iCapital®

# Alternatives Decoded

## Navigating the World of Alternative Investments

As of 2Q 2025

For Investment Professionals and Institutional Investors Only

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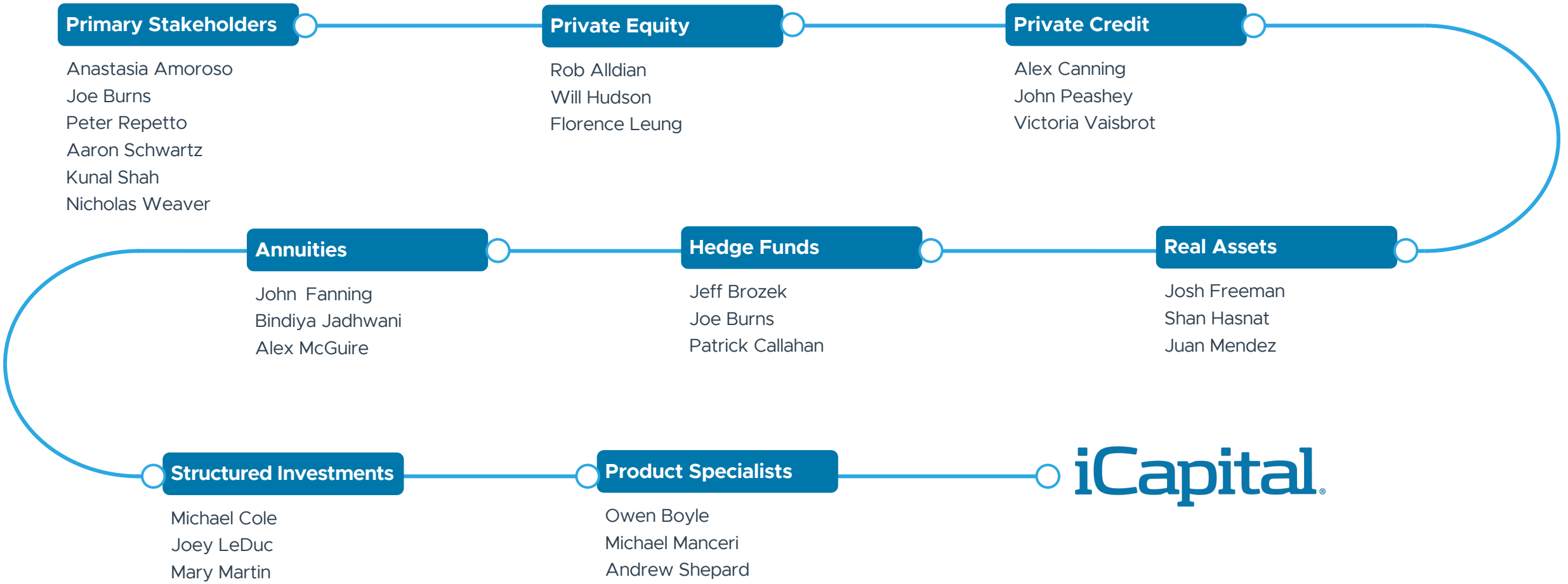
# Global Research, Strategy, and Insights Team

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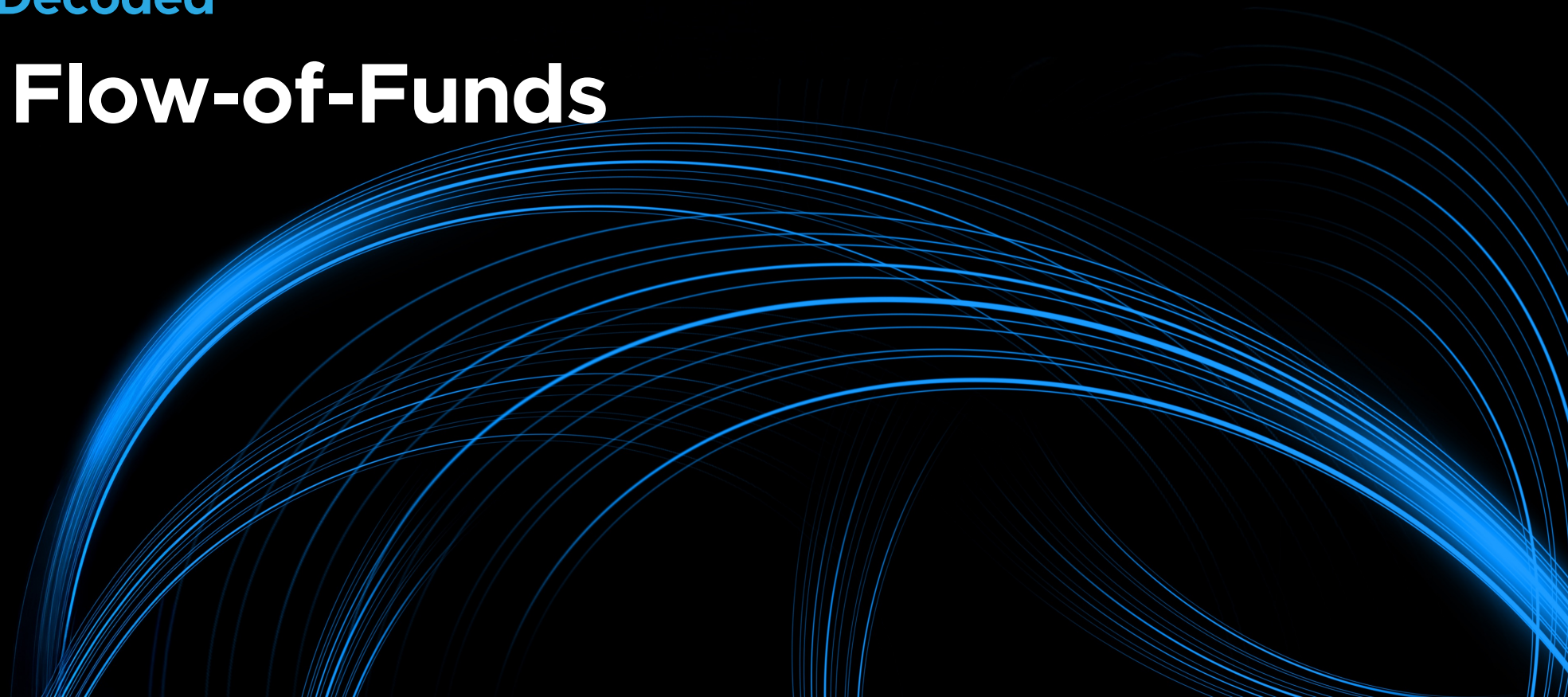
Alternatives Decoded

# iCapital Flow-of-Funds

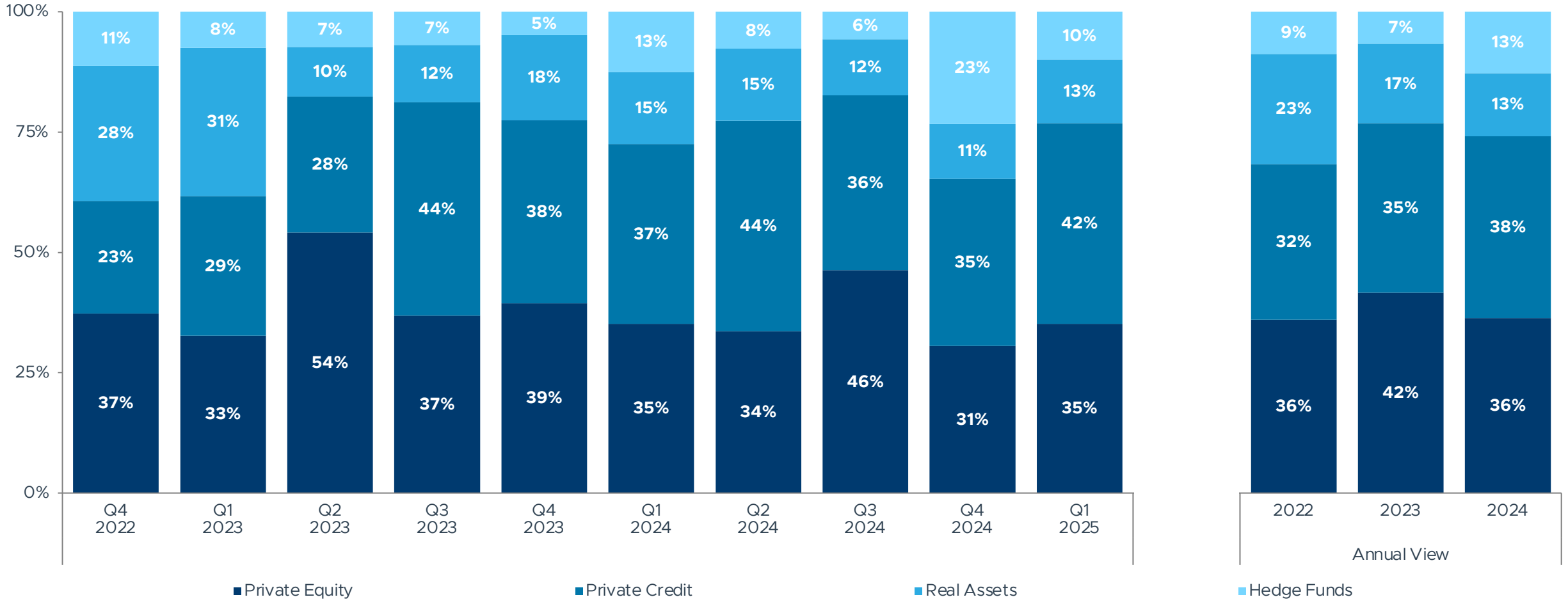


iCapital

# Private wealth clients favored private equity and private credit in the first quarter of 2025

## iCapital Alternative Investments Flow-of-Funds

Breakdown of quarterly and annual flows on the iCapital platform by asset class (%, as of March 2025)

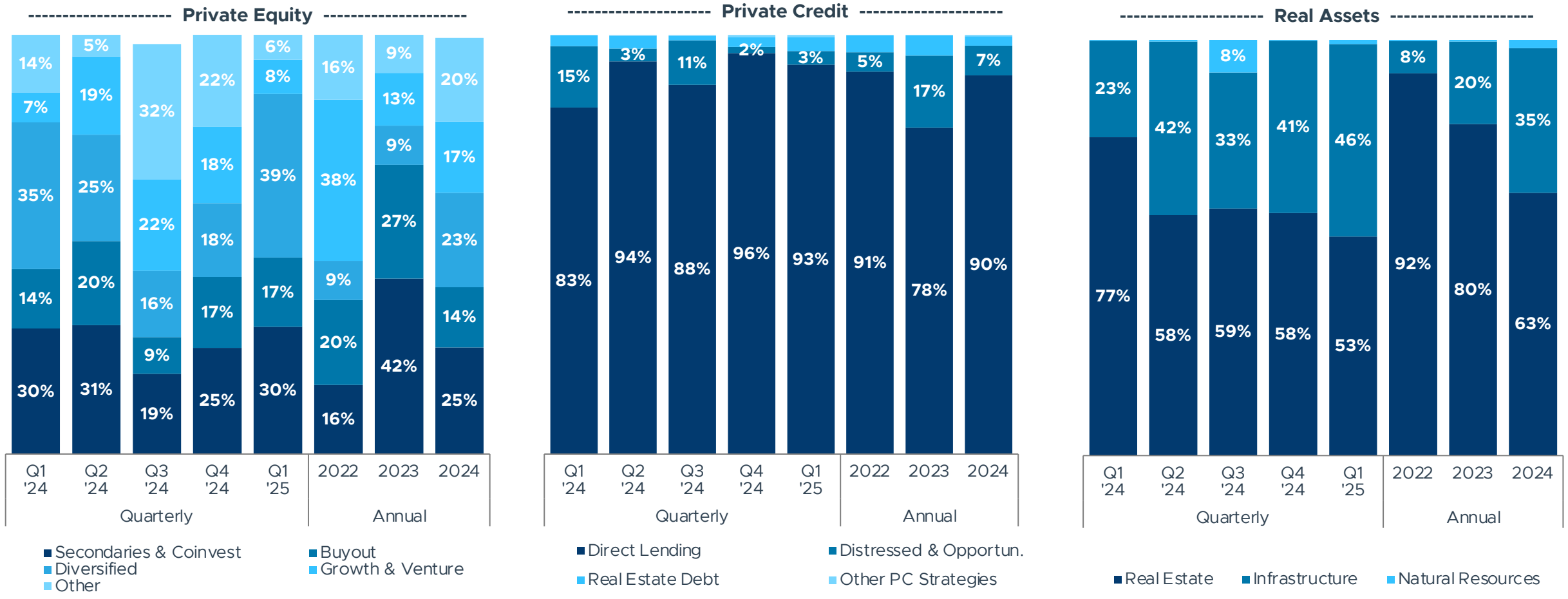



Source: iCapital Alternatives Platform, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data is through March 2025 and is subject to change based on potential updates to source(s) database. iCapital Flow-of-Funds data is based upon the notional flow on the iCapital 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 flows on the iCapital platform by sub-strategy (%, as of March 2025)

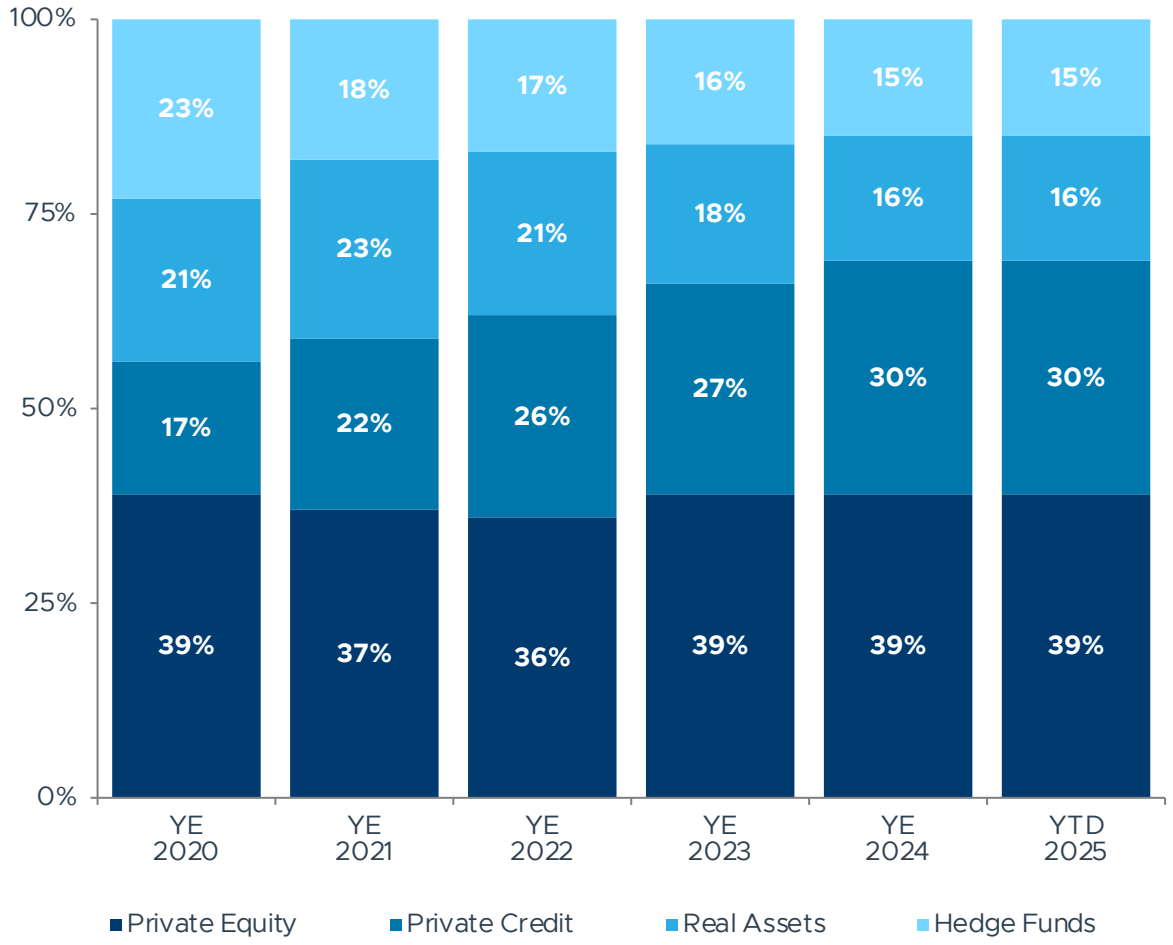



Source: iCapital Alternatives Platform, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data is through March 2025 and is subject to change based on potential updates to source(s) database. iCapital Flow-of-Funds data is based upon the notional flow on the iCapital 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

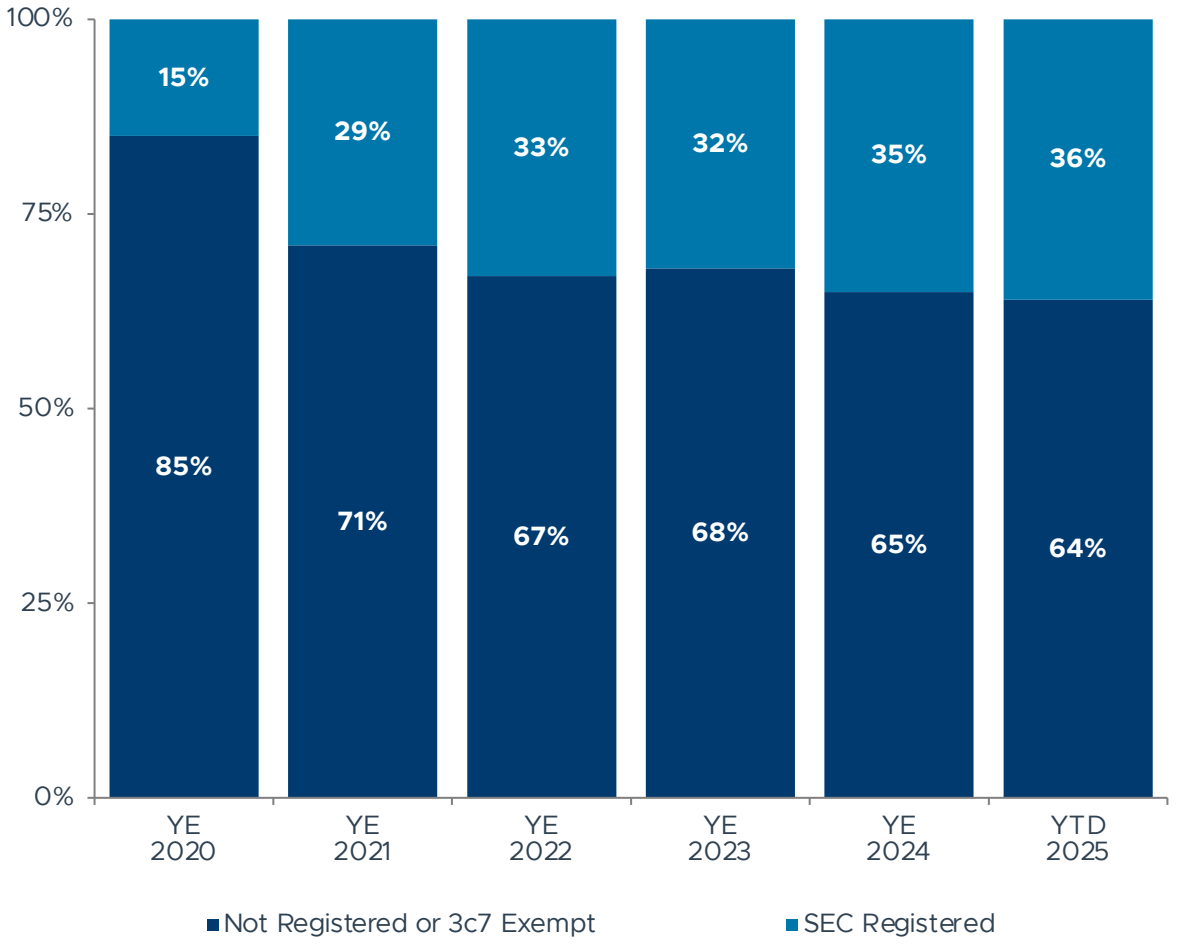
## iCapital Alternative Investments Platform Composition

Breakdown of iCapital platform assets by asset class (%, as of March 2025)




## iCapital Alternative Investments Platform Composition

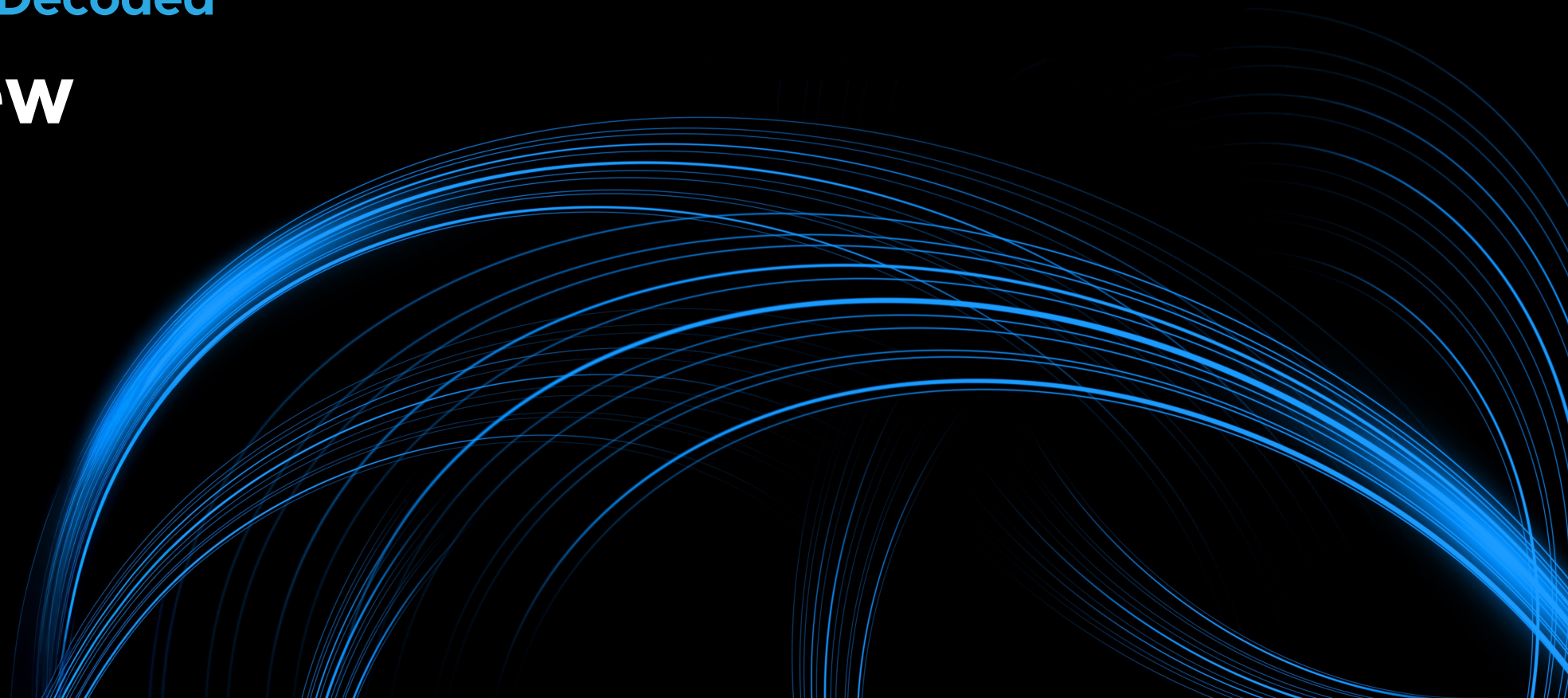
Breakdown of iCapital platform assets by fund structure (%, as of March 2025)




Source: (left and right) iCapital Alternatives Platform, with data based on availability as of Apr. 30, 2025. Note: Data is through March 2025 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

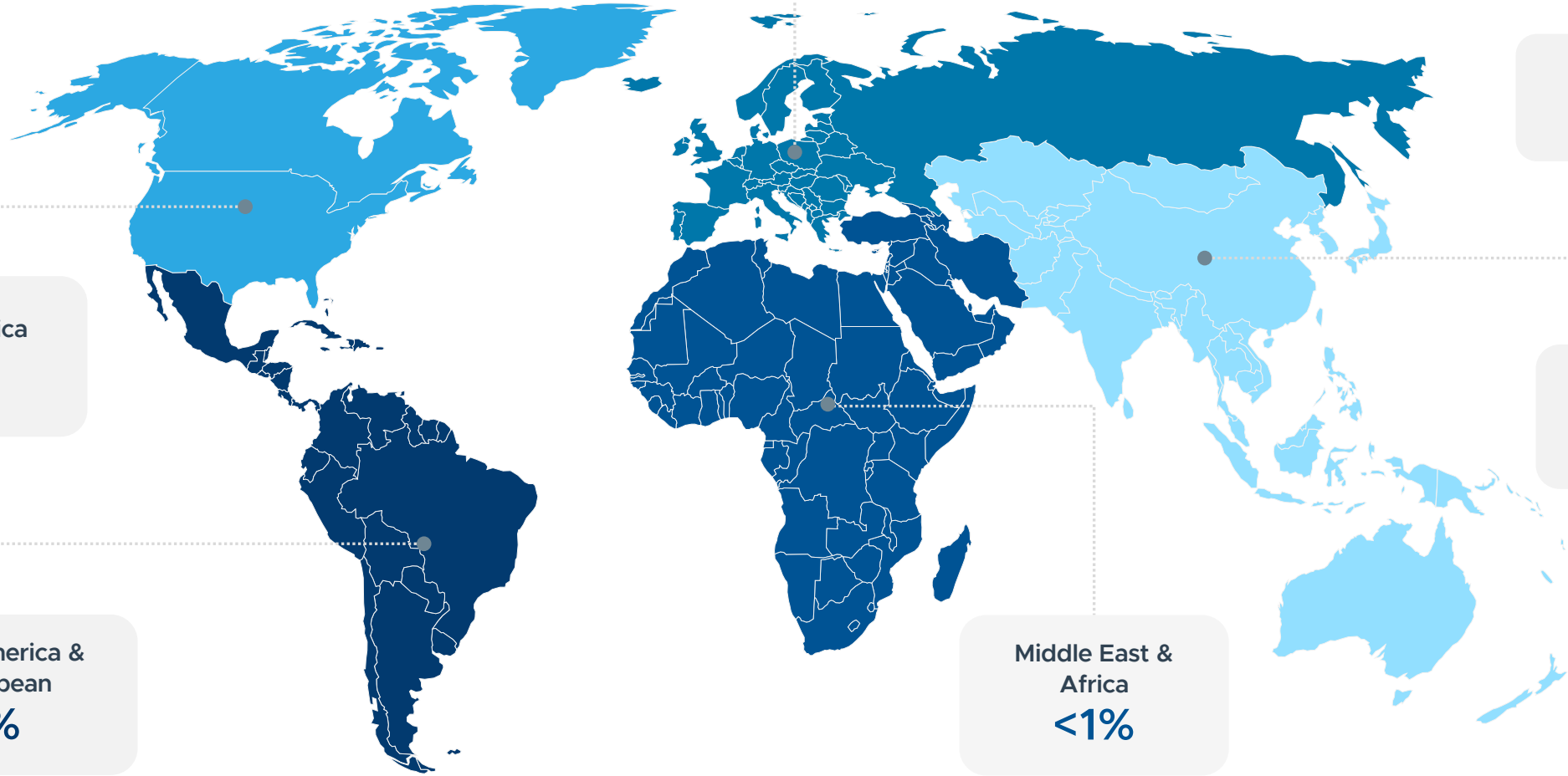


iCapital

# 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)



North America
59%

Europe
19%

Asia Pacific (APAC)
20%

Latin America & Caribbean
1%

Middle East & Africa
<1%

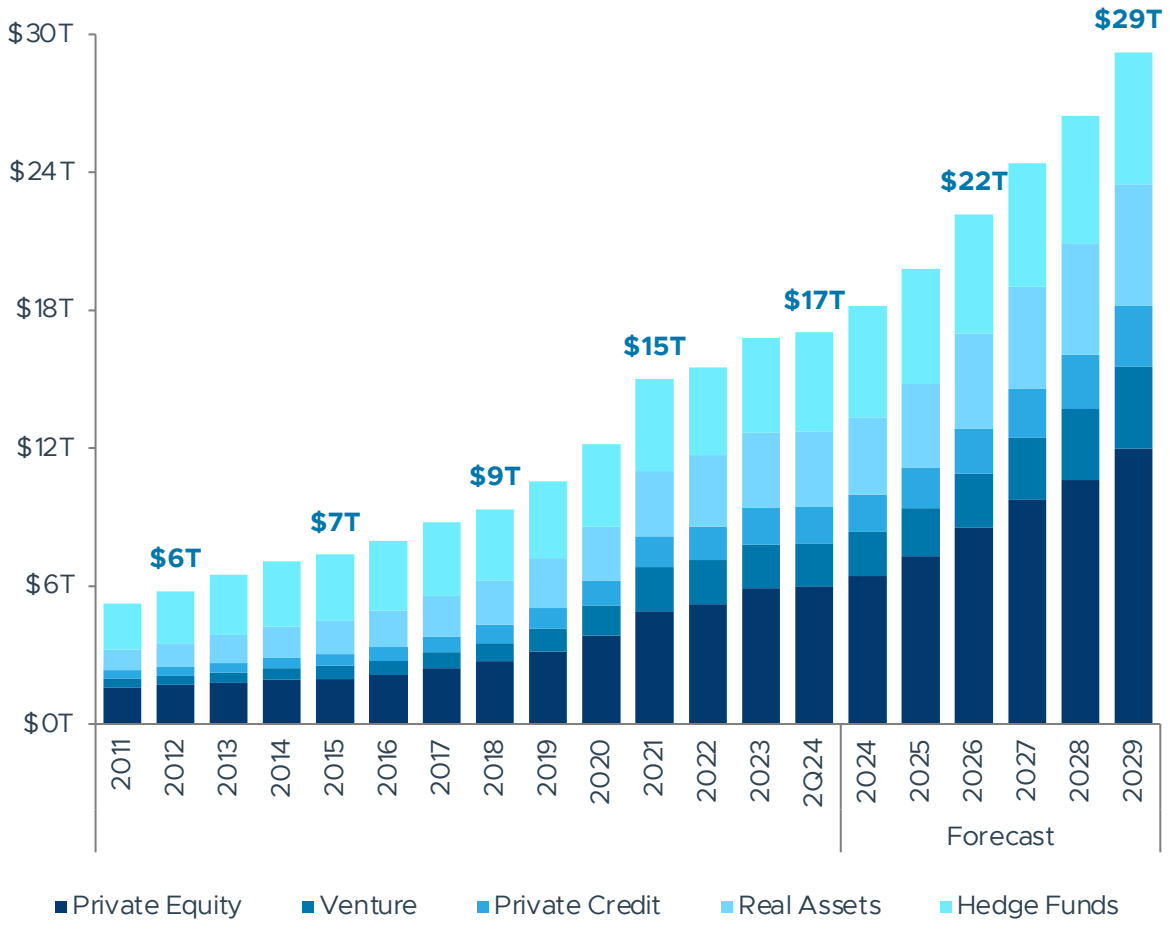
Other (not defined)
1%

Source: Preqin, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 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)

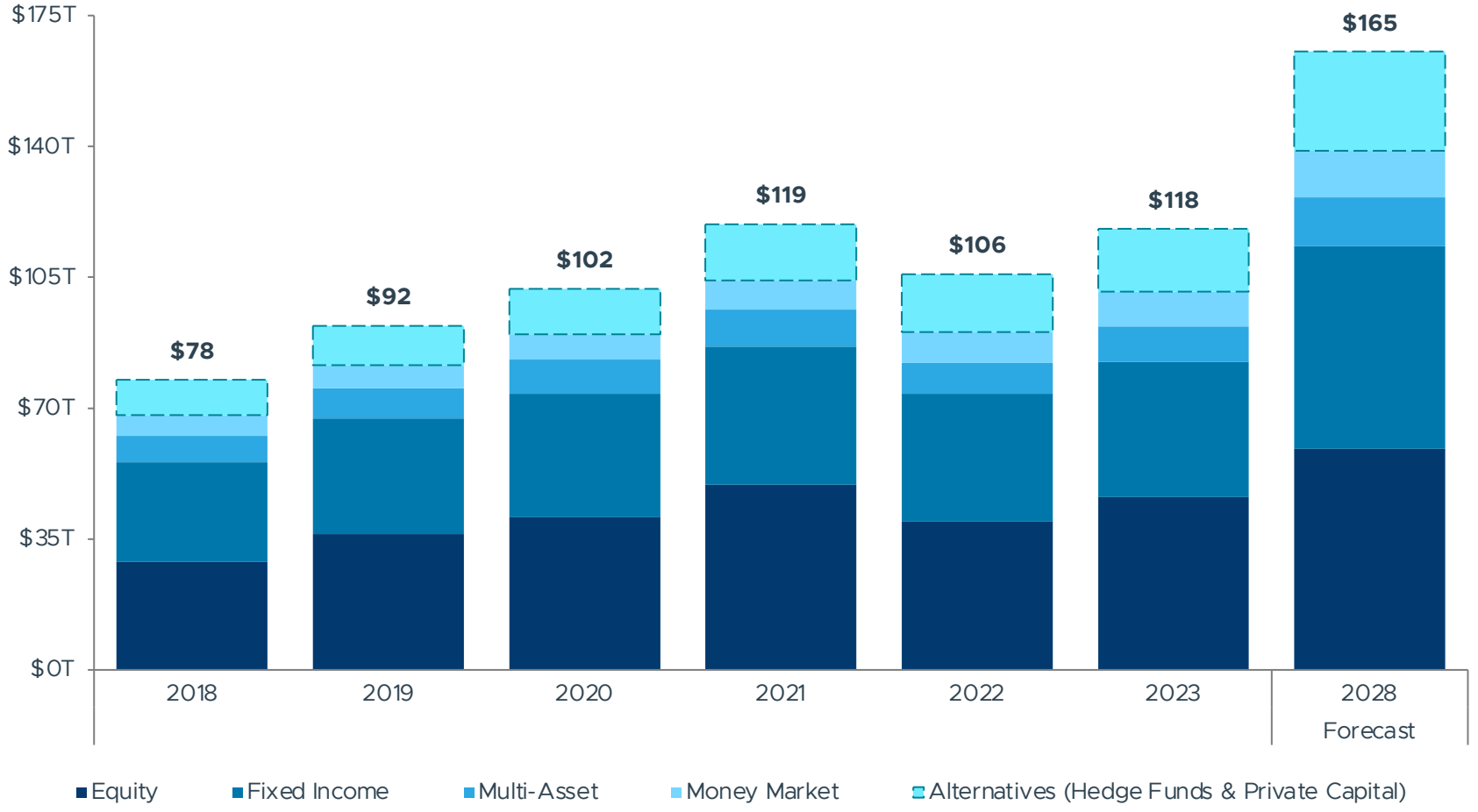
| | | 2Q24 (Actual) | 2029 (Est) | Forecasted Growth CAGR | |
|---|---|---|---|---|---|
| Private Equity | Buyout | $4.0T | $8.3T | 14.2% | 13.4% |
| | Growth | $1.2T | $2.2T | 10.7% | |
| | Other | $0.7T | $1.4T | 12.9% | |
| Venture Capital | | $1.9T | $3.6T | 12.7% | |
| Private Credit | Direct Lending | $0.8T | $1.3T | 9.2% | 9.8% |
| | Distressed Debt | $0.3T | $0.5T | 11.2% | |
| | Other | $0.5T | $0.8T | 9.9% | |
| Real Assets | Real Estate | $1.7T | $2.7T | 8.7% | 9.1% |
| | Infrastructure | $1.3T | $2.3T | 10.6% | |
| | Natural Resources | $0.3T | $0.3T | 2.6% | |
| Hedge Funds | | $4.5T | $5.7T | 4.4% | |
| Total AUM | | $17.2T | $29.2T | 10.1% | |

Source: (left and right) Hedge Fund Research (HFR), Preqin, iCapital Alternatives Decoded, with data based on availability as of Apr. 30,, 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, including Hedge Funds, is sourced from Preqin and is based on their Future of Alternatives report, which models projected AUM using various variables. AUM figures include all private capital asset classes broken down by primary strategy as defined by Preqin. Natural Resources AUM is limited to 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. 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 are expected to have the strongest growth rate compared to traditional markets

## Total externally managed assets to grow at 7% per annum through 2028, driven by a larger share of Alternatives

Global externally managed AUM by fund type ($ trillion, excludes individual equity and fixed income)



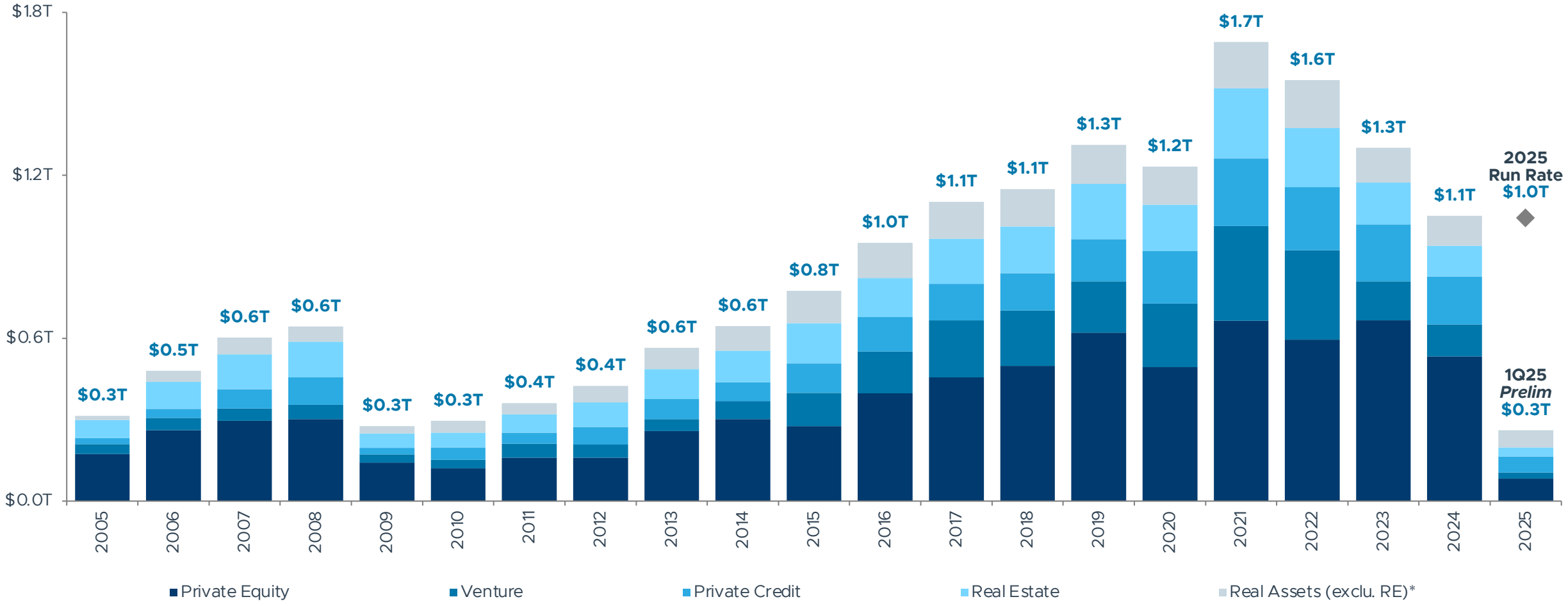

| Fund Type | Share (%) 2018 (Actual) | Share (%) 2028 (Est) | Forecast Growth CAGR ('23-'28) |
|---|---|---|---|
| Alternatives | 12% | 16% | +10% |
| Money Market | 7% | 7% | +6% |
| Multi-Asset | 9% | 8% | +6% |
| Fixed Income | 34% | 33% | +8% |
| Equity | 38% | 36% | +5% |
| Cumulative (Traditional and Alts) | | | +7% |

Source: iCapital Analysis based on data from Hedge Fund Research (HFR), Morgan Stanley, Oliver Wyman, Preqin, S&P Capital IQ, United States Office of Financial Research (OFR), iCapital Alternatives Decoded, with data based on availability as of April 30, 2025. Note: Historical AUM figures are through December 2023, while forecasted AUM extends through December 2028. Data is subject to change based on updates to the source(s) database. Analysis looks at global externally managed AUM by fund/strategy type. Equity (active and passive), Fixed Income (active and passive), Multi-Asset, and Money Market historical and forecasted data are sourced from Oliver Wyman's 2024 Global Asset Management Model. Alternatives includes Hedge Funds and Private Markets. Hedge Fund data is sourced from HFR for historical figures and Preqin for forecasts, while Private Markets data is sourced from Preqin for both historical and forecasted AUM. For Private Markets, data captured is limited to closed-end funds, and 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. 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.

# Alternatives fundraising activity has been challenged amidst an uncertain macro backdrop

## Global private capital fundraising activity

Annual closed-end fund capital raising by asset class ($ trillion, as of March 2025)

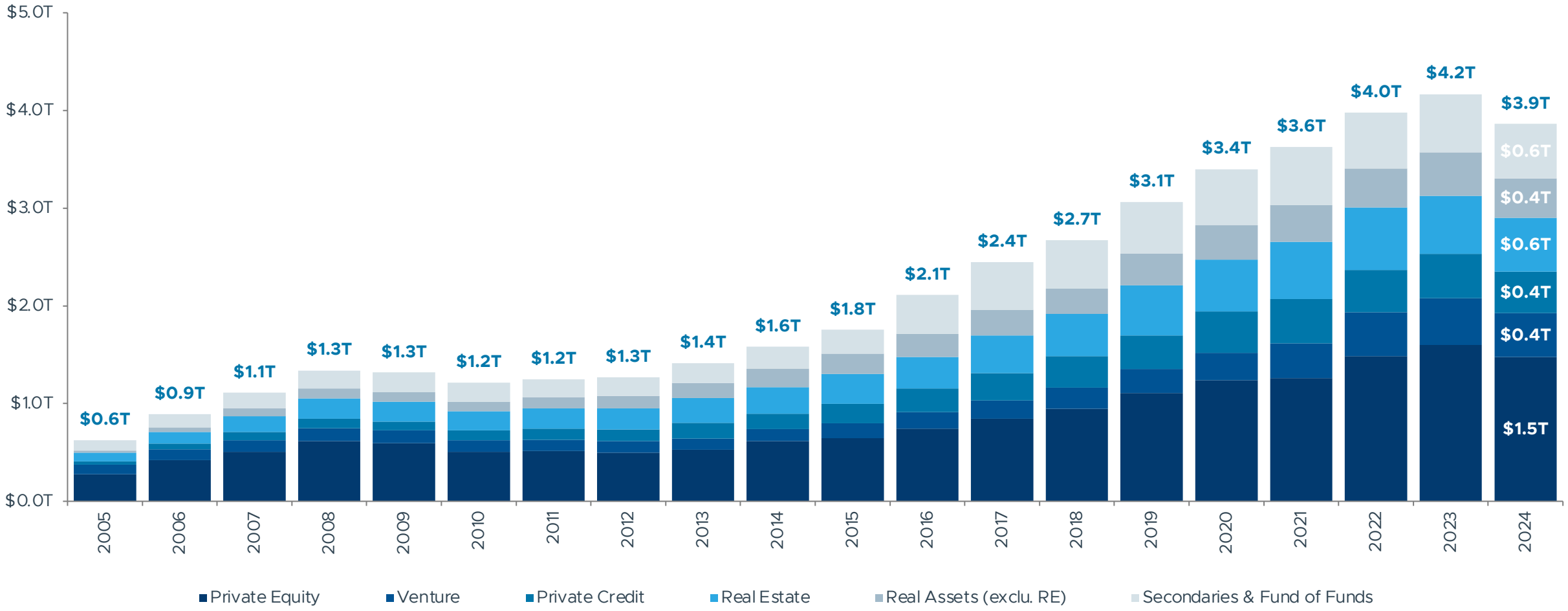



Source: Preqin, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data is year-to-date through March 2025 as of Apr. 24, 2025. Data is subject to change based on potential updates to source(s) database. Prior four quarters' fundraising levels are extremely likely 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 classes 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, such as Oil & Gas, categorized under Private Equity as defined by Preqin. To avoid double counting of capital raised, 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.

# 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)

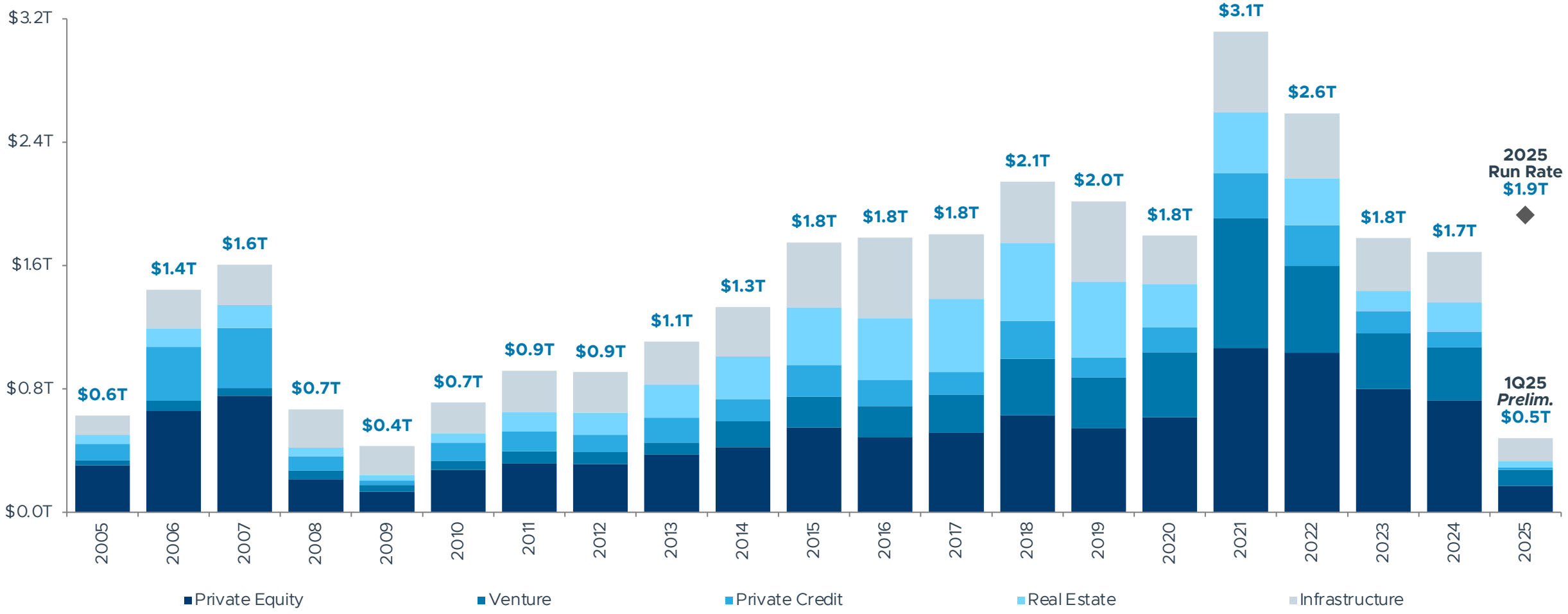



Source: Preqin, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data through June 2024 and is subject to change based on potential updates to source(s) database. Dry powder refers to committed but uninvested capital. Dry powder shown is for all private capital 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 all available secondaries 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.

# Deals continue to get done, but at a much slower pace than expected at the start of the year

## Global private capital deal activity

Annual closed-end fund deal value by asset class ($ trillion, as of March 2025)




Source: Preqin, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data is year-to-date through March 2025 as of Apr. 24, 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 future results. Future results are not guaranteed.

# Alternatives have offered strong outperformance vs. a traditional 60/40 portfolio

## Alternative asset class historical returns

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

**Annual Return (%)**

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|
| 15.0% Core CRE | 13.1% Buyout | 21.2% Buyout | 14.3% Growth | 18.7% Global 60/40 | 35.7% Venture | 54.1% Secondaries | 13.7% Infrastructure | 15.6% Global 60/40 | 11.3% Direct Lending |
| 12.6% Buyout | 11.2% Direct Lending | 20.9% Growth | 13.4% Secondaries | 17.3% Growth | 29.5% Growth | 48.0% Venture | 7.5% Core CRE | 12.1% Direct Lending | 10.2% Infrastructure |
| 12.3% Venture | 9.2% Infrastructure | 17.4% Secondaries | 12.7% Venture | 16.9% Venture | 21.2% Buyout | 39.0% Buyout | 6.3% Direct Lending | 8.1% Buyout | 9.8% Global 60/40 |
| 9.5% Secondaries | 8.8% Core CRE | 17.3% Global 60/40 | 11.3% Buyout | 16.2% Buyout | 13.4% Global 60/40 | 36.3% Growth | 1.5% Cash | 8.1% Hedge Funds | 9.8% Hedge Funds |
| 7.9% Infrastructure | 5.6% Global 60/40 | 12.8% Infrastructure | 8.3% Core CRE | 10.4% Hedge Funds | 12.4% Secondaries | 22.2% Core CRE | 0.5% Buyout | 7.3% Infrastructure | 9.1% Growth |
| 5.7% Growth | 5.4% Hedge Funds | 10.8% Venture | 8.1% Direct Lending | 9.7% Infrastructure | 11.8% Hedge Funds | 16.1% Infrastructure | -3.2% Secondaries | 5.3% Cash | 7.4% Buyout |
| 5.5% Direct Lending | 5.2% Growth | 8.6% Direct Lending | 7.5% Infrastructure | 9.5% Secondaries | 5.5% Direct Lending | 12.8% Direct Lending | -4.1% Hedge Funds | 4.9% Growth | 5.4% Cash |
| 0.0% Cash | 4.5% Secondaries | 8.6% Hedge Funds | 1.9% Cash | 9.0% Direct Lending | 3.9% Infrastructure | 10.2% Hedge Funds | -8.1% Growth | 4.7% Secondaries | 2.9% Secondaries |
| -1.1% Hedge Funds | 0.3% Cash | 7.6% Core CRE | -4.7% Hedge Funds | 5.3% Core CRE | 1.2% Core CRE | 9.2% Global 60/40 | -15.4% Venture | -6.3% Venture | 1.1% Venture |
| -2.7% Global 60/40 | 0.2% Venture | 0.8% Cash | -6.1% Global 60/40 | 2.3% Cash | 0.6% Cash | 0.0% Cash | -17.5% Global 60/40 | -12.1% Core CRE | -1.4% Core CRE |

**Time-Period Return (%, per annum)**

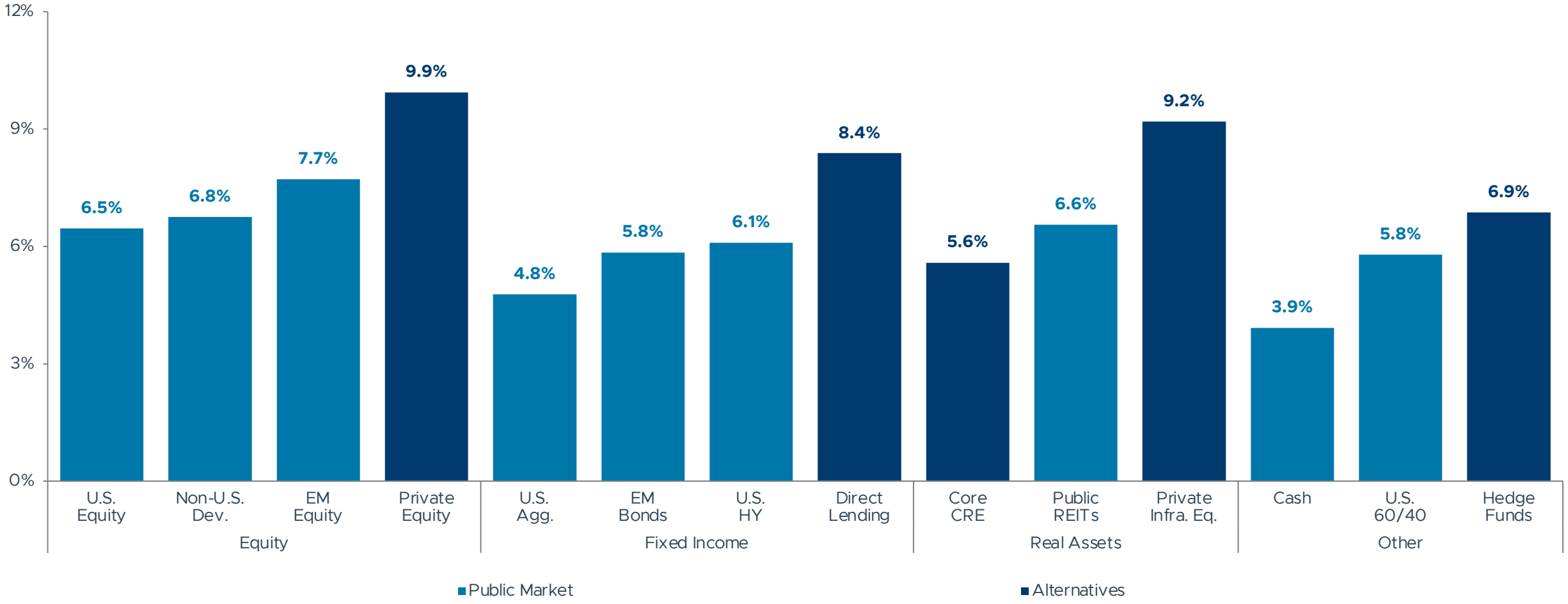
| 3YR | 5YR | 10YR | 15YR |
|---|---|---|---|
| 10.4% Infrastructure | 14.5% Buyout | 14.7% Buyout | 14.9% Buyout |
| 9.9% Direct Lending | 13.2% Growth | 12.8% Growth | 12.9% Secondaries |
| 5.3% Buyout | 12.5% Secondaries | 11.6% Secondaries | 12.5% Growth |
| 4.4% Hedge Funds | 10.2% Infrastructure | 10.2% Venture | 11.3% Venture |
| 4.0% Cash | 10.0% Venture | 9.8% Infrastructure | 10.1% Direct Lending |
| 1.7% Growth | 9.5% Direct Lending | 9.0% Direct Lending | 9.5% Infrastructure |
| 1.5% Global 60/40 | 7.0% Hedge Funds | 5.9% Core CRE | 8.5% Core CRE |
| 1.4% Secondaries | 5.2% Global 60/40 | 5.6% Global 60/40 | 5.9% Global 60/40 |
| -2.4% Core CRE | 2.8% Core CRE | 5.3% Hedge Funds | 5.0% Hedge Funds |
| -7.1% Venture | 2.5% Cash | 1.8% Cash | 1.2% Cash |

Source: Bloomberg Index Services Limited, Cliffwater Direct Lending Index, FTSE Russell, Hedge Fund Research (HFR), MSCI, NCREIF, Preqin, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 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 Funds proxied by Hedge Fund Research HFRI Fund Weighted Composite Index. Global 60/40 proxied by 60% MSCI 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. 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.

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

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

Average 2025 long-term capital market assumptions (LTCMA) expressed as expected compound returns over next 10 years, net of fees where applicable (%)

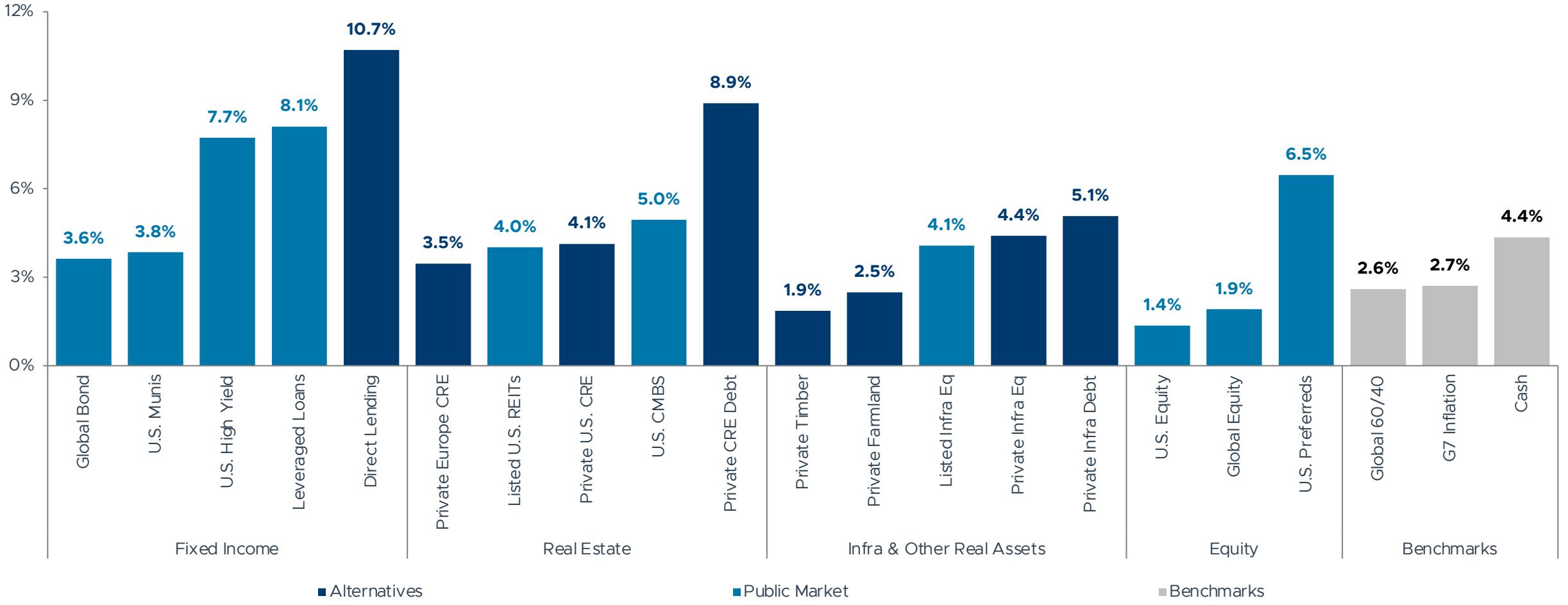



Source: BlackRock, Cliffwater, Envestnet, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Analysis is based on the average long-term capital market assumption for each strategy, using 2025 long-term capital market assumptions from BlackRock, Cliffwater, and Envestnet. 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.

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

## Public and private markets cross-asset class yields

Yields (%, as of March 2025)




Source: Bloomberg Index Services Limited, Federal Reserve, FTSE Russell, INREV, Lincoln International, MSCI, Morningstar, NCREIF, OECD, S&P Dow Jones, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Public market yields are as of March 2025. Alternative yields are as of December 2024 with an exception to Private Infrastructure Equity, which is as of September 2024. Data is subject to change based on potential updates to source(s) database. Indices used to derive yield data: Direct Lending via Lincoln Senior Debt (Direct Lending) Index, Private U.S. CRE via NCREIF Open End NFI-ODCE 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 Private Infrastructure Asset Index, Private Infra Debt via EDHCinfra300 Debt Index, Private Timber via NCREIF Timberland Property Index, Private Farmland via NCREIF Farmland Property Index, Leveraged Loans via Morningstar LSTA US Leveraged Loan 100 Index, Listed U.S. REITs via FTSE NAREIT Equity REITs Index, Listed Infra Equity via DJ Brookfield Global Infrastructure Composite Index, Global Equity via MSCI ACWI Net Total Return USD Index, Global Bond via Bloomberg Global Aggregate Index, U.S. High Yield via Bloomberg US Corporate High Yield Index, U.S. Preferreds via iShares Preferred and Income Securities ETF, U.S. CMBS via Bloomberg CMBS Investment Grade Index, U.S. Munis via Bloomberg Municipal Bond Index, Cash via US 90 Day Average SOFR Secured Overnight Financing Rate, G7 Inflation via OECD Major 7 CPI Inflation Rate YoY 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.

# 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 December 2024)

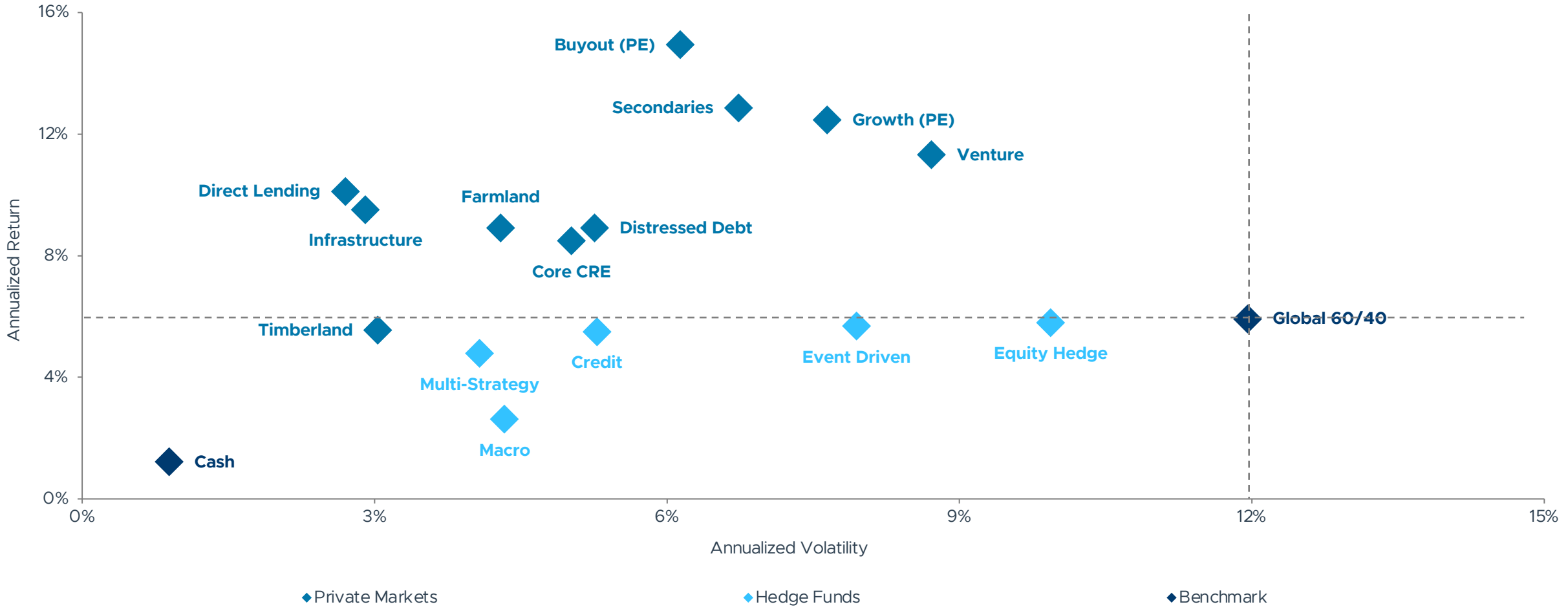
| | | Private Equity | | | Private Credit | | Real Assets | | | Hedge Funds | | | | Public Markets | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Buyout | Growth | Venture | Direct Lending | Distressed | Real Estate | Infra-structure | Natural Resources | Macro | Multi-Strategy | Event Driven | Equity Hedge | Global Equity | Global Bonds | Global 60/40 | Cash |
| Private Equity | Buyout | 1.00 | | | | | | | | | | | | | | | |
| | Growth | 0.88 | 1.00 | | | | | | | | | | | | | | |
| | Venture | 0.83 | 0.86 | 1.00 | | | | | | | | | | | | | |
| Private Credit | Direct Lending | 0.67 | 0.58 | 0.40 | 1.00 | | | | | | | | | | | | |
| | Distressed | 0.69 | 0.60 | 0.46 | 0.69 | 1.00 | | | | | | | | | | | |
| Real Assets | Real Estate | 0.23 | 0.05 | 0.27 | -0.01 | 0.13 | 1.00 | | | | | | | | | | |
| | Infrastructure | 0.50 | 0.33 | 0.23 | 0.45 | 0.49 | 0.20 | 1.00 | | | | | | | | | |
| | Natural Resources | 0.39 | 0.34 | 0.14 | 0.53 | 0.60 | 0.33 | 0.51 | 1.00 | | | | | | | | |
| Hedge Funds | Macro | 0.29 | 0.29 | 0.32 | 0.22 | 0.27 | 0.12 | 0.17 | 0.21 | 1.00 | | | | | | | |
| | Multi-Strategy | 0.64 | 0.70 | 0.49 | 0.77 | 0.62 | -0.15 | 0.31 | 0.32 | 0.40 | 1.00 | | | | | | |
| | Event Driven | 0.73 | 0.76 | 0.54 | 0.81 | 0.60 | -0.22 | 0.38 | 0.33 | 0.29 | 0.91 | 1.00 | | | | | |
| | Equity Hedge | 0.72 | 0.79 | 0.58 | 0.70 | 0.51 | -0.27 | 0.32 | 0.21 | 0.31 | 0.86 | 0.95 | 1.00 | | | | |
| Public Markets | Global Equity | 0.64 | 0.70 | 0.47 | 0.65 | 0.44 | -0.25 | 0.29 | 0.20 | 0.25 | 0.80 | 0.88 | 0.95 | 1.00 | | | |
| | Global Bonds | 0.18 | 0.19 | 0.08 | 0.14 | -0.08 | -0.26 | -0.04 | -0.17 | -0.17 | 0.20 | 0.25 | 0.32 | 0.43 | 1.00 | | |
| | Global 60/40 | 0.60 | 0.66 | 0.42 | 0.59 | 0.36 | -0.28 | 0.24 | 0.13 | 0.17 | 0.74 | 0.82 | 0.90 | 0.97 | 0.63 | 1.00 | |
| | Cash | -0.32 | -0.19 | -0.40 | -0.03 | -0.14 | -0.74 | -0.08 | -0.20 | -0.04 | -0.02 | 0.03 | 0.05 | 0.08 | 0.07 | 0.09 | 1.00 |

Source: Bloomberg Index Services Limited, Cliffwater Direct Lending Index, FTSE Russell, Hedge Fund Research (HFR), MSCI, NCREIF, Preqin, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 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. Direct Lending proxied by Cliffwater Direct Lending Index. Distressed proxied by Preqin Distressed Private Debt Index. Real Estate proxied by NCREIF NFI-ODCE Index. Infrastructure proxied by Preqin Infrastructure Index. Natural Resources proxied by Preqin Natural Resources Index. Macro HFs proxied by HFRI Macro Total Index. Multi Strat HFs proxied by HFRI RV: Multi-Strategy Index. Event Driven HFs proxied by HFRI Event-Driven Total Index. Equity Hedge HFs proxied by HFRI Equity Hedge Total Index. Global Equity proxied by MSCI ACWI Net Total Return USD Index. Global Bonds proxied by Bloomberg Global Aggregate Index. Global 60/40 proxied by 60% MSCI ACWI Net Total Return USD 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. Correlations listed above are based on indices that are meant to estimate the asset class performance, hypothetically creating an index/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. 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 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 December 2024)

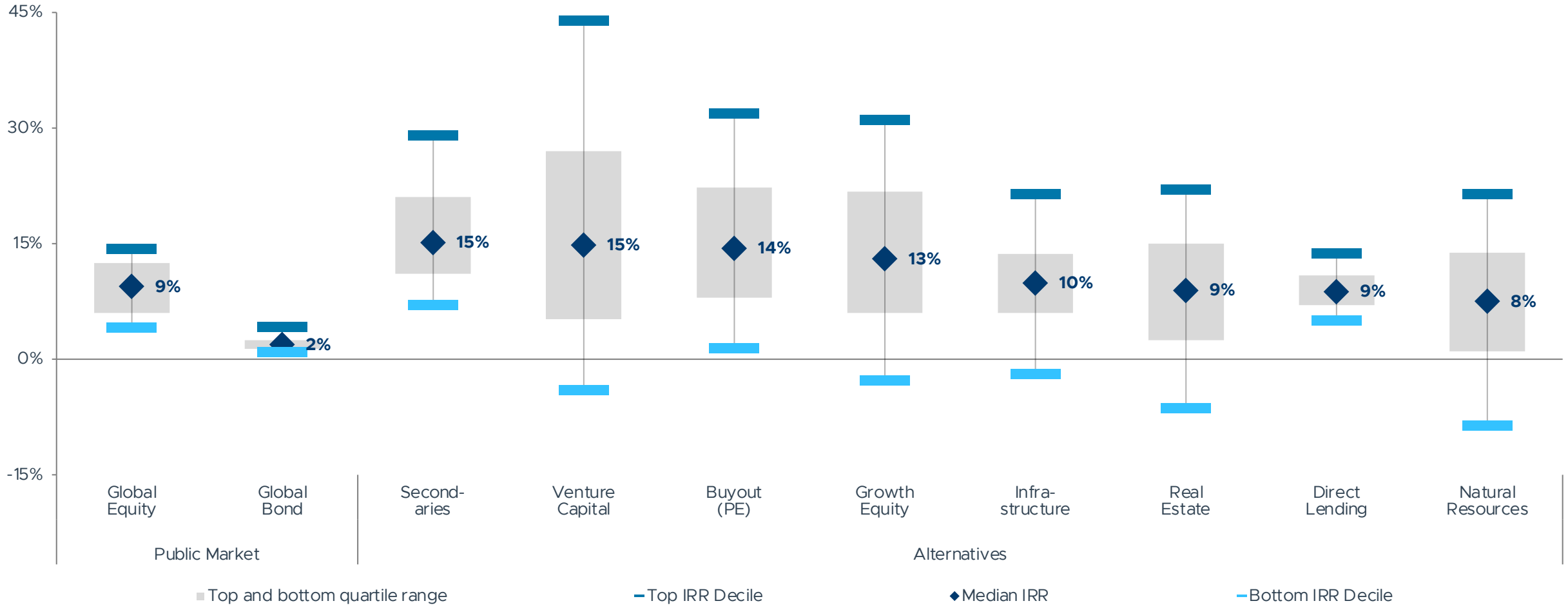



Source: Bloomberg Index Services Limited, Cliffwater Direct Lending Index, FTSE Russell, Hedge Fund Research (HFR), MSCI, NCREIF, Preqin, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 2025 and is subject to change based on potential updates to source(s) database. Return and volatility is annualized and is based on quarterly data. 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. Direct Lending proxied by Cliffwater Direct Lending Index. Distressed proxied by Preqin Distressed Private Debt Index. Real Estate proxied by NCREIF NFI-ODCE Index. Infrastructure proxied by Preqin Infrastructure Index. Private Timber proxied by NCREIF Timberland Property Index. Private Farmland proxied by NCREIF Farmland Property Index. Macro HFs proxied by HFRI Macro Total Index. Multi Strat HFs proxied by HFRI RV: Multi-Strategy Index. Event Driven HFs proxied by HFRI Event-Driven Total Index. Equity Hedge HFs proxied by HFRI Equity Hedge Total Index. Credit HFs proxied by HFRI Credit Index. Global 60/40 proxied by 60% MSCI ACWI Net Total Return USD Index and 40% Bloomberg Global Aggregate Index. Cash proxied by the FTSE 3 Month US T Bill Index. Annualized risk and returns above 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 are practically investable. 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.

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

## Manager performance dispersion across public and private market strategies

Dispersion by asset class, global, based on prior 10-year return window (%, as of December 2024)

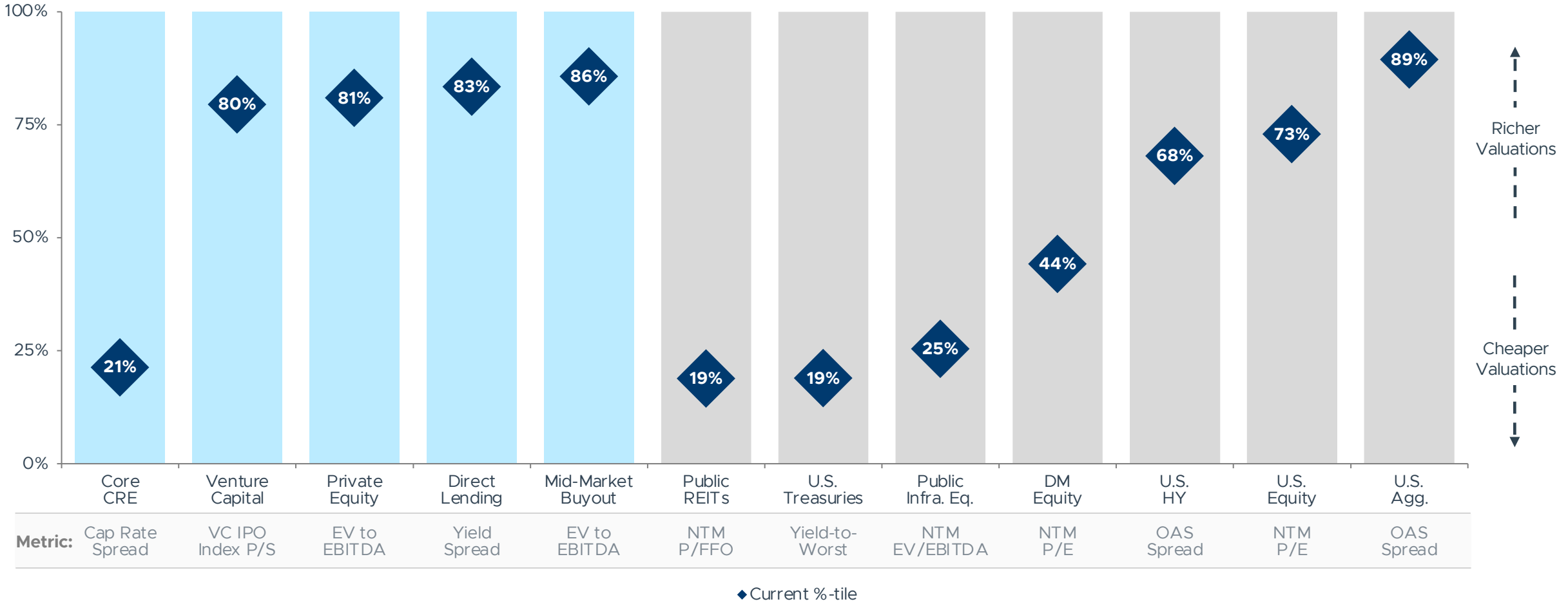



Source: Bloomberg, Preqin, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Public market manager dispersion is based on average annual compound returns over the 10-year period ending December 2024. Alternatives manager dispersion is based on net internal rate of return (IRR) since-inception for the prior 10 year vintages ending September 2024. Time-weighted returns (public markets) and money-weighted returns (IRRs) are not directly comparable. Data is subject to change based on potential updates to source(s) database. Global Equity includes all US-domiciled mutual funds & exchange-traded funds (ETFs) with a minimum 10-year track record that invest principally in the equities of large-cap companies from across the globe. Global Bond includes all US-domiciled mutual funds & exchange-traded funds (ETFs) with a minimum 10-year track record that invest principally in investment grade or high yield bonds denominated in a diverse range of currencies. 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 March 2025)

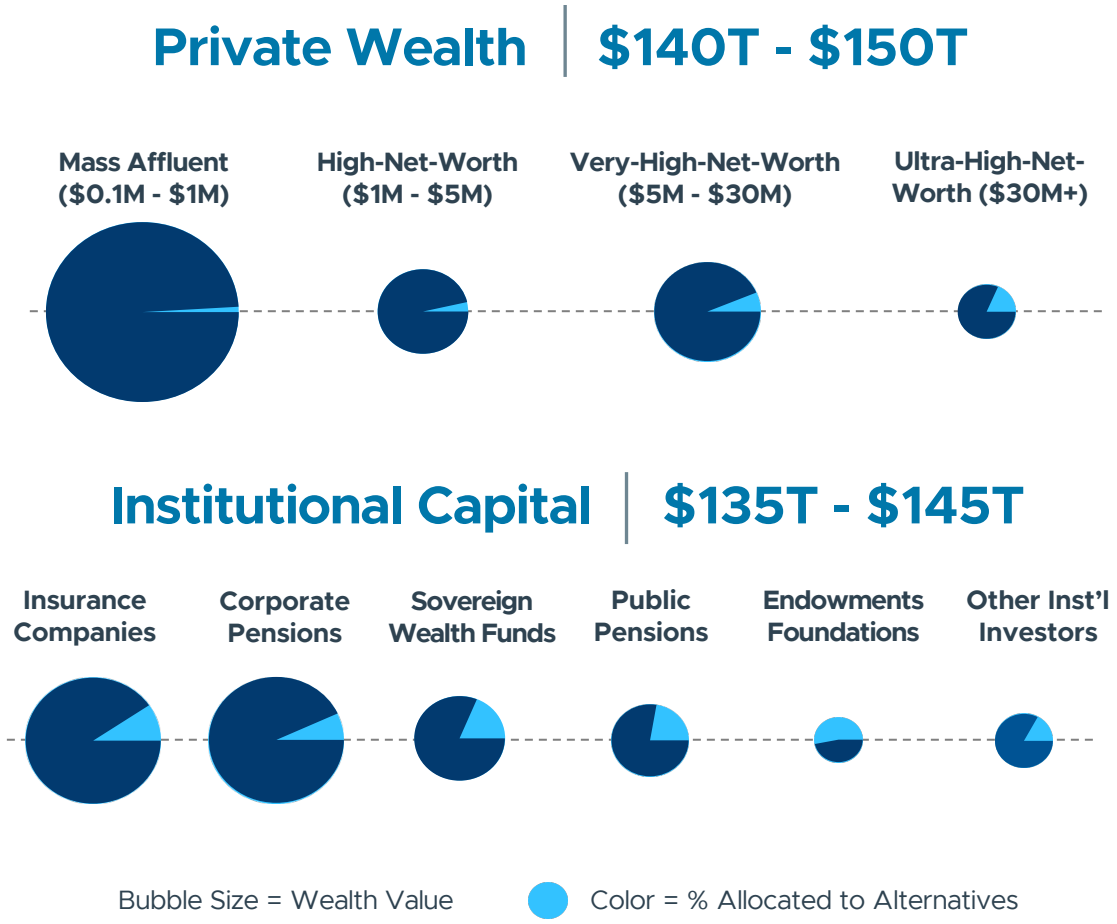



Source: Bloomberg Index Services Limited, Cliffwater Direct Lending Index, Federal Reserve, FTSE Russell, MSCI, Morningstar, NCREIF, PitchBook | LCD, S&P Dow Jones, U.S. Department of the Treasury, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Valuation metrics are as of March 2025 with an exception to Direct Lending, which is as of December 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 a rolling four-quarter median North America and Europe Buyout EV/EBITDA multiple. Venture Capital measured using the trailing price-to-sales ratio on the PitchBook VC-Backed IPO Index (excluding Pharma and Biotech). Direct Lending measured using the spread between quarterly income return on the Cliffwater Direct Lending Index 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 MSCI EAFE Index. U.S. Treasuries measured using the yield-to-worst on the Bloomberg U.S. Treasury Index. U.S. Aggregate measured using the option-adjusted spread (OAS) on the Bloomberg U.S. Aggregate Index. U.S. High Yield measured using the OAS spread on the Bloomberg U.S. Corp. High Yield Index. EM Credit measured using the OAS spread on the Bloomberg EM USD Aggregate Index. Public REITs measured using the blended forward price-to-FFO (Funds From Operations) ratio on the FTSE NAREIT Equity REITs Index. Public Infrastructure measured using the blended forward EV/EBITDA ratio on the Dow Jones Brookfield Global Infrastructure Composite 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.

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

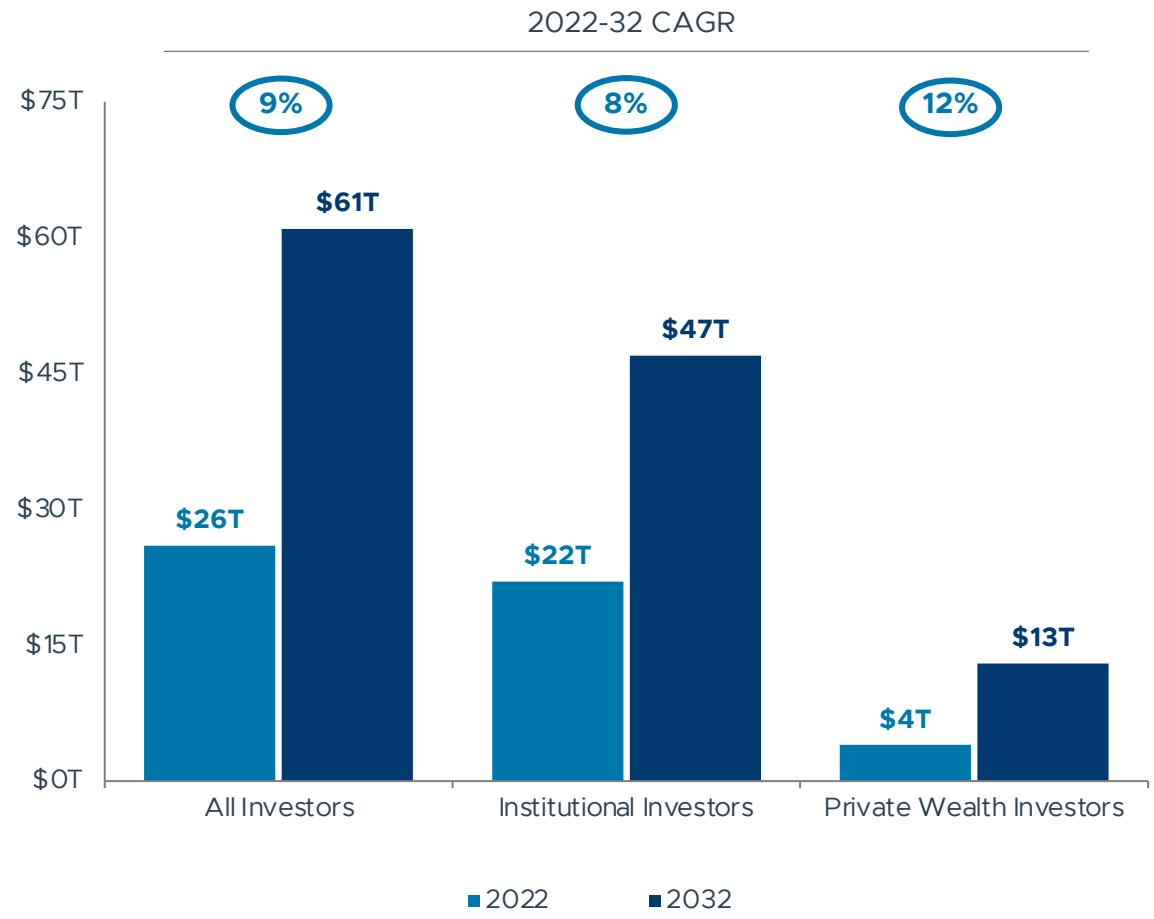
## Private clients globally control approx. same wealth as institutions

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)

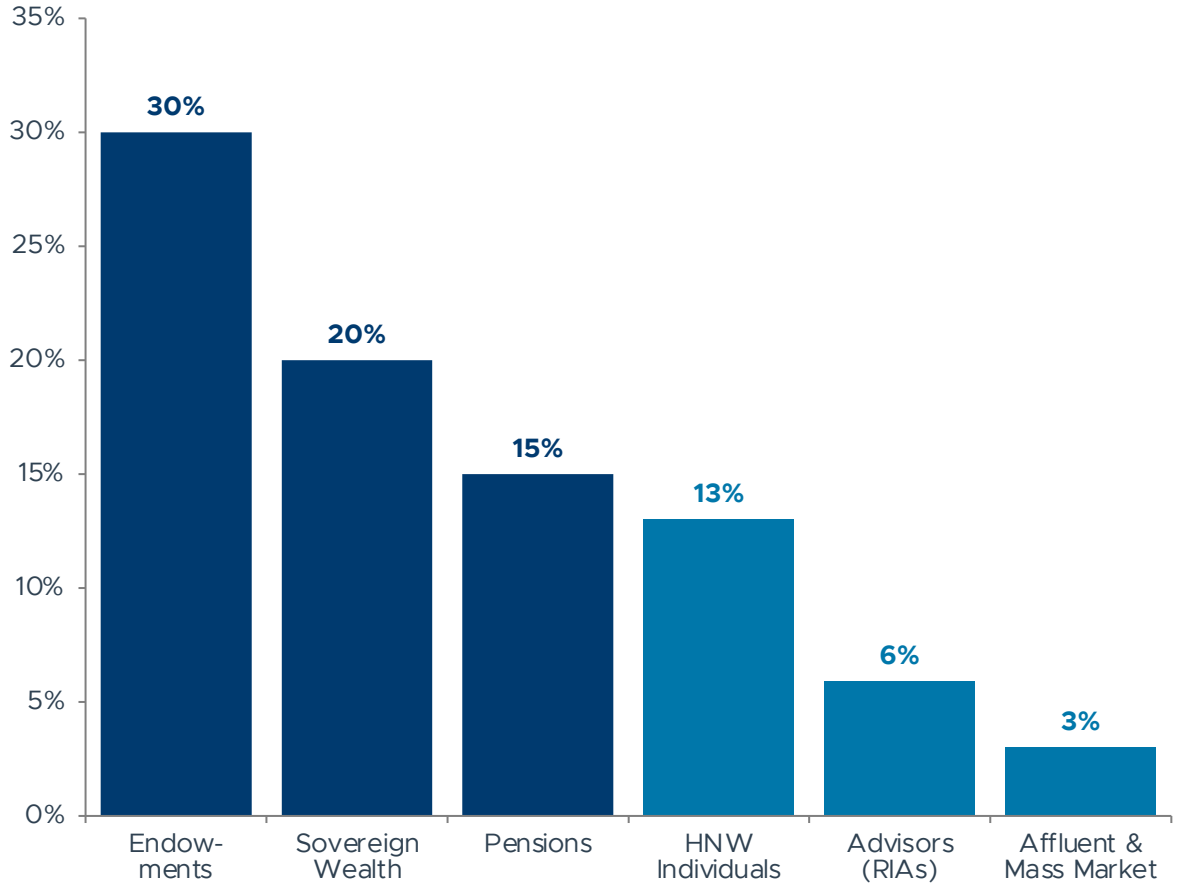



Source: (left and right) Bain & Company, GlobalData, Preqin Pro, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of Nov. 9, 2023, and is sourced from the Bain & Company Analysis "Global Private Equity Report 2023". Used with permission from Bain & Company. 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.

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

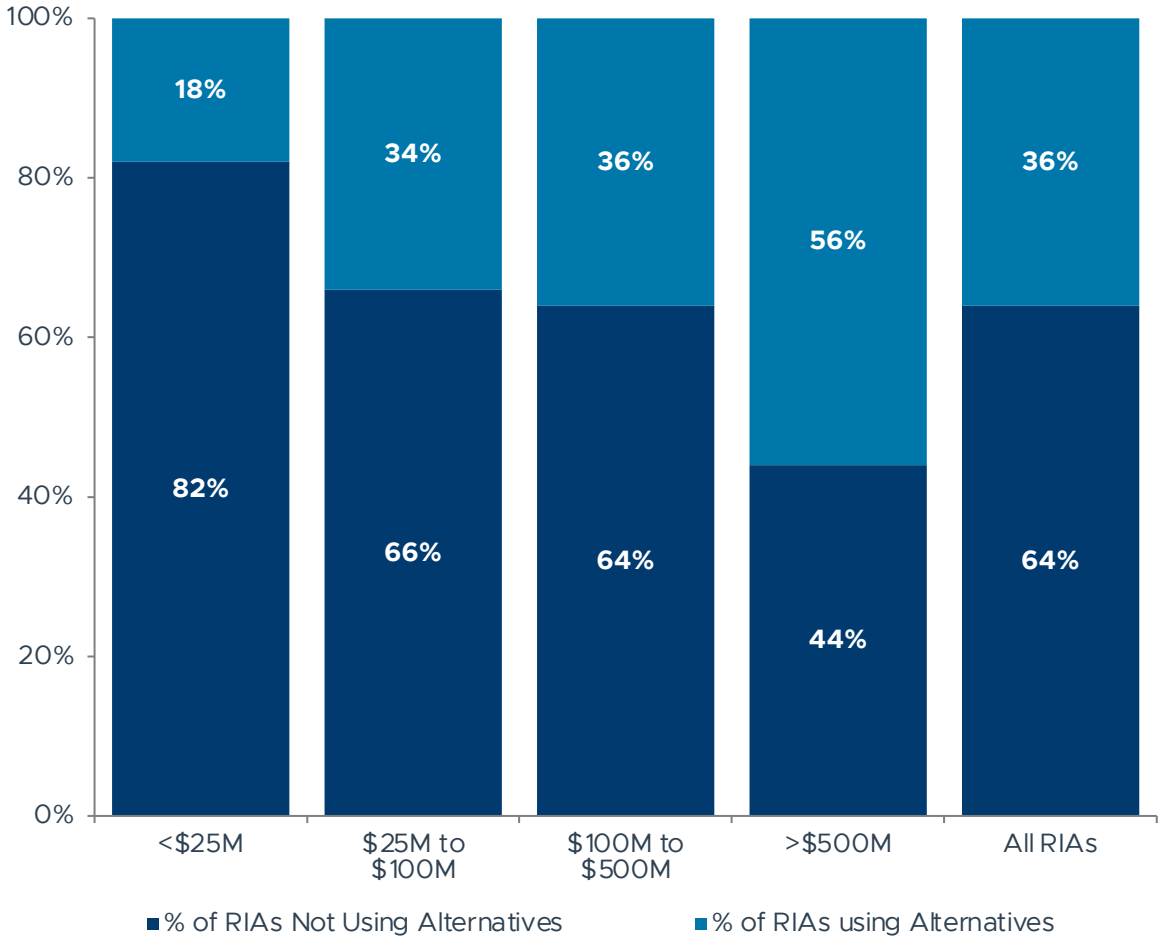
## Allocation to Alternatives in Private Wealth lags institutional use

Percentage allocation to alternatives by investor type (%)




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

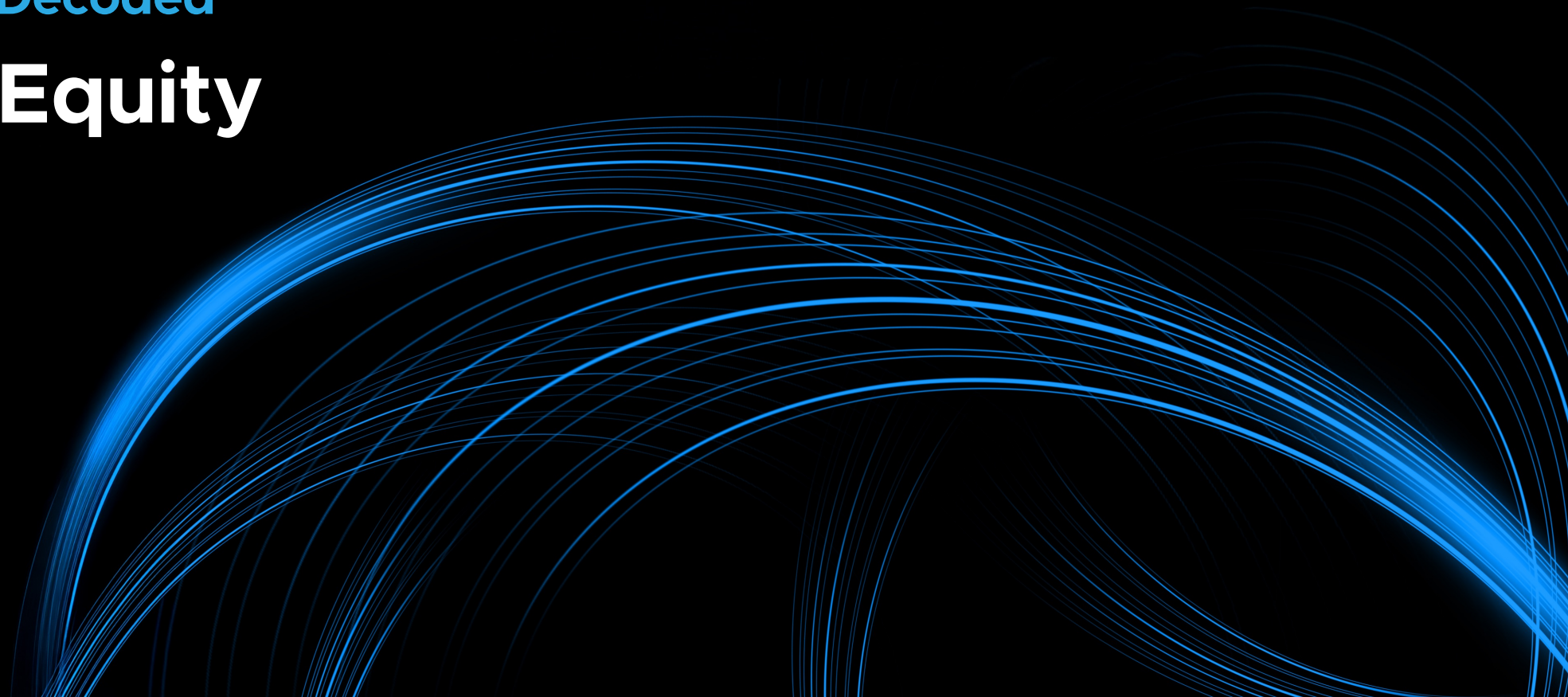
% of advisors who allocate client assets to Alts broken down by advisor AUM




Source: (left) Cerulli Associates, PwC, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 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 Alternatives Decoded, 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

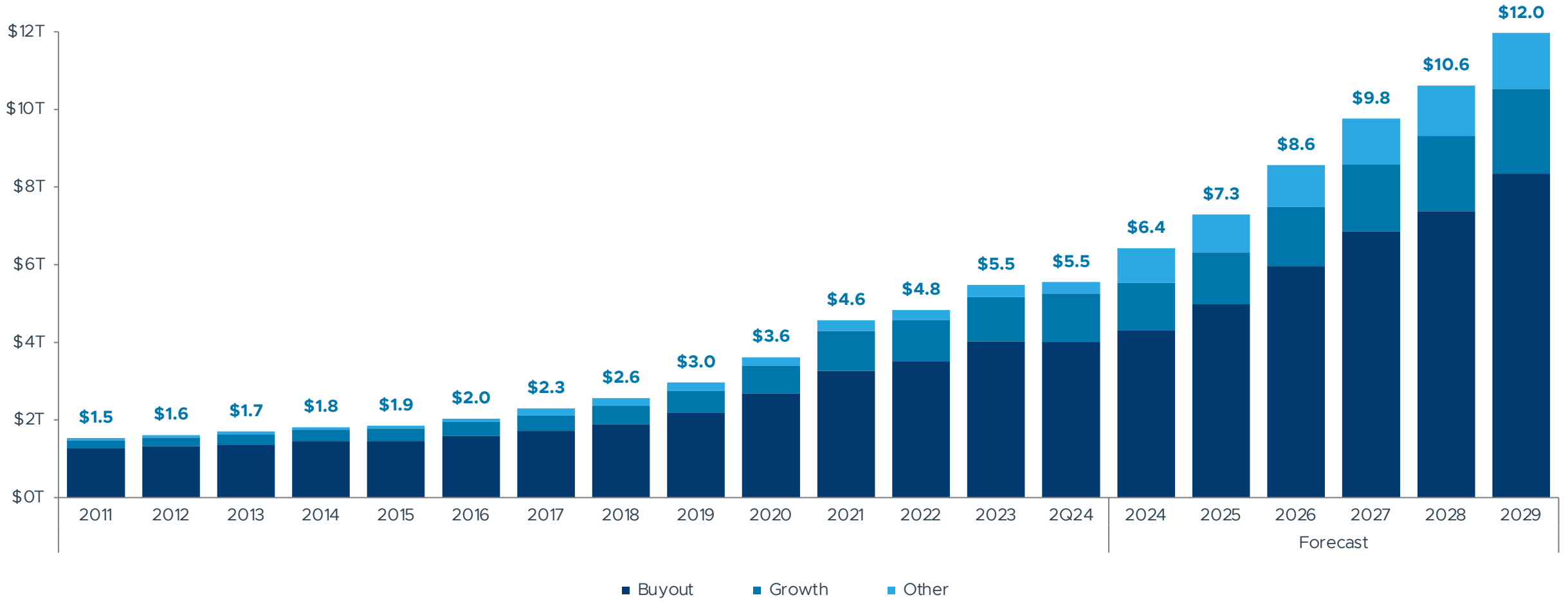


iCapital

# 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)

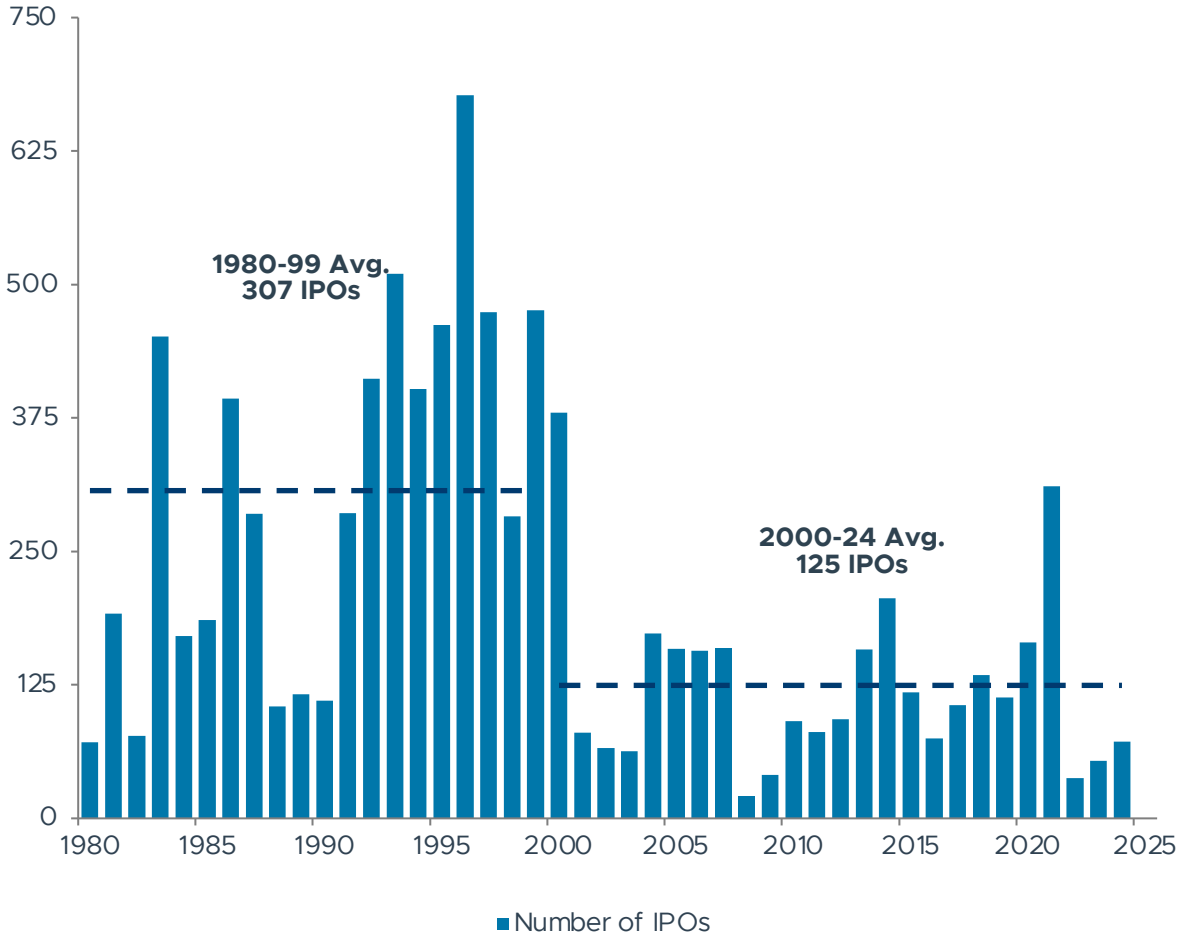



Source: Preqin, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Historical AUM is through June 2024 and forecasted AUM is through December 2029. Data is subject to change based on updates to the source(s) database. AUM is broken down by private equity sub-asset classes as defined by Preqin. "Other" includes Balanced, Co-investment, Co-investment Multi-Manager, Direct Secondaries, and Turnaround 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 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. Future results are not guaranteed.

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

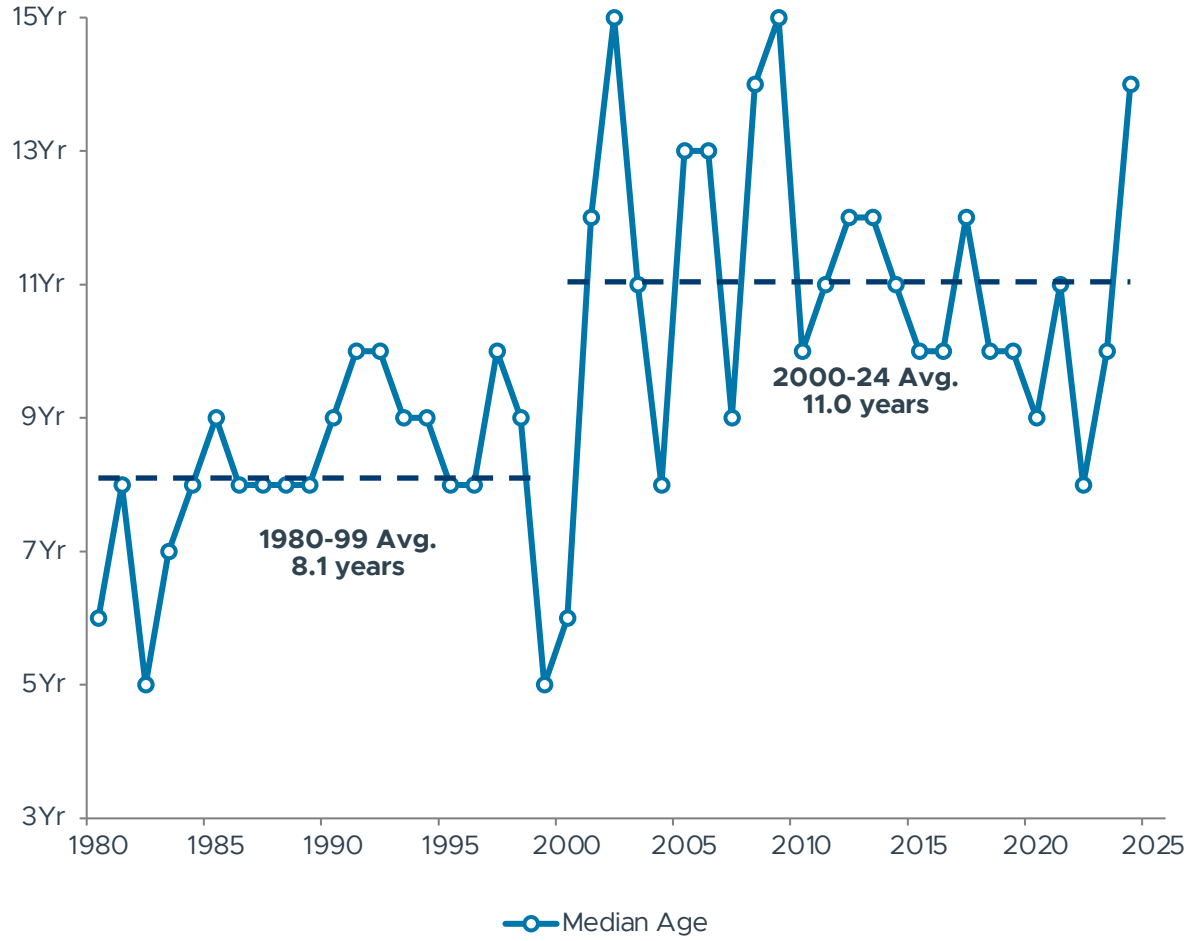
## There have been fewer IPOs over the last 20+ years relative to the 1990s

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)

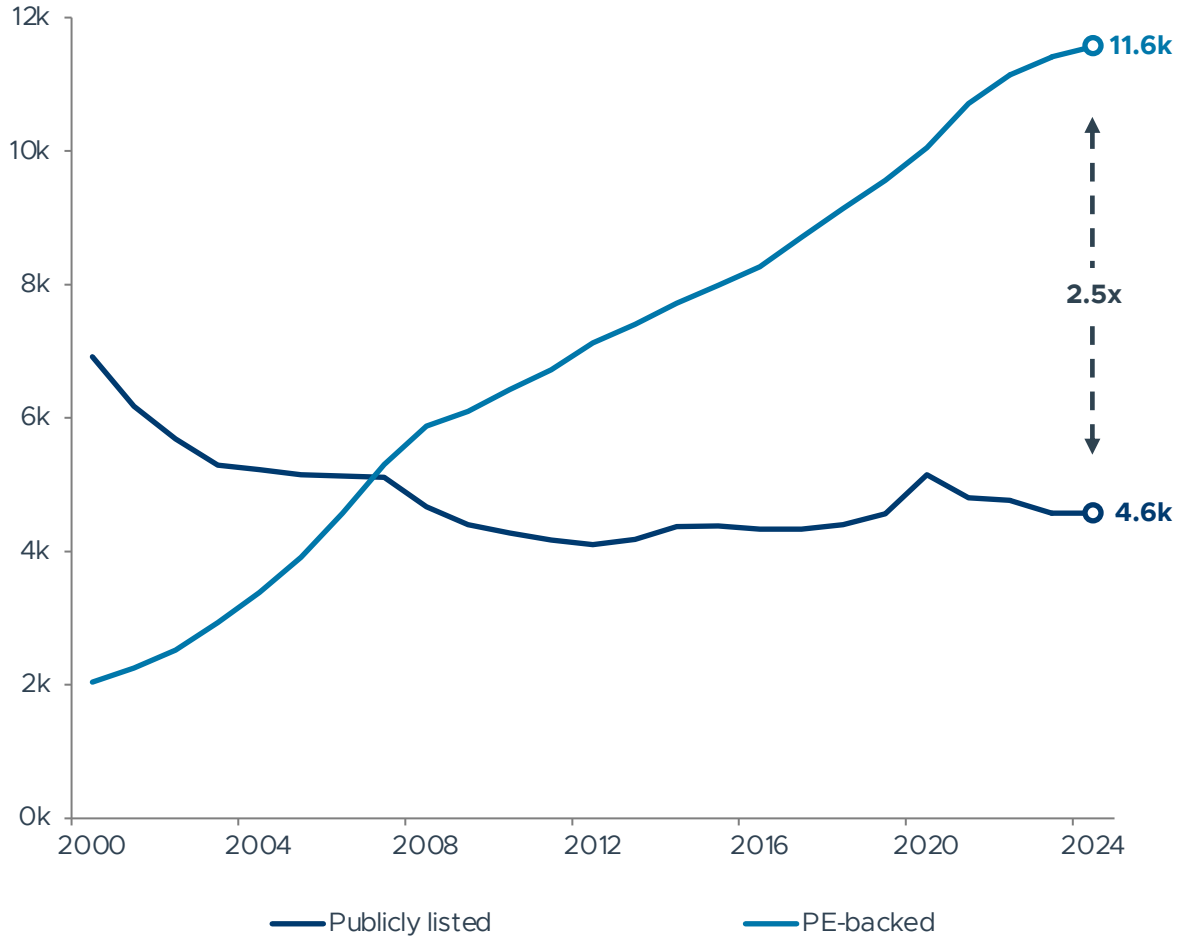



Source: (left and right) Jay R. Ritter Cordell Eminent Scholar, Eugene F. Brigham Department of Finance, Insurance, and Real Estate Warrington College of Business, University of Florida, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of Jan. 30, 2025, 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

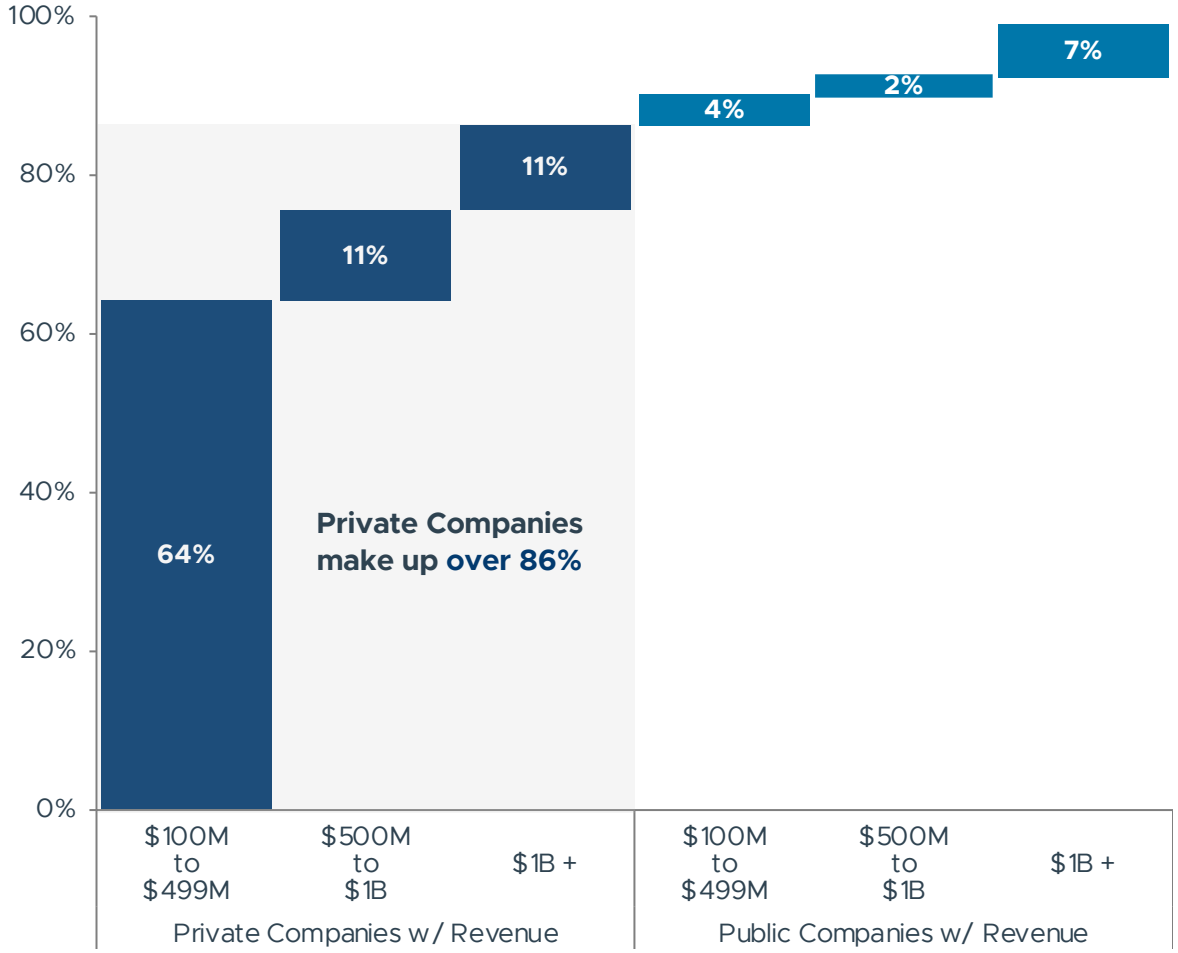
## The number of private companies grew, but listed co's stayed steady

Number of U.S. PE-backed co's vs. U.S. publicly listed firms on NYSE & NASDAQ




## 86% of U.S. companies with >$100M in revenue are private

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

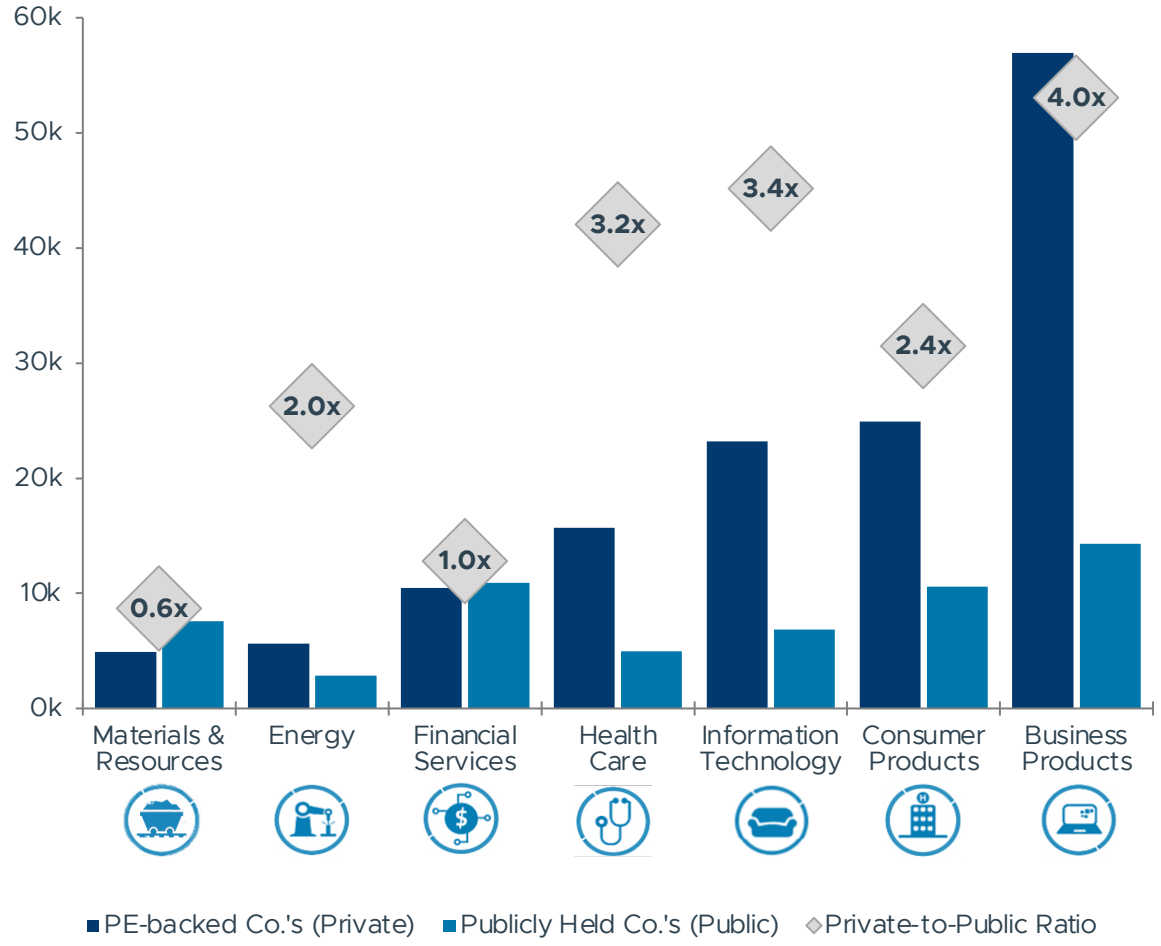



Source: (left) PitchBook | LCD, World Federation of Exchanges database, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of June 2024 for PE-backed and as of December 2023 for publicly listed. Data is subject to change based on potential updates to source(s) 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 Alternatives Decoded, 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

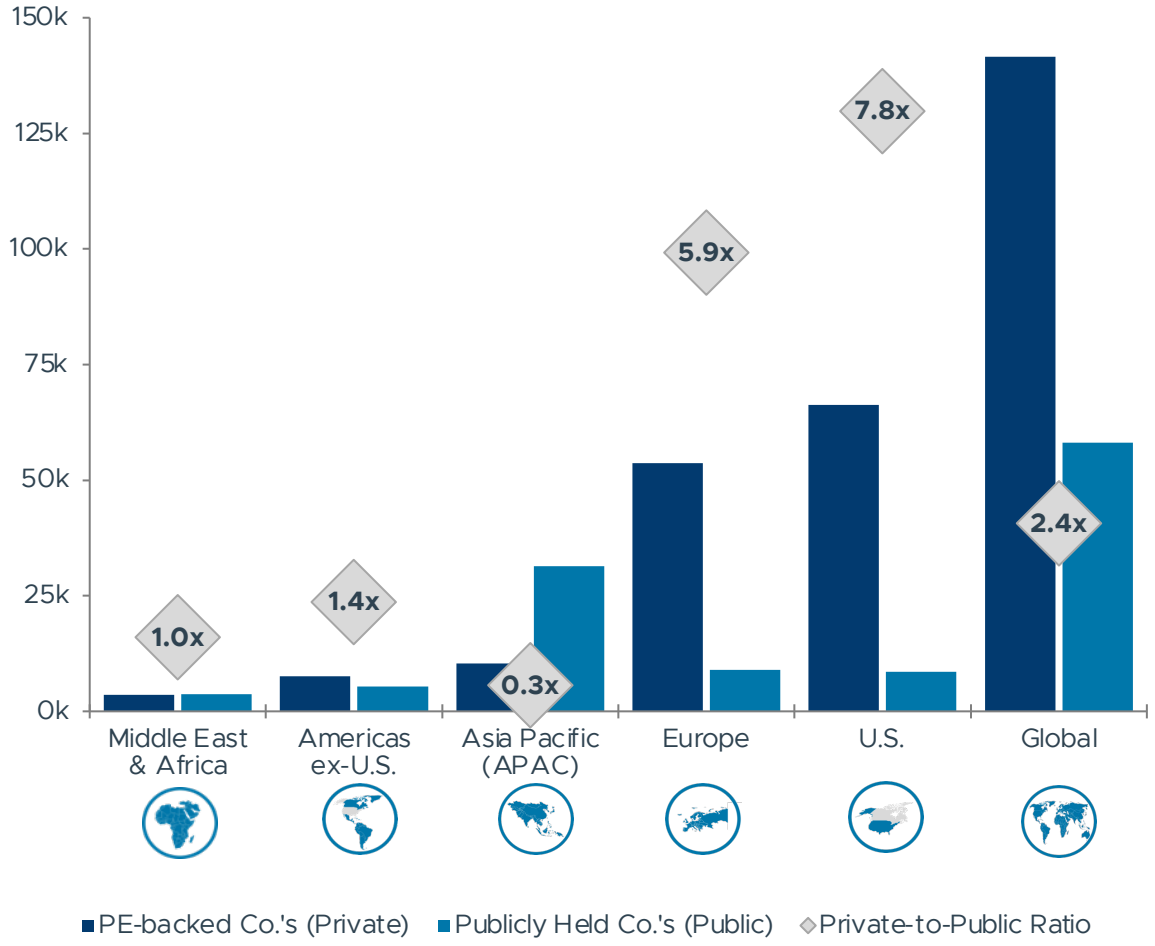
## PE is a dominant investor in IT, healthcare, business/consumer sectors

Global number of PE-backed vs. public companies, globally, by industry (in thousands)




## PE-backed companies outnumber public ones across geographies

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

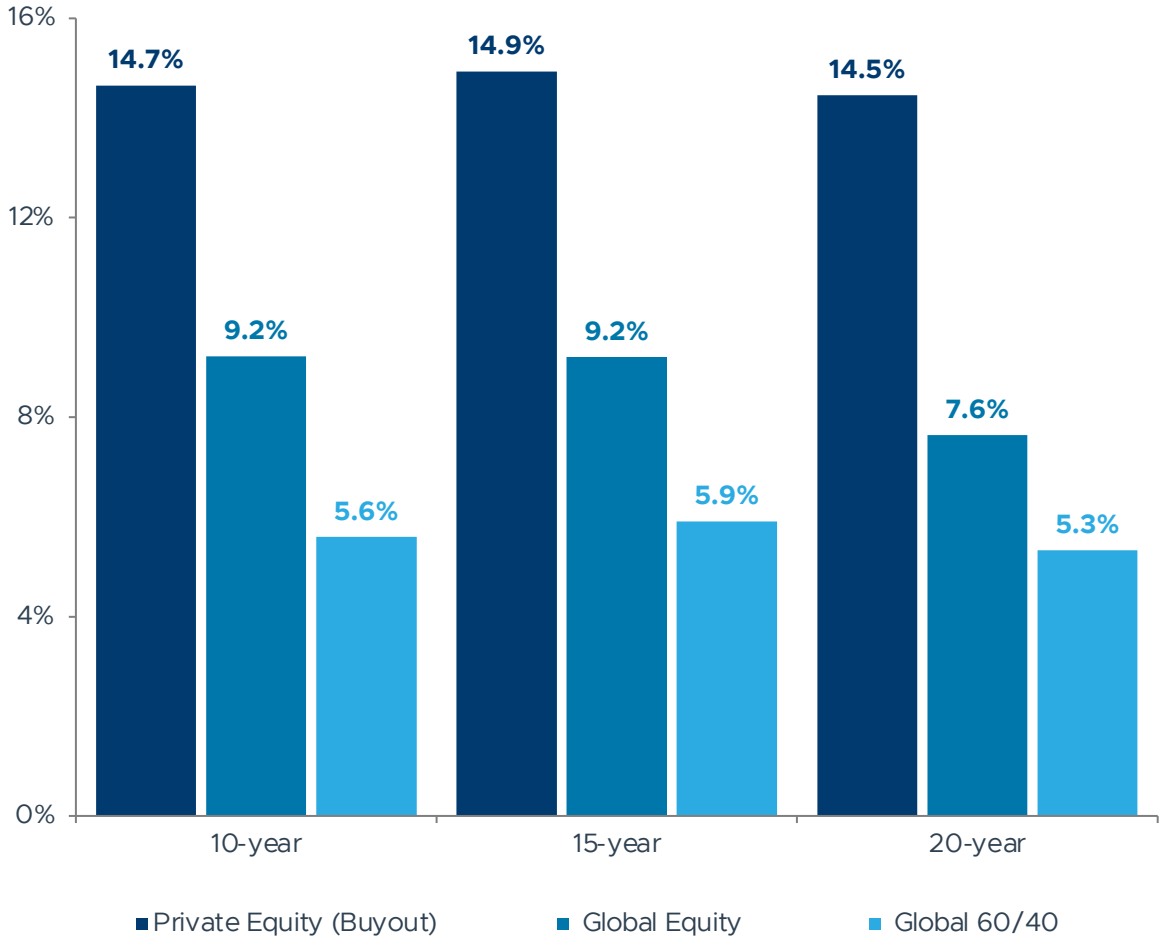



Source: (left) PitchBook | LCD, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025.. Note: Data as of Apr. 30, 2025 and is subject to change based on potential updates to source(s) database. Industry breakdown is based on primary industry only. Private Equity backed companies include any company that is currently financed by private equity investors regardless of ownership status, as defined by PitchBook. (right) PitchBook | LCD, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of Apr. 30, 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 based on regional breakdown as defined by Pitchbook. 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 outperformed public equities over various time horizons

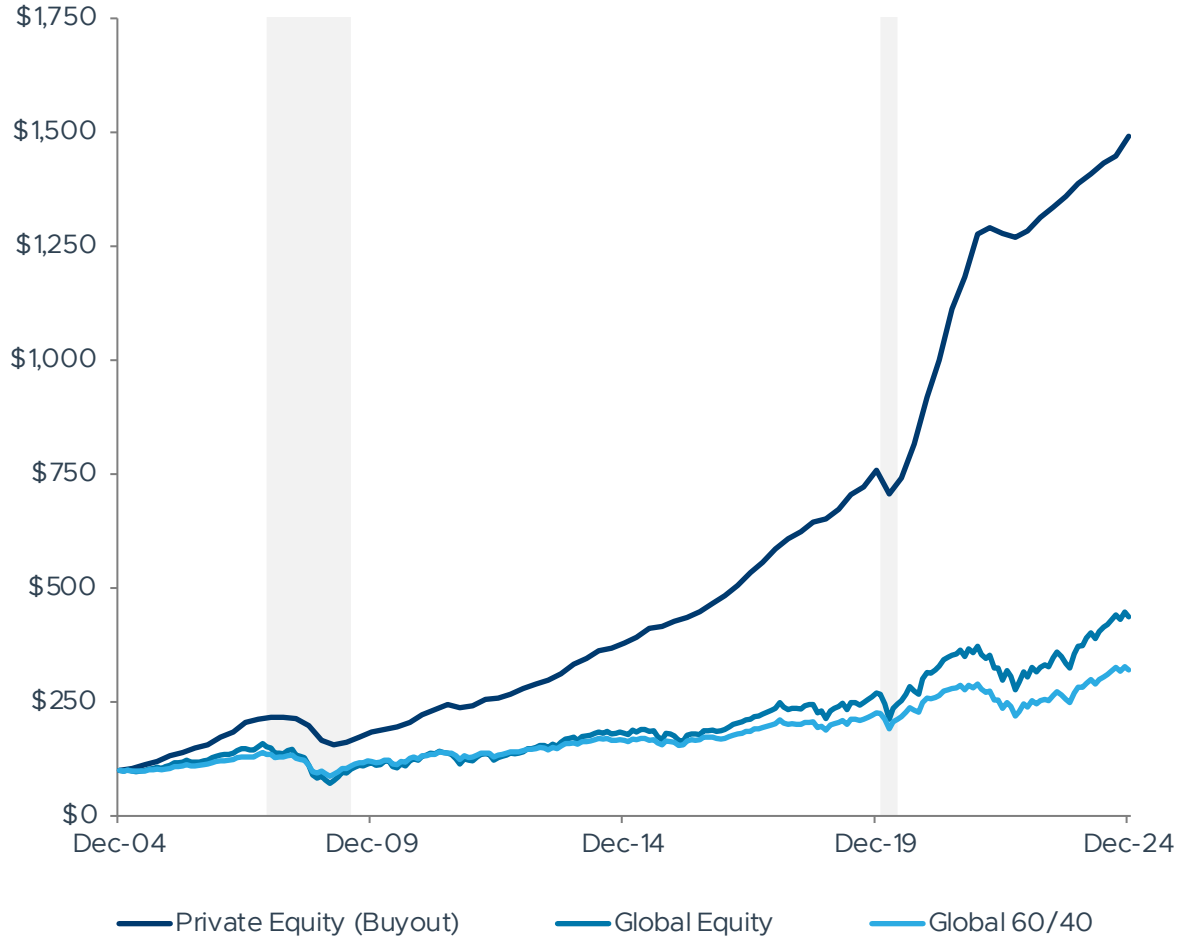
## Private equity vs. public benchmark returns show outperformance

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




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

Normalized change of $100 invested over the last 20 yrs ($, as of December 2024)

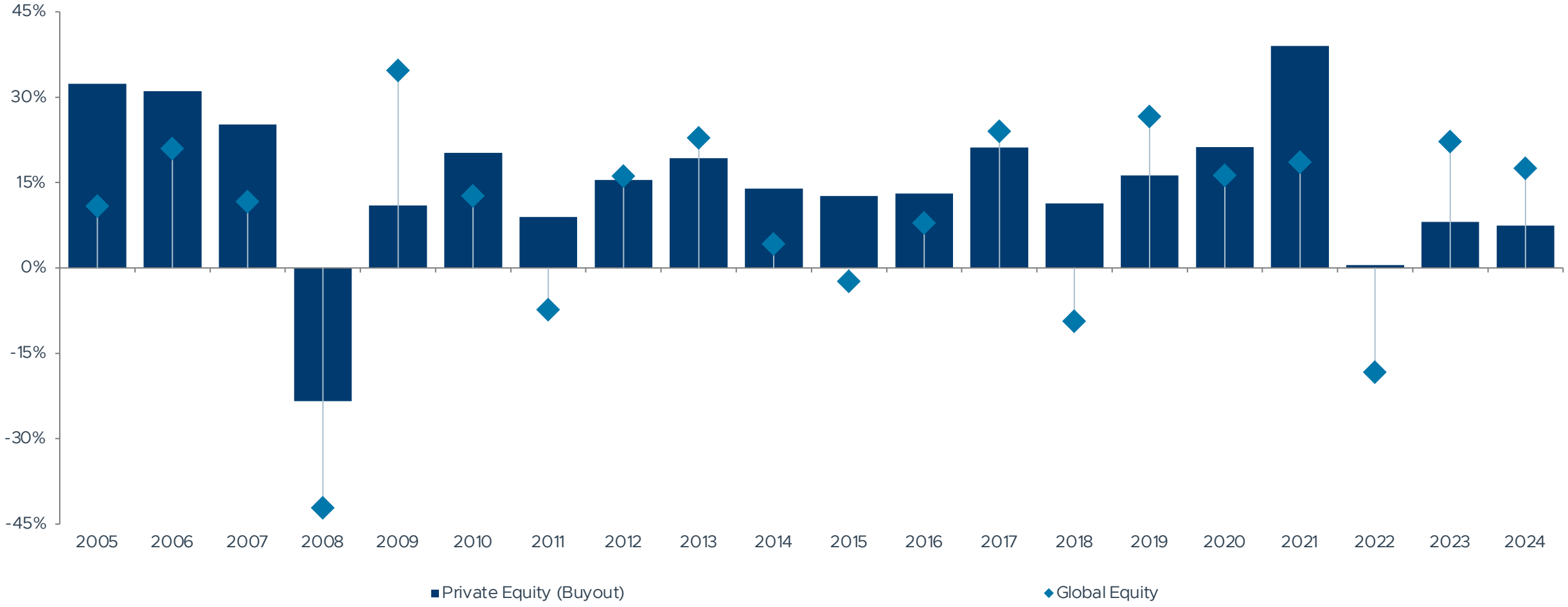



Source: (left and right) Bloomberg Index Services Limited, MSCI, Preqin, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as December 2024 and is subject to change based on potential updates to source(s) database. Global Equity proxied by MSCI ACWI Index. Global 60/40 proxied by 60% MSCI ACWI Index and 40% Bloomberg Global Aggregate Bond Index. Private Equity 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 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 December 2024)

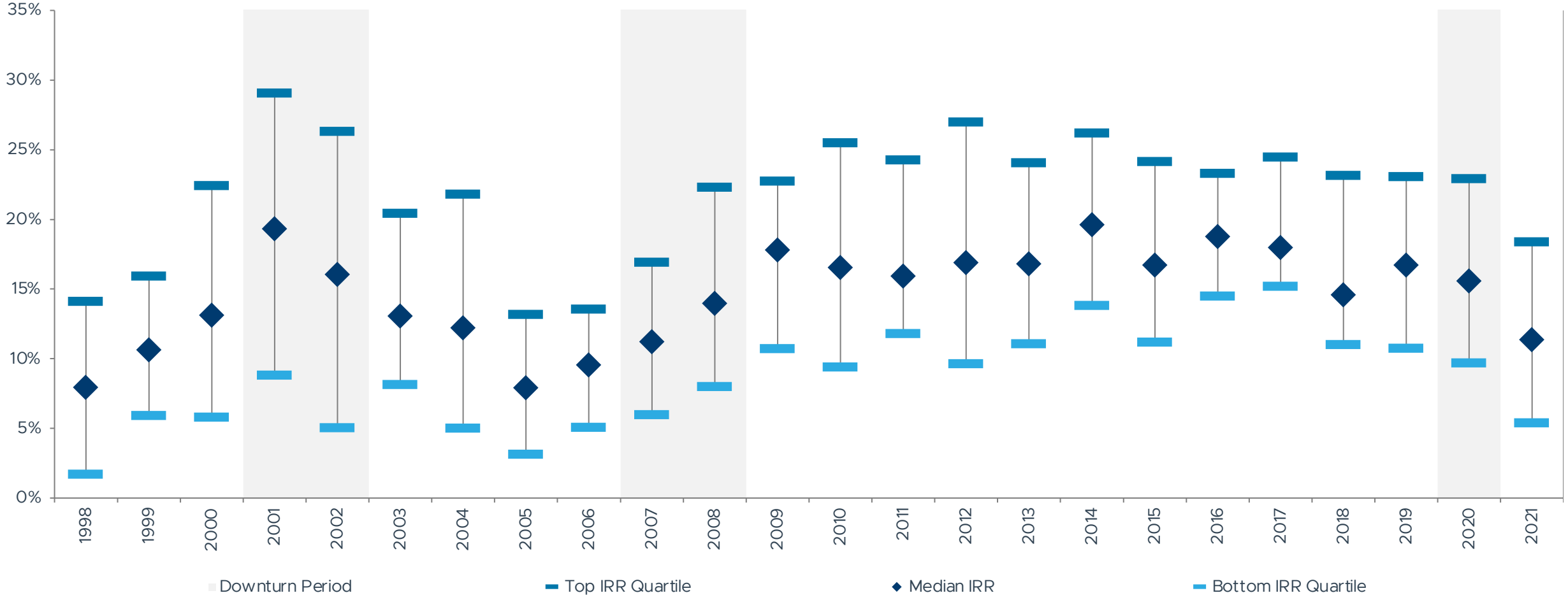



Source: MSCI, Preqin, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as December 2024 and is subject to change based on potential updates to source(s) database. Global Equity proxied by MSCI ACWI Index. Private Equity proxied by the Preqin Private Equity 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 December 2024)

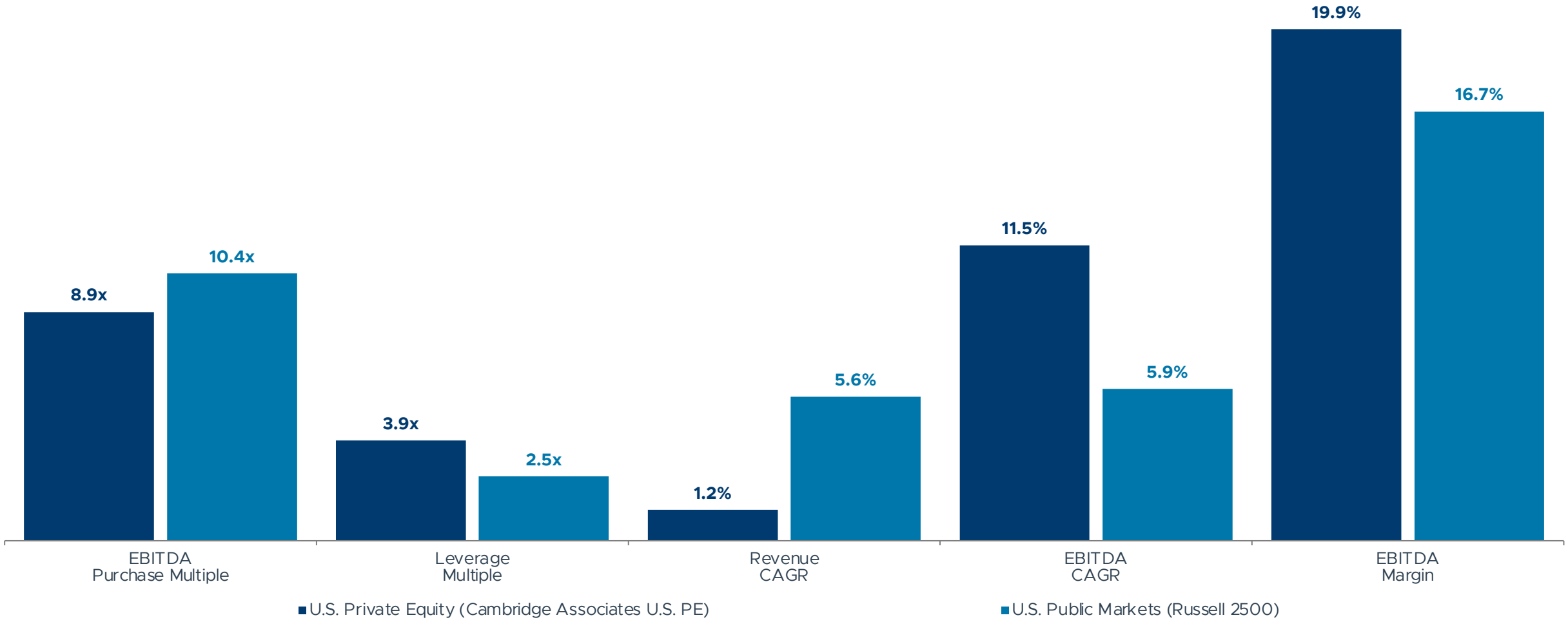



Source: PitchBook | LCD, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of September 2024 and is subject to change based on potential updates to source(s) database. Private equity investments typically have a longer time horizon, and returns are realized 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. 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

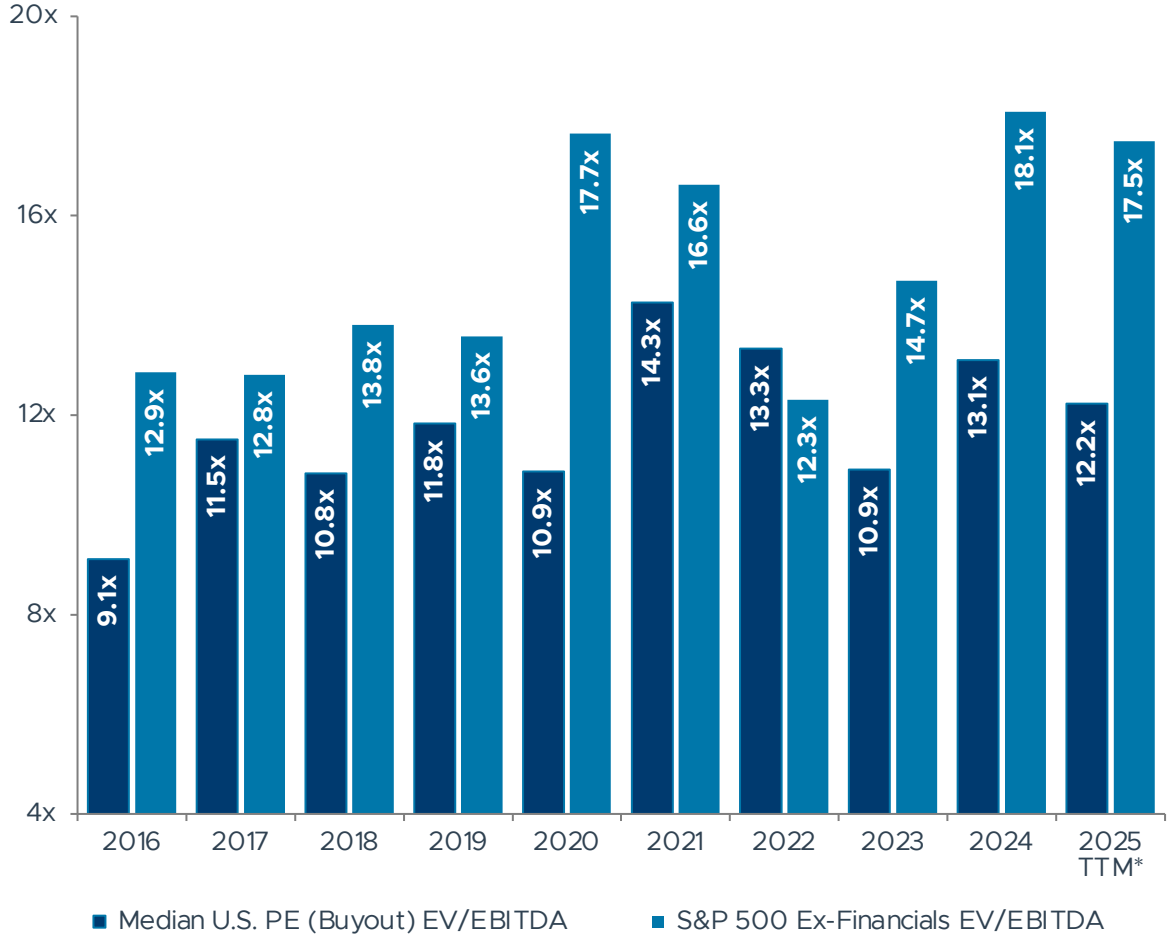



Source: ) Cambridge Associates, FactSet, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of March 2022 and is subject to change based on potential updates to source(s) database. Operating metrics data is as of Dec. 31, 2020, and returns data is as of 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. Future results are not guaranteed.

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

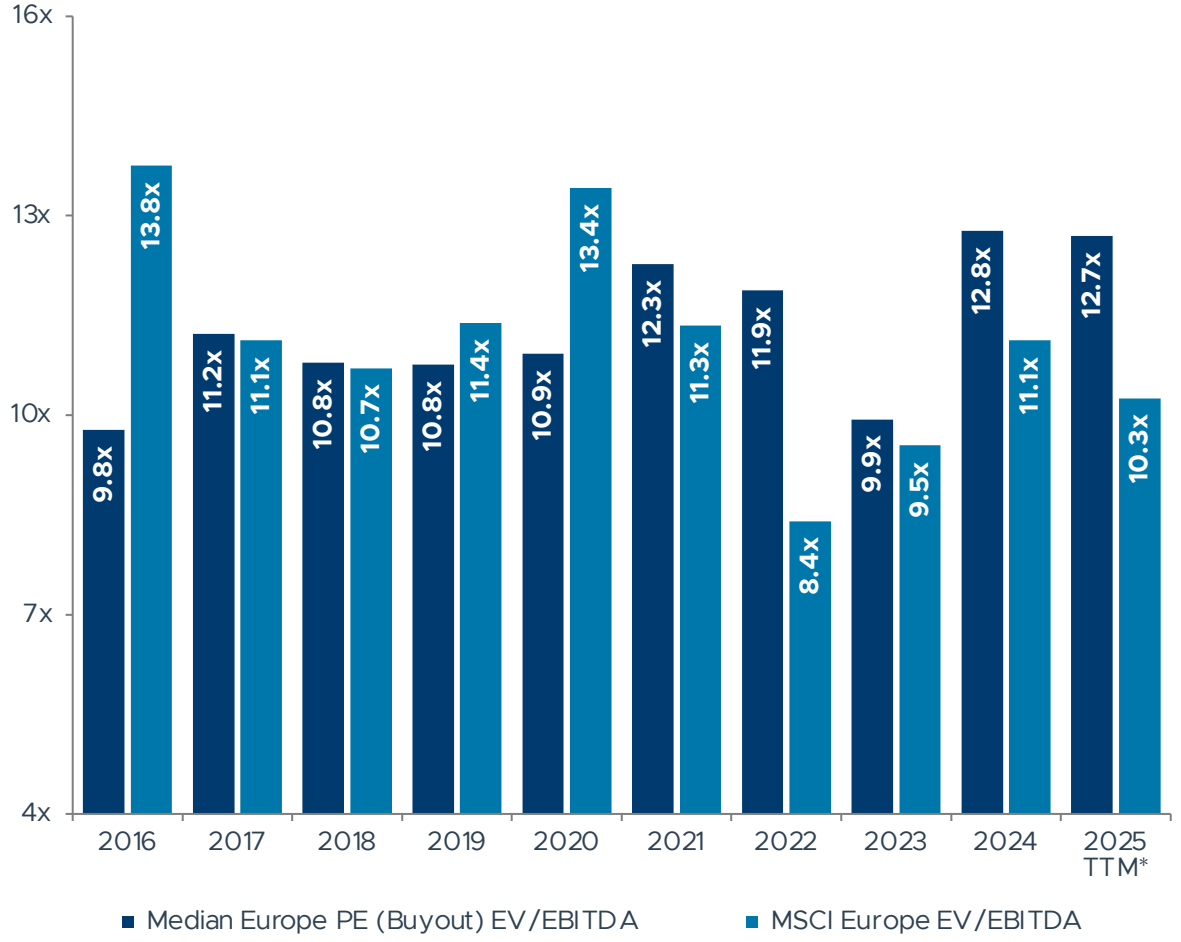
## U.S. private equity multiples remain lower than the S&P 500

Annual buyout EV/EBITDA multiples (x, as of March 2025)




## In Europe, private equity multiples are above those for public markets

Annual buyout EV/EBITDA multiples (x, as of March 2025)

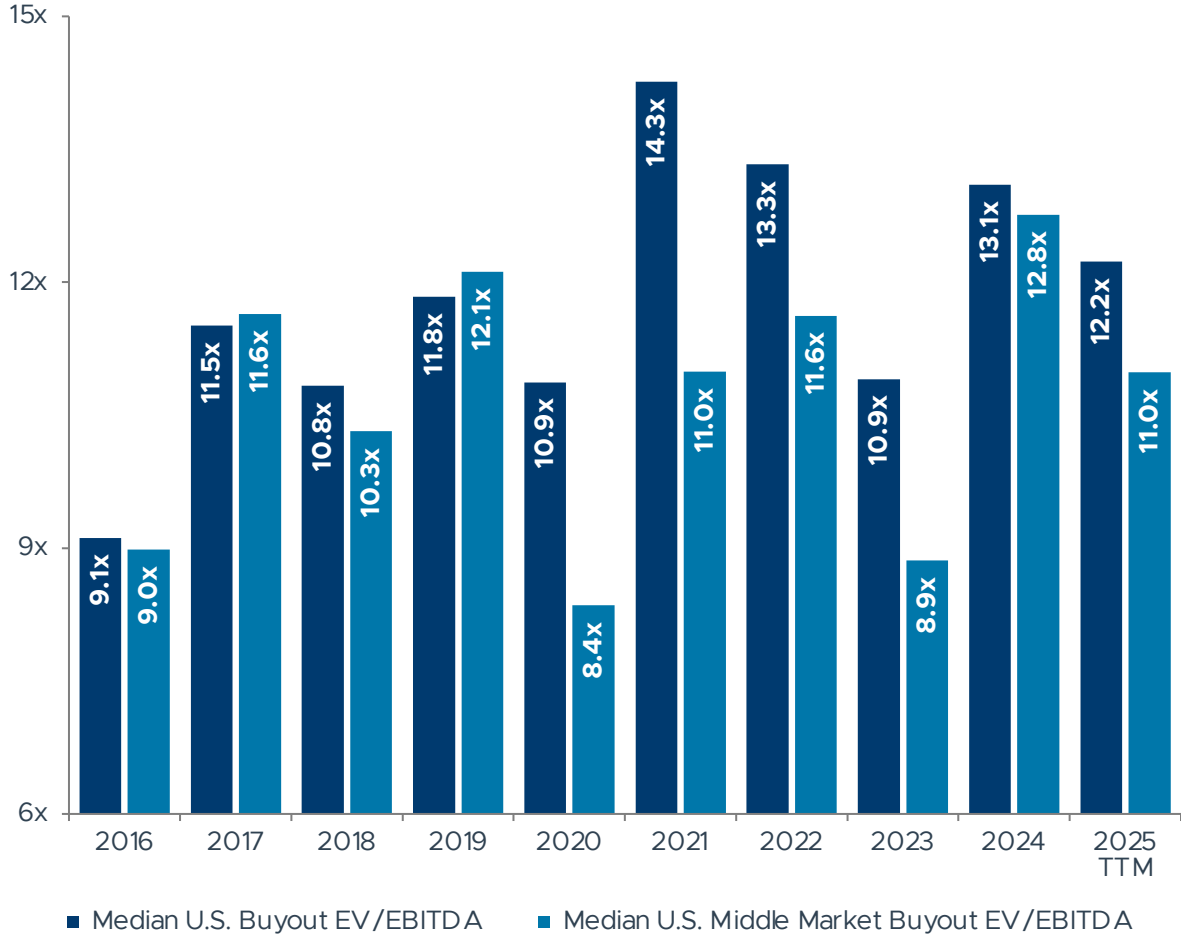



Source: (left) PitchBook | LCD, S&P Dow Jones, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data through March 2024. 2025 TTM is the trailing twelve months ending March 2025. S&P 500 Ex-Financials excludes companies within the S&P 500 that are in the Financial sector as defined by GICS sector-level classifications. See disclosure section for further index definitions, 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 Apr. 30, 2025. Note: Data through March 2024. 2025 TTM is the trailing twelve months ending March 2025. The 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

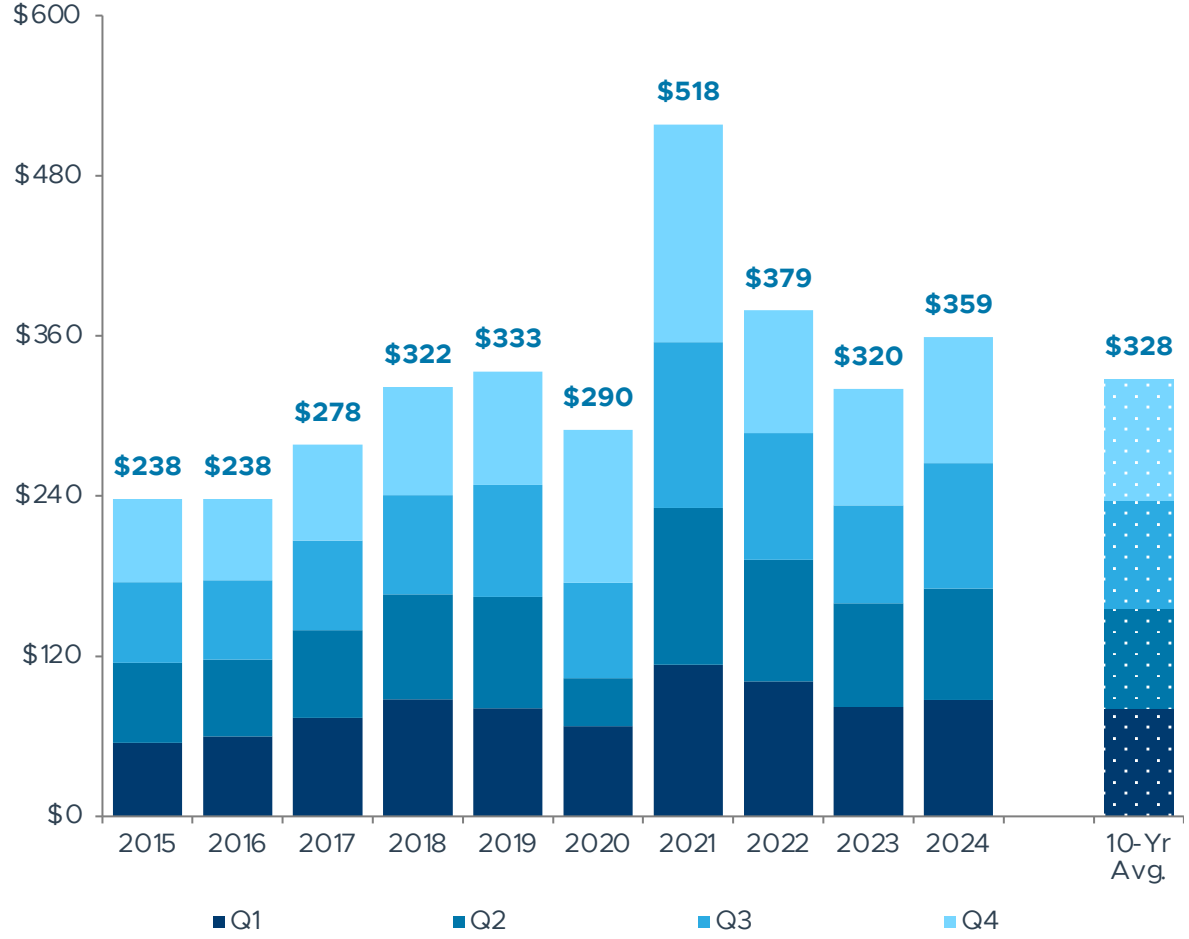
## Middle market multiples are still lower than that of broader buyout

Annual buyout EV/EBITDA multiples (x, as of March 2025)




## 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 December 2024)

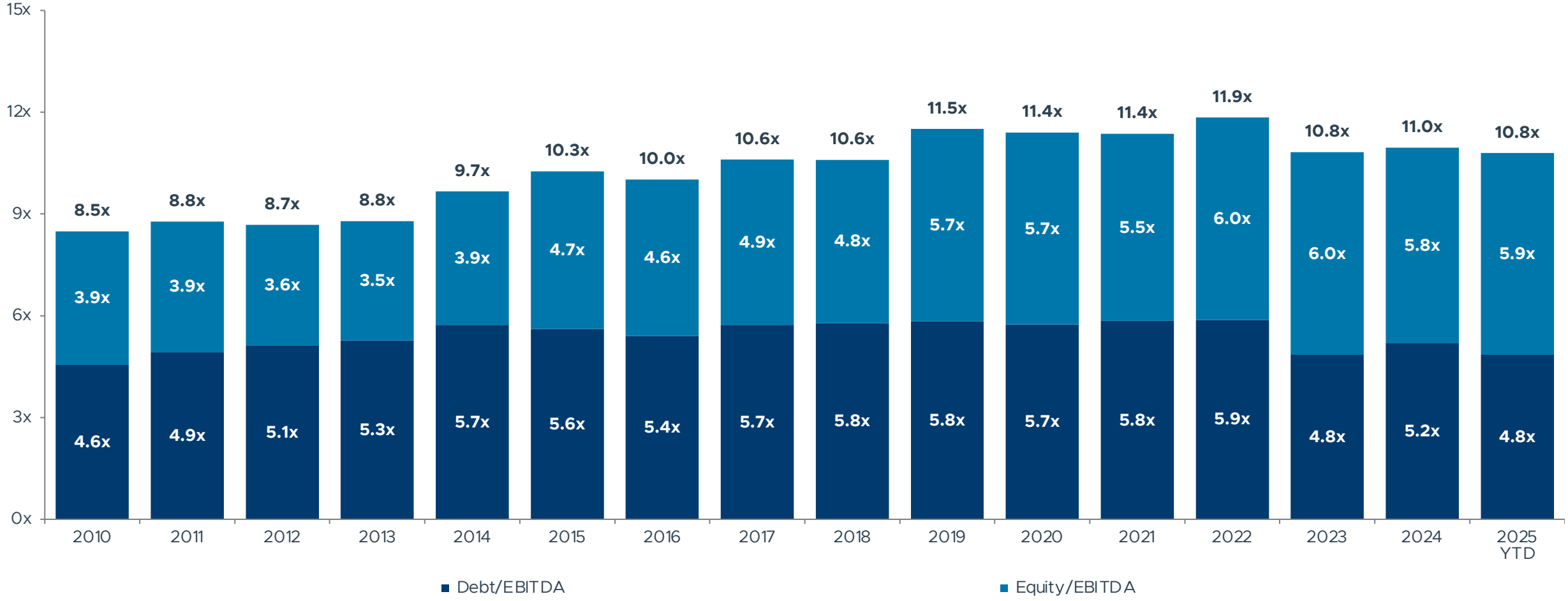



Source: (left) PitchBook | LCD, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data through March 2024. 2025 TTM is the trailing twelve months ending March 2025. The middle market is defined as companies acquired through buyout transactions between 25 million and 1 billion USD, as defined by PitchBook. Minority deals are not included. (right) Pitchbook | LCD, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. Deal activity data shown is for U.S. private equity strategies defined by Pitchbook. 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. Deal activity 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.

# 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 March 2025)




Source: PitchBook | LCD, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of March 2025. 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

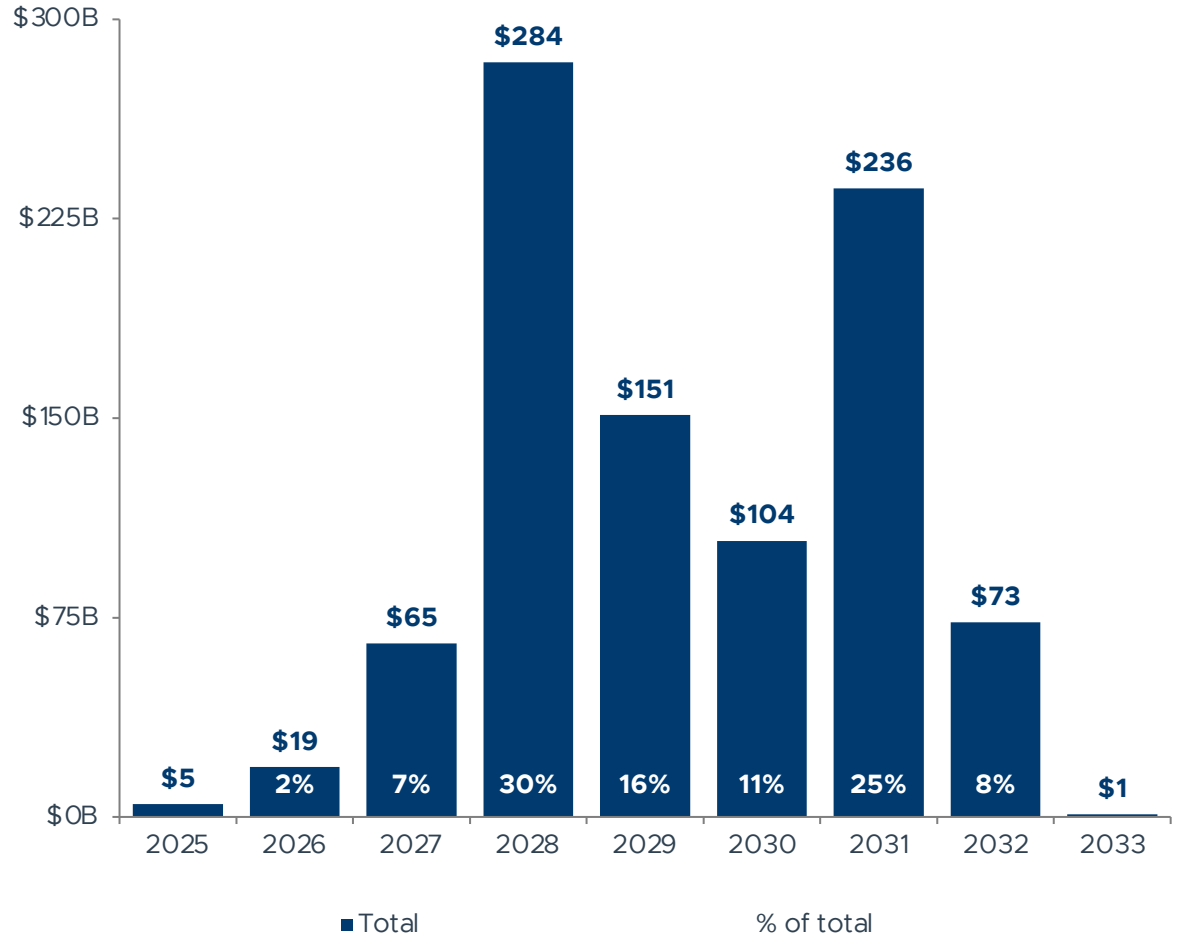
## Change in rates rapidly impacts company financials

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

| Leverage Used (%) \ Reference Rate (%) | 3.0% | 3.5% | 4.0% | 4.5% | 5.0% | 5.5% | 6.0% | 6.5% |
|---|---|---|---|---|---|---|---|---|
| 35% | 3.5x | 3.2x | 3.0x | 2.9x | 2.7x | 2.6x | 2.4x | 2.3x |
| 40% | 3.0x | 2.8x | 2.7x | 2.5x | 2.4x | 2.2x | 2.1x | 2.0x |
| 45% | 2.7x | 2.5x | 2.4x | 2.2x | 2.1x | 2.0x | 1.9x | 1.8x |
| 50% | 2.4x | 2.3x | 2.1x | 2.0x | 1.9x | 1.8x | 1.7x | 1.6x |
| 55% | 2.2x | 2.1x | 1.9x | 1.8x | 1.7x | 1.6x | 1.6x | 1.5x |
| 60% | 2.0x | 1.9x | 1.8x | 1.7x | 1.6x | 1.5x | 1.4x | 1.4x |
| 65% | 1.9x | 1.7x | 1.6x | 1.5x | 1.5x | 1.4x | 1.3x | 1.3x |
| 70% | 1.7x | 1.6x | 1.5x | 1.4x | 1.4x | 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)

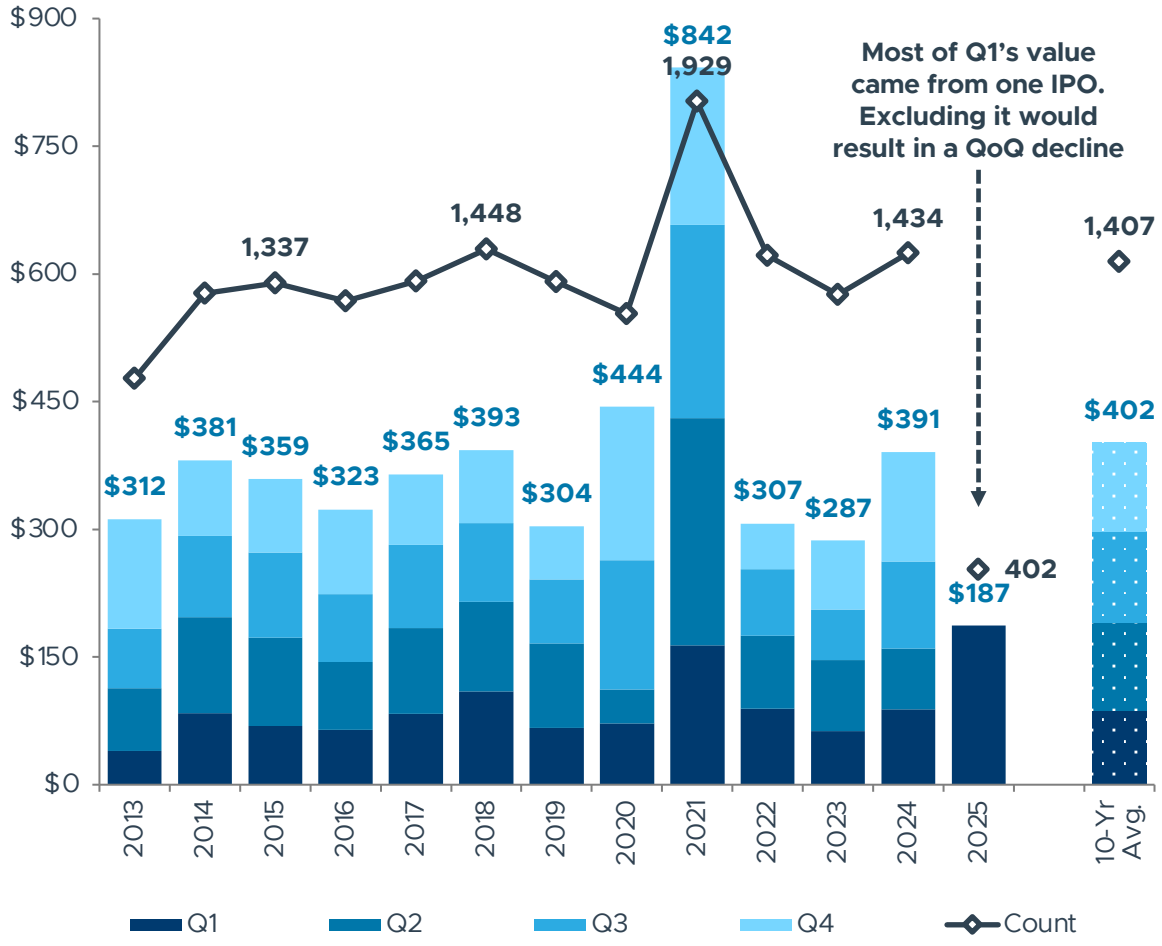



Source: (left) iCapital Investment Strategy Analysis, PitchBook | LCD, Federal Reserve, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. Analysis done on loans 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 Pitchbook. 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 Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of Apr. 14, 2025 and is subject to change based on potential updates to source(s) database. Data is based on sponsor-backed leveraged loans (which we use as a proxy for private equity debt) within the Morningstar LSTA U.S. Leveraged Loan 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.

# Exits have been off to a lackluster start and will likely be challenged by the macro backdrop

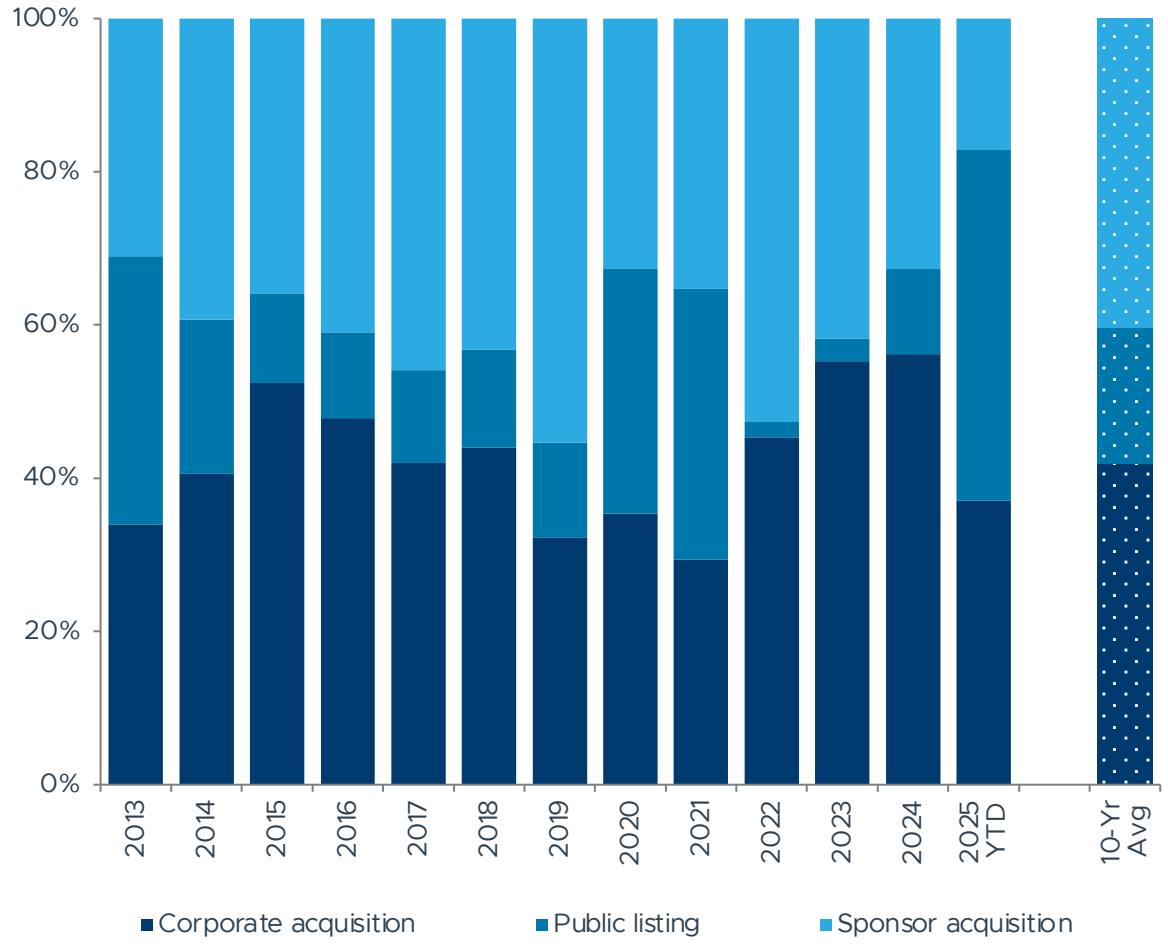
## Outside of one mega IPO, exit volumes remain unimpressive and subdued

U.S. private equity exit activity by year ($ billions, as of March 2025)




## Sponsor & corporate acquisitions account for the vast majority of exits

Breakdown of U.S. private equity exit value by type (%, as of March 2025)

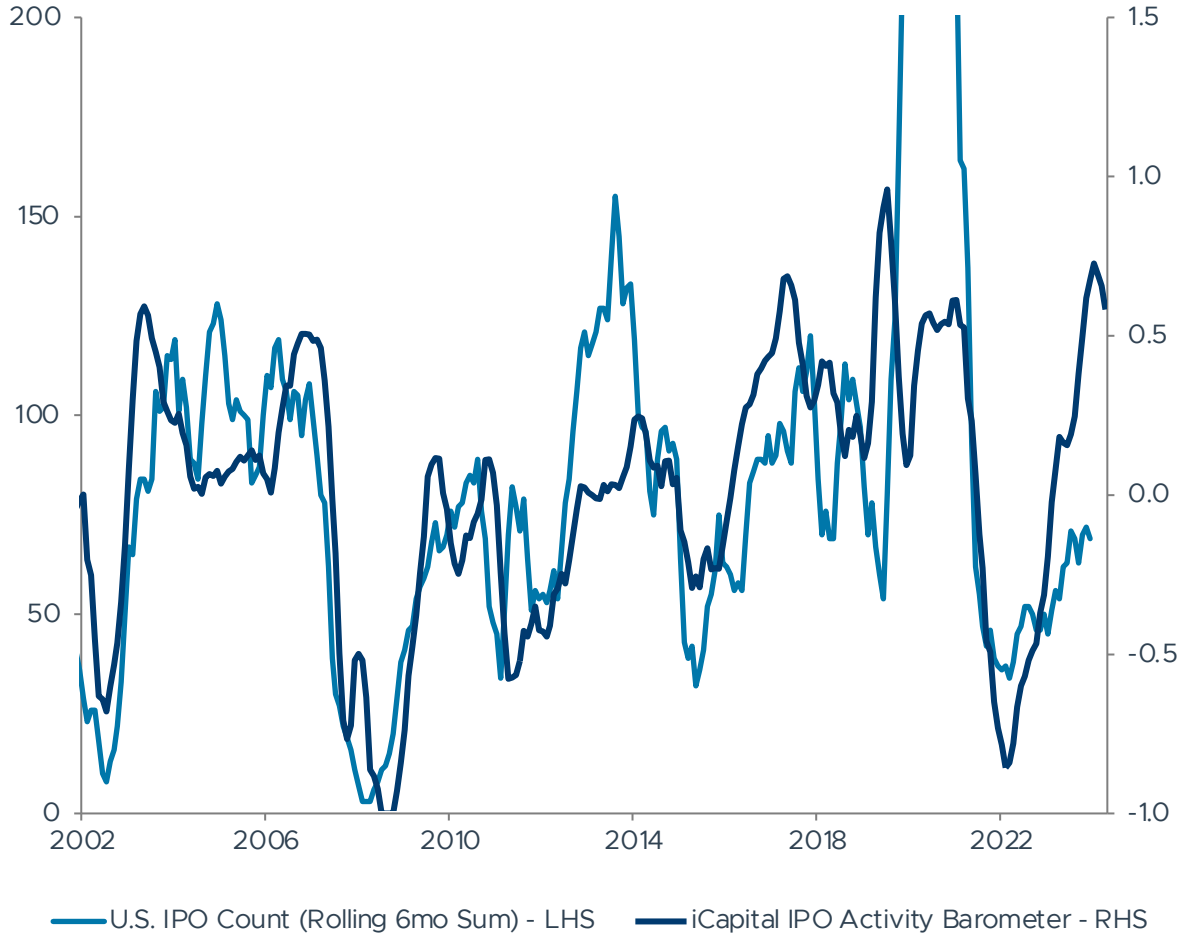



Source: (left and right) Pitchbook | LCD, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of March 2025 and is subject to change based on potential updates to source(s) database. Exit data reflects U.S. private equity strategies as defined by PitchBook 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 optimism has faded on tariff concerns and lack of deregulation focus

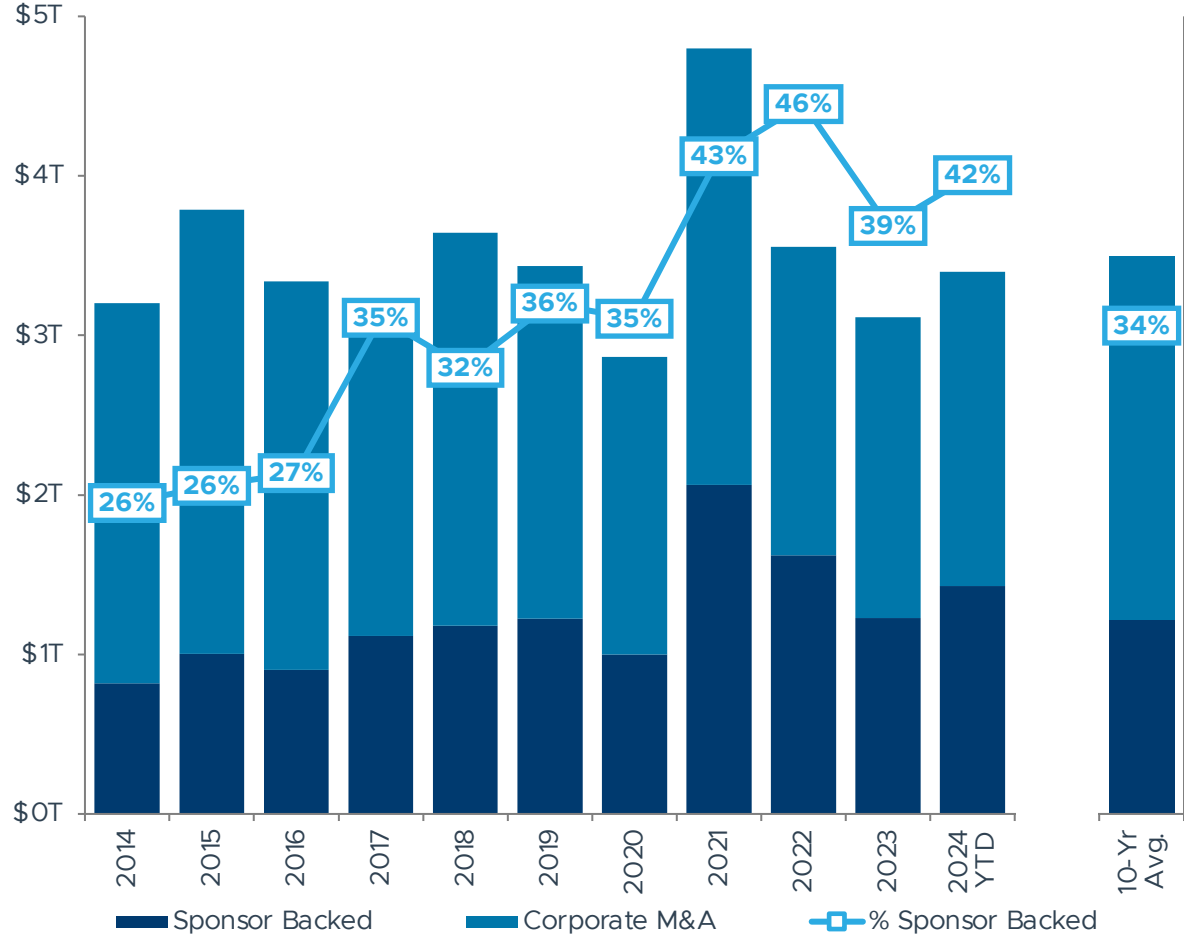
## Capital markets began 2025 strong, but macro uncertainty has weighed on mood

Rolling 6-month U.S. IPO deal count vs. iCapital IPO Activity Barometer (as of March 2025)




## M&A moved higher in 2024 , though 1H25 may tell a different story

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

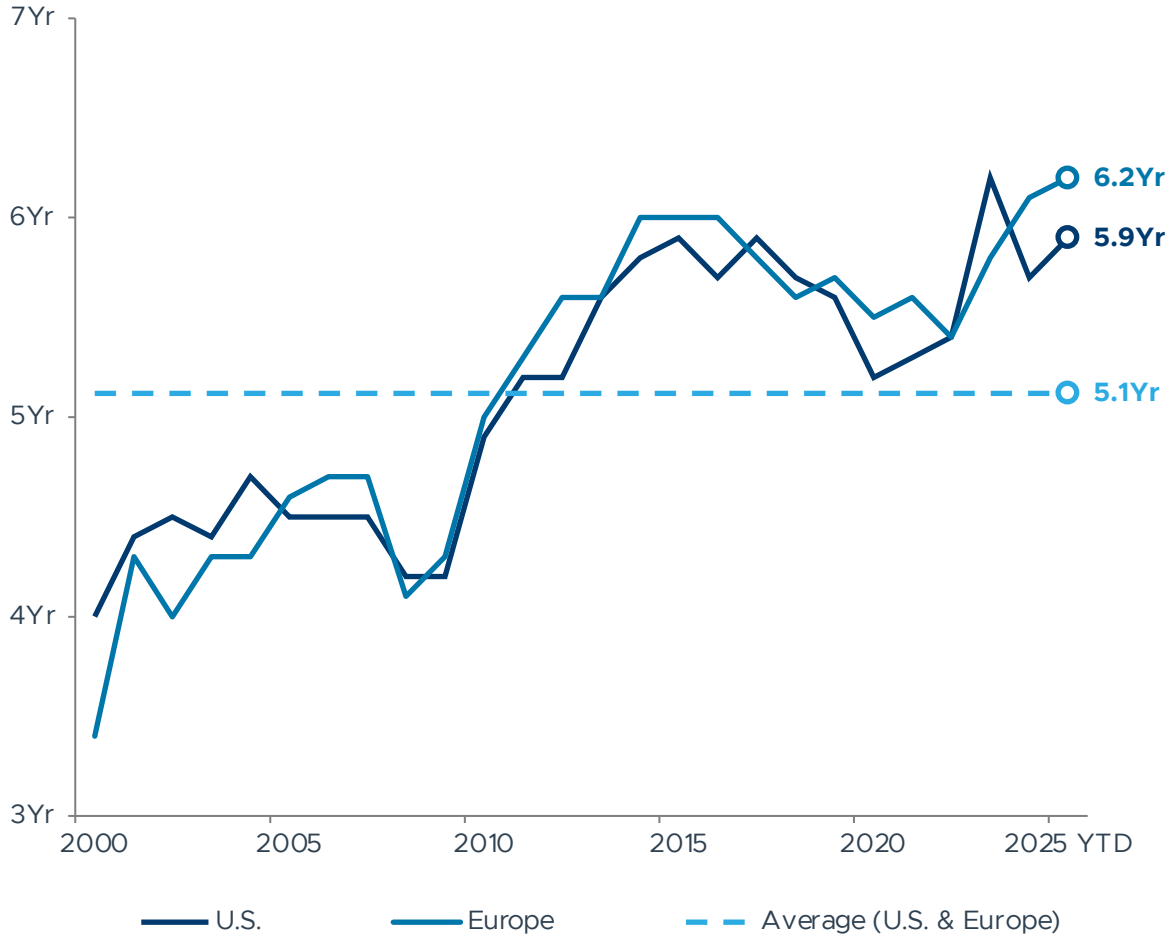



Source: (left) S&P Capital IQ, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of March 2025 and is subject to change based on potential updates to source(s) database. Aggregated IPO data can differ across sources and based on inputted criteria. IPO data is based on U.S. exchange-listed IPOs that have begun trading and with market caps of at least $25 million. We exclude closed-end funds, unit offerings, and SPACs. The iCapital IPO Activity Barometer is a leading measure designed to offer forward-looking insights into underlying trends in 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 | LCD, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 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 and is based on announced or completed control transactions as defined by PitchBook. 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.

# Holding periods continue to increase and drive the need for additional sources of liquidity

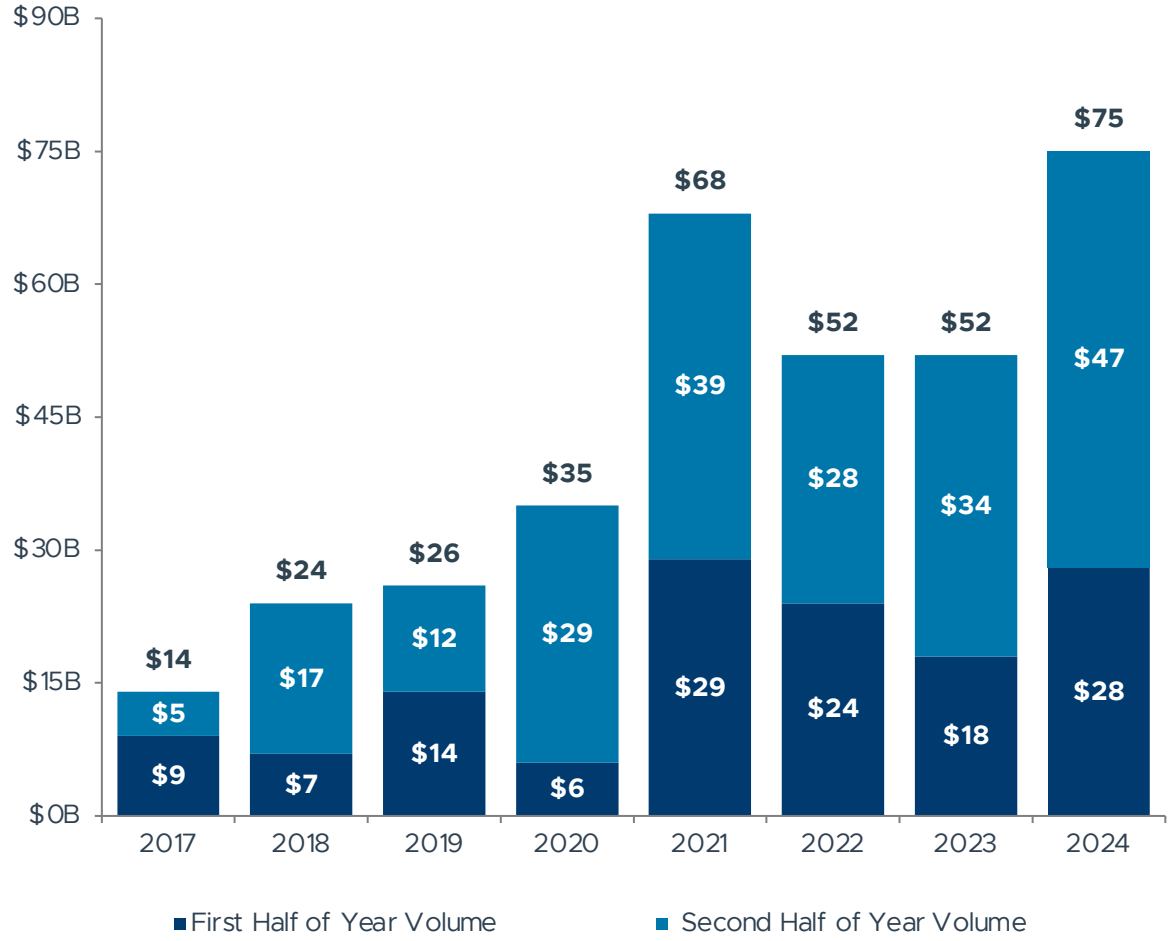
## The time period between deal and exit is longer than the average

Average holding period of U.S. and Europe PE funds that exited between 2000-2025 YTD




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

Total annual GP-led secondary transaction volume ($ billion, as of December 2024)

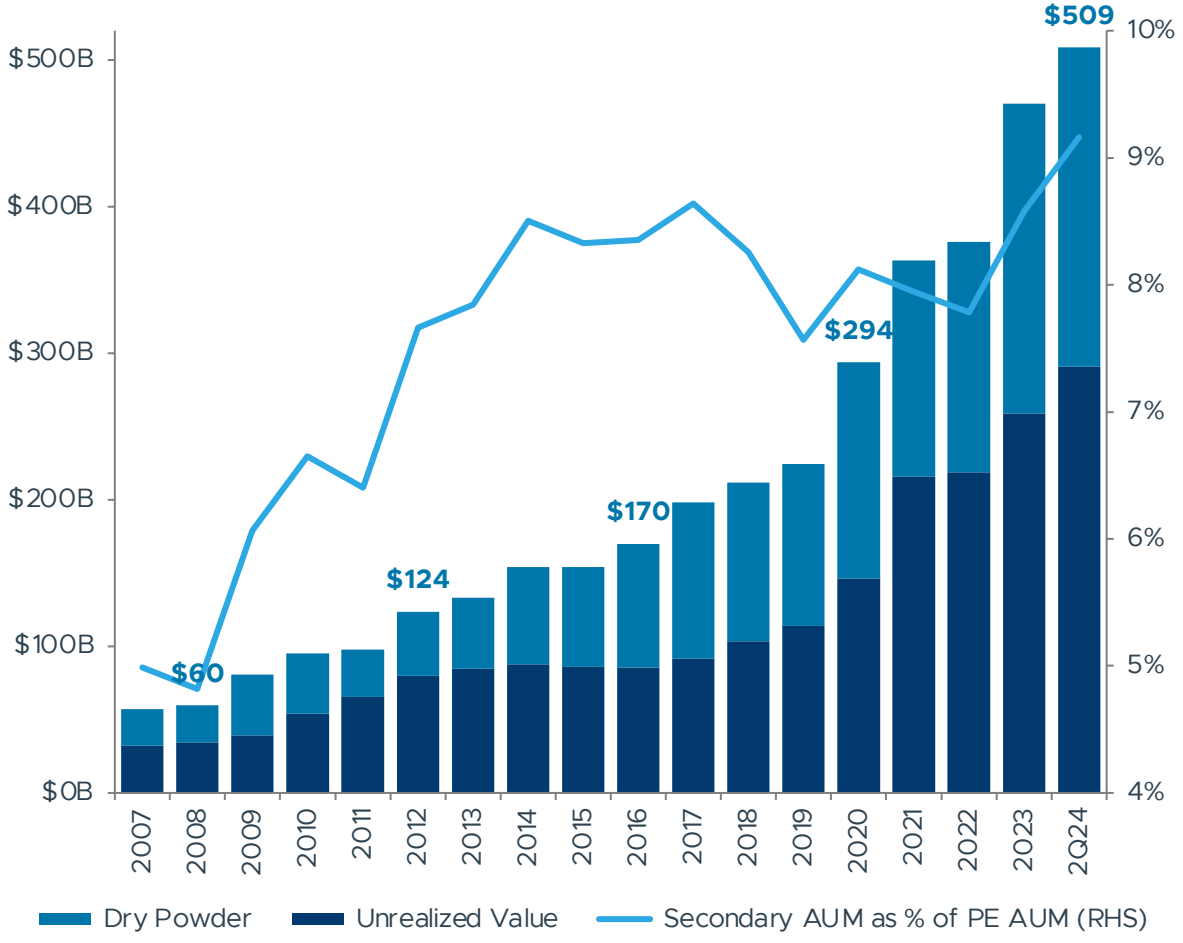



Source: (left) Preqin, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of March 2025 and is subject to change based on potential updates to source(s) database. Analysis shows the average holding period of private equity buyout funds that exited between 2000 and year-to-date 2025 by target country. Target country includes U.S. or Europe. Excludes partial exits and exits from LP Direct & Private Debt transactions. (right) Jefferies Global Secondary Market Review, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 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 secondaries is driven by strong supply/demand dynamics

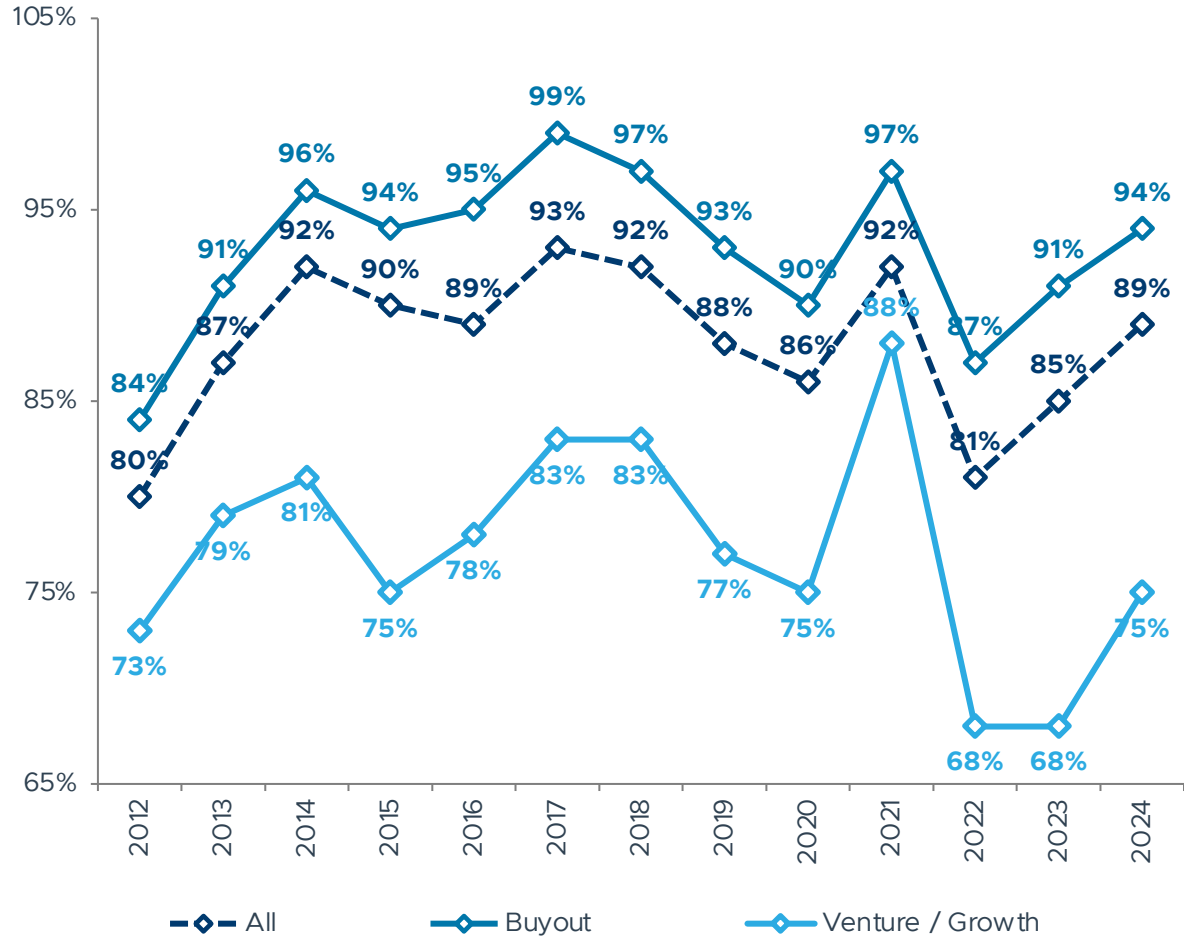
## Secondaries funds have seen rapid growth as liquidity needs grow

Total AUM in global private equity secondary funds ($ billion, as of June 2024)




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

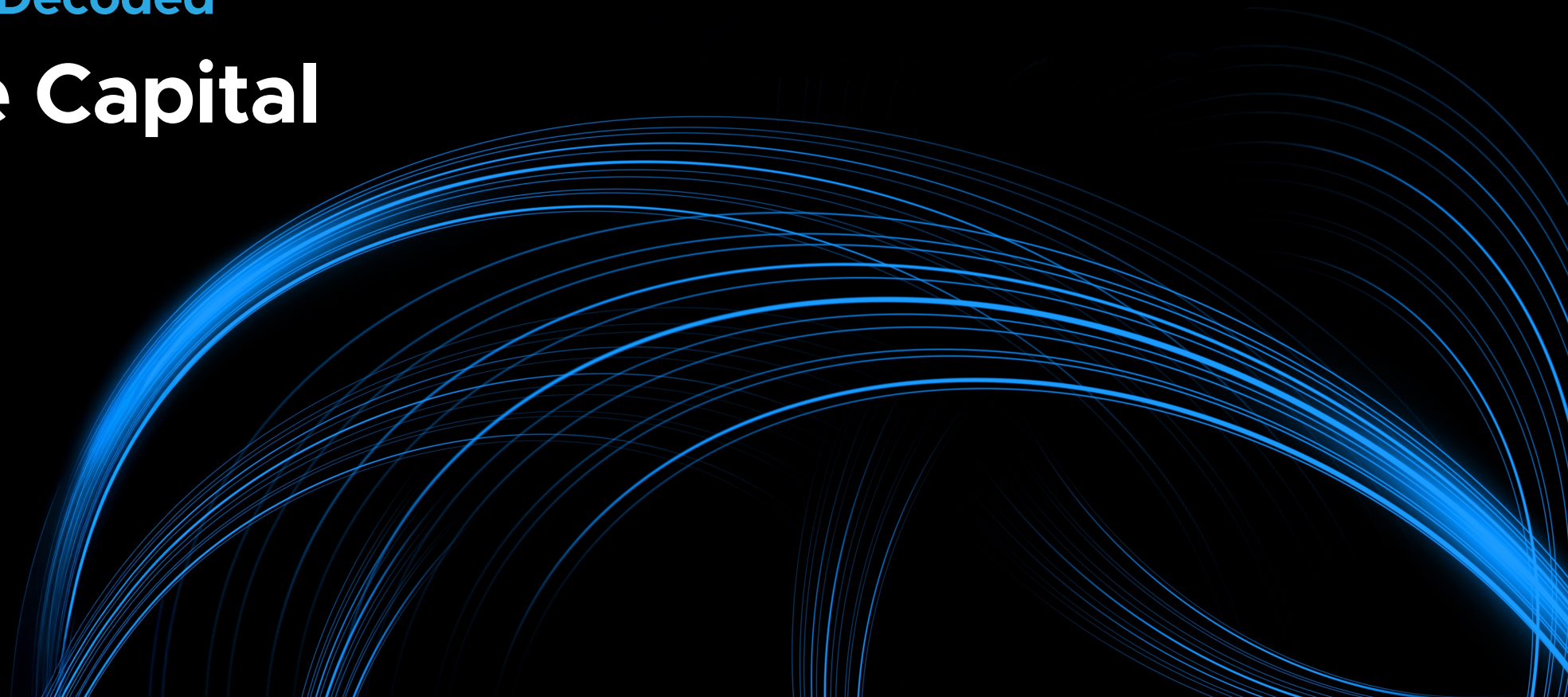
LP-led secondary market pricing (% of net asset value, as of December 2024)




Source: (left) Preqin, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. 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-investment multi-manager, and Turnaround strategies. (right) Jefferies Global Secondary Market Review, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. "All" includes Buyout, Venture, Credit, and Real Estate aggregate LP portfolio. 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

# Venture Capital

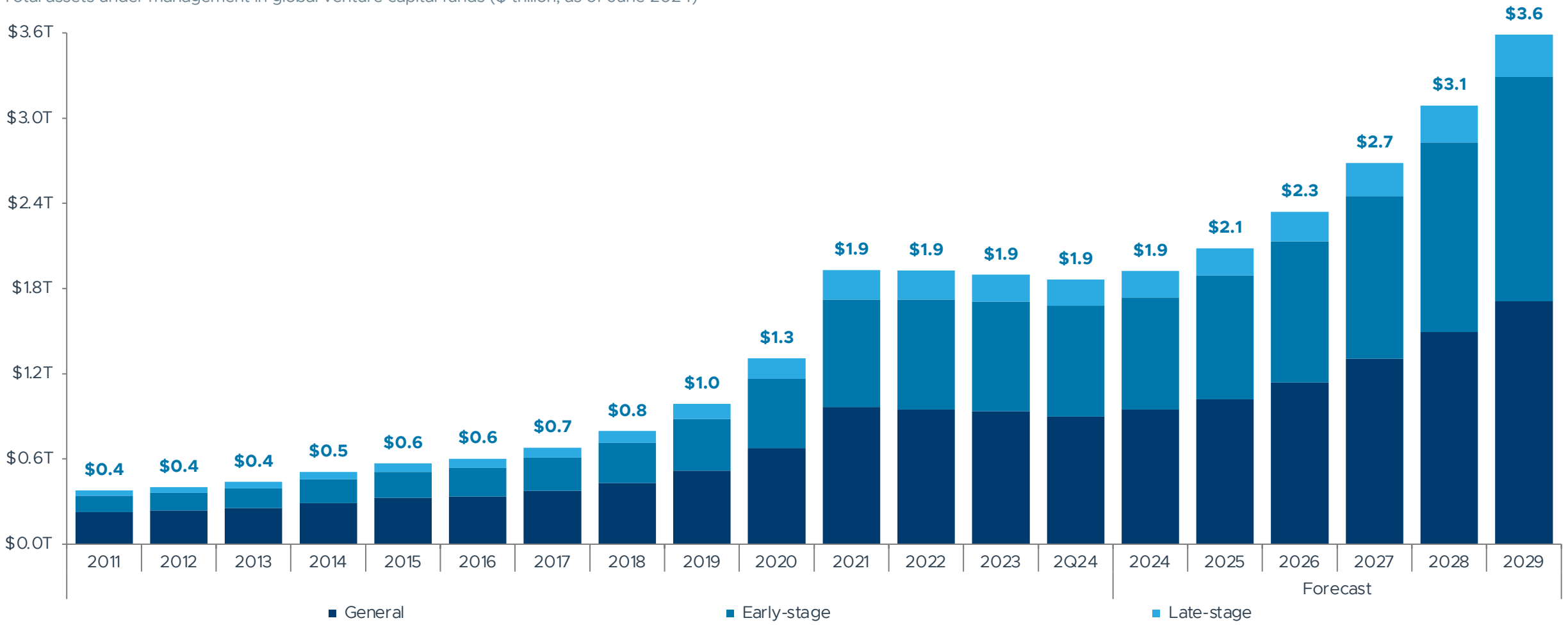


iCapital

# Venture capital AUM is expected to grow at a 12.7% CAGR through 2029

## Venture capital assets remain close to record highs and are forecast to nearly double by the end of the decade

Total assets under management in global venture capital funds ($ trillion, as of June 2024)

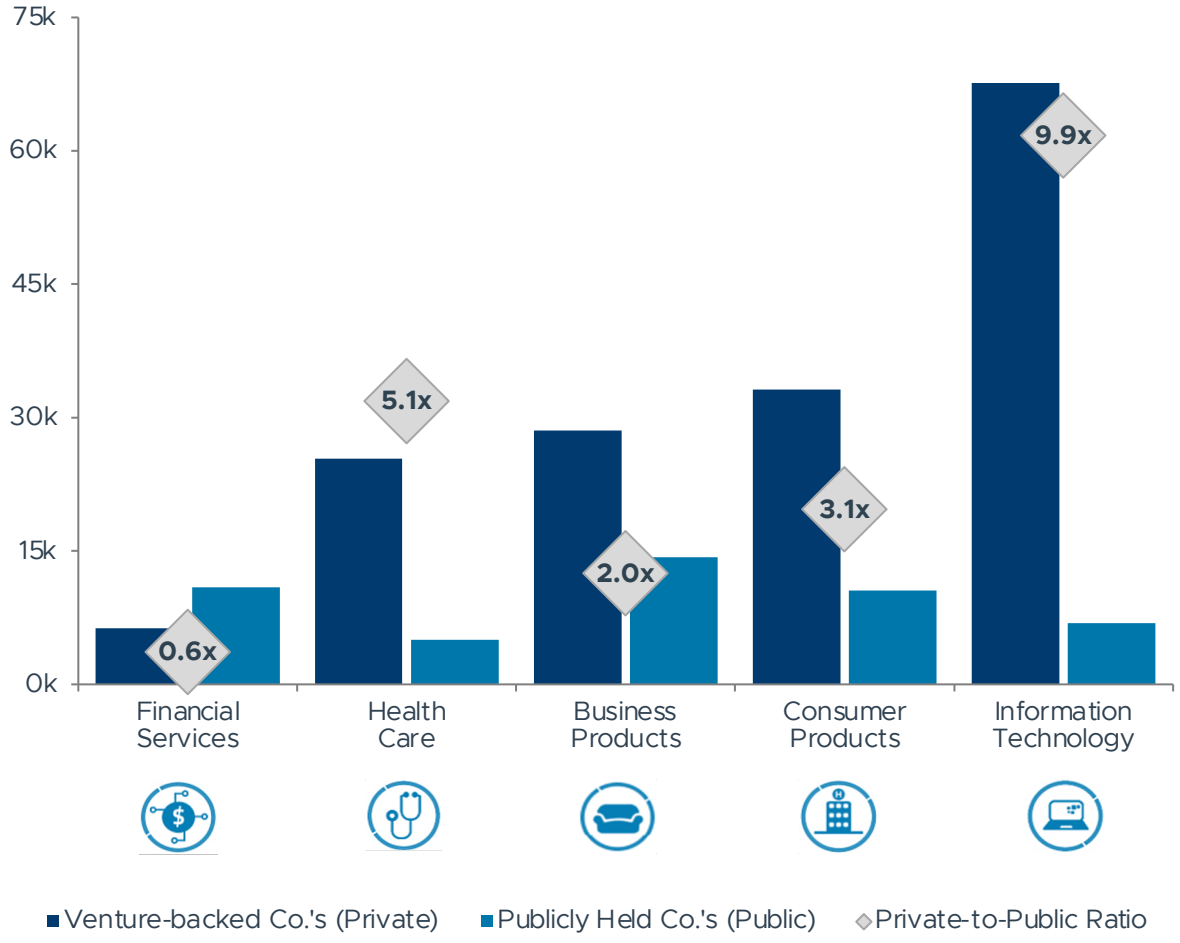



Source: Preqin, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Historical AUM is through September 2024 and forecasted AUM is through December 2029. Data is subject to change based on updates to the source(s) database. AUM is broken down by venture capital sub-asset classes as defined by Preqin. Early-stage includes any fund labeled as early-stage, seed, or start-up. 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 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. Future results are not guaranteed.

# Venture capital offers access to a vast opportunity set and high-growth sectors like Tech

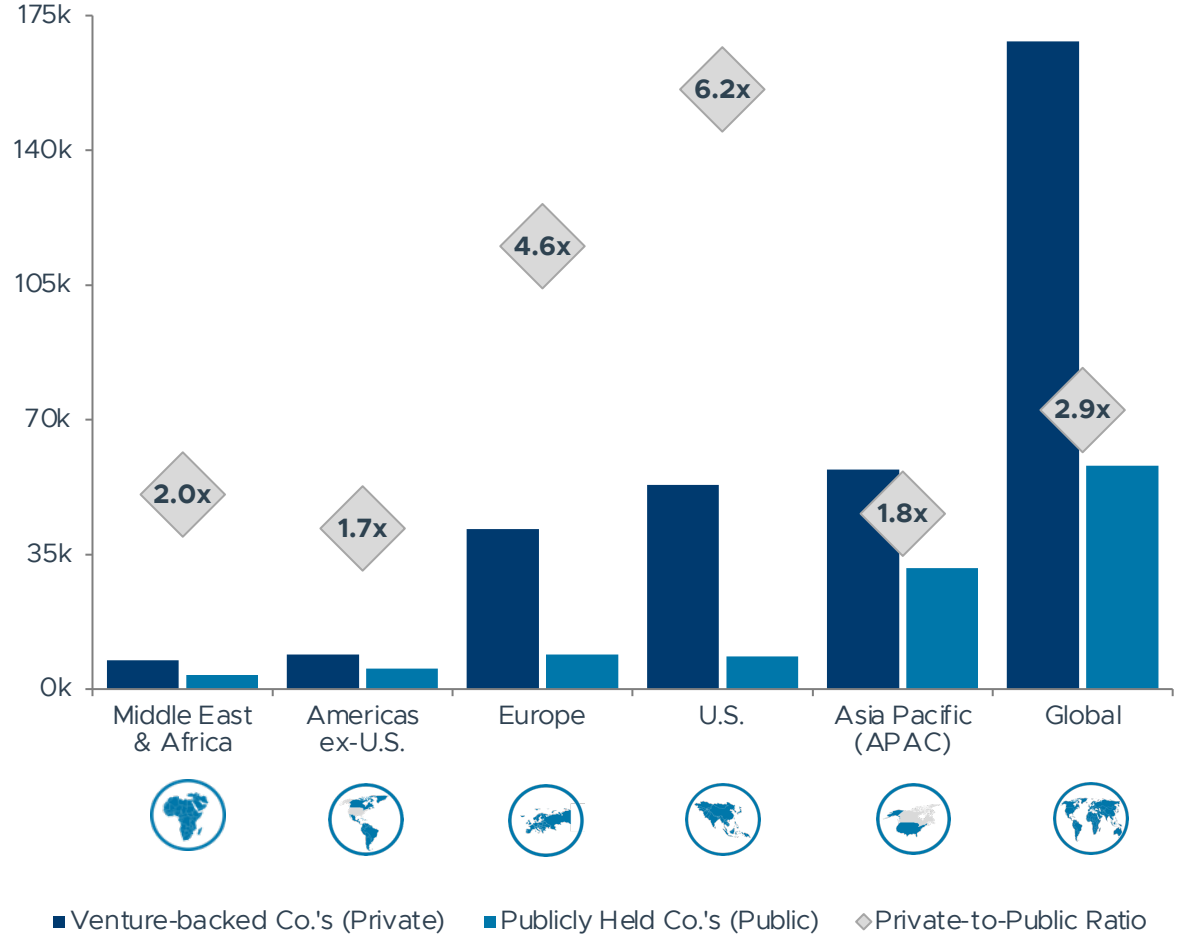
## Venture capital offers investors greater exposure across most sectors

Number of venture-backed* vs. public companies, globally, by industry (in thousands)




## Venture-backed companies out number public ones across geographies

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

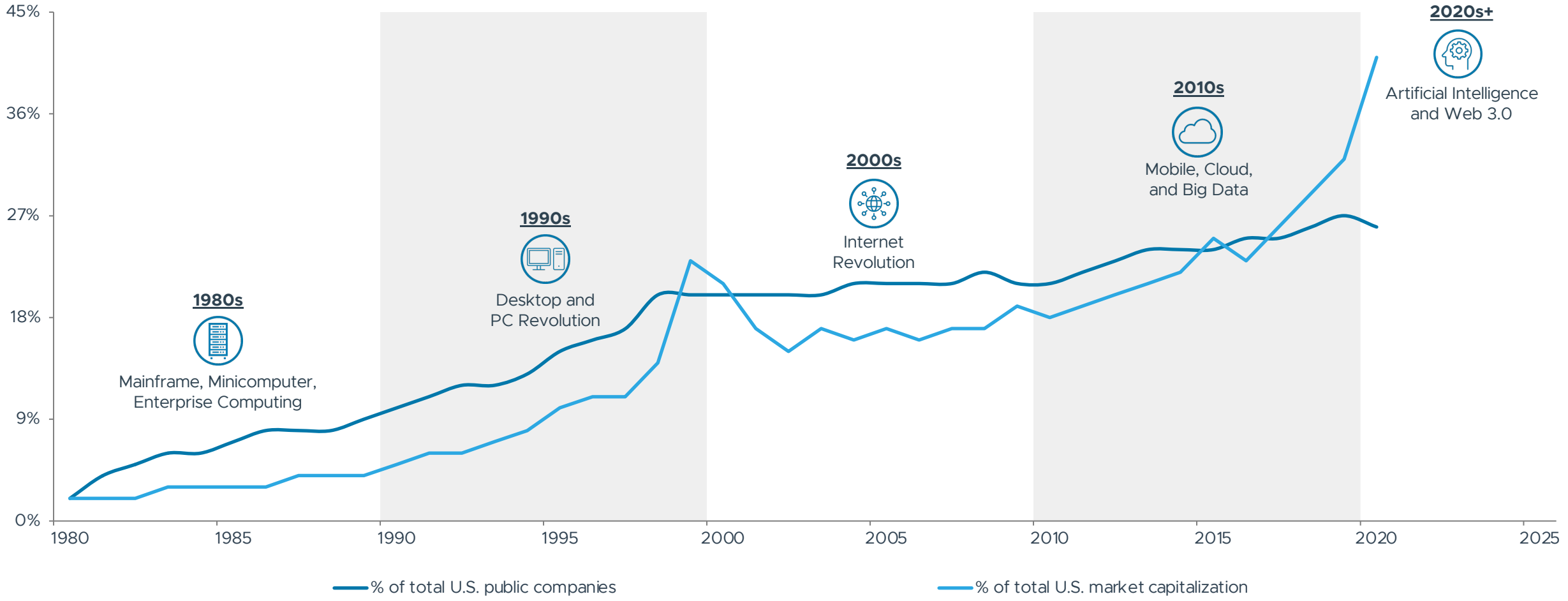



Source: (left) PitchBook | LCD, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of Apr. 30, 2025 and is subject to change based on potential updates to source(s) database. Industry breakdown is based on primary industry only and excludes the Energy and Materials & Resources industries due to limited venture involvement. Venture-backed companies include any company that is currently financed by venture capital, angel, or accelerator/incubator investors regardless of ownership status, as defined by PitchBook. (right) PitchBook | LCD, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of Apr. 30, 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 based on regional breakdown as defined by Pitchbook. 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.

# Venture capital has become a dominant force in the financing of innovation and growth

## One in every five public companies has been venture-backed, accounting for over 40% of the total U.S. market capitalization

Percentage of U.S. public companies with VC backing prior to IPO, by year (%)

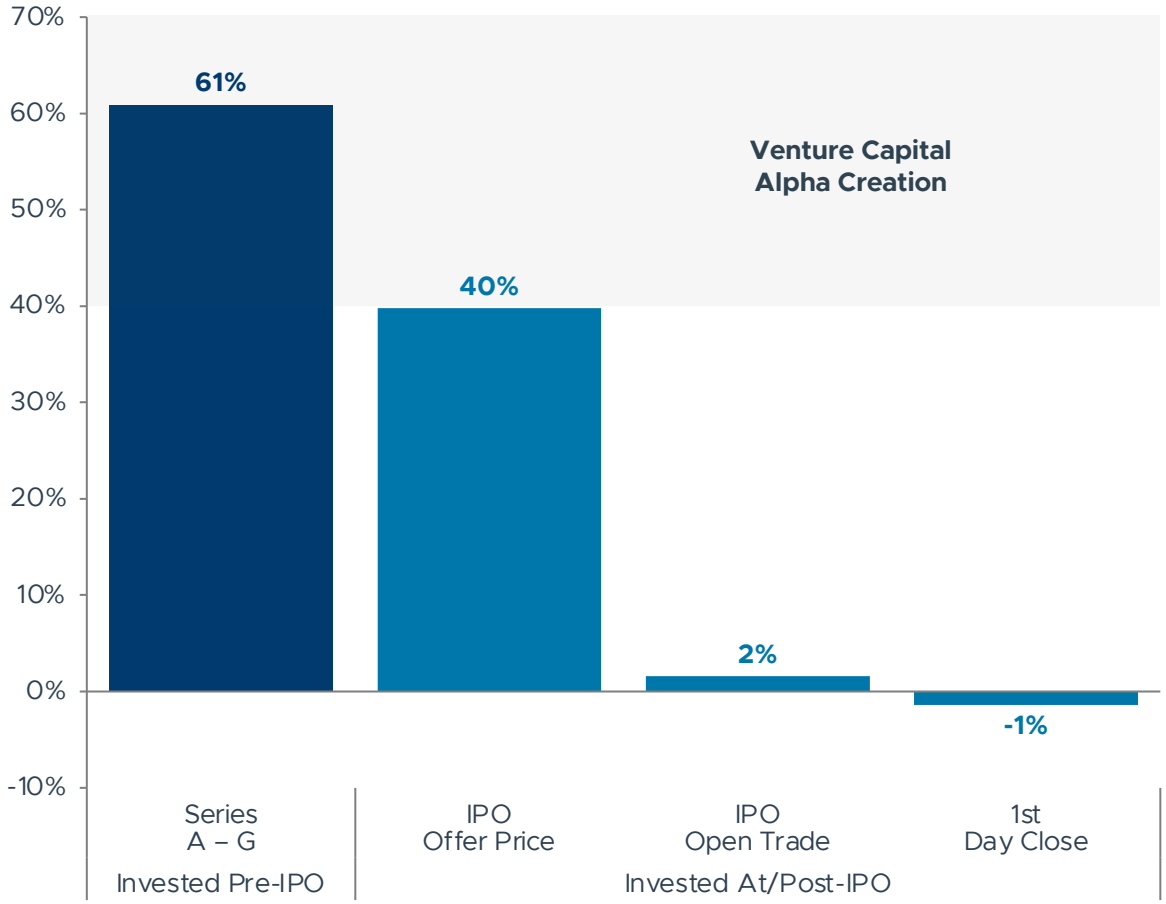



Source: Will Gornall (University of British Columbia), Ilya A. Strebulaev (Stanford University Graduate School of Business), The Economic Impact of Venture Capital: Evidence from Public Companies (June 2021), iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Analysis as of June 2021 with data as of year-end 2020, and is subject to change based on potential updates to source(s) database. Analysis is based on U.S. public companies listed in the CRSP/Compustat database and excludes delisted companies, those whose stock never traded above $5 (penny stocks), unit offers, ADRs, closed-end funds, SPACs, REITs, and stocks not listed on Nasdaq or the NYSE. Authors define VC-backed companies as those that received early-stage funding from VC funds – managed by institutional VC firms or corporate VC arms. Companies who only received later-stage VC investments and/or private equity funding are not referred to as VC-backed. VC classifications are based on PitchBook, Thomson ONE, VentureSource, and authors manual review. The sample includes 3,494 listed U.S. companies, of which 925 are VC-backed. 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 drive most of the value creation meaning most returns are captured pre-IPO

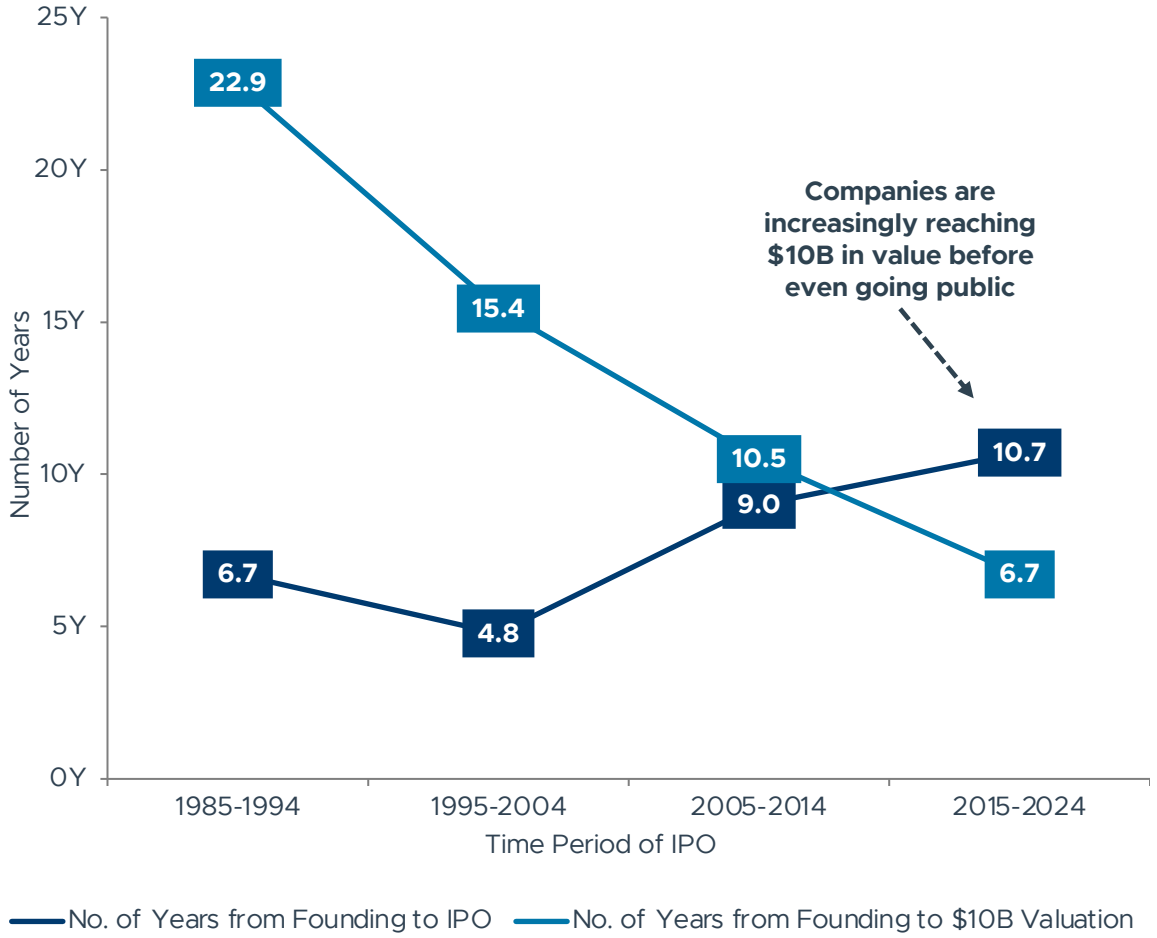
## Annualized returns on pre-IPO and IPO investments

Mean annualized returns 6-months post-IPO based on investor entry point




## Private Markets are increasingly capturing a greater portion of value creation

Average number of years from founding to IPO and $10 billion valuation, by IPO period*




Source: (left) Manhattan Venture Research, FactSet, PitchBook, CB Insights, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Analysis as of May 9, 2022, and is subject to change based on potential updates to source(s) database. Analysis includes all technology media and telecommunication (TMT) IPOs over a 10-year period - from 2011 to December 2021, where data was sufficiently available. Only companies with US IPOs listed in FactSet and CB Insights during this period are included and excludes IPOs on non-US exchanges as well as companies that went public through SPAC mergers. he sample includes 768 startups across Series A through Series G. Series-level values are calculated as weighted average returns based on the respective sample sizes. (right) McKinsey & Company, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Analysis as of May 11, 2016, and is subject to change based on potential updates to source(s) database. Analysis is based on a sample of 35 public software companies founded after 1980 that reached valuations of $10 billion or more between 2004 and 2015. Companies that were acquired or filed for bankruptcy have been excluded. 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.

# Despite recent underperformance, venture returns have outpaced equities over the long run

## Venture Capital returns

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

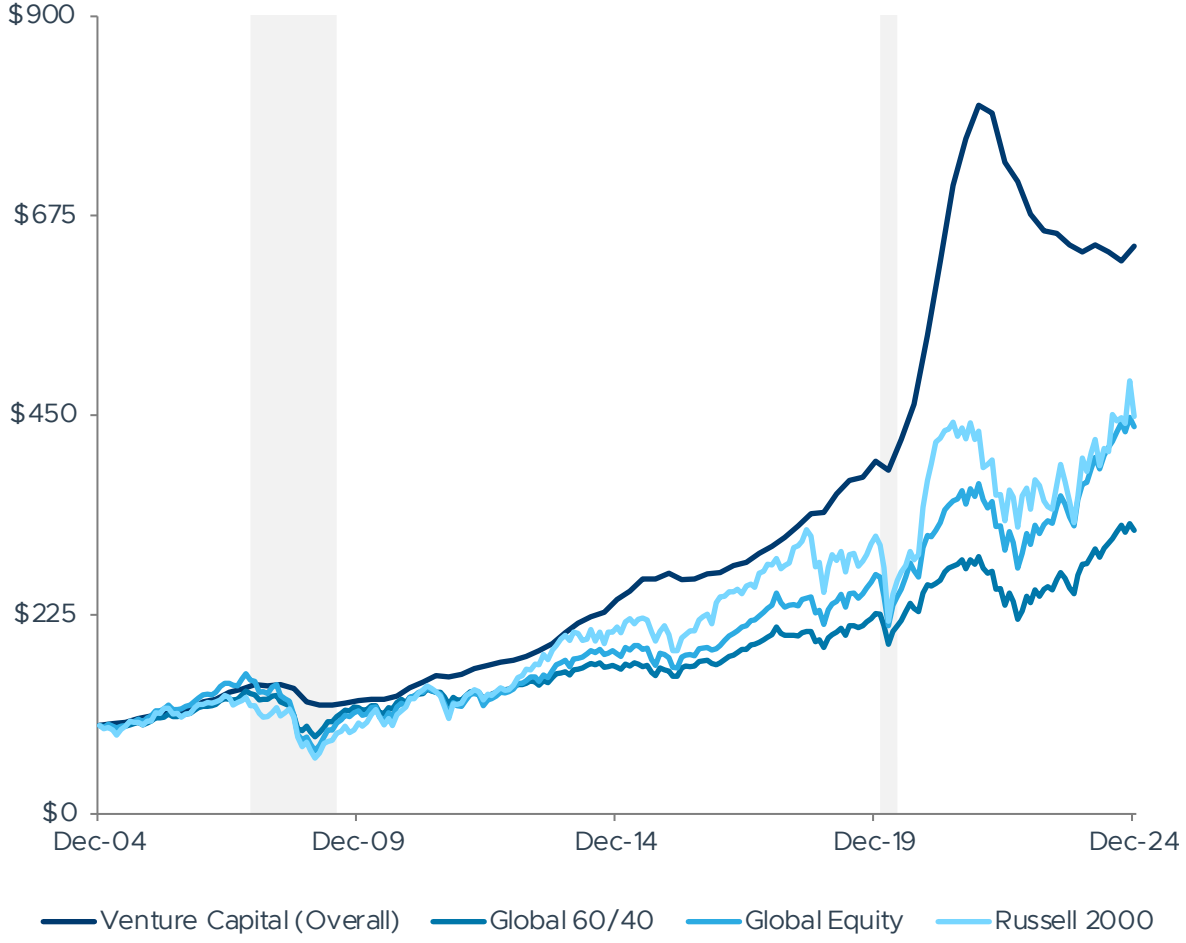
| Annual Return (%) | | | | | | | | | | Time-Period Return (%, per annum) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 3YR | 5YR | 10YR | 15YR |
| 14.0% Early-stage Venture | 21.3% Russell 2000 | 24.0% Global Equity | 16.5% Late-stage Venture | 26.6% Global Equity | 47.5% Late-stage Venture | 65.2% Early-stage Venture | 1.5% Cash | 22.2% Global Equity | 17.5% Global Equity | 5.4% Global Equity | 13.6% Late-stage Venture | 12.3% Early-stage Venture | 12.6% Early-stage Venture |
| 12.3% Venture (Overall) | 7.9% Global Equity | 17.3% Global 60/40 | 15.4% Early-stage Venture | 25.5% Russell 2000 | 35.7% Venture (Overall) | 60.8% Late-stage Venture | -13.2% Early-stage Venture | 16.9% Russell 2000 | 11.5% Russell 2000 | 4.0% Cash | 12.8% Early-stage Venture | 11.9% Late-stage Venture | 12.4% Late-stage Venture |
| 12.0% Late-stage Venture | 5.6% Global 60/40 | 14.6% Russell 2000 | 12.7% Venture (Overall) | 19.5% Early-stage Venture | 35.6% Early-stage Venture | 48.0% Venture (Overall) | -15.4% Venture (Overall) | 15.6% Global 60/40 | 9.8% Global 60/40 | 1.5% Global 60/40 | 10.1% Global Equity | 10.2% Venture (Overall) | 11.3% Venture (Overall) |
| 11.4% General Venture | 1.0% General Venture | 11.3% Early-stage Venture | 10.5% General Venture | 18.7% Global 60/40 | 33.6% General Venture | 32.7% General Venture | -16.0% General Venture | 5.3% Cash | 8.7% Late-stage Venture | 1.2% Russell 2000 | 10.0% Venture (Overall) | 9.2% Global Equity | 10.3% Russell 2000 |
| 0.0% Cash | 0.3% Cash | 10.8% Venture (Overall) | 1.9% Cash | 16.9% Venture (Overall) | 20.0% Russell 2000 | 18.5% Global Equity | -17.5% Global 60/40 | -4.3% Early-stage Venture | 5.4% Cash | -6.5% Early-stage Venture | 7.4% Russell 2000 | 8.1% General Venture | 9.9% General Venture |
| -2.4% Global Equity | 0.2% Venture (Overall) | 10.8% General Venture | -6.1% Global 60/40 | 16.9% Late-stage Venture | 16.3% Global Equity | 14.8% Russell 2000 | -18.4% Global Equity | -6.3% Venture (Overall) | 1.1% Venture (Overall) | -7.1% Venture (Overall) | 6.6% General Venture | 7.8% Russell 2000 | 9.2% Global Equity |
| -2.7% Global 60/40 | -0.3% Early-stage Venture | 9.4% Late-stage Venture | -9.4% Global Equity | 15.3% General Venture | 13.4% Global 60/40 | 9.2% Global 60/40 | -18.9% Late-stage Venture | -7.1% General Venture | -0.4% General Venture | -7.2% Late-stage Venture | 5.2% Global 60/40 | 5.6% Global 60/40 | 5.9% Global 60/40 |
| -4.4% Russell 2000 | -2.9% Late-stage Venture | 0.8% Cash | -11.0% Russell 2000 | 2.3% Cash | 0.6% Cash | 0.0% Cash | -20.4% Russell 2000 | -9.2% Late-stage Venture | -1.7% Early-stage Venture | -8.1% General Venture | 2.5% Cash | 1.8% Cash | 1.2% Cash |

Source: Bloomberg Index Services Limited, FTSE Russell, MSCI, Preqin, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. Venture (Overall) proxied by Preqin Venture Capital Index. General Venture proxied by Preqin Venture Capital General Venture Index. Late-stage Venture proxied by Preqin Venture Capital Late Stage Index. Early-stage Venture proxied by Preqin Venture Capital Early Stage Index. Russell 2000 proxied by Russell 2000 Total Return Index. Global 60/40 proxied by 60% MSCI 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. 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.

# Manager selection is key when investing in VC as top quartile funds significantly outperform

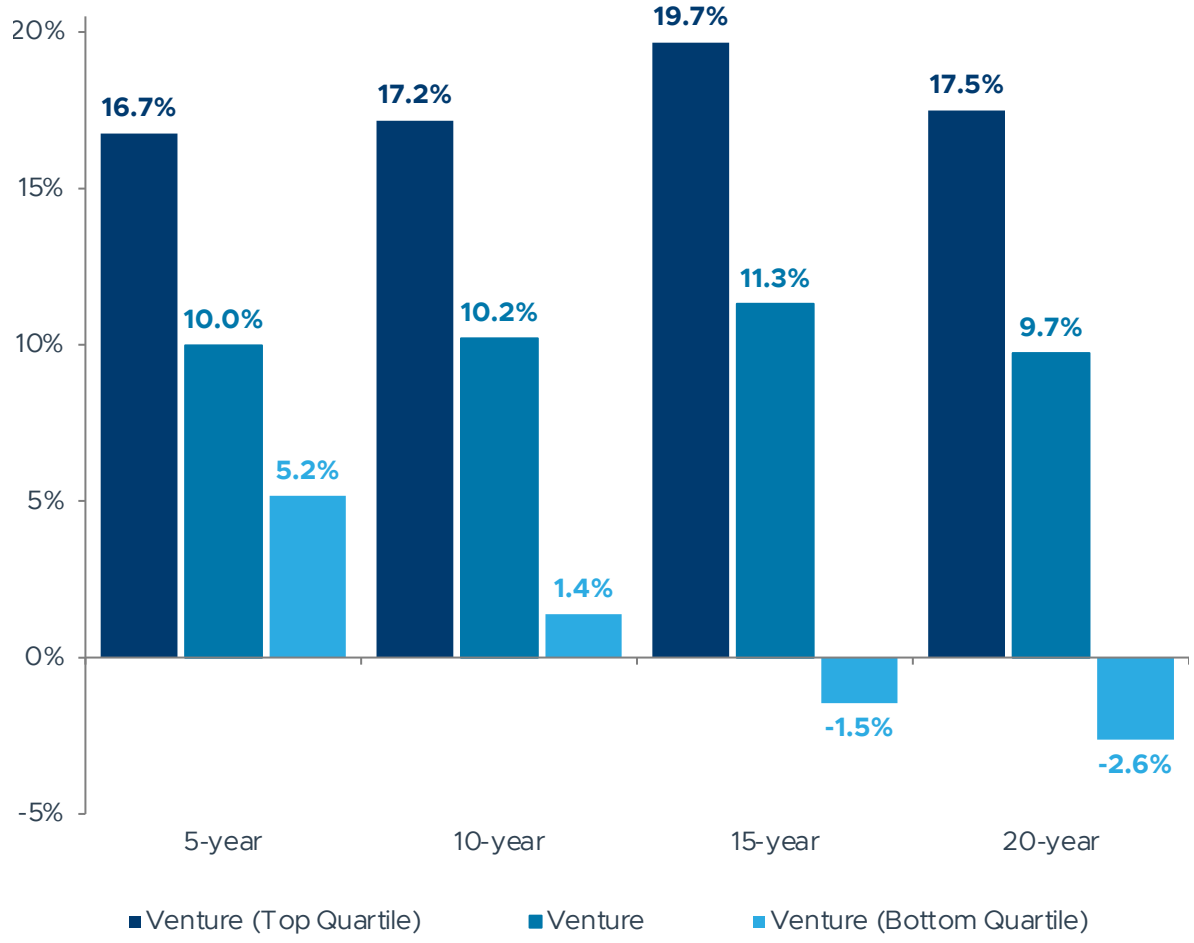
## Venture has outpaced public markets, largely driven by the 2021–2022 period

Normalized growth of $100 invested over 20 years ($, as of December 2024)




## Wide dispersion in venture returns highlights importance of manager selection

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

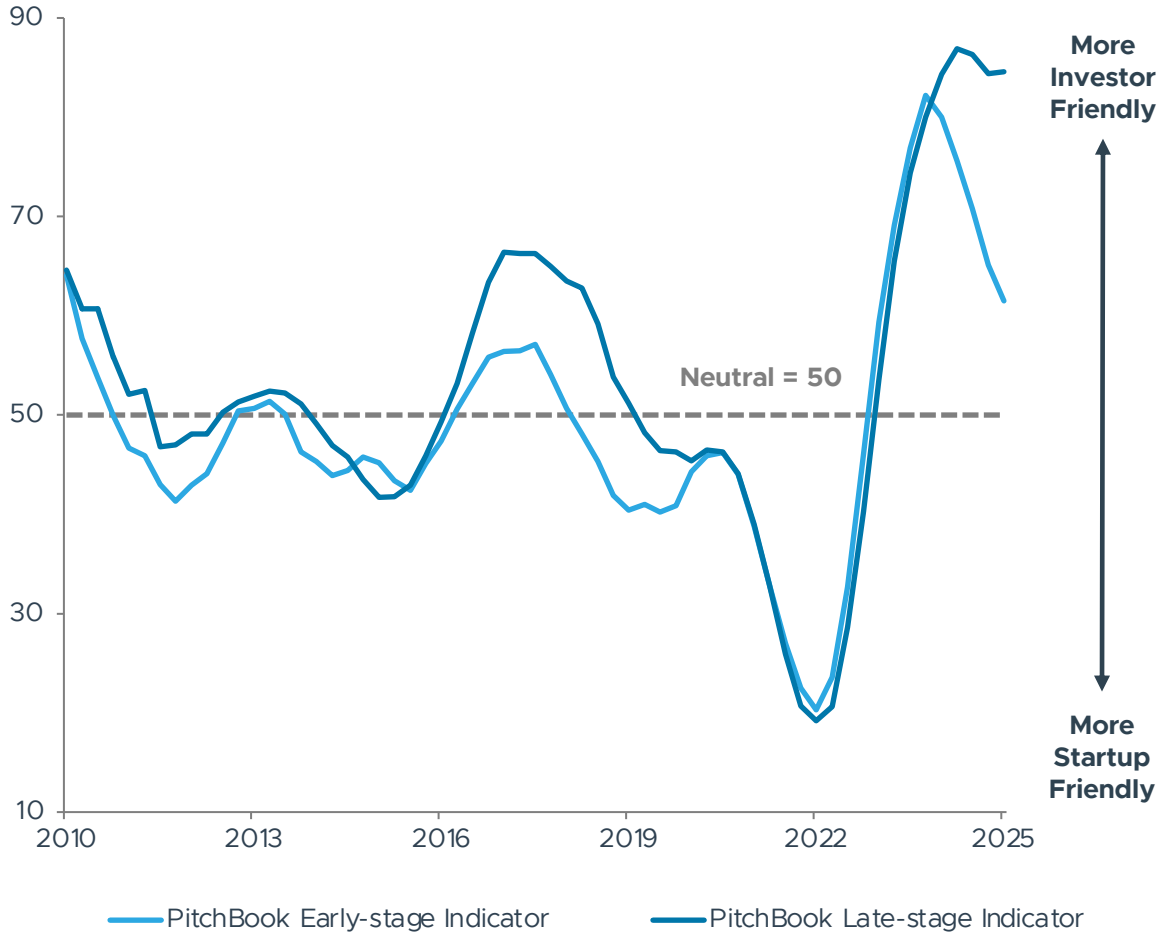



Source: (left) Bloomberg Index Services Limited, FTSE Russell, MSCI, Preqin, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. Venture (Overall) proxied by Preqin Venture Capital Index. Russell 2000 proxied by Russell 2000 Total Return Index. Global 60/40 proxied by 60% MSCI ACWI Total Return Index and 40% Bloomberg Global Aggregate Index. 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. (right) Preqin, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. Venture proxied by Preqin Venture Capital Index. Venture (Top Quartile) proxied by Preqin Venture Capital Top Quartile Index. Venture (Bottom Quartile) proxied by Preqin Venture Capital Bottom Quartile Index. For the top and bottom quartile indices, fund inclusion is determined per Preqin's methodology. Each fund receives an overall quartile ranking based on equally weighted net IRR and multiple metrics. If only one metric is available, the fund's rank is estimated using the available metric. In cases where the benchmark group sample size is insufficient, a broader category may be used for comparison. Top quartile includes the top 25% of funds. Bottom quartile includes the bottom 25% of 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.

# Signs point to a turning tide in venture capital despite recent macro turmoil & uncertainty

## Market still favors investors, but momentum is shifting toward startups

PitchBook Venture Capital Dealmaking Indicator, by stage (as of March 2025)




## The VC climate may improve as down rounds show signs of peaking

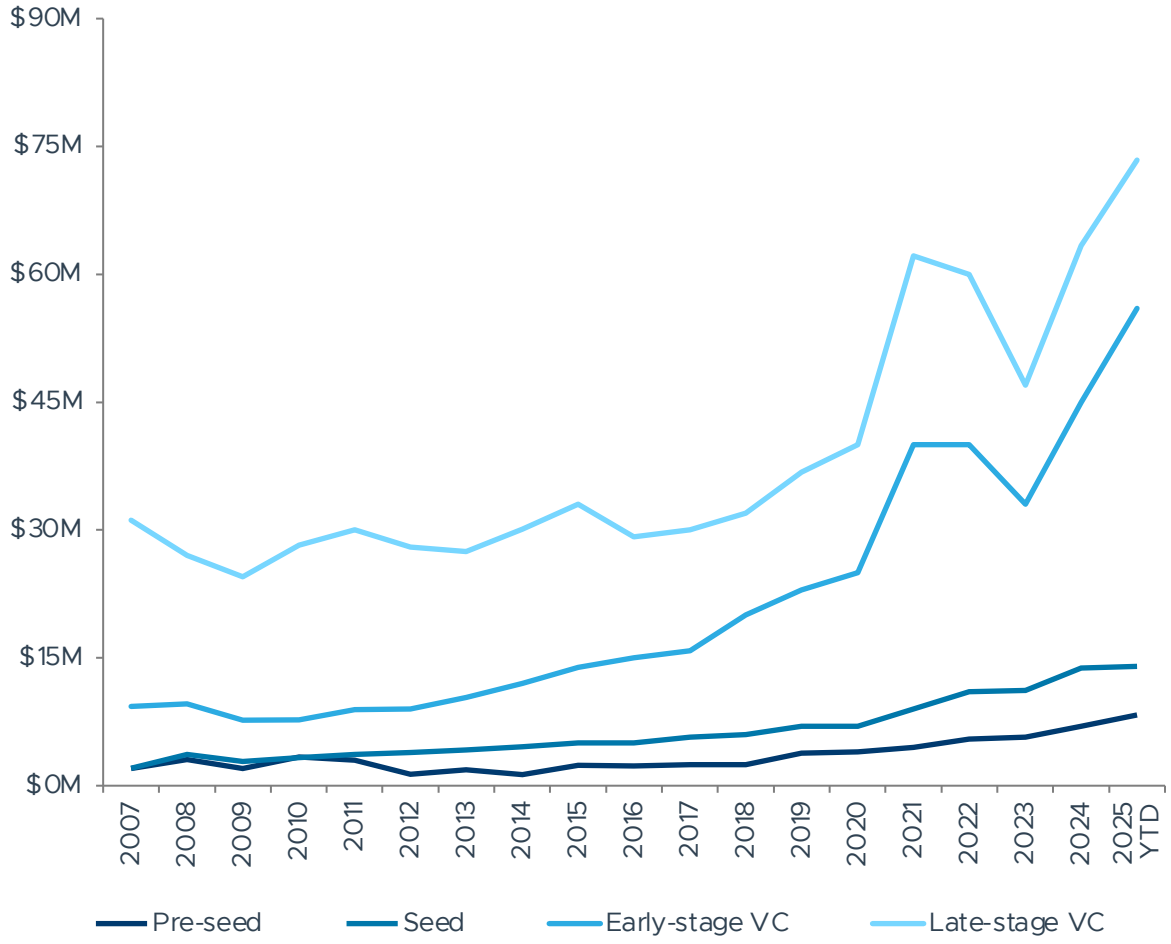
Flat and down rounds as a share of all venture rounds (%, as of December 2024)

Source: (left) PitchBook | LCD, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of March 2025, and is subject to change based on potential updates to source(s) database. PitchBook VC Dealmaking Indicator leverages deal-level data to quantify how startup-friendly, or investor-friendly the capital raising environment is. The Indicator incorporates PitchBook's market liquidity measures, cap table information, and momentum metrics to compose an indicator which observes early-stage, and late-stage deal dynamics. A higher level reflects a more investor-friendly dealmaking environment, while a lower level points to a more startup-friendly one. (right) PitchBook | LCD, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 2024. 2024 YTD is as of year-to-date through December 2024. Data is subject to change based on potential updates to source(s) database. Analysis looks at the percentage of venture rounds that were either flat or down rounds by geography. 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.

# Venture valuations have remained sticky but are more reasonable than they appear

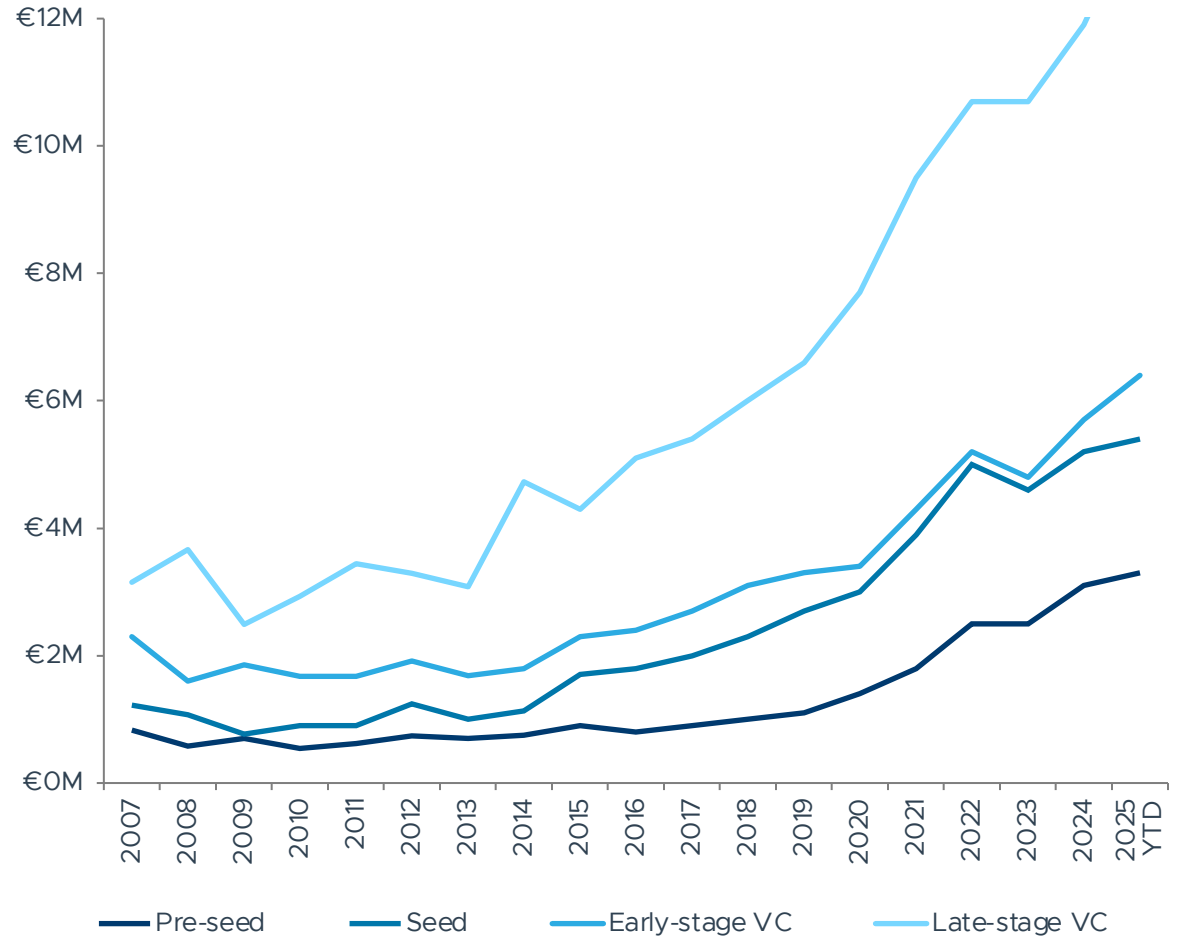
## U.S. venture capital valuations

Median U.S. VC pre-money valuation by stage ($ million, as of March 2025)




## Europe venture capital valuations

Median European VC pre-money valuation by stage (€ million, as of March 2025)

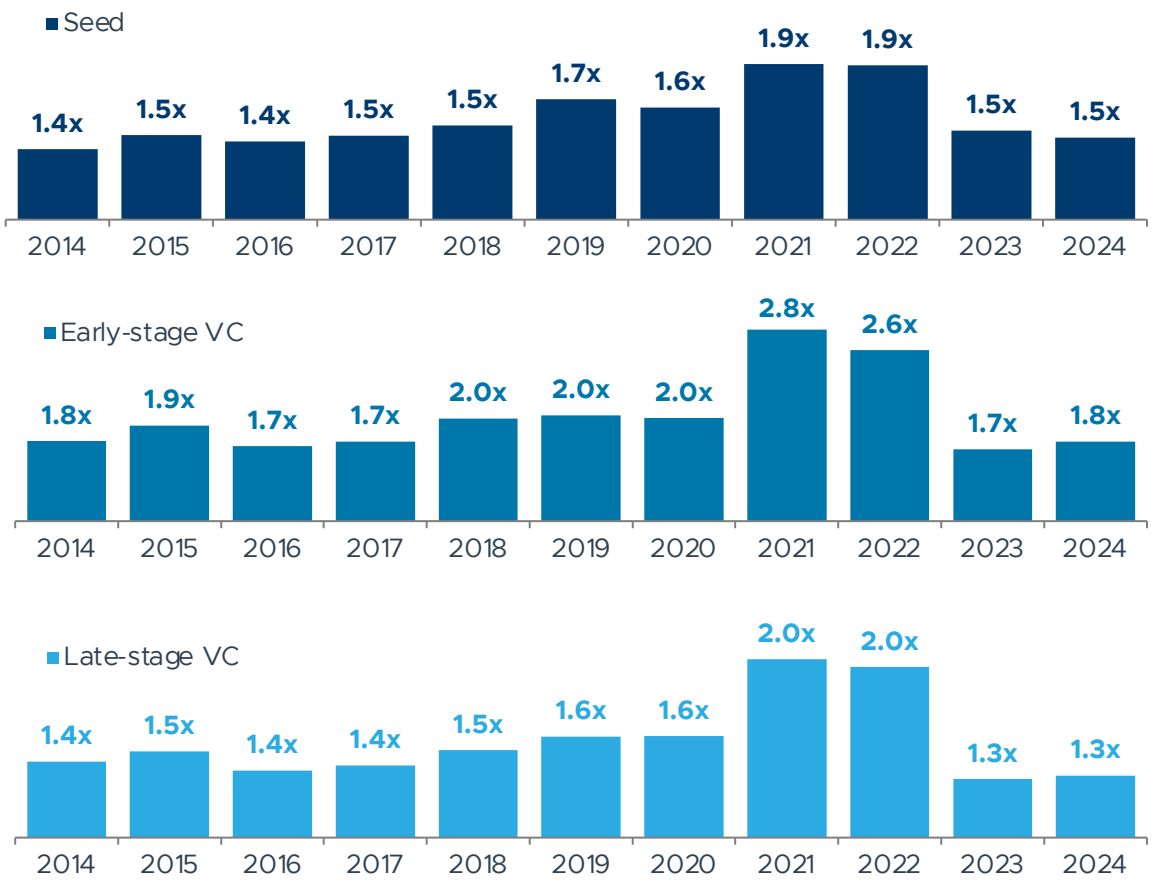



Source: (left and right) PitchBook | LCD, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of March 2025. 2025 YTD is as of year-to-date through March 2025. Data is subject to change based on potential updates to source(s) database. Pre-money valuation is the value of a company's equity before taking on investors and raising a round of financing. Pre-seed/Seed includes rounds generally classified as pre-seed or seed financing. If the company is under two years old and the round is the first institutional investment in the company, then it is generally classified as pre-seed. Early-stage VC includes rounds generally classified as Series A or B. Late-stage VC includes rounds generally classified as Series C or D or later. 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.

# Lower valuation step-ups signal a cooler VC market but better entry points for investors

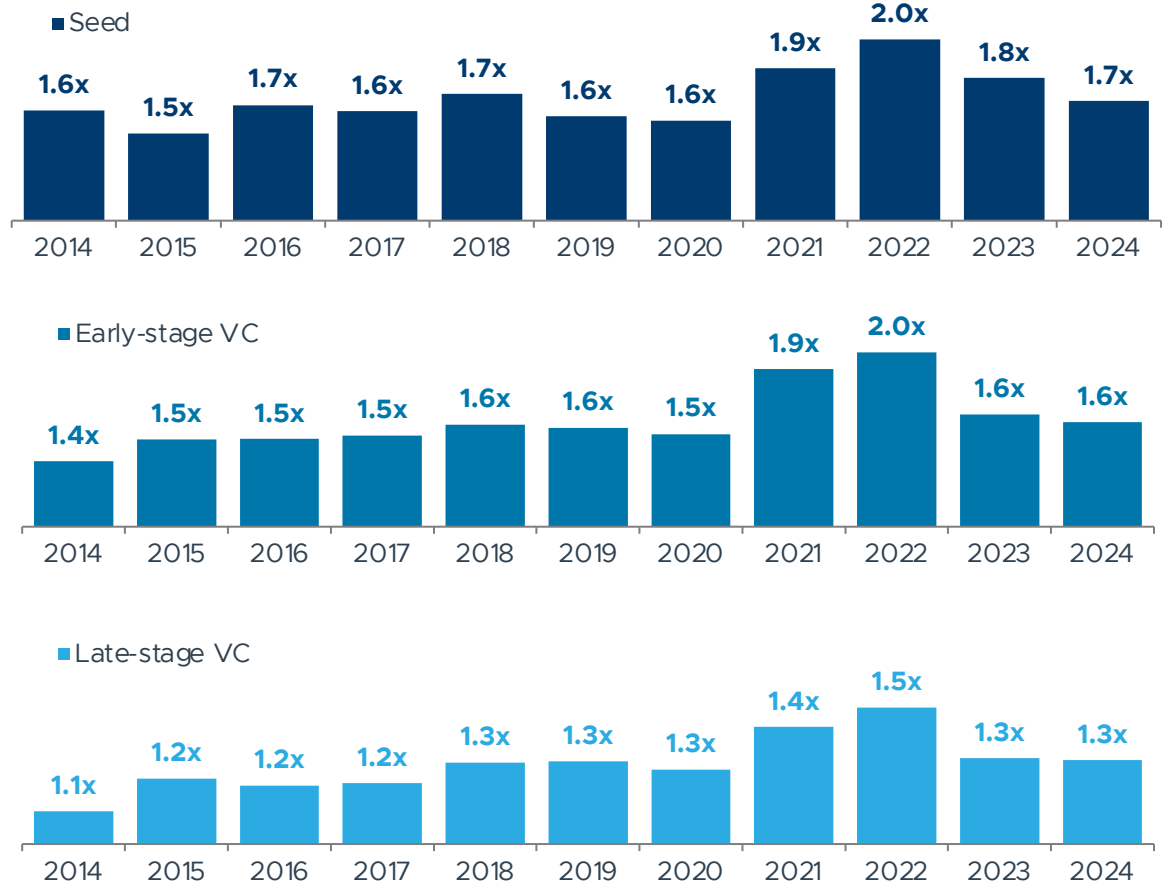
## U.S. valuation step-up multiples

Median U.S. VC valuation step-up multiples by stage (x, annual as of December 2024)




## Europe valuation step-up multiples

Median Europe VC valuation step-up multiples by stage (x, annual as of December 2024)

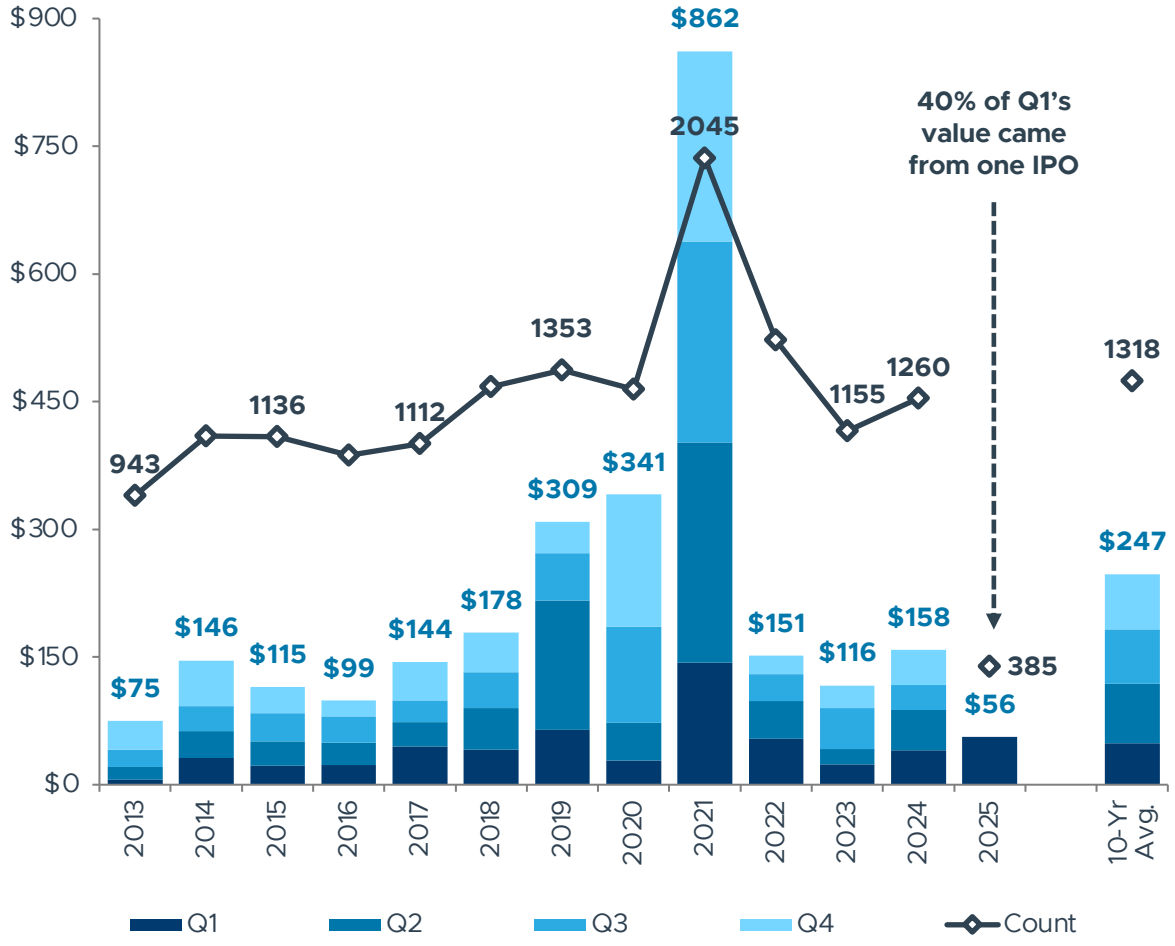



Source: PitchBook | LCD, iCapital Investment Strategy, with data based on availability as of Apr. 30, 2025. Note: Data as of December 2024. 2024 YTD is as of year-to-date through December 2024. Data is subject to change based on potential updates to source(s) database. Analysis looks at the median change from the previous round's post-money valuation to the next round's pre-money valuation, by stage. Early-stage VC includes Series A or B rounds, while late-stage VC includes Series C, D, or later rounds, as defined by PitchBook. Higher median valuation step-ups signal broad momentum in business fundamentals or pricing for startups, suggesting power is more in the hands of founders negotiating with investors. Lower valuation step-ups signal a cooler market for startups and lowers the likelihood of investors overpaying to get into deals. 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.

# Exit activity remains challenged, and acquisitions continue to be primary exit path for startups

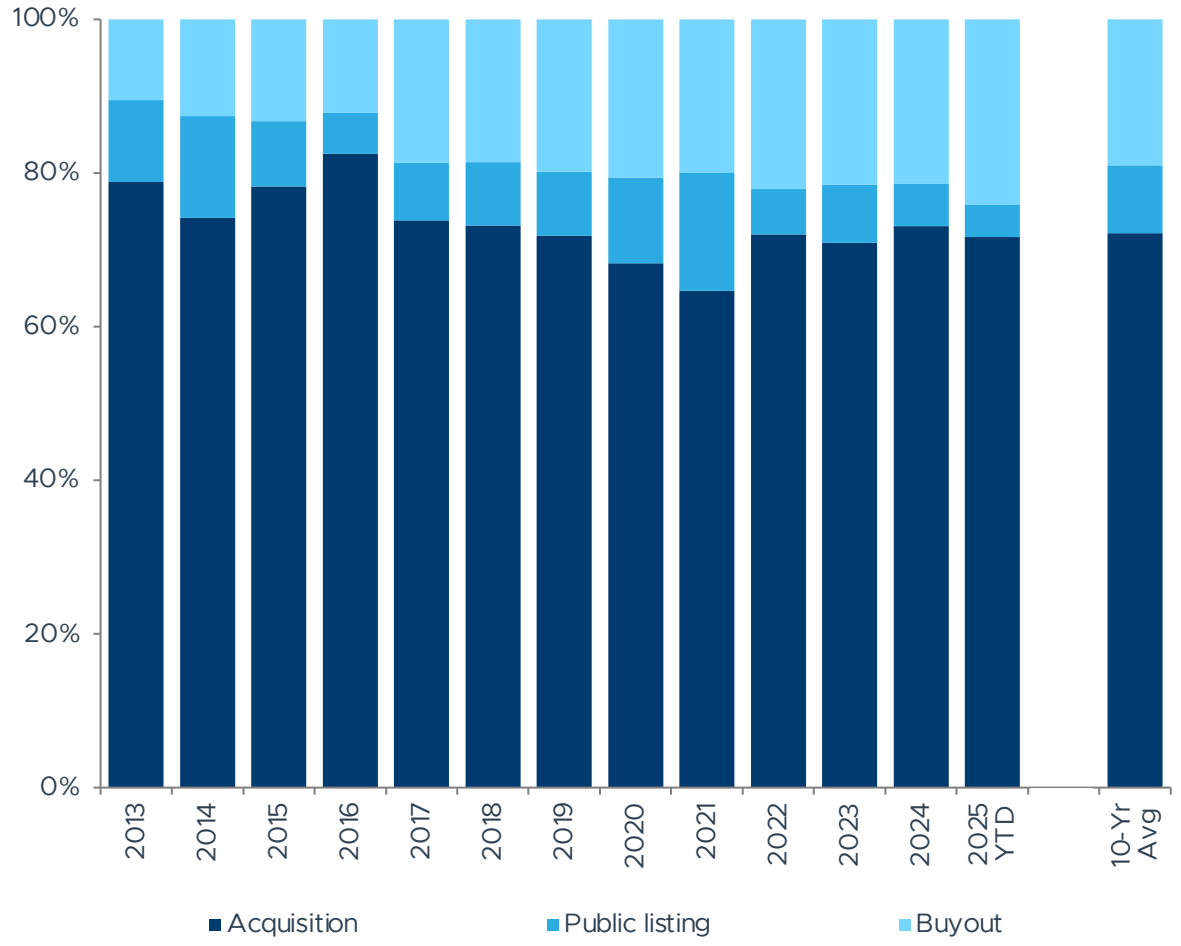
## Exit activity volumes continue to hover around the lows of the past decade

U.S. venture capital exit activity by year ($ billions, as of March 2025)




## While IPO is a good sentiment indicator, most VC exits are done via acquisition

Breakdown of U.S. venture capital exit count by type (%, as of March 2025)

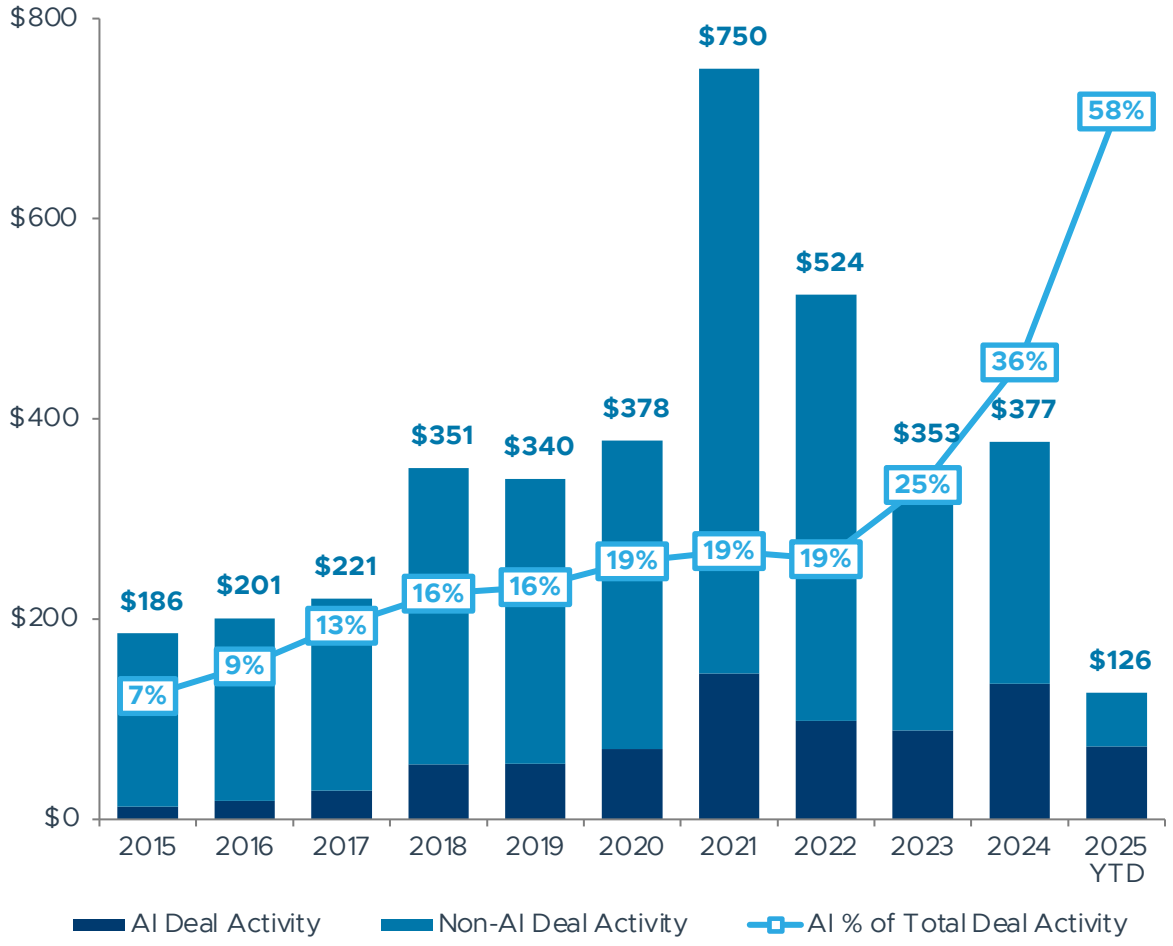



Source: (left and right) Pitchbook | LCD, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of March 2025 and is subject to change based on potential updates to source(s) database. Exit data reflects U.S. venture strategies as defined by PitchBook and incorporates adjusted and estimated 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.

# AI startups drive VC funding resurgence, and they command significant valuation premiums

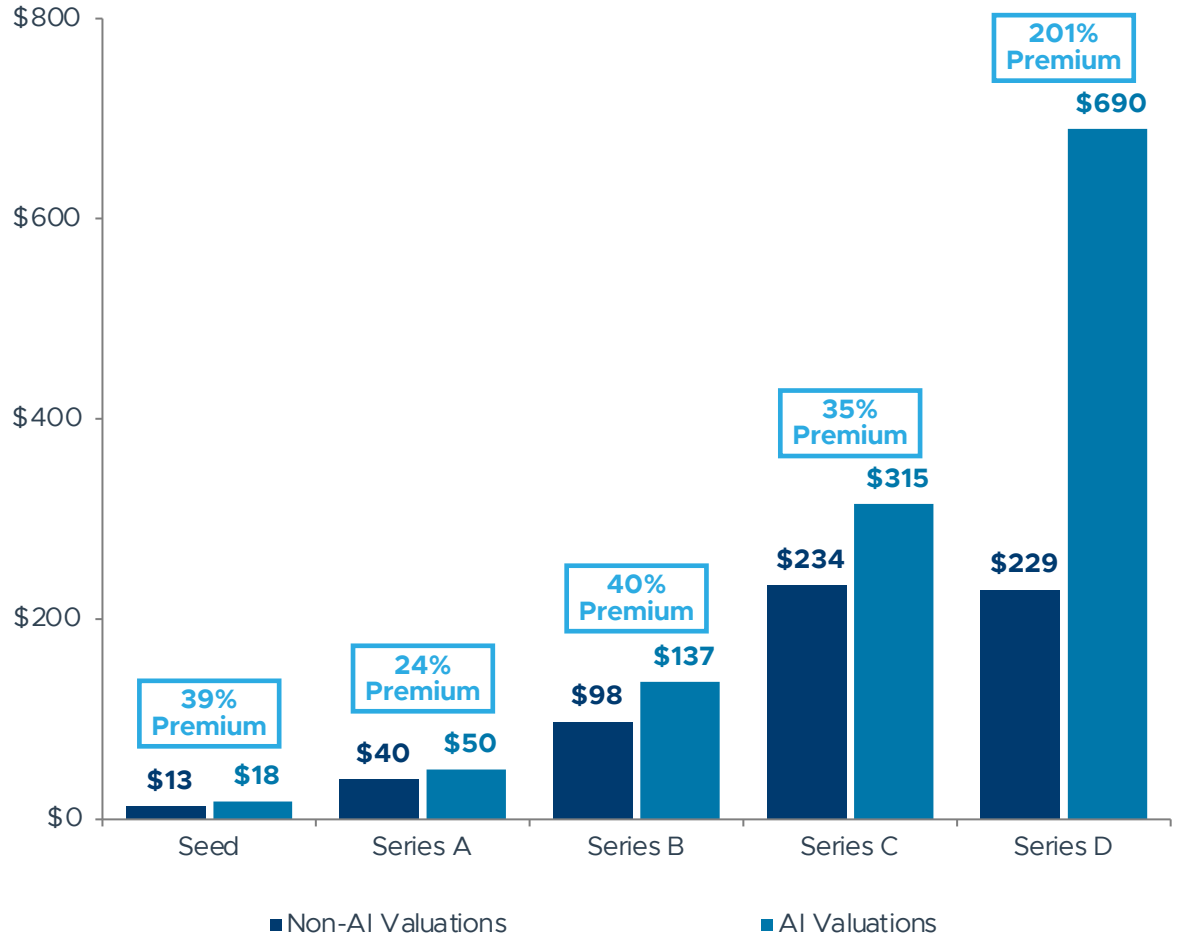
## Over one in every three dollars invested globally in 2024 went to AI startups

Global VC AI and Non-AI deal activity by year ($ billions, as of March 2025)




## AI startups are typically valued 25%-40% higher than non-AI startups

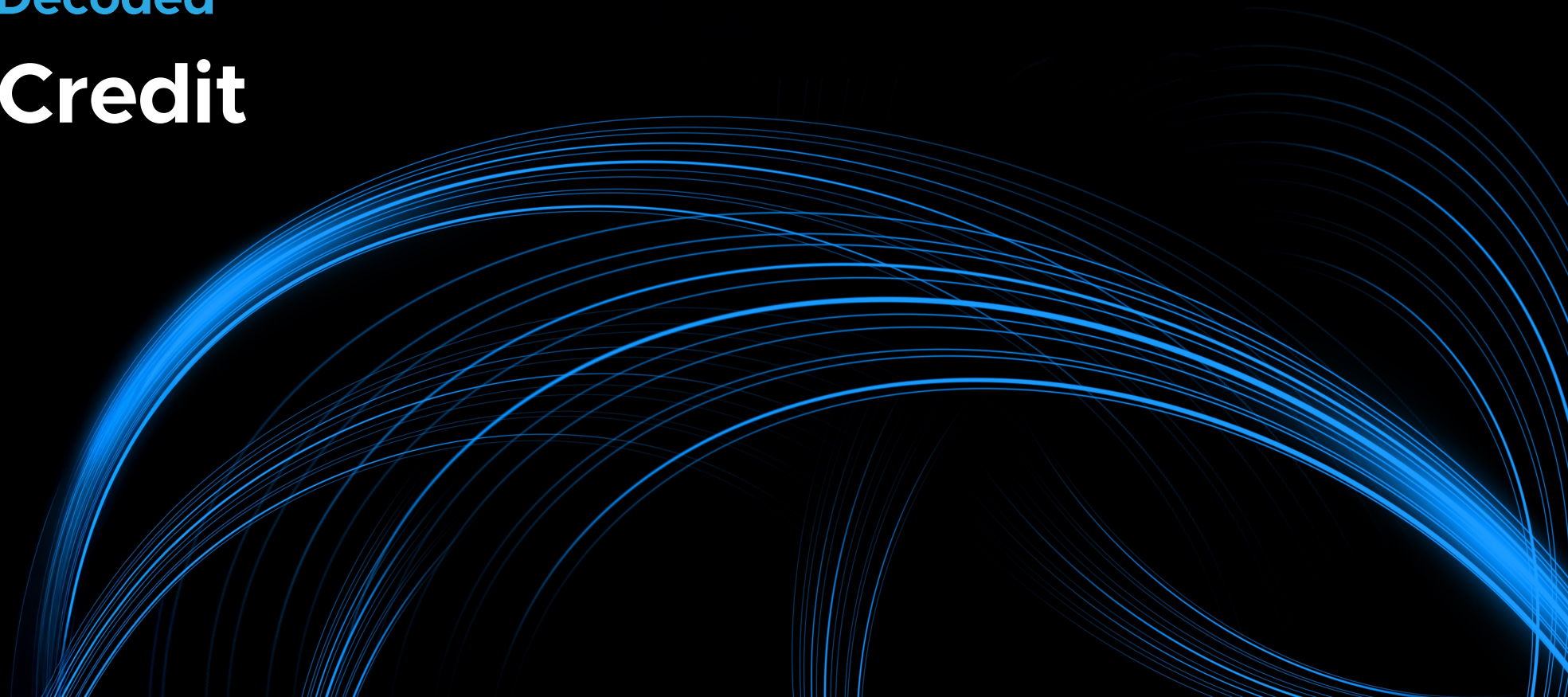
Median U.S. AI and non-AI pre-money valuation by stage in 2024 ($ million)




Source: (left) Pitchbook | LCD, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of March 2025 and is subject to change based on potential updates to source(s) database. Deal data reflects Global venture strategies as defined by PitchBook and incorporates adjusted and estimated 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. (right) Carta, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data is for full-year 2024 and is subject to change based on potential updates to source(s) database. Data included 2,858 primary rounds raised in 2024 by U.S. startups. 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 Credit

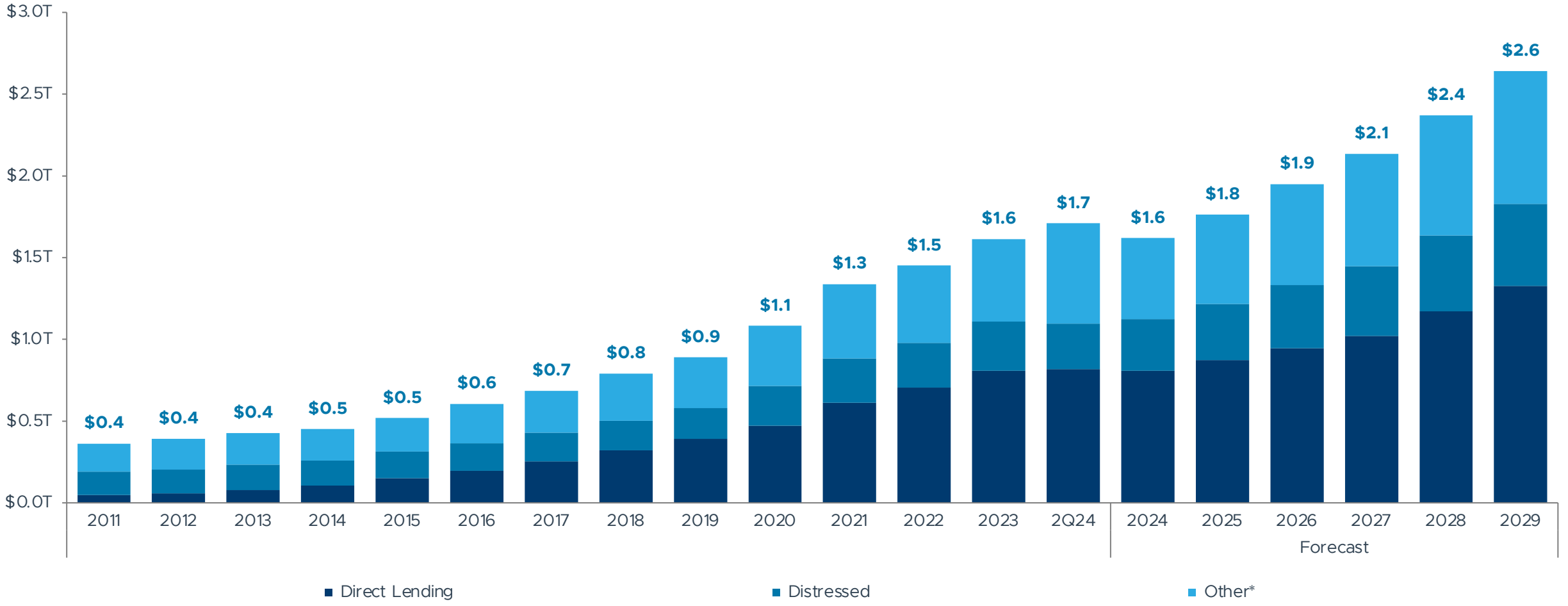


iCapital

# 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)

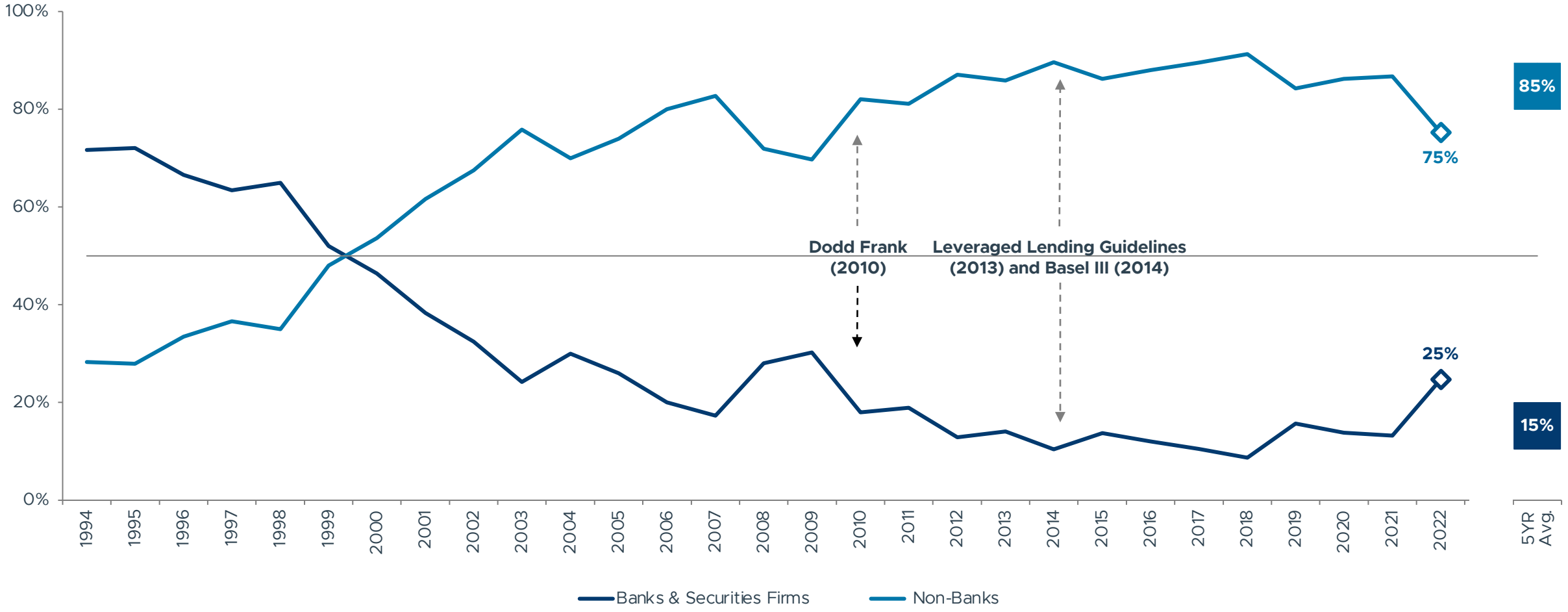



Source: Preqin, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Historical AUM is through June 2024 and forecasted AUM is through December 2029. Data is subject to change based on updates to the source(s) database. AUM is broken down by private credit sub-asset 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 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. 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

Bank vs. nonbank lenders share of the new-issue leveraged loan market (%)

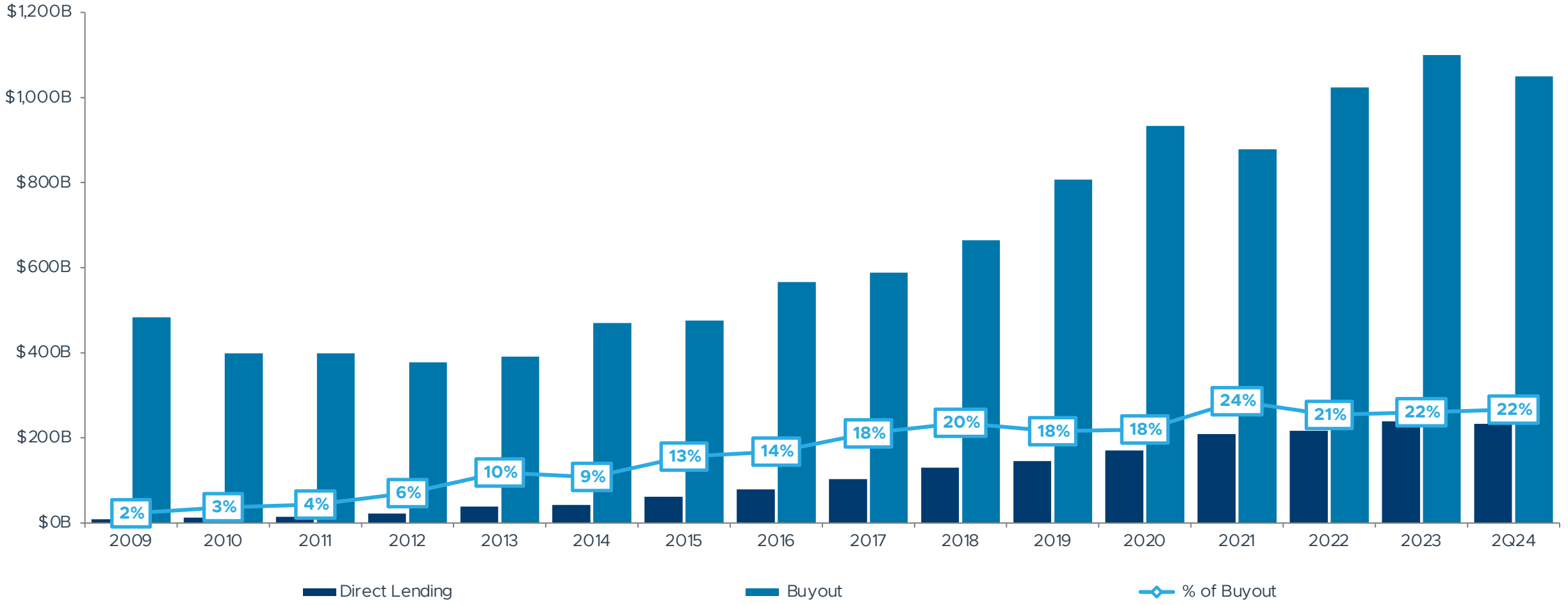



Source: PitchBook | LCD, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 2022 and is subject to change based on potential updates to source(s) database. Due to a significant decline in loan issuance in 2023, PitchBook | LCD did not track enough 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 Alternatives Decoded, with data based on availability as of Apr. 30, 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 strategies historically outperformed public fixed income sectors

## Private credit and public fixed income returns

Annual and time-period returns ranked in order of performance (%, as of December 2025)

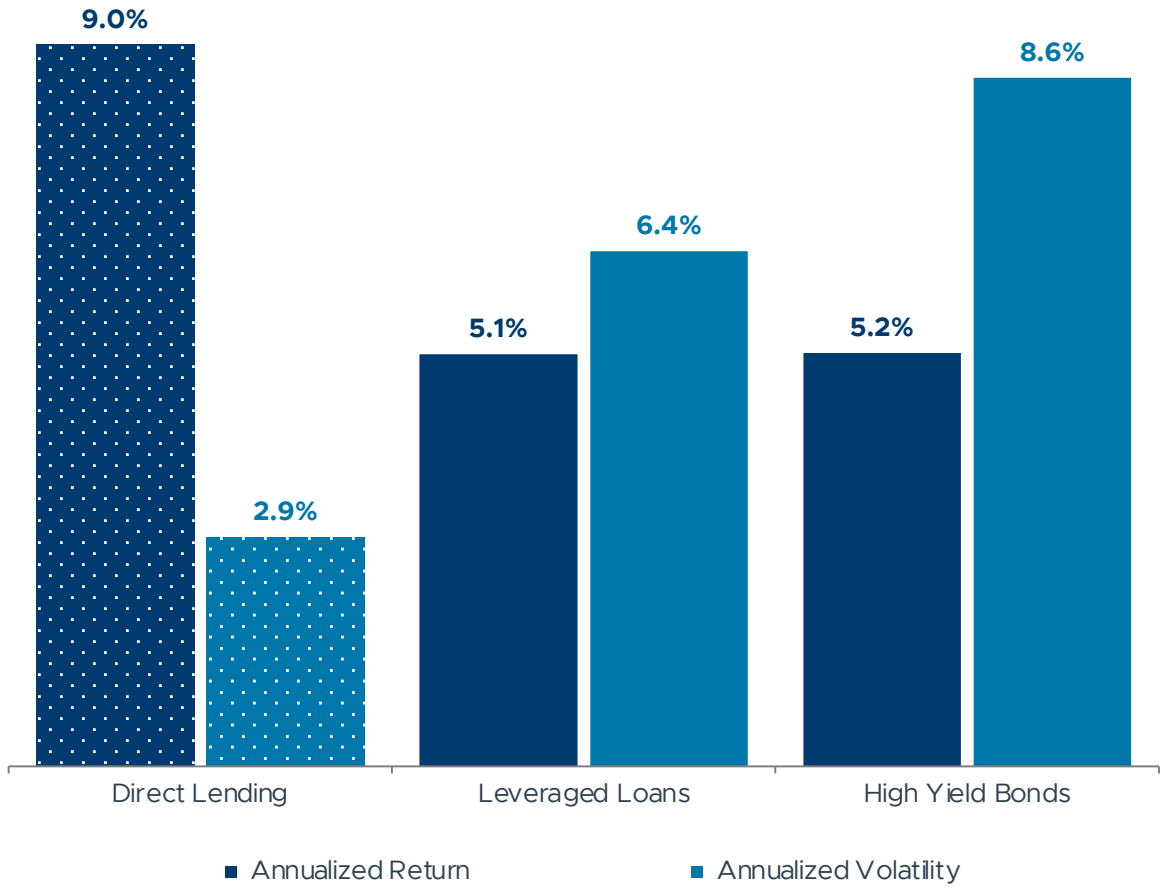
| Annual Return (%) | | | | | | | | | | Time-Period Return (%, per annum) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 3YR | 5YR | 10YR | 15YR |
| 5.5% Direct Lending | 24.8% Public BDCs | 11.4% Distressed Debt | 8.1% Direct Lending | 29.3% Public BDCs | 7.5% US Aggregate | 36.5% Public BDCs | 6.3% Direct Lending | 26.6% Public BDCs | 14.4% Public BDCs | 9.9% Direct Lending | 10.0% Public BDCs | 9.3% Public BDCs | 10.1% Direct Lending |
| 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 | 11.3% Direct Lending | 9.4% Public BDCs | 9.5% Direct Lending | 9.0% Direct Lending | 9.9% Public BDCs |
| 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 | 9.0% Leveraged Loans | 7.6% Distressed Debt | 9.2% Distressed Debt | 7.1% Distressed Debt | 8.9% 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 | 8.2% HY Bonds | 7.0% Leveraged Loans | 5.8% Leveraged Loans | 5.2% HY Bonds | 6.4% 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 | 7.8% Distressed Debt | 4.0% Cash | 4.2% HY Bonds | 5.1% Leveraged Loans | 5.3% 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 | 5.4% Cash | 2.9% HY Bonds | 2.5% Cash | 1.8% Cash | 2.4% 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 | 1.3% US Aggregate | -2.4% US Aggregate | -0.3% US Aggregate | 1.3% US Aggregate | 1.2% Cash |

Source: Bloomberg Index Services Limited, Cliffwater, Cliffwater Direct Lending Index, FTSE Russell, Morningstar, Preqin, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 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 proxied by the Bloomberg High Yield Index. Leveraged Loans proxied by Morningstar LSTA U.S. Leveraged Loan Index. Direct Lending proxied by Cliffwater Direct Lending Index. Public BDCs is proxied by Cliffwater Public BDC Index. Cash is 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. Distressed Debt is proxied by Preqin Private Credit Distressed Debt 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.

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

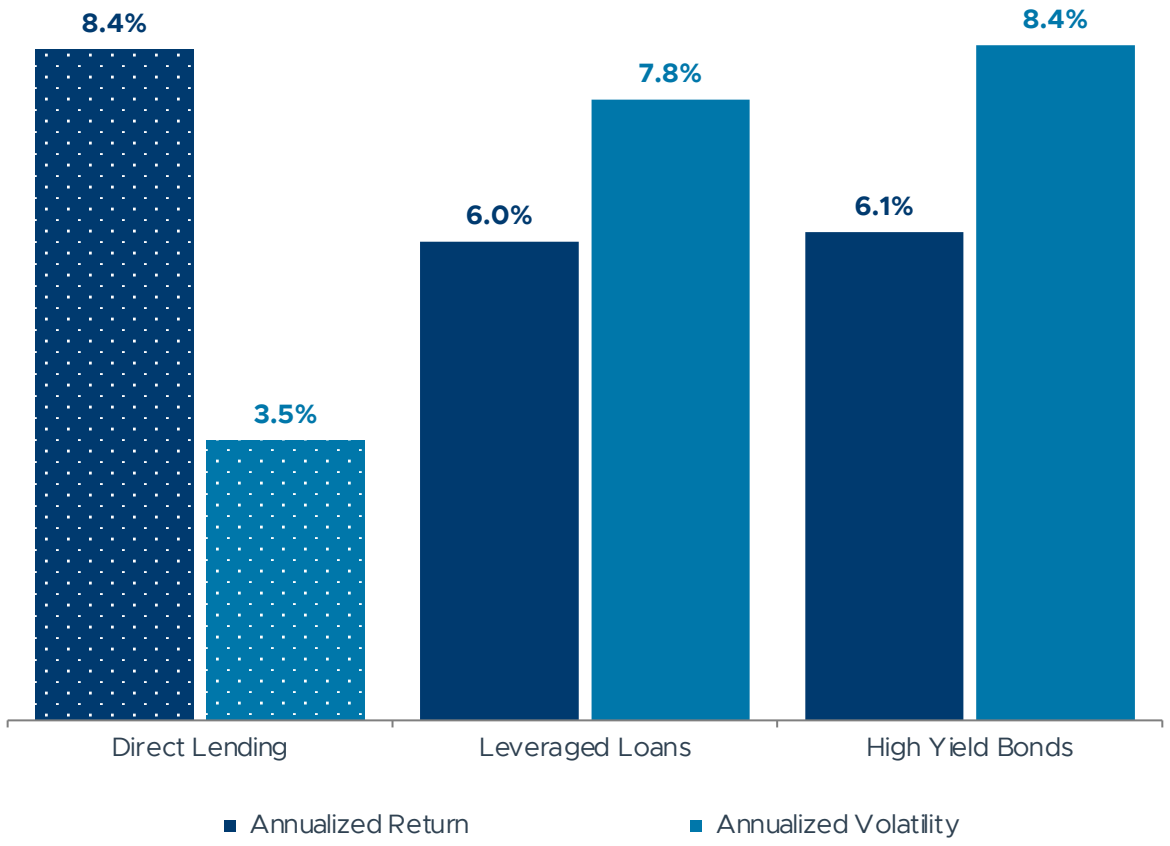
## Private credit has historically produced superior risk-adjusted returns

Historical 10-year annual risk/return for credit markets (%, as of December 2024)




## Forecasts point to continued risk-adjusted outperformance of private credit

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

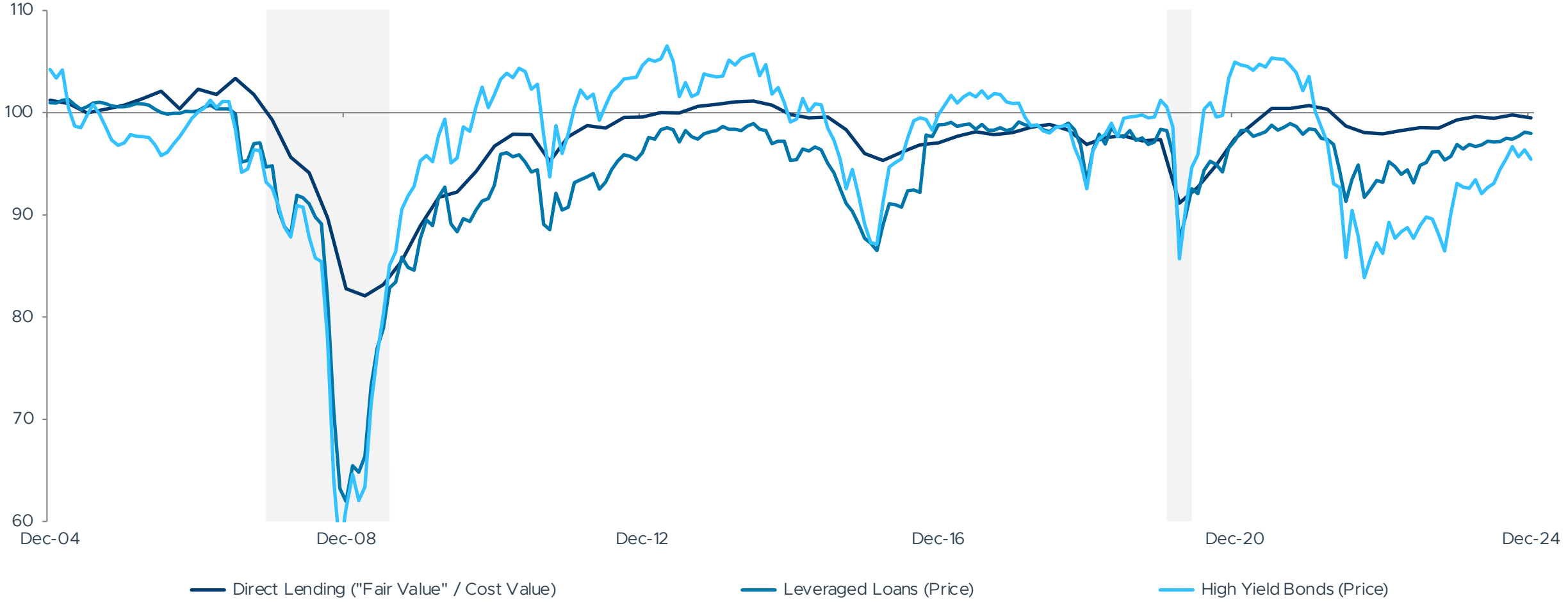



Source: (left) Bloomberg Index Services Limited, Cliffwater Direct Lending Index, Morningstar, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 2024. High Yield proxied by the Bloomberg High Yield Index. Leveraged Loans proxied by Morningstar LSTA U.S. Leveraged Loan Index. Direct Lending proxied by Cliffwater Direct Lending Index. Historical 10-year annualized return and volatility is based on quarterly data from December 2014 to December 2024. (right) BlackRock, Cliffwater, Envestnet, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Analysis is based on the average long-term capital market assumption for each strategy, using 2025 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 December 2024)

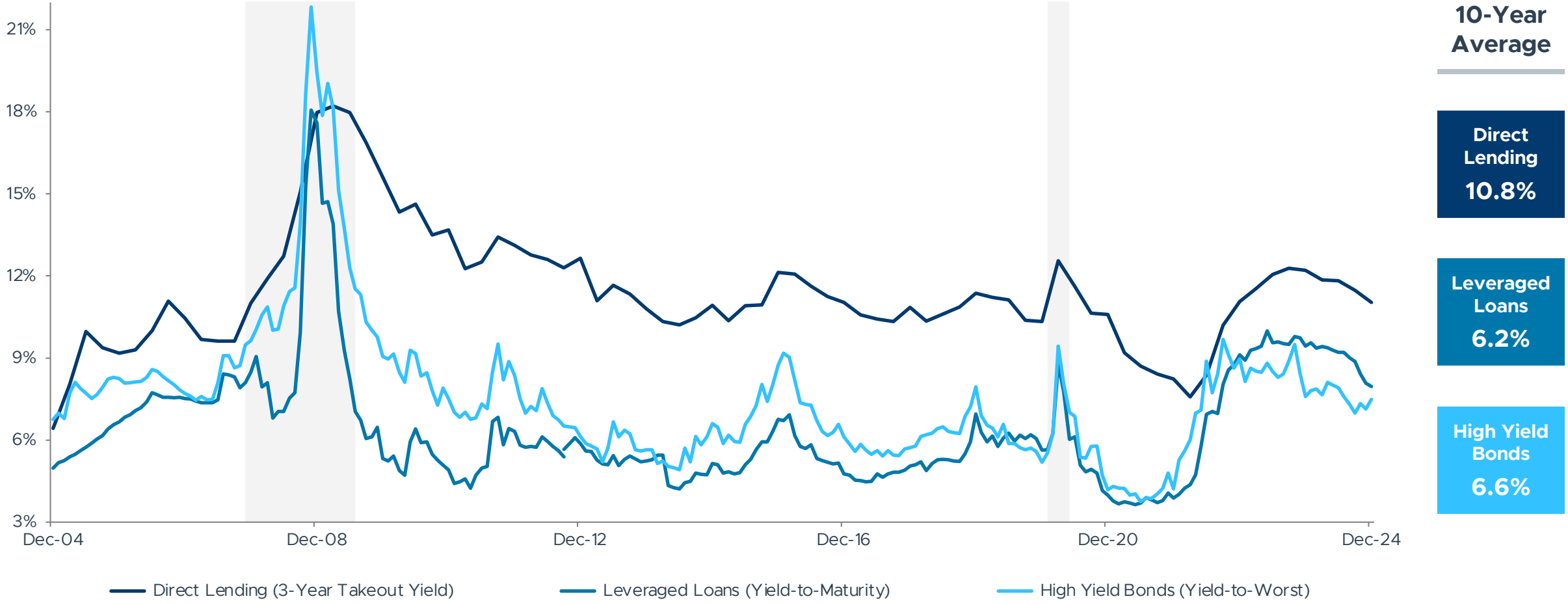



Source: Bloomberg Index Services Limited, Cliffwater Direct Lending Index, Morningstar, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. High Yield proxied by the Bloomberg High Yield Index and shows month-end. Leveraged Loans proxied by Morningstar LSTA U.S. 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 December 2024)

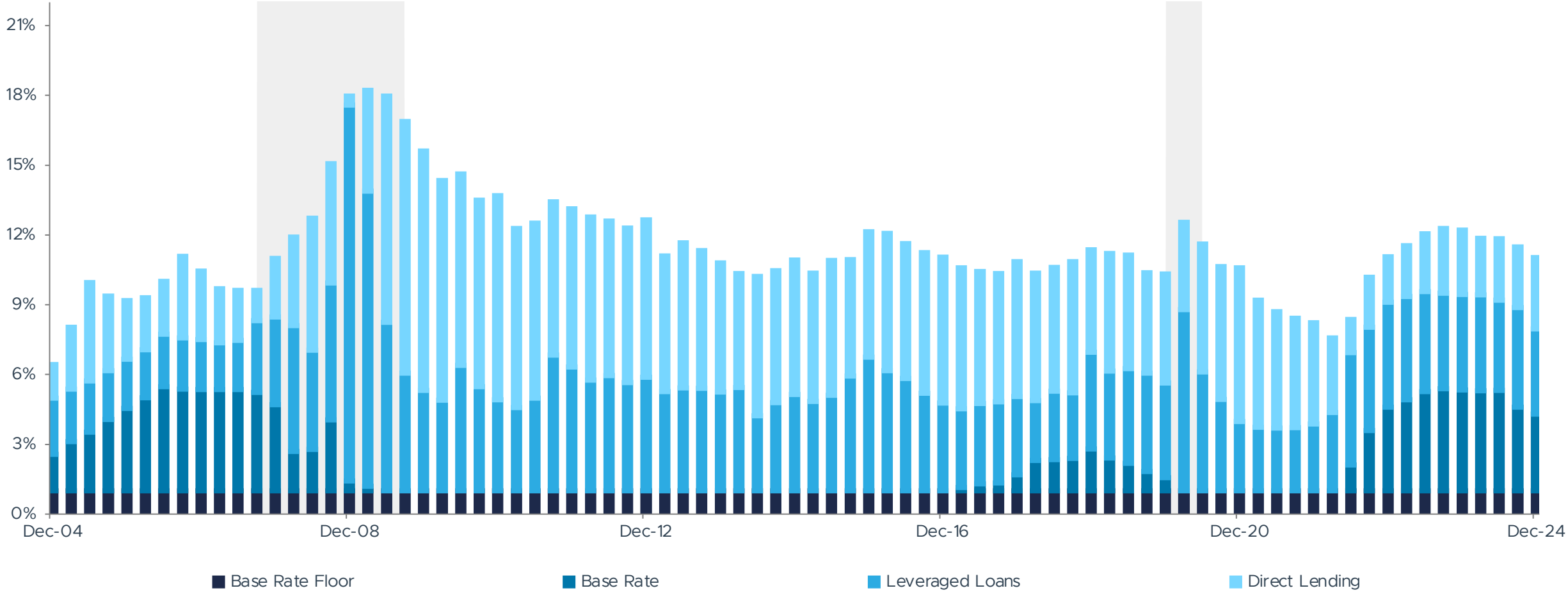



Source: Bloomberg Index Services Limited, Cliffwater Direct Lending Index, Morningstar, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. High Yield proxied by the Bloomberg High Yield Index and shows month-end yield-to-worst. Leveraged Loans proxied by Morningstar LSTA U.S. Leveraged Loan 100 Index and shows month-end yield-to-maturity. Direct Lending proxied by Cliffwater 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 December 2024)




Source: Cliffwater Direct Lending Index, Intercontinental Exchange (ICE), Morningstar, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data reflects quarter-end figures as of December 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 Secured Overnight Financing Rate) since 2019 and 3-Month LIBOR (ICE 3-Month London Interbank Offered Rate) pre-2019. Leveraged Loans proxied by Morningstar LSTA U.S. Leveraged Loan 100 Index and shows month-end yield-to-maturity. Direct Lending proxied by Cliffwater 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. A base rate floor refers to 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

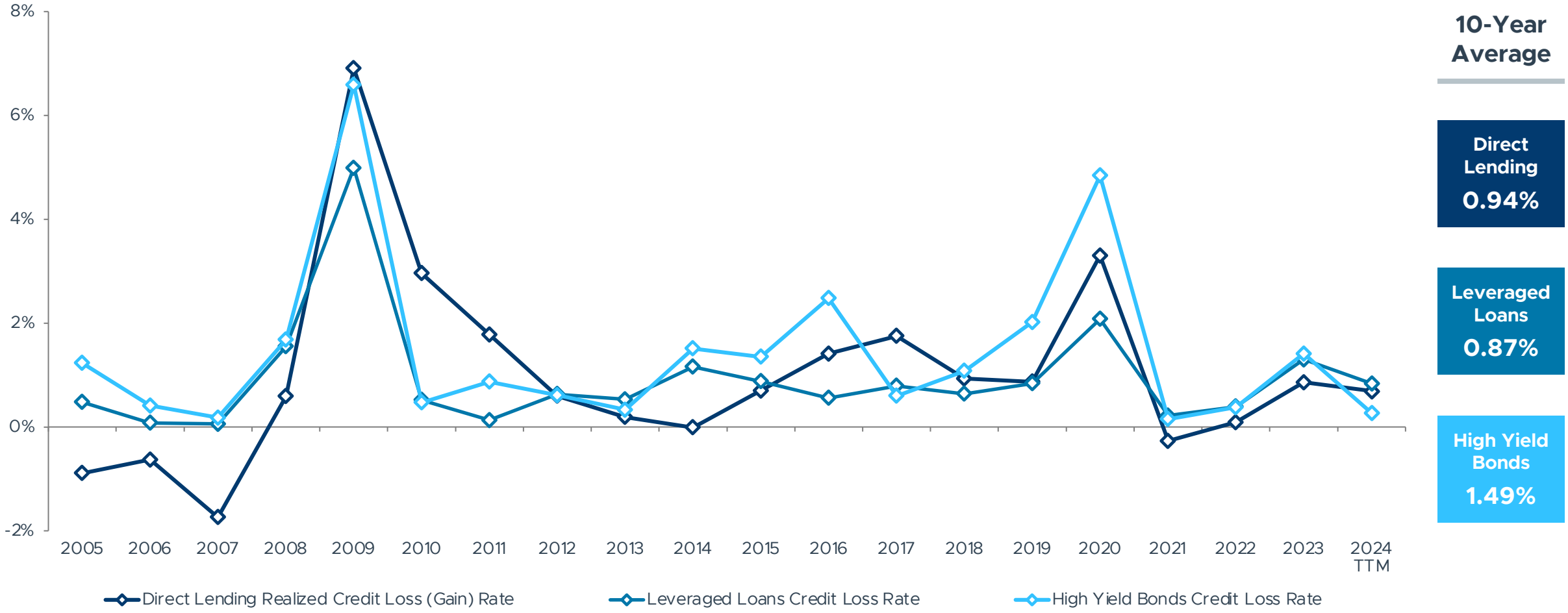
Decomposition of Cliffwater Direct Lending Index calendar year annual returns (%, as of December 2024)

Source: Cliffwater Direct Lending Index, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 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 that is sourced by a 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 December 2024)




**10-Year Average**

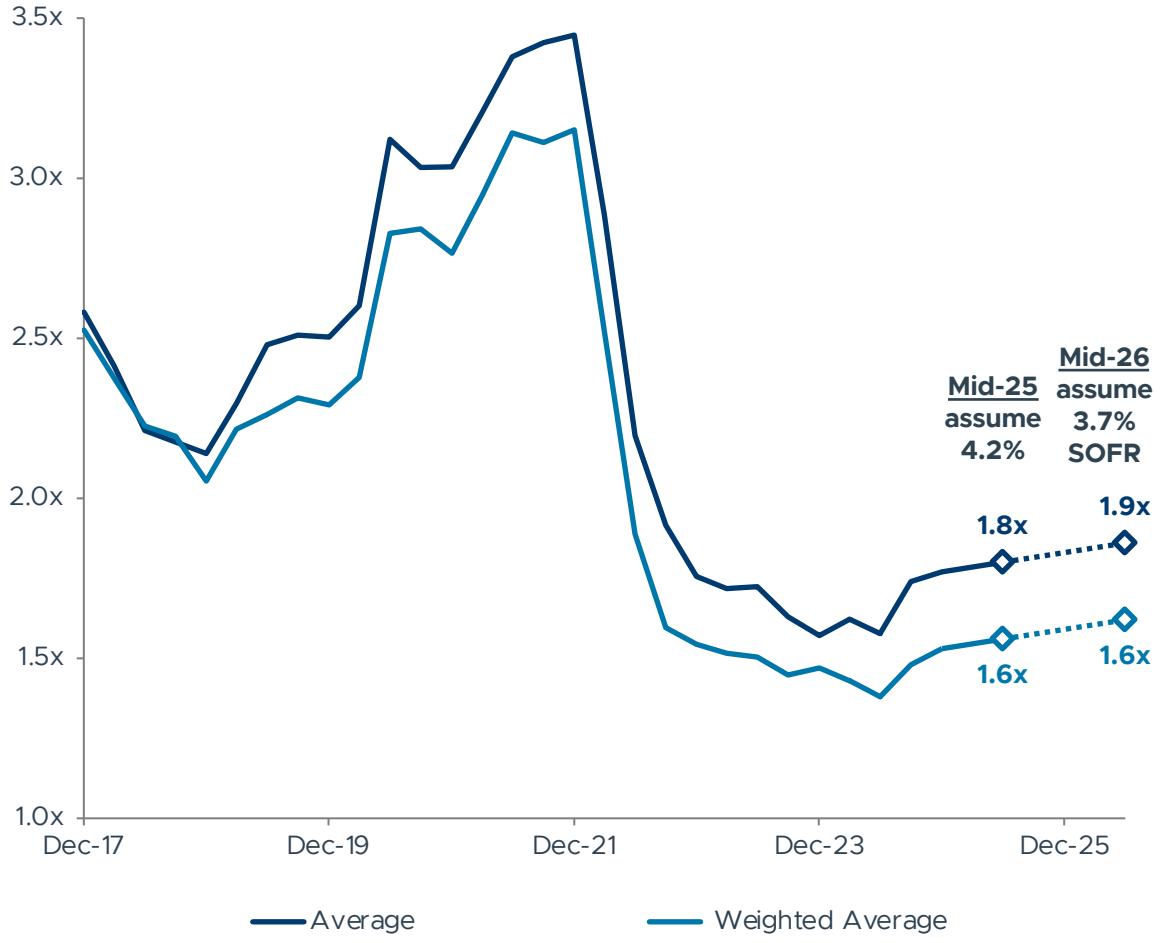
| | |
|---|---|
| Direct Lending | 0.94% |
| Leveraged Loans | 0.87% |
| High Yield Bonds | 1.49% |

Source: Bloomberg Index Services Limited, Cliffwater Direct Lending Index, Morningstar, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 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. 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 is realized credit losses (gains). When comparing public vs. private 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

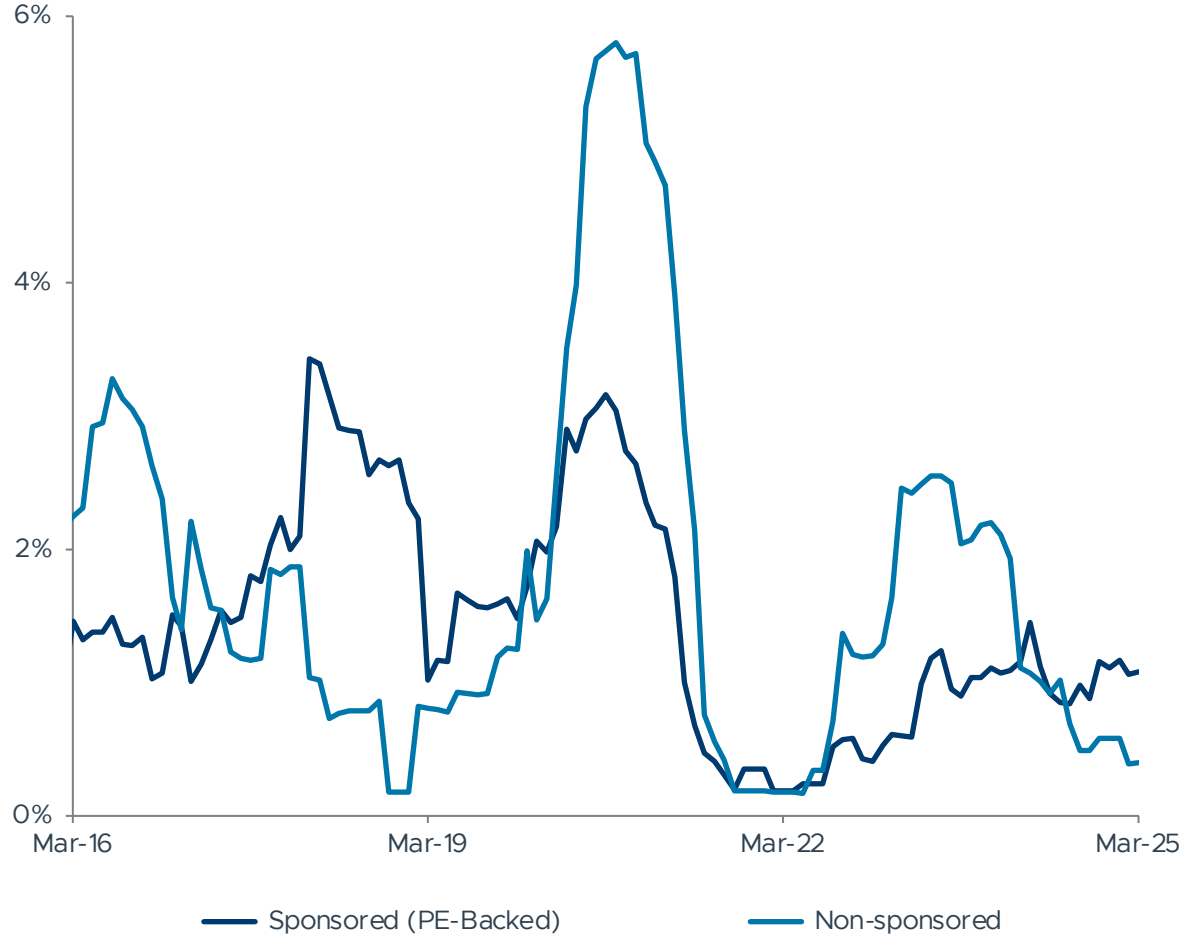
## Coverage ratios are bottoming and are expected to improve thru 2026

Private credit market interest coverage ratios with forward looking forecasts (x)




## PE-backed co.'s exhibit lower default rate than those without backing

Sponsored vs. non-sponsored loan default rates by amount (%, as of March 2025)



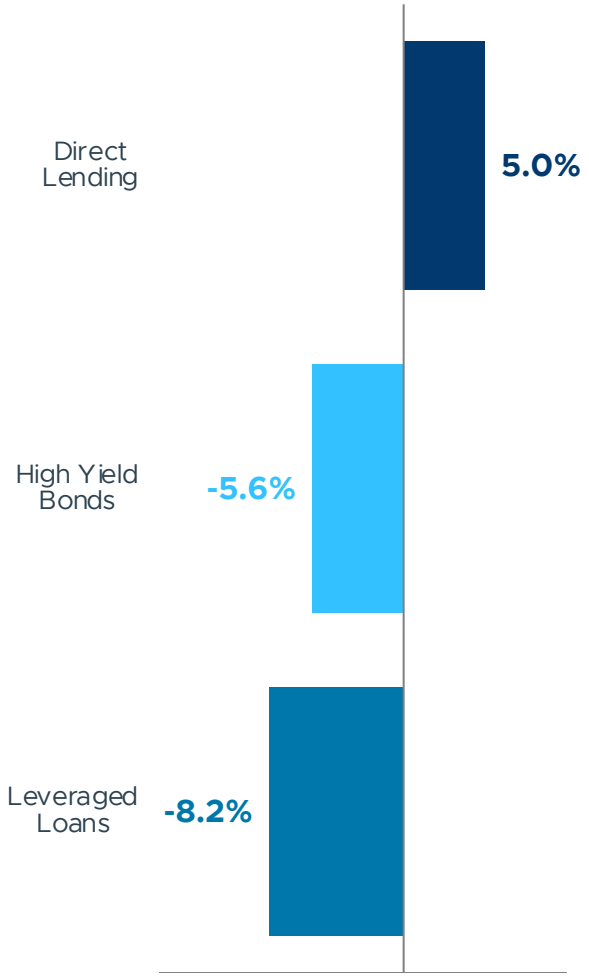

Source: (left) Houlihan Lokey Private Performing Credit Index, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. Forecasts are based on Houlihan Lokey and assume 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 Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of March 2025 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 U.S. 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, 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.

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

## Private credit has historically offered superior downside protection with a lowest 3-year annualized return of 5%

Rolling 3-year annualized total return across public and private credit (%, as of December 2024)

## Lowest 3-year annualized total return

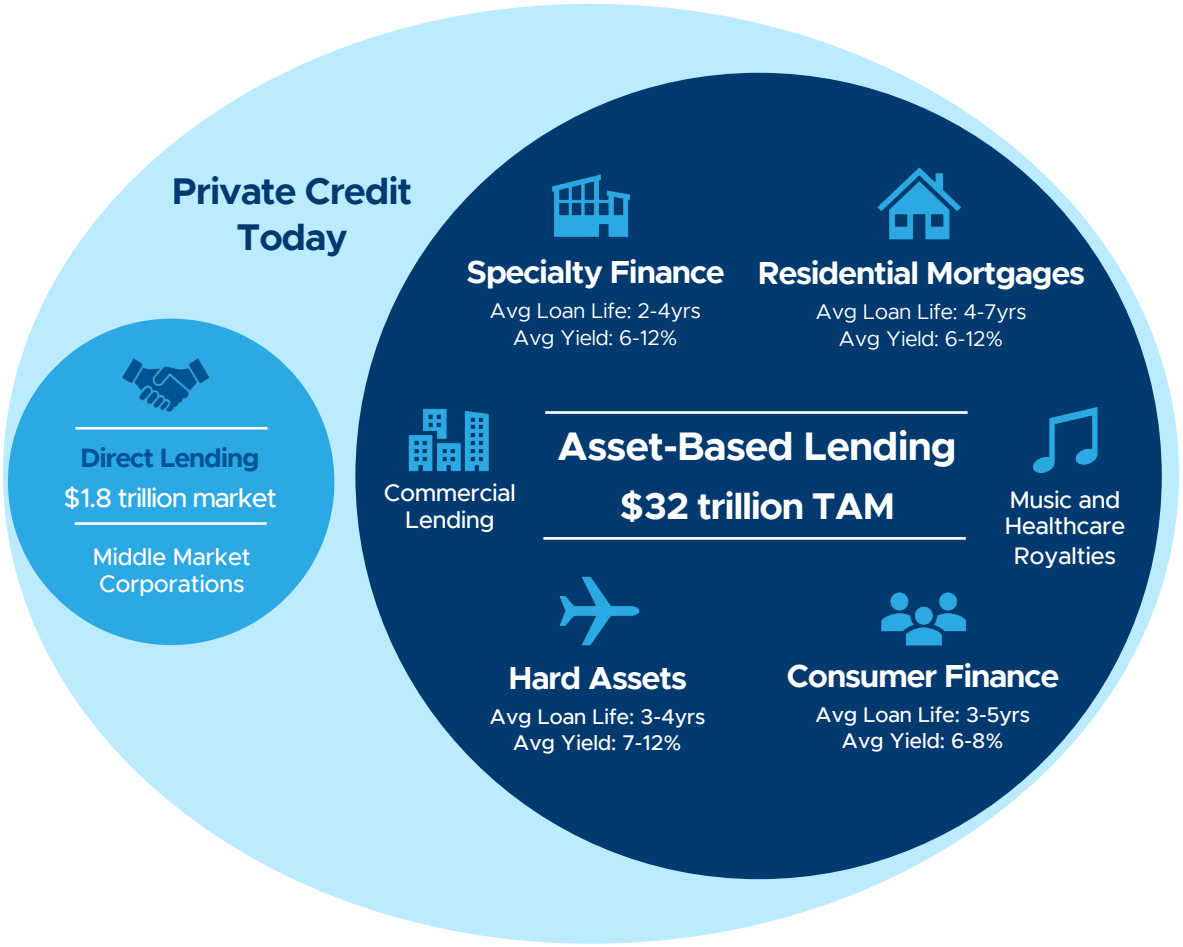



Source: Bloomberg Index Services Limited, Cliffwater Direct Lending Index, Morningstar, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. High Yield proxied by the 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

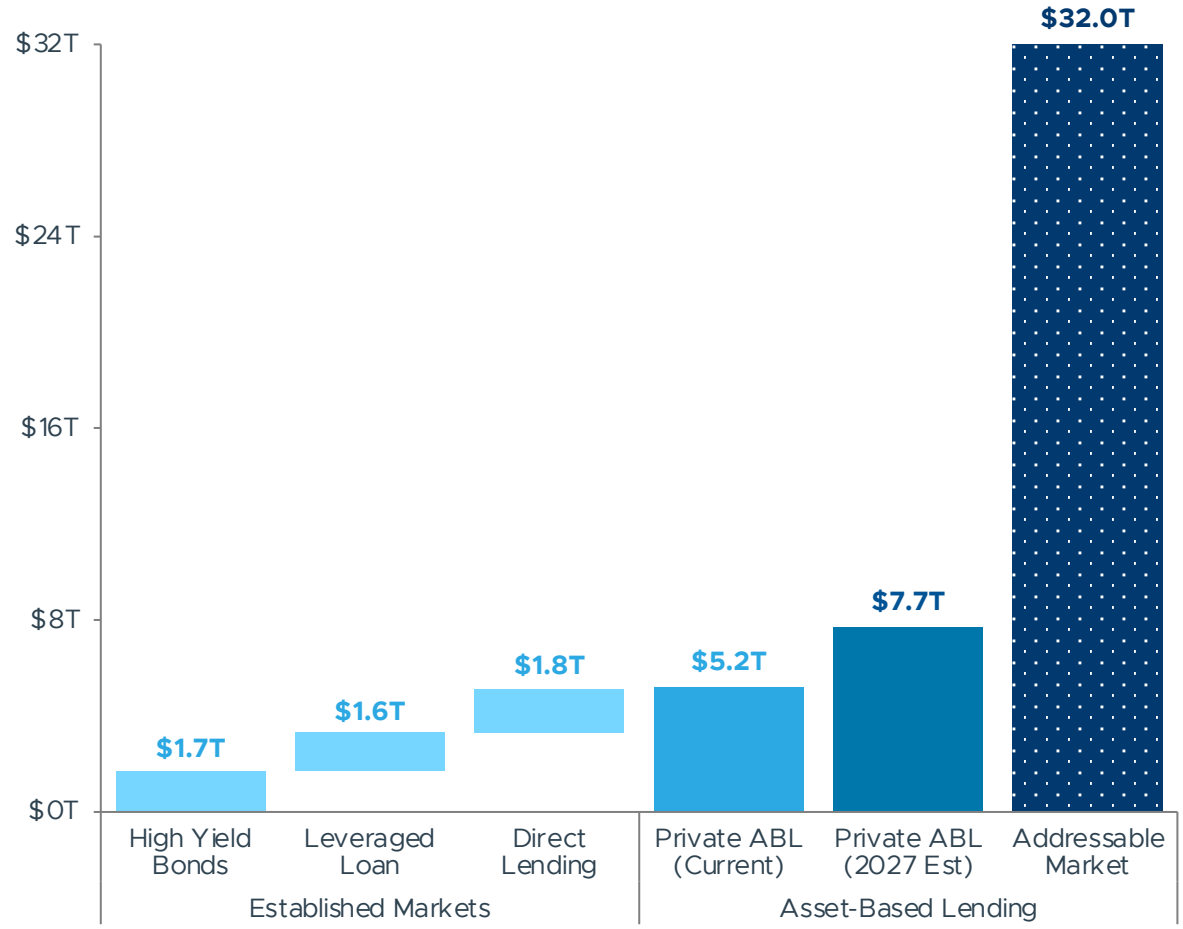
## Private credit opportunity set has expanded as it steps into asset-based lending

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)

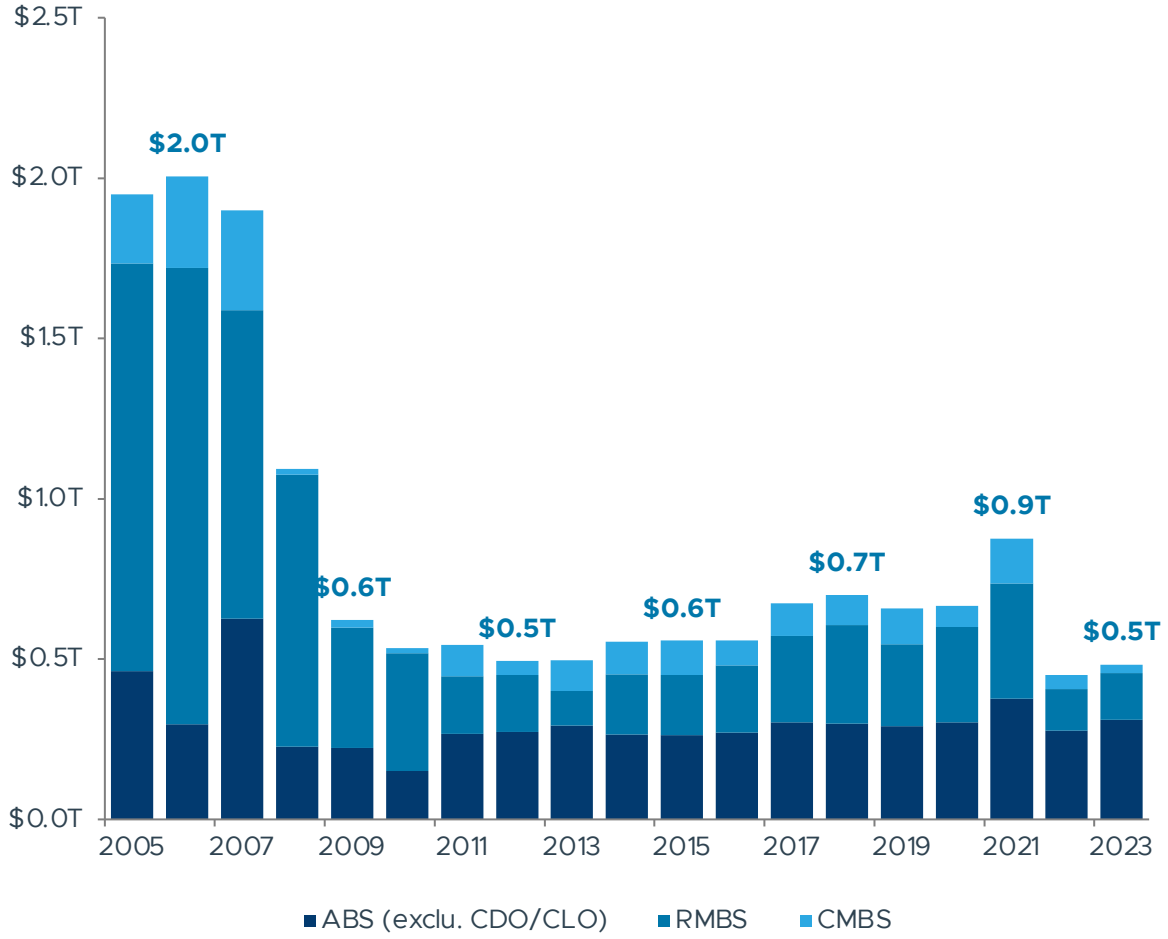



Source: (left) Apollo, John Hancock, KKR, Marathon Asset Management, S&P Global, UBS, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data is subject to change based on potential updates to source(s) database. Average yield is unlevered. Average loan life is 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 Alternatives Decoded, with data based on availability as of Apr. 30, 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

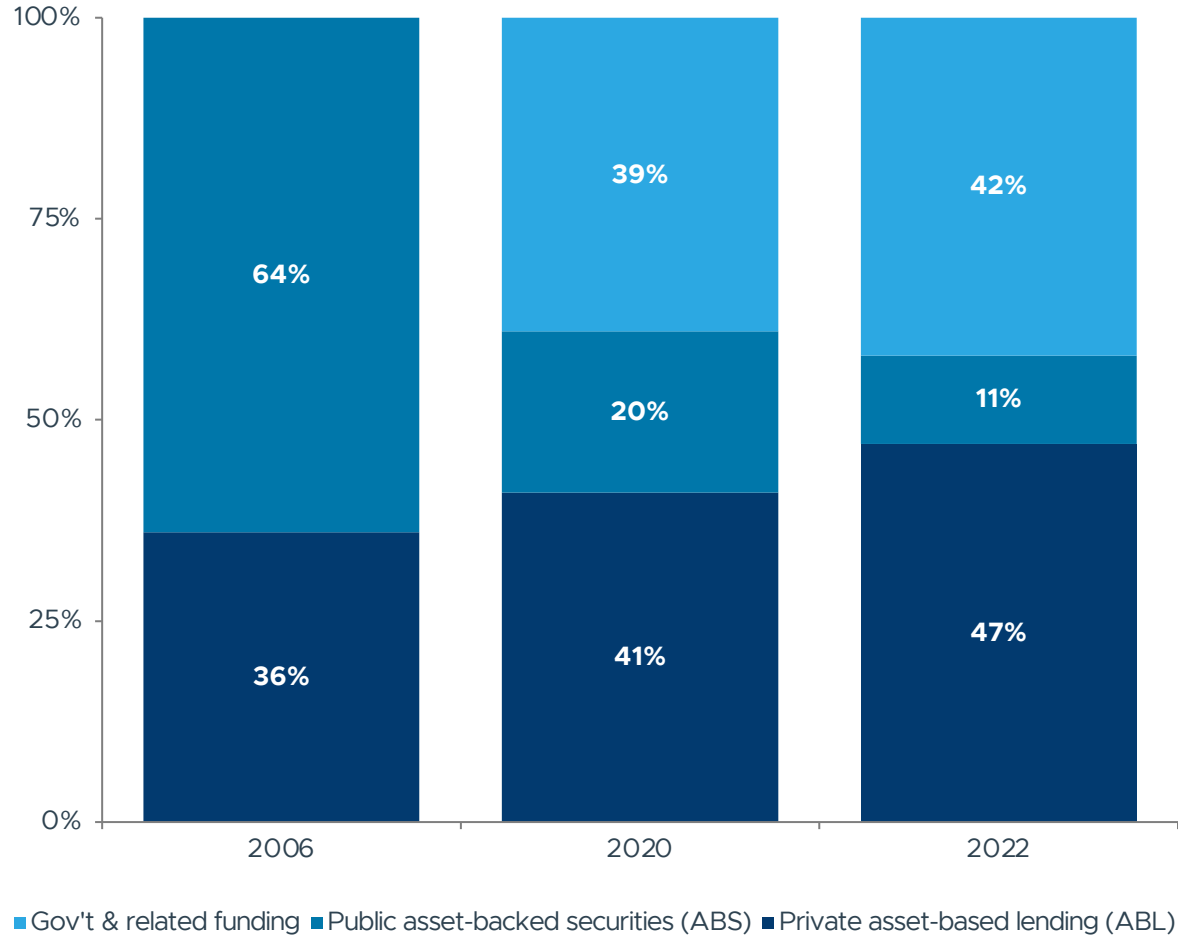
## Decline in securitized products has been notable following the GFC

U.S. and Europe annual securitization issuance by type ($ billion, excludes U.S. agency MBS)




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

Breakdown of asset-based lending market by lender type (%)




Source: (left) AFME, SIFMA, Bank of America, JP Morgan, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 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 pools of consumer or business loans, like auto loans or credit cards. RBS (Residential Mortgage-Backed Securities) are securities backed by residential mortgage loans. CMBS (Commercial Mortgage-Backed Securities) are securities backed by commercial real estate loans. Issuance volumes are sourced from the AFME/SIFMA Securitisation Data Report and may differ from other U.S. based SIFMA issuance reports. The AFME/SIFMA Securitisation Data Report provides U.S. and European securitization data denominated in euros. U.S. and European volumes are converted back to USD using year-end EUR/USD exchange rates. (right) Integer Advisors, KKR research, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of October 2022 and is subject to change based on potential updates to source(s) database. Estimates based on country-specific official sources and trade bodies as well as company report. 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

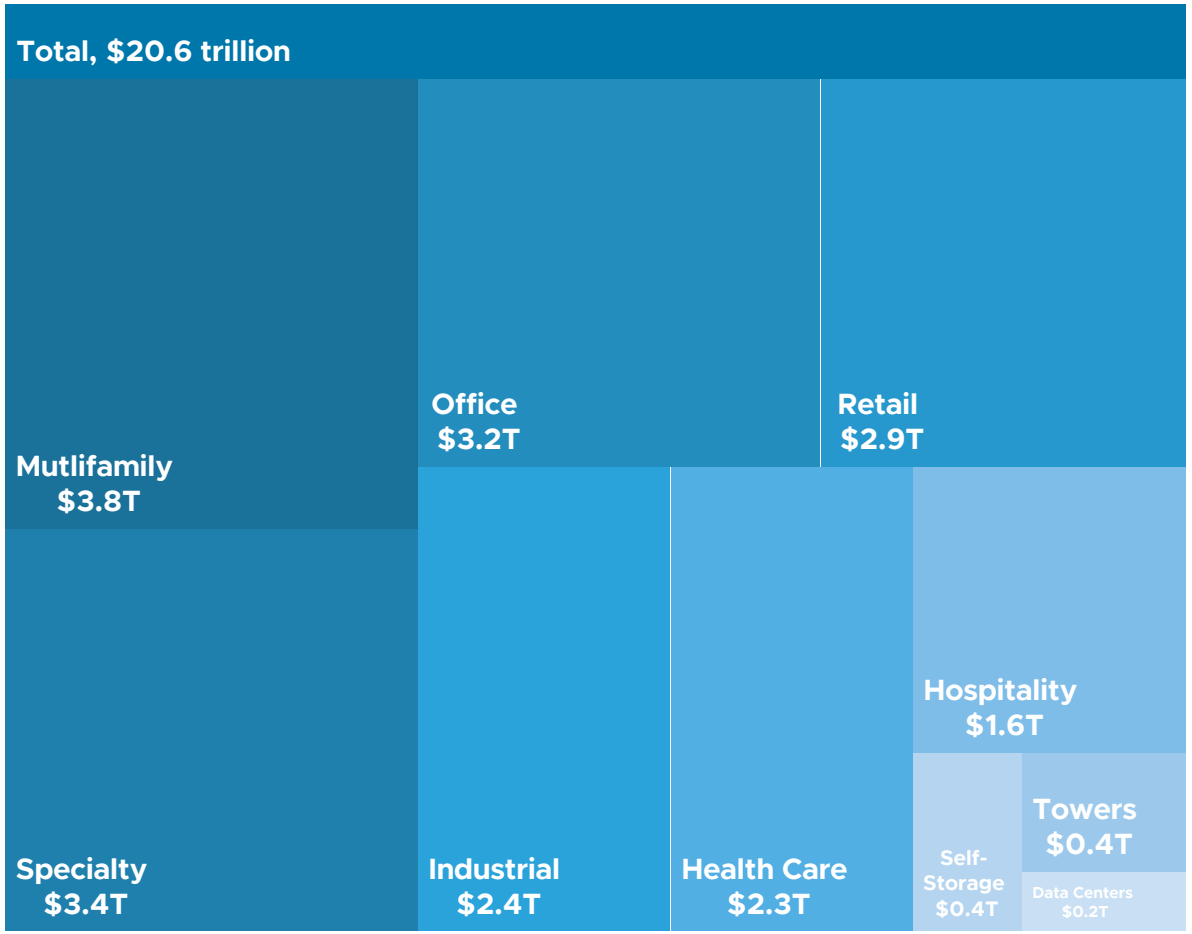
# Commercial Real Estate

iCapital

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

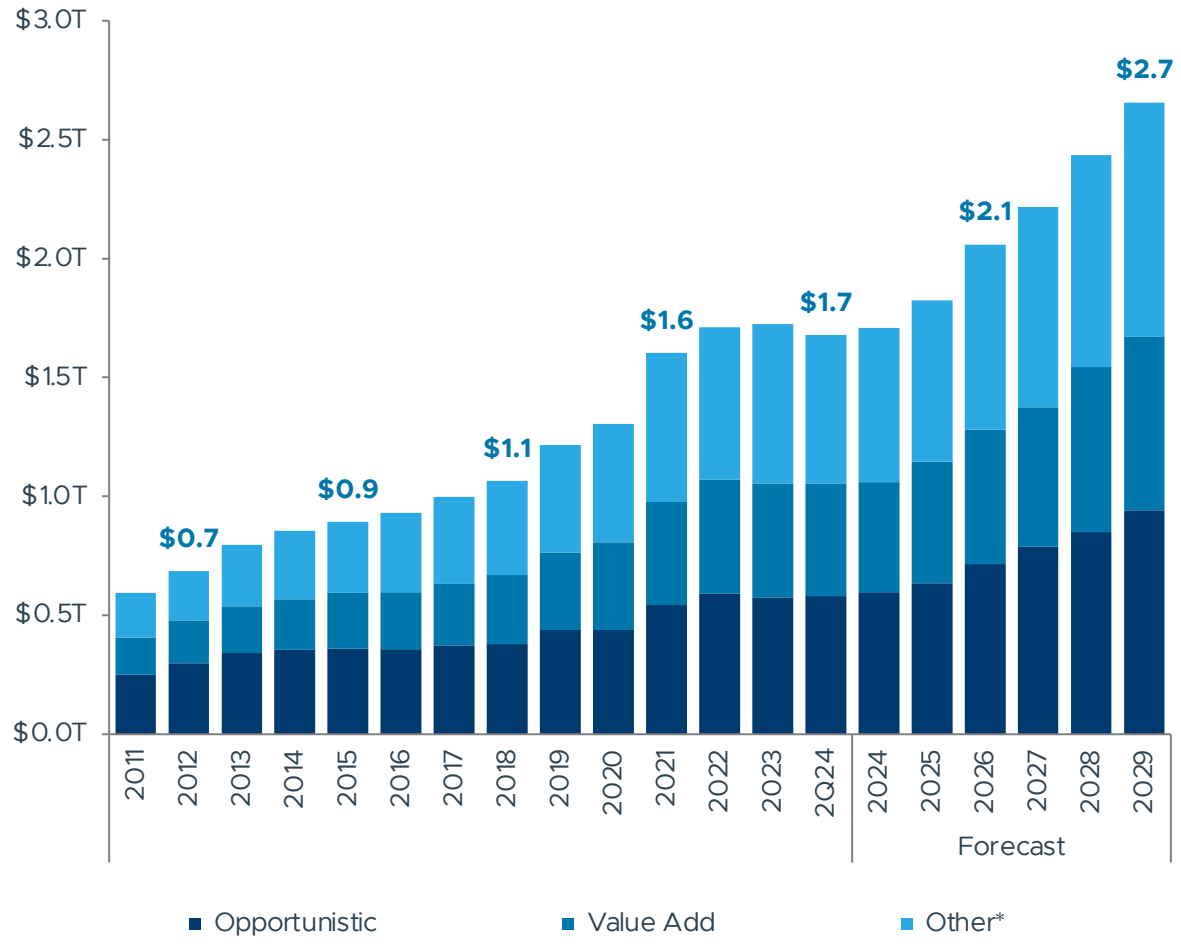
## The U.S. commercial real estate market is estimated to be $20.6T

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 Alternatives Decoded, with data based on availability as of Apr. 30, 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 Alternatives Decoded, with data based on availability as of Apr. 30, 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 closed-end real estate sub-asset classes as defined by Preqin. "Other" includes Core, Core+, Debt, Distressed, and Co-Invest 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 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. Future results are not guaranteed.

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

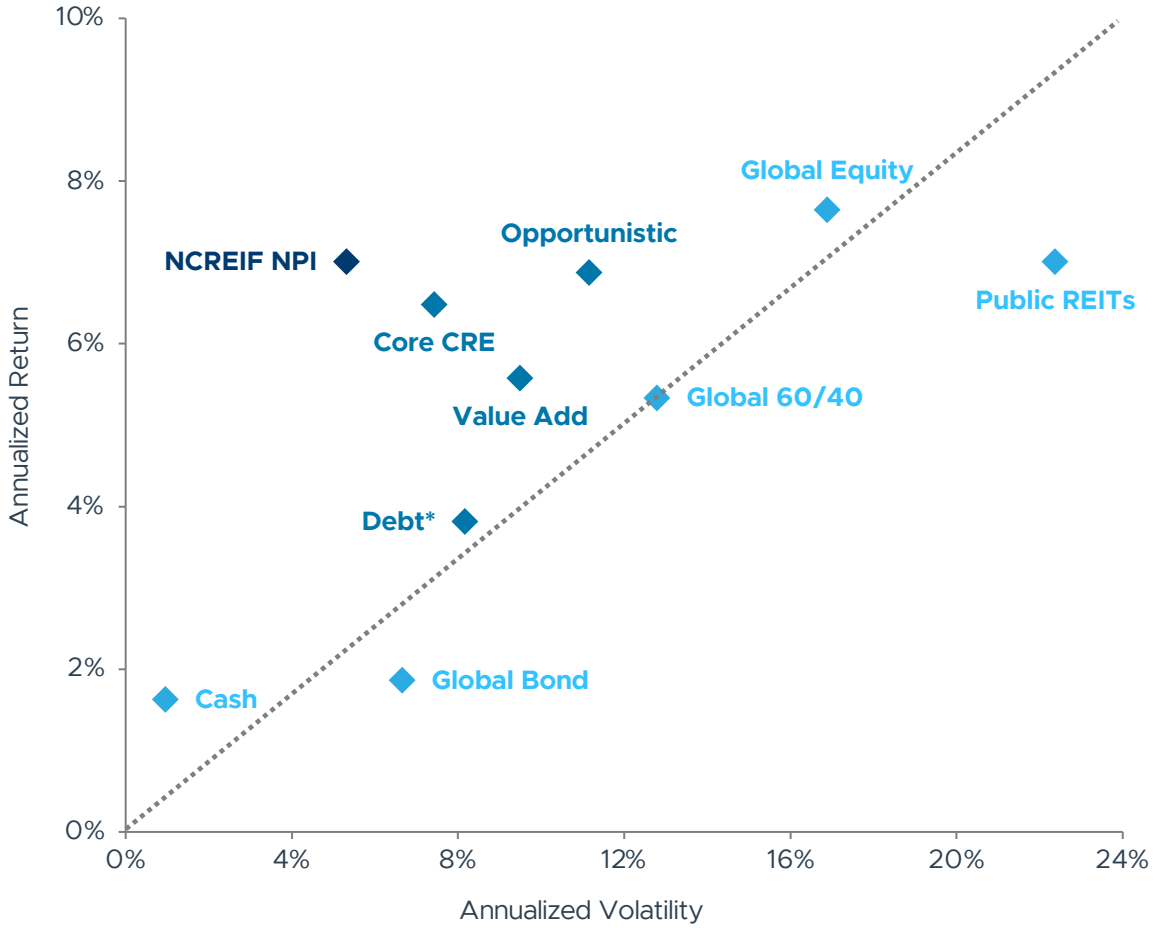
## Private real estate provides lower correlation to 60/40 than public REITs

Correlation matrix based on trailing 15 years of quarterly data (as of December 2024)

| | | CPPI | Private Real Estate | | | | Public Markets | | |
|---|---|---|---|---|---|---|---|---|---|
| | | NCREIF NPI | Core | Value Add | Oppor-tunistic | Debt | Public REITs | Global 60/40 | Cash |
| CPPI | NCREIF NPI | 1.00 | | | | | | | |
| Private Real Estate | Core | 0.99 | 1.00 | | | | | | |
| | Value Add | 0.78 | 0.76 | 1.00 | | | | | |
| | Oppor-tunistic | 0.69 | 0.68 | 0.76 | 1.00 | | | | |
| | Debt | 0.29 | 0.25 | 0.43 | 0.45 | 1.00 | | | |
| Public Markets | Public REITs | 0.03 | -0.04 | 0.13 | 0.26 | 0.45 | 1.00 | | |
| | Global 60/40 | -0.24 | -0.28 | 0.01 | 0.20 | 0.39 | 0.74 | 1.00 | |
| | Cash | -0.75 | -0.74 | -0.61 | -0.48 | -0.27 | -0.04 | 0.09 | 1.00 |

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

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

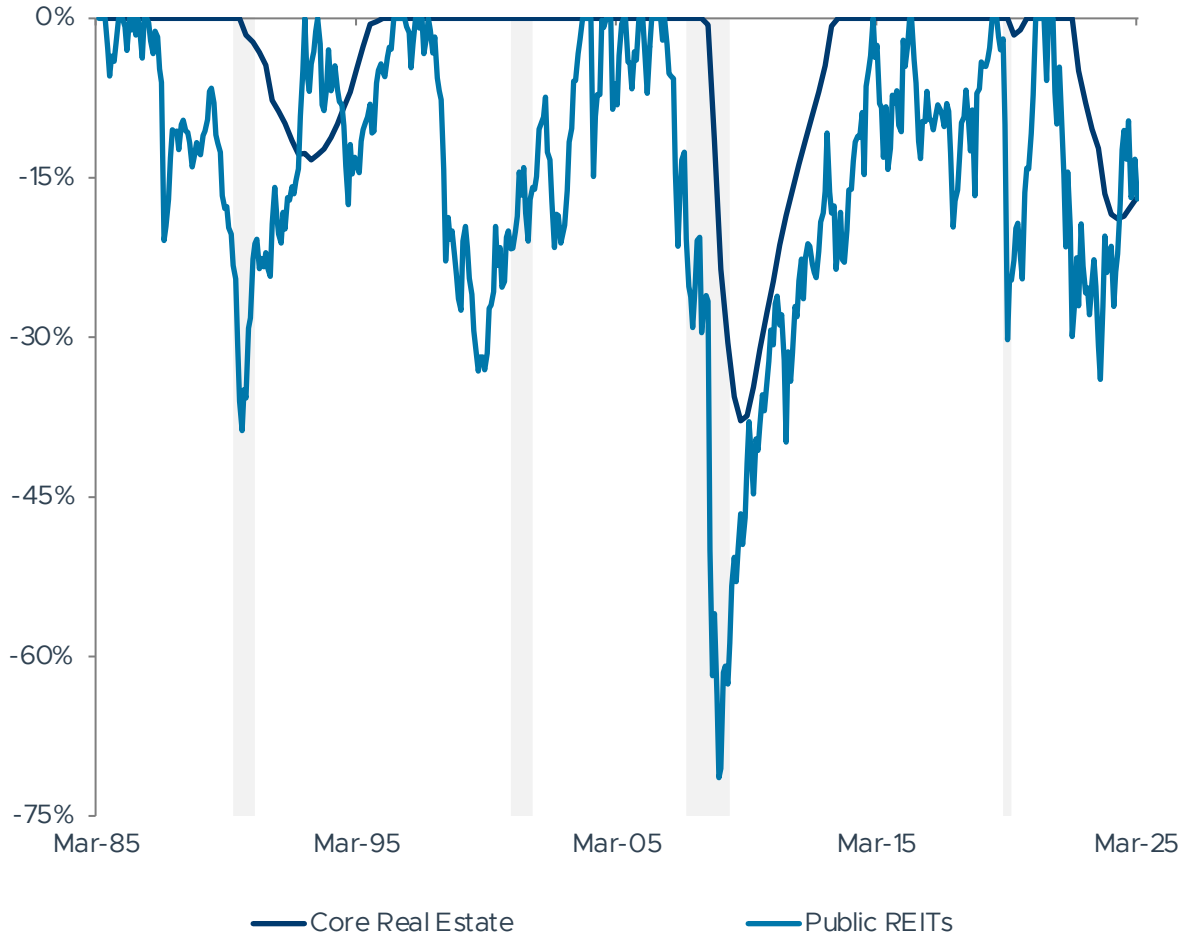



Source: (left and right) Bloomberg Index Services Limited, FTSE Russell, MSCI, NCREIF, Preqin, S&P Dow Jones, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. Public REITs proxied by FTSE Nareit Equity Index. Core CRE proxied by NCREIF ODCE Total Return Index. Opportunistic CRE proxied by Preqin Real Estate Opportunistic Index. Value Add CRE proxied by Preqin Real Estate Value Add Index. CRE Debt proxied by Preqin Real Estate Debt Index. Global 60/40 proxied by 60% MSCI 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. Future results are not guaranteed.

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

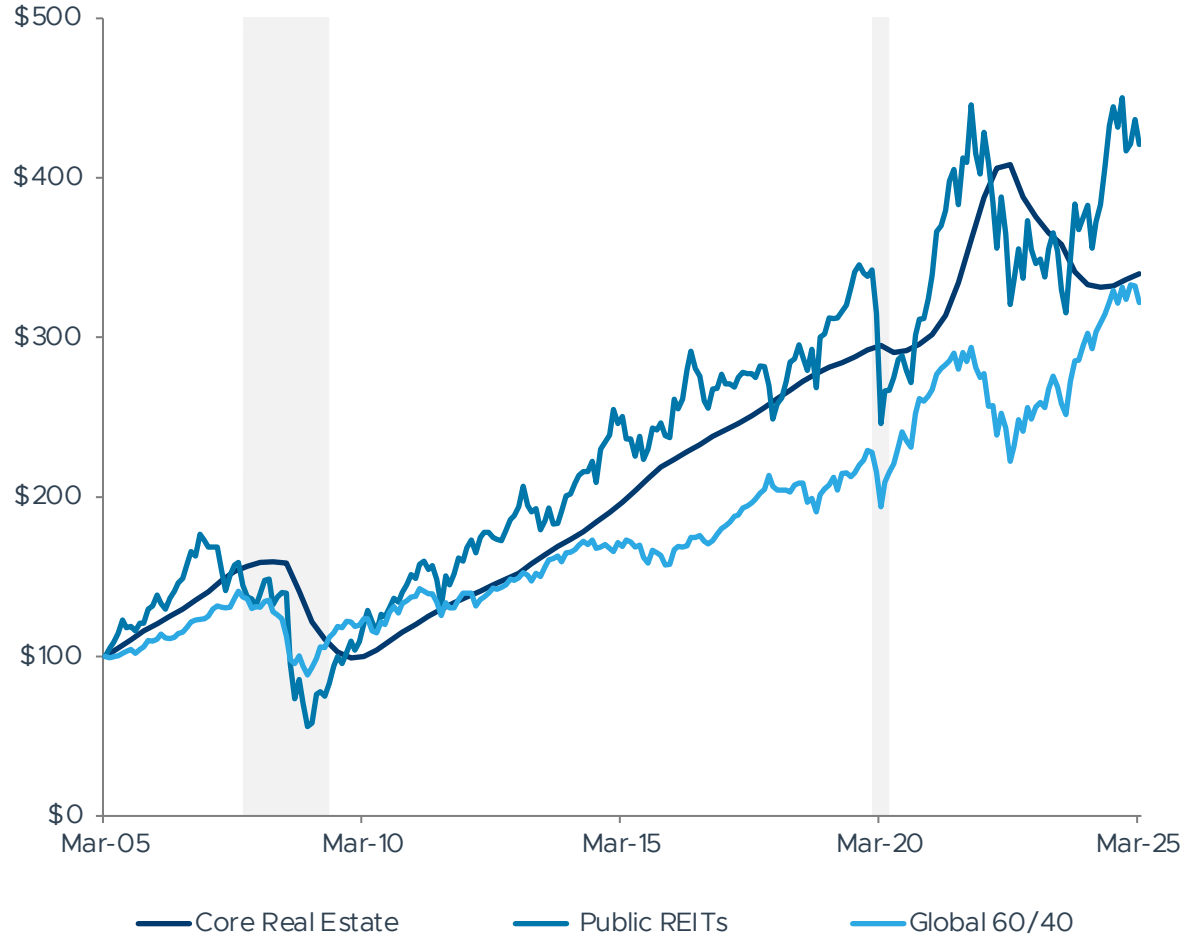
## Private RE had more shallow and less frequent drawdowns than REITs

Private core real estate and public REITs max drawdowns (%, as of December 2024)




## Private RE outperformed the traditional 60/40 portfolio

Normalized change of $100 invested over the last 20 years ($, as of December 2024)

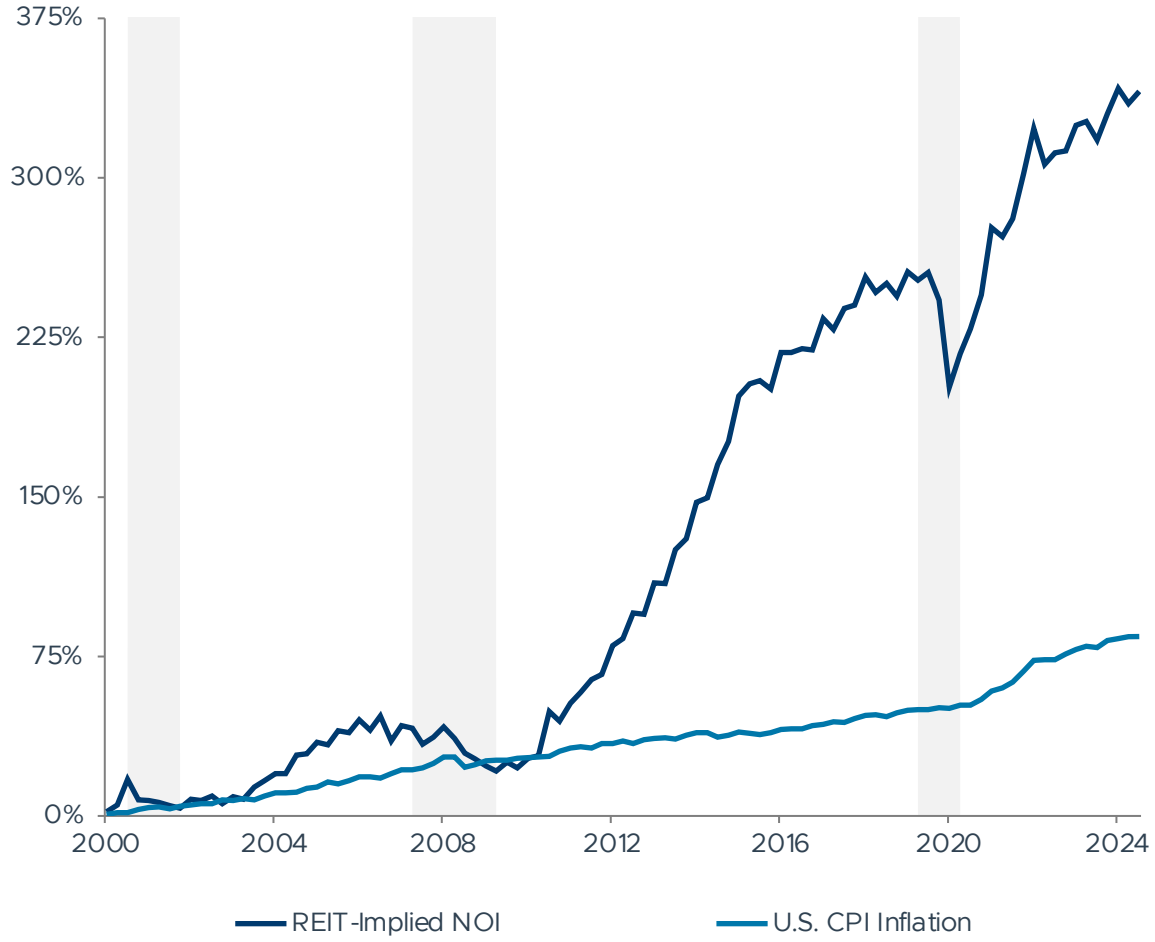



Source: (left) FTSE Russell, NCREIF, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. Maximum drawdown is the maximum loss from a peak to trough, before a new peak 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 Alternatives Decoded, 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 NCREIF ODCE Total Return Index. Global 60/40 proxied by 60% MSCI ACWI Total Return Index and 40% 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. Future results are not guaranteed.

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

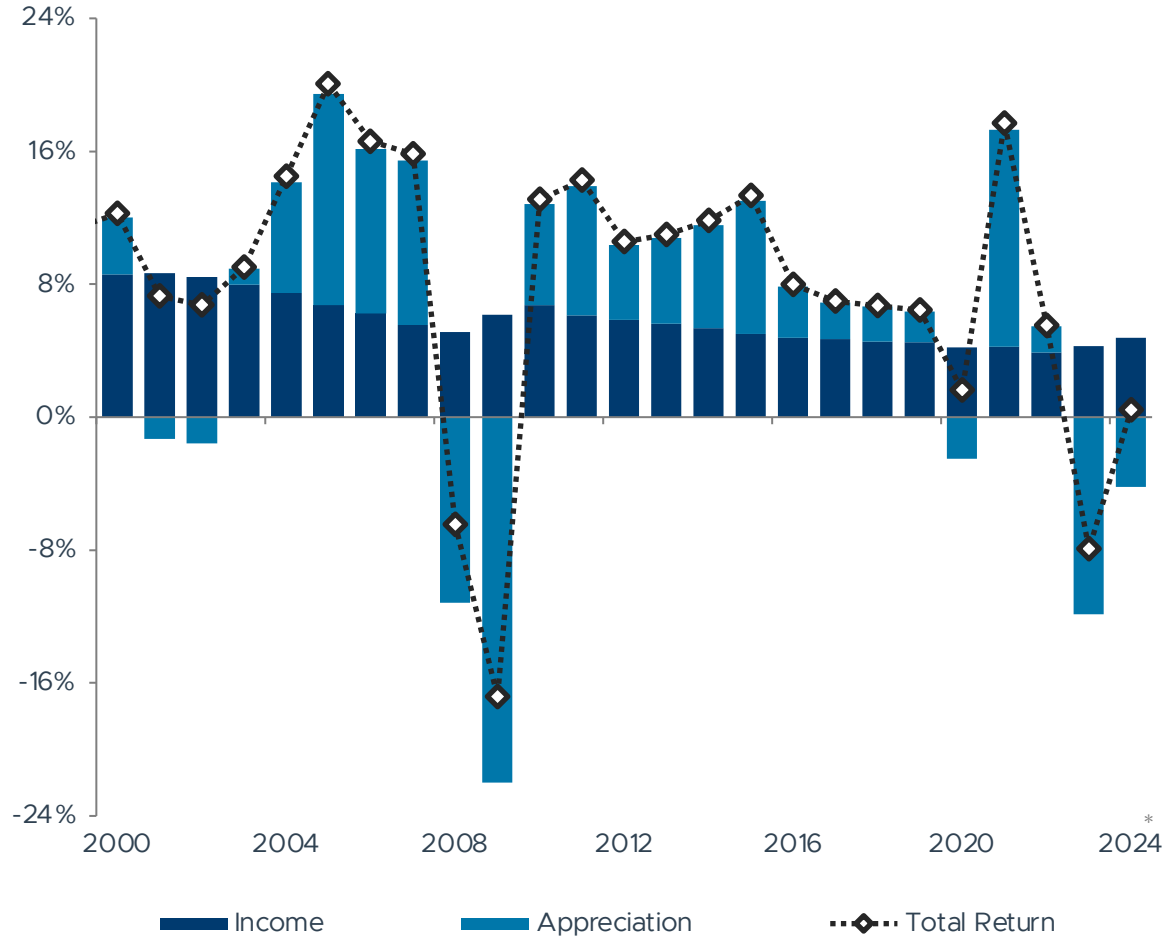
## NOI grew significantly faster than inflation

Normalized change of inflation and CRE net operating income (%, as of December 2024)




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

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

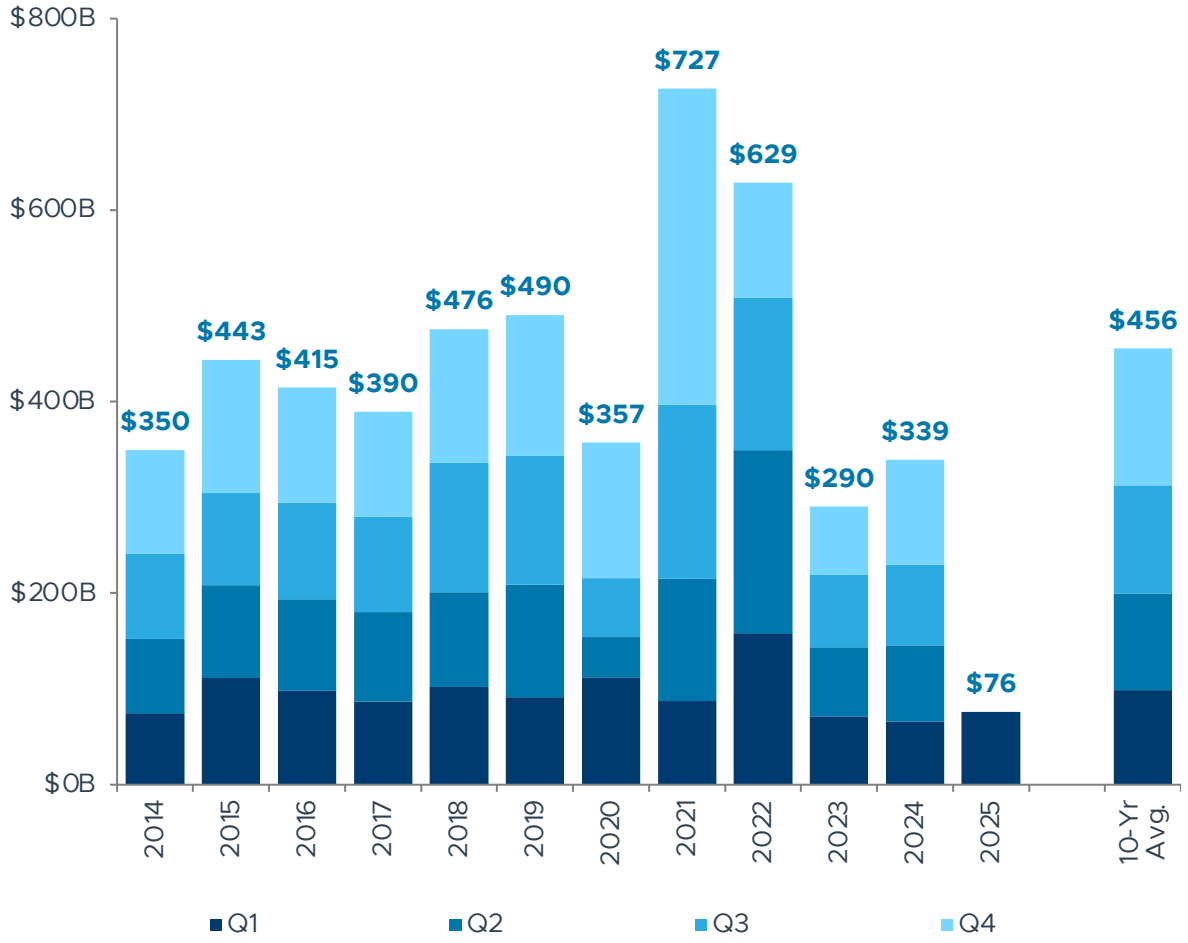



Source: (left) Bloomberg, Nareit, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. REIT-implied same-store net operating income ("NOI") is used as a proxy for overall 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 Alternatives Decoded, with data based on availability as of Apr. 30, 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 through December 2024. Decomposition of core real estate returns is based off NCREIF National Property Index (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. 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 steep declines in 2022-23

U.S. transaction volume by year ($ billions, as of March 2025)




## Quarterly trends show the greatest pickup across Apartment & Retail properties

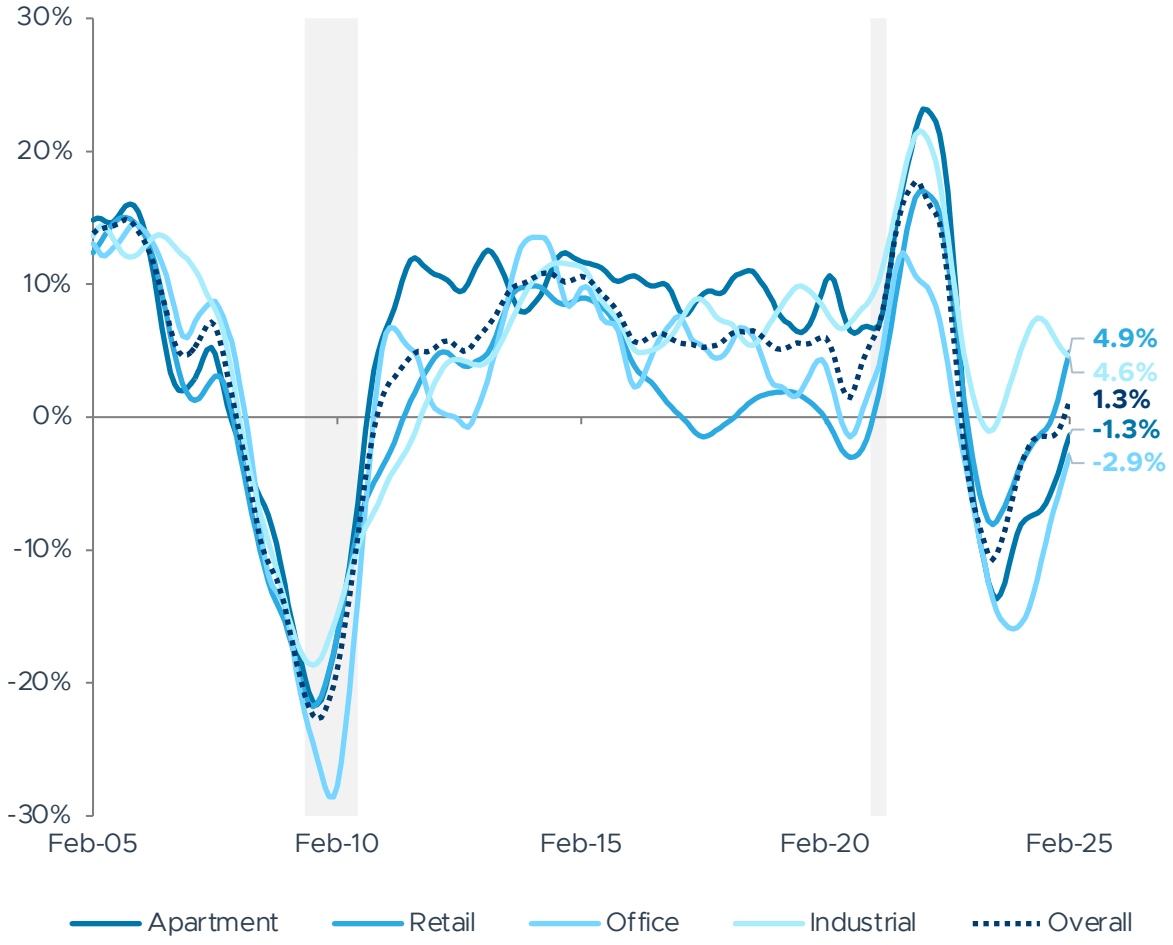
US. transaction volume by property type, quarterly ($ billions, as of March 2025)

Source: (left and right) MSCI Real Capital Analytics, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of March 2025 and is subject to change based on potential updates to source(s) database. Commercial real estate (CRE) transaction volumes reflect the total dollar value of commercial properties bought, sold, or leased during a given period. Data includes transactions in the Apartment, Retail, Office, and Industrial sectors, and excludes refinancing activity. Only transactions involving properties or portfolios valued at $2.5 million or more in the U.S. are included, based on independent reports. 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.

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

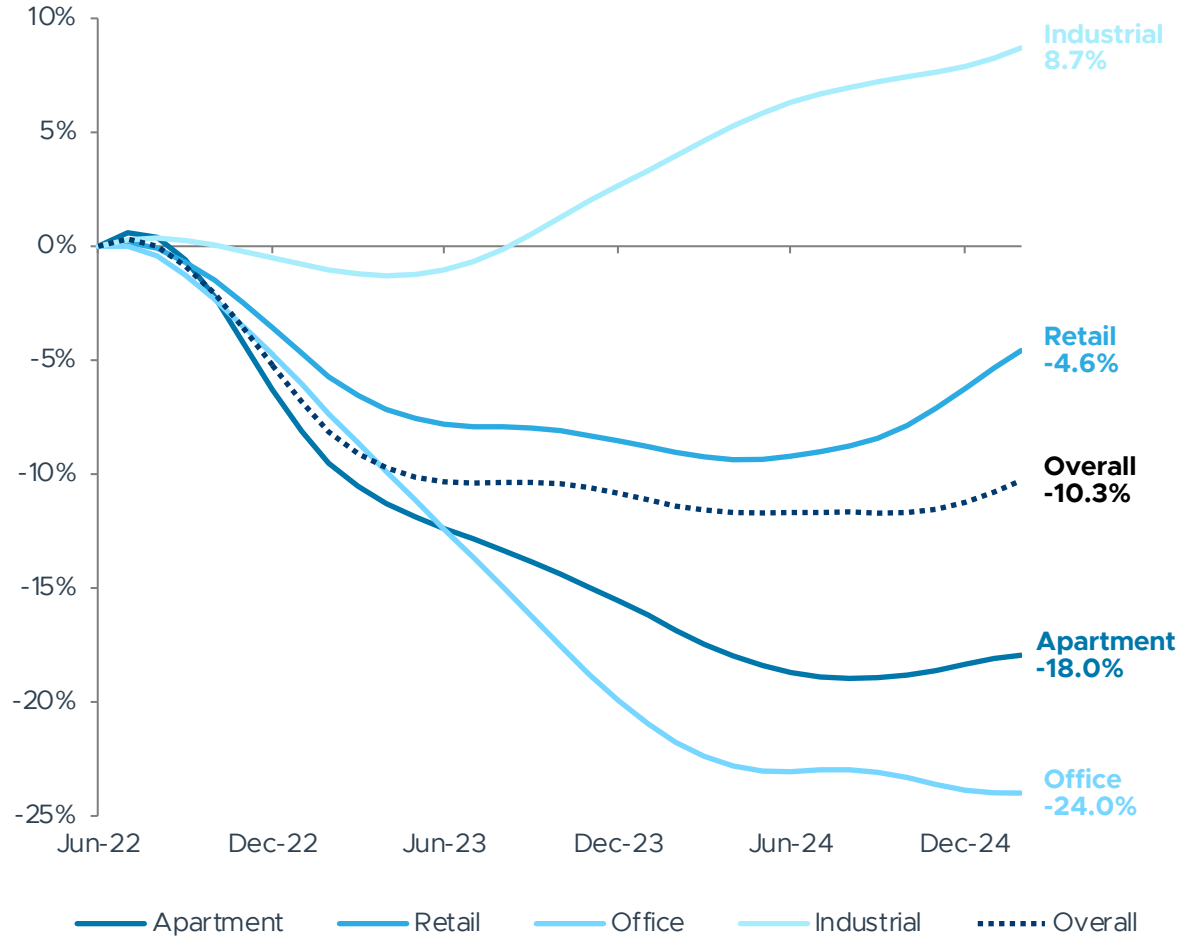
## Commercial real estate prices are recovering after a sharp pullback

Year-over-year change in commercial property prices by type (%, as of February 2025)




## Prices of most property types are still well below their Q2 2022 peak

Normalized change in property prices by type since June 2022 (%, as of February 2025)

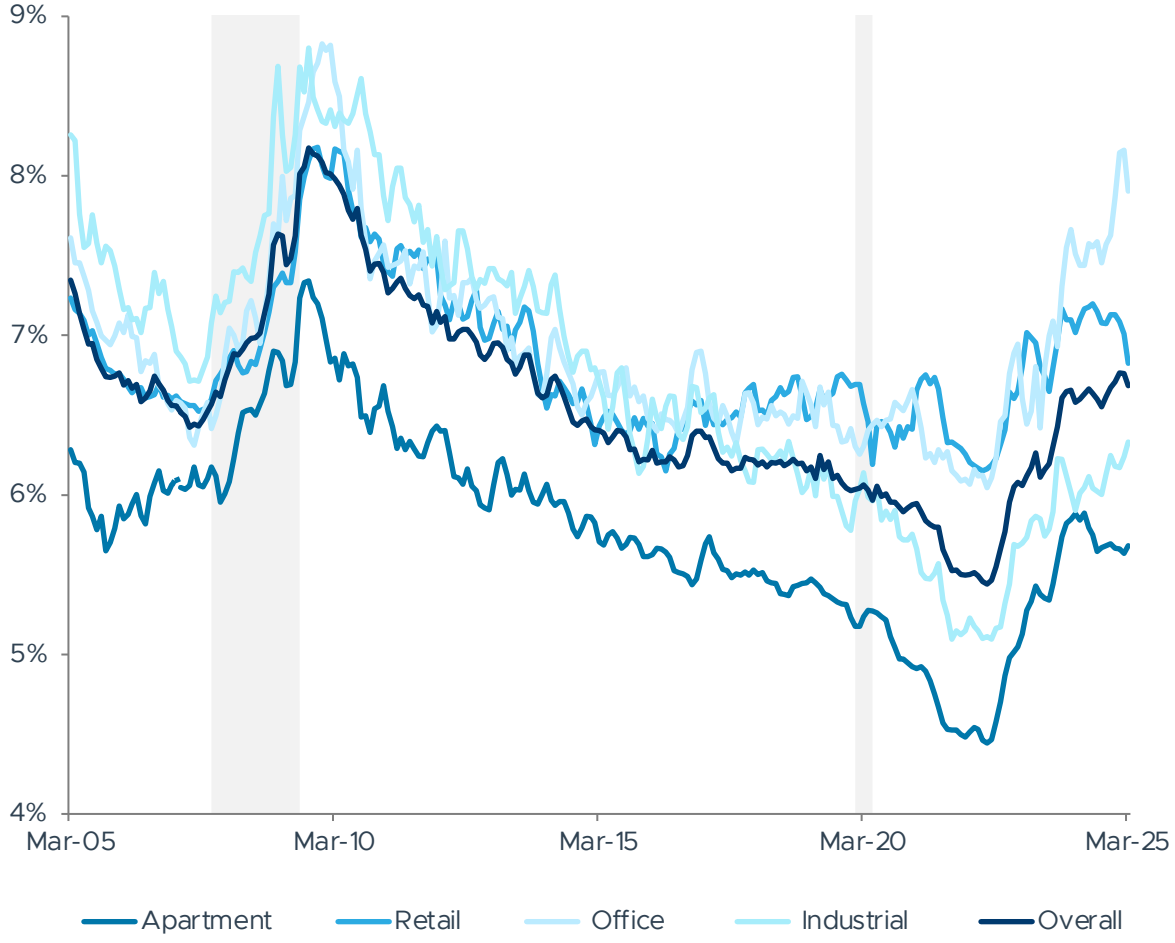



Source: (left and right) MSCI Real Capital Analytics, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of February 2025 and is subject to change based on potential updates to source(s) database. Change in commercial property types is based on RCA Commercial Property Price Indices (RCA CPPI) 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 have been traded more than once. The "Overall" index is value-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 low liquidity, the types of properties 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

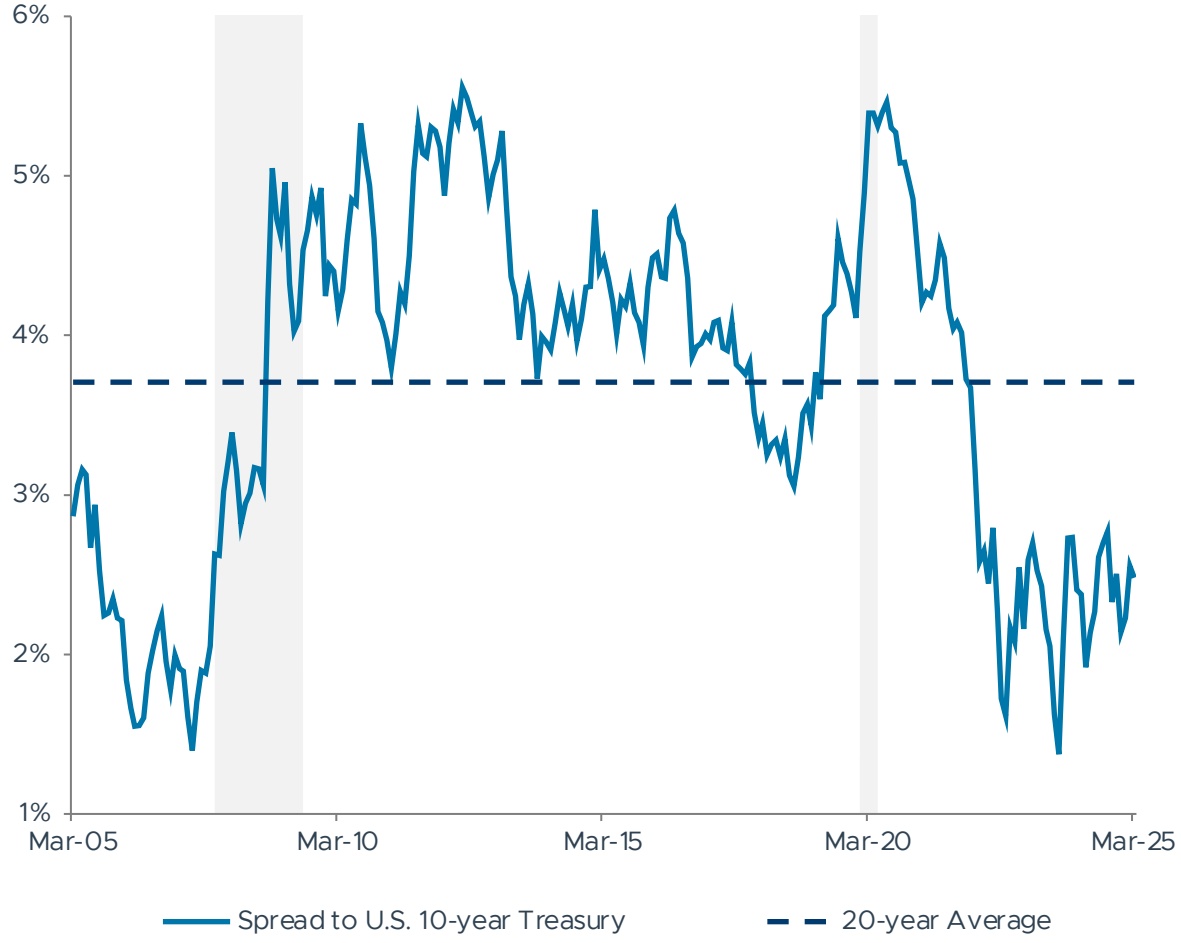
## Capitalization (Cap) rates across property types reset significantly higher

U.S. CRE transaction-based cap rates by property type (%, as of March 2025)




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

Spread of CRE cap rates over nominal U.S. 10-year Treasury (%, as of March 2025)

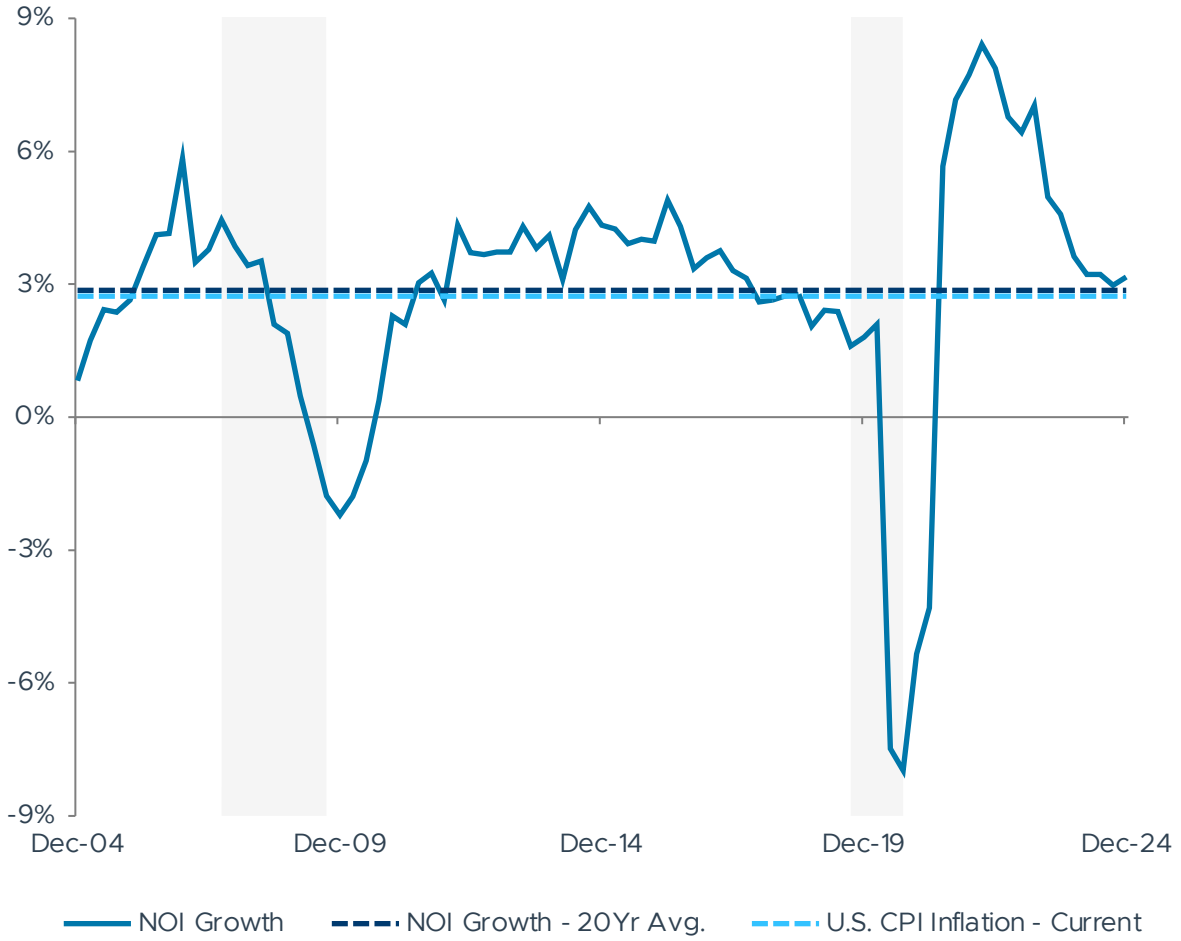



Source: (left) MSCI Real Capital Analytics, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of March 2025 and is subject to change based on potential updates to source(s) database. CRE cap rate is broadly defined as the ratio of NOI to current market 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 Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of March 2025 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

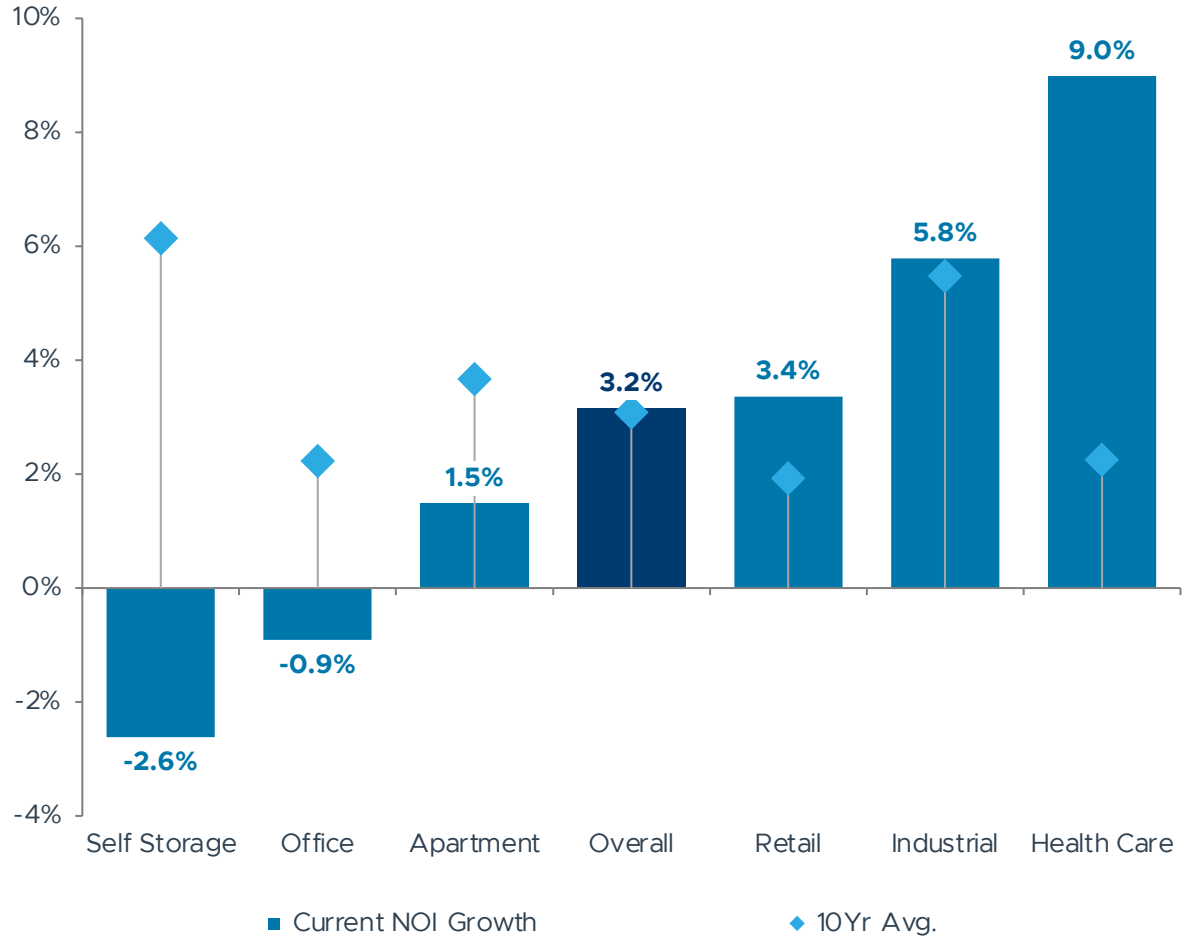
## NOI growth is trending lower towards the 20-year average level

REIT-implied same-store NOI growth (%, as of December 2024)




## Secular growth sectors are outperforming structurally challenged sectors

REIT-implied same-store NOI growth by property type (%, as of December 2024)

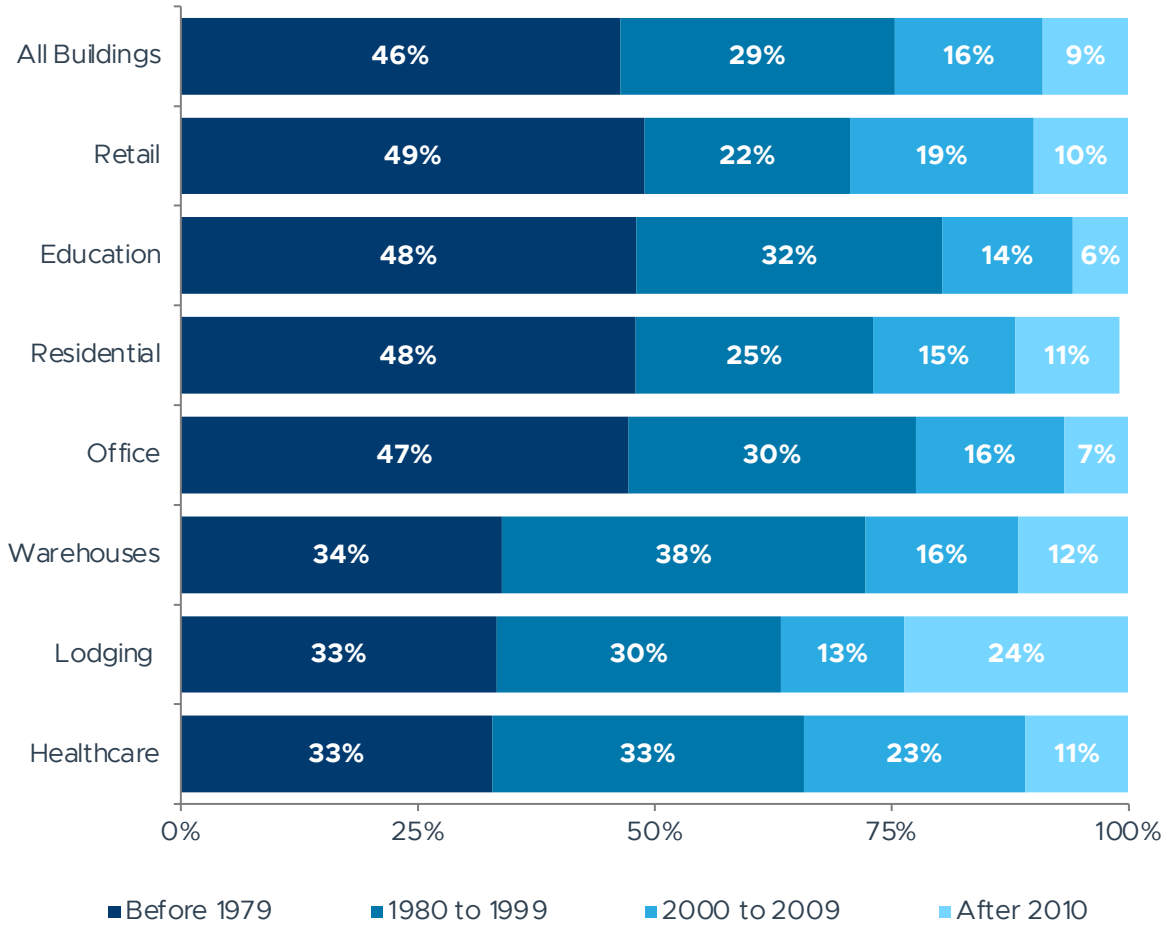



Source: (left and right) Bureau of Labor Statistics (BLS), FTSE Russell, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. REIT-implied same-store NOI growth represents 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

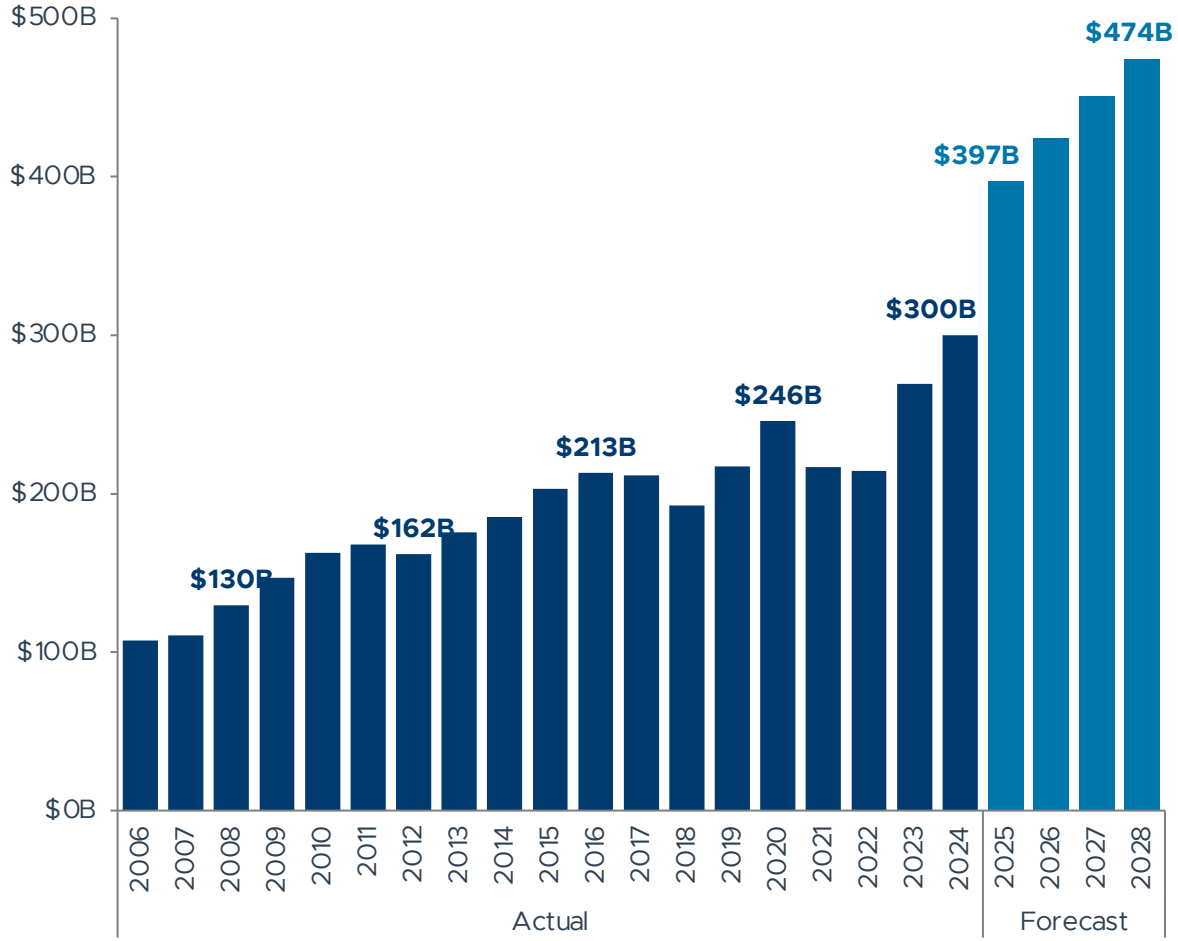
## Nearly 50% of all buildings in the U.S. are over 45 years old

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




## Spending on renovations is expected to see an upshift in the coming years

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

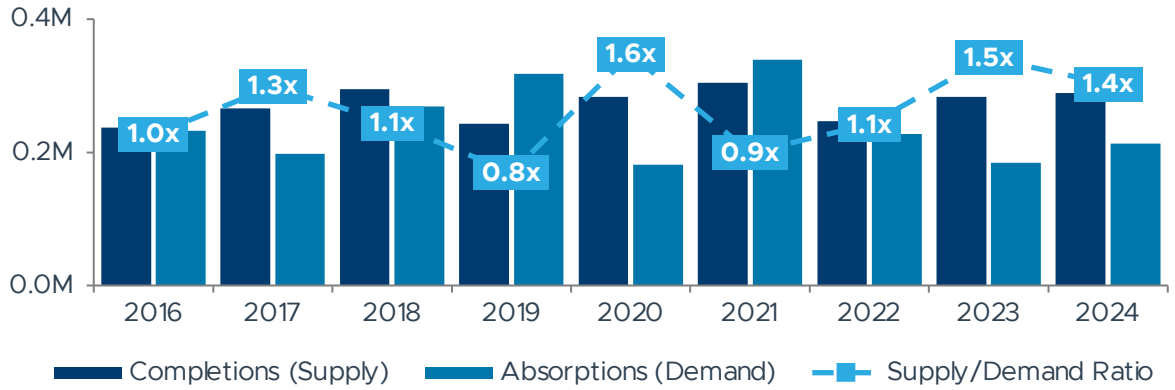



Source: (left) U.S. Energy Information Administration, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data is based on the 2018 Commercial Buildings Energy Consumption Survey (CBECS) and is subject to change based on potential updates to source(s) database. (right) ConstructConnect Insight, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 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.

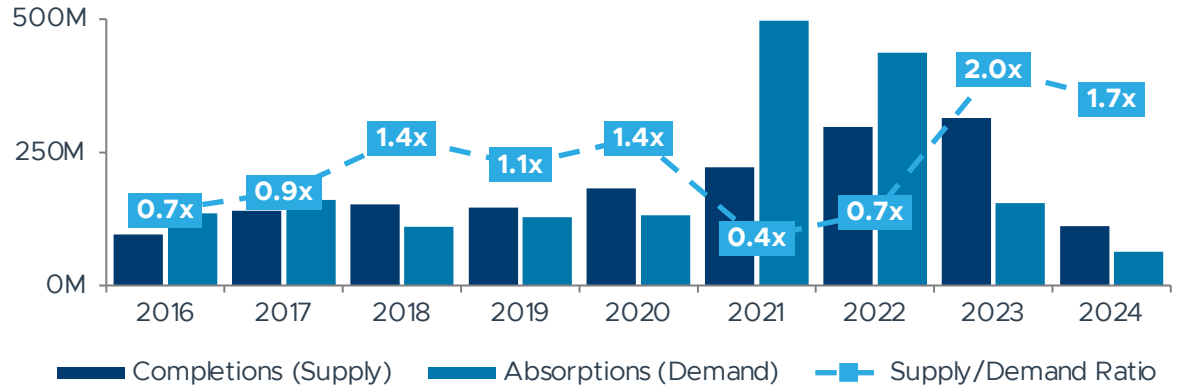
# Supply and demand dynamics remain relatively healthy and should also support NOI

## Annual completions and net absorptions in the U.S. by property type

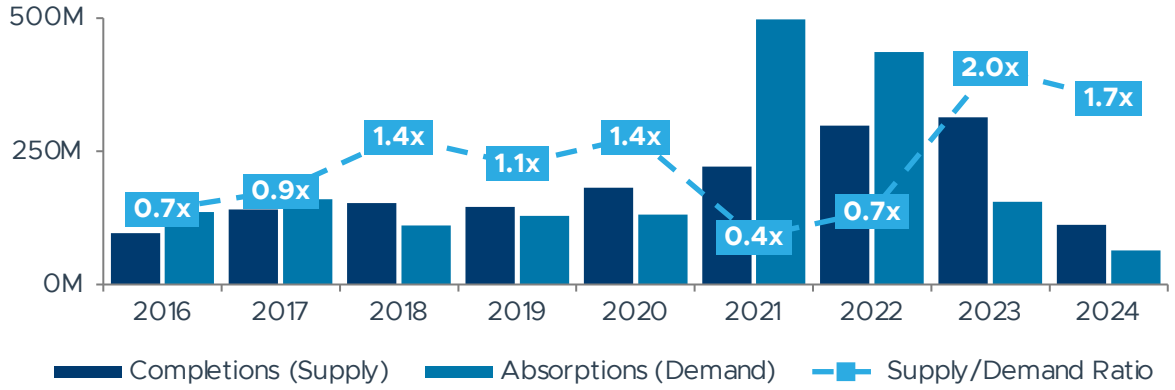
Apartment sector (millions, as of December 2024)



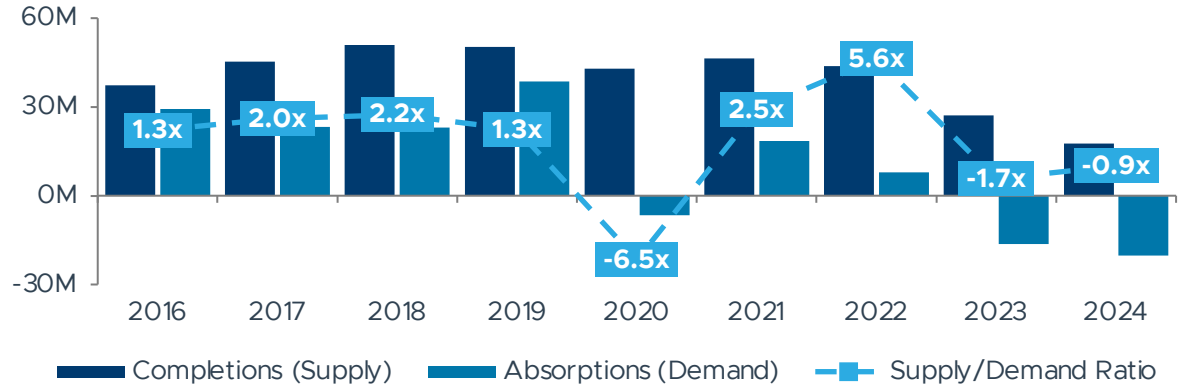

Industrial sector (millions, as of December 2024)




Industrial sector (millions, as of December 2024)




Office sector (millions, as of December 2024)

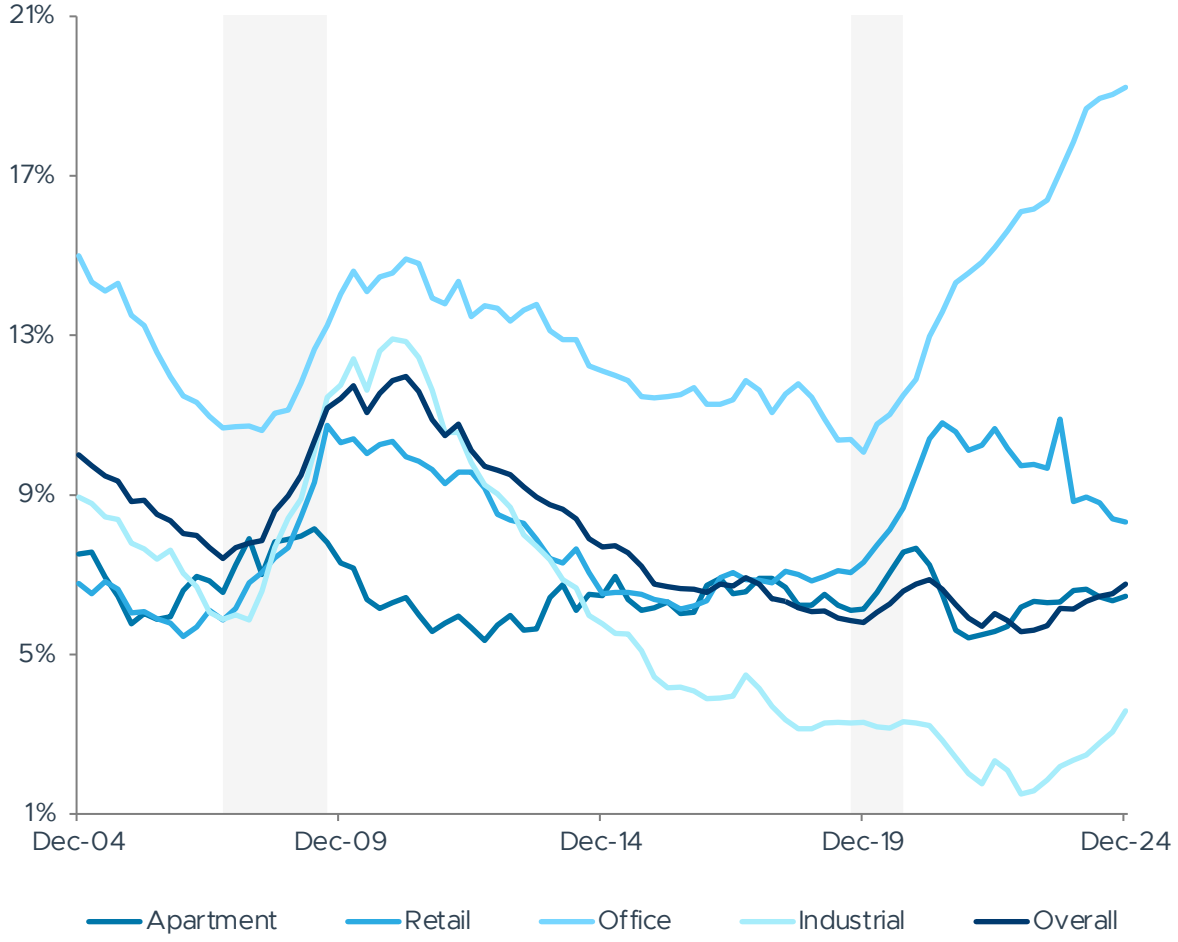



Source: Moody's Analytics, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. Completions is broadly considered as Supply as it represents new CRE space delivered 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 office where weakness persists

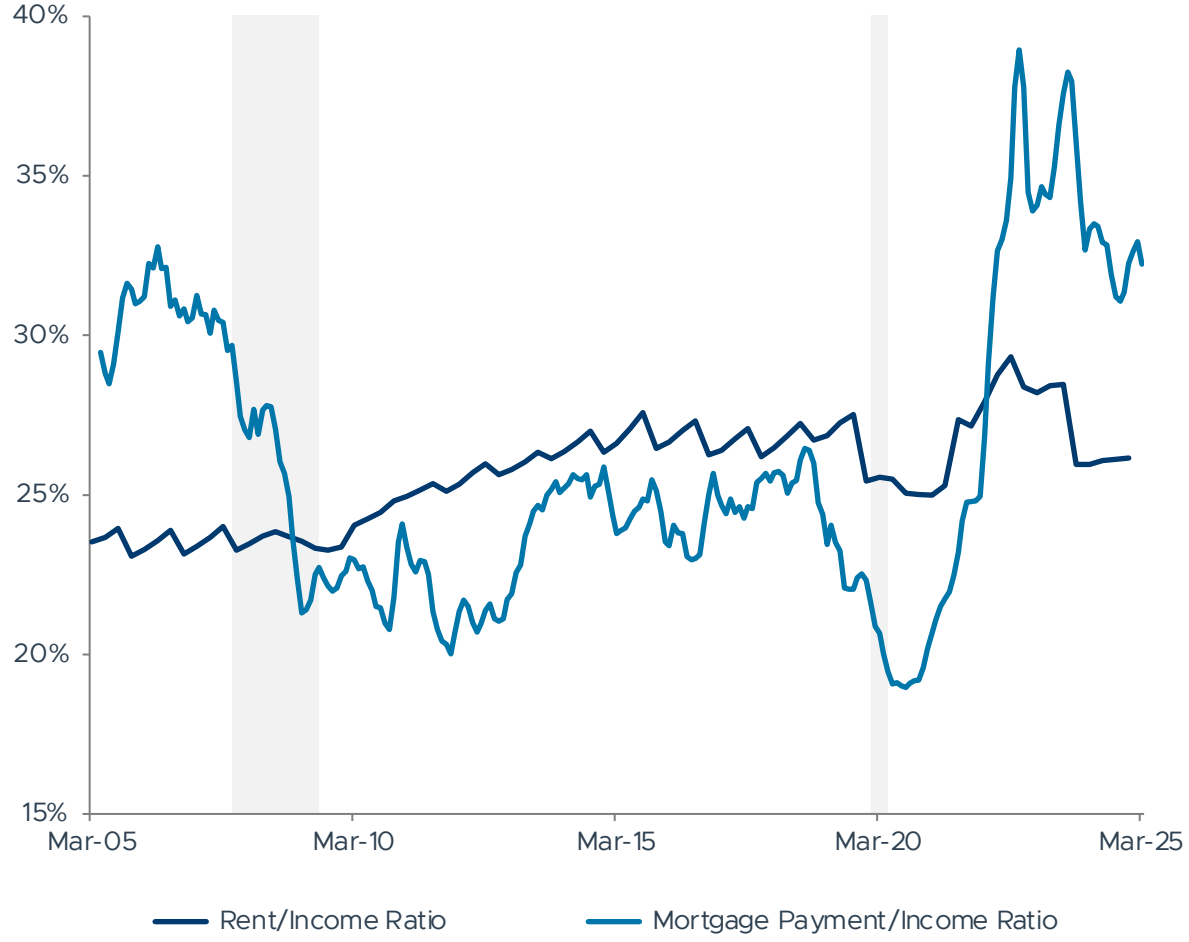
## Office vacancies are surging while all other sector vacancies are low

U.S. quarterly vacancy rate by property type, value-weighted (%, as of December 2024)




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

% of disposable income needed to cover cost of rent vs. mortgage (%, as of March 2025)

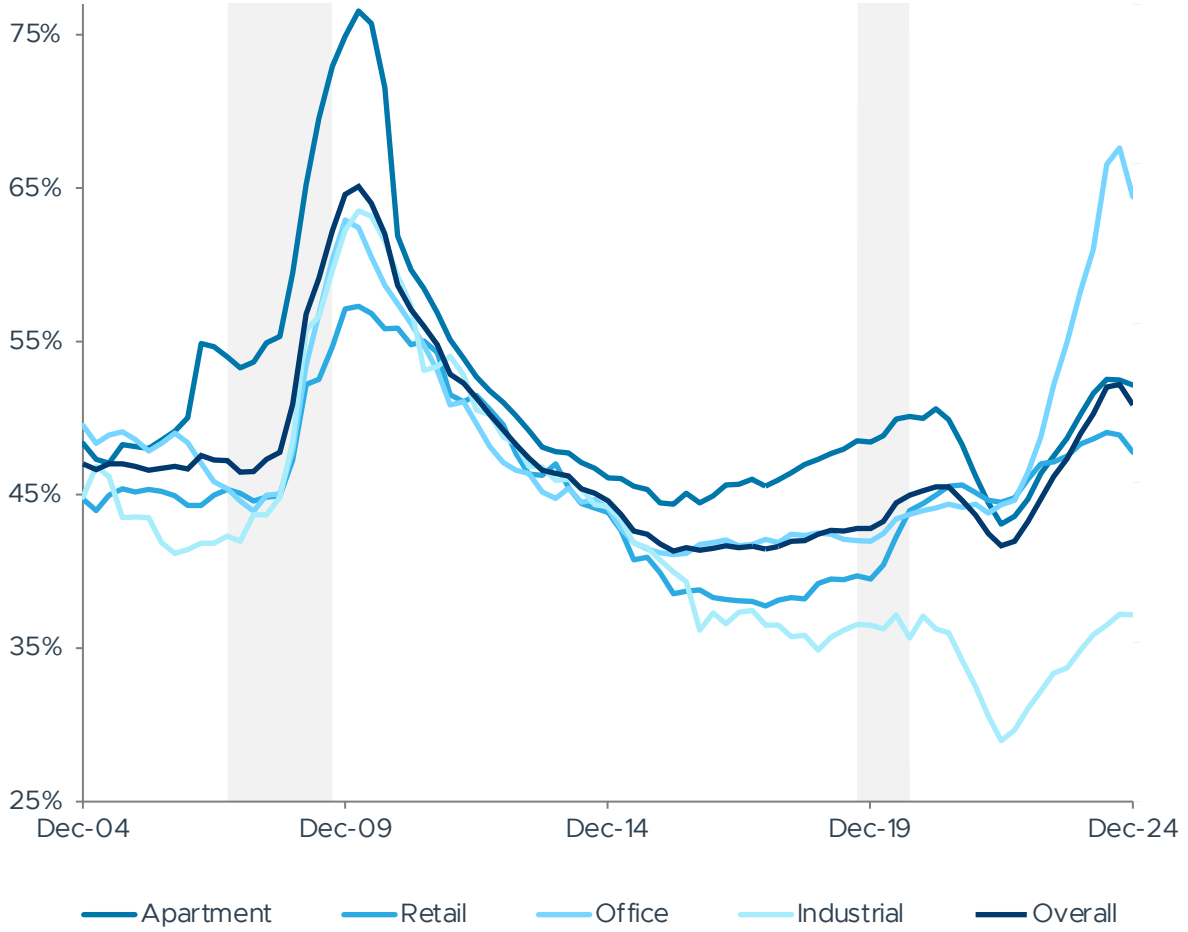



Source: (left) NCREIF, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. Vacancy rate shown is the quarterly value-weighted vacancy rate by property type within the NCREIF Property Index (NPI). (right) S&P Capital IQ, iCapital Investment Strategy Analysis, iCapital Alternatives Decoded Analysis, with data based on availability as of Apr. 30, 2025. Note: Data through March 2025 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 a monthly rent payment on the median effective rent for an apartment in the U.S. per Moody's Analytics REIS data. Mortgage Payment-to-Income ratio is the share of median 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, 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.

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

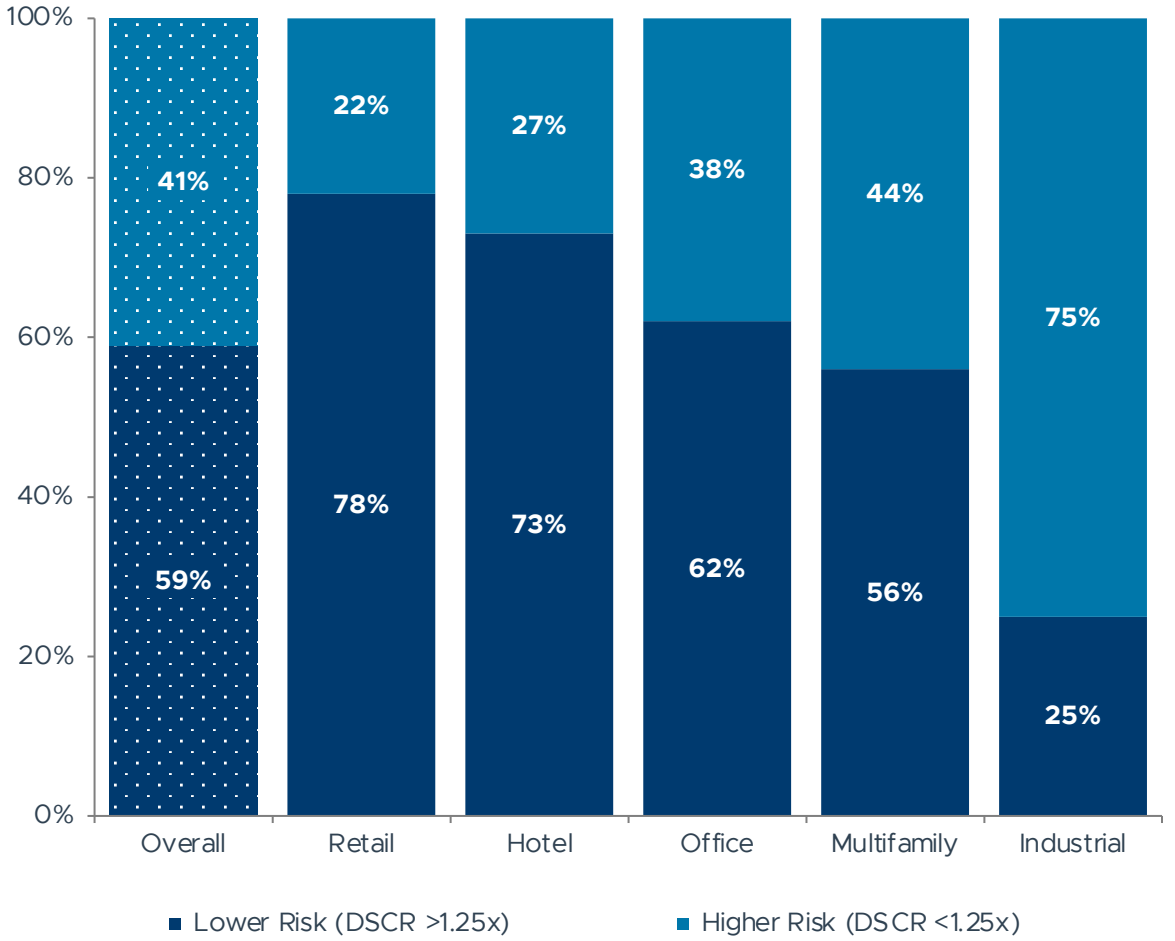
## Leverage fell over the past decade and remains below GFC levels

Weighted average loan-to-value ratio for CRE properties using leverage (%, as of December 2024)




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

Debt-service coverage ratio profile of outstanding CRE loans maturing before 2027 by type (%)




Source: (left) NCREIF, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 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 Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of January 14, 2025 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

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

Rolling 6-month net new lending flow of CRE loans across all U.S. banks ($ billion, as of March 2025)

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

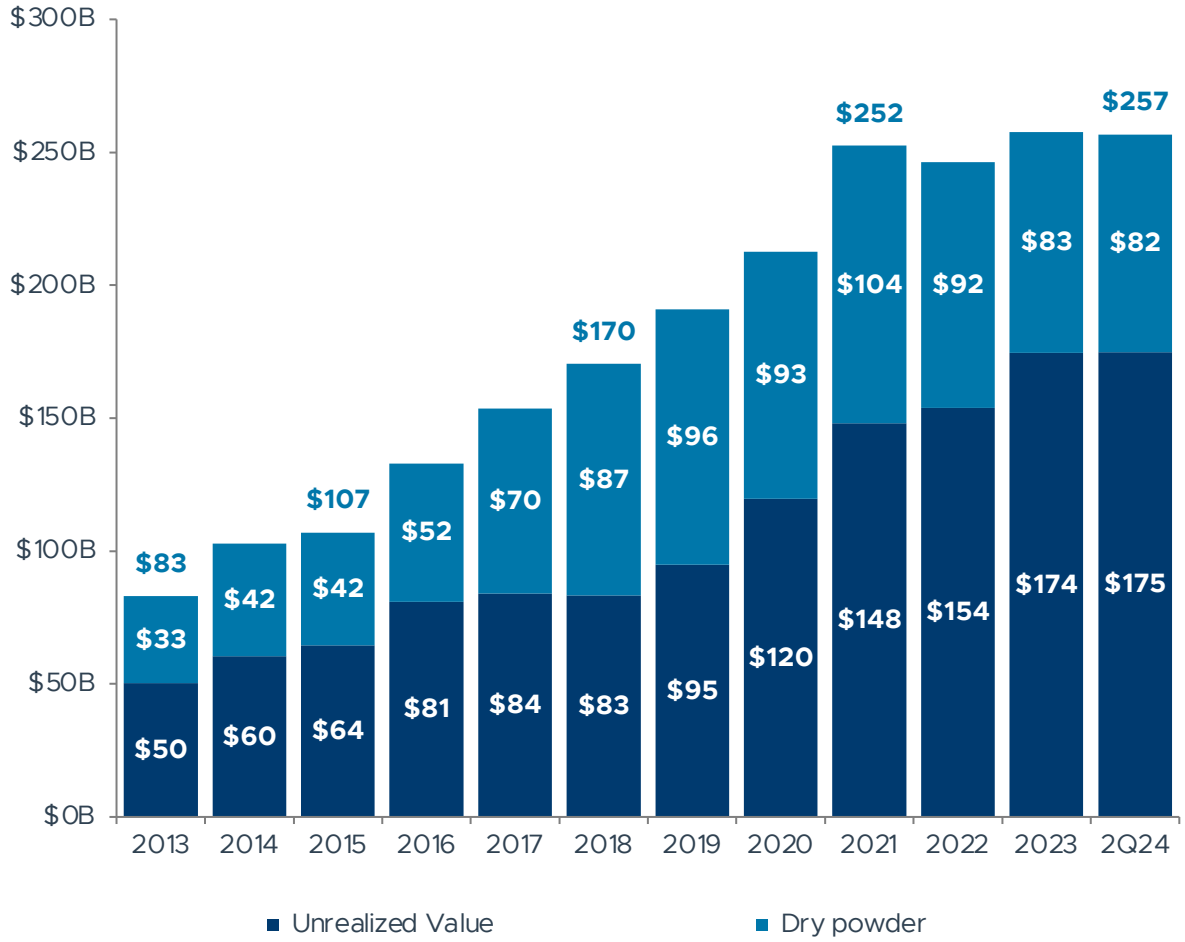
U.S. CMBS loan 30+ day delinquency rate by property type (%, as of March 2025)

Source: (left) Federal Reserve, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data is through March 2025 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 Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data is through March 2025 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 rate is calculated by dividing the delinquent balance by the total balance of loans 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.

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

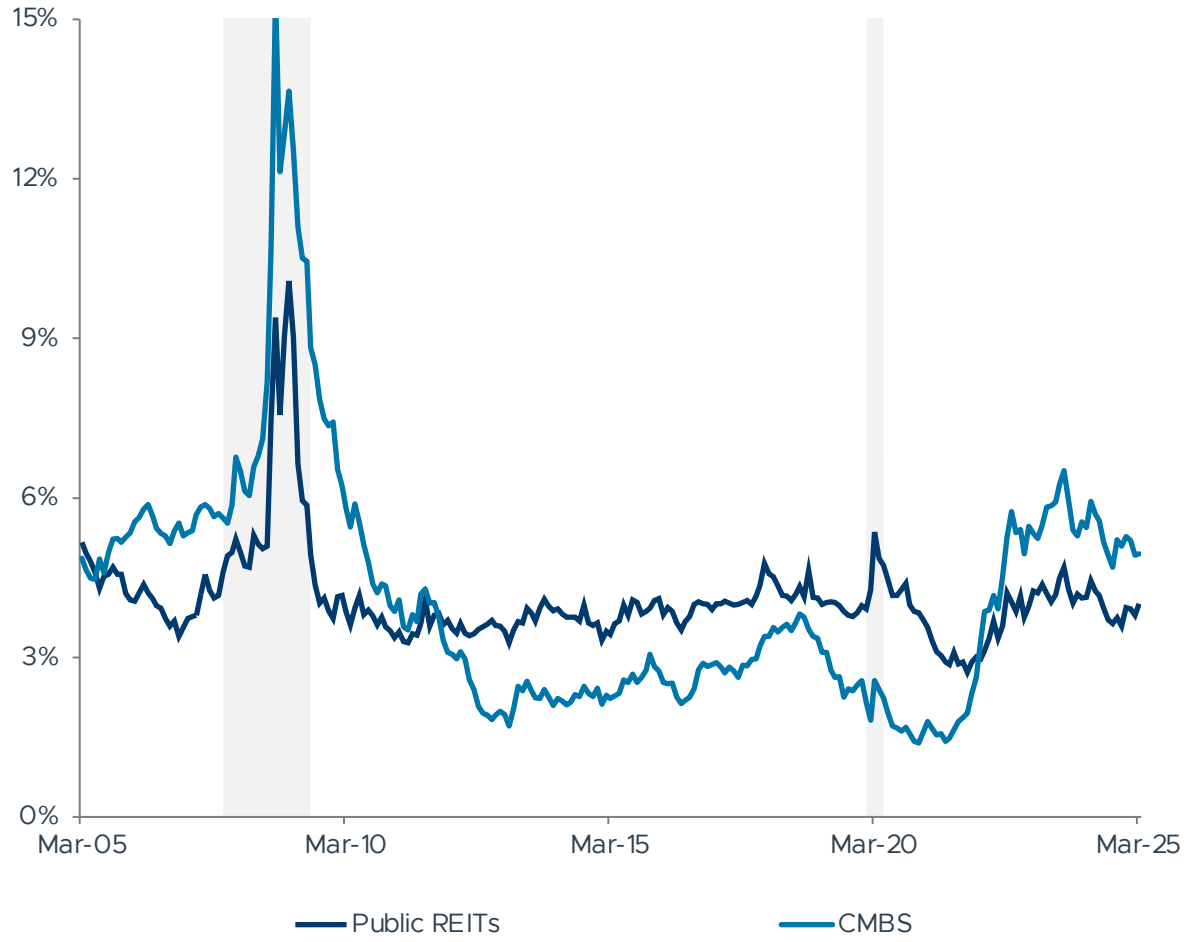
## Real estate debt funds have amassed record AUM and dry powder

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 March 2025)




Source: (left) Preqin, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 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 Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of March 2025 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

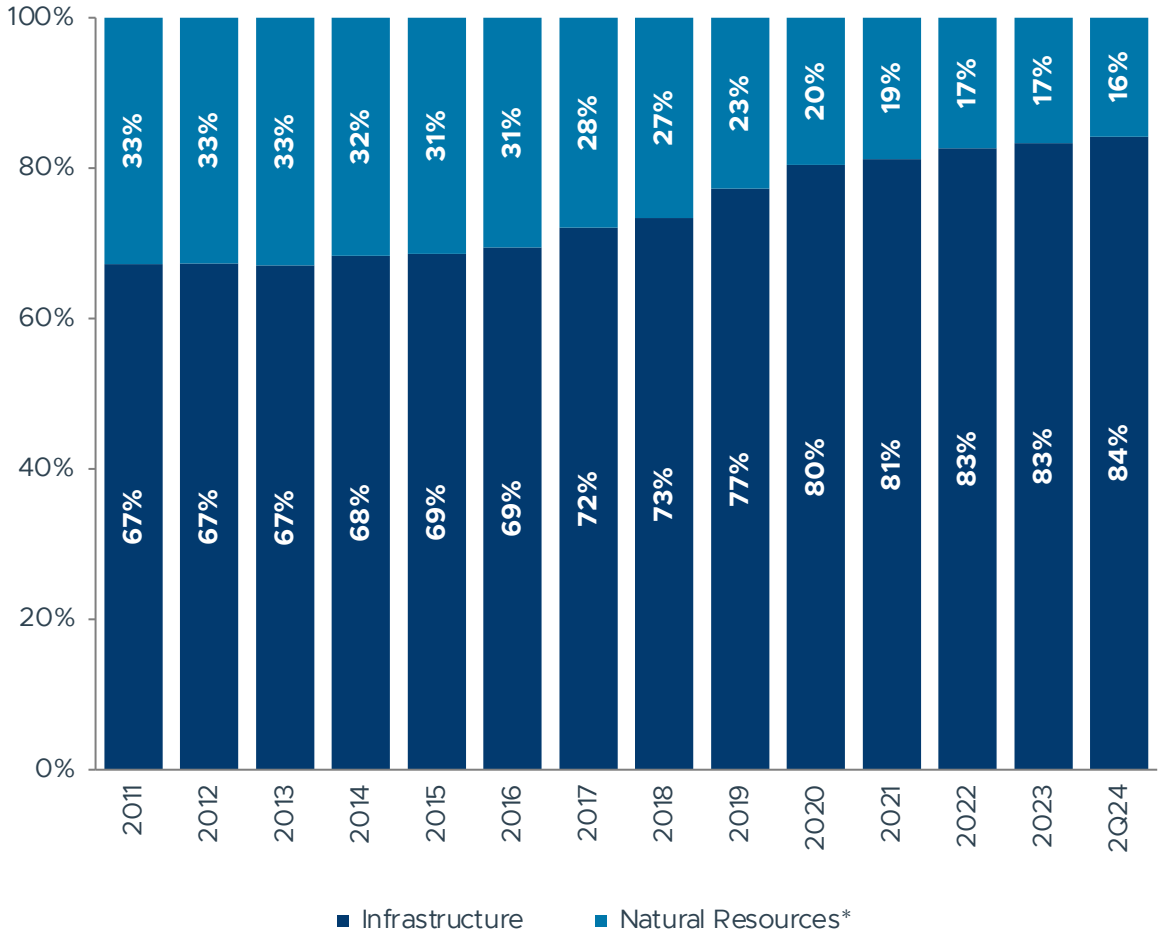
# Infrastructure & Other Real Assets

iCapital

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

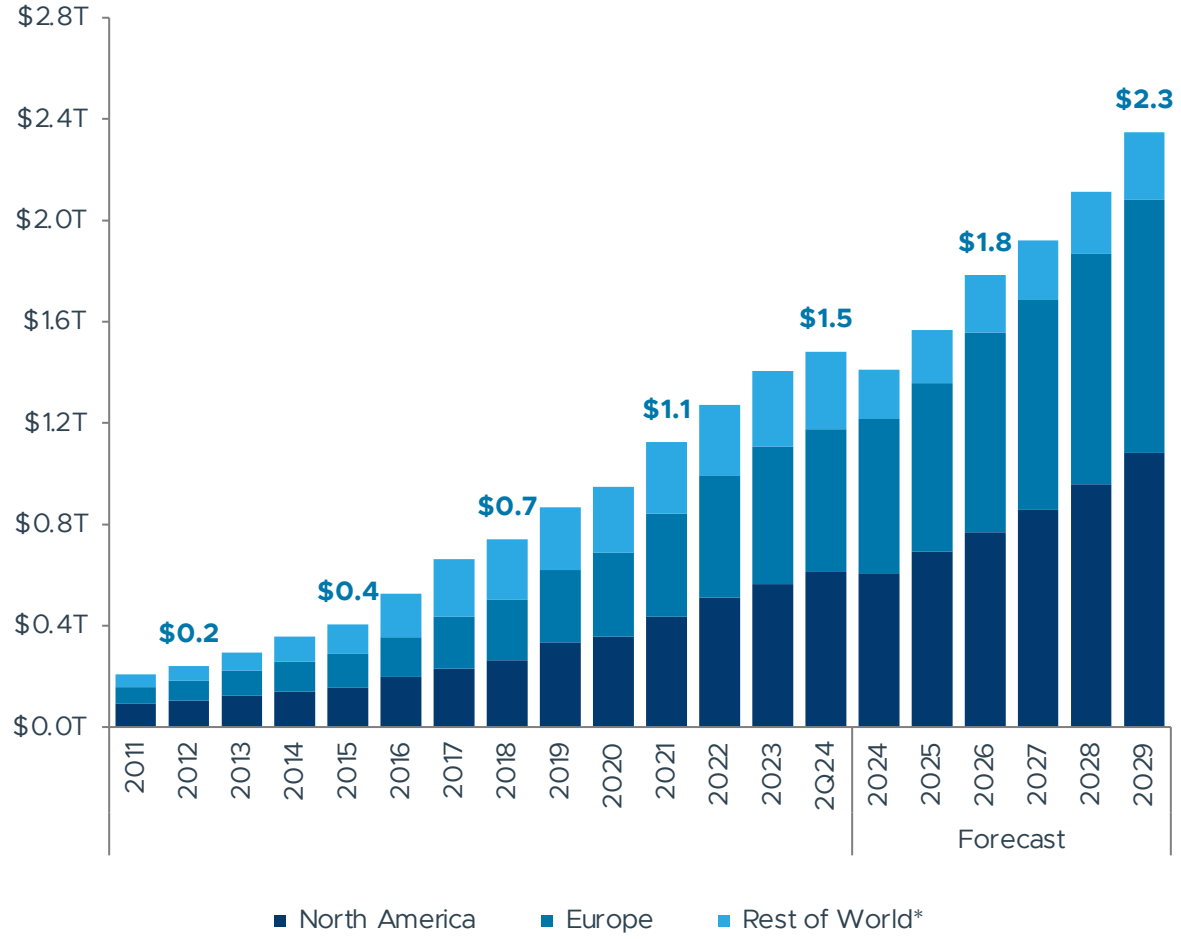
## Infrastructure continues to make up a lion's share of real assets

Breakdown of AUM in real assets excl. CRE funds, globally ($ trillion, as of June 2024)




## Infrastructure AUM have grown above $1 trillion

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

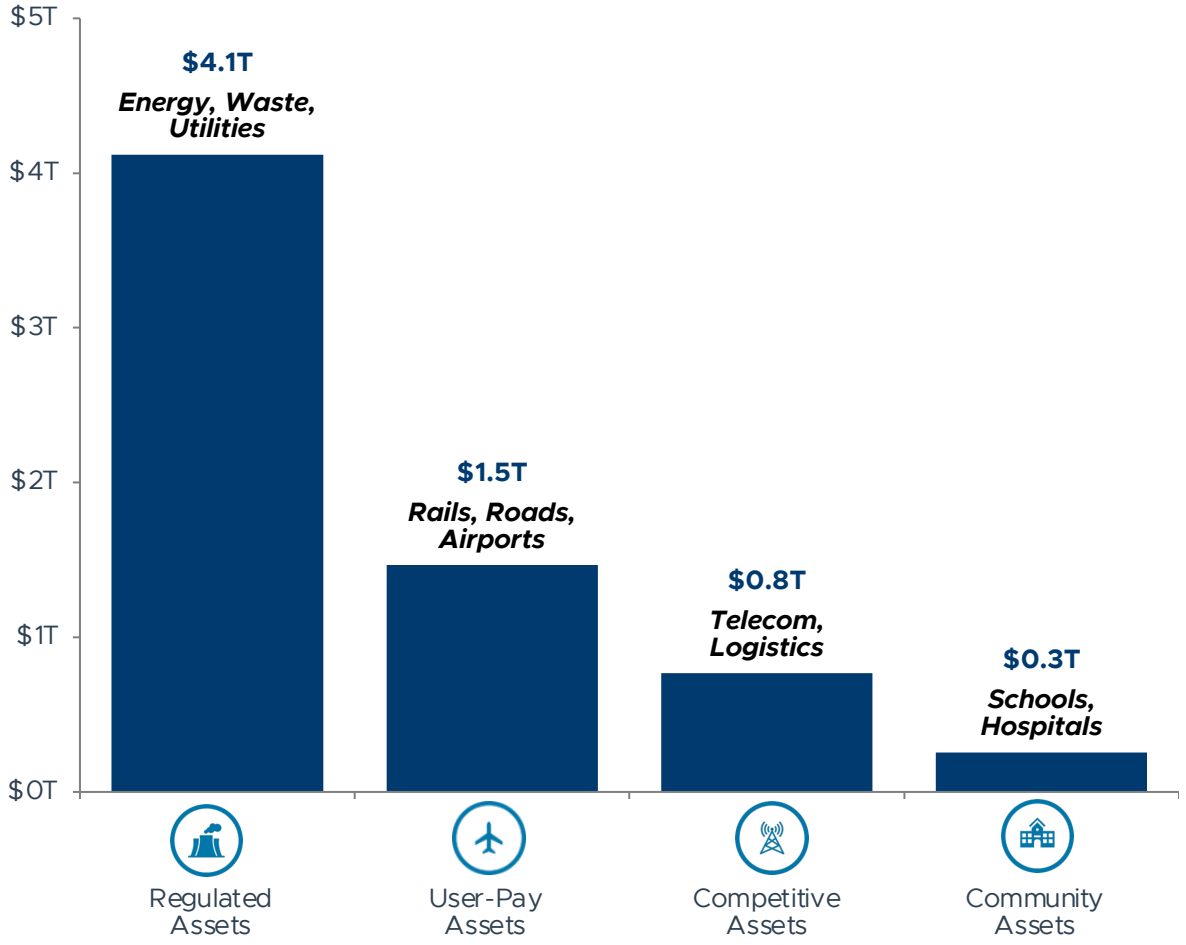



Source: (left) Preqin, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Historical AUM data as of June 2024 and is subject to change based on potential updates to source(s) database. AUM shown is broken down between infrastructure funds and natural resources funds 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 Alternatives Decoded, with data based on availability as of Apr. 30, 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

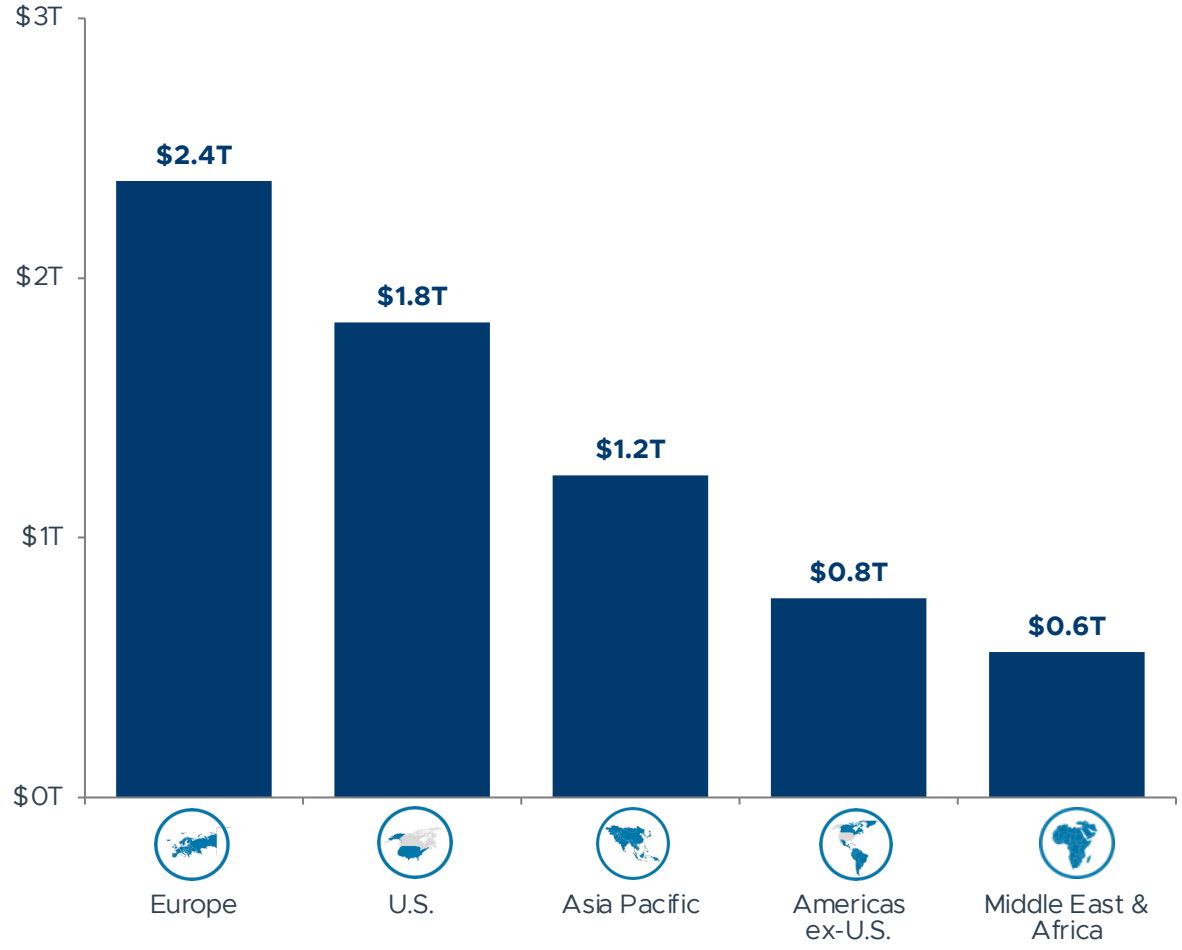
## At least $6.5T in infrastructure deals have been done globally since 2000

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 Alternatives Decoded, with data based on availability as of Apr. 30, 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 Transport (Rail, Roads, Airports). Competitive Assets are based on the Preqin-defined sub-asset classes, including Telecom and Logistics. Community Assets are based on the Preqin-defined sub-asset classes including Defense, Education Facilities (Schools), HealthCare (Hospitals), and Government Buildings. (right) Preqin, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 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., Europe, Asia Pacific, and Middle East & Africa. Numbers may not add up due to rounding. 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 real assets have produced superior risk-adjusted returns with low correlation

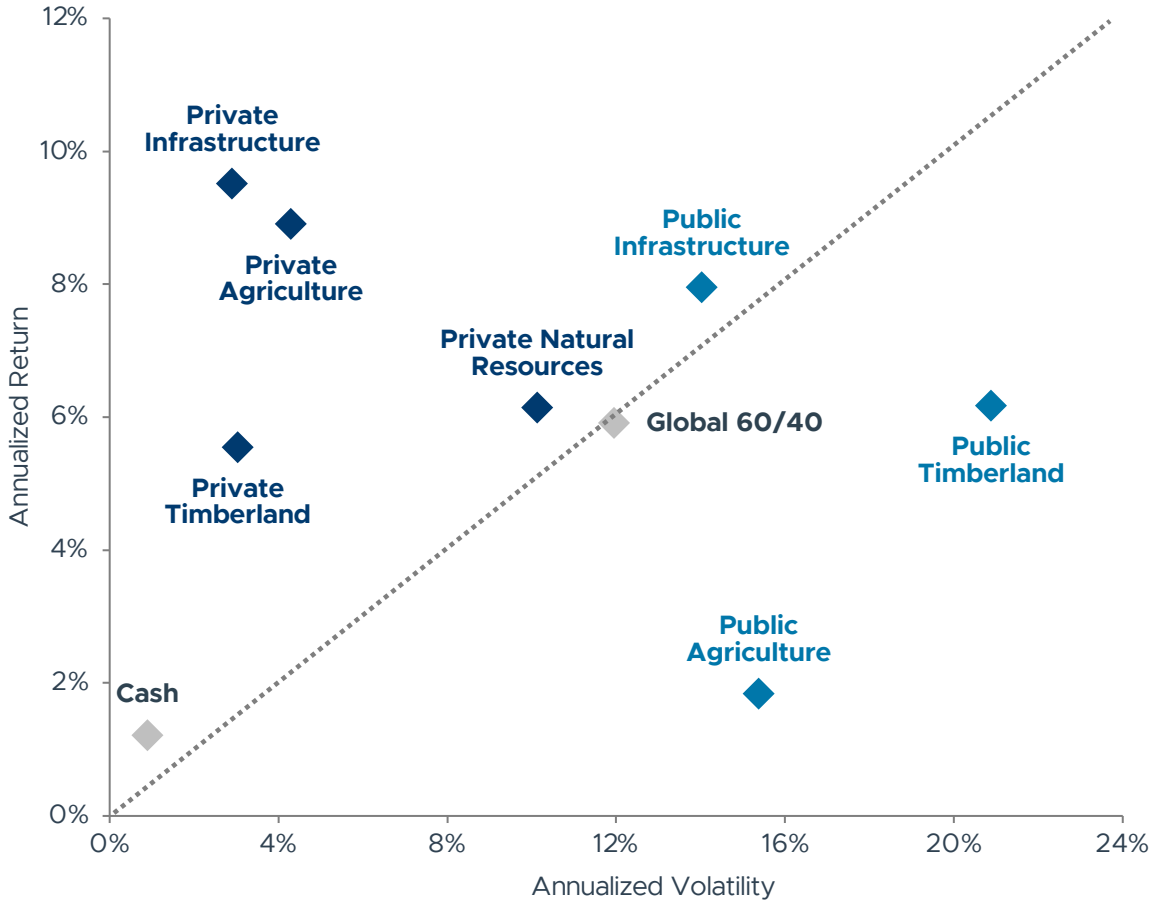
## Infrastructure's correlation to the public 60/40 portfolio is low or negative

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

| | | Private Real Assets | | | Public Real Assets | | | Benchmarks | | Annual Volatility |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Private Infra. | Private Timberland | Private Agriculture | Public Infra. | Public Timberland | Public Agriculture | Global 60/40 | Cash | |
| Private Real Assets | Private Infra. | 1.00 | | | | | | | | 2.9% |
| | Private Timberland | 0.29 | 1.00 | | | | | | | 3.0% |
| | Private Agriculture | 0.02 | 0.53 | 1.00 | | | | | | 4.3% |
| Public Real Assets | Public Infra. | 0.38 | 0.07 | 0.16 | 1.00 | | | | | 14.0% |
| | Public Timberland | 0.27 | 0.12 | 0.25 | 0.66 | 1.00 | | | | 20.9% |
| | Public Agriculture | 0.41 | 0.01 | 0.16 | 0.62 | 0.65 | 1.00 | | | 15.4% |
| Benchmarks | Global 60/40 | 0.24 | 0.02 | 0.11 | 0.82 | 0.83 | 0.60 | 1.00 | | 10.7% |
| | Cash | -0.08 | 0.14 | -0.38 | -0.03 | -0.07 | -0.16 | 0.09 | 1.00 | 0.9% |

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

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




Source: (left and right) Bloomberg Index Services Limited, FTSE Russell, MSCI, NCREIF, Preqin, S&P Dow Jones, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 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 timberland proxied by S&P Global Timber and Forestry Index. 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 proxied by NCREIF Timberland Property Index. Private Infrastructure proxied by Preqin Infrastructure 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. 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.

# Real assets have delivered returns outpacing developed market inflation

## Public and private real asset returns

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

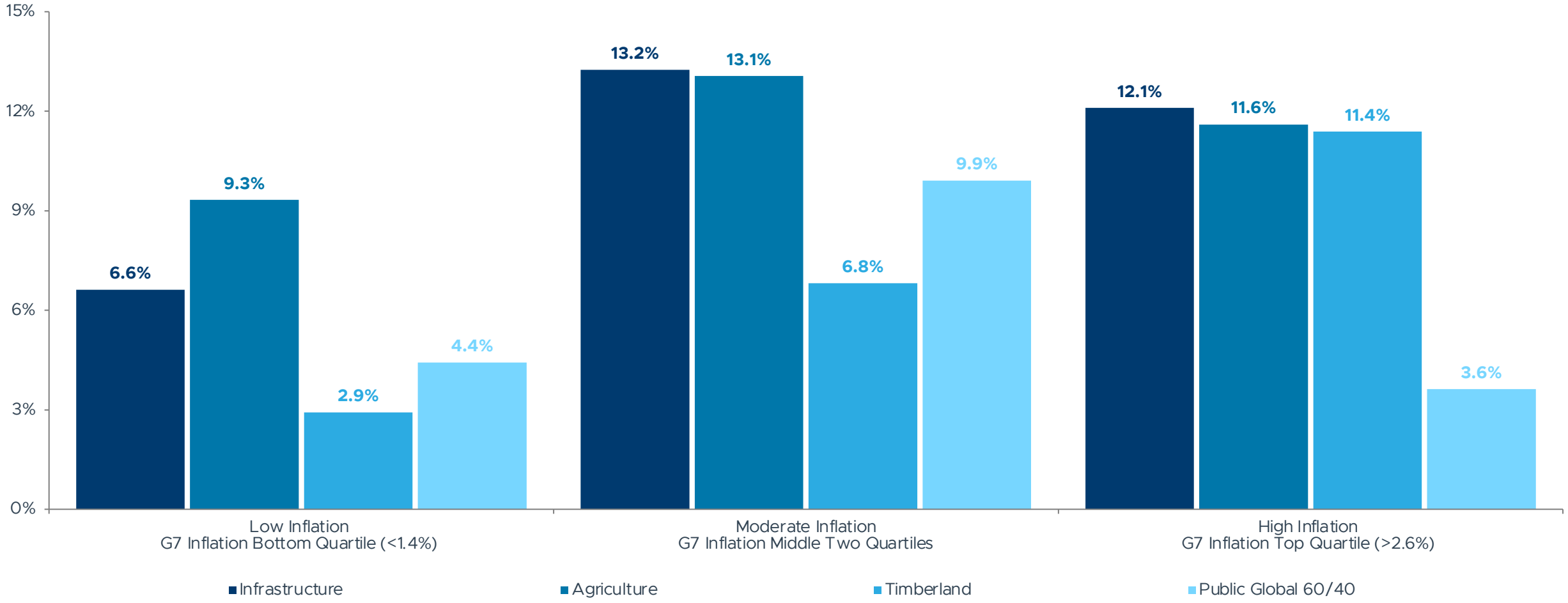
| Annual Return (%) | | | | | | | | | | Time-Period Return (%, per annum) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 3YR | 5YR | 10YR | 15YR |
| 10.3% Private Agriculture | 13.0% Public Timberland | 34.4% Public 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 | 11.3% Public Infrastructure | 10.4% Private Infrastructure | 10.2% Private Infrastructure | 9.8% Private Infrastructure | 9.5% 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 | 10.2% Private Infrastructure | 9.7% Private Timberland | 7.8% Private Timberland | 5.9% Private Agriculture | 8.9% 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 | 9.8% Global 60/40 | 4.8% Inflation* | 5.2% Global 60/40 | 5.6% Global 60/40 | 7.9% 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 | 7.0% Private Timberland | 4.4% Private Agriculture | 4.8% Private Agriculture | 5.5% Public Timberland | 6.2% 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 | 2.8% Public Agriculture | 4.0% Public Infrastructure | 4.3% Public Timberland | 5.4% Private Timberland | 5.9% 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 | 2.7% Inflation* | 1.5% Global 60/40 | 4.1% Public Infrastructure | 4.3% Public Infrastructure | 5.5% 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* | -1.0% Private Agriculture | -3.0% Public Agriculture | 3.7% Inflation* | 2.5% Inflation* | 2.3% Inflation* |
| -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 | -4.1% Public Timberland | -4.2% Public Timberland | 3.4% Public Agriculture | 0.7% Public Agriculture | 1.8% Public Agriculture |

Source: Bloomberg Index Services Limited, FTSE Russell, MSCI, NCREIF, Preqin, S&P Dow Jones, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 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 timberland proxied by S&P Global Timber and Forestry Index. 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 proxied by NCREIF Timberland Property Index. Private Infrastructure proxied by Preqin Infrastructure Index. Inflation proxied by OECD G7 Countries Composite CPI inflation and the rate shown is based on the average monthly year-over-year reads for each calendar year and time period. 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 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.

# 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 - December 2024)

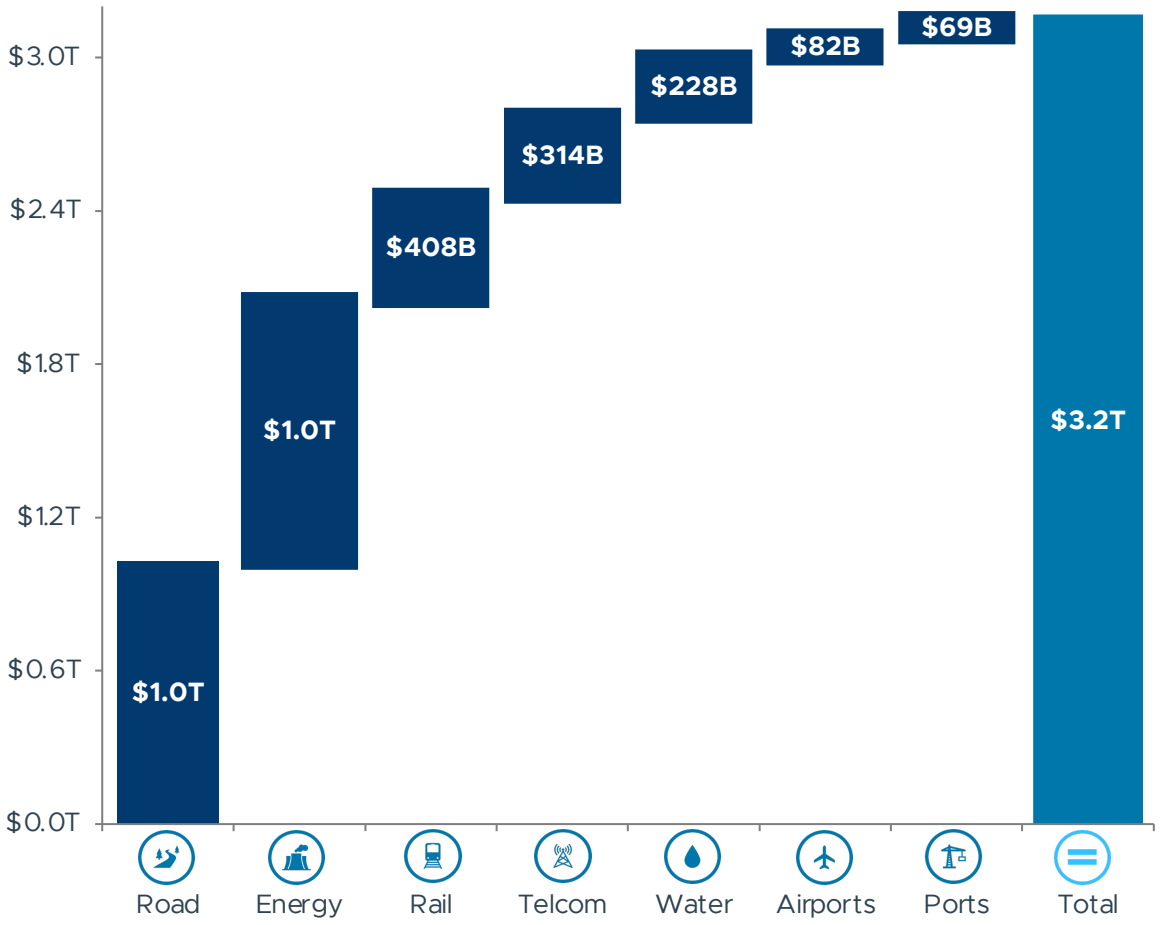



Source: Bloomberg Index Services Limited, FTSE Russell, MSCI, NCREIF, OECD, Preqin, S&P Dow Jones, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. Analysis looks 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 proxied by NCREIF Timberland Property Index. Private Infrastructure proxied by EDHEC infra300 Index prior to 2008 and Preqin 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. Future results are not guaranteed.

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

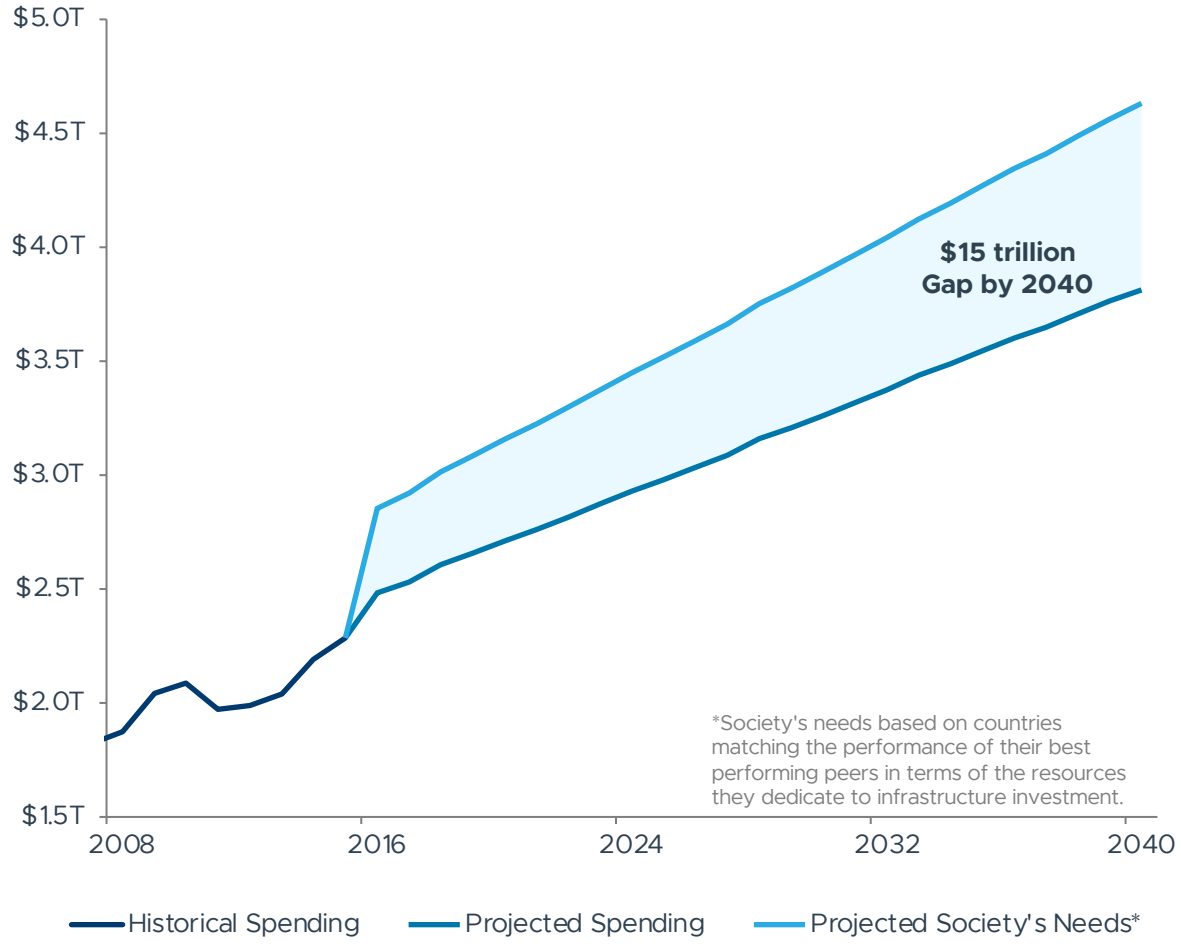
## Annual infrastructure spending is projected to average $3.2 trillion

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

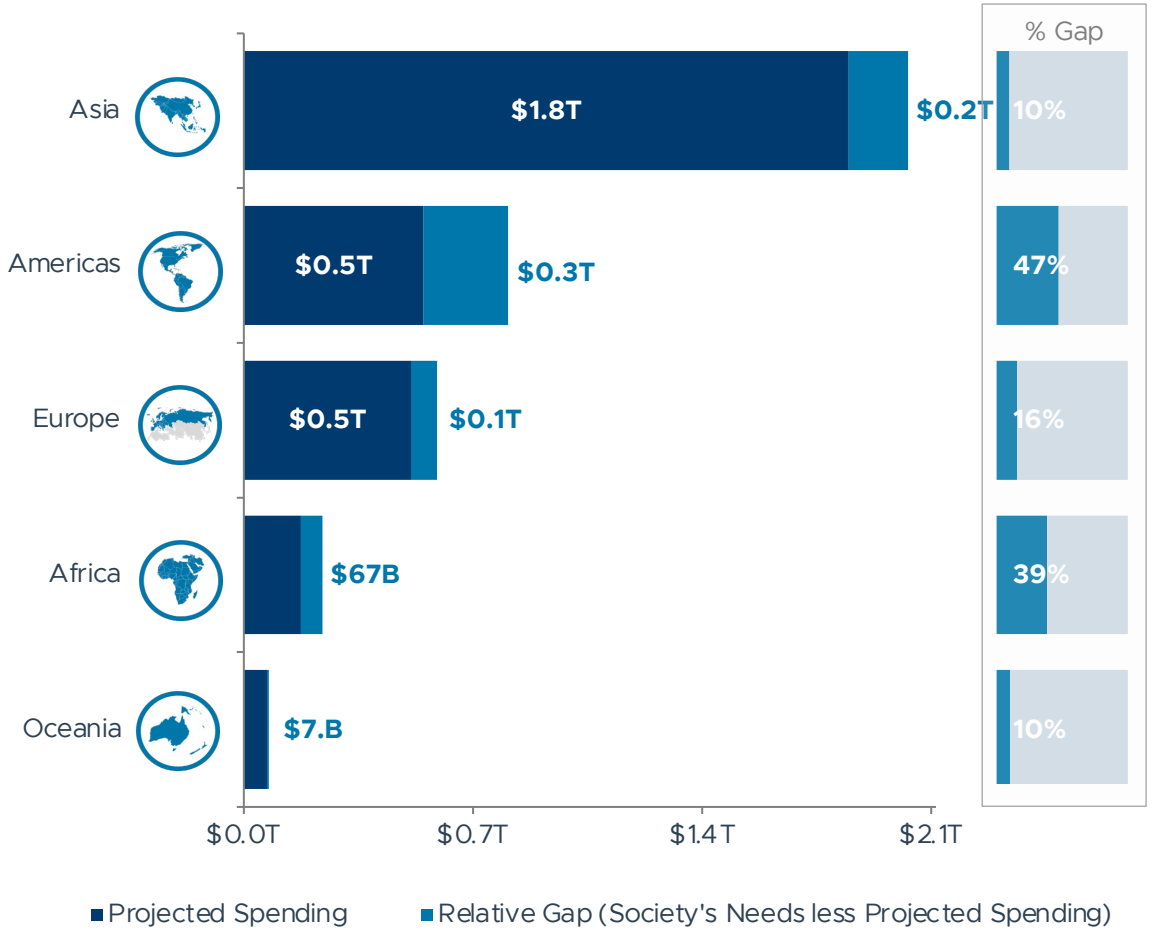



Source: (left and right) Global Infrastructure Hub (World Bank), iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Historical and projected infrastructure investment/spending is based on a World Bank analysis as of 2016. Data is subject to change based on potential updates to source(s) database. Infrastructure investment 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 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

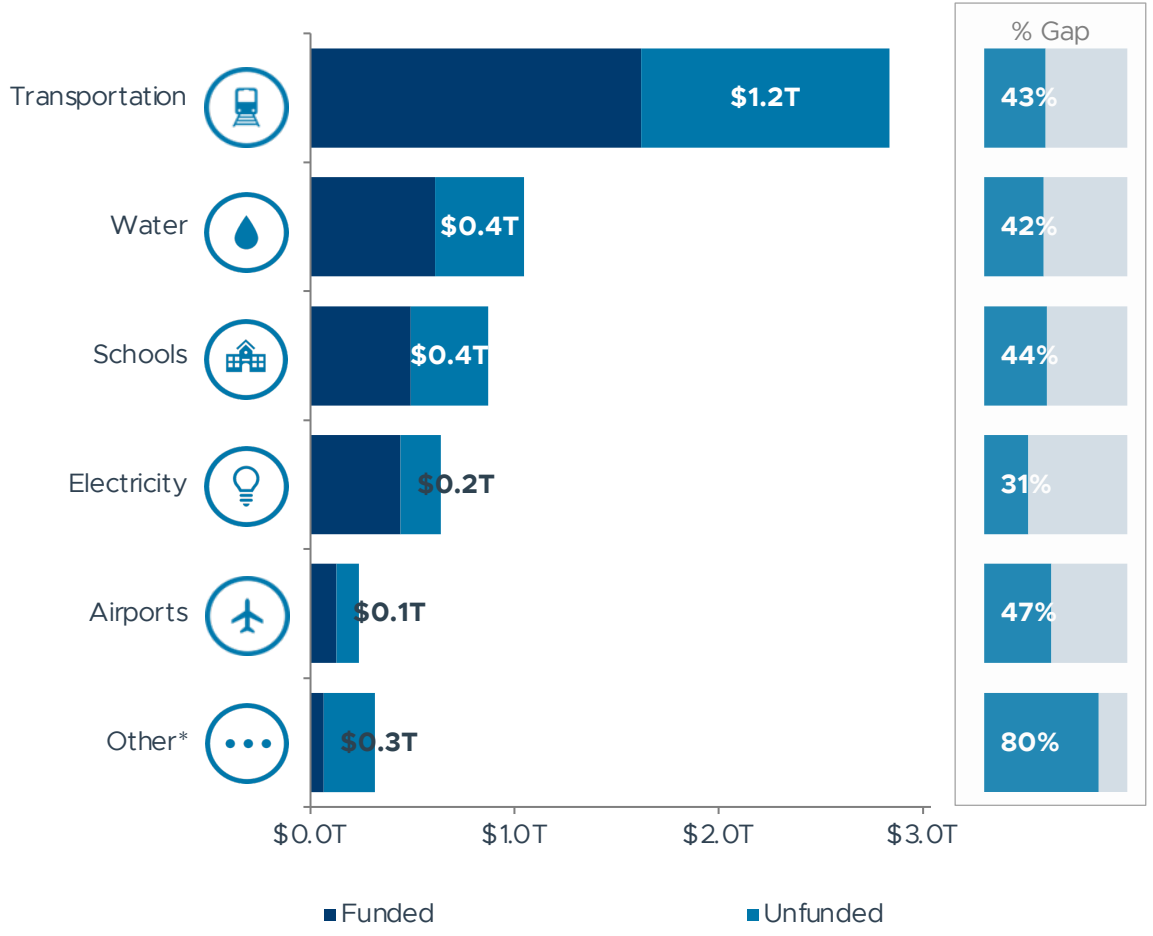
## The largest relative gap is projected in the Americas

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




## U.S. infrastructure has been neglected, requires $2.9T of investments

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

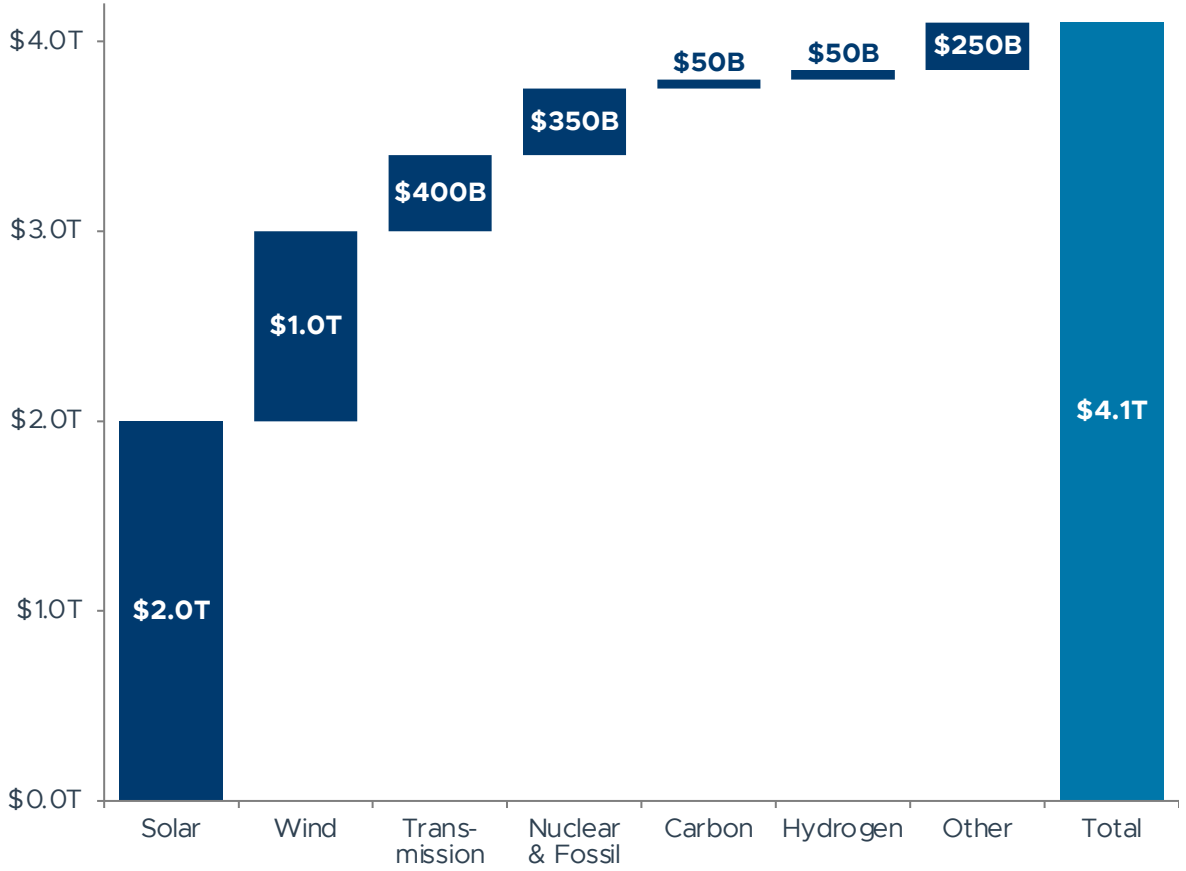



Source: (left) Global Infrastructure Hub (World Bank), iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Projected infrastructure spending and projected society's needs are based on a World Bank analysis as of 2016. Data is subject to change based on potential 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 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. (right) American Society of Civil Engineers (ASCE), iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 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 current funding levels in relation to investment needs. The infrastructure investment needed in each category is based on ASCE's estimates of what is needed to maintain a state of good repair. This includes looking at the costs of building new 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 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.

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

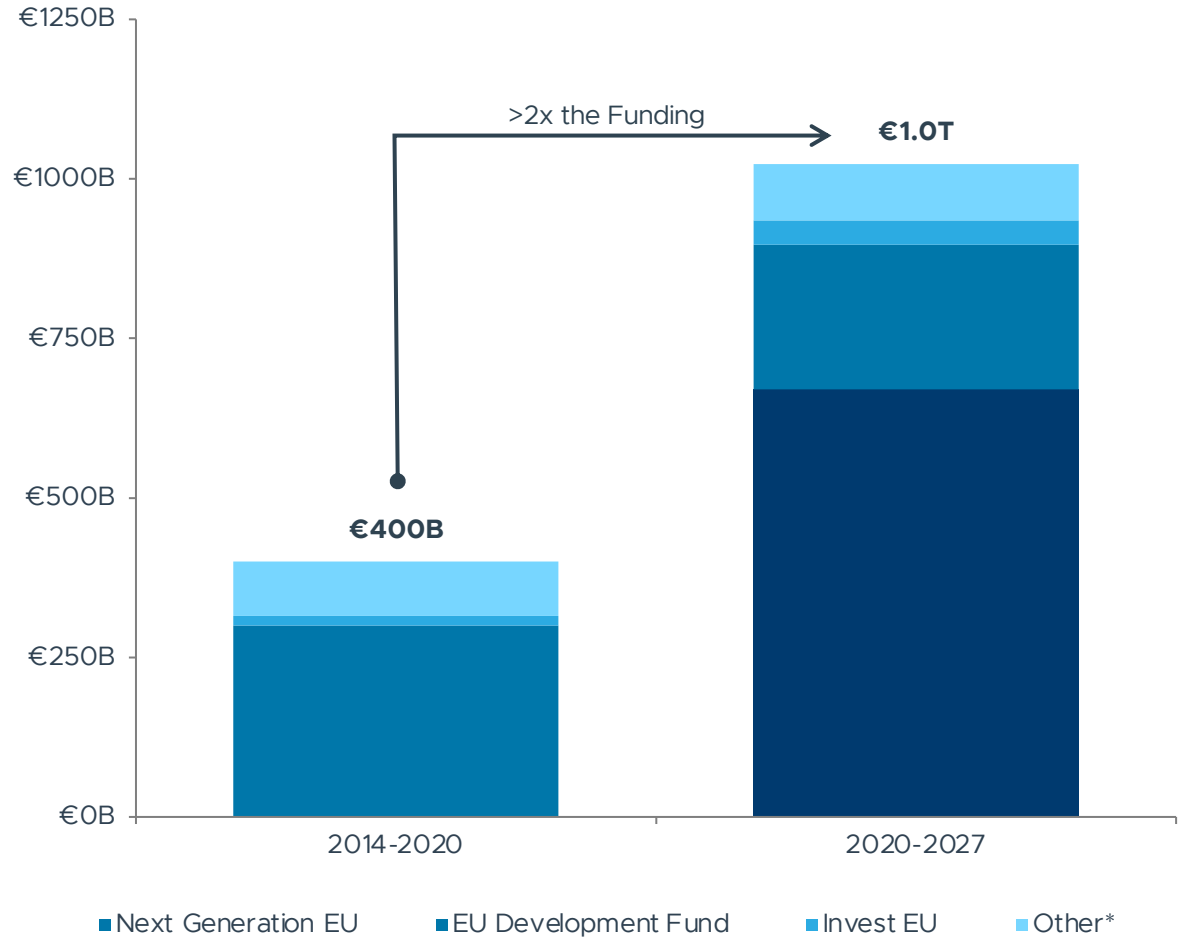
## Inflation Reduction Act to drive $4.1T of infrastructure investment

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 infrastructure-related spending

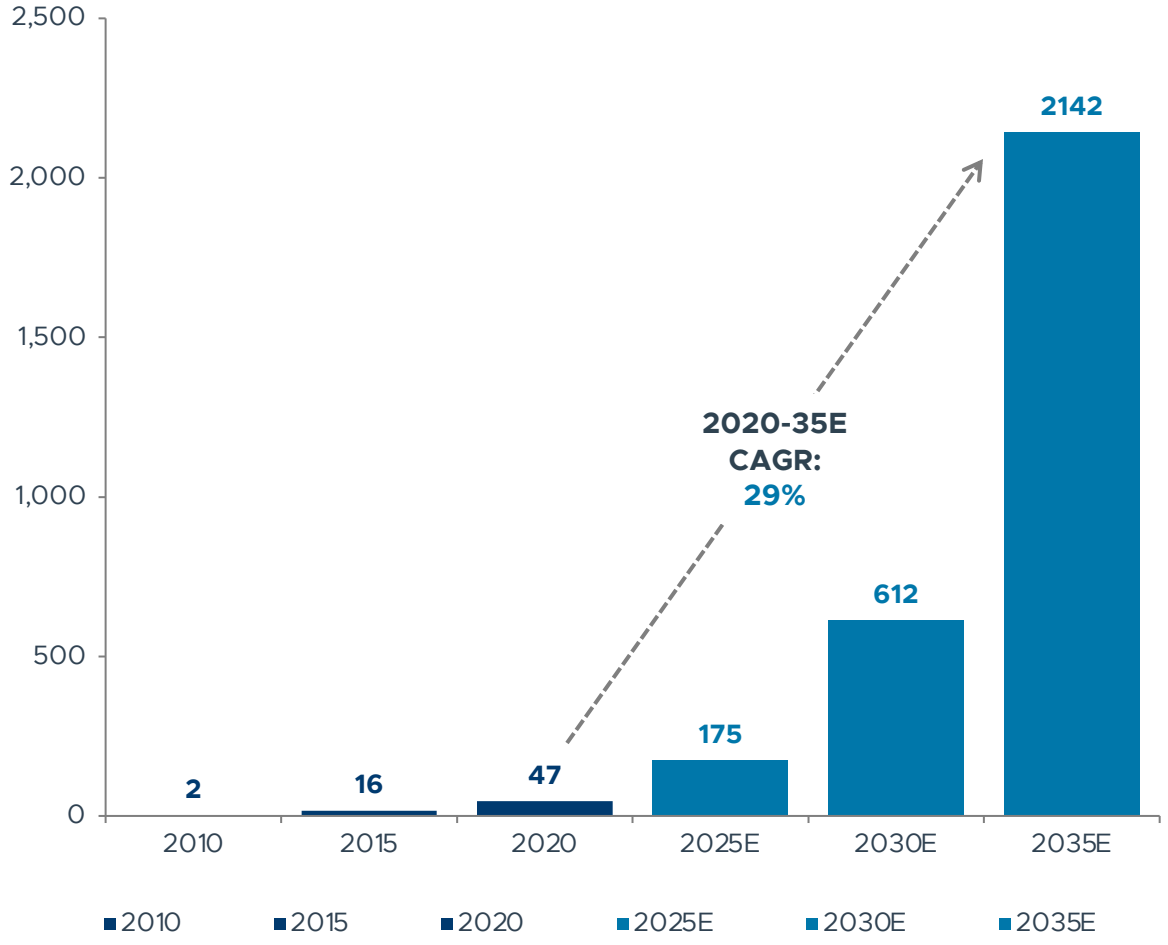



Source: (left) Princeton University ZERO Lab and REPEAT Project, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of Aug. 12, 2021, and is subject to change based on potential updates to source(s) database. Analysis looks at the cumulative capital investment 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 Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of Nov. 3, 2022, 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 various EU infrastructure policies. Other includes Cohesion Fund, Connecting Europe, and the Just Transition Fund. 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.

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

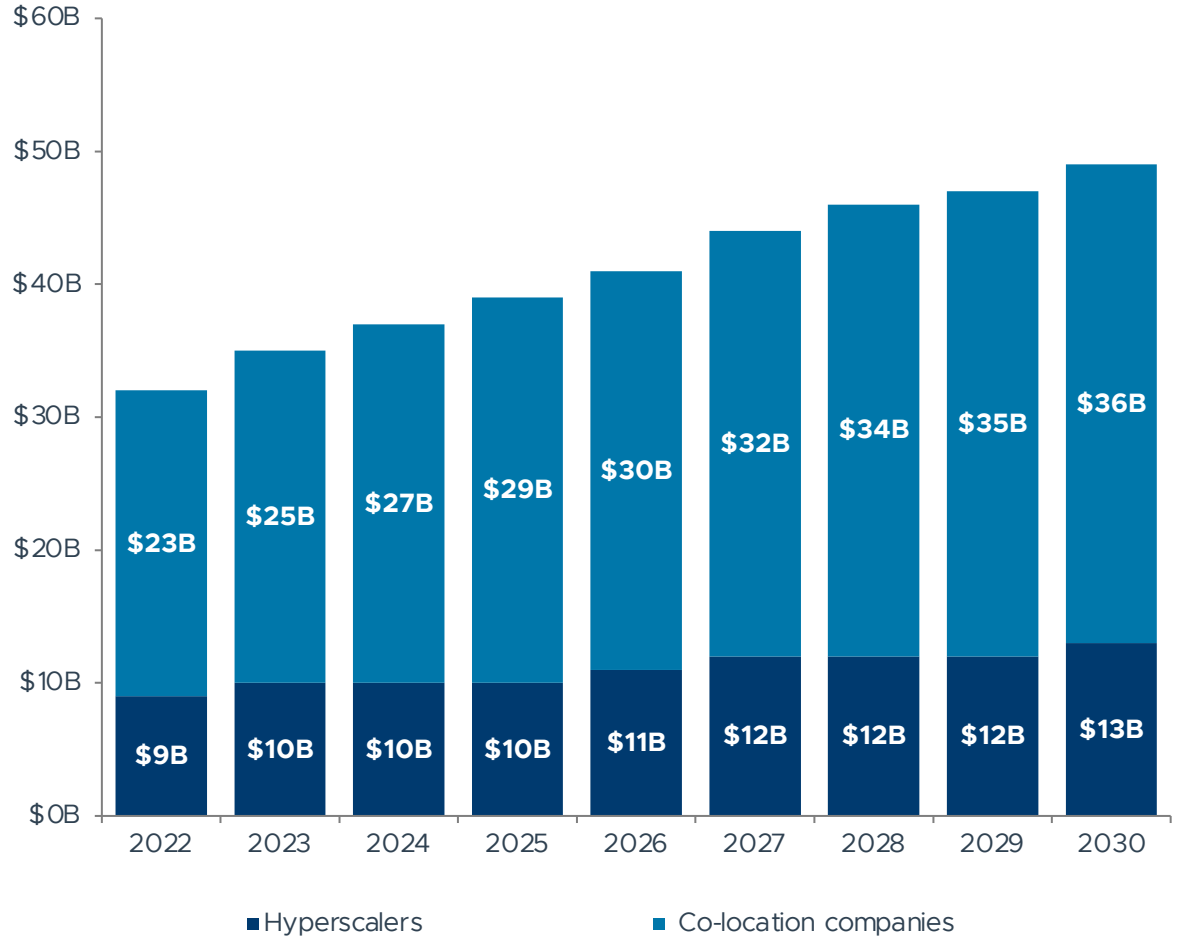
## The data universe is set to grow more than 10x from 2020 to 2030

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)

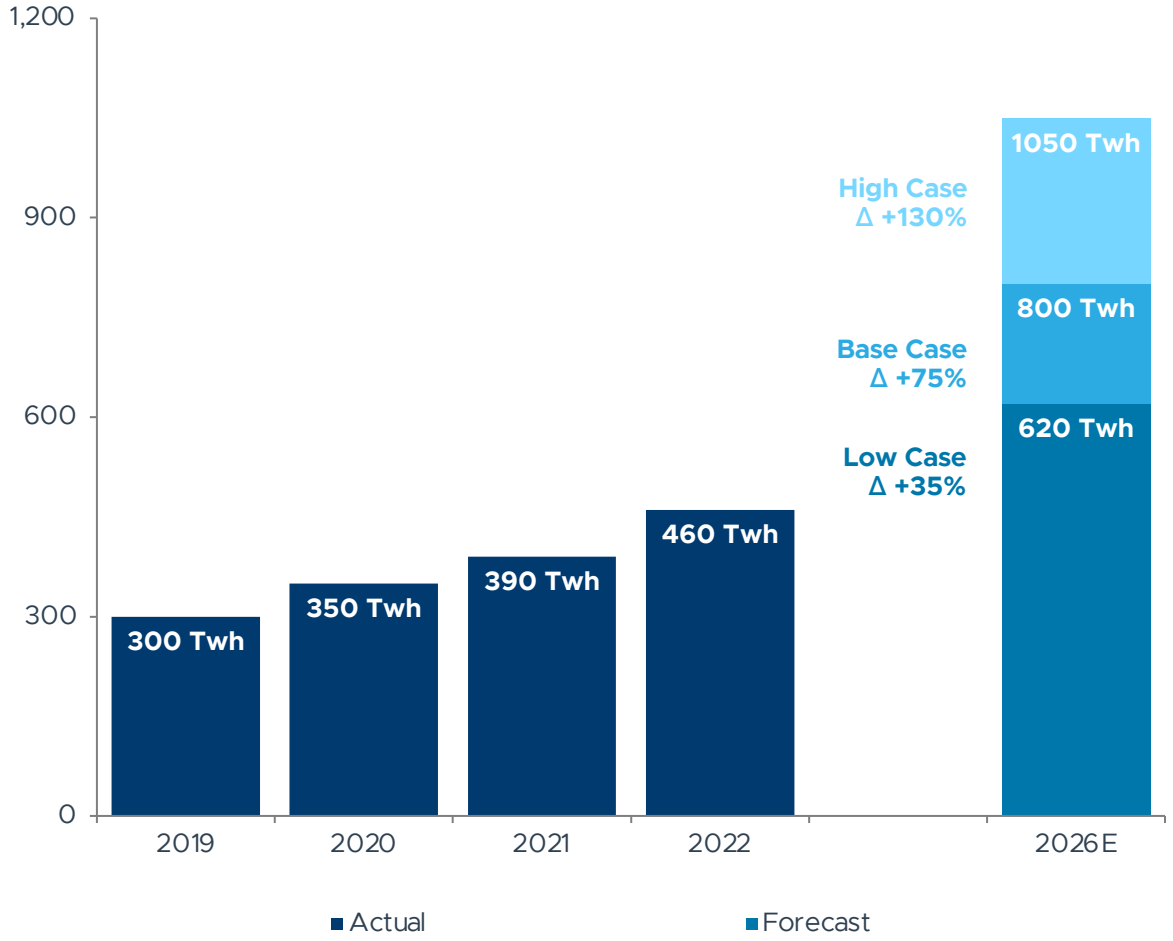



Source: (left) Statista, Ericson Mobility Report, Guardian, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of Jan. 13, 2023, and is subject to change based on potential updates to source(s) database. Analysis looks at historical and forecasted total global data creation by year. (right) McKinsey & Company, Synergy Research Group, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 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 center construction spending between hyperscalers and co-location companies and is based on money allocated to build more capacity. Includes construction spending by providers. Excludes enterprise spending and any other capital expenditure 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. Future results are not guaranteed.

# The investment need for additional decarbonized power generation is growing

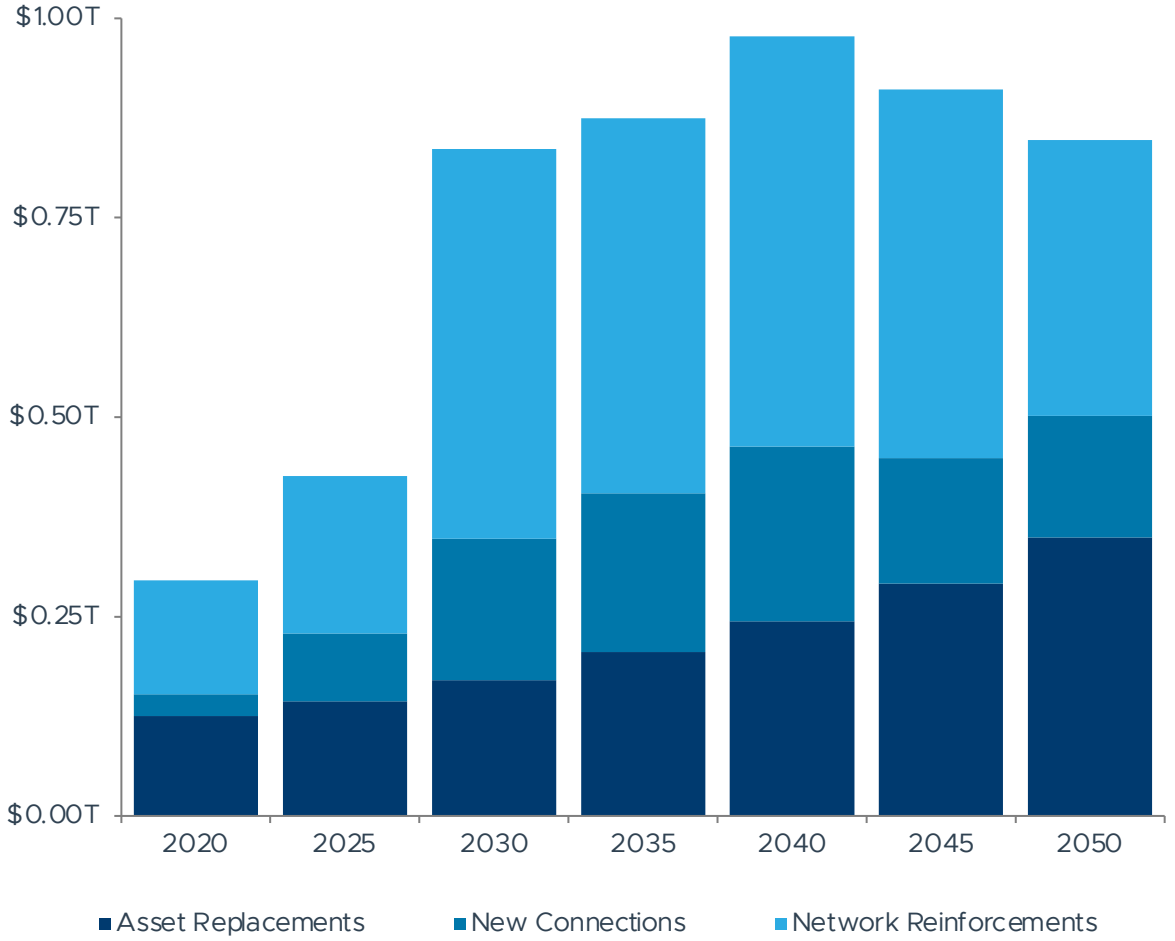
## Global electricity demand from AI and data centers to double by 2026

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




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

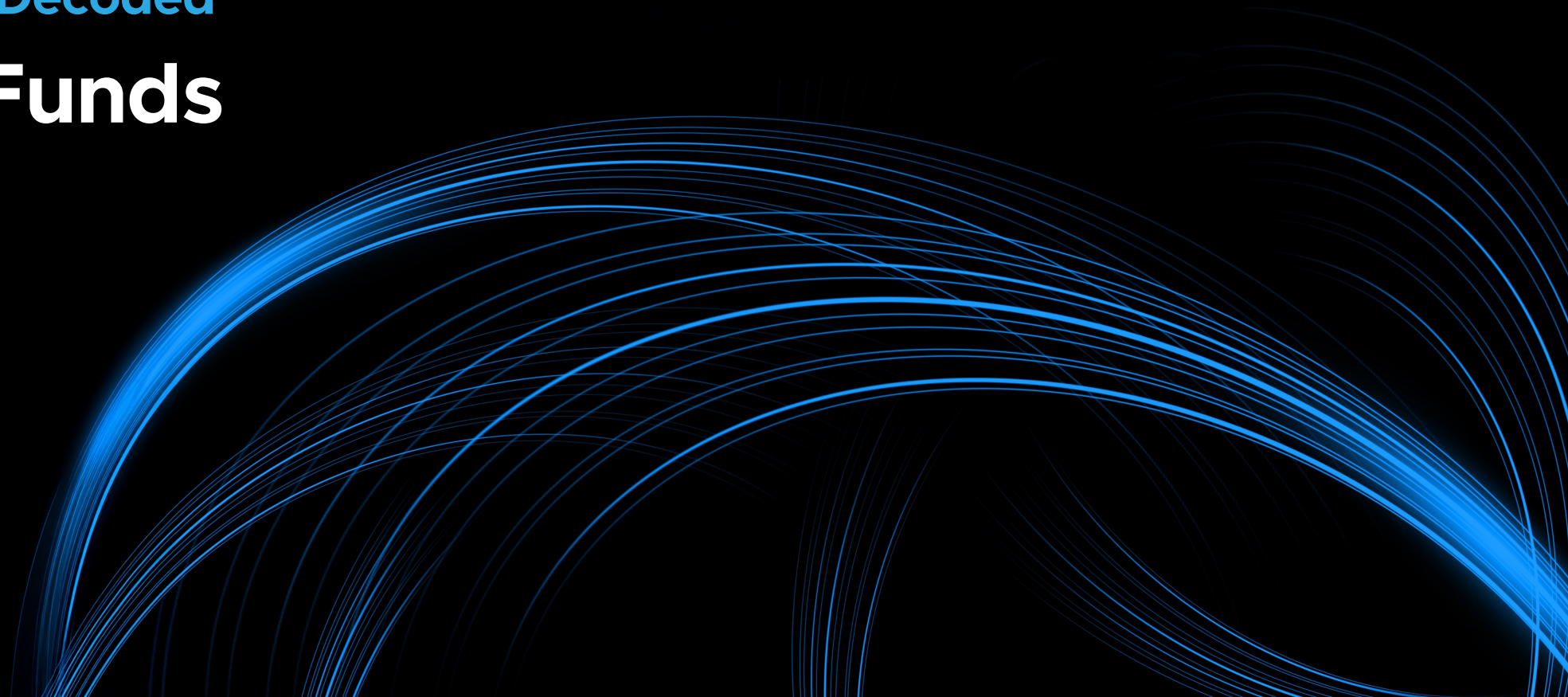
Global annual power grid investment needed to meet net zero scenario




Source: (left) International Energy Agency (IEA), iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 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 Alternatives Decoded, with data based on availability as of Apr. 30, 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

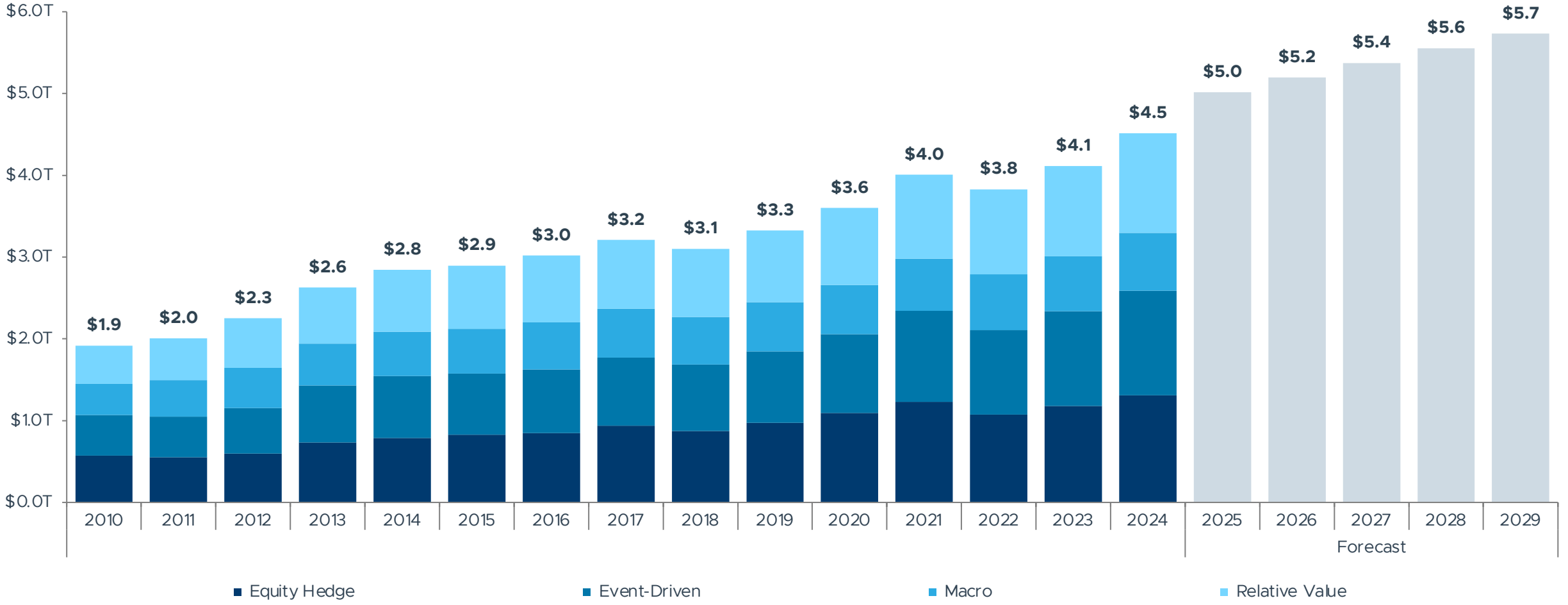


iCapital

# 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

Total assets under management across the hedge fund industry ($ trillion, as of December 2024)




Source: Hedge Fund Research (HFR), Preqin, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 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. Future results are not guaranteed.

# Different hedge fund strategies can help position for various market conditions

## Hedge fund returns

Annual and time-period returns ranked in order of performance (%, as of March 2025)

| Annual Return (%) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 YTD |
| 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 | 1.4% Credit |
| 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 | 1.1% Multi-Strategy |
| -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 | 1.1% Cash |
| -1.0% Credit | 5.6% Global 60/40 | 7.6% Event Driven | -2.1% Event Driven | 7.5% Even Driven | 9.3% Event Driven | 9.2% Global 60/40 | -2.6% Credit | 8.1% Hedge Fund Composite | 9.8% Event Driven | 0.3% Global 60/40 |
| -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 | -0.1% Macro |
| -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 | -0.5% Hedge Fund Composite |
| -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 | -1.1% Event Driven |
| -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 | -1.4% Equity Hedge |

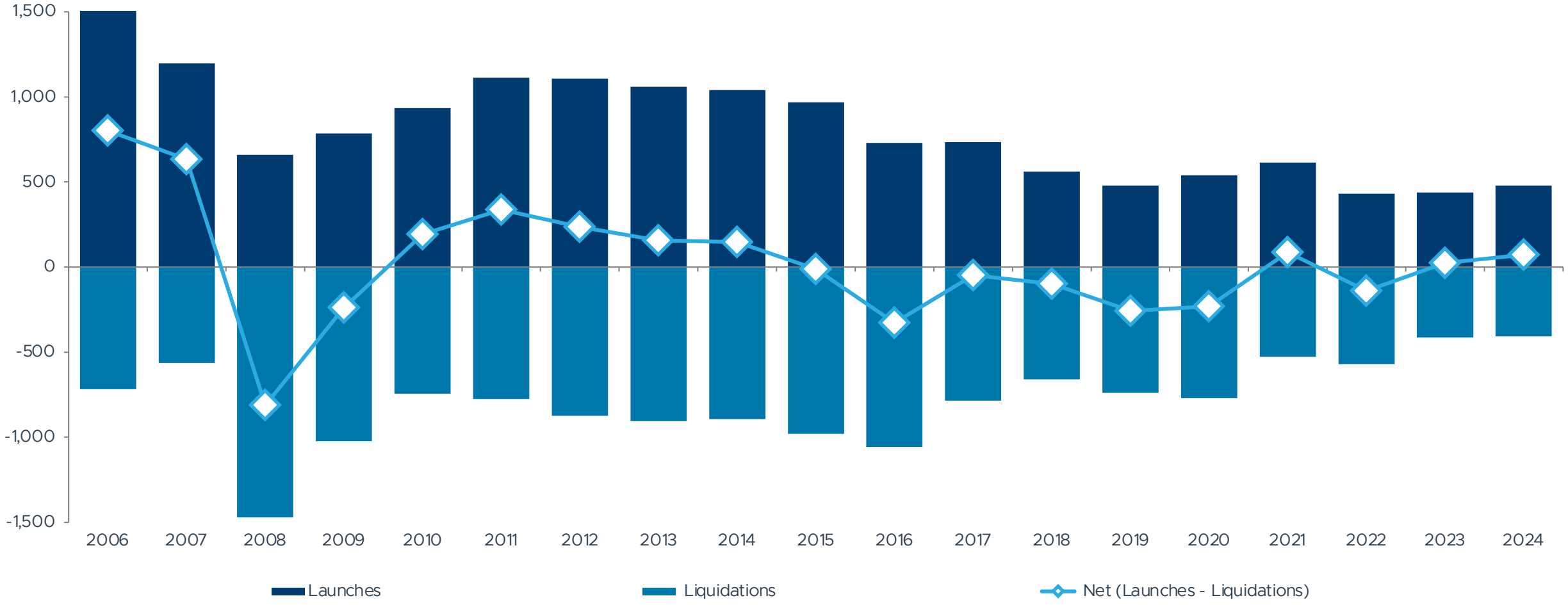
| Time-Period Return (%, per annum) | | | |
|---|---|---|---|
| 3YR | 5YR | 10YR | 15YR |
| 5.3% Credit | 11.2% Equity Hedge | 5.9% Equity Hedge | 5.8% Global 60/40 |
| 5.0% Event Driven | 10.5% Event Driven | 5.5% Global 60/40 | 5.5% Equity Hedge |
| 4.9% Equity Hedge | 9.5% Hedge Fund Composite | 5.2% Event Driven | 5.3% Event Driven |
| 4.6% Hedge Fund Composite | 8.5% Global 60/40 | 5.0% Hedge Fund Composite | 5.3% Credit |
| 4.4% Cash | 8.4% Credit | 4.8% Credit | 4.8% Hedge Fund Composite |
| 4.0% Multi-Strategy | 6.8% Multi-Strategy | 4.1% Multi-Strategy | 4.5% Multi-Strategy |
| 3.5% Global 60/40 | 5.7% Macro | 2.7% Macro | 2.6% Macro |
| 2.4% Macro | 2.7% Cash | 1.9% Cash | 1.3% Cash |

Source: Bloomberg Index Services Limited, FTSE Russell, Hedge Fund Research (HFR), MSCI, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data through March 2025 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 Macro Index. Equity Hedge proxied by HFRI Equity Hedge Index. Event Driven proxied by HFRI Event-Driven Index. Credit proxied by HFRI Credit Index. Cash proxied by FTSE 3 Month US T Bill 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 are not guaranteed.

# 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 December 2024)

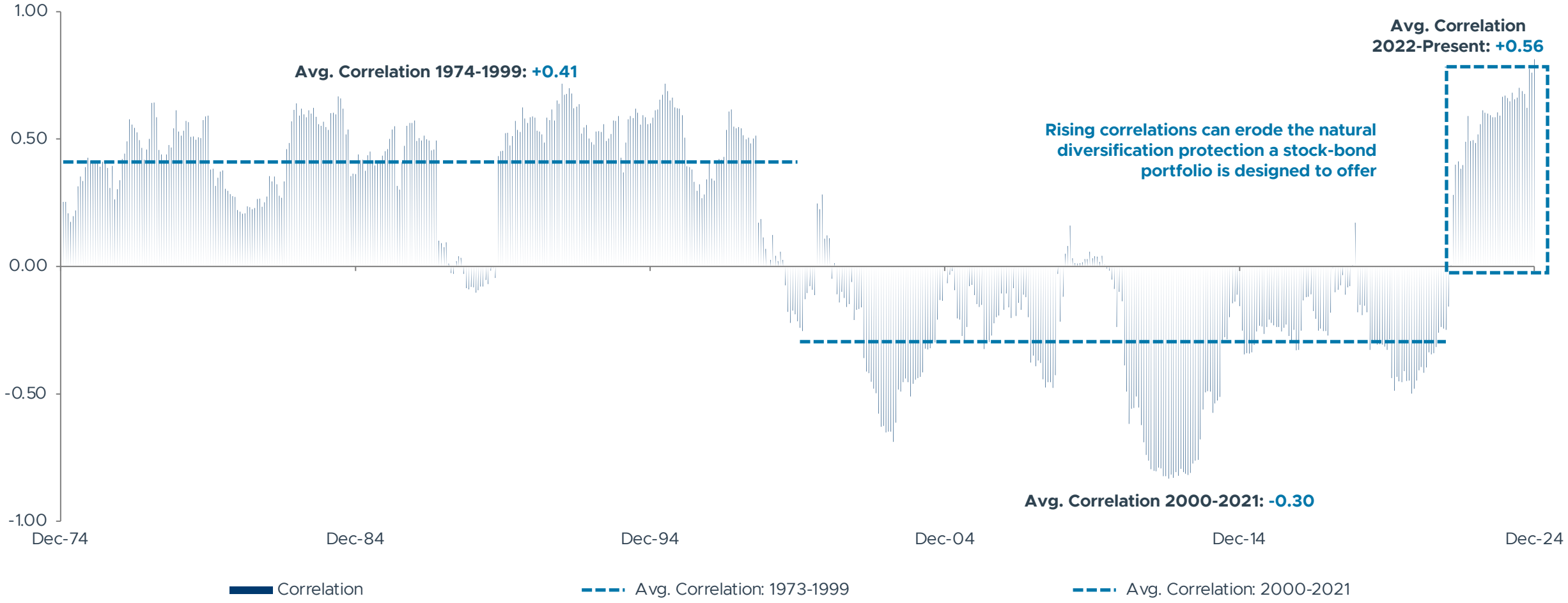



Source: Hedge Fund Research (HFR), iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data through December 2024 and is subject to change based on potential updates to source(s) database. For more information, please refer to the Index Definitions, Attributions, 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.

# Traditional 60/40 portfolio is not offering the "natural" diversification it use to, especially today

## 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 March 2025)




Source: Bloomberg Index Services Limited, S&P Dow Jones, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 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.

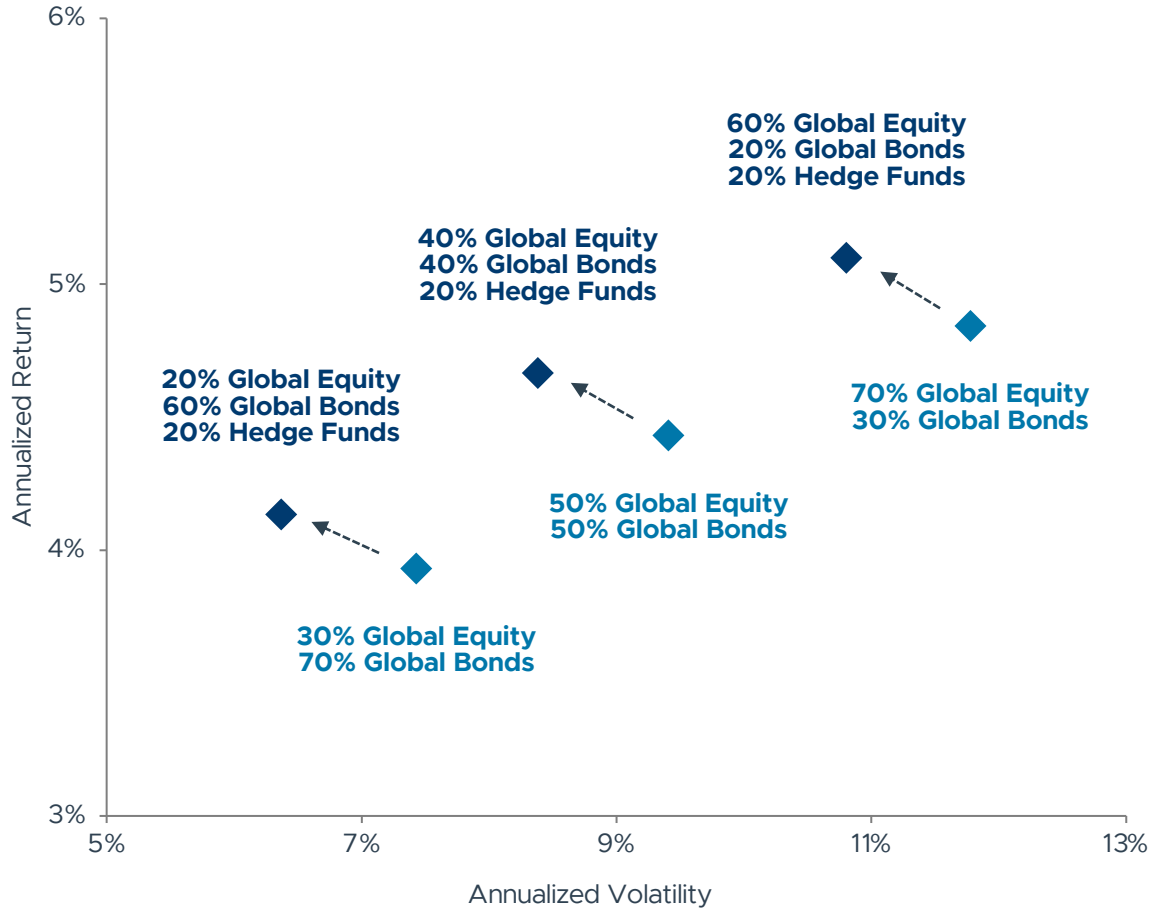
# Historically, adding hedge funds to traditional portfolios has improved risk/return

## Comparative risk/return favorable to Hedge Funds

Annualized volatility/returns since January 2000 (%, as of March 2025)

## Portfolio risk/return is enhanced when adding Hedge Funds

Annualized volatility/returns since January 2000 (%, as of March 2025)




Source: (left) Bloomberg, Hedge Fund Research (HFR), iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data through March 2025 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. Event Driven proxied by HFRI Event-Driven Index. Cash proxied by FTSE 3 Month US T Bill 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. (right) S&P Capital IQ, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data through March 2025 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

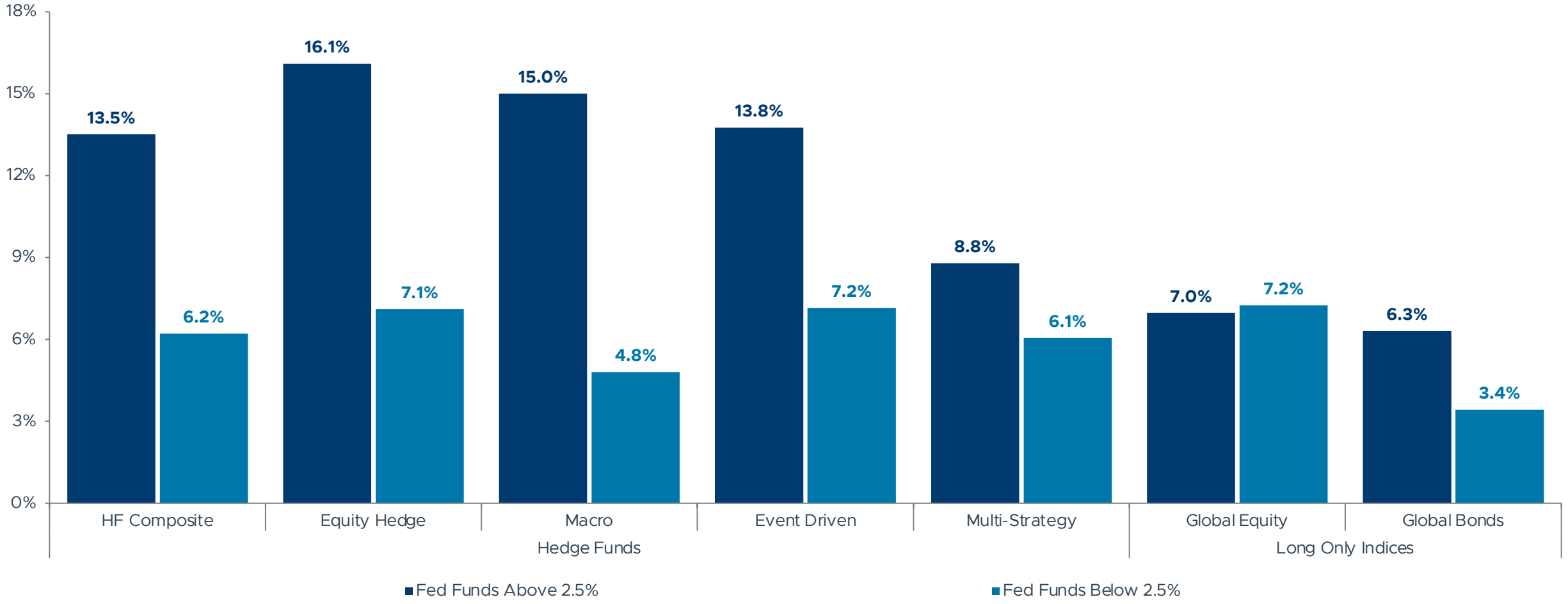
Normalized change of $1,000 invested across various strategies since the start of 2000 ($, as of March 2025)

Source: Bloomberg Index Services Limited, Hedge Fund Research (HFR), MSCI, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data through March 2025 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 – March 2025)

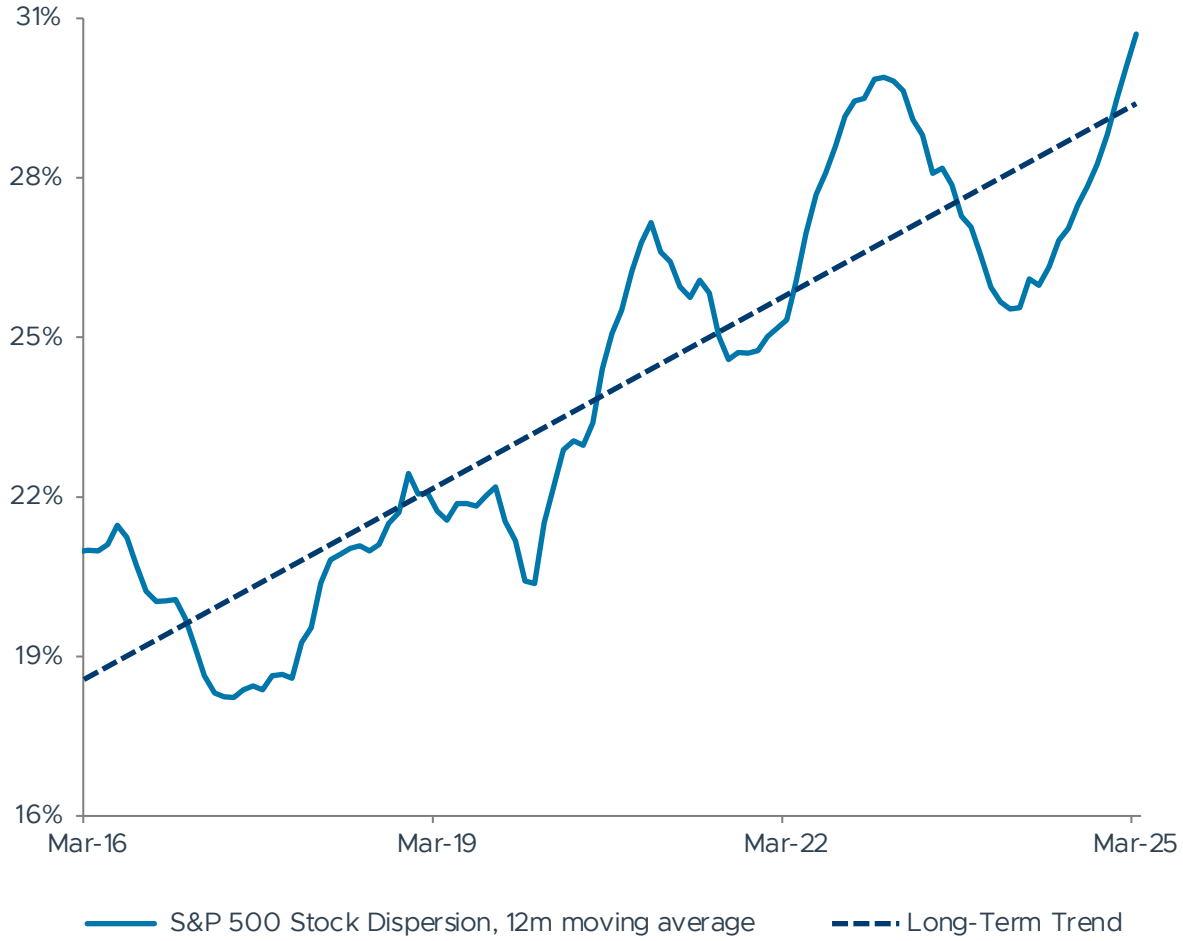



Source: Bloomberg Index Services Limited, Federal Reserve, Hedge Fund Research (HFR), MSCI, iCapital Alternatives Decoded, with data based on availability as of Jan. 31, 2025. Note: Data through December 2024 and is subject to change based on potential updates to source(s) database. Analysis looks at 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 proxied by HFRI Event-Driven Index. Multi-Strategy proxied by HFRI Relative Value Multi-Strategy Index. Global Equity proxied by MSCI ACWI Index. Global Bonds 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 are not guaranteed.

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

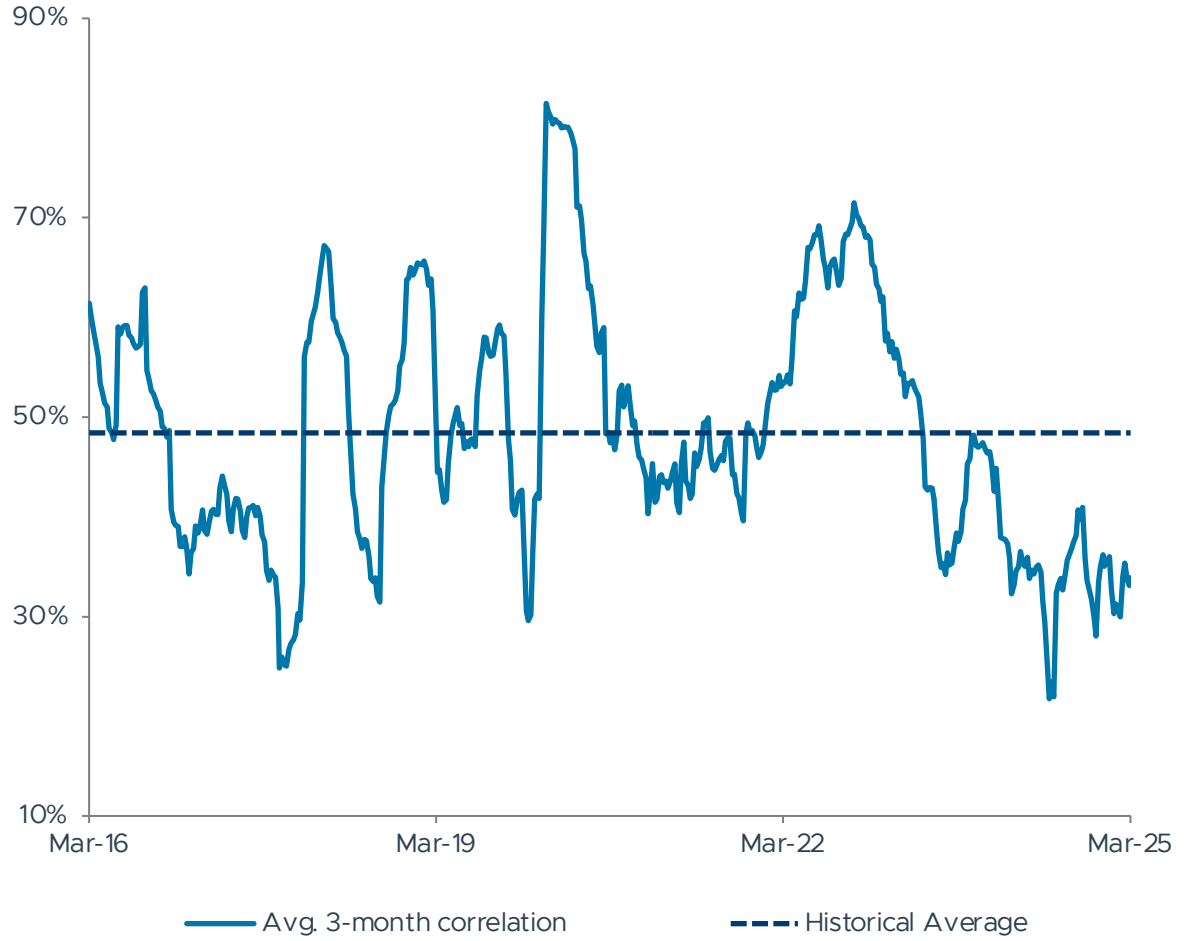
## Dispersion has been exhibiting a general rising trend in recent years

S&P 500 dispersion per the CBOE S&P 500 Dispersion Index (%, as of March 2025)




## Equity correlations remain low relative to historical averages

Bottom-up average 3-month stock correlation to the S&P 500 (%, as of March 2025)

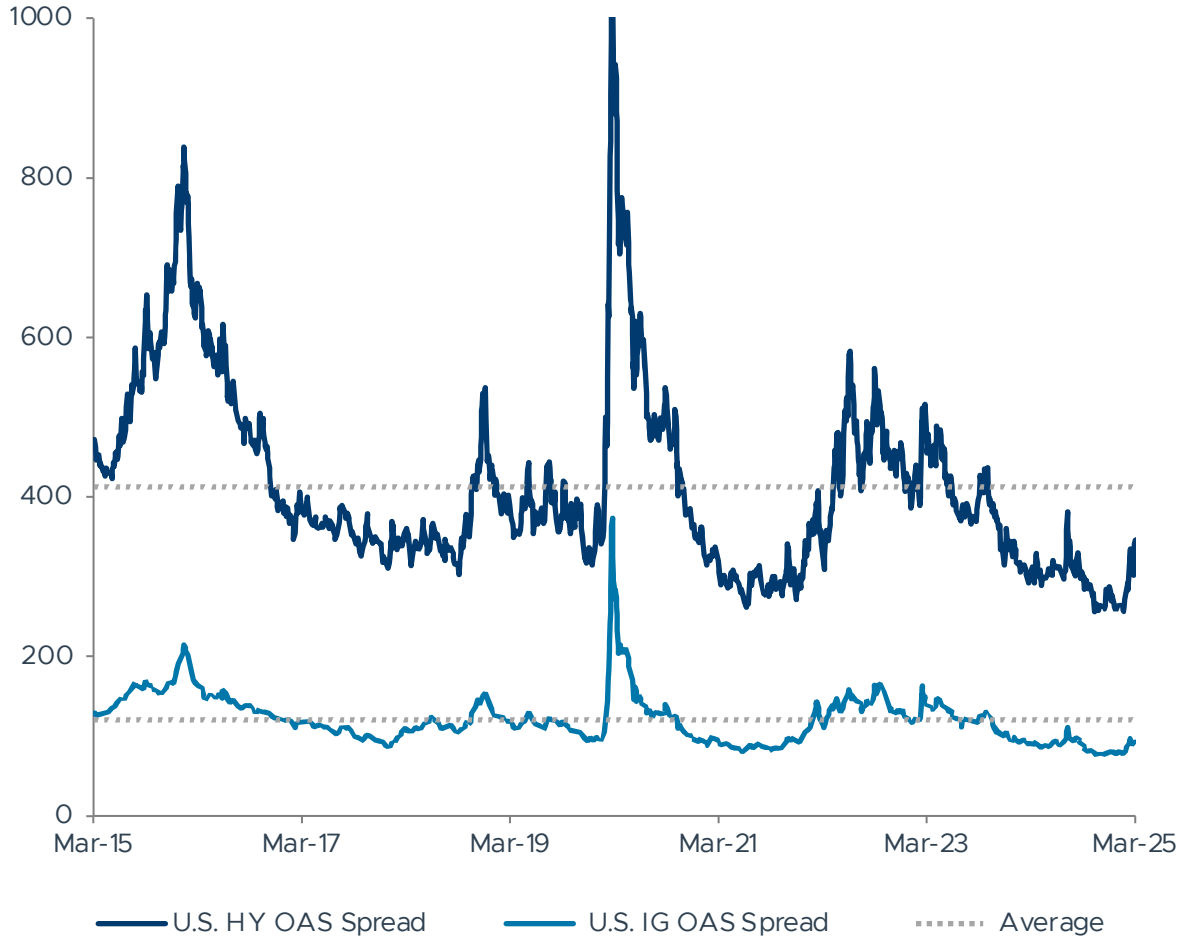



Source: (left) CBOE, S&P Dow Jones, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data through March 2025 and is subject to change based on potential updates to source(s) database. Cboe S&P 500 Dispersion index measures the expected dispersion in the S&P 500 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 Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data through March 2025 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.

# The recent widening in index spreads creates opportunities in distressed credit

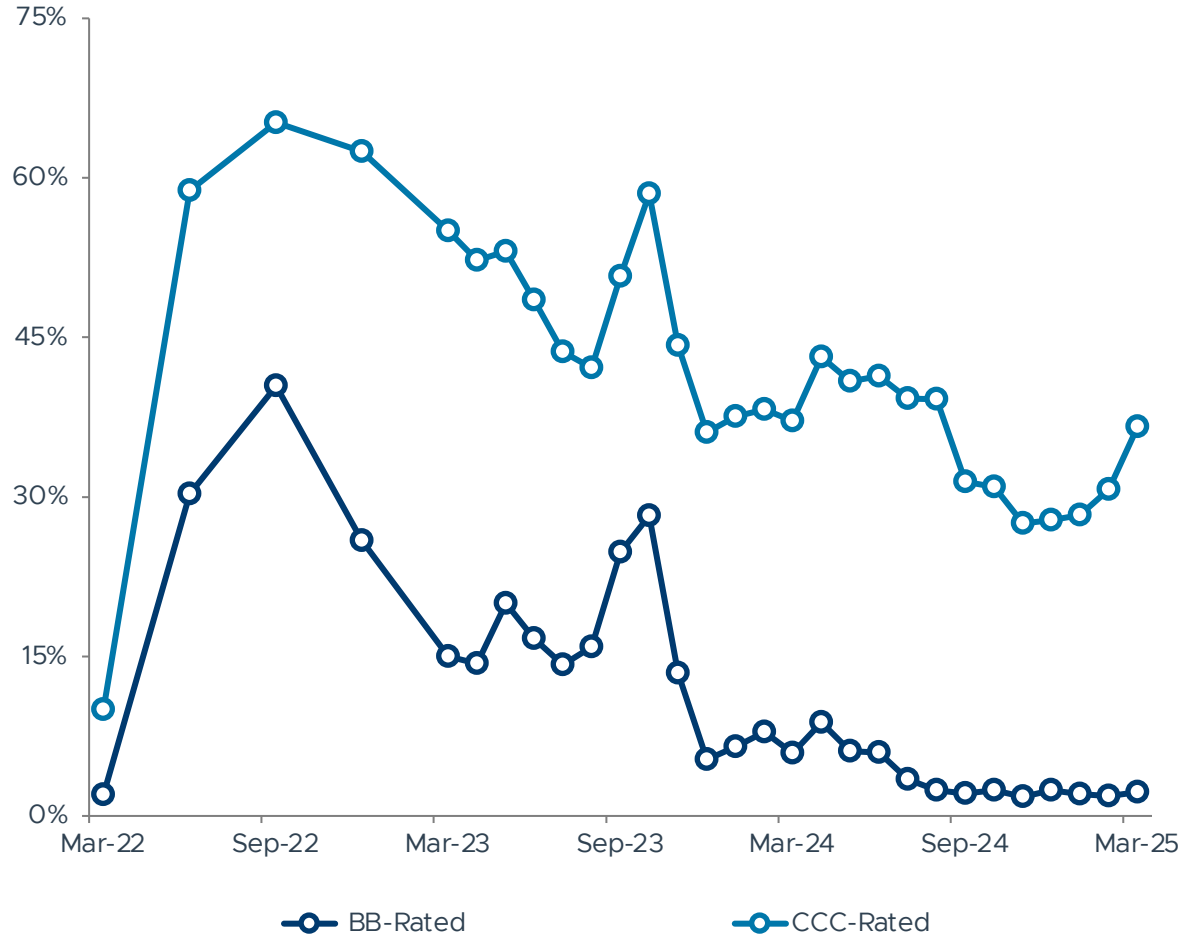
## Credit spreads remain relatively tame, though have widened in recent months

U.S. High Yield & Investment Grade Spreads (bps, as of March 2025)




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

Percentage of bonds trading at stressed levels at month end (below $85, as of March 2025)

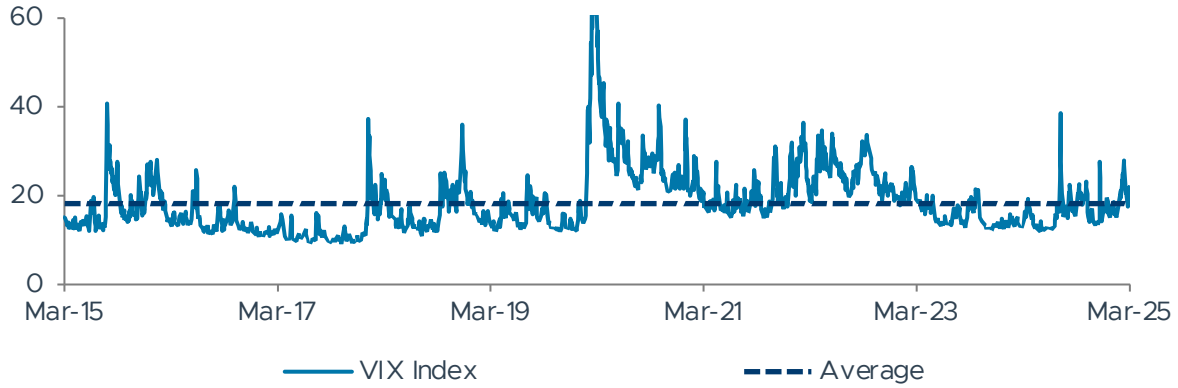



Source: (left) Bloomberg Index Services Limited, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data through March 2025 and is subject to change based on potential updates to source(s) database. Analysis looks at the option adjusted spread (OAS) for U.S. High Yield bonds as proxied by Bloomberg U.S. Corporate High Yield Index and U.S. Investment Grade bonds as proxied by Bloomberg U.S. Aggregate Corporate Investment Grade Index. (right) Bloomberg Index Services Limited, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data through March 2025 and is subject to change based on potential updates to source(s) database. Analysis looks at percentage of BB-rated bonds as proxied by Bloomberg BB U.S. High Yield index, and CCC-rated bonds as proxied by Bloomberg CCC U.S. High Yield index, trading at or below $85 at each month-end. 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 recent spikes in volatility can be a driver of returns for hedge funds

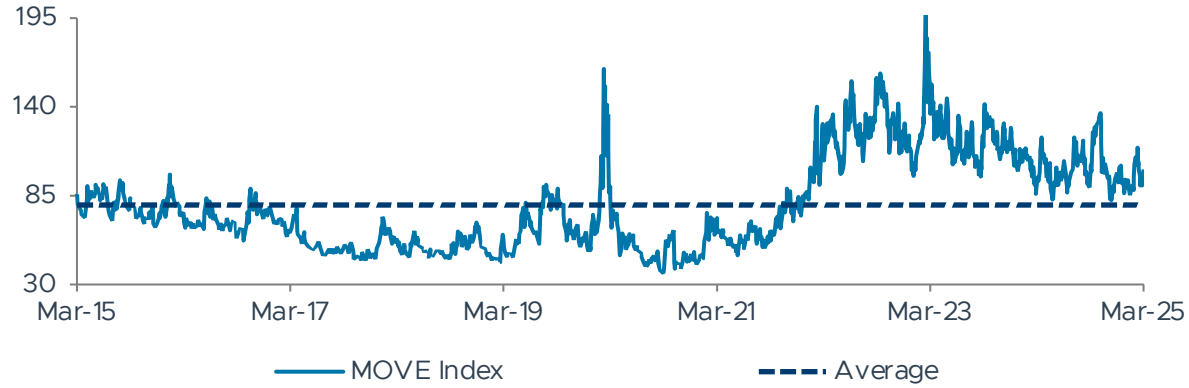
## Equity Volatility

CBOE VIX Index (Level)



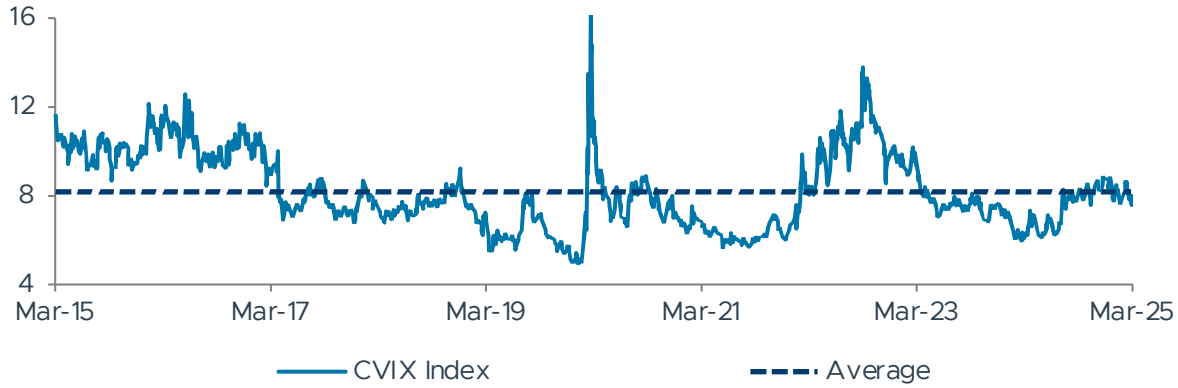

## Rate Volatility

ICE BofA MOVE Index (Level)



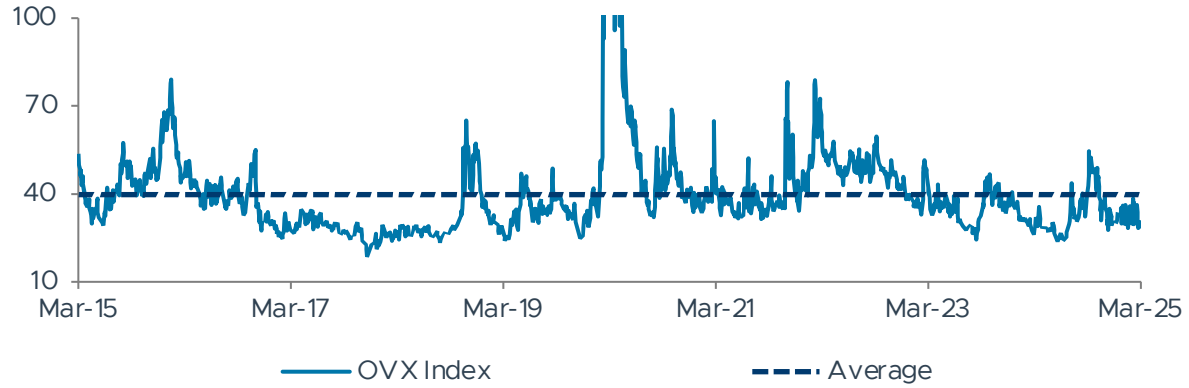

## Currency (FX) Volatility

Deutsche Bank FX Volatility Index (Level)




## Commodity Volatility

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

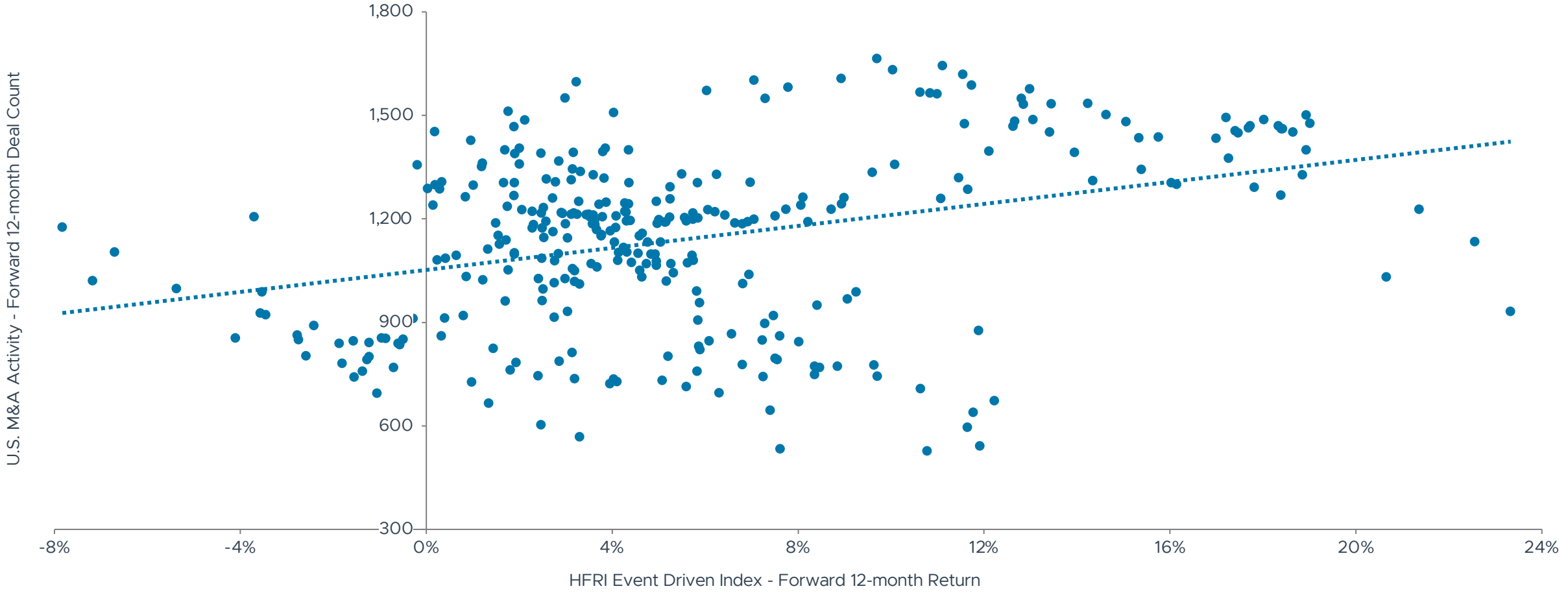



Source: (left, top) CBOE, S&P Dow Jones, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data through March 2025 and is subject to change based on potential updates to source(s) database. (left, bottom) Deutsche Bank, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data through March 2025 and is subject to change based on potential updates to source(s) database. (right, top) Intercontinental Exchange (ICE), iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data through March 2025 and is subject to change based on potential updates to source(s) database. (right, bottom) CBOE, S&P Dow Jones, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data through March 2025 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.

# 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 - March 2025)




Source: Hedge Fund Research (HFR), S&P Capital IQ, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data through March 2025 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. Future results are not guaranteed.

Alternatives Decoded

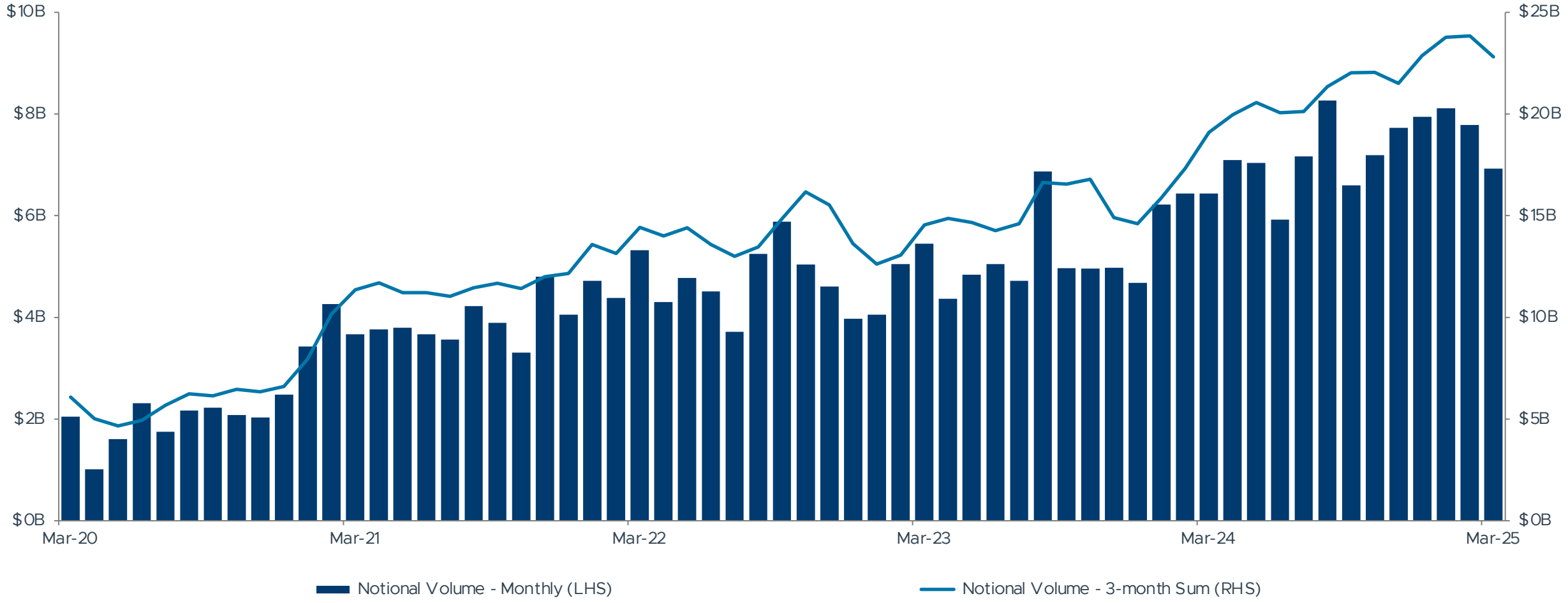
# Structured Investments

iCapital

# 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 March 2025)

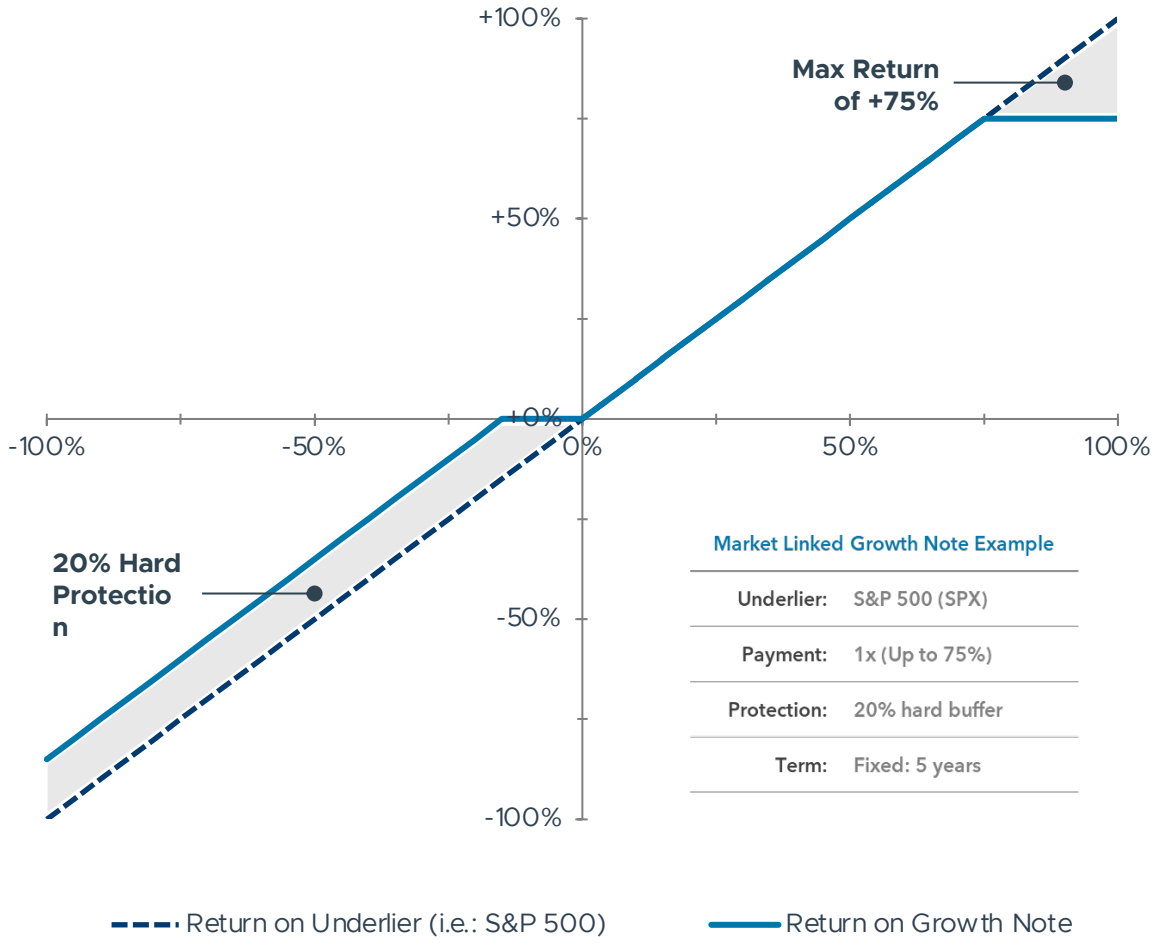



Source: iCapital Structured Investments and Annuities Platform, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data is through March 2025 and is subject to change based on potential updates to source(s) database. The structured investment data above is based 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.

# Payoff structures for market-linked growth and income notes

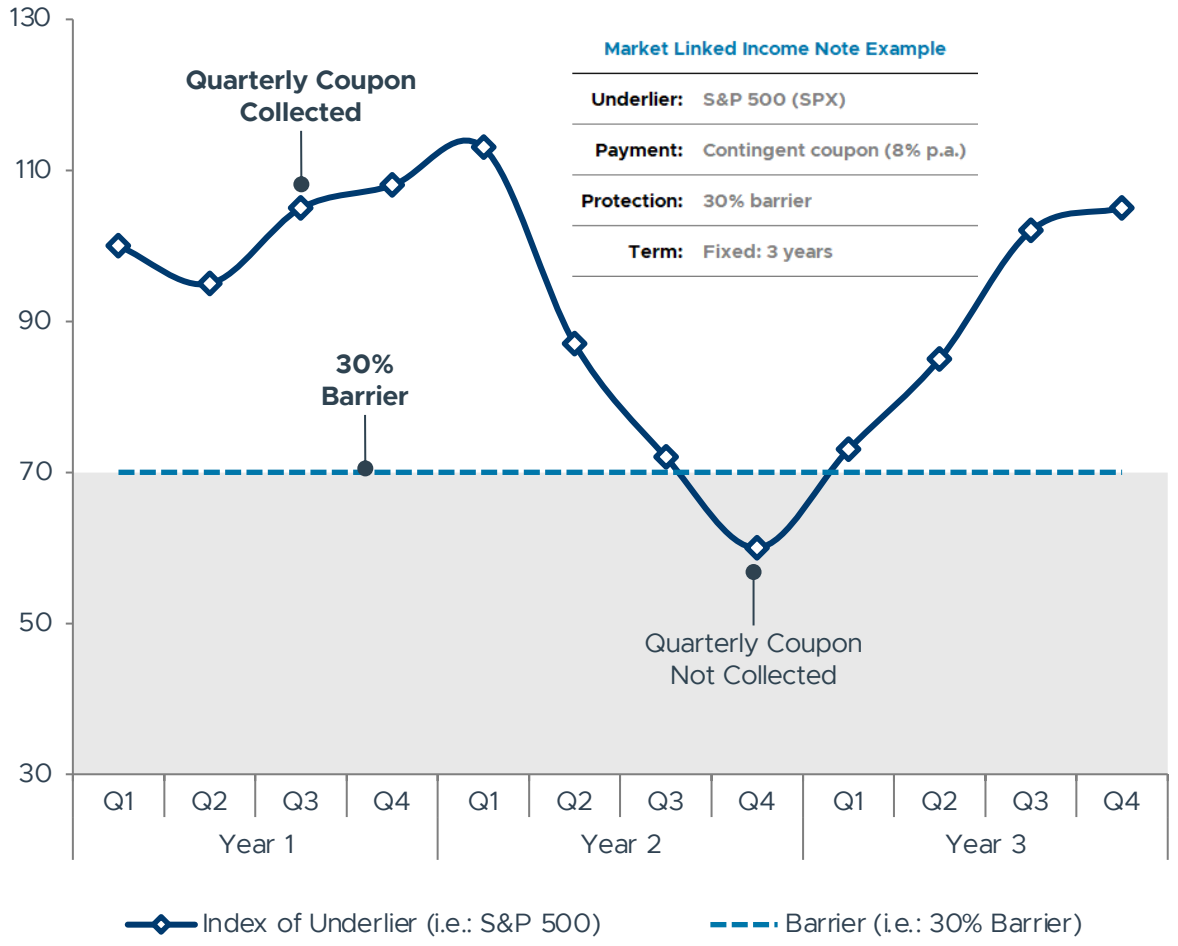
## Growth notes offer upside participation, with leverage or up to a cap

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

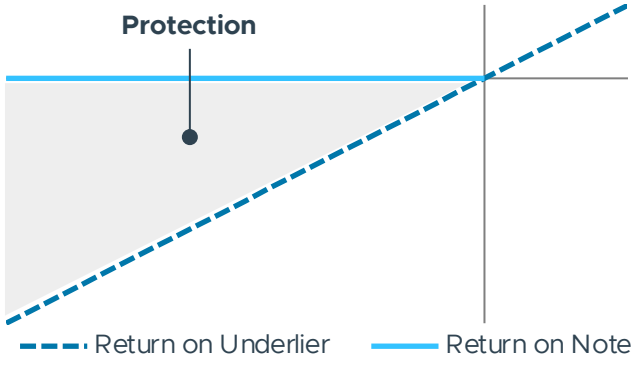



Source: iCapital Structured Investments and Annuities Platform, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: The visuals above are hypothetical examples. They do not necessarily reflect any particular CUSIP or structured investment and are solely intended to help illustrate how different protection methods work. For 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.

# Types of protection available in structured investments

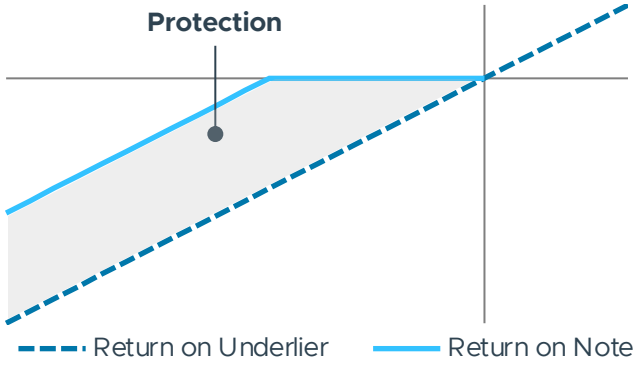
## Full Principal Protection

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



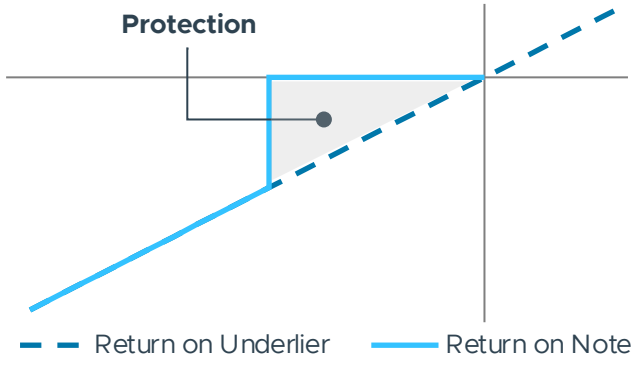

## Partial Protection (Buffer)

**Hard buffer** is a type of protection that **absorbs a fixed percentage of the underlier's loss.** Beyond the hard buffer, the investor faces losses that are one-to-one with the underlier.




## 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-for-one from the underlier's initial level on the trade date.




## Comparing Downside Protection

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

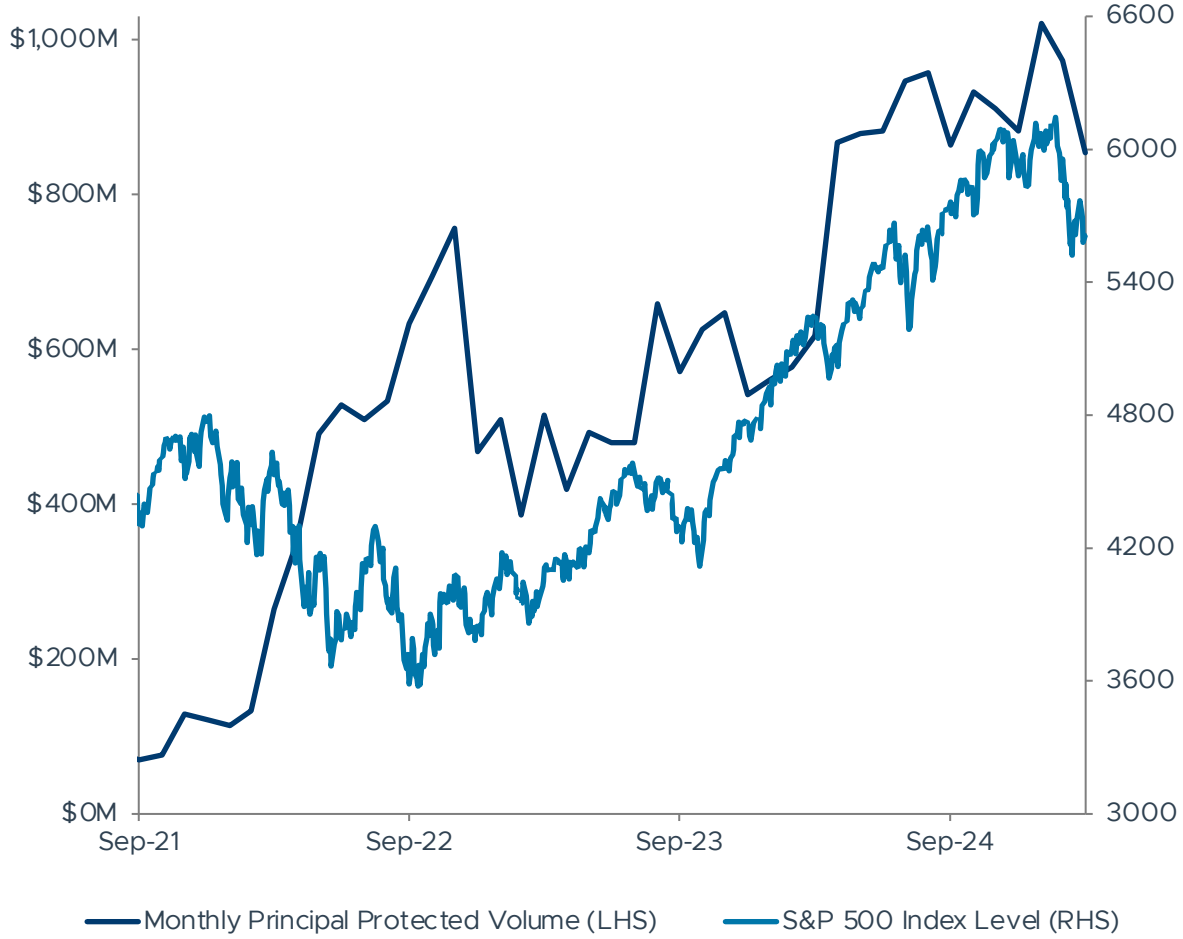
| Underlier Performance (at Maturity) | -10% | -15% | -30% | |
|---|---|---|---|---|
| **Return of Principal (at Maturity)** | | | | **Max Possible Loss** |
| **Full Principal Protection:** | 100% | 100% | 100% | 0% |
| **20% Hard Buffer:** | 100% | 100% | 90% | 80% |
| **20% Barrier:** | 100% | 100% | 70% | 100% |

Source: iCapital Structured Investments and Annuities Platform, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 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.

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

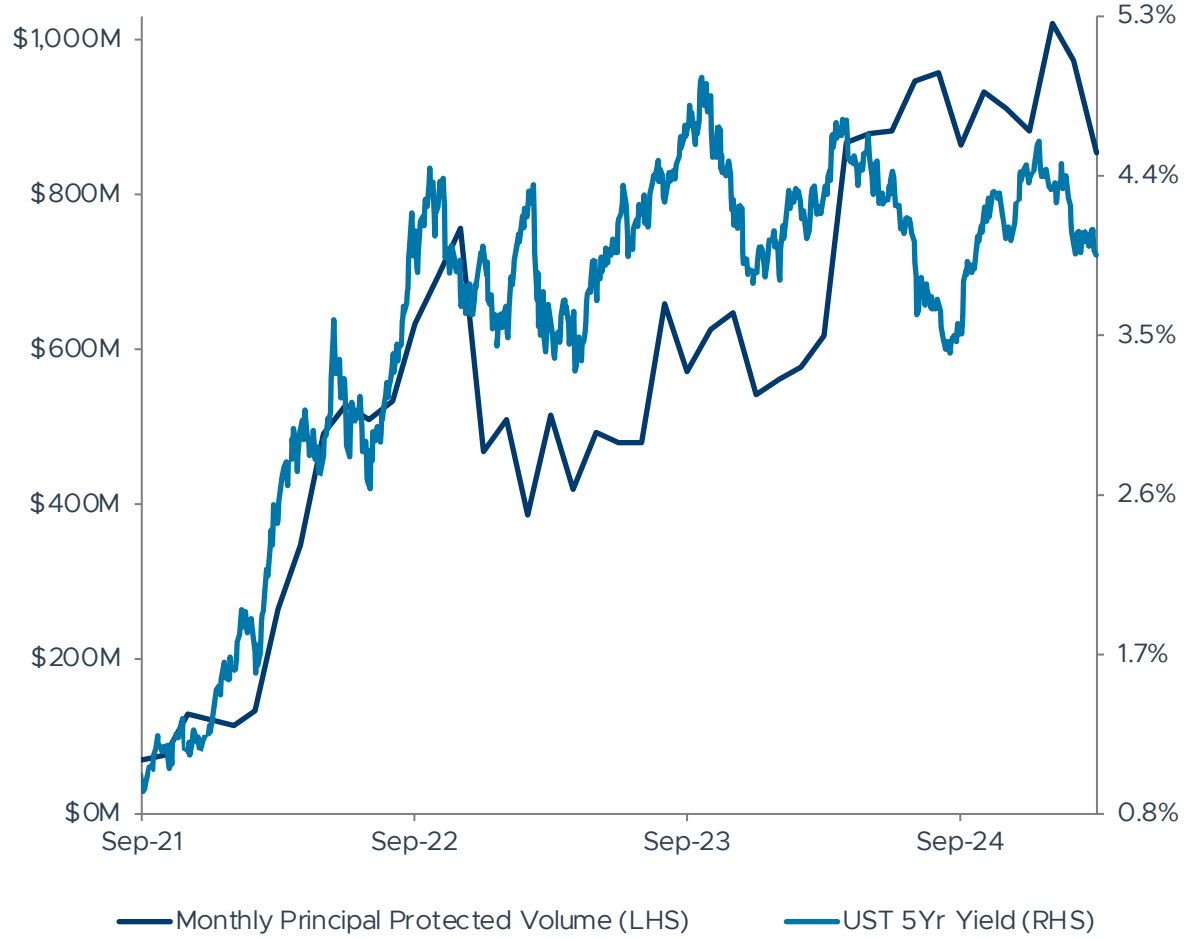
## Demand for protection has increased as equities rallied to new highs

S&P 500 index level vs. monthly fully principal protected volumes ($ millions)




## Volumes of principal protected notes grew with higher bond yields

U.S. 5-year Treasury yield vs. monthly fully principal protected volumes ($ millions)

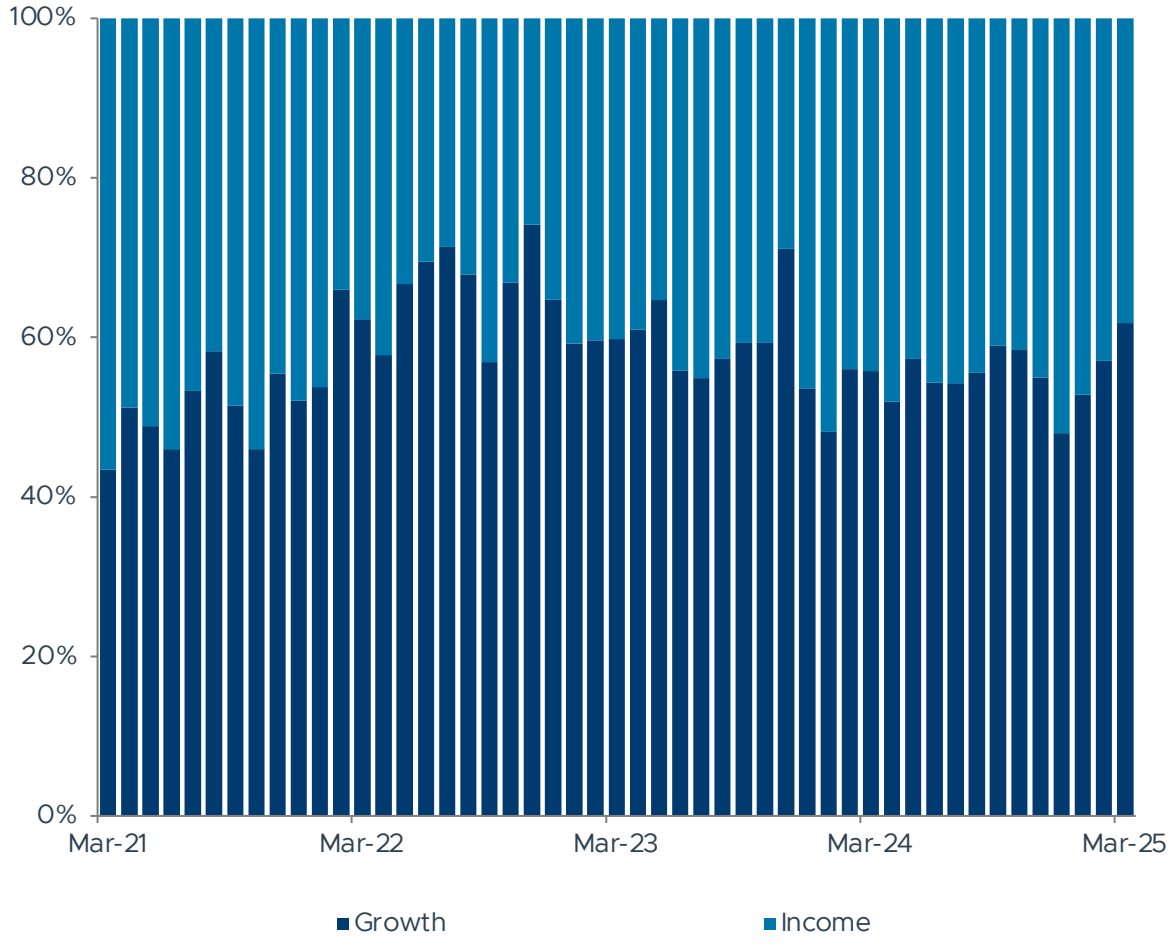



Source: (left and right) S&P Dow Jones, U.S. Department of the Treasury, iCapital Structured Investments and Annuities Platform, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data is through March 2025 and is subject to change based on potential updates to 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.

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

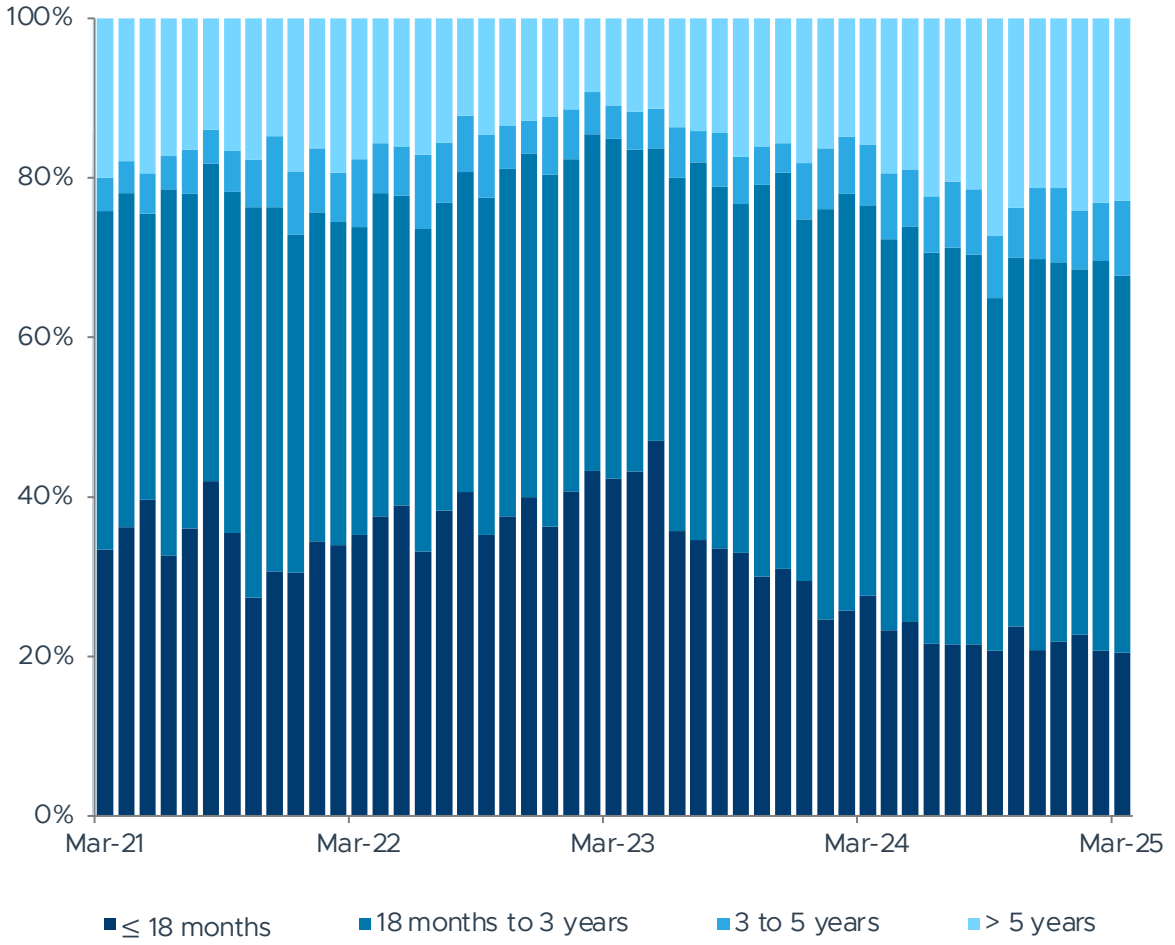
## Income-focused structured inv'ts have been gaining share vs. growth

Breakdown of monthly structured investment volumes by note type (%)




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

Breakdown of monthly structured investment volumes by investment term (%)

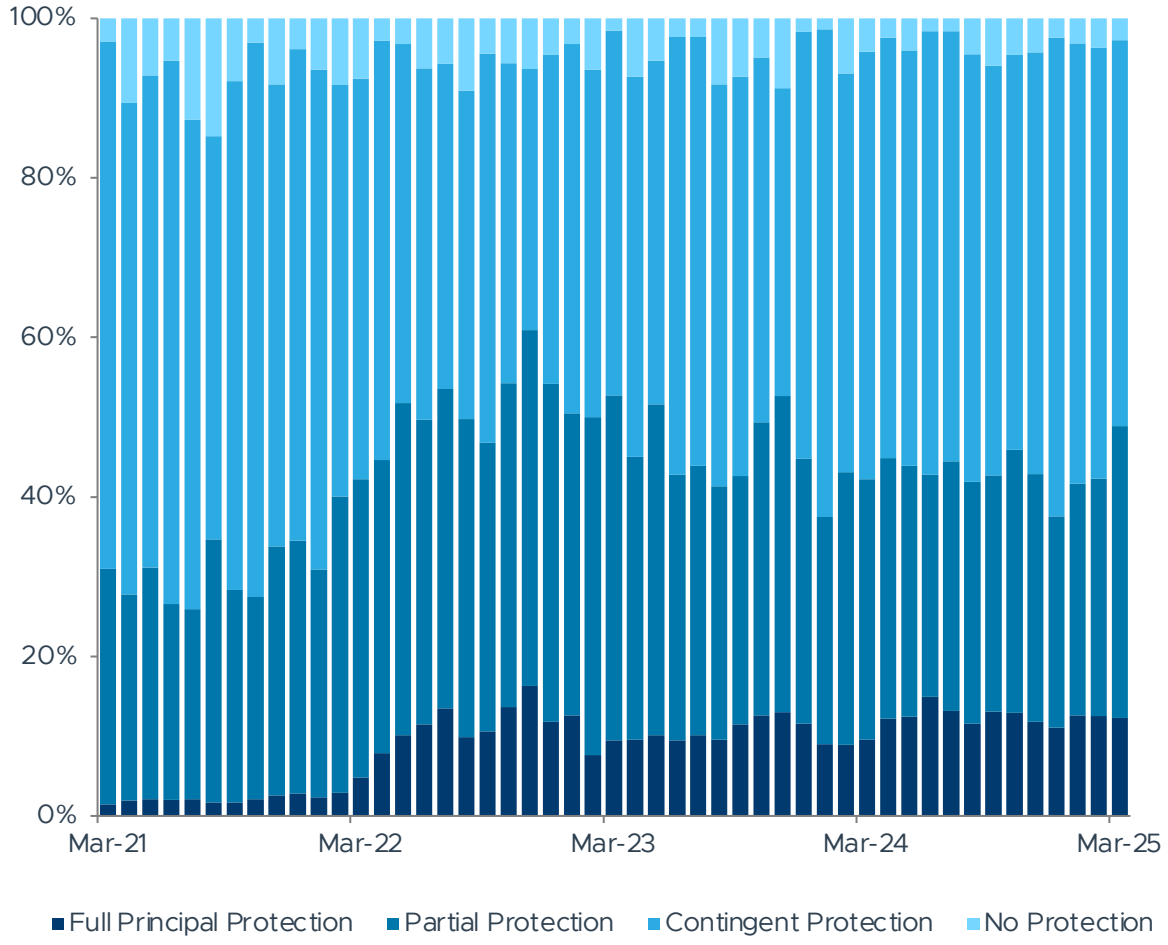



Source: (left and right) iCapital Structured Investments and Annuities Platform, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data is through March 2025 and is subject to change based on potential updates to source(s) database. The structured investment data 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.

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

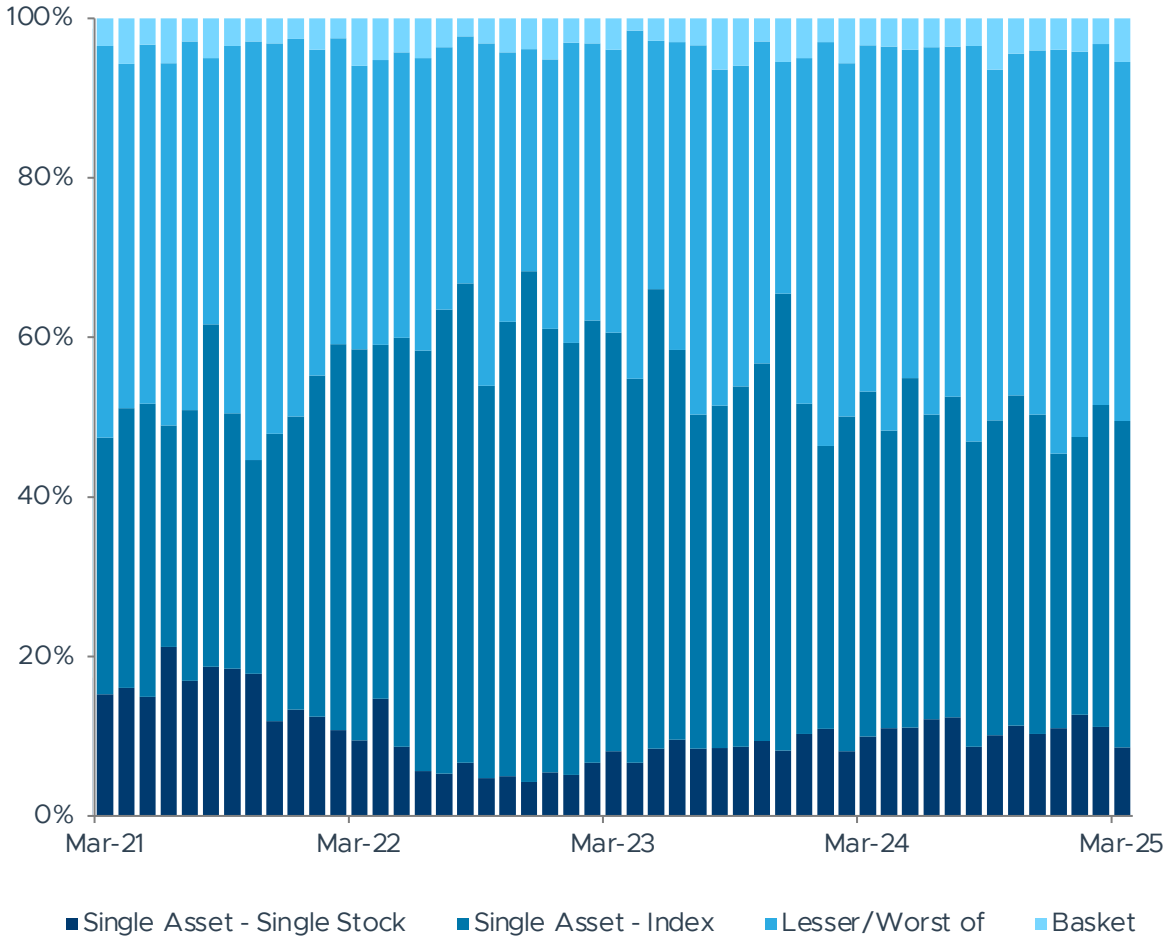
## Investors increasingly favored structures with contingent protection

Breakdown of monthly structured investment volumes by protection type (%)




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

Breakdown of monthly structured investment volumes by underlier structure (%)




Source: (left and right) iCapital Structured Investments and Annuities Platform, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data is through March 2025and 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

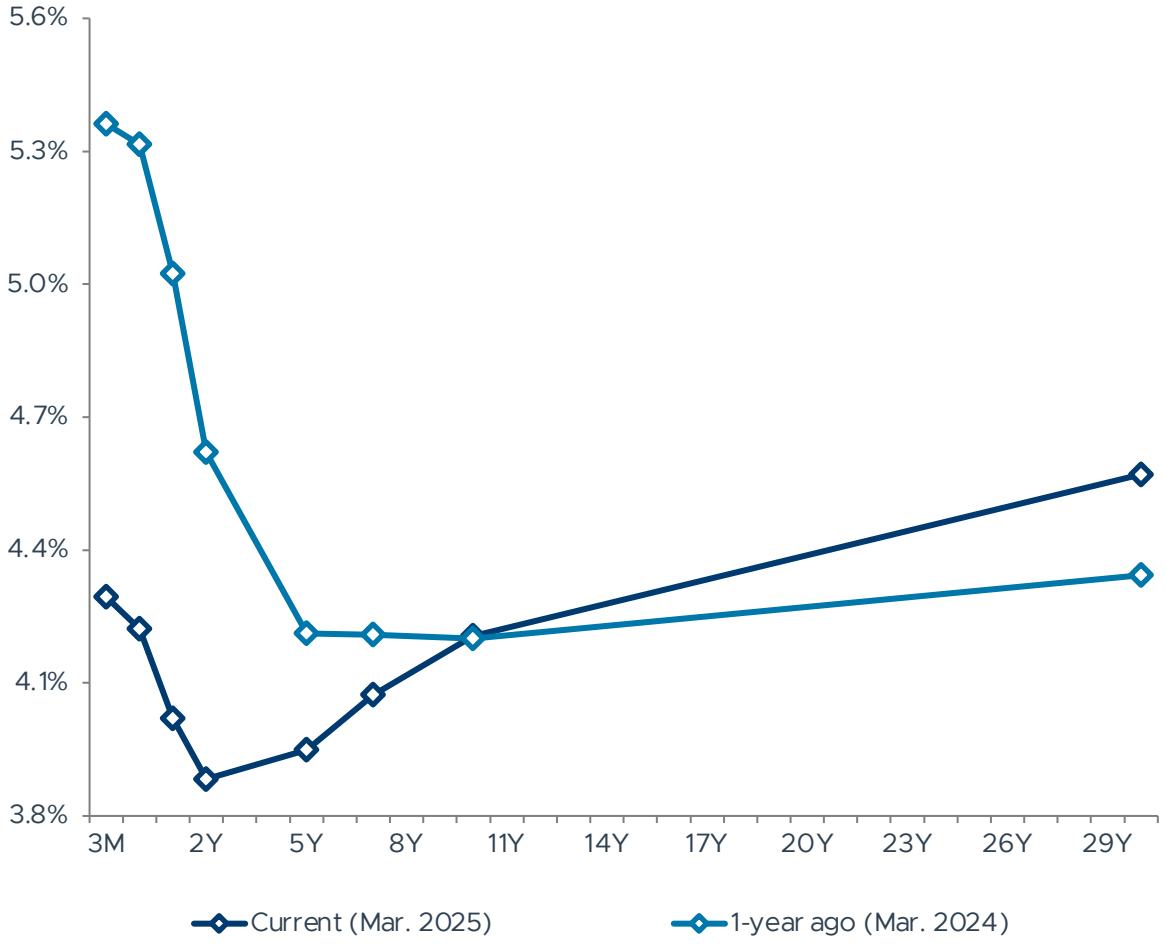
| Main Market Variable | | Impact on Structured Investments | | Reasoning |
|---|---|---|---|---|
| **Interest Rates** | ↑ | **Impact on Pricing** | ↑ | As interest rates increase, an issuer's funding may reflect more favorable bond terms. This allows for a greater amount of principal to be used towards the options package, ultimately improving the terms of the Structured Investment, whether it be directly to the payoff or to downside protection |
| **Volatility** | ↑ | **Impact on Pricing** | ↑↓ | Higher volatility in the market typically means larger premiums on options, which could also lead to improved structured investment terms depending on the pay-off type. |
| **Credit Quality** | ↑ | **Impact on Pricing** | ↓ | Generally, as credit quality of a bank increases, their bonds are perceived to be 'safer,' and as a result, the bonds will have less favorable economics. That said, bank credits impact pricing through their bond component but also represent a material risk to the end investor. |
| **Correlations** | ↑ | **Impact on Pricing** | ↓ | Correlation is the measure of how assets move in relation to each other. As correlations on underlying assets rise, pricing becomes less attractive since it will lead to a tighter range of expected outcomes for the worst performing, thus reducing the implied volatility and ultimately reducing the premium used to generate payoff. |

Source: iCapital Alternatives Decoded, 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.

# Rates have moved lower, though credit spreads have widened on the back of market jitters

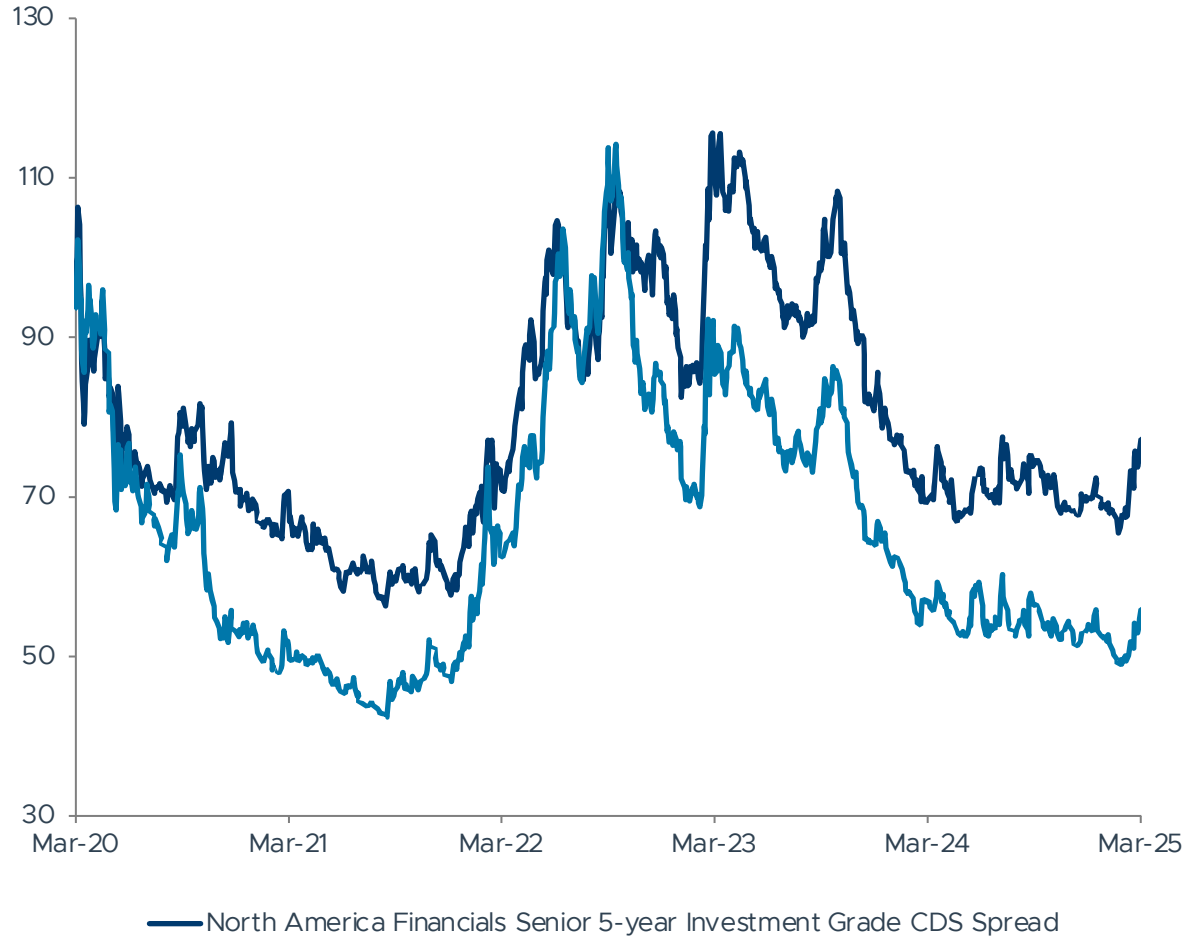
## The front end of the yield curve noticeably declined vs. a year ago

Current and 1-year ago U.S. Treasury Yield Curve (%, as of March 2025)




## Financial institutions' credit spreads have recently begun to widen

Credit default swap spread for Investment Grade Financials (bps, as of March 2025)

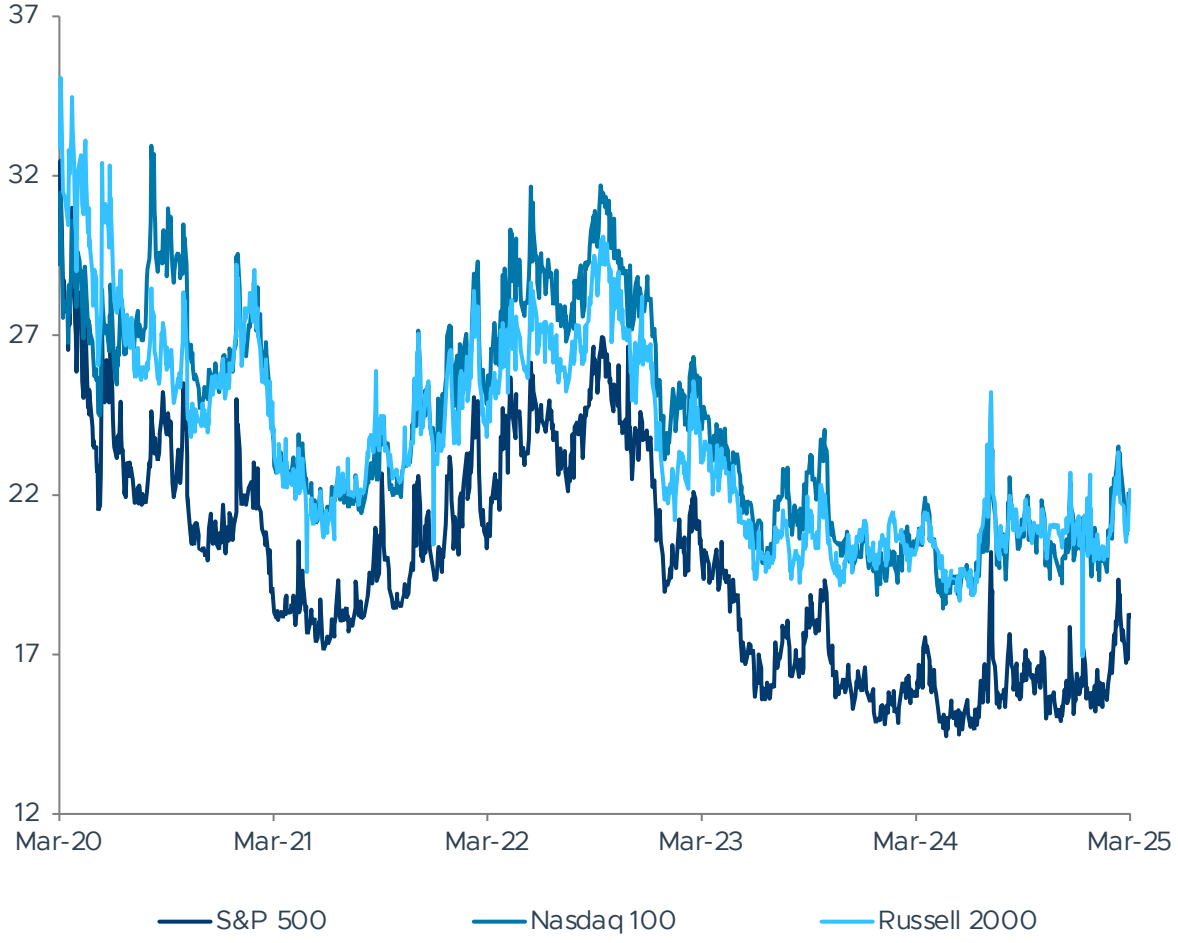



Source: (left) U.S. Department of the Treasury, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data through March 31, 2025 and is subject to change based on potential updates to source(s) database. Analysis looks at the U.S. Treasury yield curve across all available maturities based on current and 1-year ago levels. (right) Bloomberg, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data through March 31, 2025 and is subject to change based on potential updates to source(s) database. Analysis looks at the spread on the Credit Default Swap for investment grade U.S. and Europe Financials. North America 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. Europe Financials Senior 5-year Investment Grade CDS Spread is a broad market measure of the credit risk associated with senior unsecured debt of European 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 months

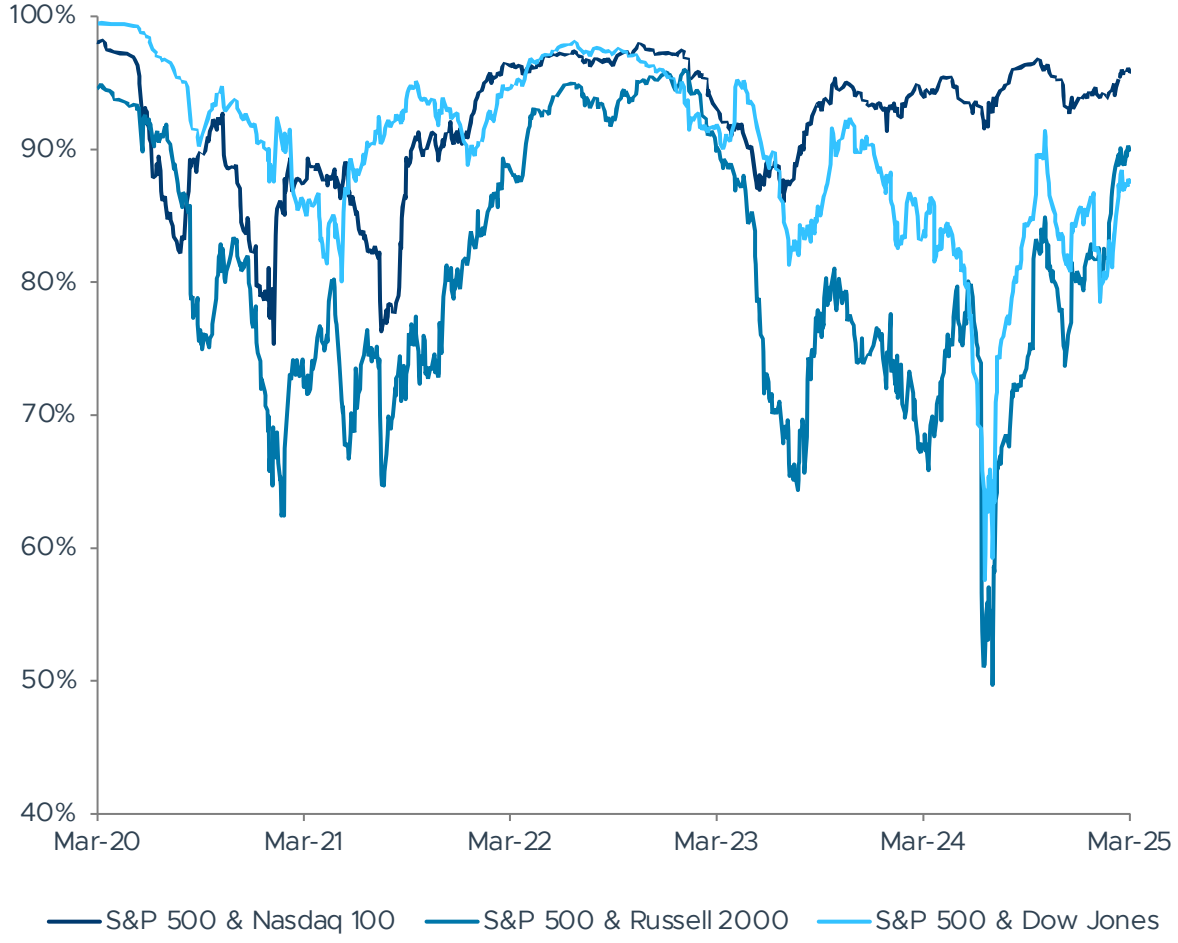
## 2025 YTD has brought a significant spike in equity volatility

12-month implied volatility across various equity indices (%, as of March 2025)




## Equity indices correlations moved lower due to recent market rotation

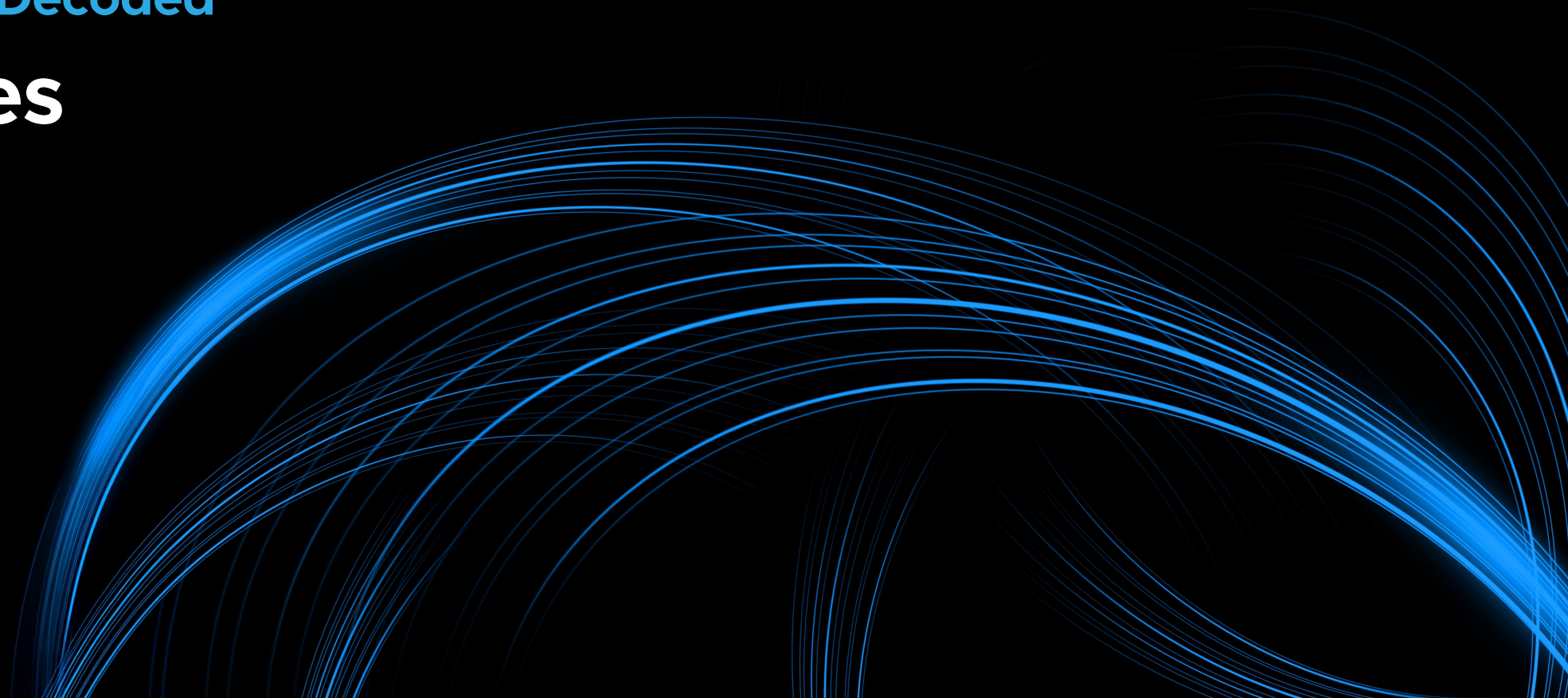
Rolling 3-month correlation between various equity indices (%, as of March 2025)




Source: (left) FTSE Russell, NASDAQ, S&P Dow Jones, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data through March 31, 2025 and is subject to change based on potential updates to source(s) database. Analysis looks at the forward 12-month at-the-money (100% moneyness) implied volatility on the S&P 500, Nasdaq 100, and Russell 2000. (right) FTSE Russell, NASDAQ, S&P Dow Jones, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data through March 31, 2025 and is subject to change based on potential updates to source(s) database. Analysis looks at how the returns of different equity indices move in relation to each other over a rolling period. The closer the rolling 3-month correlation between two indices gets to 100% (correlation of 1), it suggests that the indices have been moving more closely together over the past three months. 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

# Annuities

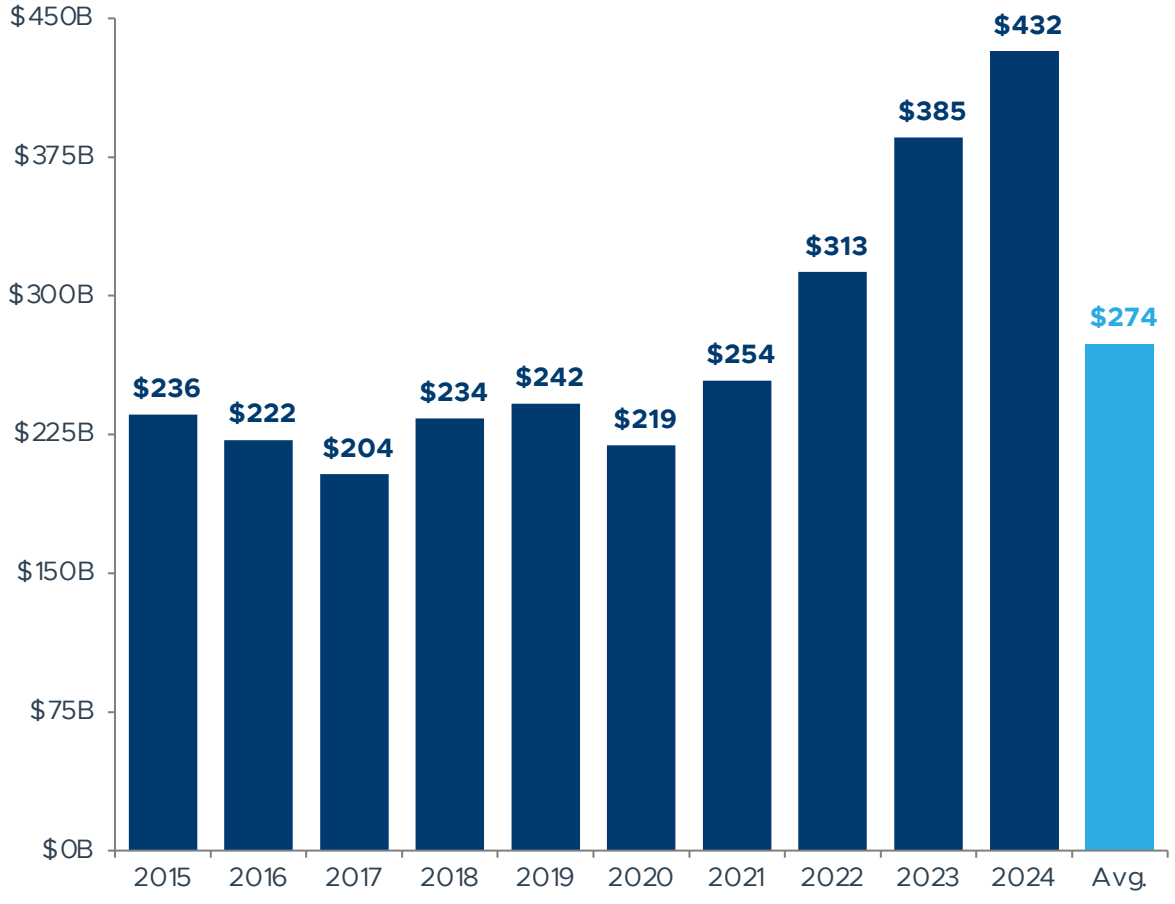


iCapital®

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

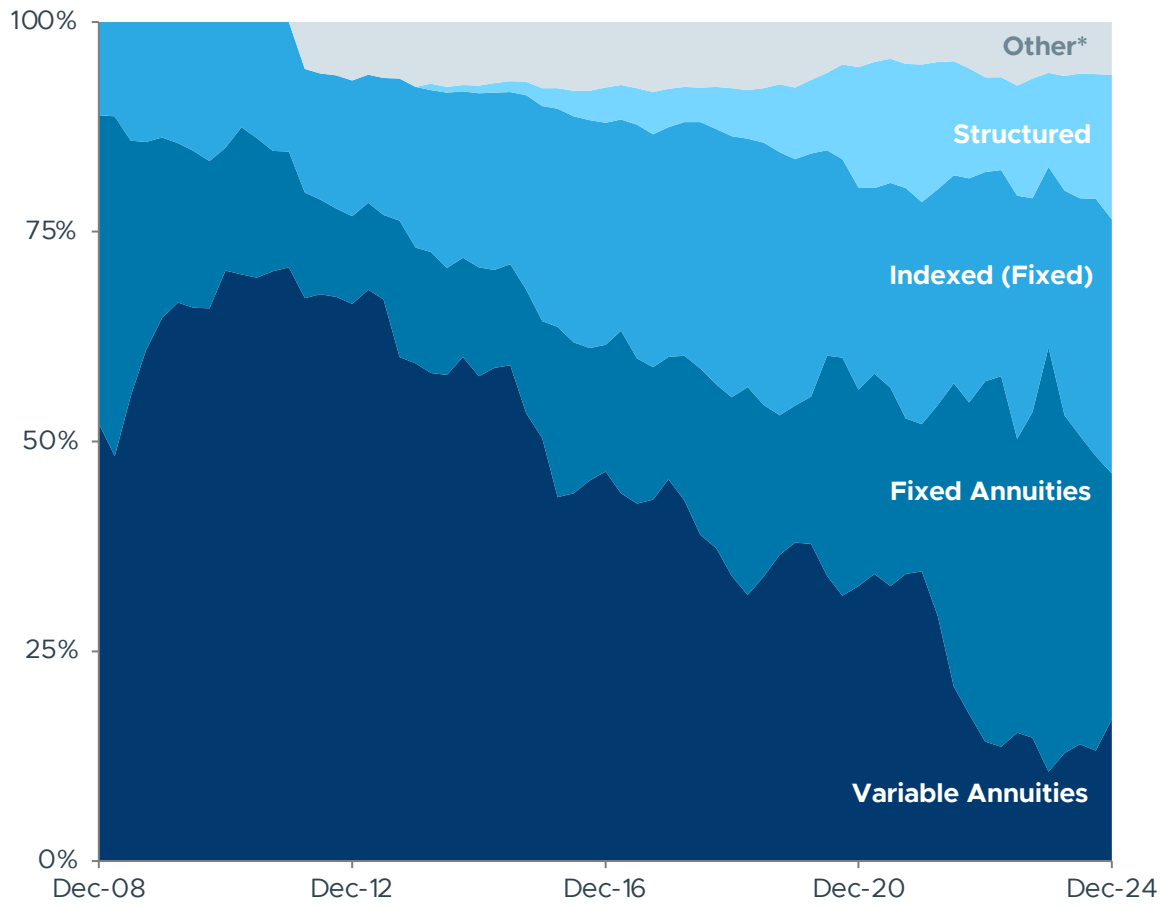
## Annuity sales grew 12% in 2024 and are 60% above historical averages

Total annual U.S. annuity sales ($ billion, as of December 2024)




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

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

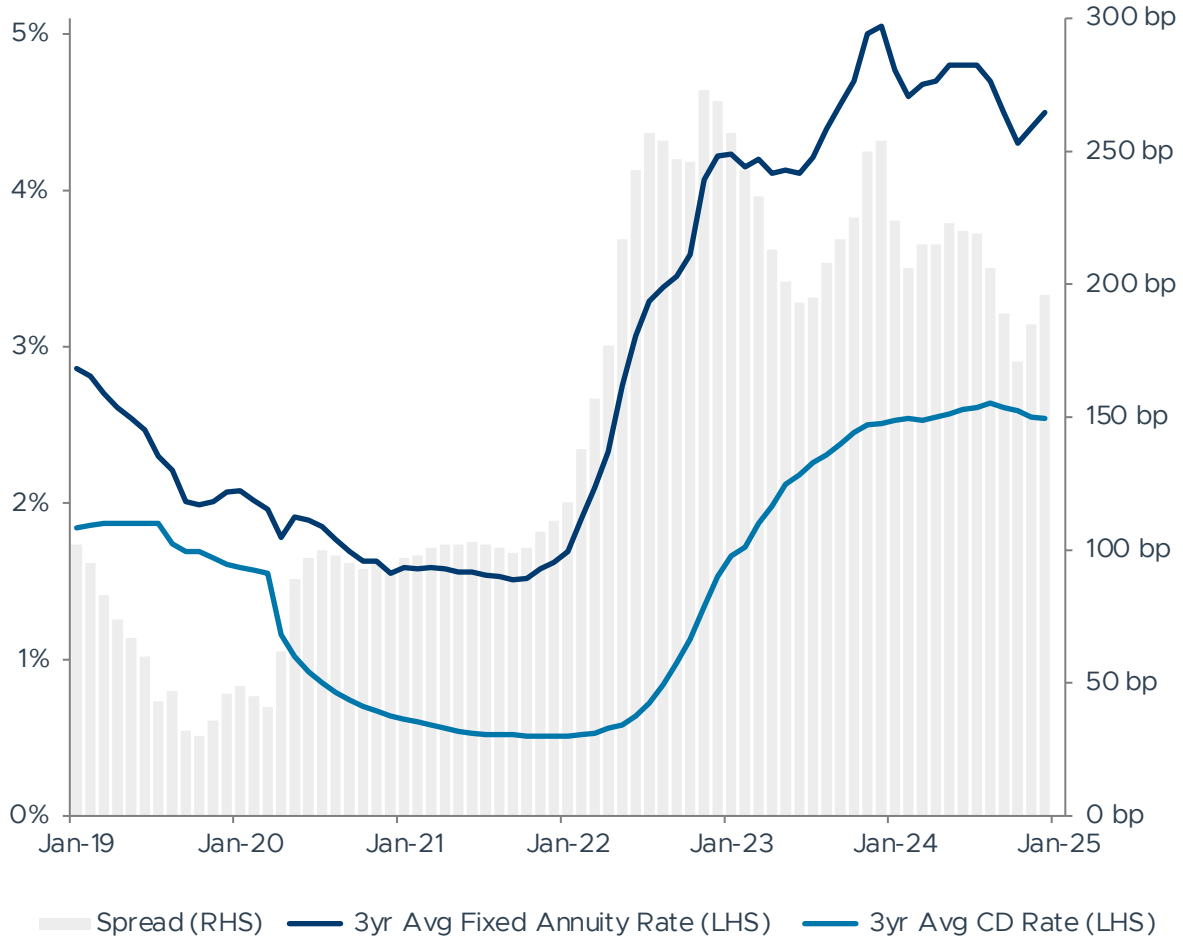



Source: (left) LIMRA, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. (right) LIMRA, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 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 and fixed accounts, as defined by LIMRA. Fixed annuities include fixed-rate deferred annuities, as defined by LIMRA. Indexed (Fixed) annuities include Fixed Indexed Annuities, as defined by LIMRA. Structured annuities include Registered Index-Linked annuities (RILA), as defined by LIMRA. Other includes income annuities 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. Future results are not guaranteed.

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

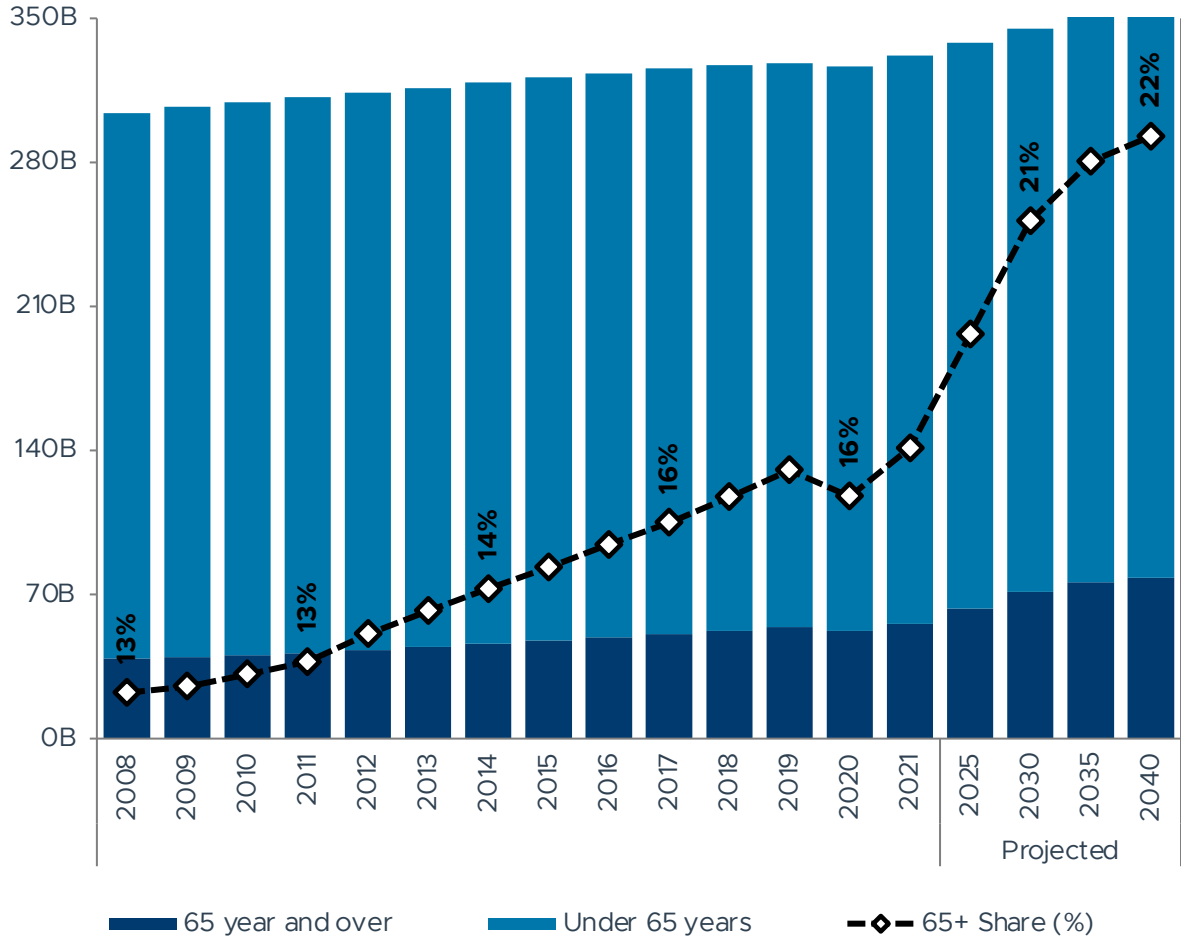
## Spreads between fixed annuity and CD rates remain near historic highs

Three-year average fixed annuity and CD rates (%, as of December 2024)




## Growing population of retirees may turn to annuities for income

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




Source: (left) LIMRA, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 2025. Note: Data as of December 2024 and is subject to change based on potential updates to source(s) database. (right) United States Census Bureau, iCapital Alternatives Decoded, with data based on availability as of Apr. 30, 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 December 2040, with projections based on U.S. 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. 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

**Cboe 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.

**Cboe 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

**Cboe 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 capitalization-weighted 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.

**Preqin 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 Preqin.

**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.

**Preqin 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 Preqin.

**Preqin 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 Preqin.

**Preqin 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 Preqin.

**Preqin 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 Preqin.

**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.

**Preqin Venture Capital Early-Stage Index:** The index covers closed-end funds captured in the broader Private Capital index including funds/strategies that invests only in the early stage of a company's life defined either as Seed or Start-up, as defined by Preqin.

**Preqin Venture Capital Late-Stage Index:** The index covers closed-end funds captured in the broader Private Capital index including funds/strategies that invests in companies towards the end of the venture stage cycle, 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

**Bloomberg Commodities:** "Source: Bloomberg Index Services Limited. "Bloomberg®," the "Bloomberg Commodity IndexSM" and the names of the other indices and subindices that are part of the Bloomberg Commodity Index family (such indices and subindices collectively referred to as the "BCOM Indices") are service marks of Bloomberg Finance L.P. and its affiliates, including Bloomberg Index Services Limited, the administrator of the indices (collectively, "Bloomberg"). Bloomberg or Bloomberg's licensors own all rights in the BCOM Indices. Bloomberg does not approve or endorse this material, or guarantee the accuracy or completeness of any information herein, or make any warranty, express or implied, as to the results to be obtained therefrom and, to the maximum extent allowed by law, shall have no liability or responsibility for injury or damages (whether caused by negligence or otherwise) arising in connection therewith."

**Bloomberg Fixed Income:** "Source: Bloomberg Index Services Limited. BLOOMBERG® is a trademark and service mark of Bloomberg Finance L.P. and its affiliates (collectively "Bloomberg"). Bloomberg or Bloomberg's licensors own all proprietary rights in the Bloomberg Indices. Bloomberg does not approve or endorse this material or guarantee the accuracy or completeness of any information herein, nor does Bloomberg make any warranty, express or implied, as to the results to be obtained therefrom, and, to the maximum extent allowed by law, Bloomberg shall not have any liability or responsibility for injury or damages arising in connection therewith."

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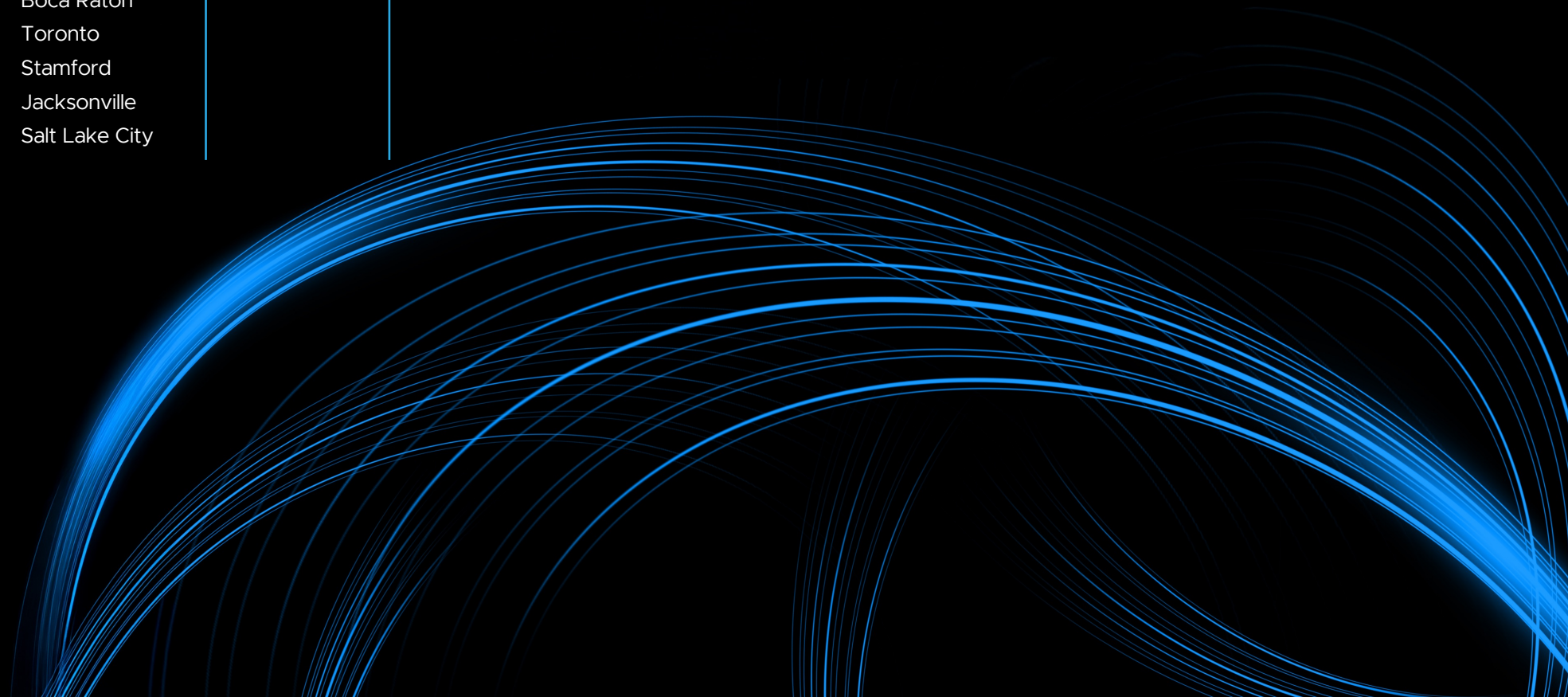
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