-like results with less downside risk

#### Hedge funds have far less downside risk relative to equities or a 60/40 portfolio in times of stress

Normalized change of \$1,000 invested across various strategies since the start of 2000 (\$, as of December 2024)

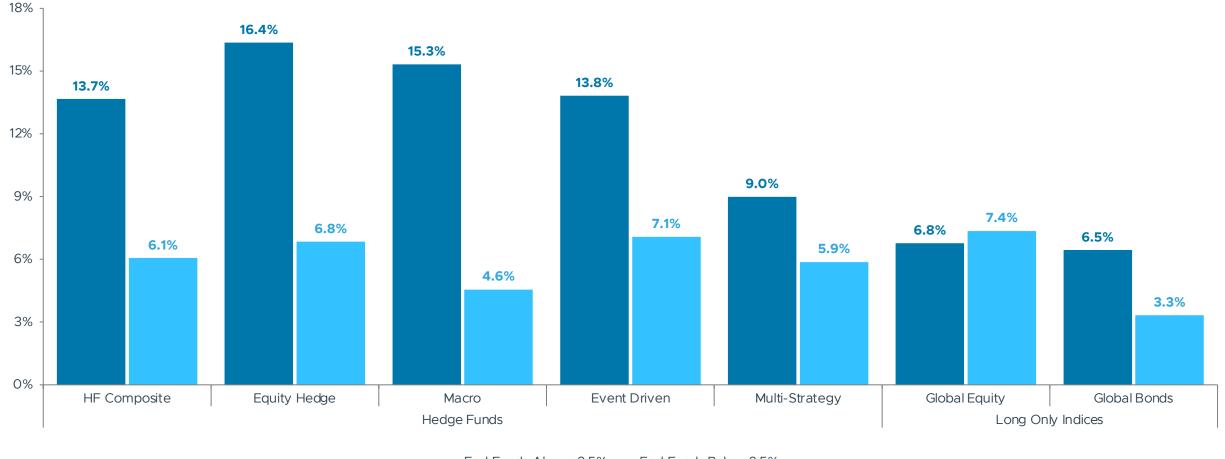


Source: Bloomberg Index Services Limited, Hedge Fund Research (HFR), MSCI, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on potential updates to source(s) database. Hedge Funds proxied by HFRI Fund Weighted Composite Index. Global Bonds proxied by Bloomberg Global Aggregate Bond Index. Global Equity proxied by MSCI ACWI Index. Global 60/40 proxied by 60% MSCI ACWI Index and 40% Bloomberg Global Aggregate Bond Index. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



## Hedge funds have generally performed better during periods of elevated rates

In periods of higher interest rates there is often more economic stress and divergence in prices, which offers more opportunities for hedge funds Average forward 12-month returns across equities, bonds, and hedge funds during different central bank policy rate regimes (%, January 1990 – December 2024)

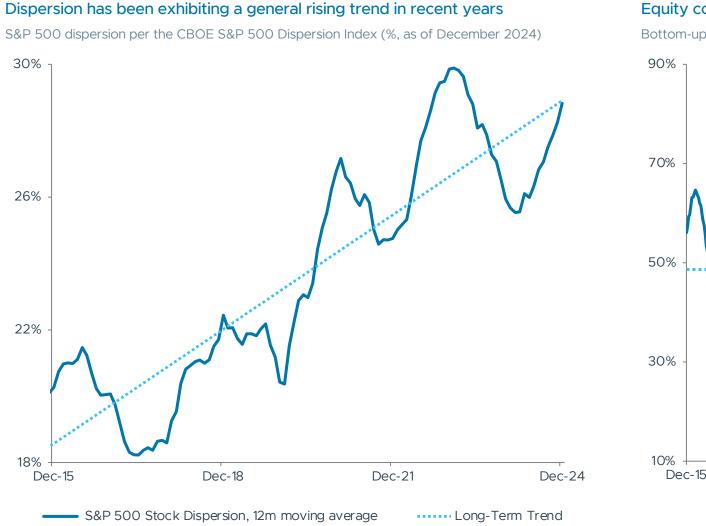


Fed Funds Above 2.5%
Fed Funds Below 2.5%

Source: Bloomberg Index Services Limited, Federal Reserve, Hedge Fund Research (HFR), MSCI, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on potential updates to source(s) database. Analysis looks at the average forward 12-month return when the upper bound of the Federal Reserve target rate was at or above 2.5% or below 2.5% since January 1990. Hedge Fund Composite proxied by HFRI Fund Weighted Composite Index. Equity Hedge proxied by HFRI Equity Hedge Index. Macro proxied by HFRI Macro Index. Event Driven Index. Multi-Strategy proxied by HFRI Relative Value Multi-Strategy Index. Global Equity proxied by Bloomberg Global Aggregate Bond Index. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For Illustrative purposes only. Past performance is not indicative of future results. Future results. Future results.

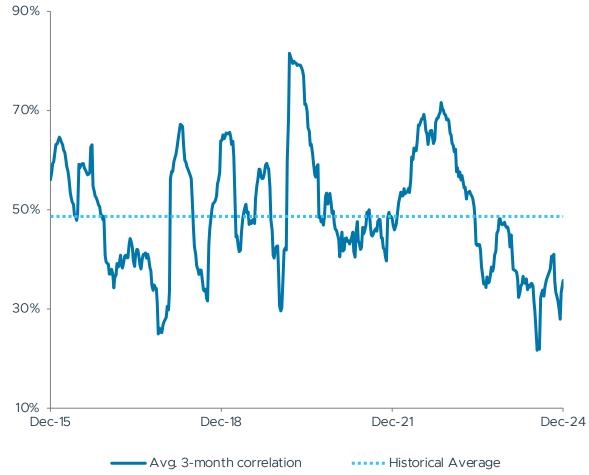


## Hedge fund opportunities increase in periods of higher equity dispersion, low correlation



#### Equity correlations remain low relative to historical averages

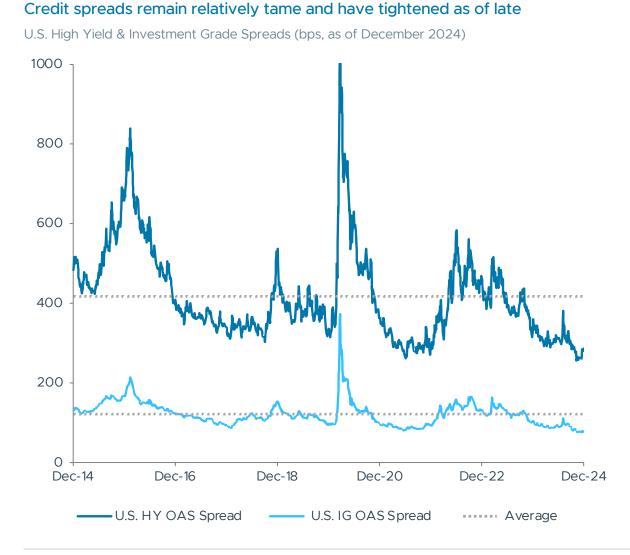
Bottom-up average 3-month stock correlation to the S&P 500 (%, as of December 2024)



Source: (left) CBOE, S&P Dow Jones, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on potential updates to source(s) database. Cboe S&P 500 Dispersion index measures the expected dispersion in the S&P 500 over the next 30 calendar days. In contrast to "realized dispersion" – a measure of independent movement observed in the components of a diversified portfolio— the Dispersion Index provides a forward-looking indication of the market's perception of the near-term opportunity set for diversification. (right) S&P Dow Jones, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on potential updates to source(s) database. For more information, please refer to the Index Definitions, Attributions, and Important Information settions at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results. Future results. Future results. Future results.

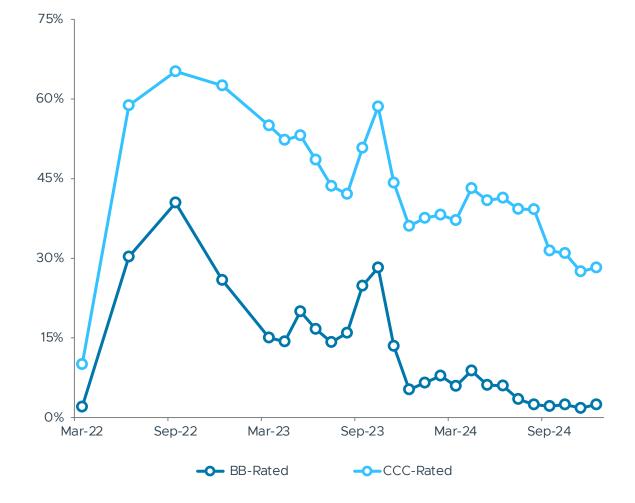


## Despite the recent compression in index spreads, distressed credit opportunities exist



#### A high percentage of higher risk bonds are trading at stressed levels

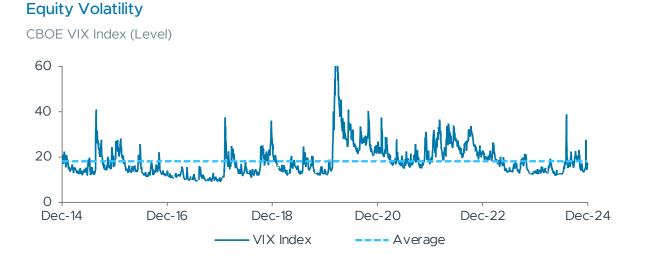
Percentage of bonds trading at stressed levels at month end (below \$85)



Source: (left) Bloomberg Index Services Limited, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on potential updates to source(s) database. Analysis looks at the option adjusted spread (OAS) for U.S. High Yield bonds as proxied by Bloomberg U.S. Corporate High Yield Index and U.S. Investment Grade bonds as proxied by Bloomberg U.S. Corporate High Yield and ex and U.S. Investment Grade bonds as proxied by Bloomberg U.S. Corporate High Yield and ex and U.S. Investment Grade bonds as proxied by Bloomberg U.S. Corporate High Yield index, (right) Bloomberg U.S. Capital Investment Grade bonds as proxied by Bloomberg U.S. Capital Investment Grade bonds as proxied by Bloomberg U.S. Capital Investment Grade bonds as proxied by Bloomberg U.S. Capital Investment Grade bonds as proxied by Bloomberg U.S. Capital Investment Grade bonds as proxied by Bloomberg U.S. Capital Investment Grade bonds as proxied by Bloomberg U.S. Capital Investment Grade bonds as proxied by Bloomberg U.S. High Yield index, (right) Bloomberg U.S. High Yield index, and U.S. High Yield index, and Investment Grade bonds as proxied by Bloomberg BB U.S. High Yield index, as proxied by Bloomberg C.S. High Yield index, for illustrative purposes only. Past performance information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicated as proxied by Bloomberg U.S. High Yield index, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicated.



## Volatility can be a driver of returns for hedge funds; rate volatility remains elevated

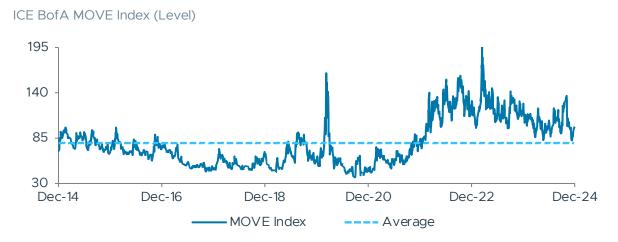


#### Currency (FX) Volatility

Deutsche Bank FX Volatility Index (Level)

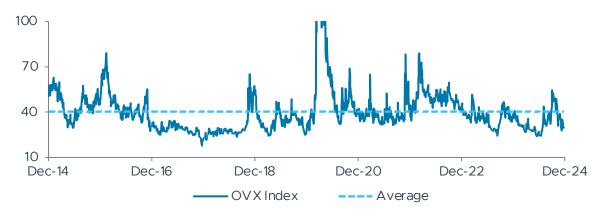


#### Rate Volatility



#### Commodity Volatility

Commodity Volatility proxied by CBOE Crude Oil ETF Volatility Index (Level)



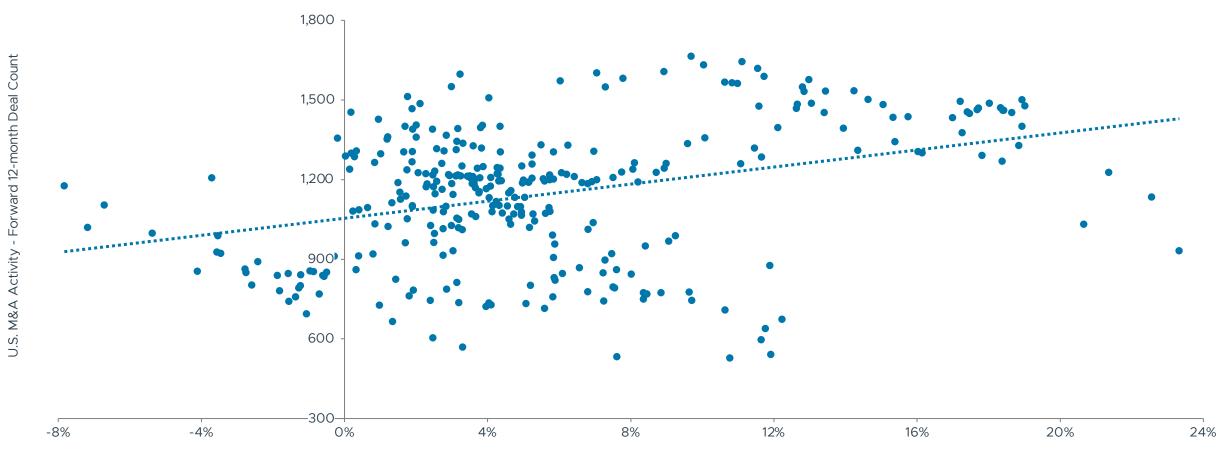
Source: (left, top) CBOE, S&P Dow Jones, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on potential updates to source(s) database. (right, top) Intercontinental Exchange (ICE), (Capital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on potential updates to source(s) database. (right, top) Intercontinental Exchange (ICE), (Capital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on potential updates to source(s) database. (right, top) Intercontinental Exchange (ICE), (Capital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on potential updates to source(s) database. (right, top) Intercontinental Exchange (ICE), (Capital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on potential updates to source(s) database. (right, top) Intercontinental Exchange (ICE), (Capital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on availability as of Jan. 31, 2025. Note: Data through December 20



#### Event Driven strategies may benefit from the expected pick-up in capital markets activity

Higher M&A activity can signal stronger forward returns for Event Driven strategies

Forward Event Driven returns relative to U.S. M&A activity (monthly data, Dec. 1997 - Dec. 2024)



HFRI Event Driven Index - Forward 12-month Return

Source: Hedge Fund Research (HFR), S&P Capital IQ, iCapital Investment Strategy with data based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on potential updates to source(s) database. Analysis looks at the relationship between 12-month forward U.S. M&A activity and 12-month forward return on the HFRI Event Driven Merger Arb Index. U.S. M&A Activity is based on completed M&A deals with market caps of at least \$50 million. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results are not guaranteed.



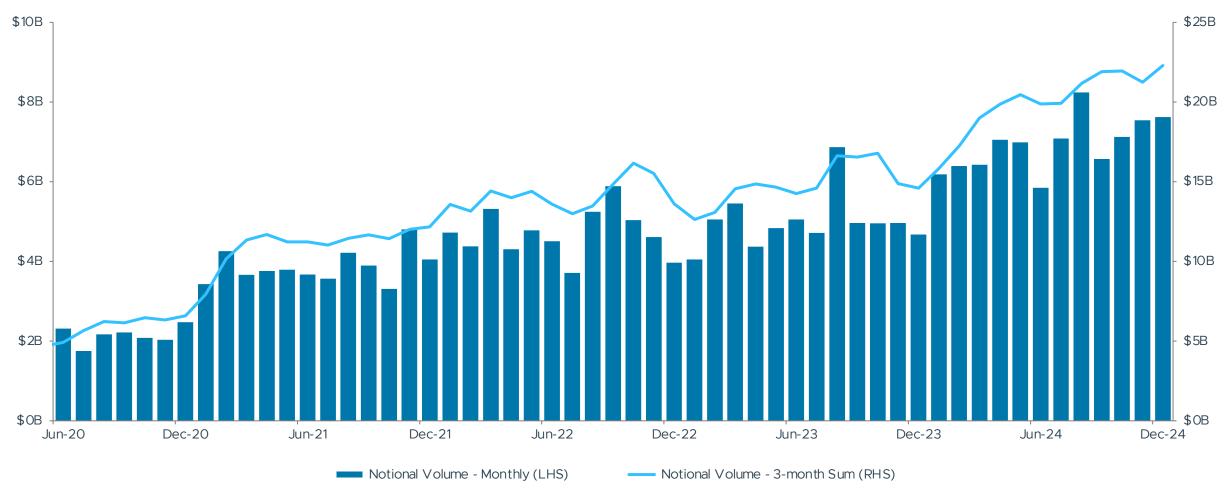
## Alternatives Decoded Structured Investments



### Structured investment volumes in the private wealth channel have grown over time

Growth of structured investment volumes on the iCapital platform

Structured investment notional sales volume, monthly (\$ billion, as December 2024)



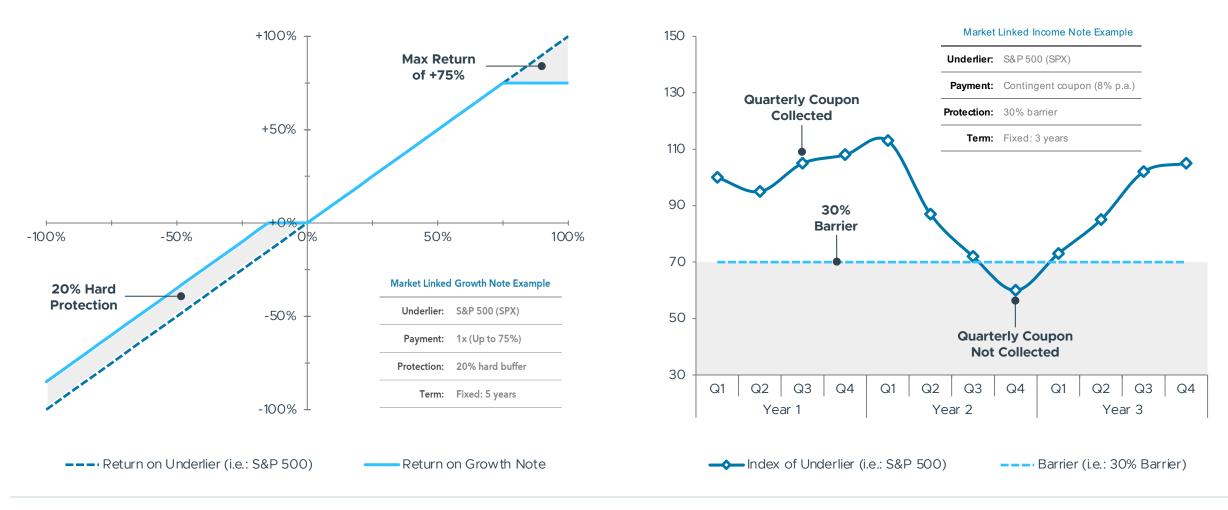
Source: iCapital Structured Investments and Annuities Platform, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data is through December 2024 and is subject to change based on potential updates to source(s) database. The structured investment data above is based upon the notional volume of transactions in structured investment during the above time frame. The data above includes data on a range of product features and do not necessarily reflect any particular CUSIP or structured investment. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



## Payoff structures for market-linked growth and income notes

Growth notes offer upside participation, with leverage or up to a cap Hypothetical payoff structure of a market linked growth note\* Income notes offer a quarterly coupon if certain conditions are met

Hypothetical payoff structure of a market linked income note



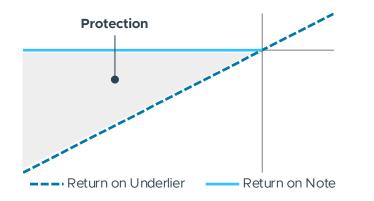




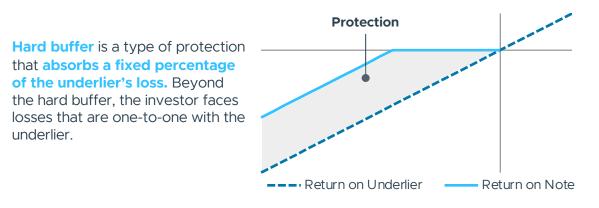
## Types of protection available in structured investments

#### **Full Principal Protection**

Full principal protection is a type of protection where an investor's principal investment will be returned at maturity.



#### Partial Protection (Buffer)



#### **Comparing Downside Protection**

How notes with different types of protection play out in negative market scenarios

Underlier Performance (at Maturity)	-10%	-15%	-30%	
Return of Principal (at Maturity)				Max Possible Loss

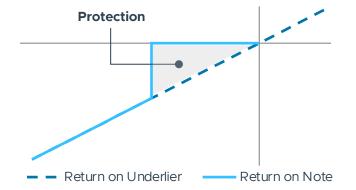
	Possible Loss			
Full Principal Protection:	100%	100%	100%	0%
20% Hard Buffer:	100%	100%	90%	80%
20% Barrier:	100%	100%	70%	100%

## Source: iCapital Structured Investments and Annuities Platform, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: The visuals above are hypothetical examples. They do not necessarily reflect any particular CUSIP or structured investment and are solely intended to help illustrate how different protection methods work. For full principal protection, a product's principal value may be protected from adverse market moves and returned at maturity, subject to the credit risk of the Issuer. Investors must be comfortable with the creditworthiness of the Issuer and must hold the note until maturity in order to receive full principal back. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

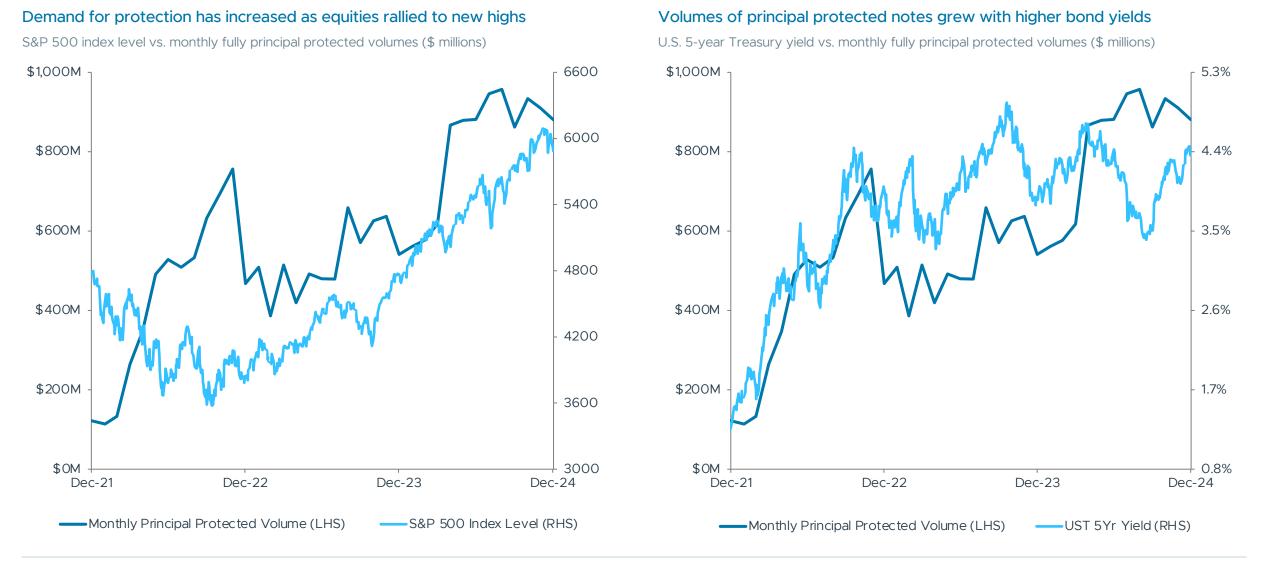


#### Contingent Protection (Barrier)

Barrier is a type of protection that absorbs a fixed percentage of the underlier's decline; however, if the underlier declines beyond a specified level, this protection disappears, and losses are one-forone from the underlier's initial level on the trade date.



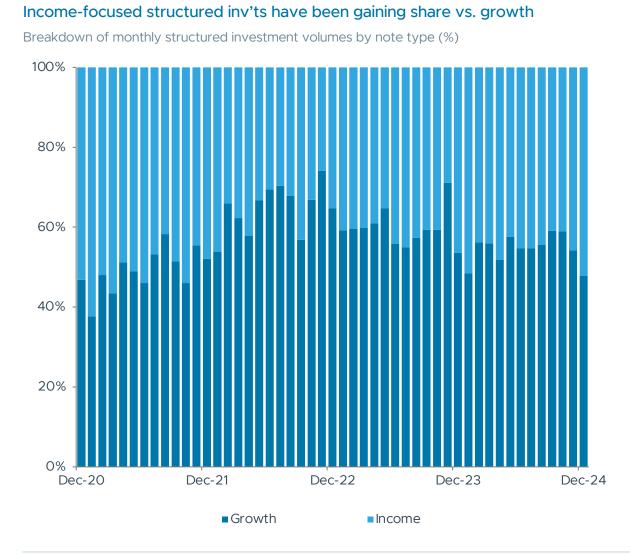
## Full principal protection demand is a function of equity levels and bond yields



Source: (left and right) S&P Dow Jones, U.S. Department of the Treasury, iCapital Structured Investments and Annuities Platform, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data is through December 31, 2024 and is subject to change based on potential updates to source(s) database. The Structured Investment data above is based upon the notional volume of transactions in structured investments platform, which does not necessarily reflect the entire universe of structured investments that were available in the market during the above time frame. The data above includes data on a range of product features and terms and do not necessarily reflect any particular CUSIP or structured investment. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results are not guaranteed.



## Preference for types and investment terms of structured investments varied over time



Breakdown of monthly structured investment volumes by investment term (%) 100% 80% 60% 40% 20% 0% Dec-22 Dec-23 Dec-20 Dec-21 Dec-24

18 months to 3 years

 $\leq$  18 months

The 18 months to 3 year investment term has been the most preferred

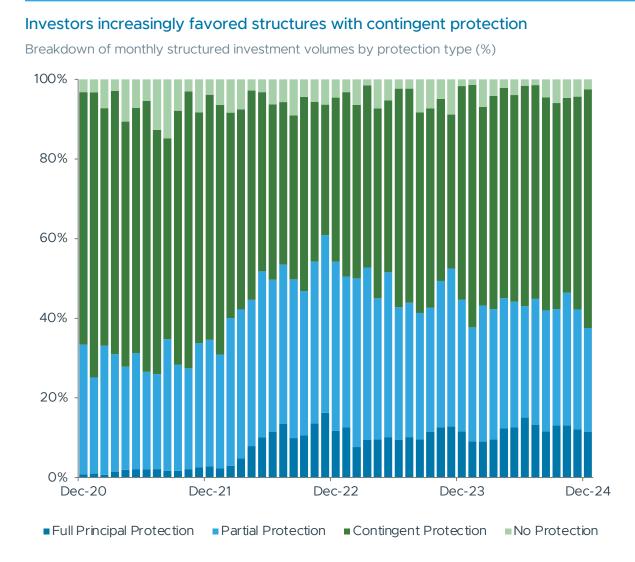
Source: (left and right) iCapital Structured Investments and Annuities Platform, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data is through December 2024 and is subject to change based on potential updates to source(s) database. The structured investment data above is based upon the notional volume of transactions in structured investment CUSIPs that flowed through the iCapital structured investments platform, which does not necessarily reflect the entire universe of structured investments that were available in the market during the above time frame. The data above includes data on a range of product features and terms and do not necessarily reflect any particular CUSIP or structured investment. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

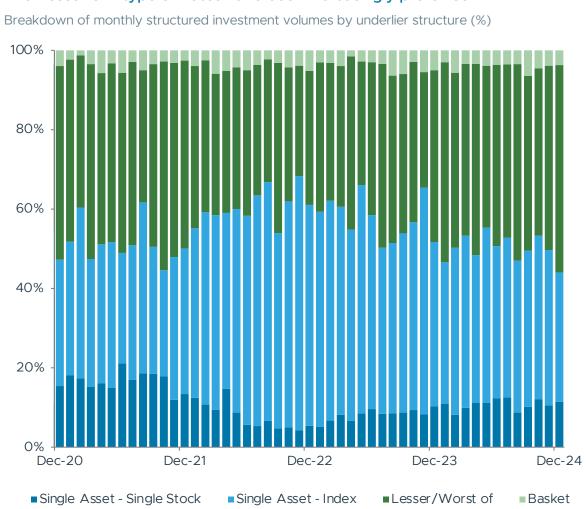


■ > 5 years

■ 3 to 5 vears

## Preference for type of protection and type of underlying asset evolved over time





The "lesser of " type of notes have been increasingly preferred

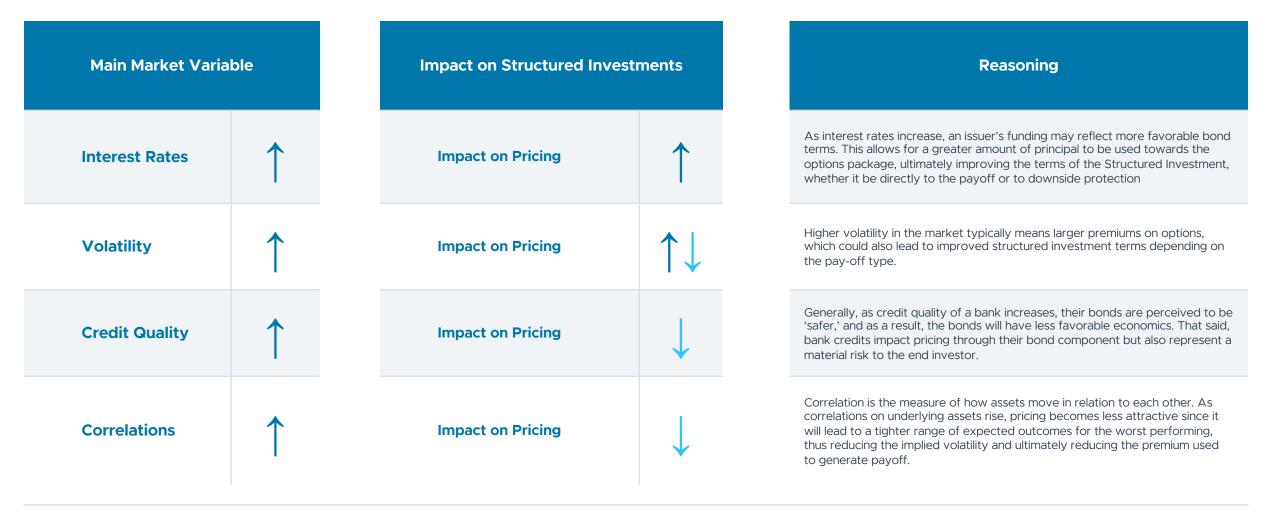
Source: (left and right) iCapital Structured Investments and Annuities Platform, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data is through December 2024 and is subject to change based on potential updates to source(s) database. The structured investment data above is based upon the notional volume of transactions in structured investment CUSIPs that flowed through the iCapital structured investments platform, which does not necessarily reflect the entire universe of structured investments that were available in the market during the above time frame. The data above includes data on a range of product features and terms and do not necessarily reflect any particular CUSIP or structured investment. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



## Structured investment returns and pricing are dynamic, fluctuate with market conditions

Structured investment returns and pricing are subject to the influence of various market variables

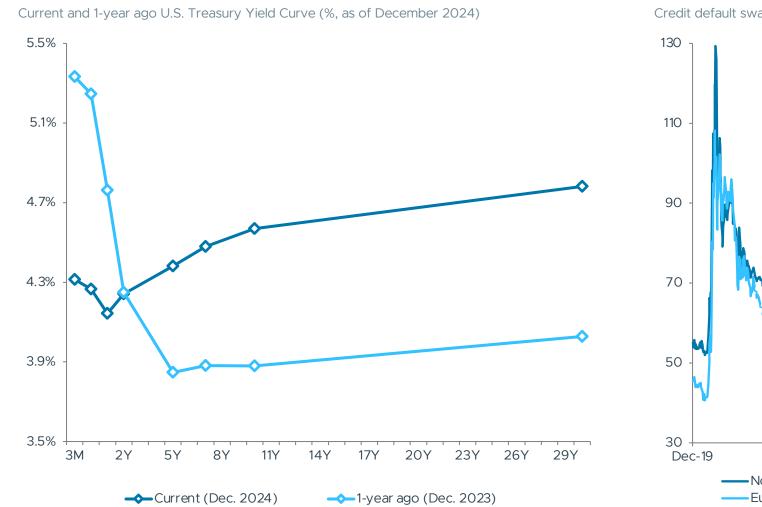
Market variables and their impact on structured investment pricing



Source: iCapital Investment Strategy, with data based on availability as of Oct. 31, 2024. Note: The above table is not necessarily inclusive of all market variables that impact structured investments. They also do not necessarily reflect any particular CUSIP or structured investment, and are solely intended to help illustrate how, in theory, market variables impact structured investment pricing. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



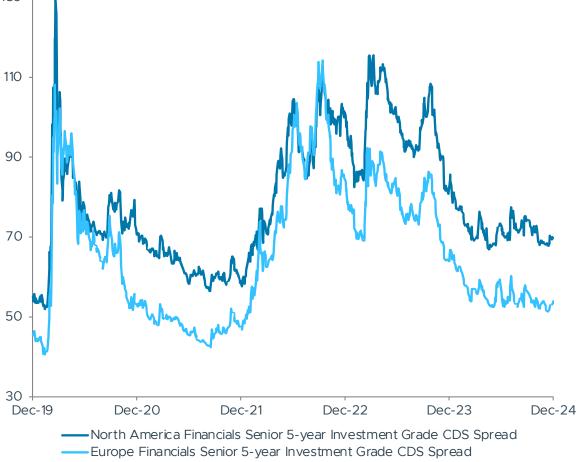
#### Interest rates have moved lower, credit spreads are tighter than a year ago



The front end of the yield curve noticeably declined vs. a year ago

#### Financial institutions' credit spreads tightened since Q2-Q3 2023

Credit default swap spread for Investment Grade Financials (bps, as of December 2024)



Source: (left) U.S. Department of the Treasury, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data is through December 31, 2024 and is subject to change based on potential updates to source(s) database. Analysis looks at the U.S. Treasury yield curve across all available maturities based on current and 1-year ago levels. (right) Bloomberg, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data is through December 31, 2024 and is subject to change based on potential updates to source(s) database. Analysis looks at the U.S. Treasury yield curve across all available maturities based on current and 1-year ago levels. (right) Bloomberg, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data is through December 31, 2024 and is subject to change based on potential updates to source(s) database. Analysis looks at the period. Europe Financials Swap for investment grade U.S. and Europe Financials. Senior 5-year Investment Grade CDS Spread is a broad market measure of the credit risk associated with senior unsecured debt of U.S. investment-grade financial institutions over a five-year period. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.



## Volatility remains below 2021-22 levels but has trended higher in recent quarters

#### 40 100% 36 90% 32 80% 28 70% 24 60% 20 50% 16 12 40% Dec-19 Dec-20 Dec-21 Dec-22 Dec-23 Dec-20 Dec-22 Dec-24 Dec-19 Dec-21 Dec-23 Dec-24 -S&P 500 -Russell 2000 Nasdag 100

Equity indices correlations moved lower due to recent market rotation

Rolling 3-month correlation between various equity indices (%, as of December 2024)

#### Q4 2024 brought a significant spike in equity volatility

12-month implied volatility across various equity indices (%, as of December 2024)

Source: (left) FTSE Russell, NASDAQ, S&P Dow Jones, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data is through December 31, 2024 and is subject to change based on potential updates to source(s) database. Analysis looks at the forward 12-month at-themoney (100% moneyness) implied volatility on the S&P 500, Nasdaq 100, and Russell 2000. (right) FTSE Russell, NASDAQ, S&P Dow Jones, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data is through December 31, 2024 and is subject to change based on availability as of Jan. 31, 2025. Note: Data is through December 31, 2024 and is subject to change based on availability as of Jan. 31, 2025. Note: Data is through December 31, 2024 and is subject to change based on availability as of Jan. 31, 2025. Note: Data is through December 31, 2024 and is subject to change based on availability as of Jan. 31, 2025. Note: Data is through December 31, 2024 and is subject to change based on availability as of Jan. 31, 2025. Note: Data is through December 31, 2024 and is subject to change based on availability as of Jan. 31, 2025. Note: Data is through December 31, 2024 and is subject to change based on availability as of Jan. 31, 2025. Note: Data is through December 31, 2024 and is subject to change based on availability as of Jan. 31, 2025. Note: Data is through December 31, 2024 and is subject to change based on availability as of Jan. 31, 2025. Note: Data is through December 31, 2024 and is subject to change based on availability as of Jan. 31, 2025. Note: Data is through December 31, 2024 and is subject to change based on availability as of Jan. 31, 2025. Note: Data is through December 31, 2024 and is subject to change based on availability as of Jan. 31, 2025. Note: Data is through December 31, 2024 and is subject to change based on availability as of Jan. 31, 2025. Note: Data is through December 31, 2024 and is subject to change based on availability as of Jan. 31, 2025. Note: Data is through



# Alternatives Decoded Annuities



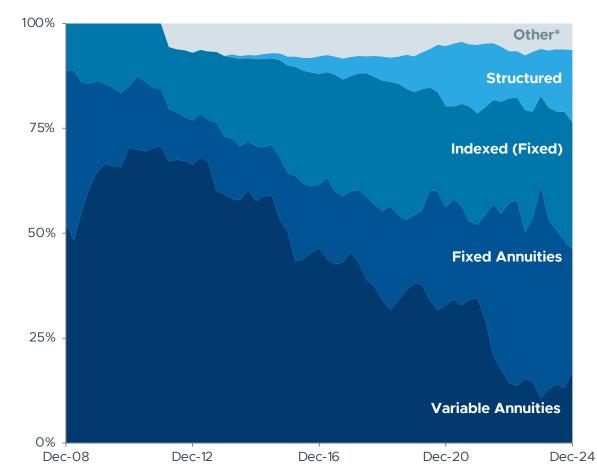
#### The annuity industry experienced strong growth as rates rose in recent years

Total annual U.S. annuity sales (\$ billion, as of December 2024) \$450B \$432 \$385 \$375B \$313 \$300B \$274 \$254 \$242 \$236 \$234 \$222 \$219 \$225B \$204 \$150B \$75B \$OB 2016 2017 2019 2021 2022 2015 2018 2020 2023 2024 Avg.

Annuity sales grew 12% in 2024 and are 60% above historical averages

#### Elevated rates led to fixed rate annuities taking greater market share

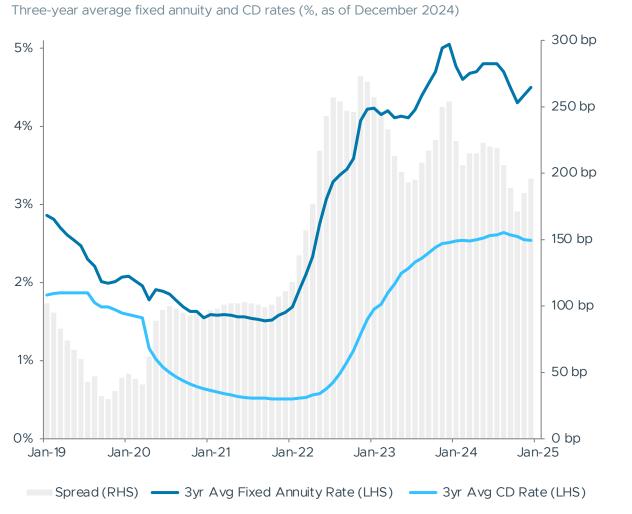
Breakdown of quarterly U.S. annuity sales by type (%, as of December 2024)



Source: (left) LIMRA, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. (right) LIMRA, iCapital Investment Strategy, with data based on availability as of Jan. 31, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. Variable annuities include traditional variable annuities, such as separate accounts, as defined by LIMRA. Fixed annuities include fixed-rate deferred annuities include registered Index-Linked annuities (RILA), as defined by LIMRA. Other includes include such as single premium immediate annuities (SPIA) and deferred income annuity (DIA), and Structured Settlements, as defined by LIMRA. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results are not guaranteed.



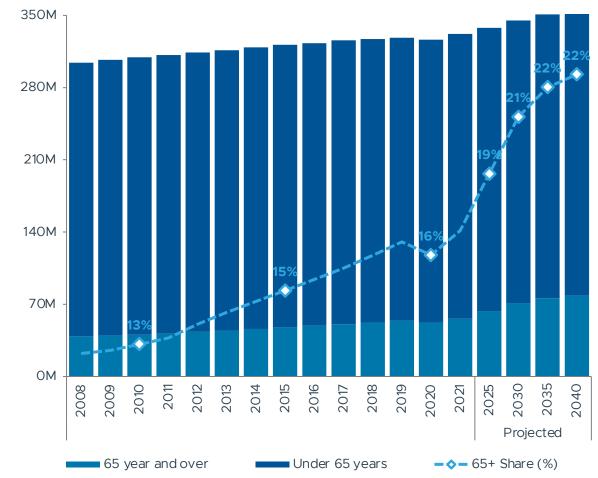
## Secular demand for annuities is also driven by rising population of age 65 and over



Spreads between fixed annuity and CD rates remain near historic highs

Growing population of retirees may turn to annuities for income

Actual and projected U.S. population by age group (million)



Source: (left) LIMRA, iCapital Investment Strategy, with data based on availability as of Oct. 31, 2024. Note: Data as of June 2024 and is subject to change based on potential updates to source(s) database. (right) United States Census Bureau, iCapital Investment Strategy, with data based on availability as of Jan 31, 2025. Note: Historical population data is included through December 2021 and is subject to change based on potential updates to source(s) database. Projected population data covers December 2025 to Census Bureau 2023 National Population Projections Tables. For more information, please refer to the Index Definitions, Attributions, and Important Information sections at the end of this deck. For illustrative purposes only. Past performance is not indicative of future results are not guaranteed.



### **Definitions**

Bloomberg Emerging Marking USD Aggregate Index: A flagship hard currency Emerging Markets debt benchmark that includes fixed and floating-rate US dollar-denominated debt issued from sovereign, quasi-sovereign, and corporate EM issuers.

**Bloomberg Global Aggregate Bond Index:** A flagship measure of global investment grade debt from a multitude local currency markets. This multi-currency benchmark includes treasury, government-related, corporate and securitized fixed-rate bonds from both developed and emerging markets issuers.

**Bloomberg U.S. Aggregate Bond Index:** A broad base, market capitalization-weighted bond market index. The index includes Treasury securities, government agency bonds, mortgage-backed bonds, corporate bonds, and several foreign bonds traded in the United States.

**Bloomberg U.S. CMBS Investment Grade Index:** measures the investment-grade market of US Agency and US Non-Agency conduit and fusion commercial mortgage-backed security CMBS deals with a minimum current deal size of \$300mn. The index includes both US Aggregate eligible (ERISA eligible) and non-US Aggregate eligible (non-ERISA eligible) securities.

Bloomberg U.S. Corporate High Yield Index: Measures the U.S. Dollar-denominated, high yield, fixed-rate corporate bond market. Securities are classified as high yield if the middle rating of Moody's, Fitch and S&P is Ba1/BB+/BB+ or below.

Bloomberg U.S. Long Treasury Index: Measures US dollar-denominated, fixed-rate, nominal debt issued by the US Treasury with 10 years or more to maturity.

Bloomberg U.S. Municipal Index: Measures the U.S. Dollar-denominated long-term tax-exempt investment grade bond market. The index has four main sectors: state and local general obligation bonds, revenue bonds, insured bonds, and prerefunded bonds

**Choe Crude Oil ETF Volatility Index:** Measures the 30-day expected volatility of crude oil as priced by the United States Oil Fund (USO). The USO ETF tracks the performance of NYMEX near-month WTI crude oil futures.

**Choe S&P 500 Dispersion Index:** Measures the expected dispersion in the S&P 500 over the next 30 calendar days, as calculated from the prices of S&P 500 index options and the prices of single stock options of selected S&P 500 constituents, using a modified version of the VIX methodology

**Choe Volatility Index (VIX Index):** The VIX Index is a calculation designed to produce a measure of constant, 30-day expected volatility of the U.S. stock market, derived from real-time, mid-quote prices of S&P 500 Index (SPX) call and put options.

**Cliffwater Direct Lending Index (CDLI):** An asset-weighted index of over 11,000 directly originated middle market loans totaling \$264B. It seeks to measure the unlevered, gross of fee performance of U.S. middle market corporate loans, as represented by the asset-weighted performance of the underlying assets of Business Development Companies (BDCs), including both exchange-traded and unlisted BDCs, subject to certain eligibility requirements.

Cliffwater Public BDC Index (CWBDC): Measures the performance of lending-oriented, exchange-traded Business Development Companies, subject to certain eligibility criteria regarding portfolio composition, market capitalization, and dividend history. The CWBDC is a capitalizationweighted index that is calculated on a daily basis using publicly-available closing share prices and reported dividend payouts. The CWBDC Total Return Index includes two components: 1) Income Return and 2) Price Return.

**Deutsche Bank Currency Volatility Index (CVIX):** Provides an implied volatility benchmark for major currency markets. The index is designed to represent investors' expectation of future volatility, and is calculated as the weighted arithmetic average of the 3-month level of implied volatility for major currency pairs.

**Dow Jones Brookfield Global Infrastructure Composite Index:** An index designed to measure the performance of pure-play infrastructure companies domiciled globally. The index covers all sectors of the infrastructure market and includes Master Limited Partnerships (MLPs) in addition to other equity securities. To be included in the index, a company must derive at least 70% of cash flows from infrastructure lines of business.

**Dow Jones Industrial Average:** The Dow Jones Industrial Average, or Dow, is a price-weighted average of 30 U.S. blue-chip companies that are generally the leaders in their industry. The index covers all industries except transportation and utilities.

Fed Funds Target Rate: is the interest rate at which banks and credit unions lend reserves to other depository institutions overnight on an uncollateralized basis. It is set by the Federal Reserve, specifically the Federal Open Market Committee.

FTSE Three-Month US T Bill Index: The FTSE Three-Month US T Bill Index Series is intended to track the daily performance of 3-month US Treasury bills as published by the Federal Reserve Bank of St. Louis. The indexes are designed to operate as a reference rate for a series of funds.

**FTSE NAREIT All Equity Index:** The FTSE Nareit All Equity REITs Index is a free-float adjusted, market capitalization-weighted index of U.S. equity REITs. Constituents of the index include all tax-qualified REITs with more than 50 percent of total assets in qualifying real estate assets other than mortgages secured by real property.

HFRI Credit Index: A composite index of strategies trading primarily in credit markets. It is an aggregation of following seven HFRI sub-strategy indices. HFRI ED: Credit Arbitrage Index, HFRI ED: Distressed/Restructuring Index, HFRI ED: Multi-Strategy Index, HFRI RV: Fixed Income-Asset Backed Index, HFRI RV: Fixed Income-Convertible Arbitrage Index, HFRI RV: Fixed Income-Corporate Index, and HFRI RV: Multi-Strategy Index.

HFRI Equity Hedge Index: The Equity Hedge Index is made up of investment managers who maintain positions both long and short in primarily equity and equity derivative securities. Strategies in the Index can be broadly diversified or narrowly focused on specific sectors and can range broadly in terms of levels of net exposure, leverage employed, holding period, concentrations of market capitalizations and valuation ranges of typical portfolios. Equity Hedge managers would typically maintain at least 50% exposure to, and may in some cases be entirely invested in, equities, both long and short.

**HFRI Event-Driven Index:** The Event-Driven Index is made up of investment managers who maintain positions in companies currently or prospectively involved in corporate transactions of a wide variety including but not limited to mergers, restructurings, financial distress, tender offers, shareholder buybacks, debt exchanges, security issuance or other capital structure adjustments.

HFRI Fund Weighted Composite Index: The HFRI Fund Weighted Composite Index is a global, equal-weighted index of single-manager funds that report to HFR Database. The HFRI Fund Weighted Composite Index does not include Funds of Hedge Funds.

HFRI Macro Index: The Macro Index is made up of investment managers that trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency and commodity markets.

HFRI Relative Value Multi-Strategy Index: The RV Multi-Strategy Index is made up of Strategies that employ an investment thesis is predicated on realization of a spread between related yield instruments in which one or multiple components of the spread contains a fixed income, derivative, equity, real estate, MLP or combination of these or other instruments.

ICE 3-Month London Interbank Offered Rate (LIBOR): The average of the interest rates that some of the world's leading banks charged each other for short-term loans. It was a benchmark used to set rates for various loans, mortgages, and corporate bonds.

ICE BofA MOVE Index: A measure of U.S. interest rate volatility that tracks the movement in U.S. Treasury yield volatility implied by current prices of one-month options on 2-year, 5-year, 10-year and 30-year Treasuries.

Lincoln Senior Debt Index (LSDI): The LSDI is a quarterly index that tracks the fair market value of middle market, direct lending credit investments across funds in the U.S. and in Europe.

Morningstar LSTA U.S. Leveraged Loan 100 Index: The Morningstar LSTA US Leveraged Loan 100 Index is designed to measure the performance of the 100 largest facilities in the US leveraged loan market. Index constituents are market-value weighted, subject to a single loan facility weight cap of 2%.





## **Definitions (cont'd)**

Morningstar LSTA U.S. Leveraged Loan Index: An Index designed to deliver comprehensive, precise coverage of the US leveraged loan market. Underpinned by PitchBook and LCD data, the index serves as the market standard for the US leveraged loan asset class and tracks the performance of more than 1,400 USD denominated loans.

MSCI ACWI Index: MSCI's flagship global equity index is designed to represent performance of the full opportunity set of large- and mid-cap companies from developed and emerging markets around the world.

MSCI EAFE Index: The MSCI Europe, Australasia, and the Far East (EAFE) Index which captures large and mid cap representation across 21 Developed Markets countries around the world, excluding the US and Canada.

MSCI Europe Index: The MSCI Europe Index captures large and mid cap representation across 15 Developed Markets (DM) countries in Europe

NASDAQ 100 Index: An index comprised of equity securities issued by 100 of the largest non-financial companies listed on the Nasdaq stock exchange. It is a modified capitalization-weighted index.

NASDAQ Composite Index: An index that measures all NASDAQ domestic and international based common type stocks listed on The NASDAQ Stock Market. The NASDAQ Composite is a capitalization-weighted index.

NCREIF Farmland Property Index: The NCREIF Farmland Index is a quarterly time series composite return measure of investment performance of a large pool of individual farmland properties acquired in the private market for investment purposes only.

NCREIF Open End Diversified Core Equity (NFI-ODCE) Index: The ODCE is a capitalization-weighted, gross of fee, time-weighted return index of investment returns reporting on both a historical and current basis the results of 38 open-end commingled funds pursuing a core investment strategy.

**NCREIF Timberland Property Index:** The NCREIF Timberland Index is a quarterly time series composite return measure of investment performance of a large pool of individual U.S. timber properties acquired in the private market for investment purposes only.

OECD Major 7 CPI Total Index: A consumer price index for all items non-food non-energy for G7 countries.

Preqin Growth Equity Index: The index covers over 14,000 closed-end funds captured in the broader Private Capital index including funds/strategies listed as Growth, as defined by Preqin.

**Pregin Infrastructure Index:** The index covers over 14,000 closed-end funds captured in the broader Private Capital index including funds/strategies listed as Infrastructure core, infrastructure core-plus, infrastructure debt, infrastructure fund of funds, infrastructure opportunistic, infrastructure secondaries, infrastructure value added, as defined by Pregin.

Preqin Private Equity Buyout Index: The index covers over 14,000 closed-end funds captured in the broader Private Capital index including funds/strategies listed as Buyout, as defined by Preqin.

**Pregin Real Estate Debt Index:** The index covers over 14,000 closed-end funds captured in the broader Private Capital index including funds/strategies listed as Real estate debt, as defined by Pregin.

**Pregin Real Estate Opportunistic Index:** The index covers over 14,000 closed-end funds captured in the broader Private Capital index including funds/strategies listed as Real estate opportunistic, as defined by Pregin.

**Pregin Real Estate Value Add Index:** The index covers over 14,000 closed-end funds captured in the broader Private Capital index including funds/strategies listed as Real estate value added, as defined by Pregin.

Pregin Secondaries Index: The index covers over 14,000 closed-end funds captured in the broader Private Capital index including funds/strategies listed as Secondaries (PE), as defined by Pregin.

Preqin Venture Capital Index: The index covers over 14,000 closed-end funds captured in the broader Private Capital index including funds/strategies listed as Early Stage, Early Stage: Seed, Early Stage: Start-up, Expansion/Late Stage, Venture (general), as defined by Preqin.

Real Capital Analytics (RCA) Commercial Property Price Index: Measure the actual price movements for commercial properties based on exclusive transaction data using repeat-sales regression methodology.

**Russell 2000:** Measures the performance of approximately 2,000 small-cap US equities. Stocks in the Russell U.S. indexes are weighted by their available (also called float-adjusted) market capitalization.

**Russell 2000 Growth Index:** Measures the performance of the small-cap growth segment of the U.S. equity universe. It includes those Russell 2000 companies with relatively higher price-to-book ratios, higher I/B/E/S forecast medium term (2 year) growth and higher sales per share historical growth (5 years). Stocks in the Russell U.S. indexes are weighted by their available (also called float-adjusted) market capitalization.

**S&P 500 Index:** The S&P 500 is widely regarded as the best single gauge of large-cap U.S. equities. The index includes 500 of the top companies in leading industries of the U.S. economy and covers approximately 80% of available market capitalization.

**S&P 500 Equal-Weighted Index:** The equal-weight version of the widely-used S&P 500. The index includes the same constituents as the capitalization weighted S&P 500, but each company in the S&P 500 EWI is allocated a fixed weight - or 0.2% of the index total at each quarterly rebalance.

**S&P Global Agribusiness Composite Index:** The S&P Global Agribusiness Index provides liquid exposure to some of the largest publicly-traded agribusiness companies that meet specific investability requirements.

**S&P Global Timber and Forestry Index:** The S&P Global Timber & Forestry Index is designed to measure the performance of companies engaged in the ownership, management or upstream supply chain of forests and timberlands, with a target constituent count of 100.

Secured Overnight Financing Rate (SOFR) Three-Month: The SOFR is a broad measure of the cost of borrowing cash overnight collateralized by Treasury securities. SOFR futures offer the leading source of price discovery and liquidity on SOFR. Three-Month SOFR futures are cash settled and based on a business-day compounded SOFR per annum during contract Reference Quarter.

**U.S. Consumer Price Index:** is a measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services. Percent changes in the price index measure the inflation rate between any two time periods. Index captures roughly 88 percent of the total population, accounting for wage earners, clerical workers, technical workers, self-employed, short-term workers, unemployed, retirees, and those not in the labor force.



#### **Attributions**

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