



Guide to Alternatives[®]

1Q 2025

As of February 28, 2025



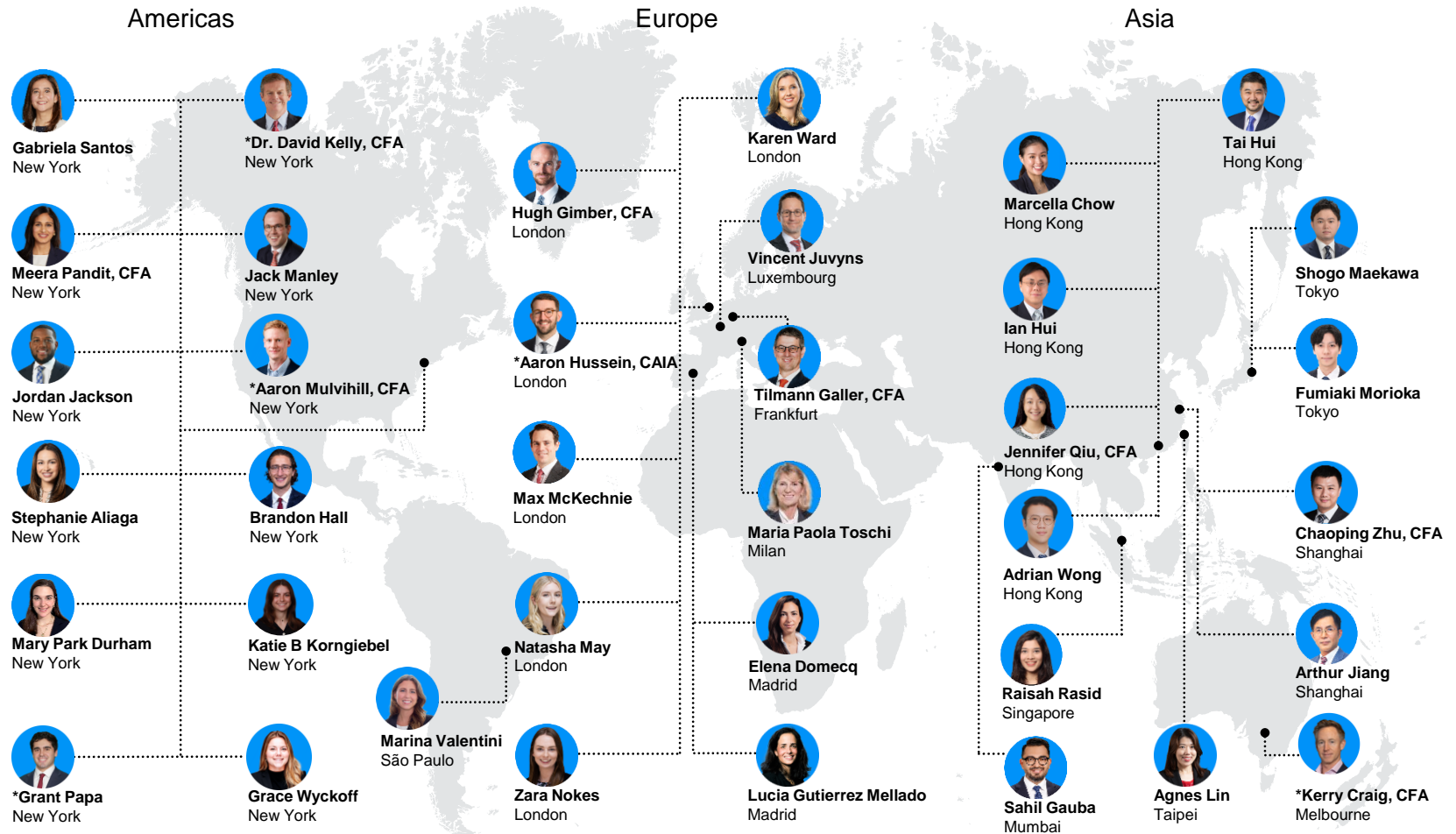


Global Market Insights Strategy Team

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Earnings/coupon yield and the 60/40

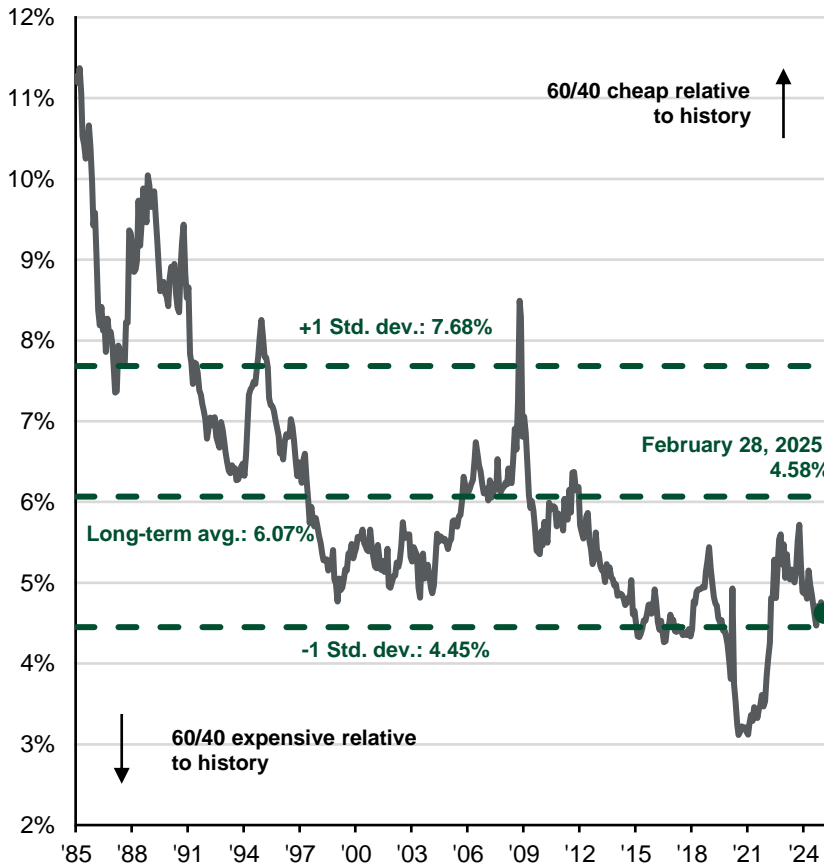
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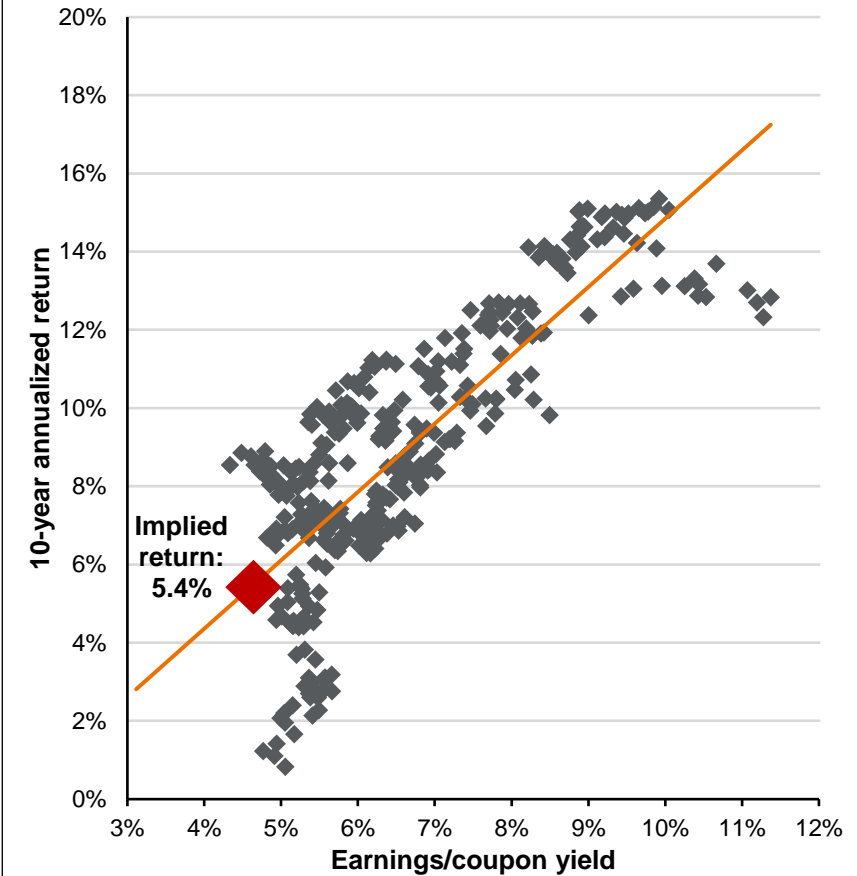
Earnings/coupon yield on a 60/40 portfolio

Blended S&P 500 forward E/P ratio and Bloomberg U.S. Agg. YTW



60/40 earnings/coupon yield and subsequent returns

10-year annualized returns, Jan. 1985 – Feb. 2015



Source: Bloomberg, FactSet, IBES, Standard & Poor's, Thomas Reuters, J.P. Morgan Asset Management. Valuation is calculated by summing 60% weight to earnings yield on stocks (inverse of forward P/E) and a 40% weight to the yield-to-worst on the U.S. Aggregate. Earnings yield is the forward earnings yield (consensus analyst estimates of EPS over the next 12 months divided by price) as provided by IBES since December 1984 and by FactSet since January 2022. Returns are based on a 60% weighting in the S&P 500 Total Return Index and a 40% weighting in the U.S. Aggregate Total Return index. 60/40 is rebalanced annually. Returns are 120-month annualized total returns, measured monthly, beginning December 31, 1984. Past performance is not a reliable indicator of current and future results. Data are based on availability as of February 28, 2025.



60/40 returns and stock-bond correlation

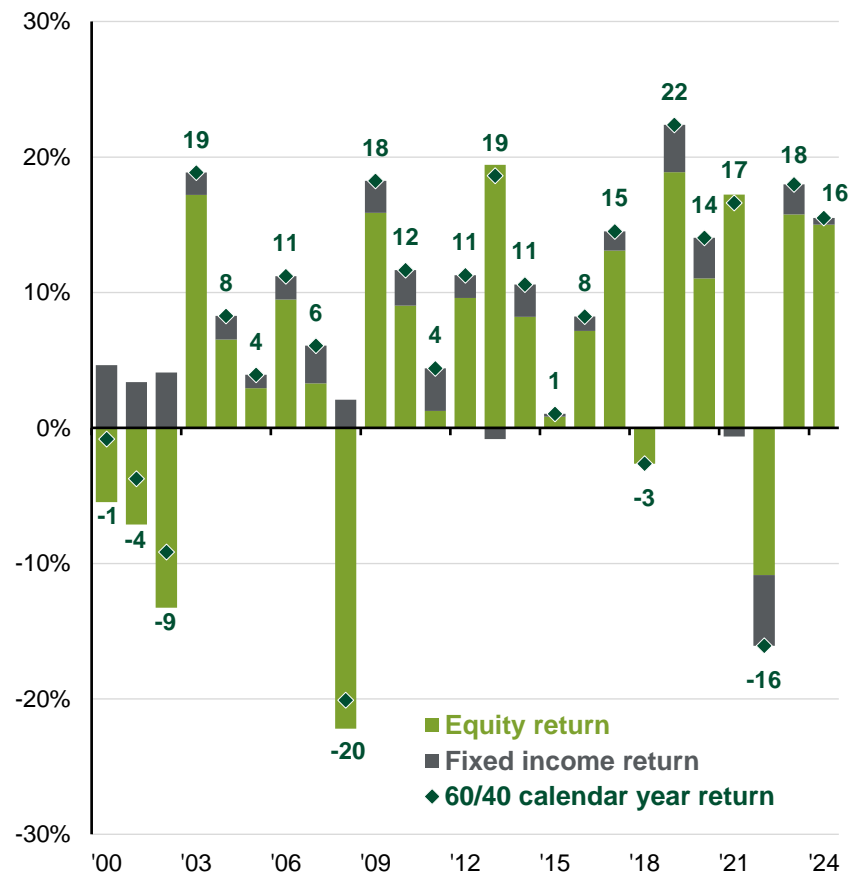
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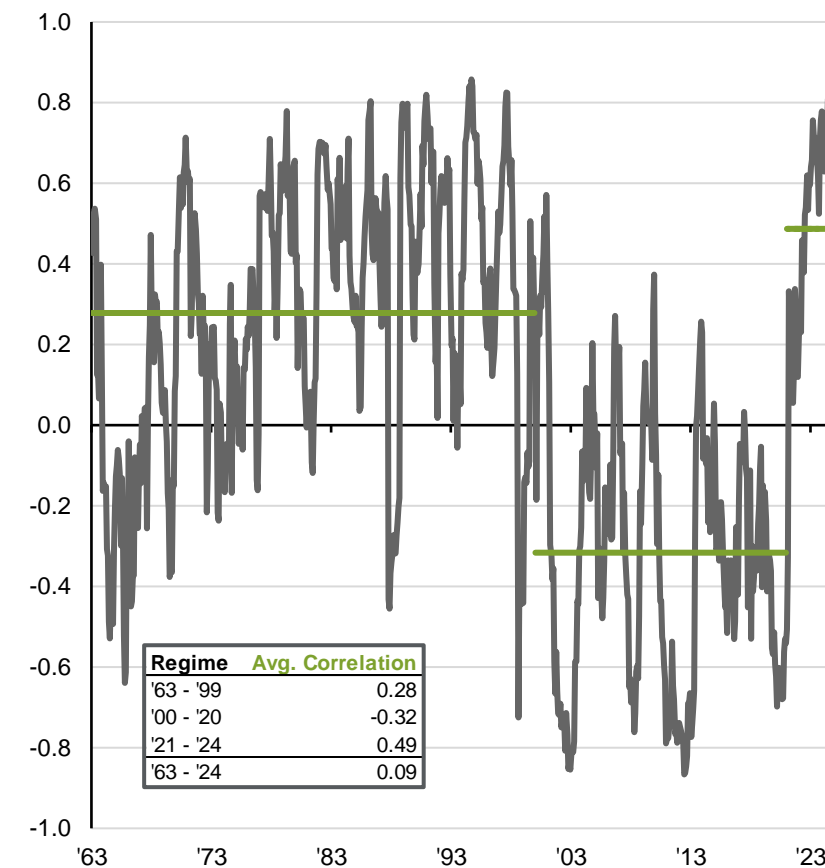
60/40 portfolio annual return decomposition

%, total return



S&P 500 / U.S. 10-year Treasury correlation

Rolling 12-month correlation based on monthly total returns



Source: Bloomberg, FactSet, Haver Analytics, LSEG, Standard & Poor's, J.P. Morgan Asset Management.

(Left) The 60/40 portfolio is 60% invested in the S&P 500 Total Return Index and 40% invested in the Bloomberg U.S. Aggregate Total Return Index.

Past performance is not a reliable indicator of current and future results.

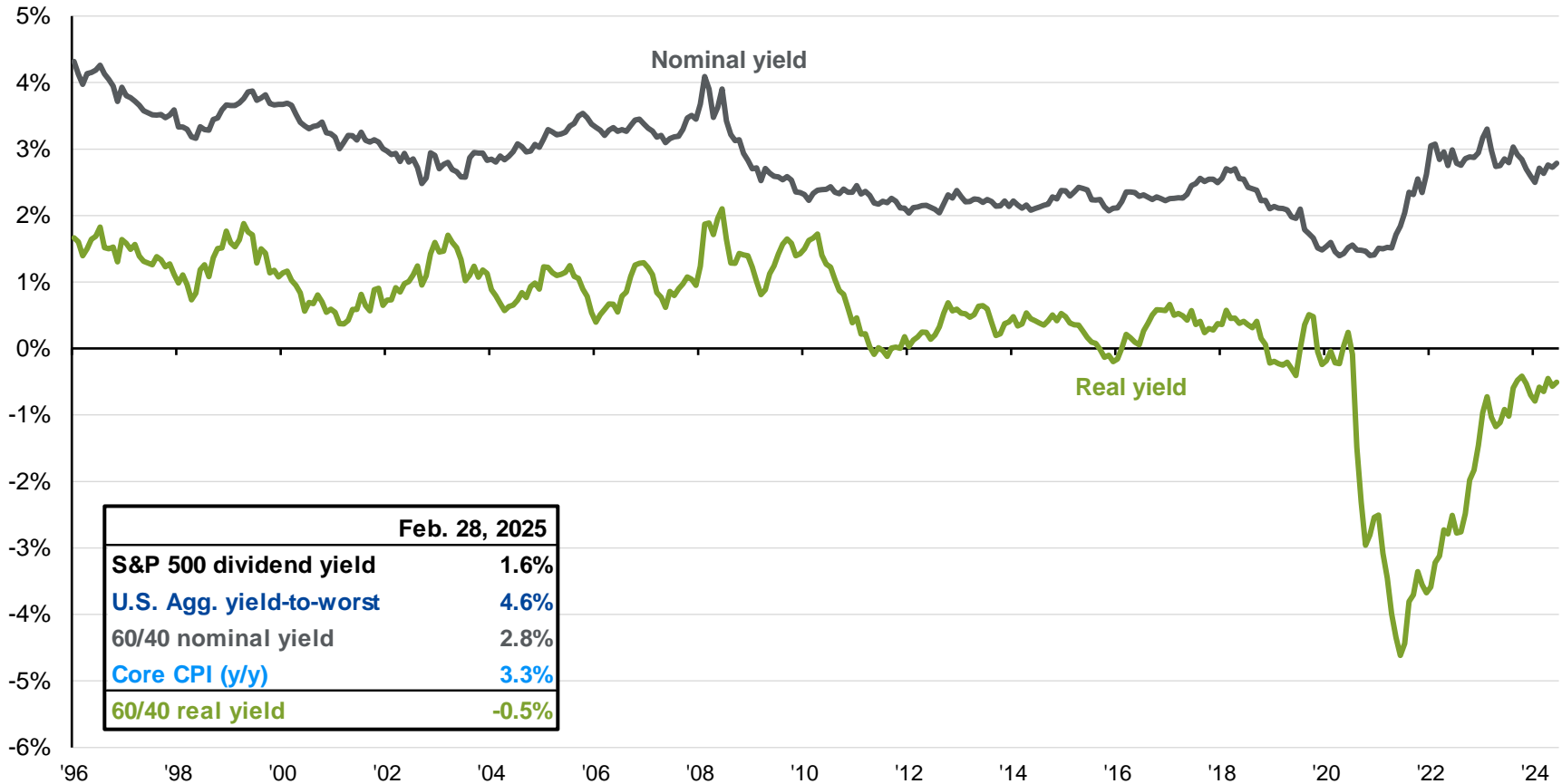
Data are based on availability as of February 28, 2025.



60/40 portfolio income generation

60/40 portfolio real yield

60/40 portfolio yield minus the y/y % change in core CPI, monthly



Source: Bloomberg, FactSet, Standard & Poor's, J.P. Morgan Asset Management. 60/40 portfolio nominal yield is calculated by taking the sum of the S&P 500's dividend yield and the yield-to-worst of the Bloomberg U.S. Aggregate multiplied by their respective weights in the portfolio. Analysis is based on month-end data. For the current month, we use the prior month's core CPI figures until the latest data are available. Past performance is not a reliable indicator of current and future results. Data are based on availability as of February 28, 2025.



Portfolio diversification

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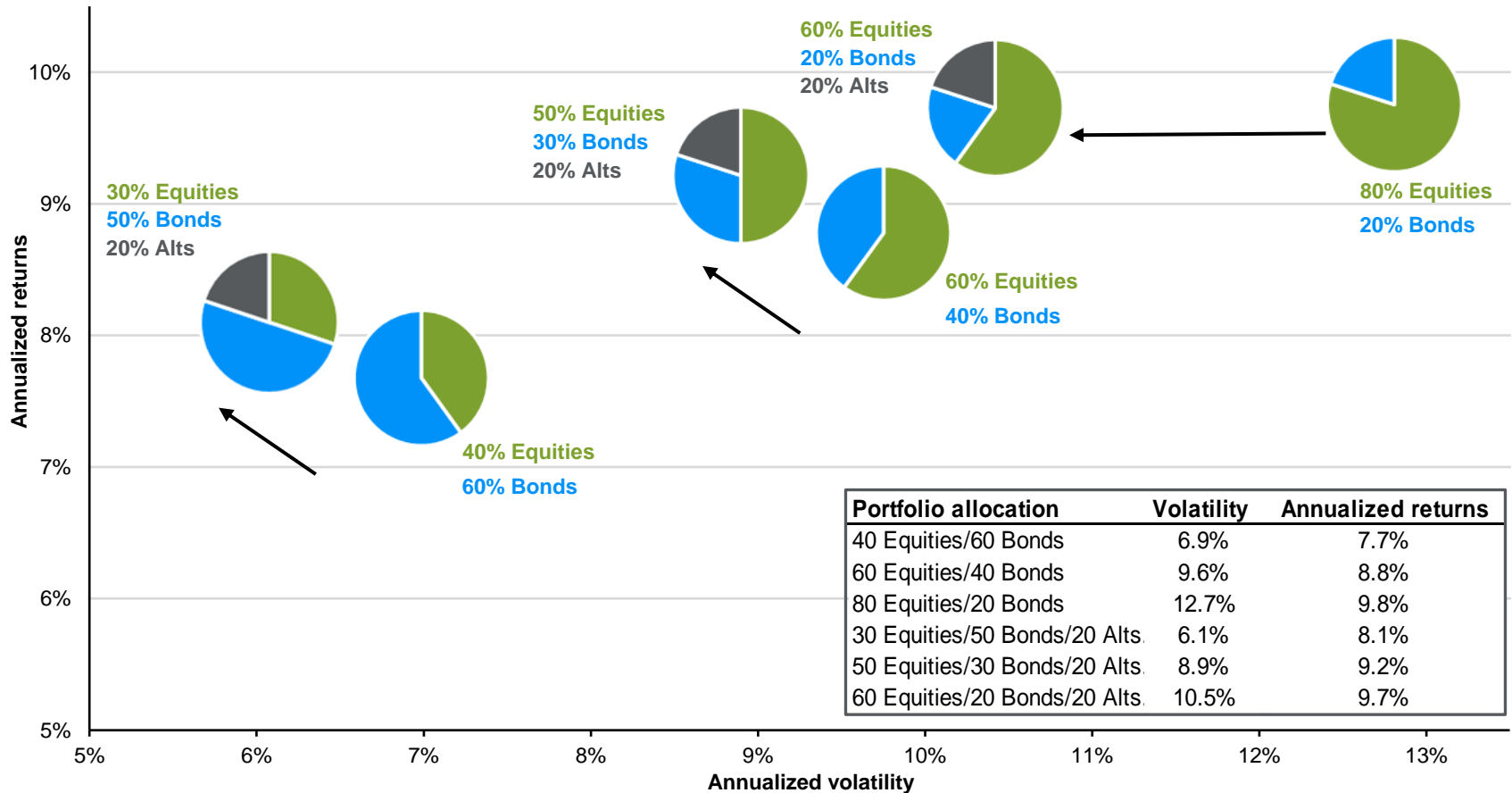
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Alternatives in portfolios

Alternatives and portfolio risk/return

Annualized volatility and return, 1Q90 – 3Q24



Source: Bloomberg, Burgiss, HFRI, NCREIF, Standard & Poor's, FactSet, J.P. Morgan Asset Management. The alternatives allocation includes hedge funds, real estate, and private equity, with each receiving an equal weight. Portfolios are rebalanced at the start of the year. Equities are represented by the S&P 500 Total Return Index. Bonds are represented by the Bloomberg U.S. Aggregate Total Return Index. Volatility is calculated as the annualized standard deviation of quarterly returns. Past performance is not a reliable indicator of current and future results. Data are based on availability as of February 28, 2025.



Alternatives: Correlations, returns and yields

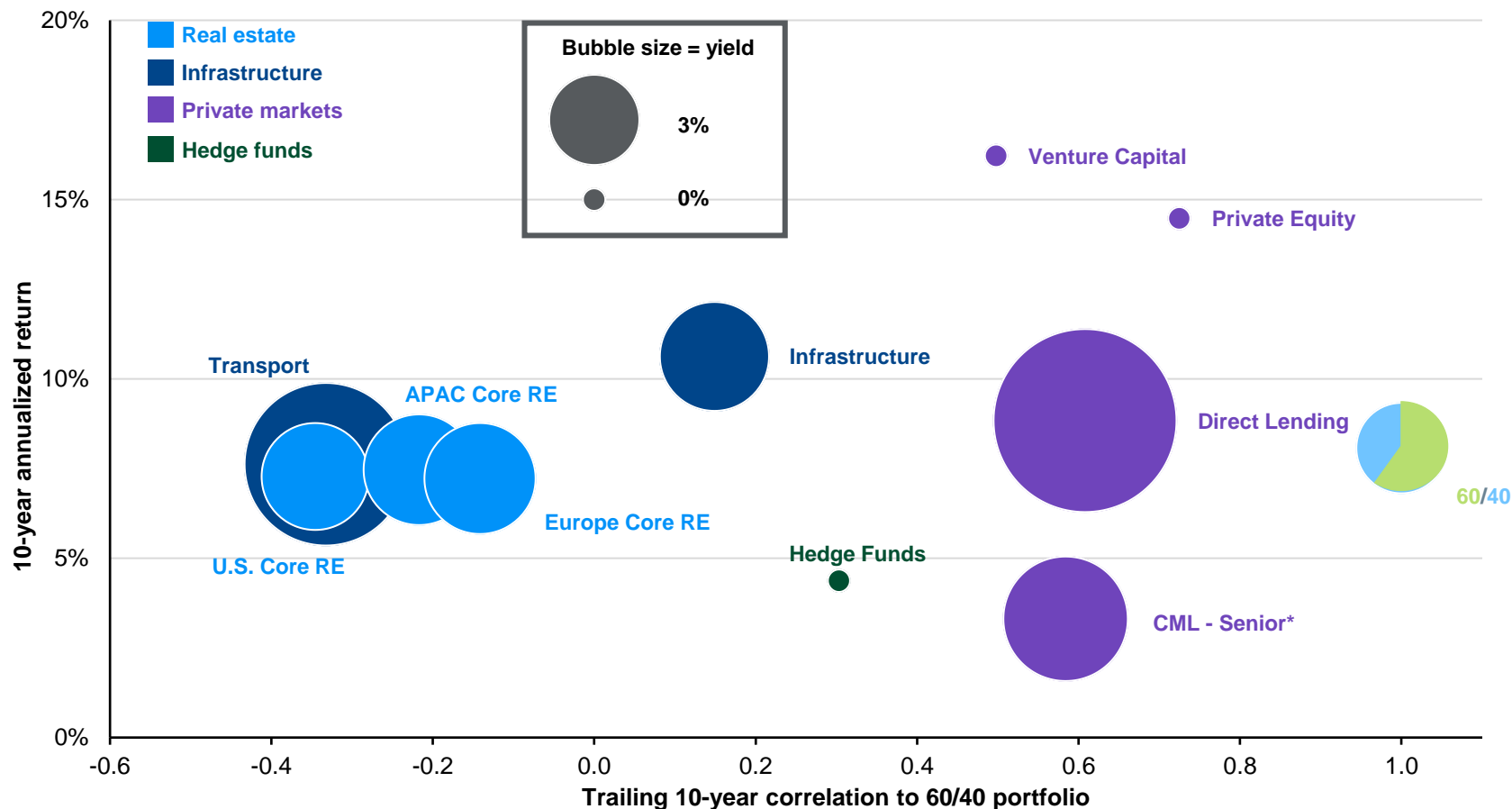
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Correlations, returns and yields

10-year correlations and 10-year annualized total returns, 4Q14 – 3Q24



Source: Burgiss, Cliffwater, FactSet, Gilberto-Levy, HFRI, MSCI, NCREIF, J.P. Morgan Asset Management. Correlations are based on quarterly returns over the past 10 years from 4Q14-3Q24. A 60/40 portfolio is comprised of 60% stocks and 40% bonds. Stocks are represented by the S&P 500 Total Return Index. Bonds are represented by the Bloomberg U.S. Aggregate Total Return Index. 10-year annualized returns are calculated from 1Q14-4Q23. Indices and data used for alternative asset class returns and yields are as described on pages 12 and 17 of the *Guide to Alternatives*. Yields are based on latest available data as described on page 12 of the *Guide to Alternatives*. Transportation returns are shown on an unlevered basis and returns can be enhanced by adding leverage. *CML is commercial mortgage loans. Past performance is not a reliable indicator of current and future results. Data are based on availability as of February 28, 2025.



Alternatives and manager selection

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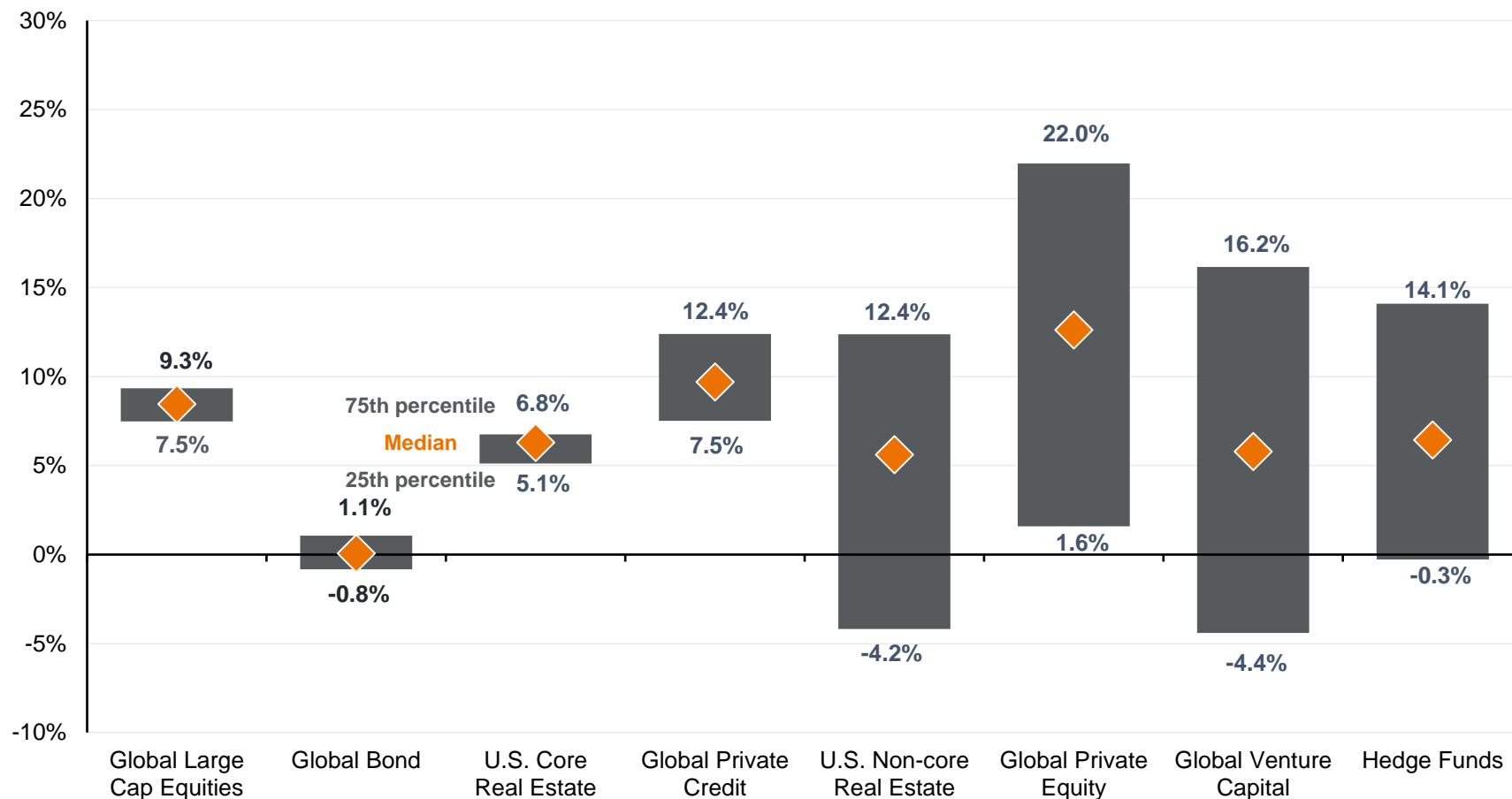
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Alternatives in portfolios

Public and private manager dispersion

Based on returns from 4Q14 – 4Q24*



Source: Burgiss, NCREIF, Morningstar, Pitchbook, PivotalPath, J.P. Morgan Asset Management.

Global Large Cap Equities and Global Bond are based on the Morningstar Global Large Stock Blend and Global Bond (not hedged) categories respectively.

U.S. Core Real Estate is based on the NCREIF Fund Index – ODCE. Global Private Credit are represented by Pitchbook fund data. U.S. Non-core Real Estate,

Global Private Equity and Global Venture Capital are based on indexes from the MSCI Private Capital Universe. Hedge Funds are based on the PivotalPath

index. *Manager dispersion is based on annual returns over a 10-year period ending 4Q 2024 for: Global Large Cap Equities, Global Bond, U.S. Core Real

Estate and Hedge Funds and the 10-year internal rate of return (IRR) ending 3Q 2024 for: Global Private Credit, U.S. Non-core Real Estate, Global Private

Equity and Global Venture Capital. Past performance is not a reliable indicator of current and future results.

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Valuations monitor

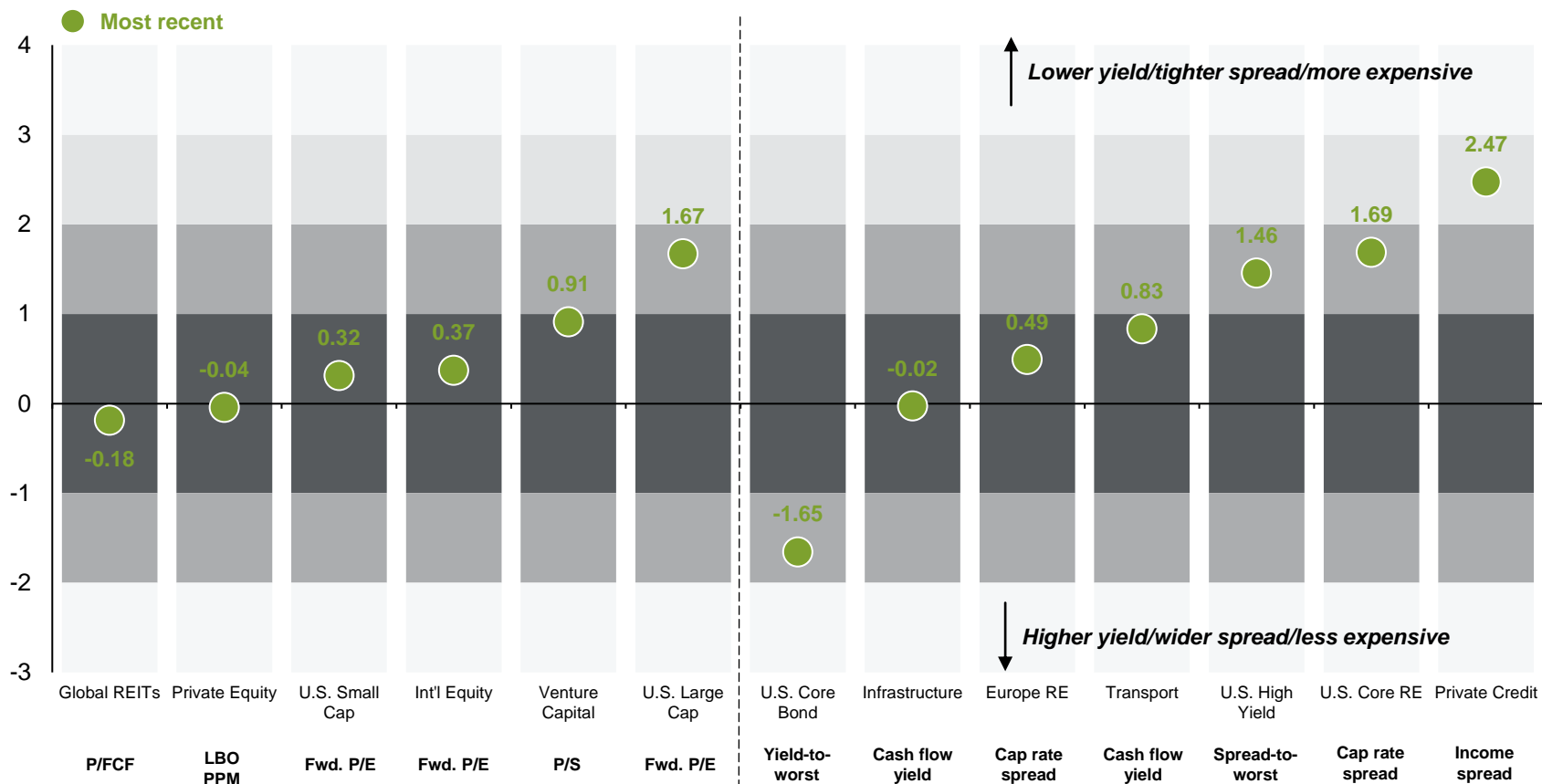
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Asset class valuations

Z-scores based on average valuations since March 2009*



Source: Burgiss, Cliffwater, FactSet, Jay Ritter, Cordell Eminent Scholar, Eugene F. Brigham Department of Finance, Insurance, Real Estate Warrington College of Business, University of Florida, LCD, PitchBook, MSCI, NCREIF, RCA, J.P. Morgan Markets, J.P. Morgan Asset Management. All alternative asset classes valuation measures are quarterly, except VC, which is annual. Public market asset class valuations are monthly. Equity valuations are measured using next twelve months price-to-earnings ratios. Fixed income valuations are measured using yield-to-worst and spread-to-worst. Global REITs valuations are measured using price-to-free cash (P/FCF) flow multiples. Real estate valuations are measured using the spread between transaction-based cap rates and the yield on the appropriate 10-year government bond. Private equity valuations are determined using leveraged buyout purchase price multiples (LBO PPM). Private credit valuations are measured using the spread between quarterly income returns and 3-month SOFR (LIBOR pre-2019). VC valuations measured using the median VC-backed IPO price-to-sales (P/S) ratio. Infrastructure valuations are measured using 12-month trailing infrastructure income returns. *VC average valuation is since 12/31/2009. Global REITs average valuation is since 1/31/2010. Past performance is not a reliable indicator of current and future results. Data are based on availability as of February 28, 2025.



Public and private market correlations

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Public and private market correlations

Quarterly returns

2Q08 - 3Q24		Global Bonds	Global Equities	U.S. Core RE	Europe Core RE*	APAC Core RE	Global Core Infra	Transport	Timber	Direct Lending	Venture Capital	Private Equity	Equity Long/Short	Relative Value	Macro
Financial assets	Global Bonds	1.0													
	Global Equities	0.4	1.0												
Global real estate	U.S. Core RE	-0.3	0.0	1.0											
	Europe Core RE*	-0.2	0.0	0.7	1.0										
	APAC Core RE	-0.2	0.0	0.8	0.7	1.0									
Real assets	Global Core Infra	-0.1	0.1	0.4	0.3	0.5	1.0								
	Transport	-0.2	-0.1	0.4	0.2	0.3	-0.1	1.0							
	Timber	-0.2	-0.2	0.3	0.1	0.3	0.2	0.1	1.0						
Private markets	Direct Lending	0.1	0.7	0.2	0.2	0.2	0.3	0.0	-0.2	1.0					
	Venture Capital	0.1	0.5	0.3	0.5	0.3	0.2	0.0	0.0	0.5	1.0				
	Private Equity	0.2	0.8	0.3	0.4	0.3	0.2	-0.1	-0.1	0.8	0.8	1.0			
Hedge funds	Equity Long/Short	0.3	0.9	-0.1	0.0	-0.1	0.1	-0.1	-0.1	0.7	0.6	0.8	1.0		
	Relative Value	0.2	0.9	-0.1	0.1	0.0	0.1	-0.2	-0.2	0.9	0.5	0.8	0.9	1.0	
	Macro	0.0	0.3	0.0	0.1	-0.1	0.0	-0.1	0.0	0.1	0.2	0.2	0.3	0.3	1.0

Low correlation High correlation

Source: Bloomberg, Burgiss, Cliffwater, FTSE, HFRI, MSCI, NCREIF, J.P. Morgan Asset Management. *Europe Core RE includes continental Europe. Private Equity and Venture Capital are time weighted returns from Burgiss. RE – real estate. Global equities: MSCI AC World Index. Global Bonds: Bloomberg Global Aggregate Index. Global REITs: FTSE EPRA NAREIT Global REITs Index. U.S. Core Real Estate: NCREIF Property Index – Open End Diversified Core Equity component. Europe Core Real Estate: MSCI Global Property Fund Index – Continental Europe. Asia Pacific (APAC) Core Real Estate: MSCI Global Property Fund Index – Asia-Pacific. Global infrastructure (Infra.): MSCI Global Private Infrastructure Asset Index. U.S. Direct Lending: Cliffwater Direct Lending Index. Timber: NCREIF Timberland Property Index (U.S.). Hedge fund indices are from HFRI. Transport: returns are derived from a J.P. Morgan Asset Management index. All correlation coefficients are calculated based on quarterly total return data for the period 6/30/2008 to 9/30/2024. Returns are denominated in USD. Past performance is not a reliable indicator of current and future results. Data are based on availability as of February 28, 2025.



Yield alternatives

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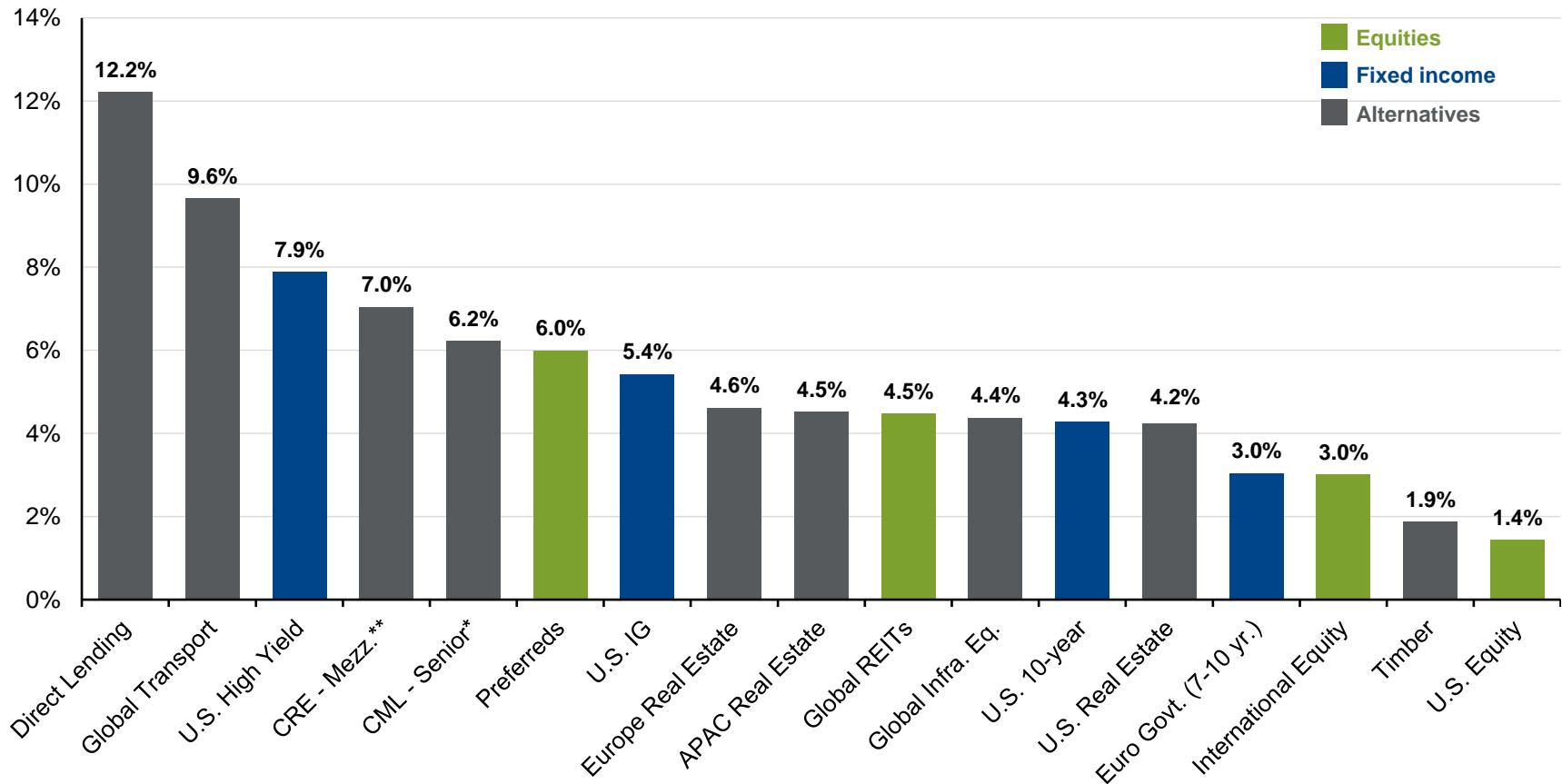
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Alternatives in portfolios

Asset class yields

Percent



Source: BAML, Bloomberg, Clarkson, Cliffwater, Drewry Maritime Consultants, Federal Reserve, FTSE, MSCI, NCREIF, FactSet, Wells Fargo J.P. Morgan Asset Management. *CML is commercial mortgage loans. **CRE - Mezz is mezzanine commercial real estate debt. Equities and fixed income yields are as of 2/28/2025. Alternative yields are as of 9/30/2024, except Timber, which is as of 12/31/2024; CRE - Mezz, which is as of 2/28/2025; and CML - Senior, which is as of 12/31/2024. CML - Senior: Market-capitalization weighted average for all mortgages in the Gilberto-Levy Commercial Mortgage Index. Mezzanine commercial mortgage loans yield is derived from a J.P. Morgan Survey and U.S. Treasuries of a similar duration. Global Transport: Levered yields for transport assets calculated as the difference between charter rates (rental income), operating expenses, debt amortization and interest expenses, as a percentage of equity value, and are based on a historical 15-year average. Yields for each of the sub-vessel types are calculated and respective weightings are applied to arrive at the current levered yields for Global Transportation; Preferreds: BAML Hybrid Preferred Securities; Direct Lending: Cliffwater Direct Lending Index; U.S. High Yield: Bloomberg U.S. Aggregate Corporate High Yield; Global Infrastructure: MSCI Global Private Infrastructure Asset Index; Global REITs: FTSE NAREIT Global REITs; International Equity: MSCI AC World ex-U.S.; U.S. 10-year: 10-year U.S. Treasury yield; U.S. Equity: MSCI USA, Europe Real Estate: Market weighted-avg. of MSCI Global Property Fund Indices - U.K. & Cont. Europe; U.S. and Asia Pacific (APAC) core real estate: MSCI Global Property Fund Index. Euro Govt. (7-10 yr.): Bloomberg Euro Aggregate Government - Treasury (7-10Y); Timber: NCREIF Timberland Index (U.S.) - EBITDA Return. Past performance is not a reliable indicator of current and future results. Data are based on availability as of February 28, 2025.

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Assets under management

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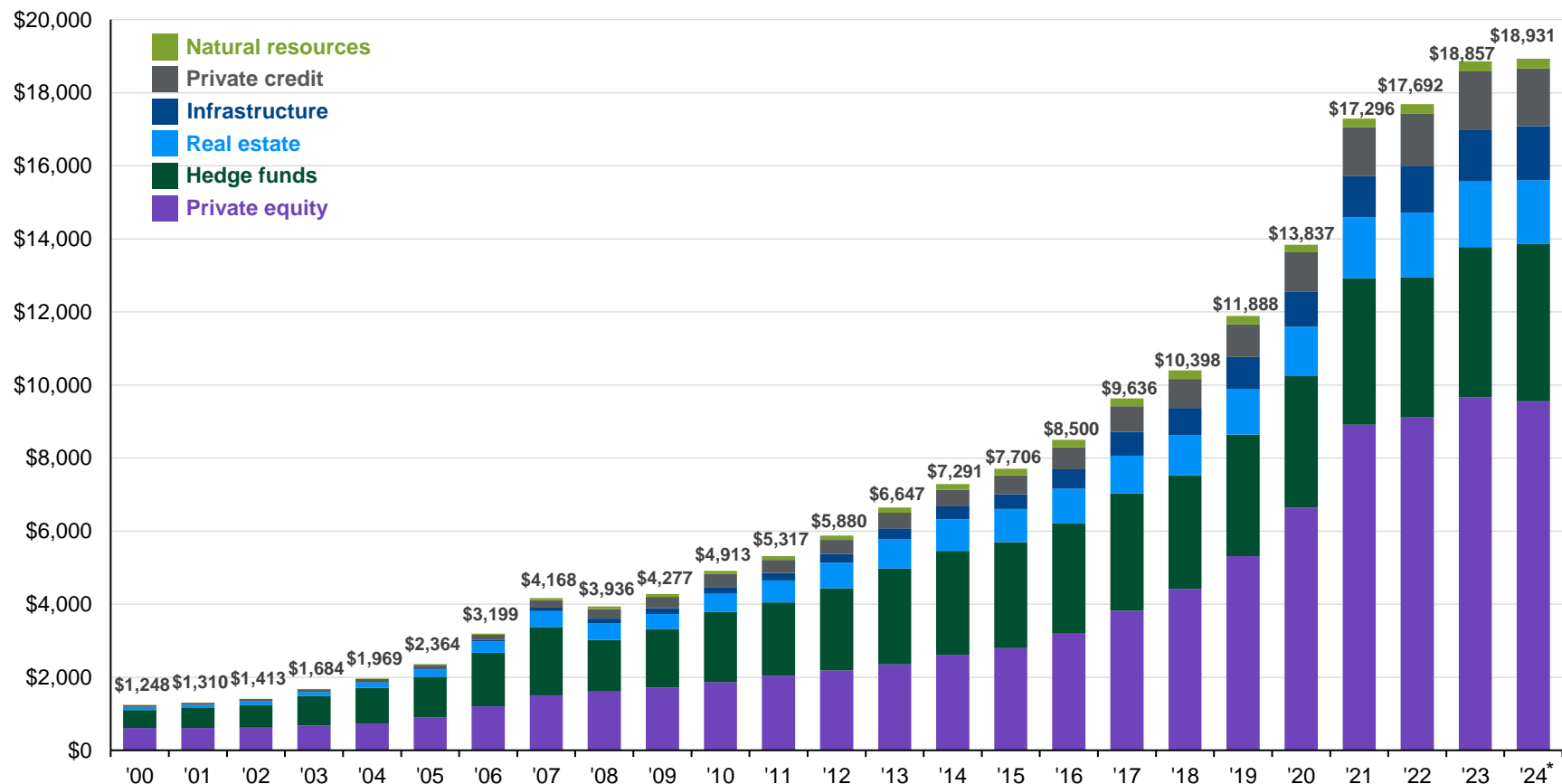
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Alternatives in portfolios

Global alternative assets under management

USD billions, end of period



Source: HFR, Preqin, J.P. Morgan Asset Management. Assets under management is defined as managed assets in private closed-end funds, which includes the latest available valuation of investments (including unrealized value), as well as committed capital available for investment by fund managers. *2024 figures are as of June 30, 2024. Data is based on availability as of February 28, 2025.



Alternatives fundraising and dry powder

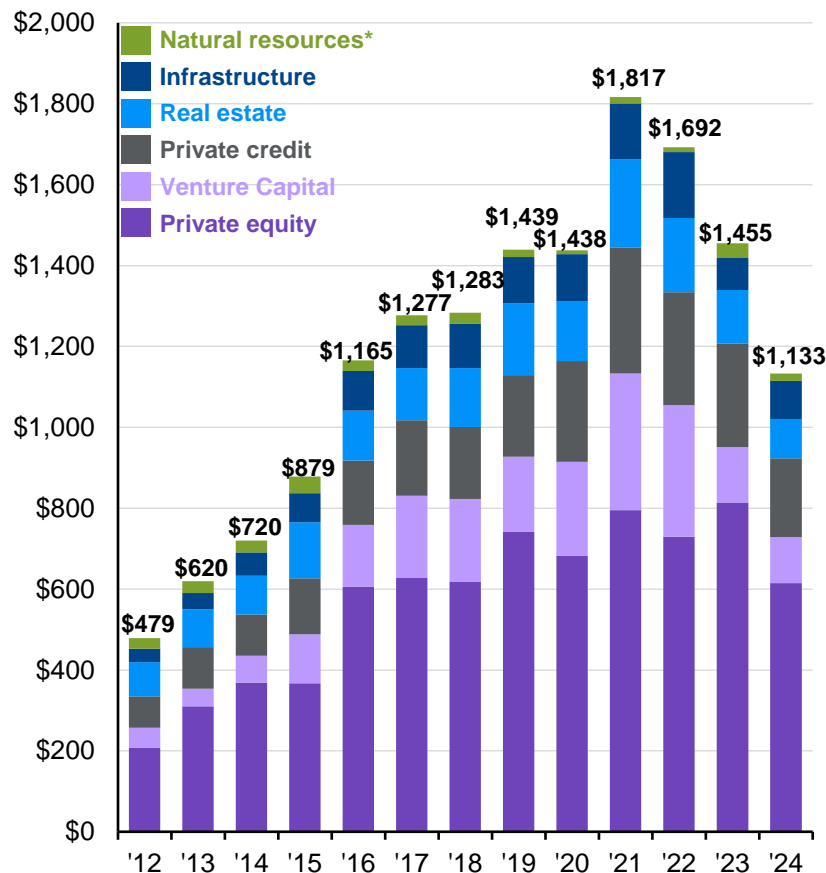
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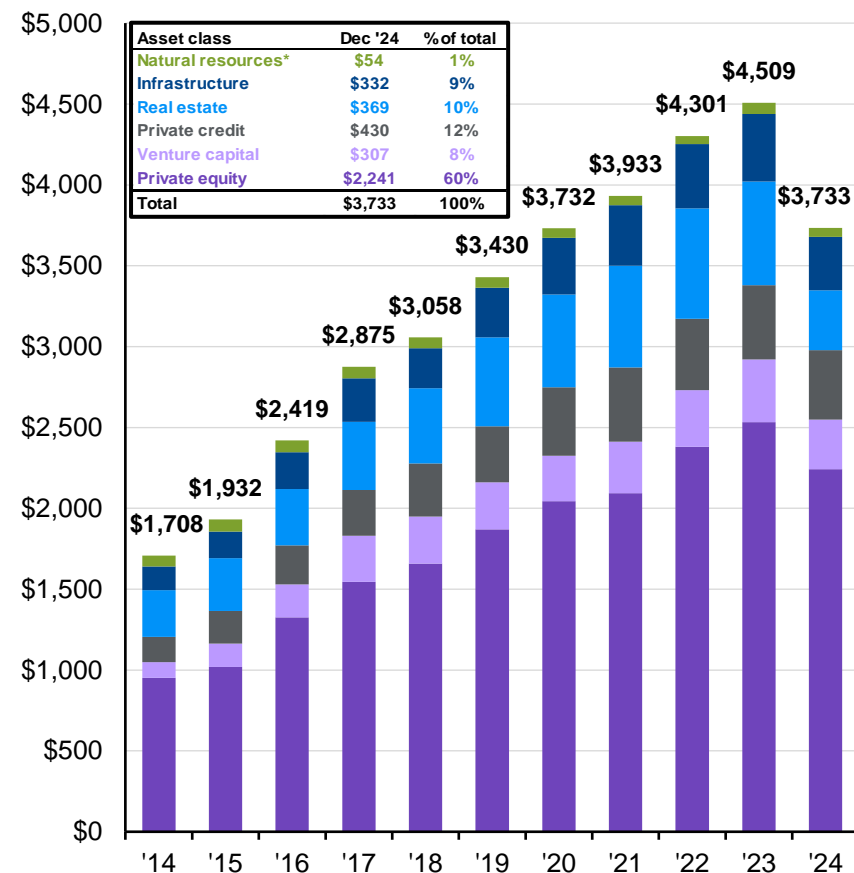
Global private capital fundraising

USD billions



Global dry powder by asset class

Total committed but uninvested LP capital, USD billions, end of period



Source: Preqin, J.P. Morgan Asset Management. (Left) Fundraising categories are provided by Preqin and represent their estimate of annual capital raised in closed-end funds. *Natural resources includes energy, timberland, agriculture and farmland, metals and mining, water, and diversified business. Data may not sum to total due to rounding. (Right) Dry powder refers to committed but uninvested capital. Percentages may not sum to 100 due to rounding. Data is based on availability as of February 28, 2025.



Investor positioning

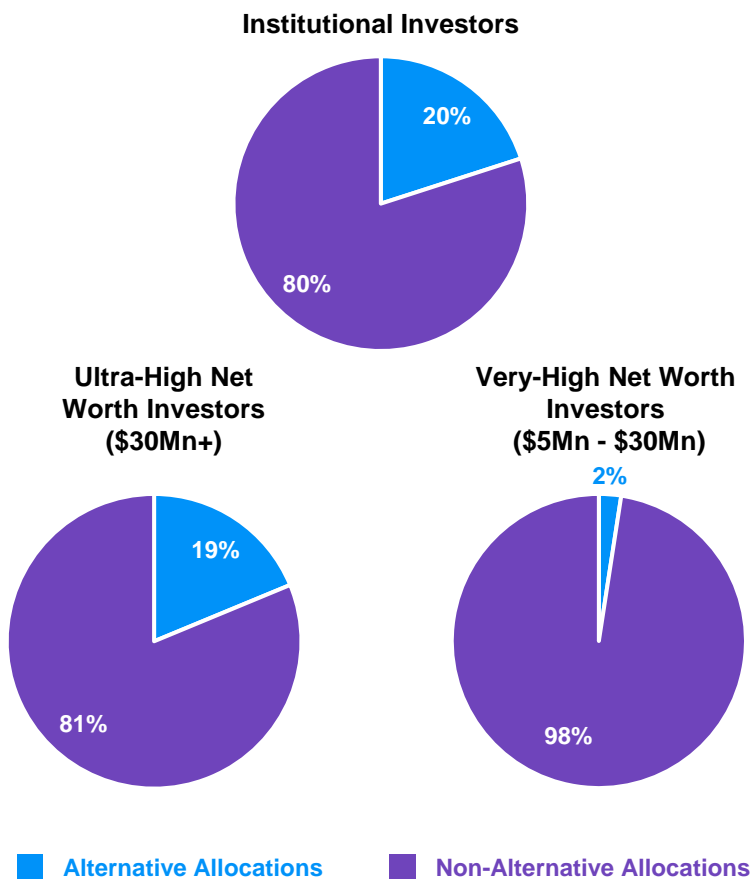
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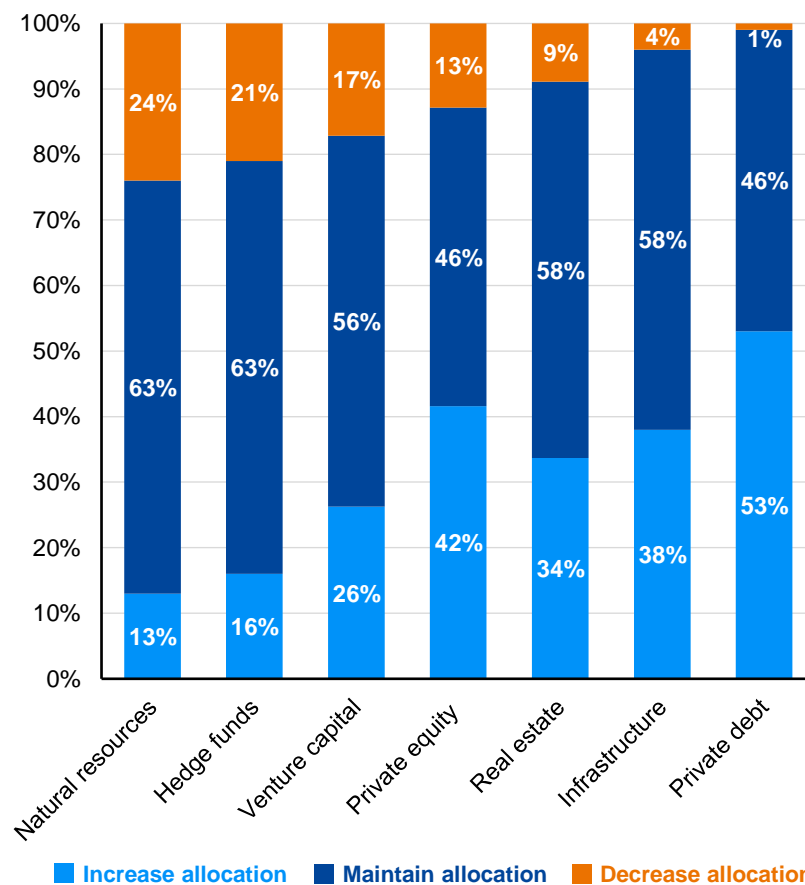
Investor asset allocation

Alternatives asset allocation by investor type, 2023



Long-term alternatives allocation plans

Share of institutional investors, 2024



Source: Bain and Company, Preqin, J.P. Morgan Asset Management.

(Left) Institutional investor allocations data sourced from Preqin's 2024 Institutional Allocation Study. Simple average allocation is calculated using data across 4,255 investors representing \$21.1tn in AUM. Ultra-High Net Worth and Very High Net Worth investor data sourced from Bain and Company's "Global Private Equity Report 2023" report. (Right) Preqin H2 2024 Investor Outlook. Data are based on availability as of February 28, 2025.



Alternative asset class returns vs. selected portfolios

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Alternatives in portfolios

												2014-2023	
2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Sep-24		Ann.	Vol.*
Venture Capital 26.0%	Infra. 15.5%	Infra. 14.2%	Private Equity 22.9%	Venture Capital 21.2%	60/40 Portfolio 22.4%	Venture Capital 58.3%	Venture Capital 49.8%	Transport 12.1%	60/40 Portfolio 18.0%	60/40 Portfolio 15.0%		Venture Capital 16.2%	Venture Capital 13.2%
Infra. 13.9%	Venture Capital 15.1%	Private Equity 12.2%	Venture Capital 14.8%	Infra. 11.6%	Venture Capital 20.3%	Private Equity 24.1%	Private Equity 37.6%	Infra. 9.6%	50/30/20 Portfolio 15.2%	50/30/20 Portfolio 13.3%		Private Equity 14.5%	60/40 Portfolio 10.2%
U.S. Core RE 12.5%	U.S. Core RE 15.0%	Direct Lending 11.2%	60/40 Portfolio 14.5%	Europe Core RE 9.9%	50/30/20 Portfolio 20.3%	60/40 Portfolio 14.0%	U.S. Core RE 22.2%	U.S. Core RE 7.5%	Direct Lending 12.1%	Hedge Funds 10.1%		Infra. 10.6%	50/30/20 Portfolio 8.6%
Europe Core RE 12.3%	Europe Core RE 12.8%	APAC Core RE 10.4%	50/30/20 Portfolio 14.3%	APAC Core RE 9.3%	Private Equity 16.8%	50/30/20 Portfolio 13.8%	50/30/20 Portfolio 17.9%	APAC Core RE 6.8%	Private Equity 9.6%	Transport 8.9%		Direct Lending 8.8%	Private Equity 8.5%
50/30/20 Portfolio 10.9%	APAC Core RE 11.8%	U.S. Core RE 8.8%	Infra. 12.2%	Private Equity 9.0%	Infra. 11.5%	Hedge Funds 8.9%	60/40 Portfolio 16.6%	Direct Lending 6.3%	Transport 8.9%	Direct Lending 8.5%		50/30/20 Portfolio 8.6%	U.S. Core RE 5.5%
60/40 Portfolio 10.6%	Private Equity 8.8%	50/30/20 Portfolio 8.5%	APAC Core RE 11.5%	U.S. Core RE 8.3%	Europe Core RE 9.4%	Transport 6.8%	Europe Core RE 14.2%	Europe Core RE 4.6%	Infra. 7.9%	Infra. 7.5%		60/40 Portfolio 8.1%	Hedge Funds 5.4%
Private Equity 9.8%	Transport 8.8%	60/40 Portfolio 8.2%	Transport 10.6%	Direct Lending 8.1%	Direct Lending 9.0%	Direct Lending 5.5%	Hedge Funds 13.9%	Private Equity -1.5%	Hedge Funds 4.5%	Private Equity 5.7%		Transport 7.6%	Transport 4.6%
Direct Lending 9.6%	Direct Lending 5.5%	Europe Core RE 8.1%	Europe Core RE 9.8%	Transport 5.2%	APAC Core RE 6.6%	Europe Core RE 4.8%	Direct Lending 12.8%	Hedge Funds -2.8%	Venture Capital -2.2%	Europe Core RE 2.9%		APAC Core RE 7.5%	Europe Core RE 4.2%
APAC Core RE 9.4%	50/30/20 Portfolio 2.9%	Transport 7.8%	Direct Lending 8.6%	50/30/20 Portfolio -0.4%	Hedge Funds 5.6%	U.S. Core RE 1.2%	APAC Core RE 11.8%	50/30/20 Portfolio -12.7%	APAC Core RE -2.3%	Venture Capital 2.8%		U.S. Core RE 7.3%	Infra. 3.4%
Transport 4.6%	60/40 Portfolio 1.1%	Hedge Funds 3.2%	Hedge Funds 8.5%	Hedge Funds -1.2%	U.S. Core RE 5.3%	APAC Core RE 0.3%	Infra. 10.5%	60/40 Portfolio -16.1%	Europe Core RE -4.9%	APAC Core RE -1.9%		Europe Core RE 7.2%	Direct Lending 2.9%
Hedge Funds 4.3%	Hedge Funds -0.2%	Venture Capital 0.6%	U.S. Core RE 7.6%	60/40 Portfolio -2.6%	Transport 1.5%	Infra. 0.2%	Transport 10.3%	Venture Capital -20.5%	U.S. Core RE -12.0%	U.S. Core RE -2.6%		Hedge Funds 4.4%	APAC Core RE 2.7%

Source: Bloomberg, Burgiss, Cliffwater, FactSet, HFRI, MSCI, NCREIF, J.P. Morgan Asset Management. Private Equity and Venture Capital are internal rates of return from Burgiss. Hedge funds: HFRI Fund Weighted Composite. Transport returns are derived from a J.P. Morgan Asset Management index and are shown on an unlevered basis, which can be enhanced by adding leverage. U.S. Core RE: NCREIF Property Index – Open End Diversified Core Equity component. Europe Core Real Estate: MSCI Global Property Fund Index – Continental Europe. Asia Pacific (APAC) Core Real Estate: MSCI Global Property Fund Index – Asia-Pacific. Direct Lending: Cliffwater Direct Lending Index. Global Infrastructure (Infra.): MSCI Global Private Infrastructure Asset Index. A 50/30/20 portfolio is comprised of 50% U.S. equities weight, 30% fixed income weight and 20% alternatives asset allocation weight. Portfolios are rebalanced at the start of the year. A 60/40 portfolio is comprised of 60% equities and 40% fixed income. Equities in both the 60/40 portfolio and the 50/30/20 portfolio are represented by the S&P 500 Total Return Index. Fixed income in both the 60/40 portfolio and the 50/30/20 portfolio are represented by the Bloomberg U.S. Aggregate Total Return Index. Alternatives in the 50/30/20 portfolio are represented by an equal-weight asset allocation mix of the returns from the other nine alternatives asset classes on the chart. Annualized return (Ann.) and volatility (Vol.) represents the period from 3/31/2014 to 12/31/2023. *Volatility calculated as the annualized standard deviation of quarterly returns. Past performance is not a reliable indicator of current and future results. Data are based on availability as of February 28, 2025.

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Sources of global private real estate returns

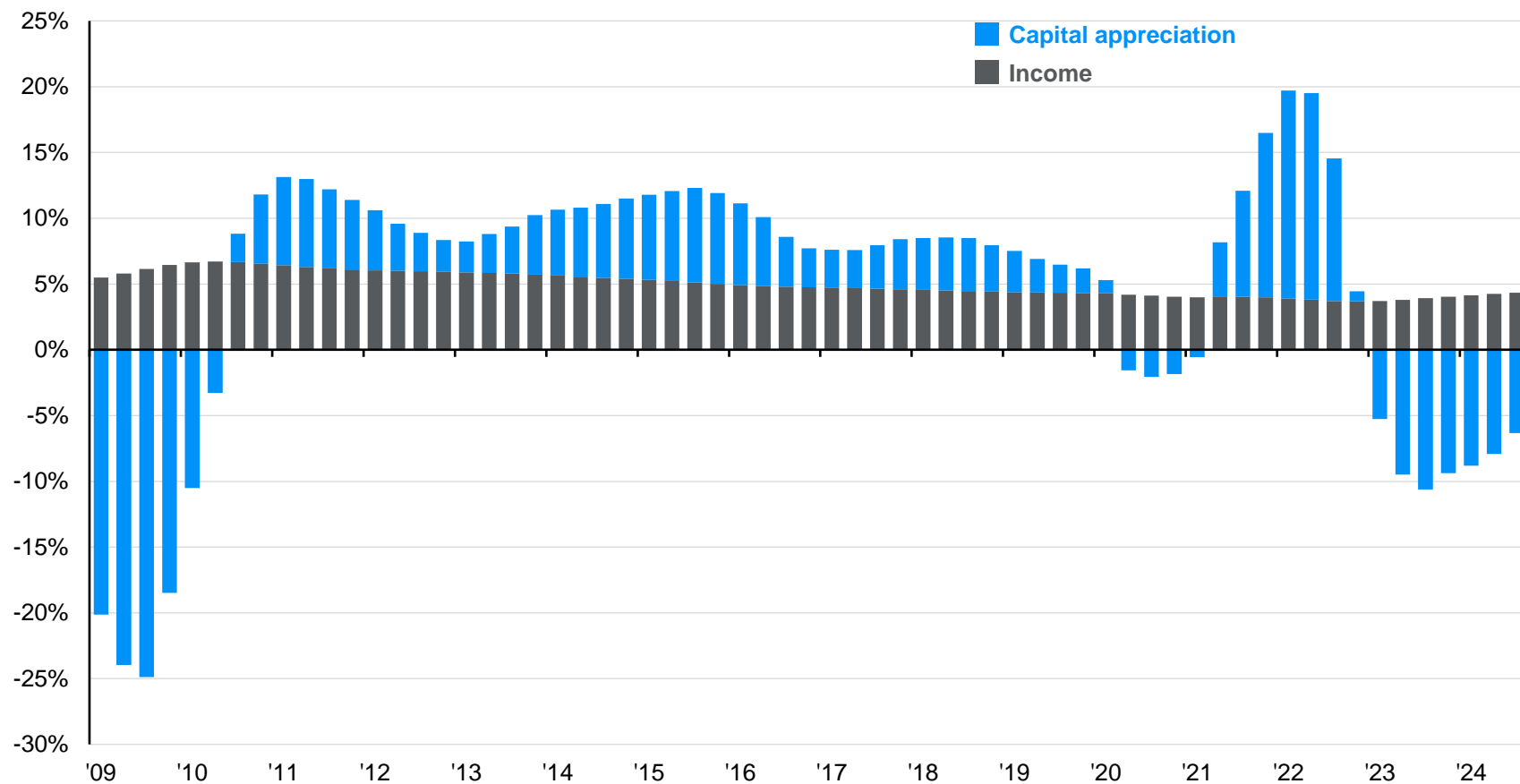
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Global private real estate returns

Rolling 4-quarter returns from income and capital appreciation



Source: MSCI, J.P. Morgan Asset Management.

Real Estate returns represented by the MSCI Global Property Fund Index. Data show rolling four-quarter returns from income and capital appreciation. The chart shows the full index history, beginning in 1Q09, and ending in 3Q24. Alternative investments carry more risk than traditional investments and are recommended only for long-term investment. Some alternative investments may be highly leveraged and rely on speculative investments that can magnify the potential for loss or gain. Diversification does not guarantee investment returns or eliminate the risk of loss. Past performance is not a reliable indicator of current and future results. Data are based on availability as of February 28, 2025.

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U.S. REITs and direct real estate

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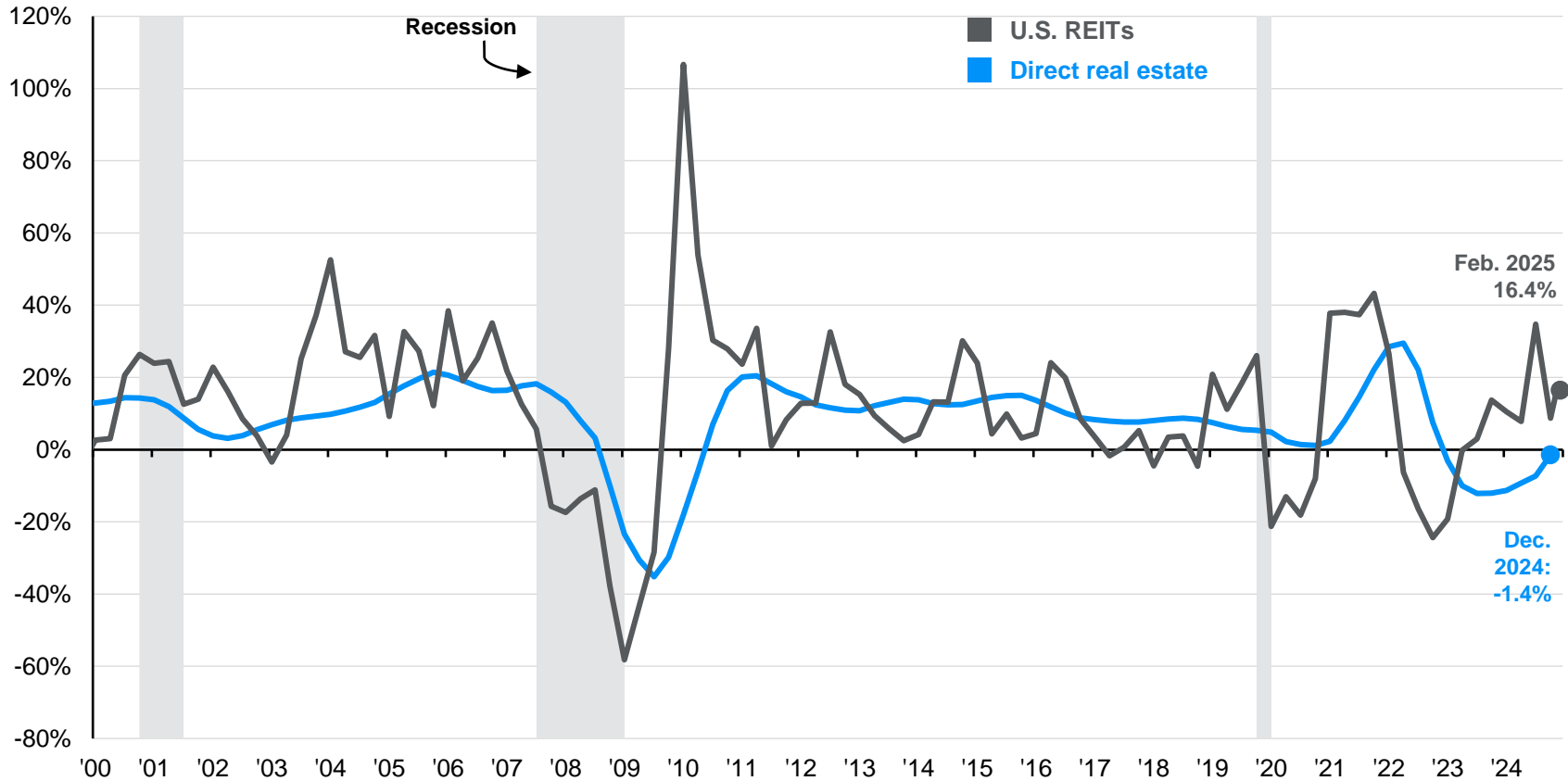
MI

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Real estate

U.S. REITs and direct real estate

12-month total return %, Mar. 2000 – Feb. 2025



Source: FactSet, NAREIT, NCREIF, J.P. Morgan Asset Management.

Real estate investment trusts (REITs). Direct real estate returns for December 31, 2024 are preliminary. Indices do not include fees or operating expenses and are not available for actual investment. Past performance is not a reliable indicator of current and future results.

Data are based on availability as of February 28, 2025.

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Real estate correlation to equities

GTA

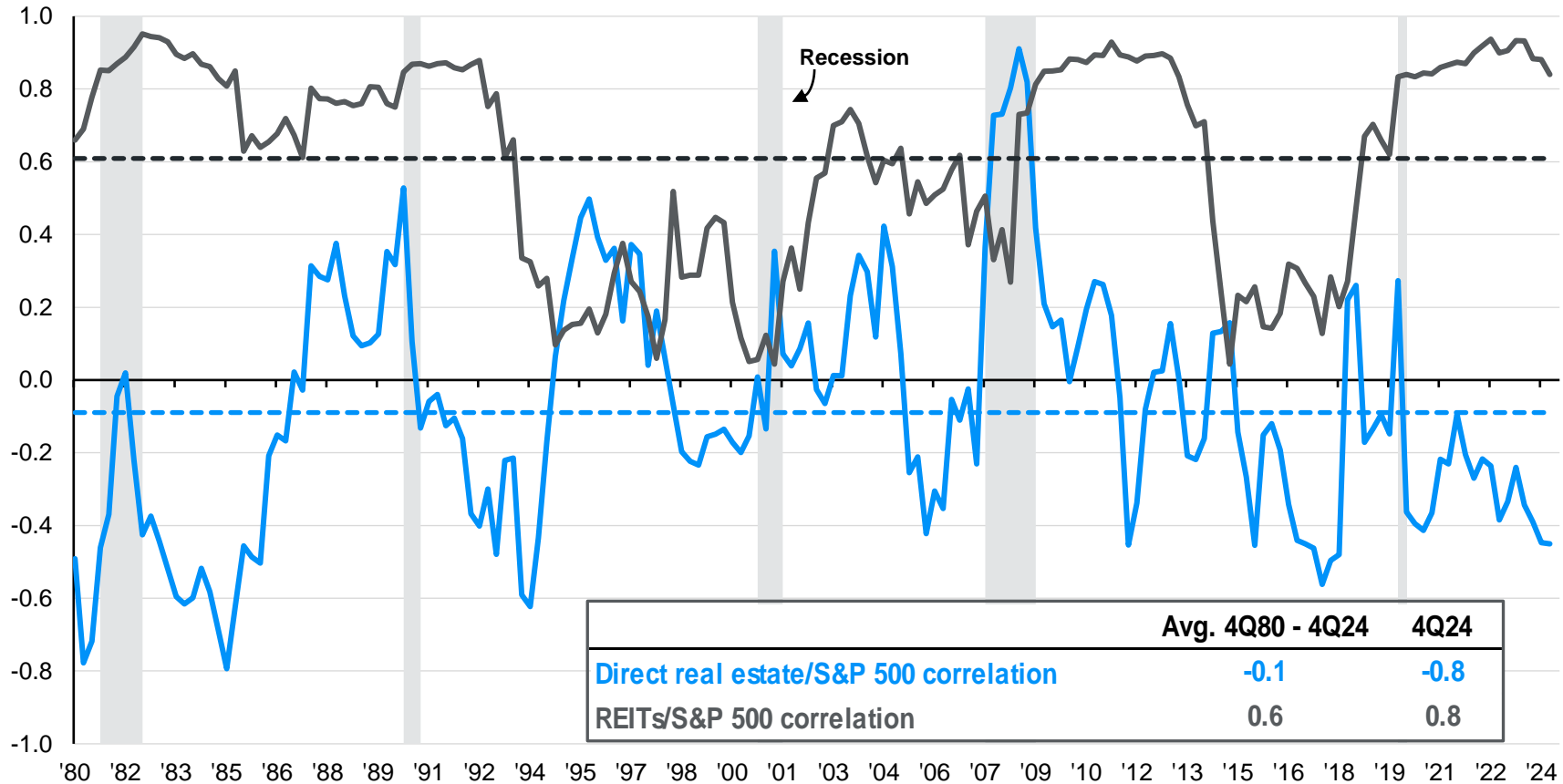
MI

19

Real estate

U.S. REITs, direct real estate and equities

12-quarter rolling correlations, total return



Source: FactSet, NAREIT, NCREIF, Standard & Poor's, J.P. Morgan Asset Management.

Real estate investment trusts (REITs). Indices do not include fees or operating expenses and are not available for actual investment. Past performance is not a reliable indicator of current and future results.

Data are based on availability as of February 28, 2025.

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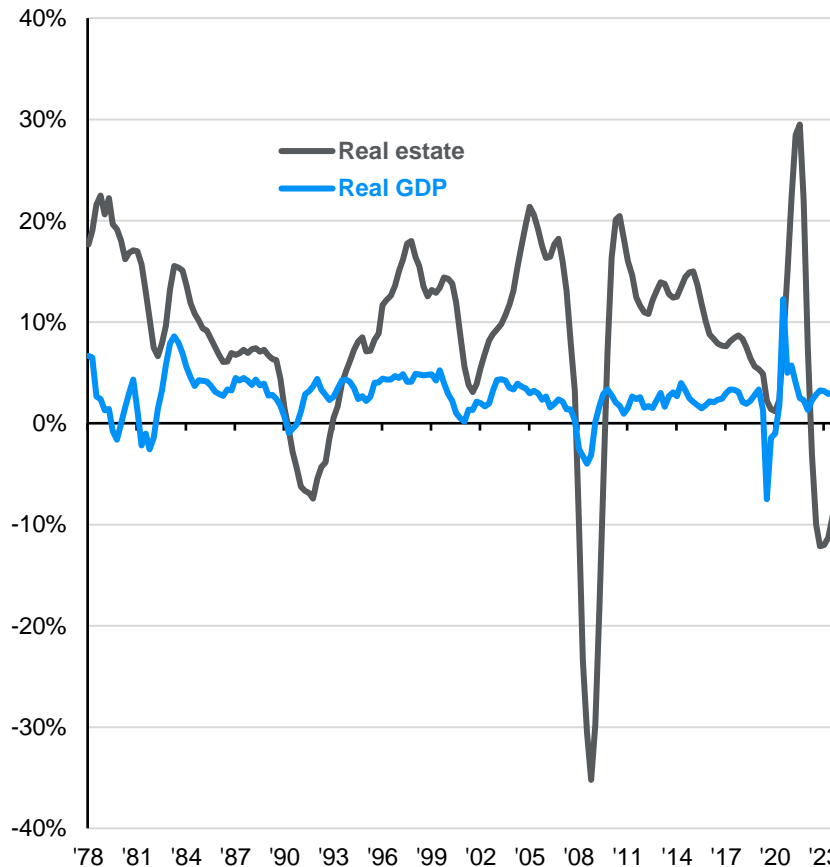


U.S. real estate, GDP and inflation

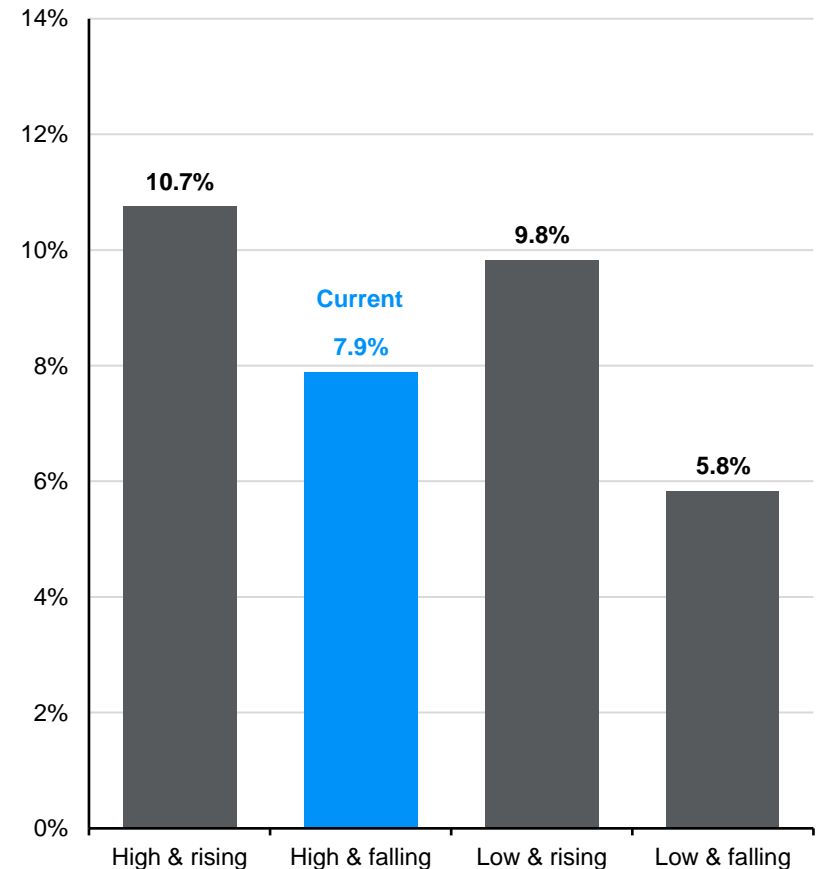
GTA MI 20

Real estate

Private real estate returns and real GDP growth
4Q78 – 4Q24, Real GDP SA, NCREIF ODCE Index, y/y %



Private real estate returns in different inflationary regimes
4Q78 – 4Q24, quarterly, headline CPI, NCREIF ODCE Index, y/y %



Source: BEA, BLS, FactSet, NCREIF, J.P. Morgan Asset Management. NFI-ODCE is short for NCREIF Fund Index - Open End Diversified Core Equity Fund Index. It is a capitalization-weighted, gross of fee, time-weighted return index. Real estate performance is measured using total returns. "High" inflation is defined as any year-over-year headline CPI reading above the historical median, while "low" inflation is defined as any year-over-year headline CPI reading below the historical median. The median y/y headline CPI for period between 4Q78 – 4Q24 is 2.84%. Past performance is not a reliable indicator of current and future results. Data is based on availability as of February 28, 2025.

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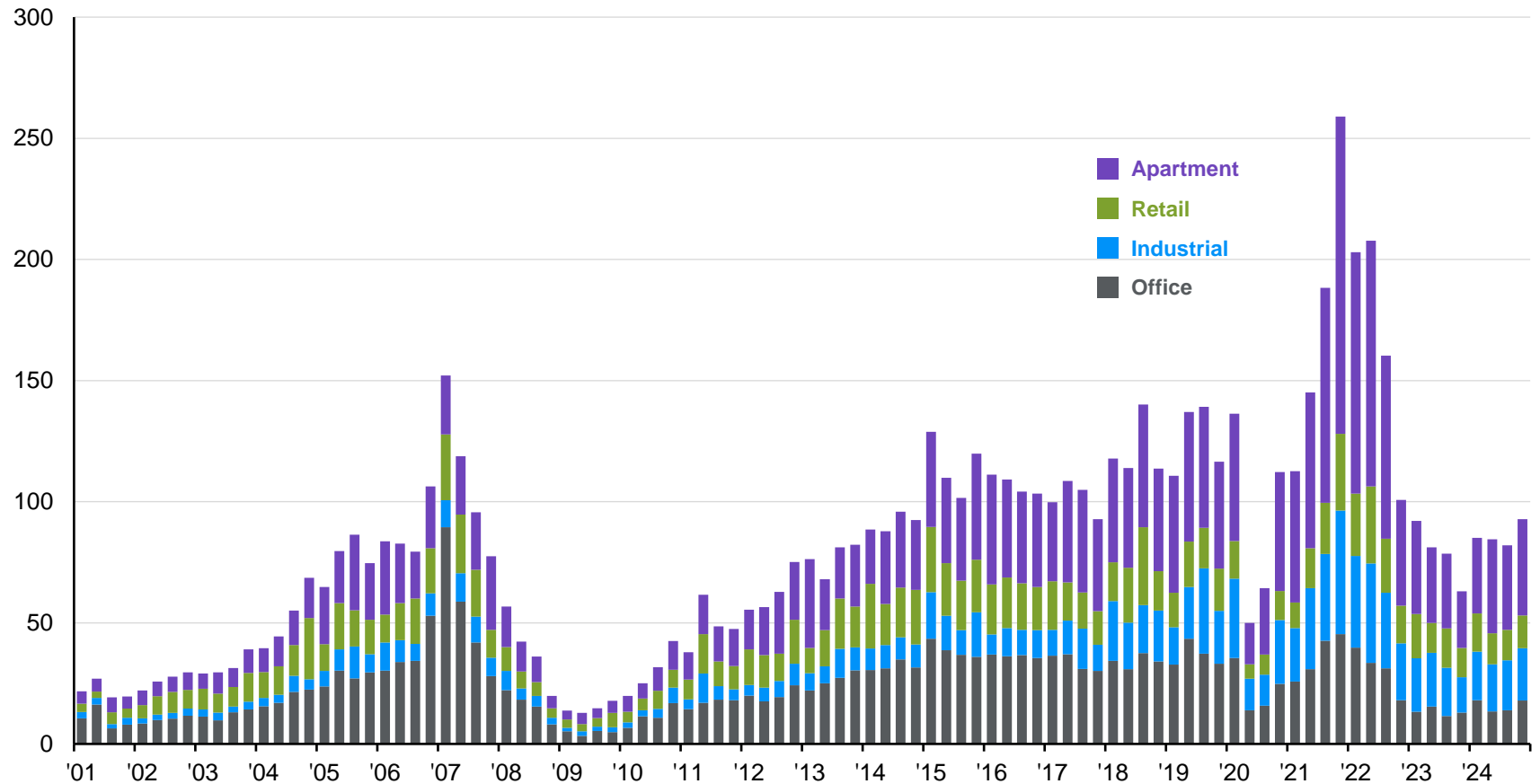
U.S. real estate: Transaction volumes

GTA MI 21

Real estate

U.S. real estate transaction volumes

USD billions, seasonally adjusted, 1Q01 – 4Q24



Source: RCA, J.P. Morgan Asset Management.
Data are based on availability as of February 28, 2025.



U.S. real estate: Cap rates and property prices

GTA

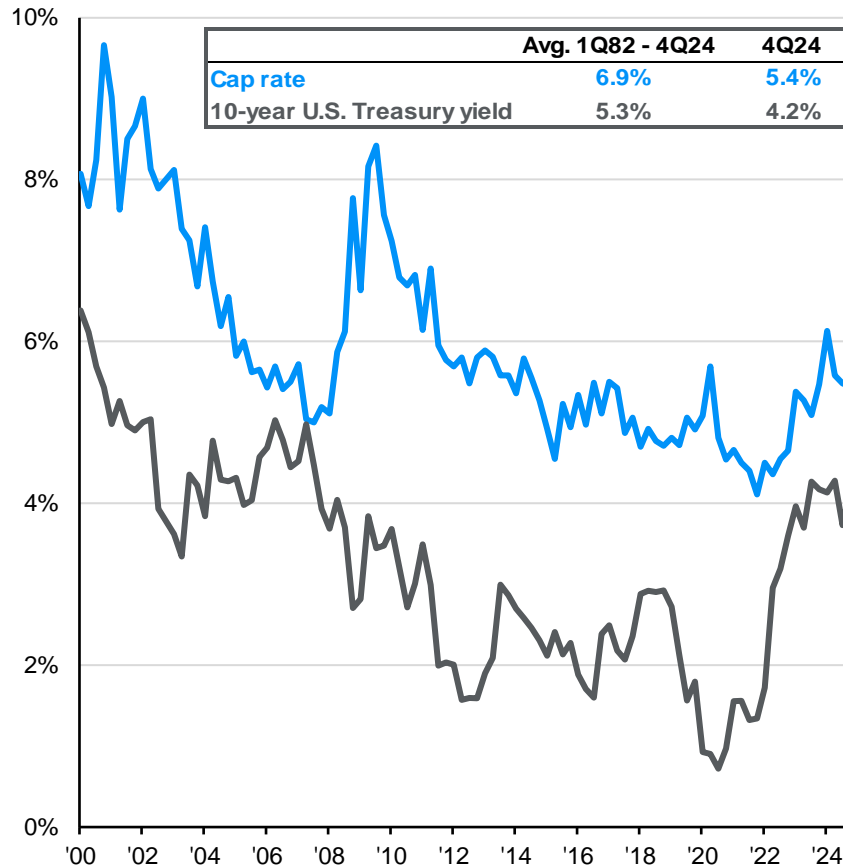
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Real estate

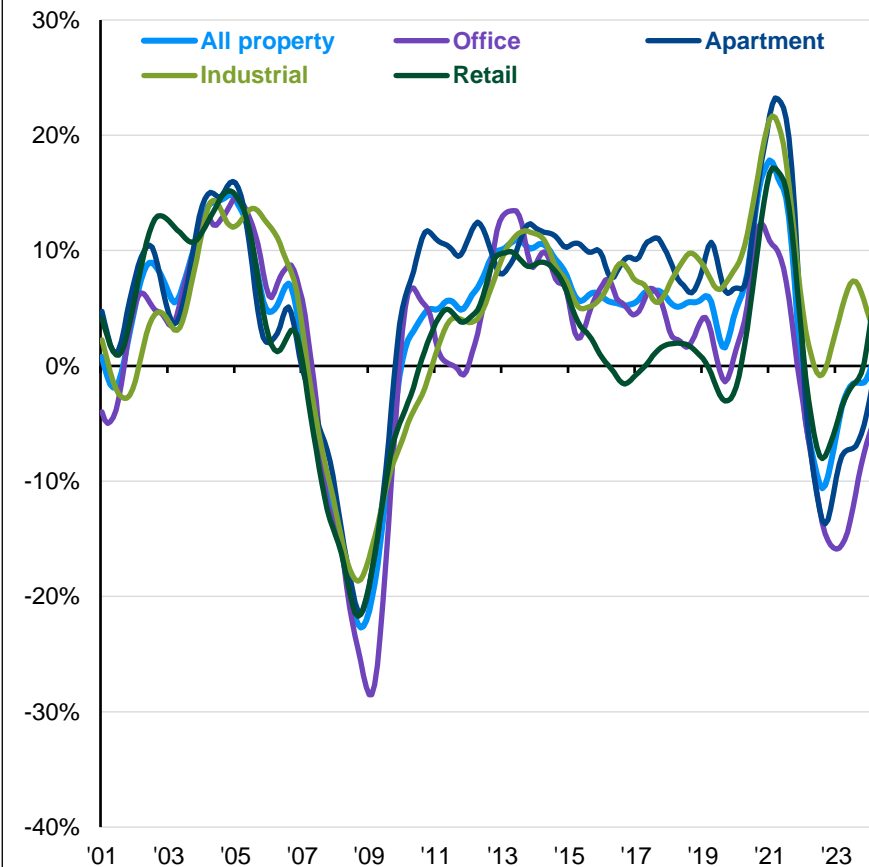
U.S. real estate cap rates and interest rates

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



U.S. commercial real estate property prices

Y/y% change



Source: Apollo Global Management, Bloomberg, LSEG Datastream, MSCI, NCREIF, J.P. Morgan Asset Management.

(Left) The cap rate is calculated as the net operating income over sales price. It is transaction-based and value weighted. (Right) The RCA Commercial Property Price Indices are transaction-based indices that measure property prices at a national level. Property price data is as of February 28, 2025. Past performance is not a reliable indicator of current and future results.

Data are based on availability as of February 28, 2025.

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U.S. real estate: Vacancy rates and NOI growth

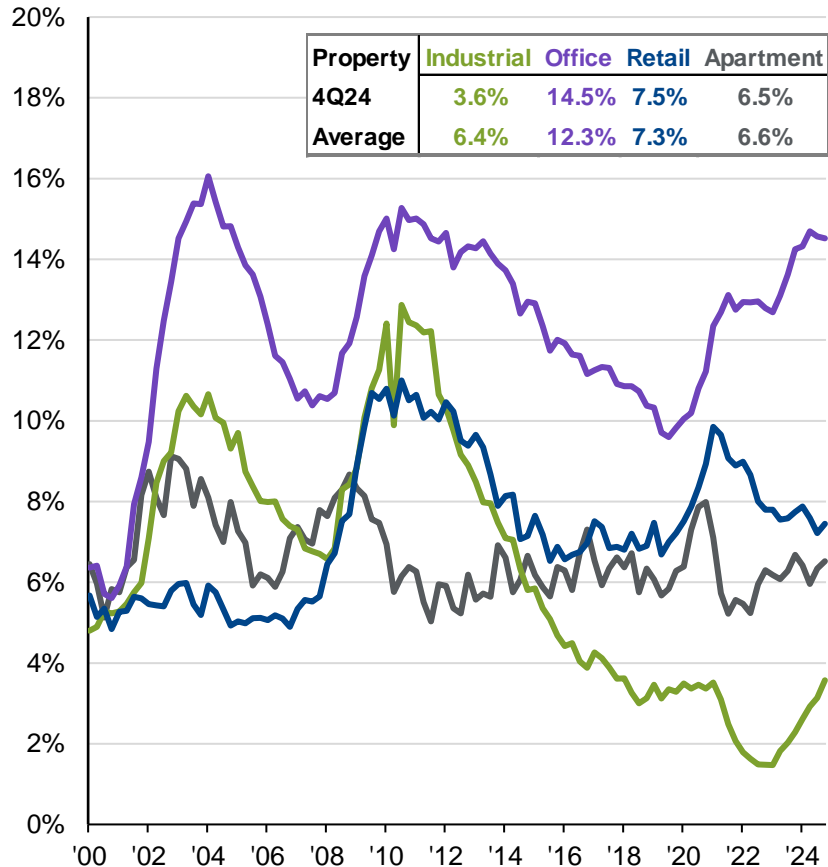
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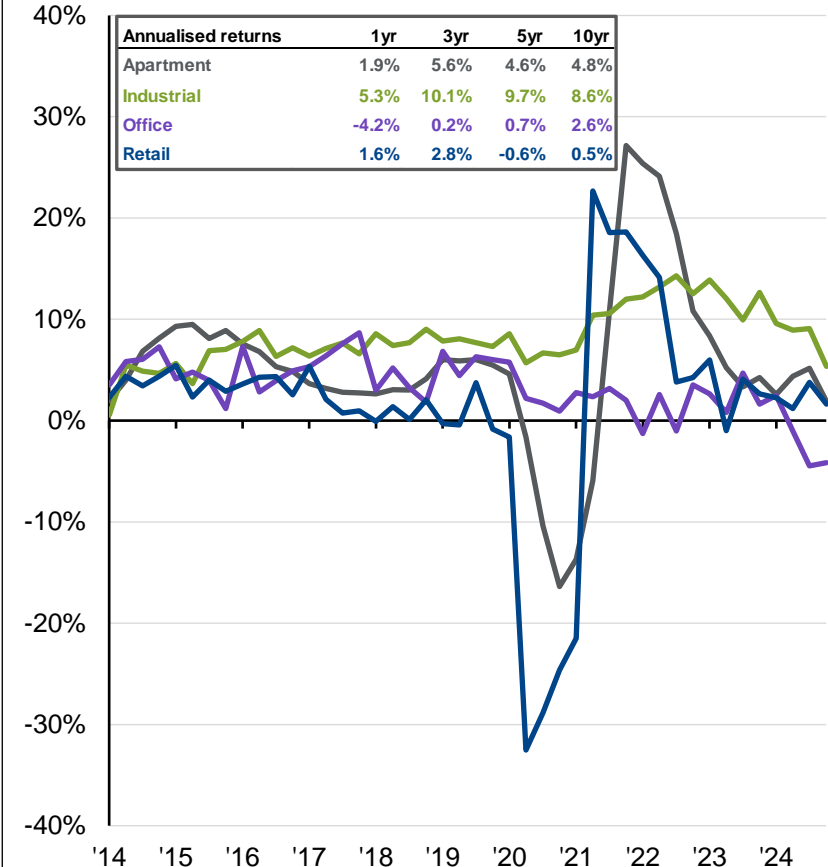
U.S. vacancy rates by property type

Percent, 1Q00 – 4Q24



Net operating income growth by property type

Year-on-year, 1Q13 – 4Q24



Source: NCREIF, J.P. Morgan Asset Management. Annualised returns are calculated to 4Q24. Past performance is not a reliable indicator of current and future results.

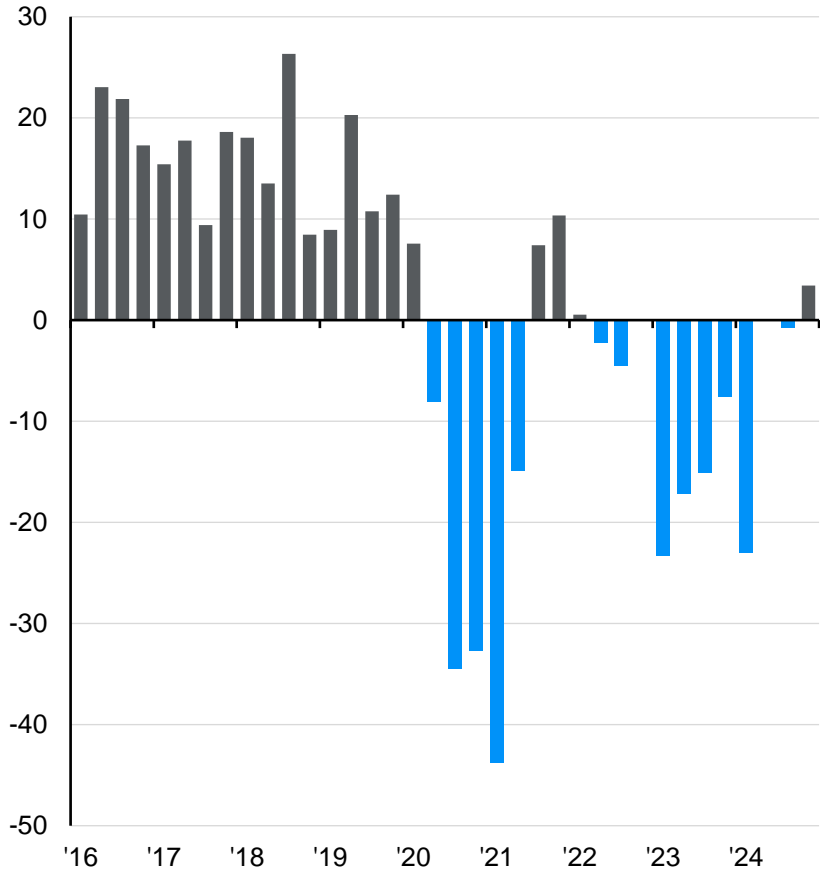
Data are based on availability as of February 28, 2025.



U.S. real estate: Office leasing activity

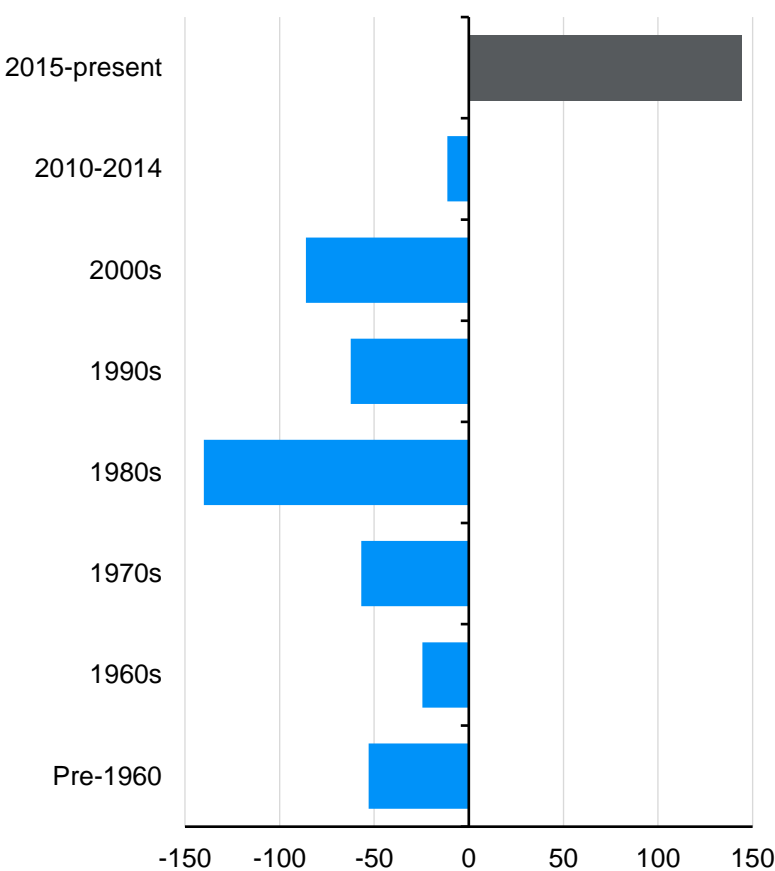
U.S. office net absorption

In million square feet, 1Q16 – 4Q24



Net absorption by building vintage

Year built



Cumulative net absorption since Q2 2020 (million square feet)

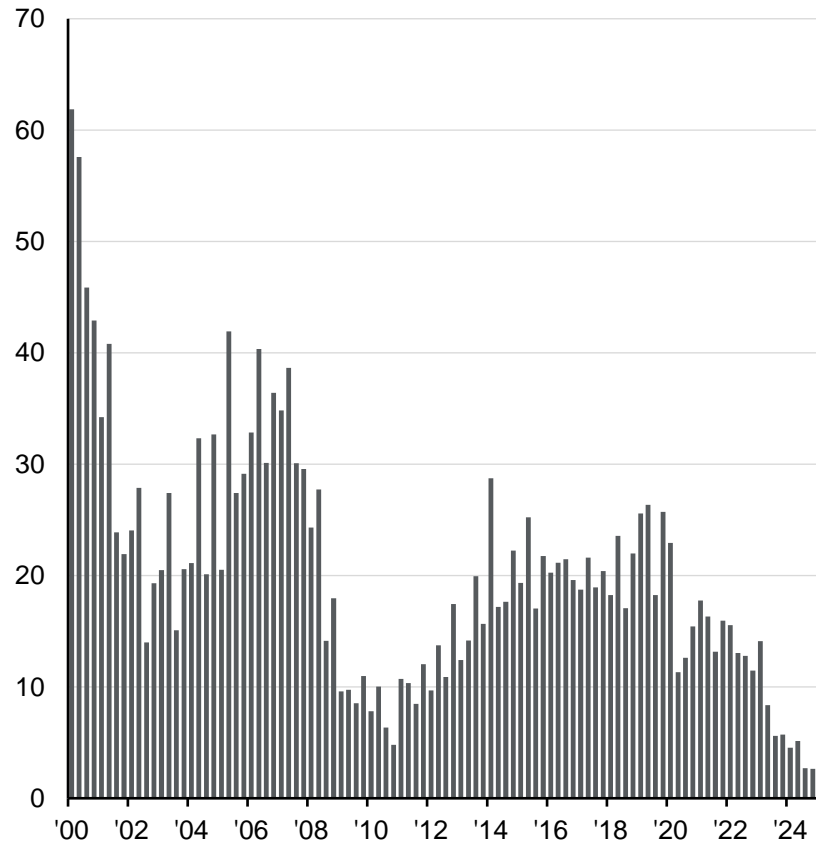
Source: CoStar, JLL, J.P. Morgan Asset Management; (Right) Data is sourced from the "U.S. Office Market Dynamics, January 2025" report. Data are based on availability as of February 28, 2025.



U.S. real estate: Office supply

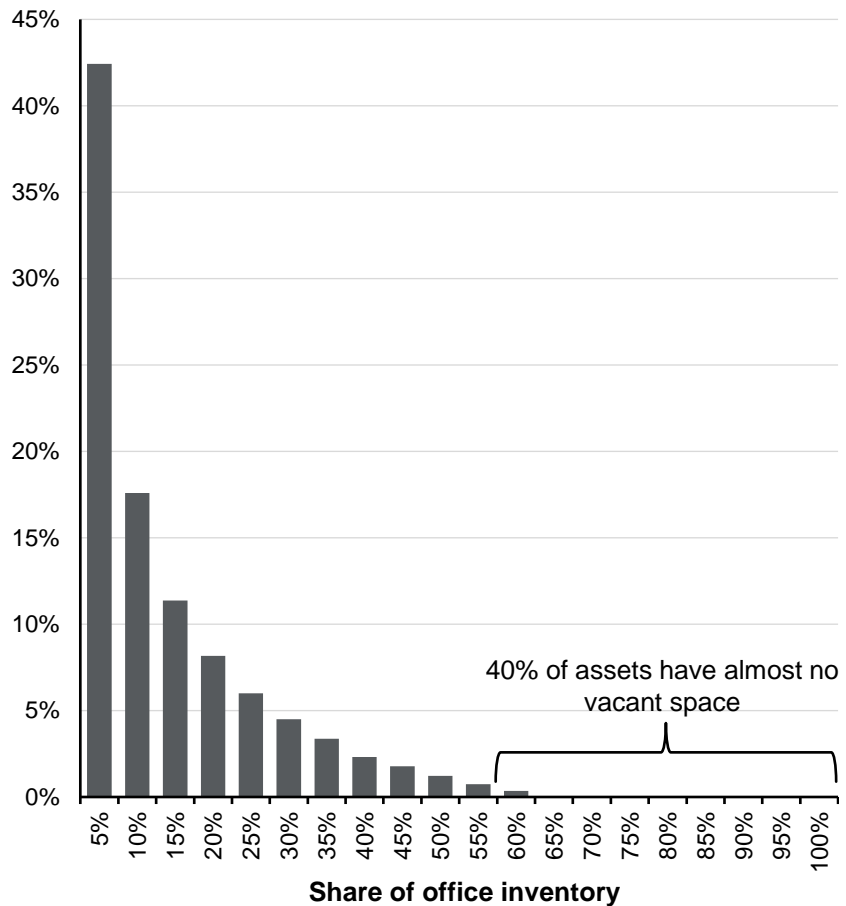
U.S. office construction starts

In million square feet, 1Q00 – 4Q24



Office vacancy concentration

Share of vacant space



Source: CoStar, JLL, J.P. Morgan Asset Management; (Right) Data is sourced from the “U.S. Office Market Dynamics, January 2025” report. Data are based on availability as of February 28, 2025.

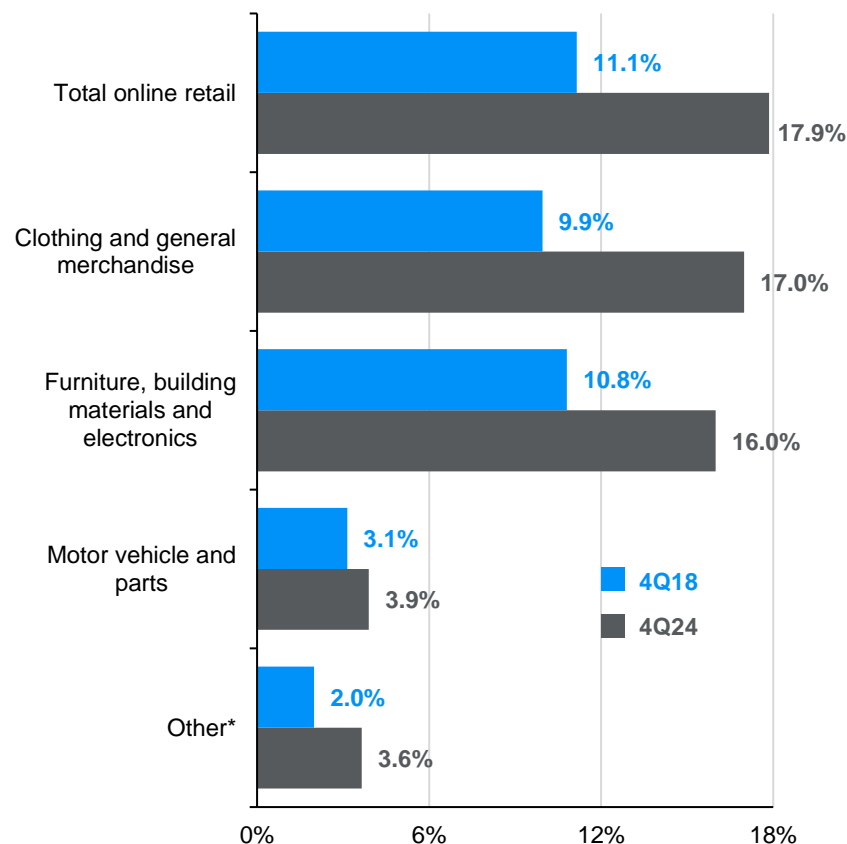


U.S. real estate: Retail

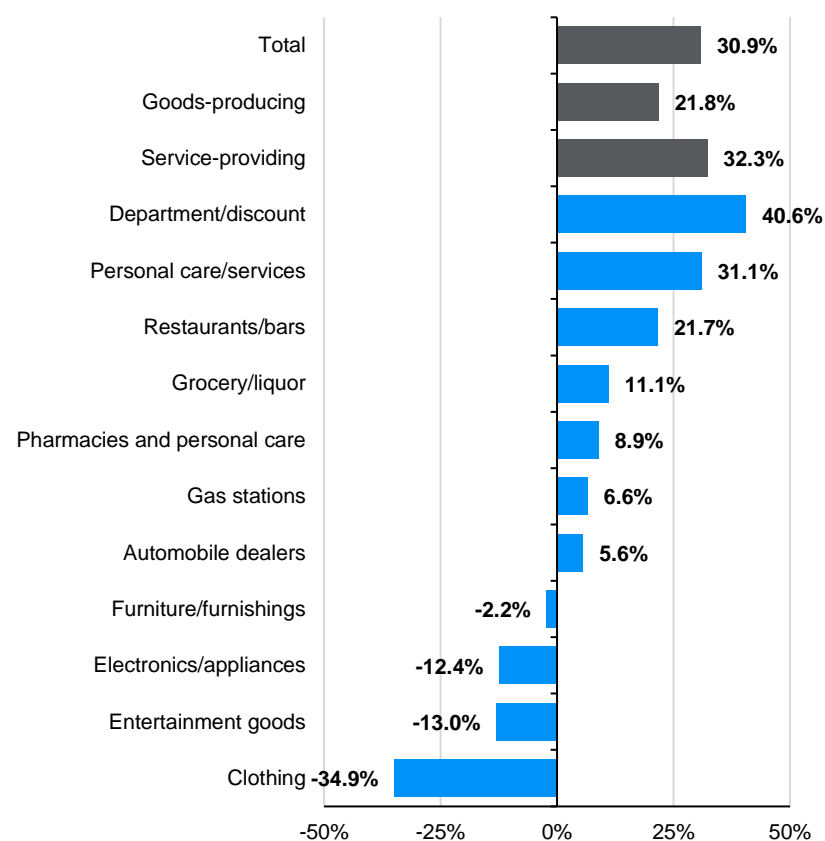
GTA MI 26

Real estate

U.S. online retail sales by segment
% of total retail sales by segment, NSA



Change in number of physical retail establishments
2Q14 – 2Q24



Source: Bureau of Labor Statistics, U.S. Census Bureau, J.P. Morgan Asset Management. *Other includes food, health and entertainment. Data are based on availability as of February 28, 2025.



U.S. real estate: Industrial and multifamily

GTA

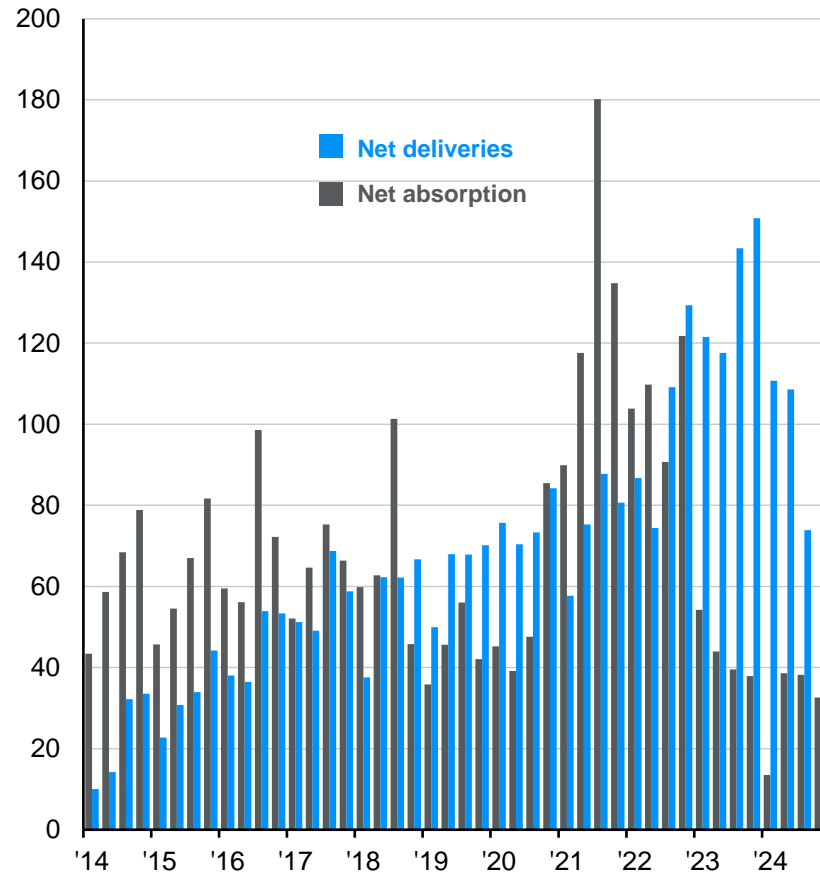
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Real estate

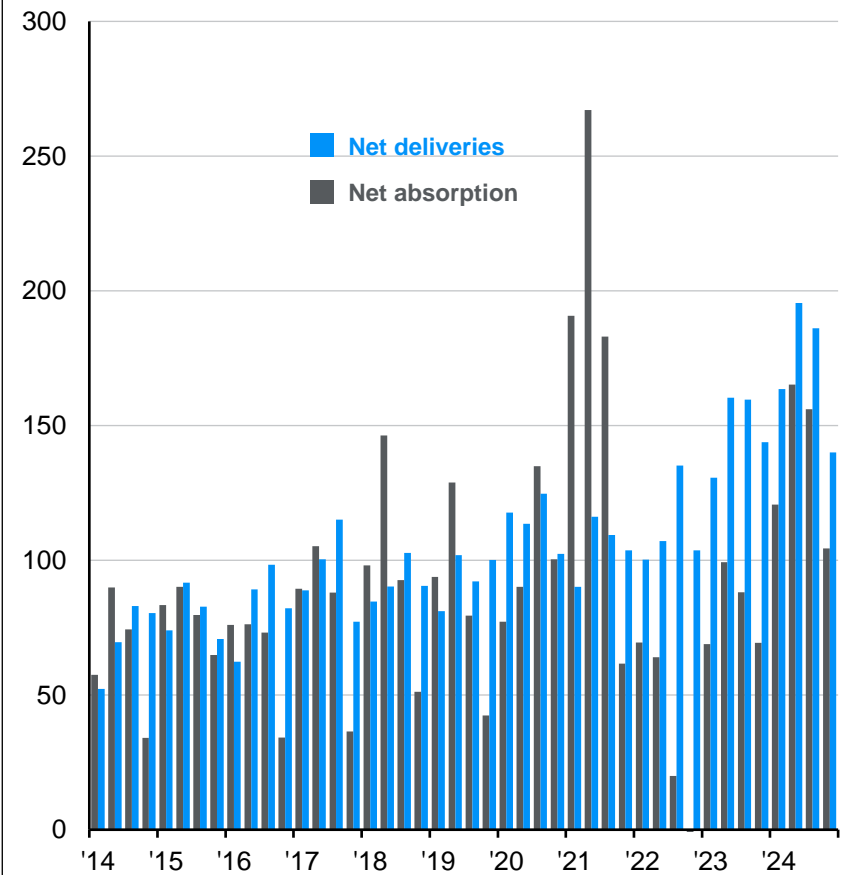
U.S. industrial absorption and deliveries

In million square feet, 1Q14 – 4Q24



U.S. multifamily absorption and deliveries

Thousand units, 1Q14 – 4Q24



Source: CoStar, J.P. Morgan Asset Management.
Data are based on availability as of February 28, 2025.



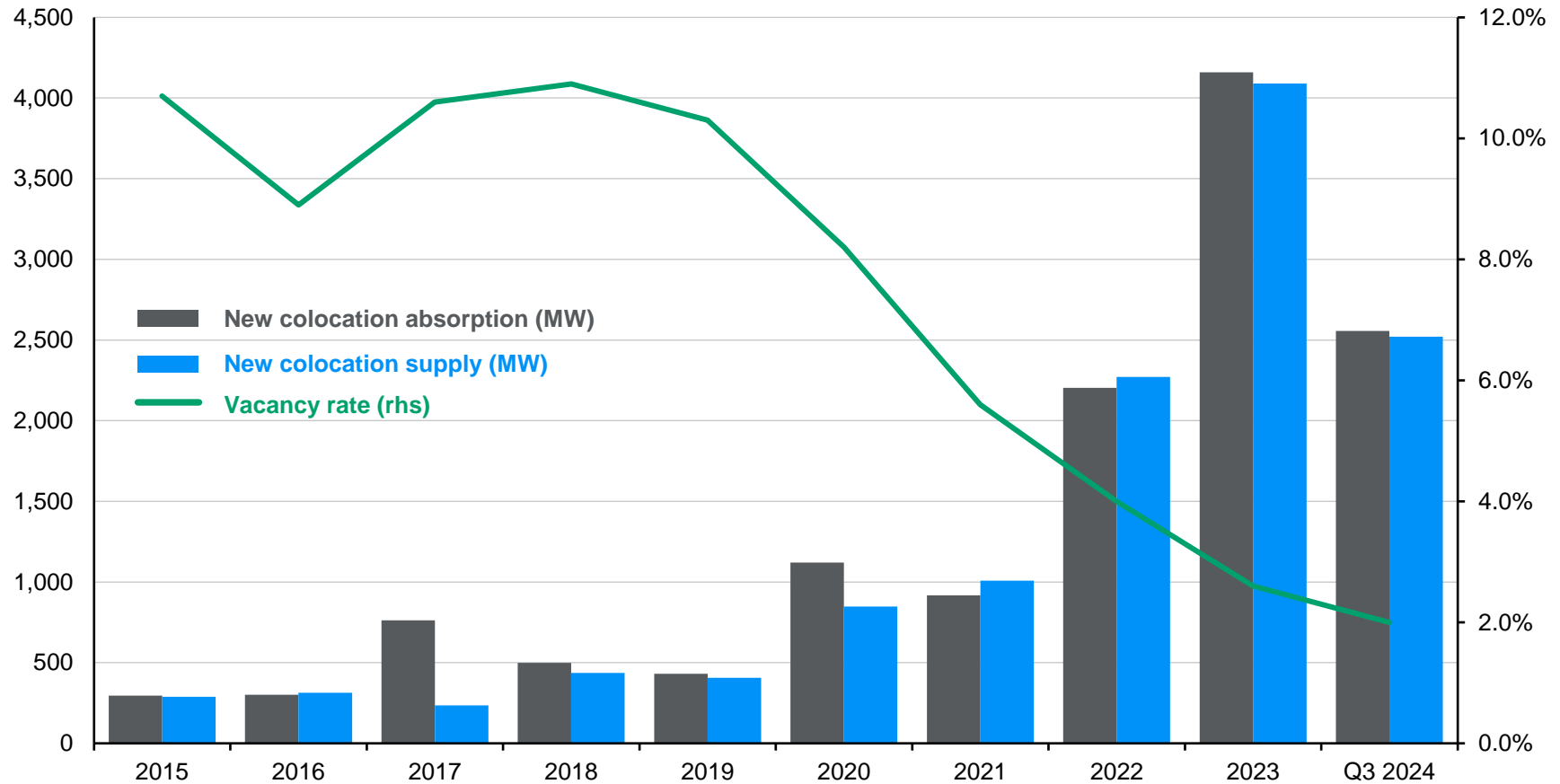
U.S. real estate: Data centers

GTA MI 28

Real estate

U.S. data center absorption and supply

Megawatts (MW)



Source: Cushman and Wakefield, J.P. Morgan Asset Management. "Colocation" is when organizations place their own servers and essential computing hardware for data storage in space rented in a physical data center. A Colocation facility is a data center in which a business can rent space for servers, storage and other computing or networking hardware. Data are based on availability as of February 28, 2025.

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Europe real estate: Transaction volumes

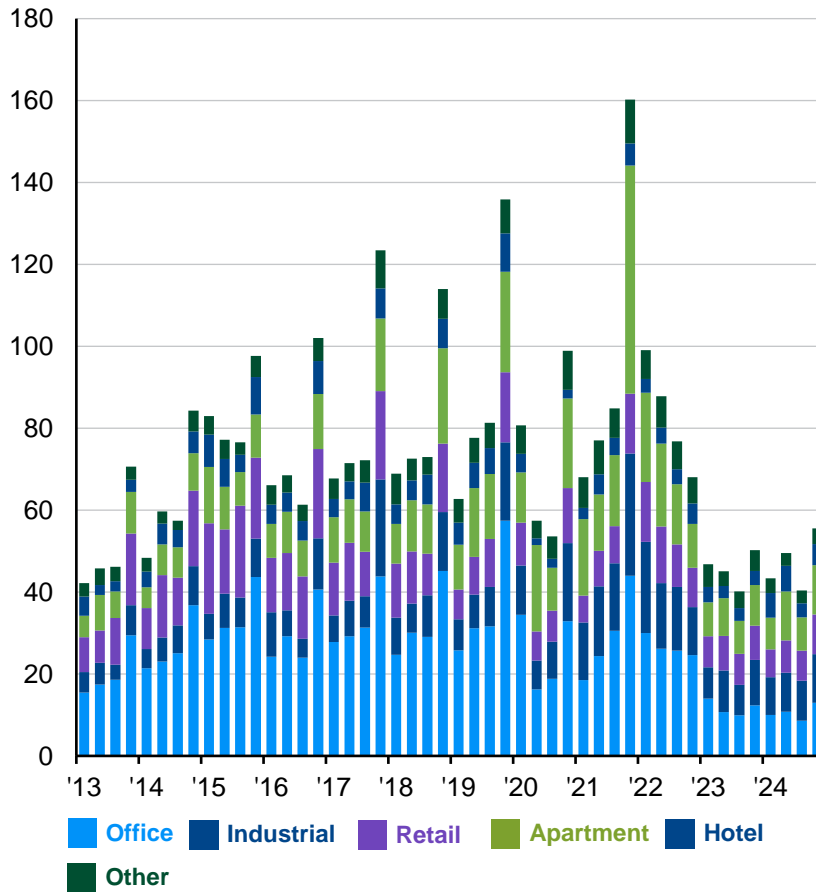
GTA

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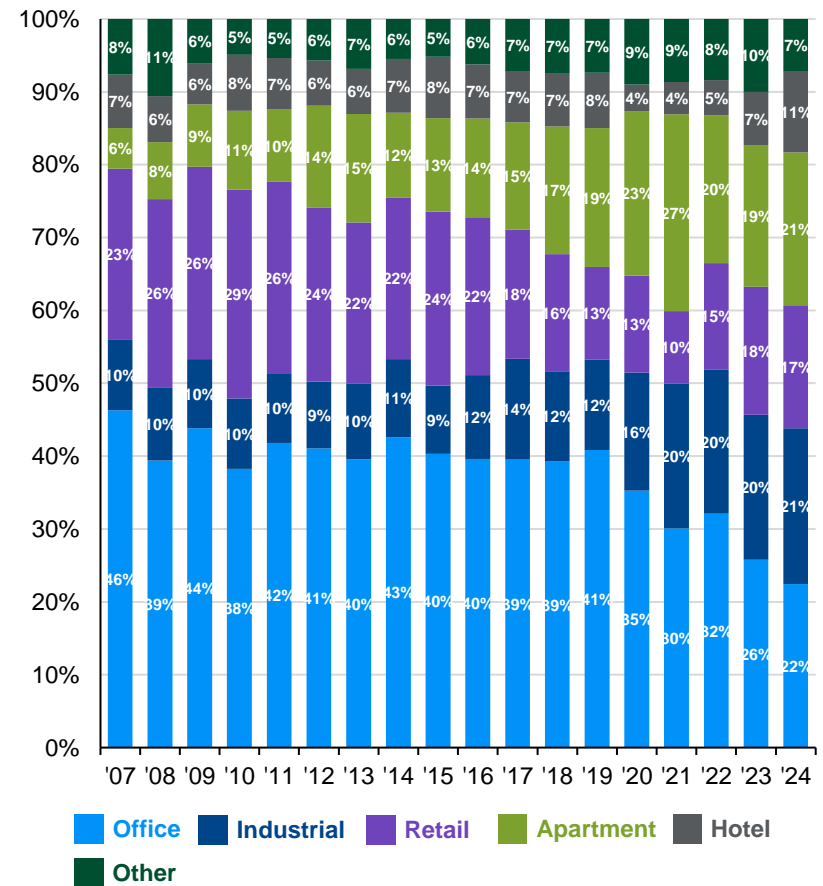
European transaction volumes

EUR billions 1Q13 – 4Q24



European transaction volumes by property type

Share of total, 2007 - 2024



Source: RCA, J.P. Morgan Asset Management. Percentages may not sum to 100 due to rounding. Data are based on availability as of February 28, 2025.



Europe real estate: Yield and income

GTA

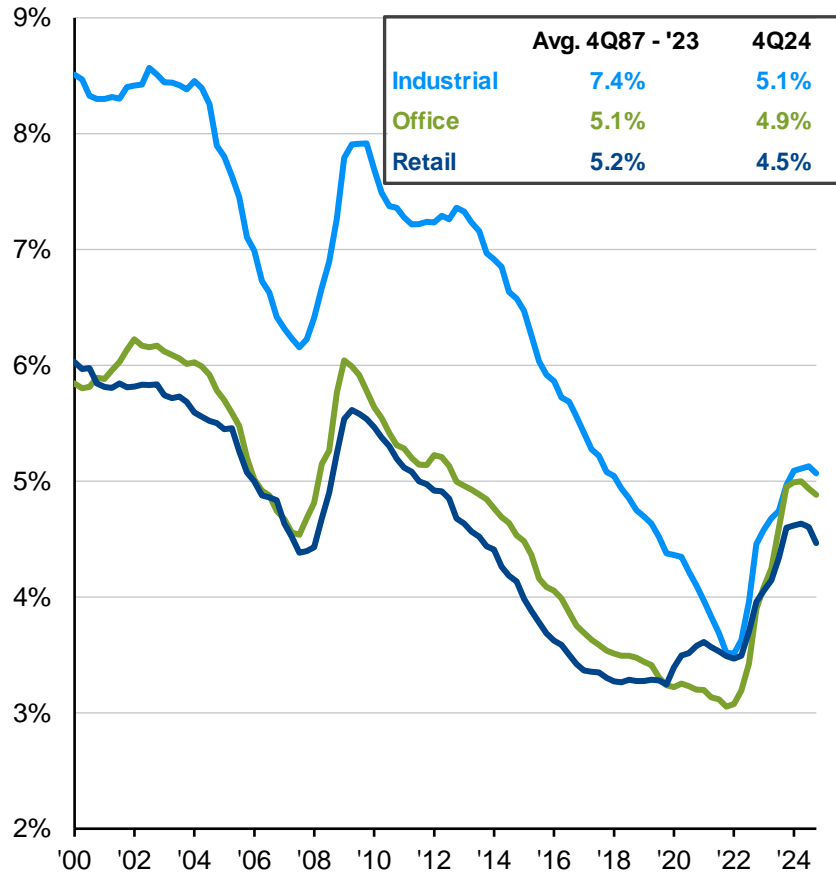
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Real estate

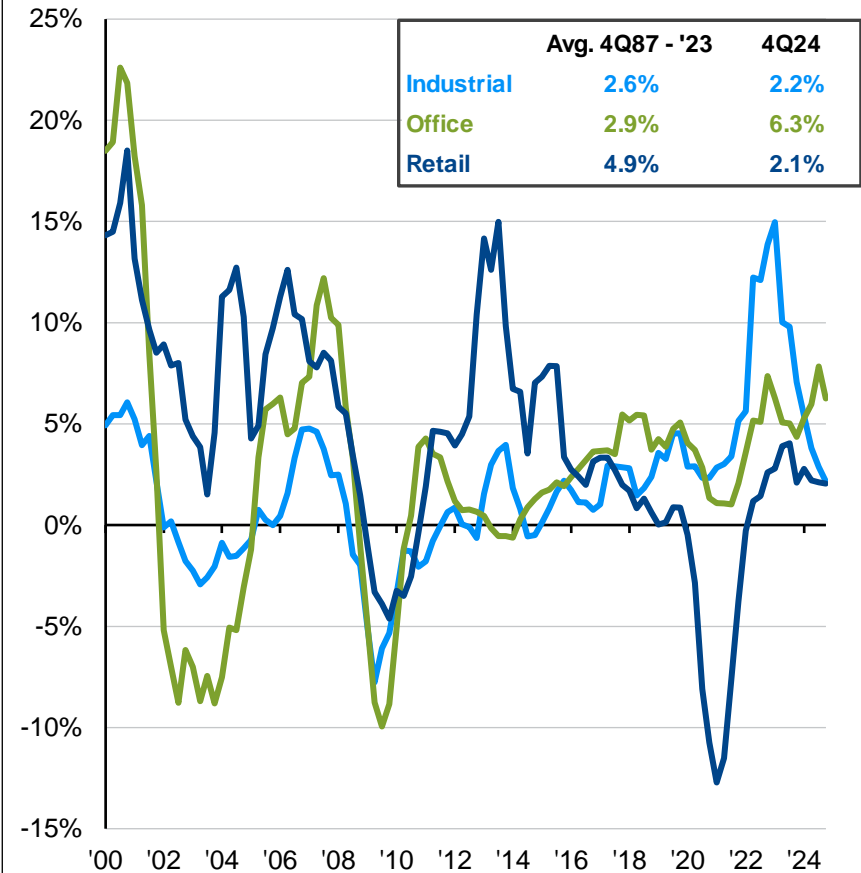
Prime yield by property type

1Q00 – 4Q24



Prime rent growth by property type

Year-over-year % change, 1Q00 – 4Q24



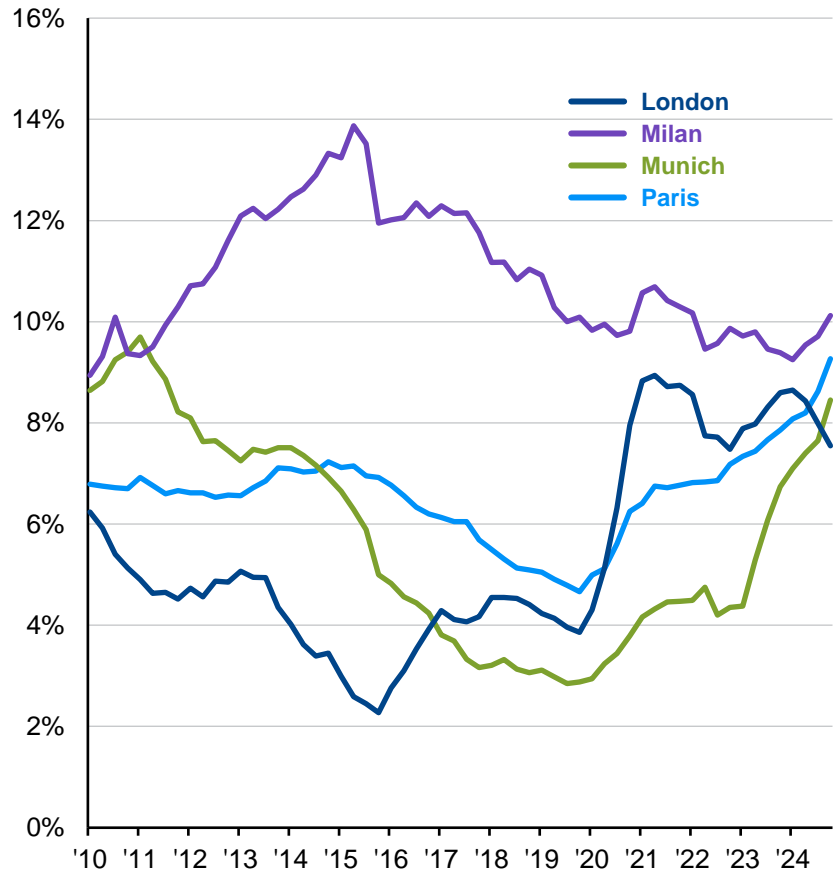
Source: CBRE ERIX, J.P. Morgan Asset Management. Industrial is represented by industrial logistics. Retail is represented by high street retail. Prime yields are absolute and weighted by property value. Past performance is not a reliable indicator of current and future results. Data are based on availability as of February 28, 2025.



Europe real estate: Office vacancy rates

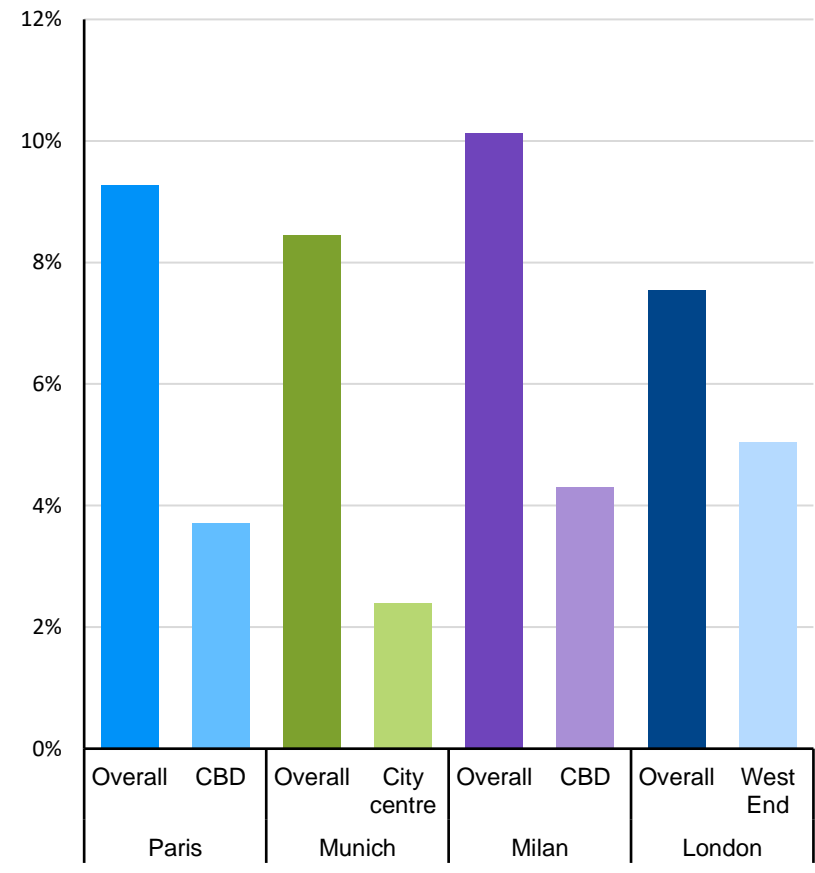
Office vacancy rates by city

1Q10 – 4Q24



Office vacancy rates within cities

Total city vacancy rates vs. central business districts*, 4Q24



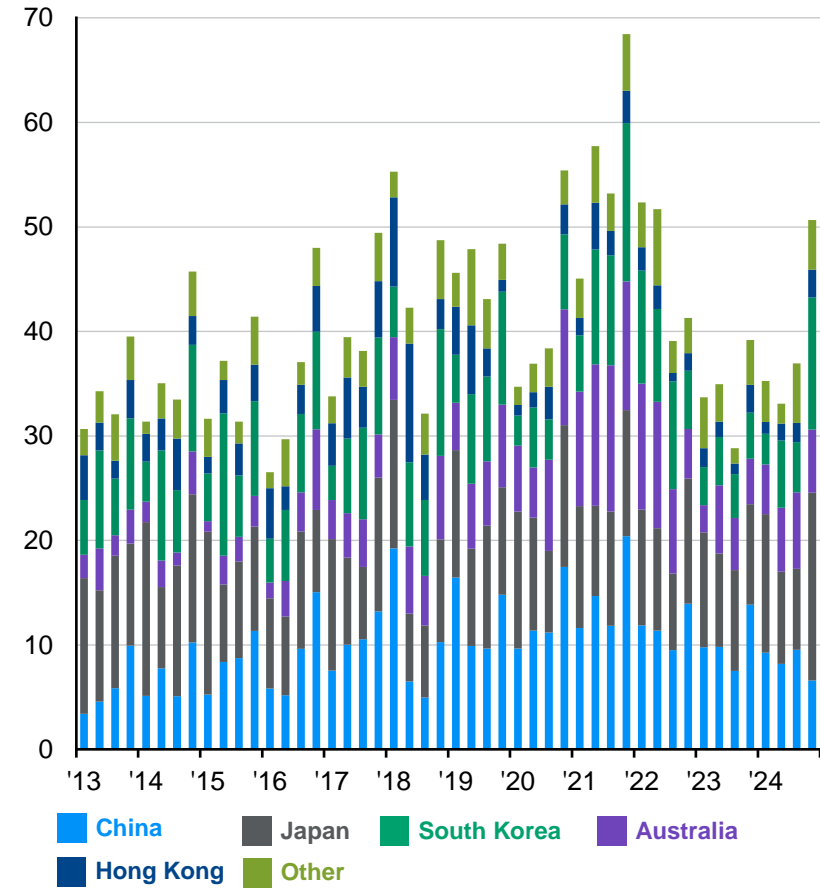
Source: CBREERIX, J.P. Morgan Asset Management. *Includes both central business districts (CBDs) and prime areas. Data are based on availability as of February 28, 2025.



Asia Pacific real estate: Transaction volumes

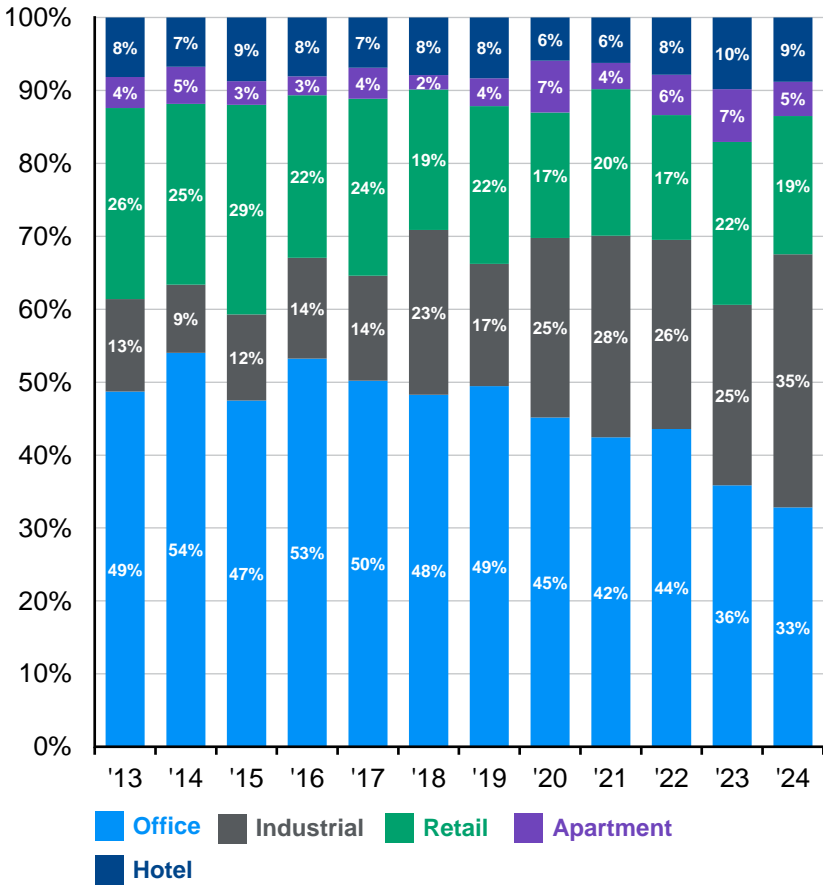
APAC transaction volumes

USD billions, 1Q13 – 4Q24



APAC transaction volume by property type

Share of total, 2013 – 2024



Source: MSCI Real Capital Analytics, J.P. Morgan Asset Management. Transaction volumes include office, industrial, retail, hotel, residential (professional investor) properties and portfolios >= USD 10 million and excludes development sites. Figures are not frozen and subject to updates by RCA.
Data are based on availability as of February 28, 2025.



Asia Pacific real estate: Yields and capital values

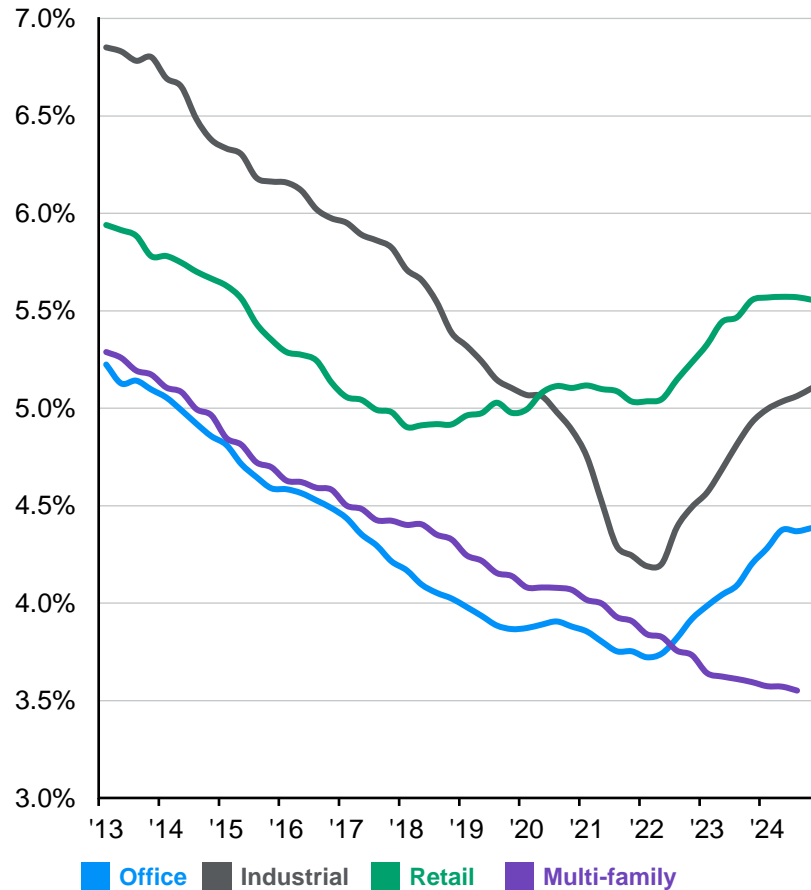
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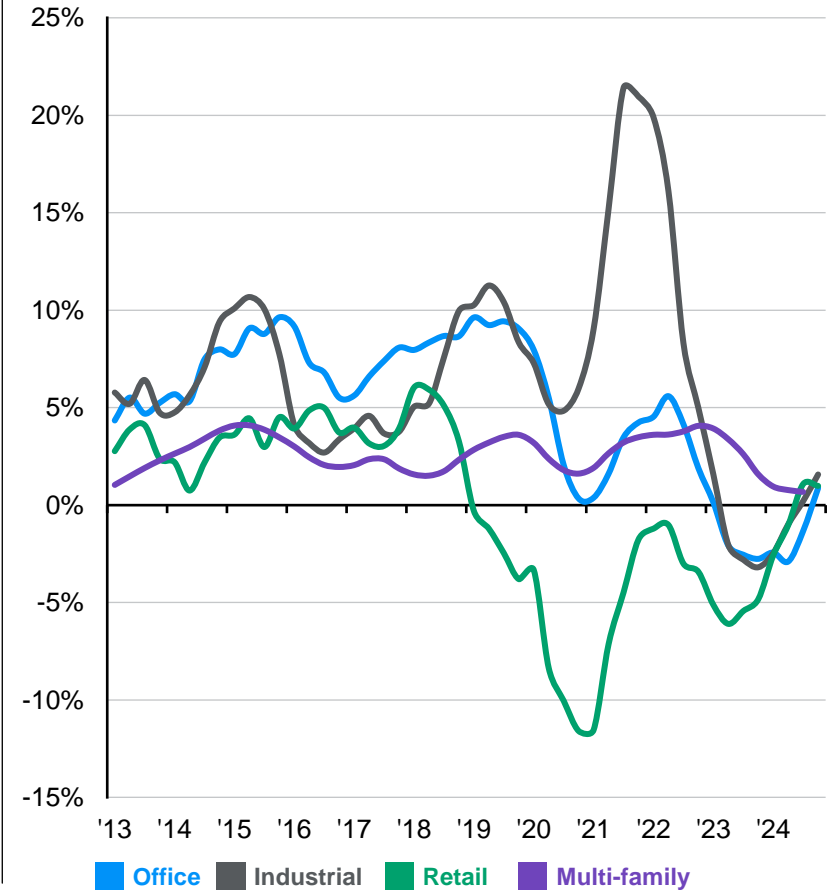
Yields by property type

%, 1Q13 – 4Q24*



Capital growth by property type

Year-over-year % change, 1Q13 - 4Q24



Source: JLL REIS, J.P. Morgan Asset Management.

All yield and capital growth data from JLL REIS, except multi-family sector from MSCI-IPD. Weight of each market based on country allocation % of ANREV ODCE Fund Index. Yields for office, industrial and retail sectors refer to market yields of overall APAC, while yields for multi-family refers to the value cap rate for Japan markets only. *Multi-family data available through 3Q 2024. Past performance is not a reliable indicator of current and future results.

Data are based on availability as of February 28, 2025.



Asia Pacific real estate: Japan multifamily

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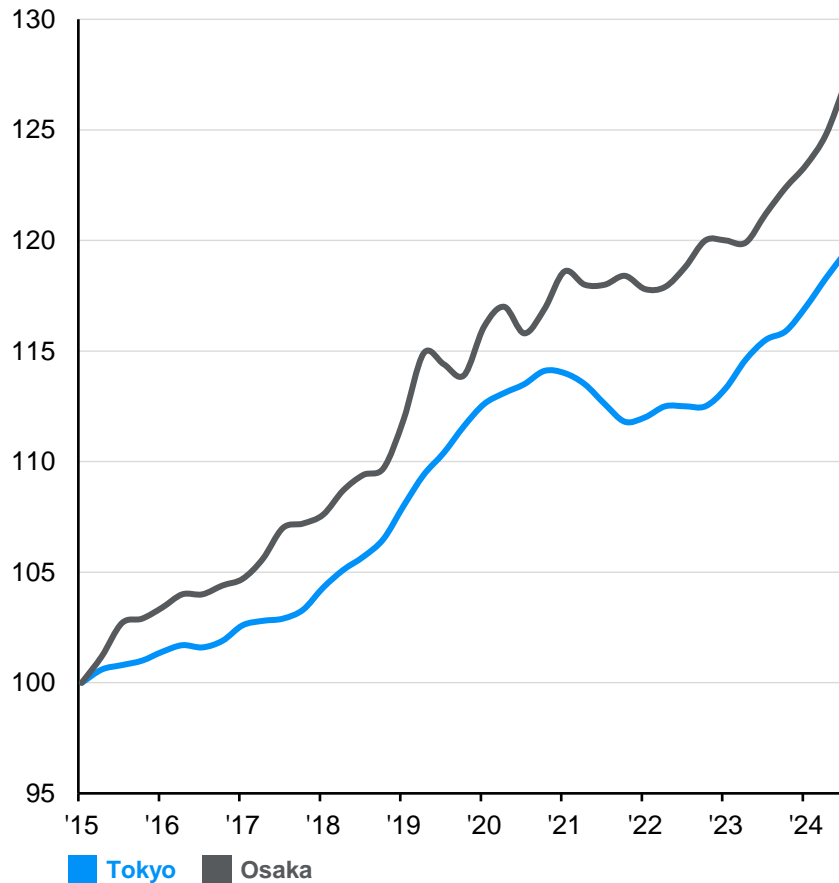
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Real estate

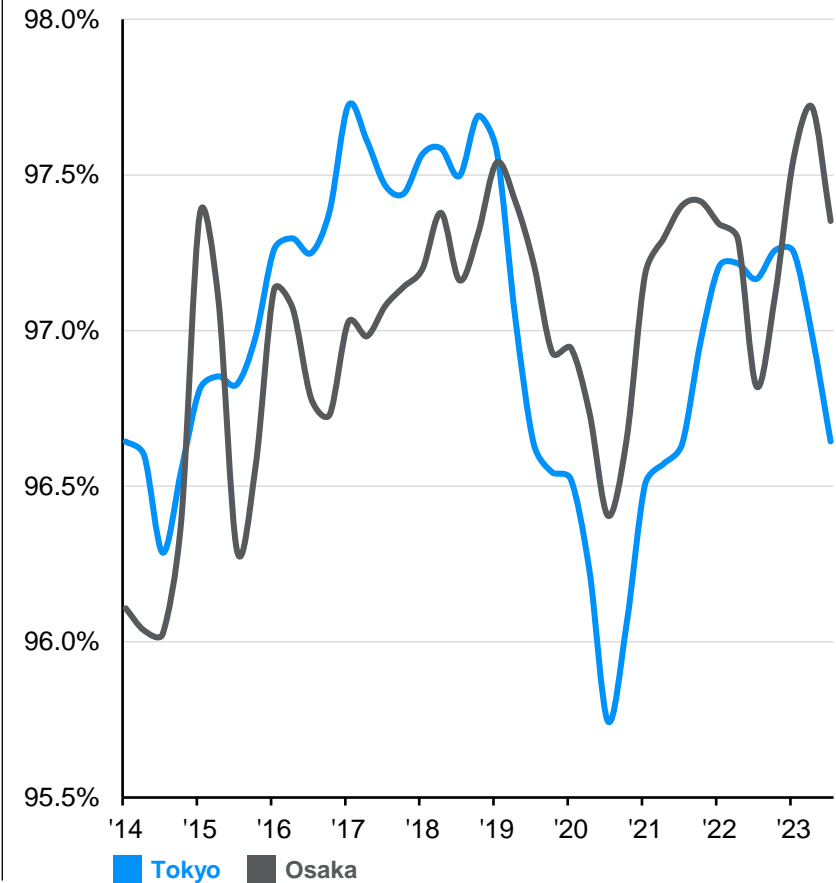
Japan residential rents

Rent index, 4Q14 = 100



Japan residential occupancy rates

%, 4Q14 – 3Q24



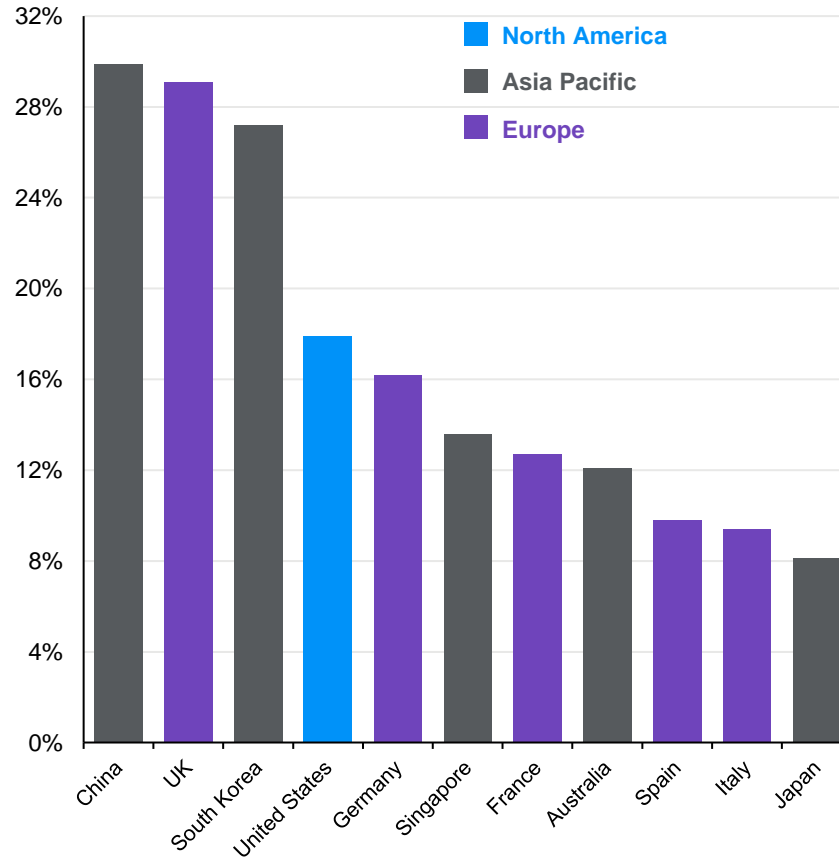
Source: MSCI-IPD, Sumitomo Mitsui Trust Research Institute, J.P. Morgan Asset Management. (Left) Data as of 3Q 2024. Rent index based on rolling 2-quarter average index returns. (Right) Data as of 3Q24. Occupancy based on 3-month moving average level. Occupancy rates in recent periods are subject to regular changes when source data becomes available. Past performance is not a reliable indicator of current and future results. Data are based on availability as of February 28, 2025.



Global real estate: Retail

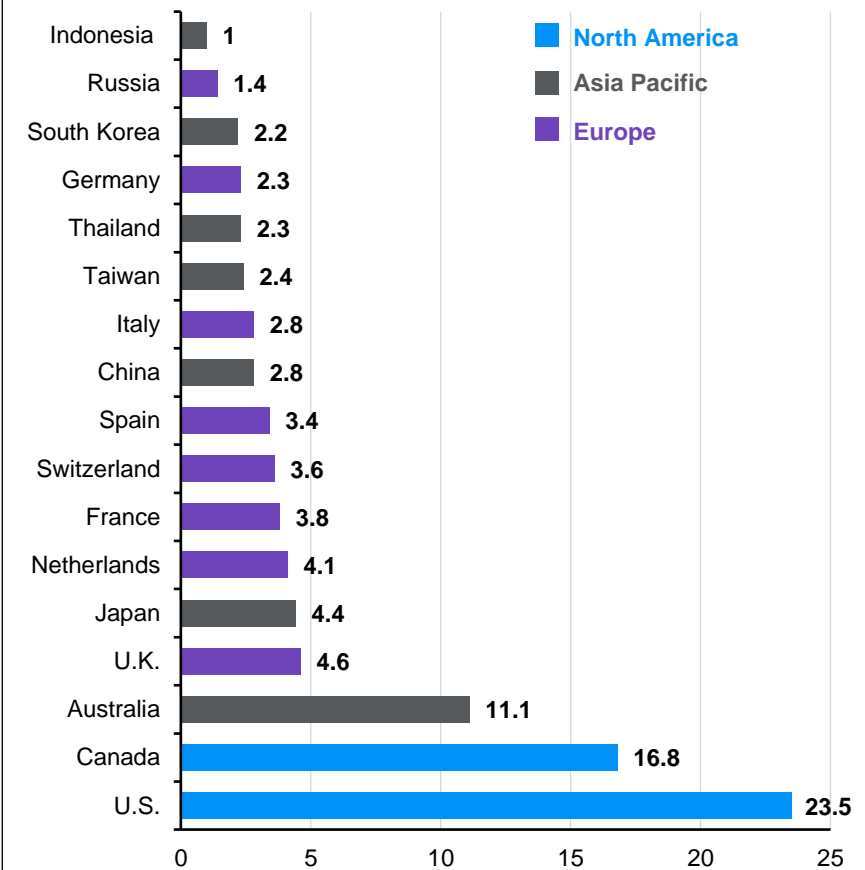
Global online retail sales

Percent of total retail sales, 4Q24*



Retail real estate per capita

Square feet per person



Source: Australian Bureau of Statistics, Centre for Retail Research (Germany, France, Italy, Spain), Korean Statistical Information Service, METI (Japan), National Bureau of Statistics (China), ONS (UK), Statistics of Singapore, U.S. Census Bureau. *All data are as of 4Q24 except for Japan which is as of 2023. (Right) Statista, J.P. Morgan Asset Management. Retail space per capita per country data was published in November 2020 and represents retail square footage per person in 2018. Data are based on availability as of February 28, 2025.



Commercial mortgage loans

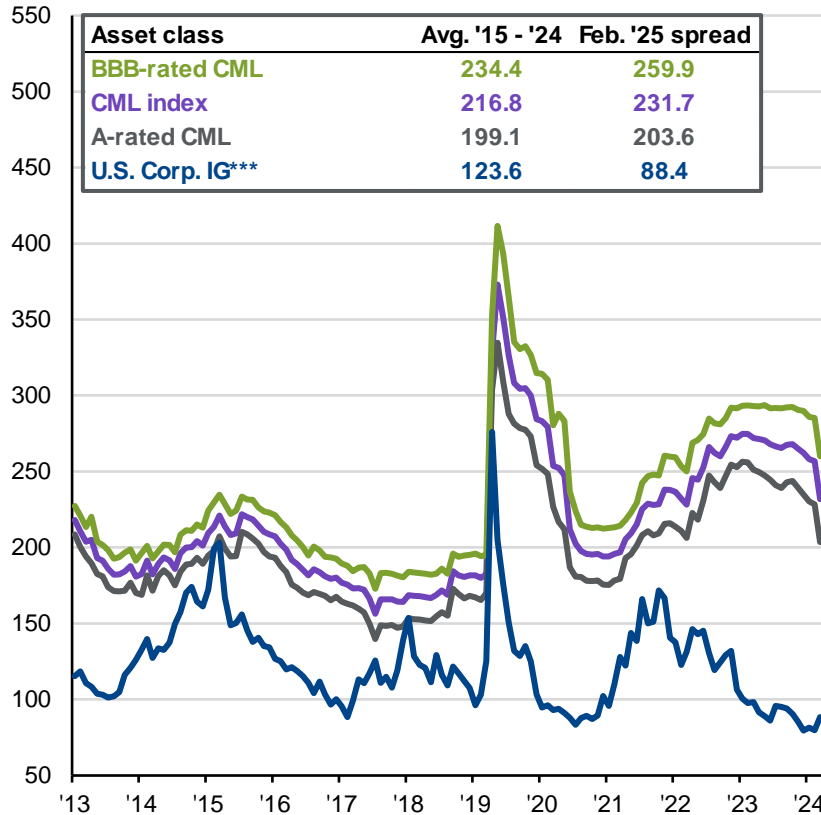
GTA

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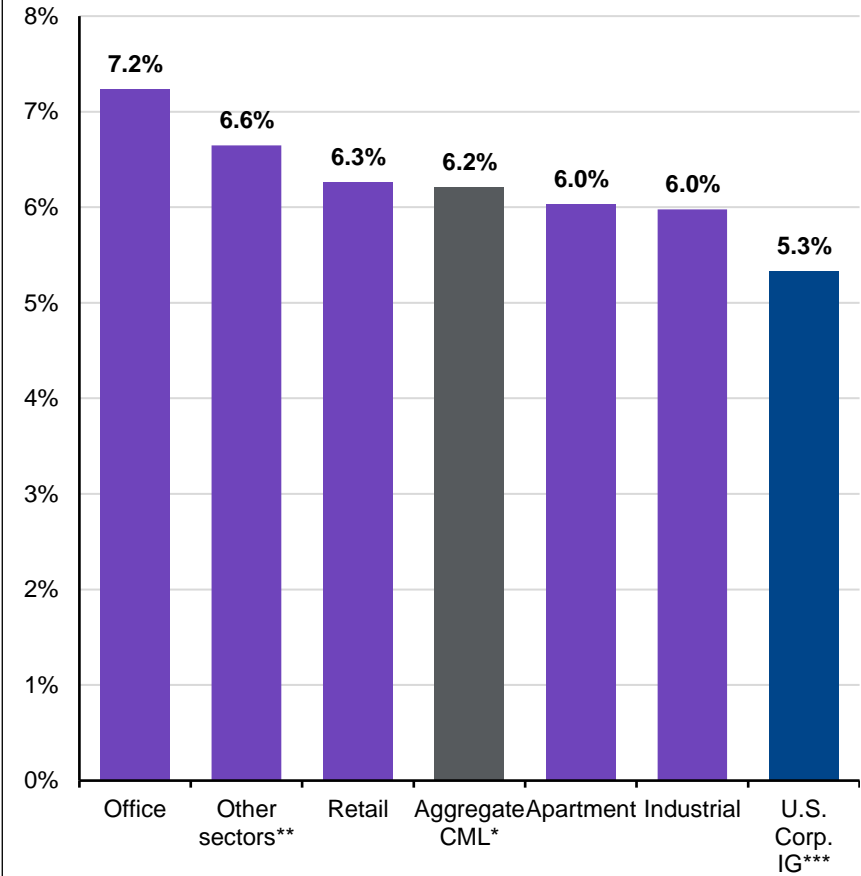
Commercial mortgage spreads

Spreads over Treasury, basis points, senior loans



Commercial mortgage yields

Weighted average yield, senior loans, 4Q24

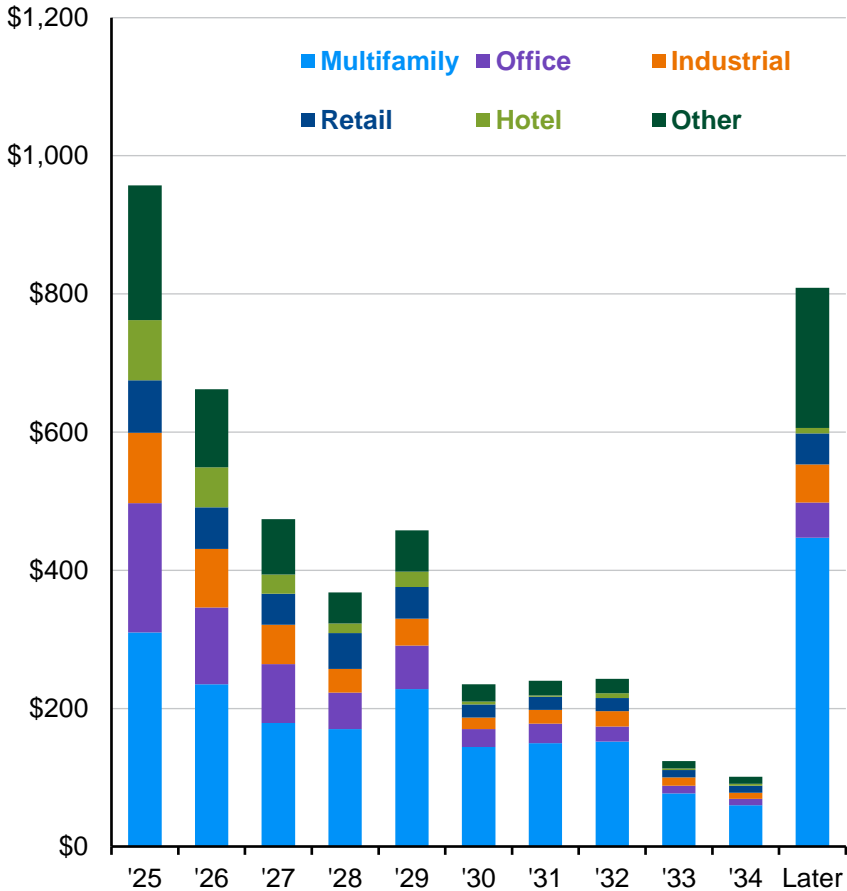


Source: Bloomberg, FactSet, Gilberto-Levy, J.P. Morgan Asset Management. All spreads are as of February 2025. (Left) Commercial mortgage spreads are from a J.P. Morgan survey and are calculated as the difference between the average yield as indicated by the survey and the yield of a U.S. Treasury security with a similar duration. (Right) Commercial mortgage yields shown are market-capitalization weighted average yields for all mortgages in each sector as of quarter end. *Aggregate CML: Gilberto-Levy Commercial Mortgage Loans Performance Index. **Other sectors includes hotels, motels, mixed-use, and miscellaneous. ***U.S. Corp. IG: Bloomberg U.S. Corporate Investment Grade Index. Yield shown for U.S. Corp IG is the yield-to-worst as of quarter end. Past performance is not a reliable indicator of current and future results. Data are based on availability as of February 28, 2025.

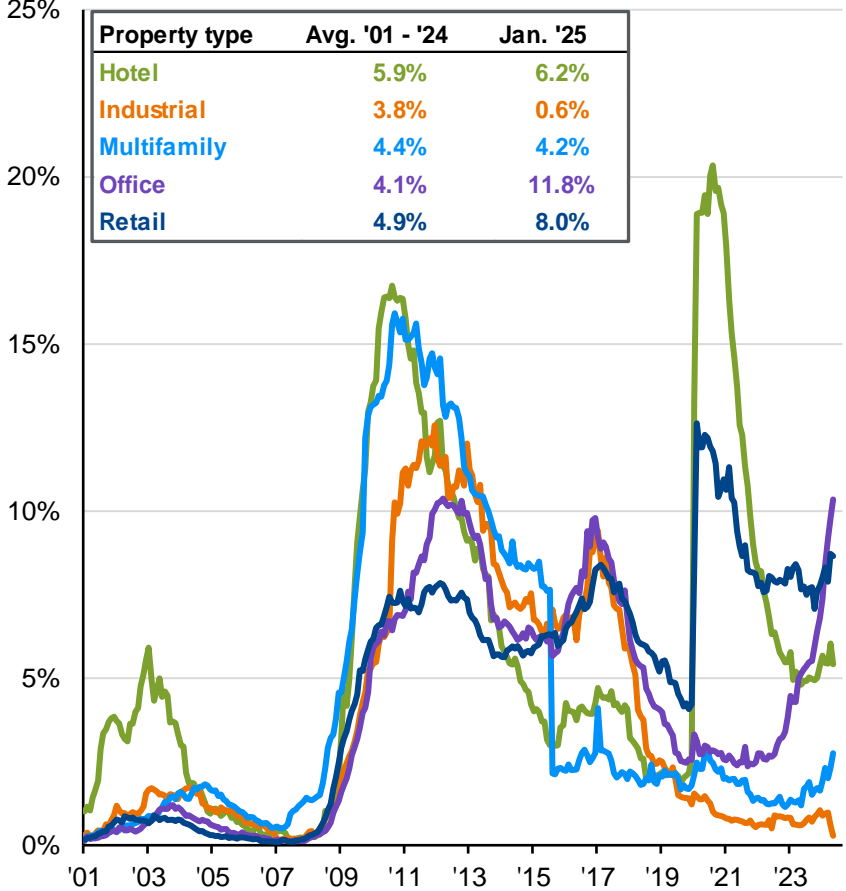


Commercial mortgage maturities and delinquencies

Commercial mortgage maturity schedule
By property type, USD billions, 4Q24



Commercial mortgage delinquencies
Delinquency rates by property type, monthly



Source: Moody's, Mortgage Bankers Association, J.P. Morgan Asset Management.
(Left) Data are as of December 31, 2024. Other includes hospitals. Moody's defines delinquencies as loans that are 60 or more days in payment arrears, that are matured and performing, matured and nonperforming, foreclosure in progress or REO ("real estate owned" by a bank).
Data are based on availability as of February 28, 2025.



U.S. REITs sector returns

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Real estate

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	YTD '25	2015-2024	
												Ann.	Vol.*
Self Storage	40.6%	Industrial	Data Centers	Ret. Free Standing	Mfgd. Homes	Data Centers	Regional Malls	Ret. Free Standing	Data Centers	Regional Malls	Industrial	Industrial	Regional Malls
	40.6%	30.7%	28.4%	13.9%	49.1%	21.0%	92.1%	-6.5%	30.1%	27.4%	14.7%	11.5%	35.0%
Mfgd. Homes	25.6%	Lodging/Resorts	Mfgd. Homes	Mfgd. Homes	Industrial	Self Storage	Self Storage	Shopping Centers	Regional Malls	Data Centers	Health Care	Mfgd. Homes	Lodging/Resorts
	25.6%	24.3%	24.9%	11.4%	48.7%	12.9%	79.4%	-12.5%	29.9%	25.2%	14.0%	11.4%	29.5%
Apartments	16.5%	Ret. Free Standing	Industrial	Health Care	Data Centers	Industrial	Shopping Centers	Lodging/Resorts	Lodging/Resorts	Health Care	Mfgd. Homes	Self Storage	Shopping Centers
	16.5%	17.0%	20.6%	7.6%	44.2%	12.2%	65.1%	-15.3%	23.9%	24.2%	6.9%	10.6%	28.9%
Ret. Free Standing	5.9%	Mfgd. Homes	All Equity REITs	Apartments	Office	Mfgd. Homes	Apartments	Health Care	Industrial	Office	Ret. Free Standing	Apartments	Self Storage
	5.9%	14.2%	8.7%	3.7%	31.4%	-1.7%	63.6%	-22.2%	19.2%	21.5%	6.8%	6.9%	23.2%
Shopping Centers	4.7%	Office	Lodging/Resorts	Self Storage	All Equity REITs	All Equity REITs	Industrial	Regional Malls	Self Storage	Apartments	Regional Malls	Ret. Free Standing	Ret. Free Standing
	4.7%	13.2%	7.2%	2.9%	28.7%	-5.1%	62.0%	-22.9%	18.5%	20.5%	6.7%	6.2%	23.1%
Regional Malls	4.2%	All Equity REITs	Office	Industrial	Apartments	Health Care	Mfgd. Homes	All Equity REITs	Health Care	Shopping Centers	Apartments	All Equity REITs	Office
	4.2%	8.6%	5.2%	-2.5%	26.3%	-9.9%	42.0%	-24.9%	13.9%	17.0%	6.1%	5.8%	22.9%
All Equity REITs	2.8%	Health Care	Self Storage	All Equity REITs	Shopping Centers	Ret. Free Standing	All Equity REITs	Self Storage	Shopping Centers	All Equity REITs	All Equity REITs	Health Care	Health Care
	2.8%	6.4%	3.7%	-4.0%	25.0%	-10.5%	41.3%	-26.7%	12.0%	4.9%	5.2%	4.1%	21.7%
Industrial	2.6%	Shopping Centers	Apartments	Regional Malls	Ret. Free Standing	Apartments	Data Centers	Data Centers	All Equity REITs	Ret. Free Standing	Self Storage	Shopping Centers	Industrial
	2.6%	3.7%	3.7%	-7.0%	24.8%	-15.3%	25.5%	-28.0%	11.4%	2.0%	1.2%	3.5%	21.7%
Office	0.3%	Apartments	Ret. Free Standing	Lodging/Resorts	Health Care	Office	Office	Mfgd. Homes	Apartments	Self Storage	Shopping Centers	Regional Malls	Apartments
	0.3%	2.9%	3.1%	-12.8%	21.2%	-18.4%	22.0%	-28.3%	5.9%	-0.5%	-1.6%	2.3%	18.3%
Health Care	-7.2%	Regional Malls	Health Care	Data Centers	Lodging/Resorts	Lodging/Resorts	Ret. Free Standing	Industrial	Mfgd. Homes	Lodging/Resorts	Office	Office	All Equity REITs
	-7.2%	-5.2%	0.9%	-14.1%	15.6%	-23.6%	19.7%	-28.6%	2.5%	-2.0%	-4.9%	0.3%	17.7%
Lodging/Resorts	-24.4%	Self Storage	Regional Malls	Office	Self Storage	Shopping Centers	Lodging/Resorts	Apartments	Office	Mfgd. Homes	Data Centers	Lodging/Resorts	Mfgd. Homes
	-24.4%	-8.1%	-2.7%	-14.5%	13.7%	-27.6%	18.2%	-32.0%	2.0%	-3.1%	-6.8%	-0.6%	16.9%
Data Centers	N/A	Data Centers	Shopping Centers	Shopping Centers	Regional Malls	Regional Malls	Health Care	Office	Ret. Free Standing	Industrial	Lodging/Resorts	Data Centers	Data Centers
	N/A	N/A	-11.4%	-14.5%	-9.1%	-37.2%	16.3%	-37.6%	-1.5%	-17.8%	-7.7%	N/A	N/A

Source: FactSet, FTSE NAREIT, J.P. Morgan Asset Management. All indices are from FTSE NAREIT. *Volatility calculated as the annualized standard deviation of quarterly returns. Mfgd. Homes represents manufactured homes. Data for Data Centers begins in 2017. Past performance is not a reliable indicator of current and future results. Data are based on availability as of February 28, 2025.



Sources of global infrastructure returns

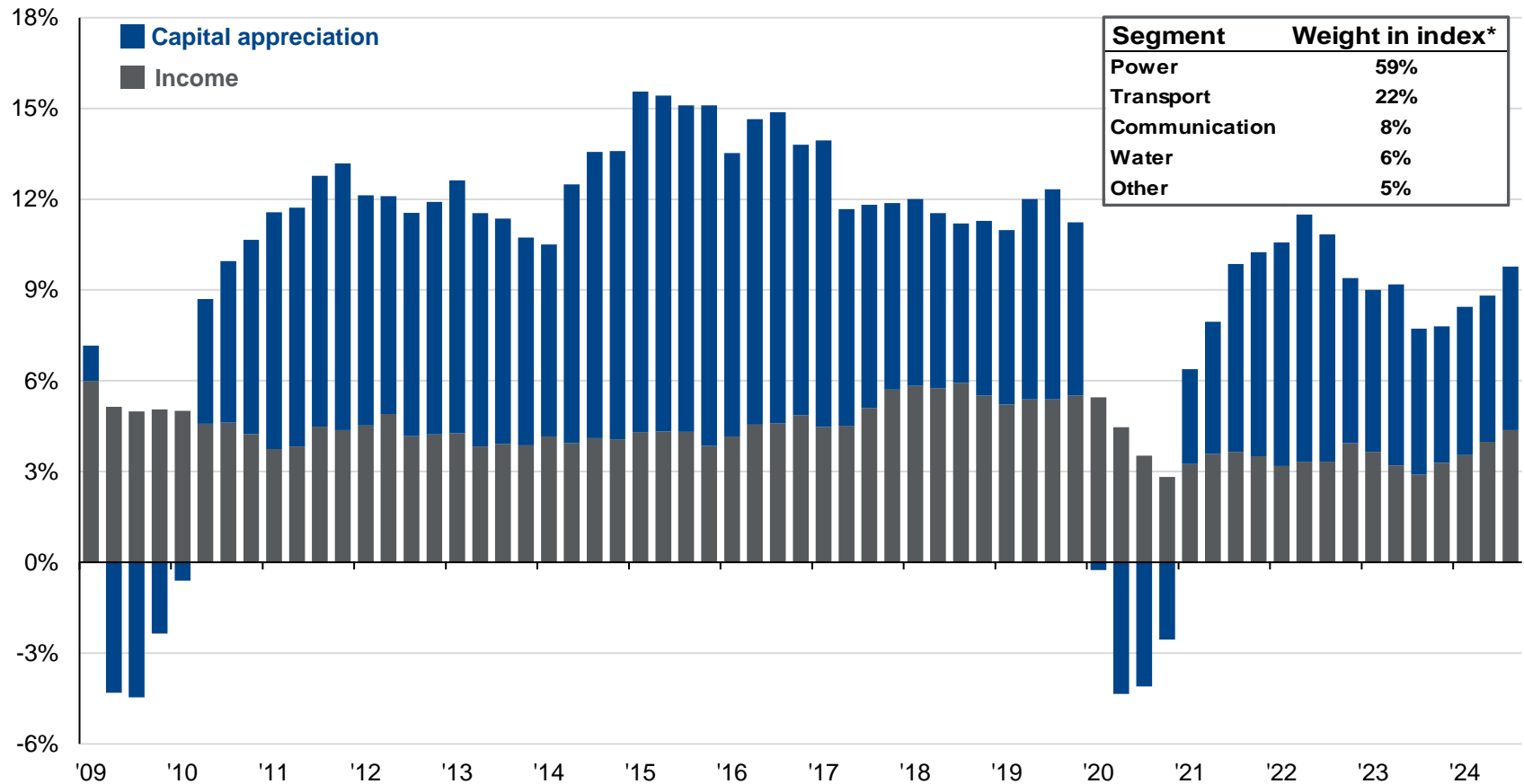
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Global core infrastructure returns

1Q09-3Q24, rolling 4-quarter returns from income and capital appreciation



Source: MSCI, J.P. Morgan Asset Management.

Infrastructure returns represented by the MSCI Global Private Quarterly Infrastructure Asset Index. Data show rolling one-year returns from income and capital appreciation. *Weights are based on enterprise value. Alternative investments carry more risk than traditional investments and are recommended only for long-term investment. Some alternative investments may be highly leveraged and rely on speculative investments that can magnify the potential for loss or gain. Diversification does not guarantee investment returns or eliminate the risk of loss. Past performance is not a reliable indicator of current and future results. Data are based on availability as of February 28, 2025.

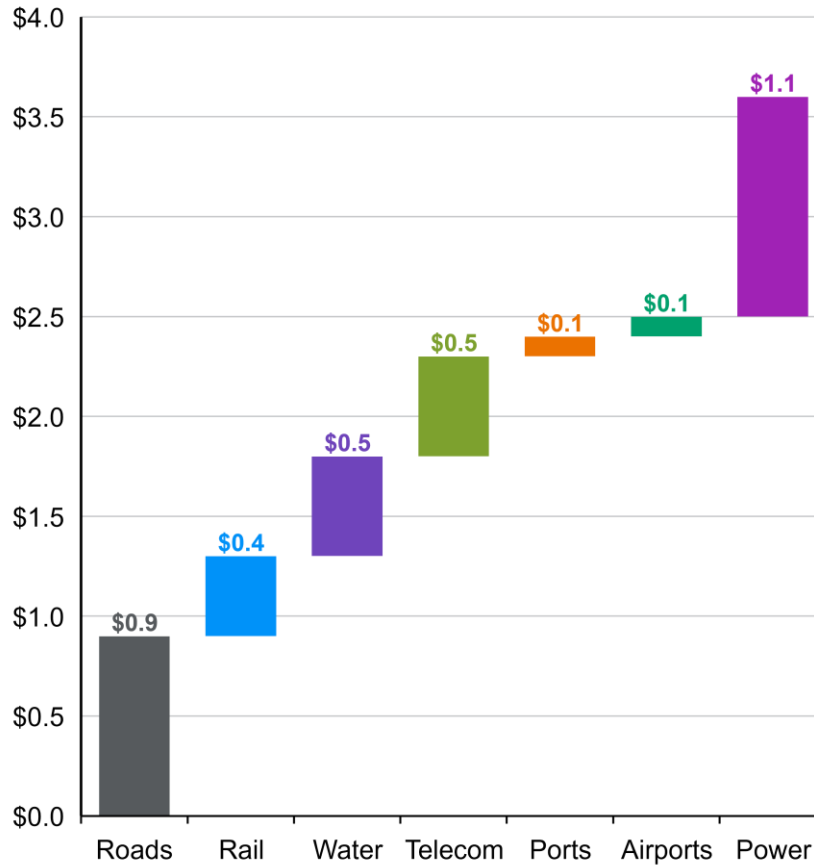
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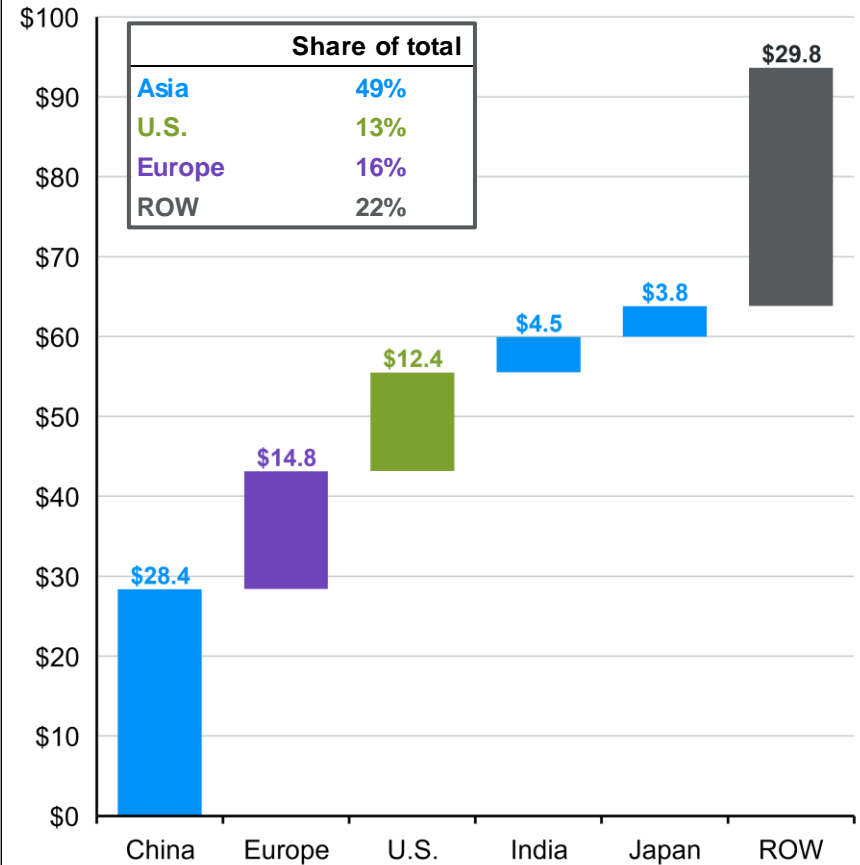
Global infrastructure investment

Other real assets

Average annual global infrastructure need by type
USD trillions, as of 2017



Infrastructure investment needs by region
USD trillions, 2016-2040, constant 2016



Source: Global Infrastructure Hub by G20, McKinsey Global Institute, J.P. Morgan Asset Management. ROW = Rest of World.
Data are based on availability as of February 28, 2025.



Global infrastructure transactions

GTA

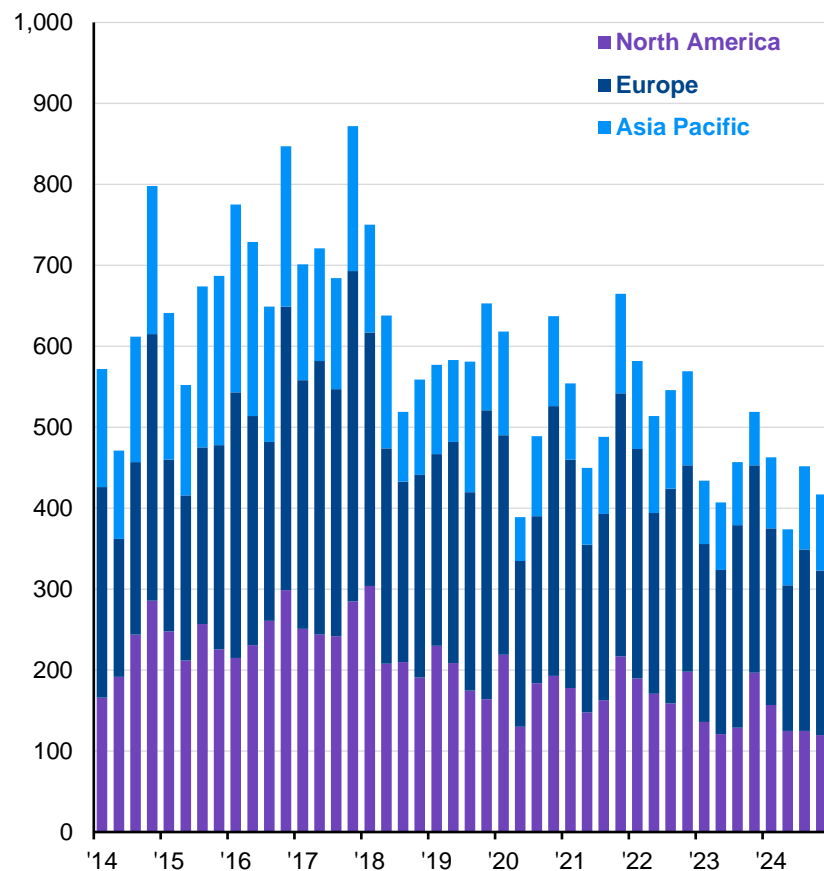
MI

41

Other real assets

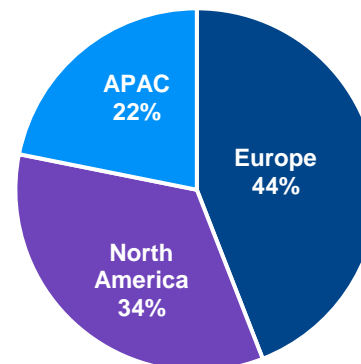
Number of private infrastructure deals

1Q14-4Q24



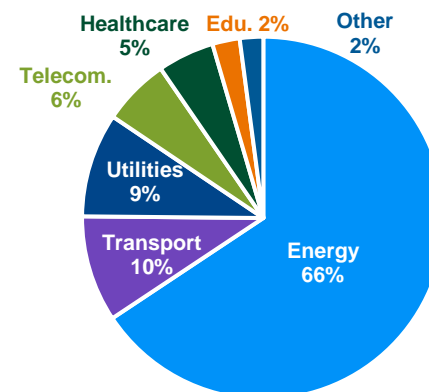
Deals by region

Share of deals, Jan. 2014 – Feb. 2025



Deals by type

Number of deals, Jan. 2014 – Feb. 2025



Source: Preqin, J.P. Morgan Asset Management.

(Bottom right): Other includes waste management, government buildings, logistics and defense.

Data are based on availability as of February 28, 2025.



U.S. utility profitability and consumption

GTA

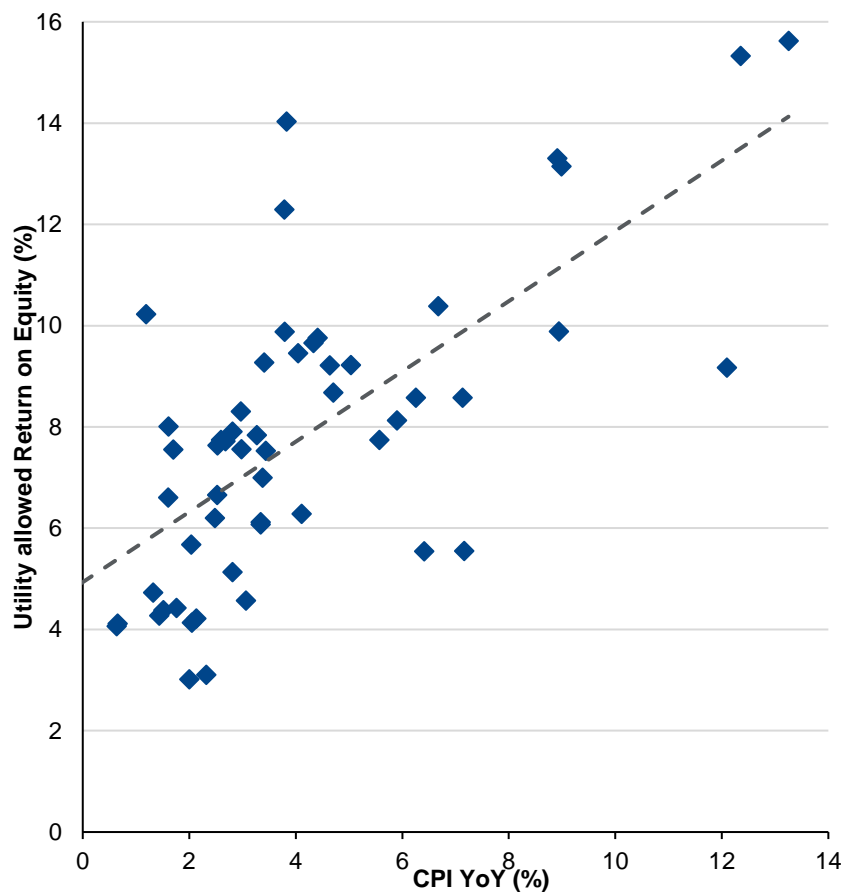
MI

42

Other real assets

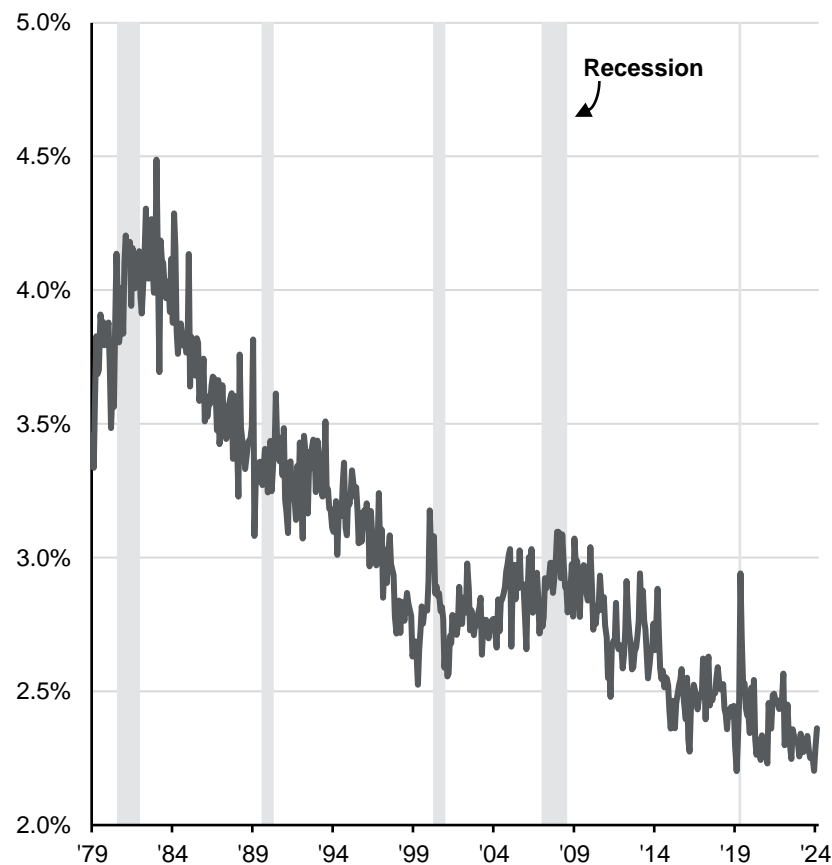
Gas and electric utilities: Allowed returns vs. inflation

Average allowed return on equity* 1970-2024



Household utility spending

Household utility spending % of personal consumption expenditures



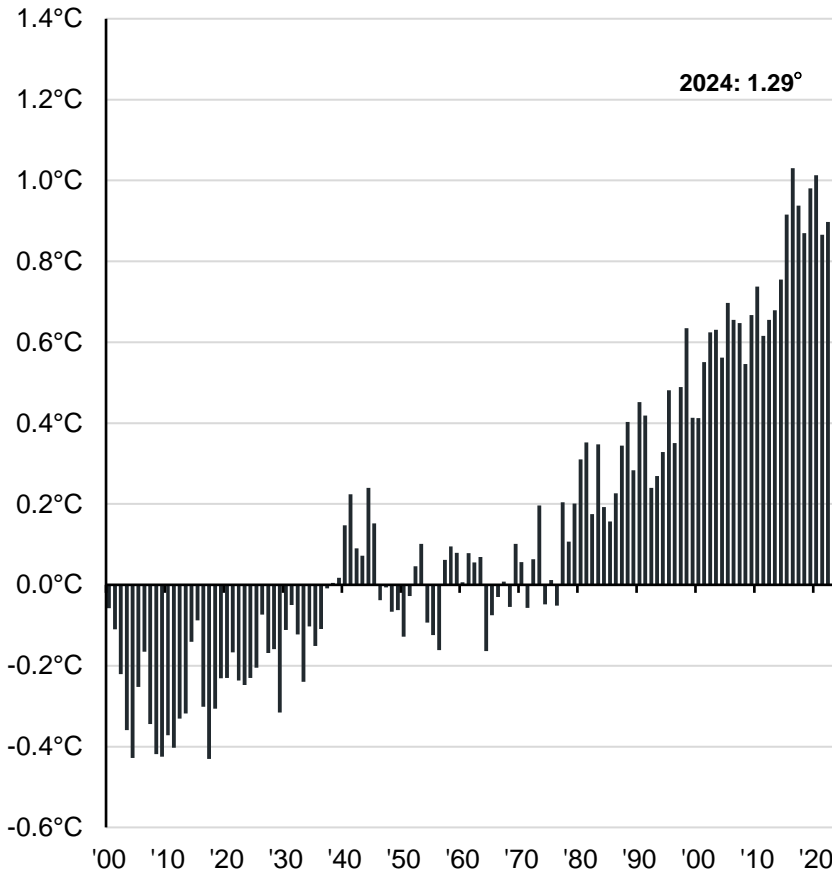
Source: AEU, Bloomberg, Bureau of Economic Analysis, SNL, J.P. Morgan Asset Management. (Left) Data represent average allowed return on equities (RoEs) for Electricity and Natural Gas Utilities and annual inflation from December 1970 through December 2024. *Return on equity is lagged by 2 years. (Right) Includes spending for all household utilities. Data are based on availability as of February 28, 2025.



Global warming and greenhouse gases

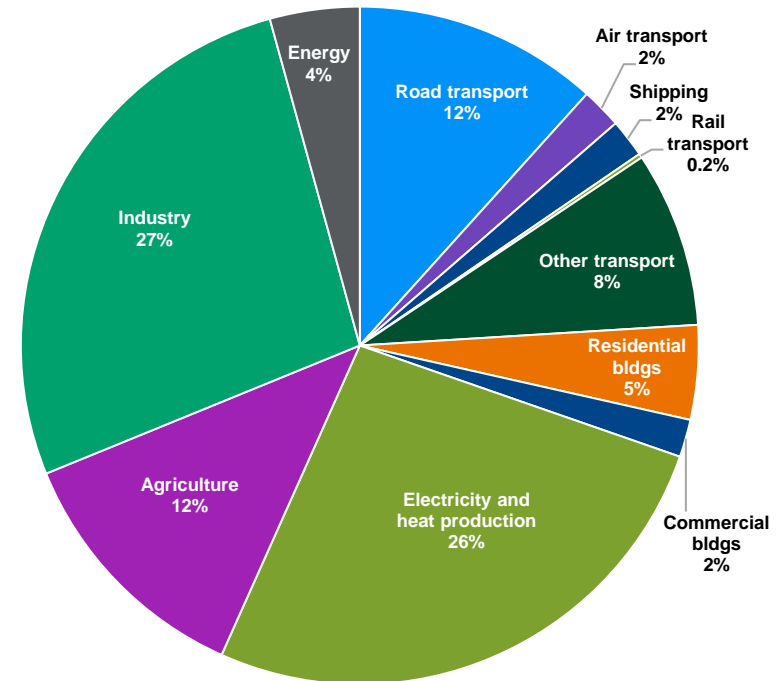
Global temperature anomaly

1900-2024, annual difference from 20th century average temperature



Global greenhouse gas emissions by source

2019, measured in tons of carbon dioxide equivalents



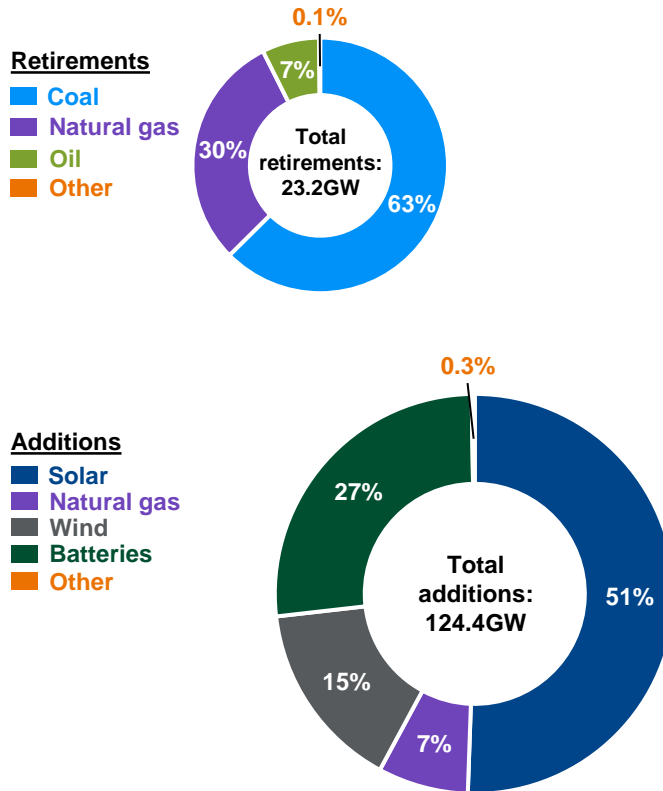
Source: Climate.gov, Intergovernmental Panel on Climate Change (IPCC), National Centers for Environmental Information. J.P. Morgan Asset Management.

Data are based on availability as of February 28, 2025.



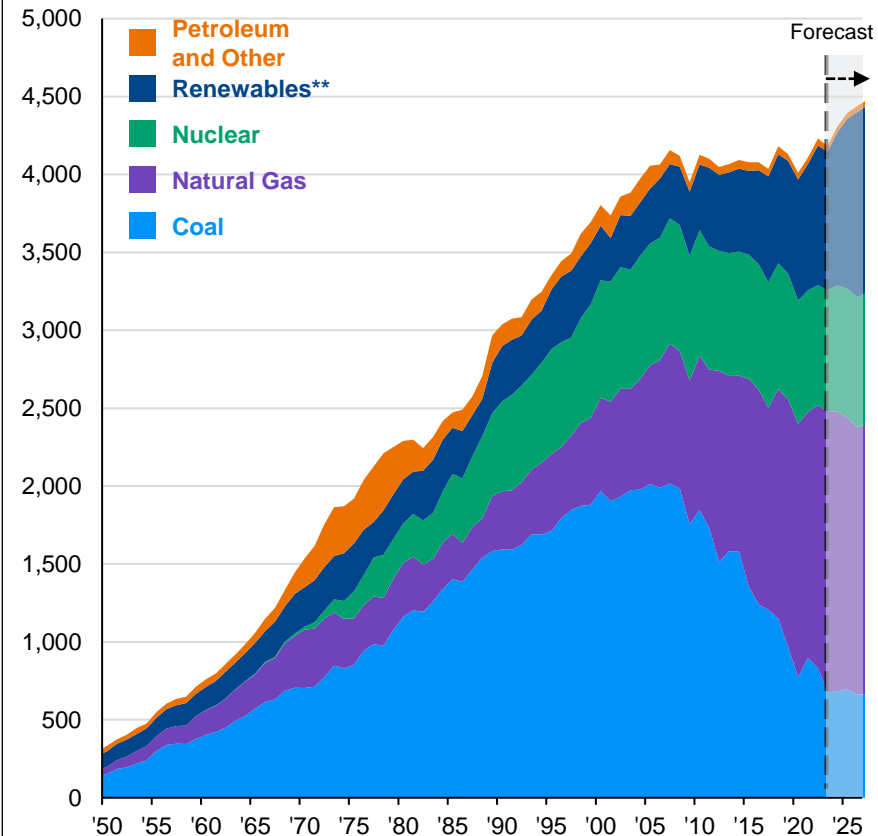
U.S. electricity generation

Planned U.S. electricity generating capacity 2025 and 2026



U.S.'s electricity generation by source

Billion kWh, 1950-2026F*



Source: EIA, J.P. Morgan Asset Management. (Left) Data is from the EIA "January 2025 Electric Power Monthly" report and uses net summer capacity to illustrate share of retirements and additions. (Right) Data is from the EIA "January 2025 Monthly Energy Review" report. *Energy forecast figures are from EIA's "Short Term Energy Outlook" and "International Energy Outlook 2023". **Renewables include wind, solar, geothermal, biomass waste, biomass wood and hydroelectric. Data are based on availability as of February 28, 2025.



U.S. electricity consumption

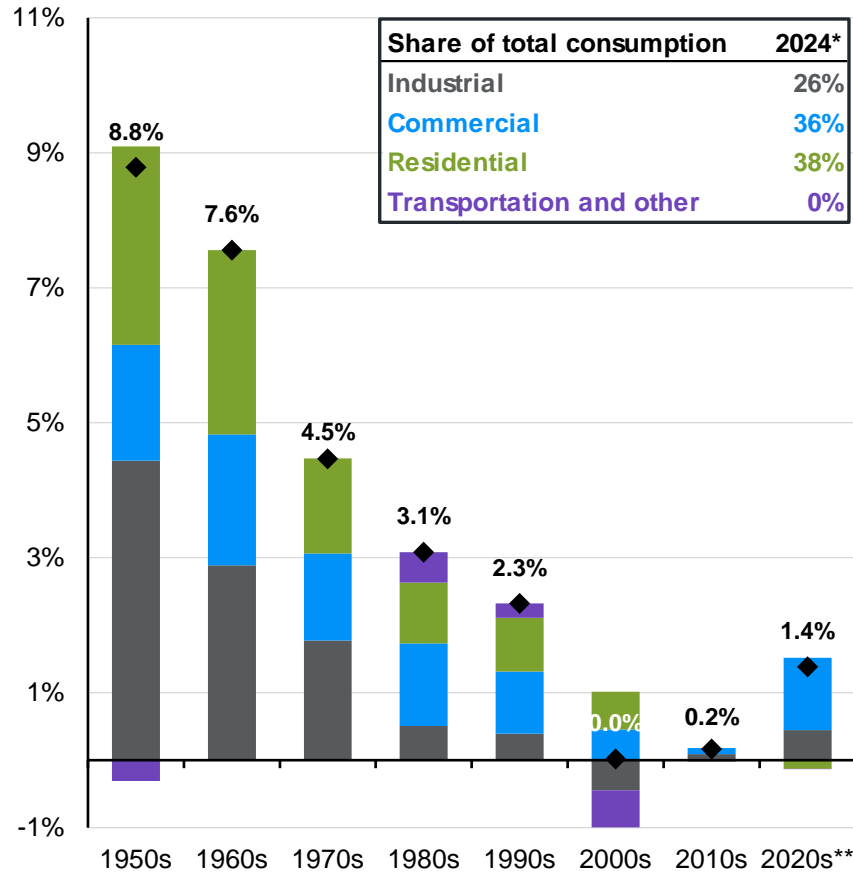
GTA

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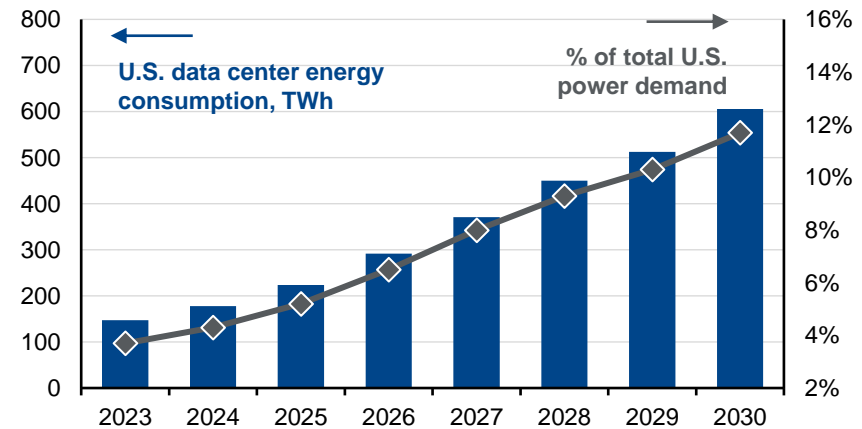
U.S. electricity consumption growth

10yr ann. growth rate, retail sales to major end-use sectors



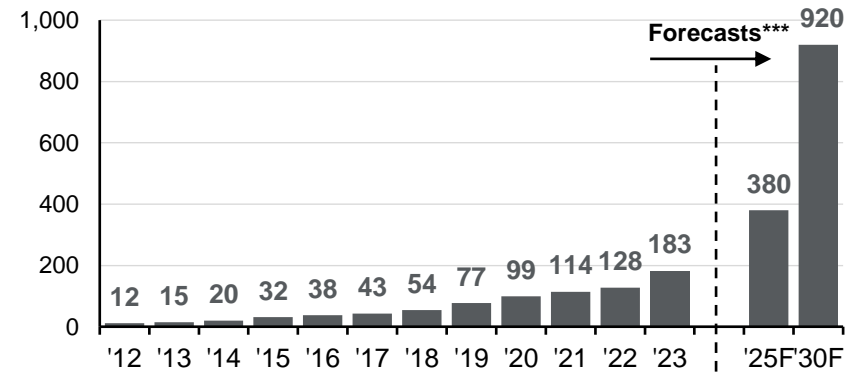
U.S. electricity consumption from data centers

Forecasts through 2030**



Number of electric vehicle charging points in the U.S.

Thousands



Source: EIA, McKinsey & Company, J.P. Morgan Asset Management. The transportation, industrial, residential and commercial sectors are called end-use sectors because they consume electricity produced by and purchased from the electric power sector. The industrial sector primarily uses electricity to operate machinery and facilities (i.e. heat processing, cooling); the commercial sector primarily uses electricity for computers and office equipment, space heating, air conditioning and lighting; and residential usage is concentrated in air conditioning. Petroleum is the main U.S. transportation energy source, and electric vehicles are included in this data. End-use sector contribution to total consumption growth is calculated by taking each sector's annualized consumption growth multiplied by its average share of total consumption for each decade. *Calculations are based on year-to-date data through November 2024. **2020s electricity consumption growth is calculated through year-end 2023. Due to data availability, consumption growth for the 1950s is calculated from 12/31/1950 to 12/31/1959. ***Forecasts are from the International Energy Agency (IEA) – Global EV Outlook 2024 and are made assuming its “STEPS” outlook. The State Policies Scenario (STEPS) outlook from the IEA does not assume governments will meet announced policy goals and instead looks at what the IEA considers feasible given current progress. Data are based on availability as of February 28, 2025.

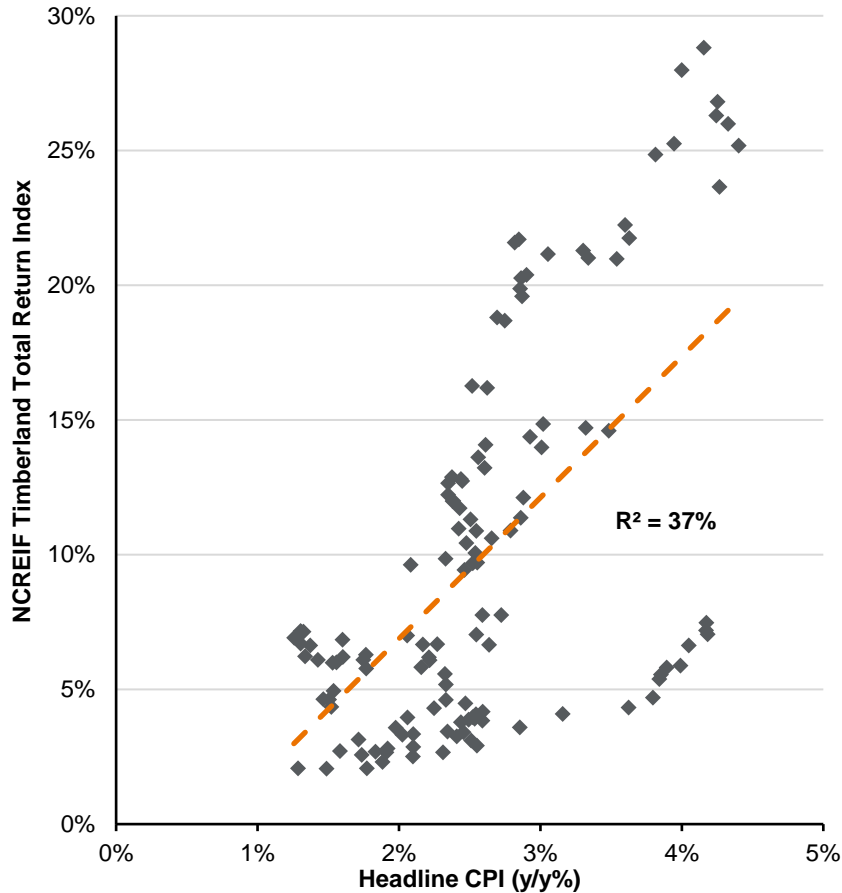
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U.S. timber investments

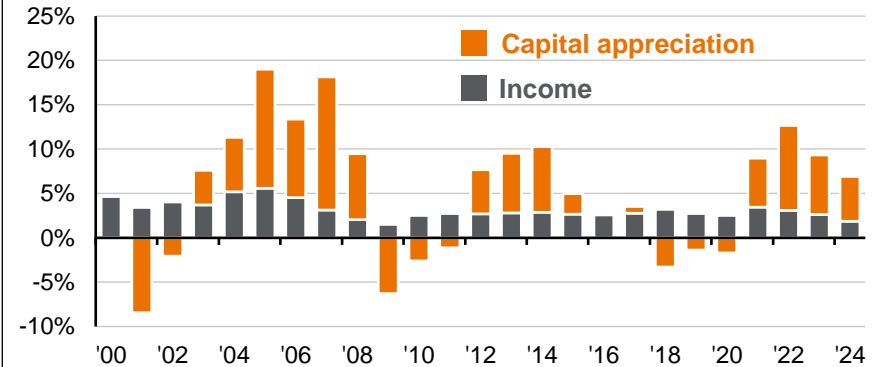
U.S. timber returns and inflation

Headline CPI, NCREIF Timberland Index, 5-yr. ann. change, quarterly



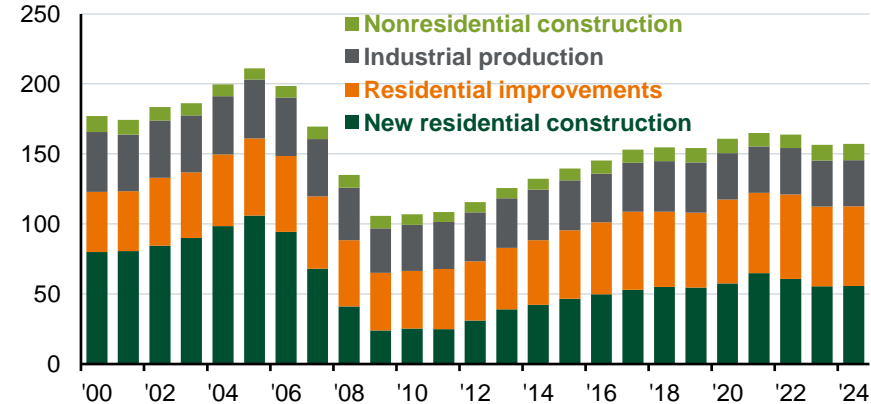
Sources of U.S. timber returns

NCREIF Timberland Index, total return, yearly



U.S. wood product consumption

By end-use sector, in million cubic meters



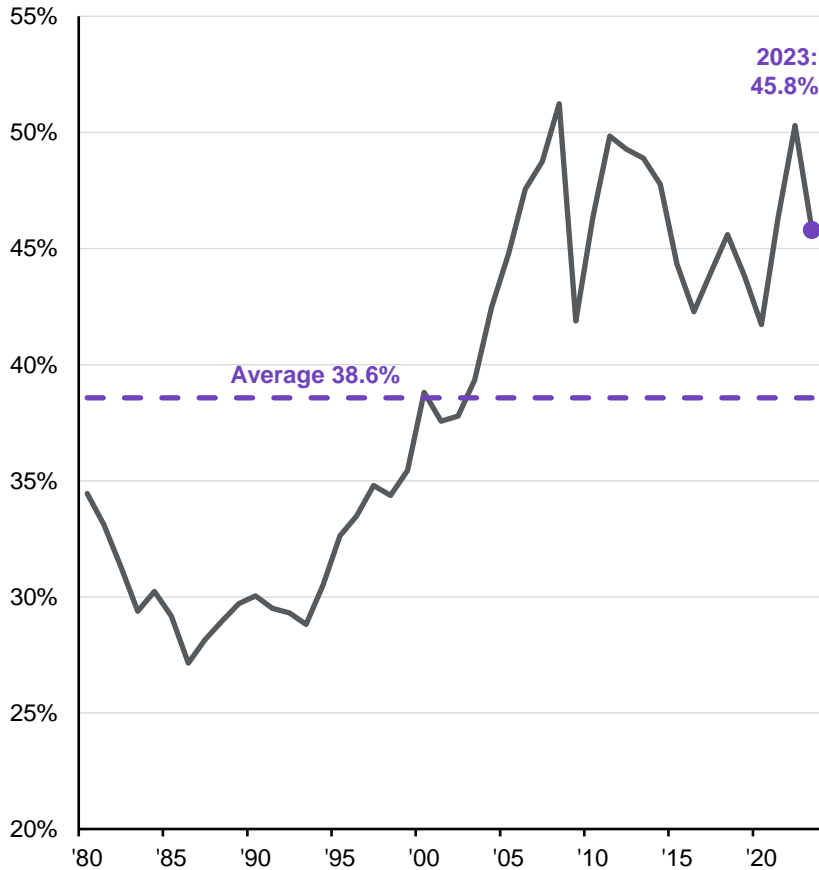
Source: BLS, FactSet, Forest Economic Advisors, National Council of Real Estate Investment Fiduciaries (NCREIF), World Bank, J.P. Morgan Asset Management. (Left) Represents the time period from 1Q87-4Q24. Past performance is not a reliable indicator of current and future results. Data are based on availability as of February 28, 2025.



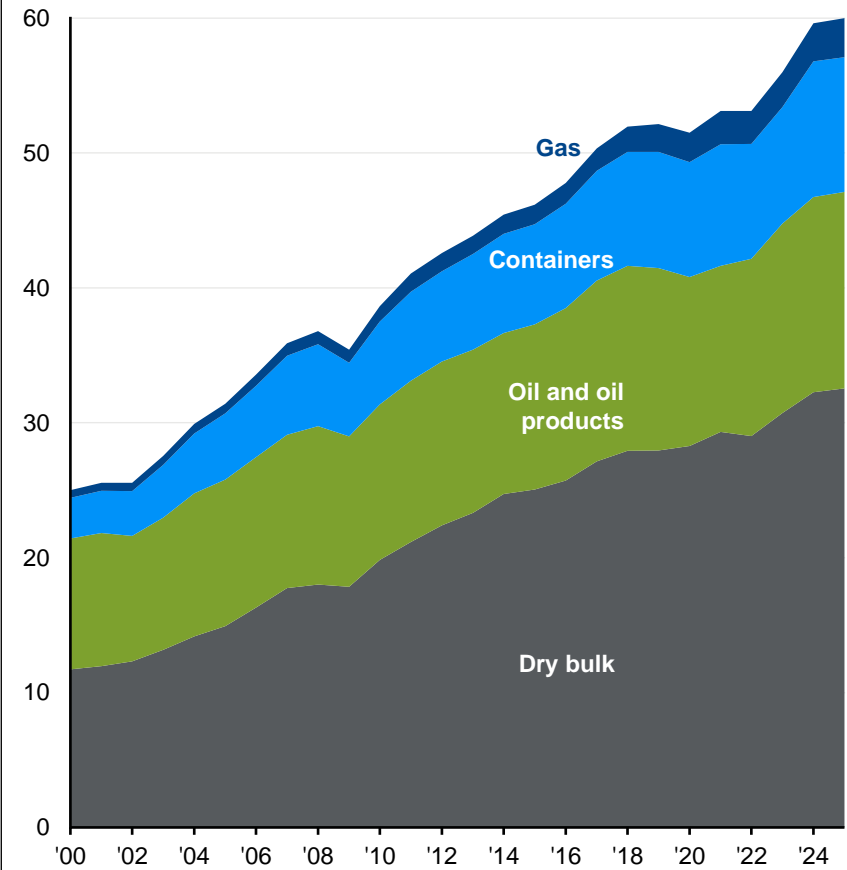
Global trade

Other real assets

Global merchandise trade
% of global GDP



World seaborne trade by product
Estimated in trillion ton-miles



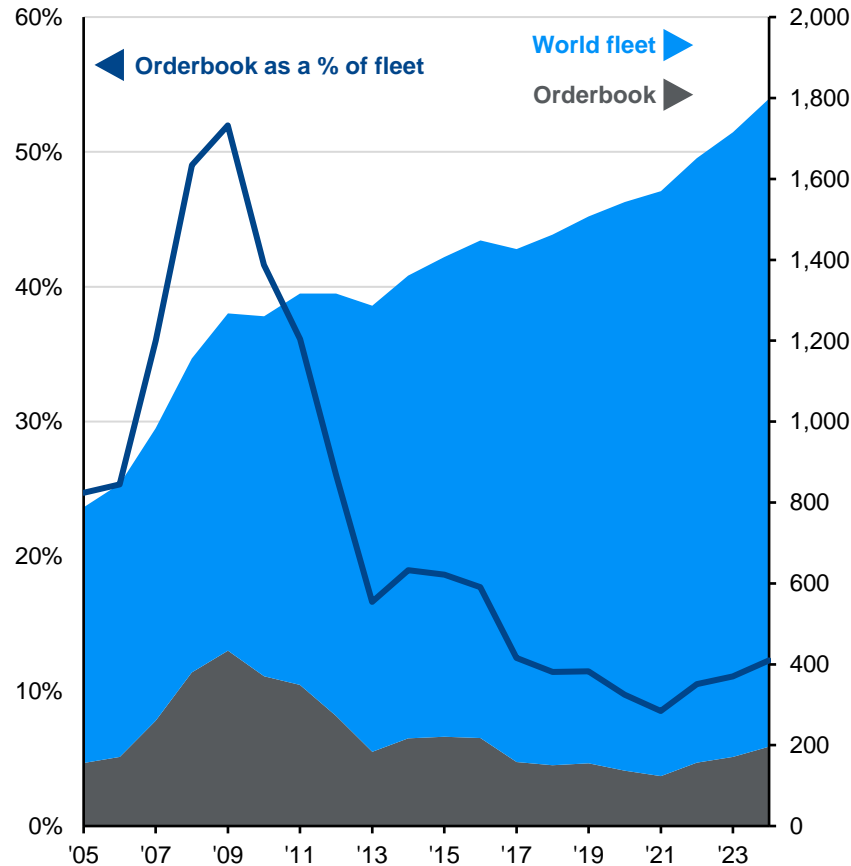
Source: Clarksons, World Bank – World Development Indicators, FactSet, J.P. Morgan Asset Management. World seaborne trade by product as of January 2025. Dry bulk refers to unpackaged commodity cargo. Data are based on availability as of February 28, 2025.



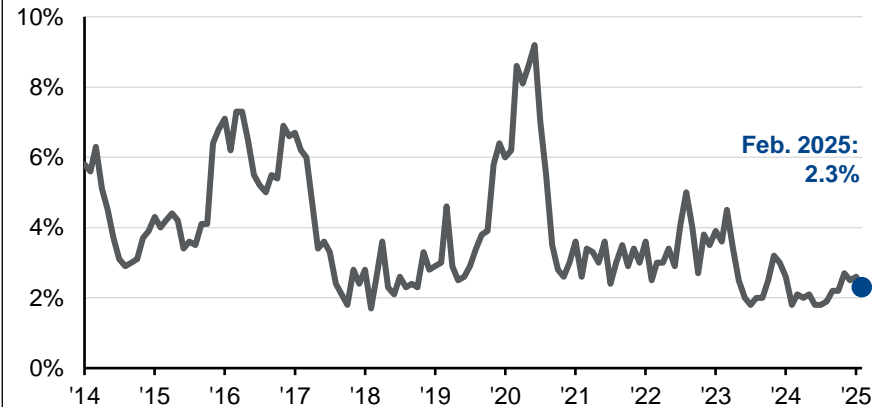
Global shipping: Orders, capacity and age

Global fleet and orderbook

Gross tonnage

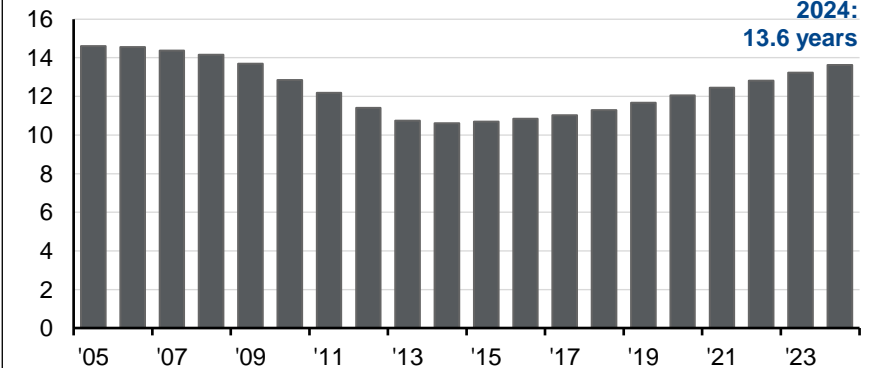


Idle containership capacity as % of global fleet



Global fleet age

5,000+ gross tonnage, average number of years



Source: Clarksons Research, MSI, Sea/net, J.P. Morgan Asset Management. (Left) An orderbook contains all the vessels that have been delivered as well as the current order or expected ship orders. The orderbook to fleet ratio is a useful indicator of future supply growth. (Bottom right) Gross tonnage is the volume of a ship's enclosed spaces in cubic meters. Data are based on availability as of February 28, 2025.



Global shipping: Pricing and port calls

GTA

MI

49

Other real assets

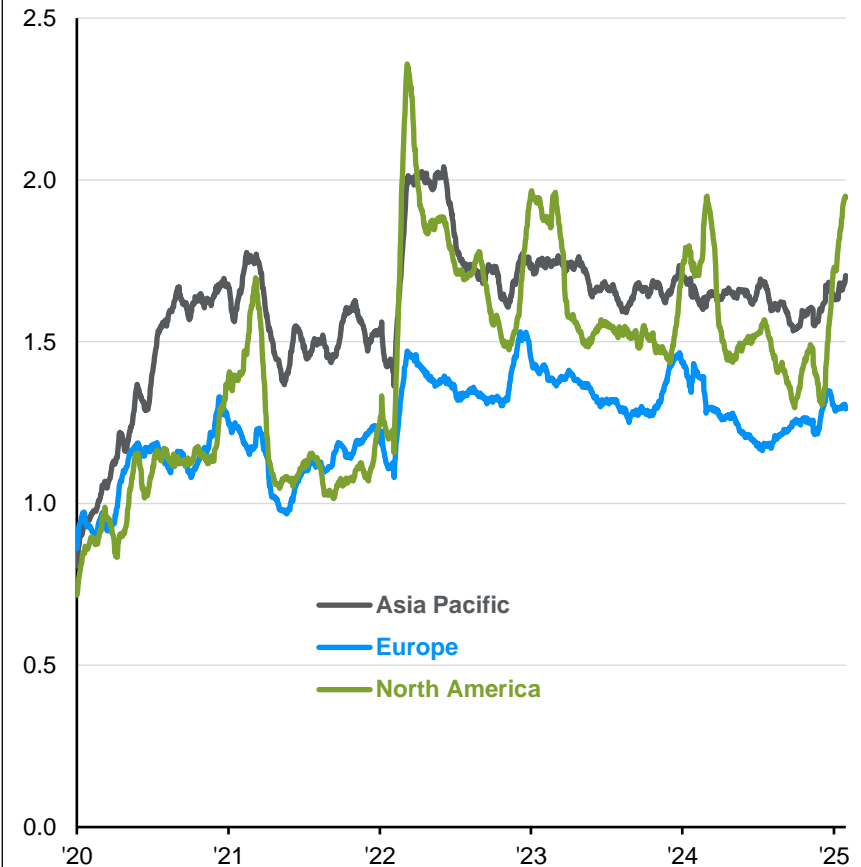
Global shipping costs

USD per 40-foot container, weekly



Global port call duration*

Number of days, 30-day moving average



Source: Bloomberg, Clarksons Research, MSI, Sea/net, J.P. Morgan Asset Management. Port calls defined as all instances of a vessel entering and leaving a defined port location, excluding instances where vessel not recorded as travelling at less than 1 knot, and combining multiple consecutive instances at the same port where the vessel has not left a buffered shape around the port. Data basis date vessel last recorded in port location. *Global port calls excludes calls at ports by tugs. U.S. and Europe port calls are of deep-sea cargo vessels, which only includes larger bulkers. Port call duration is defined as the average number of days spent by the vessels seen at a location. The duration is calculated using the total number of hours a vessel spent at location to complete the visit based on the time arrival and time of departure. Data are based on availability as of February 28, 2025.

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U.S. public vs. private equity

GTA

MI

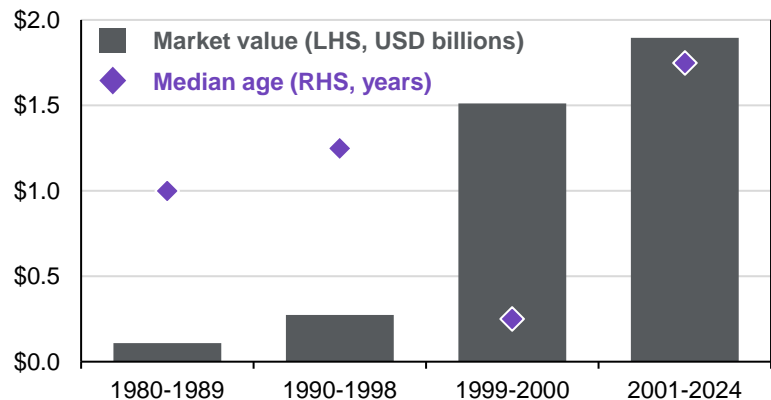
50

Number of listed U.S. companies* and market cap.

Number, S&P 500 market capitalization in USD trillions

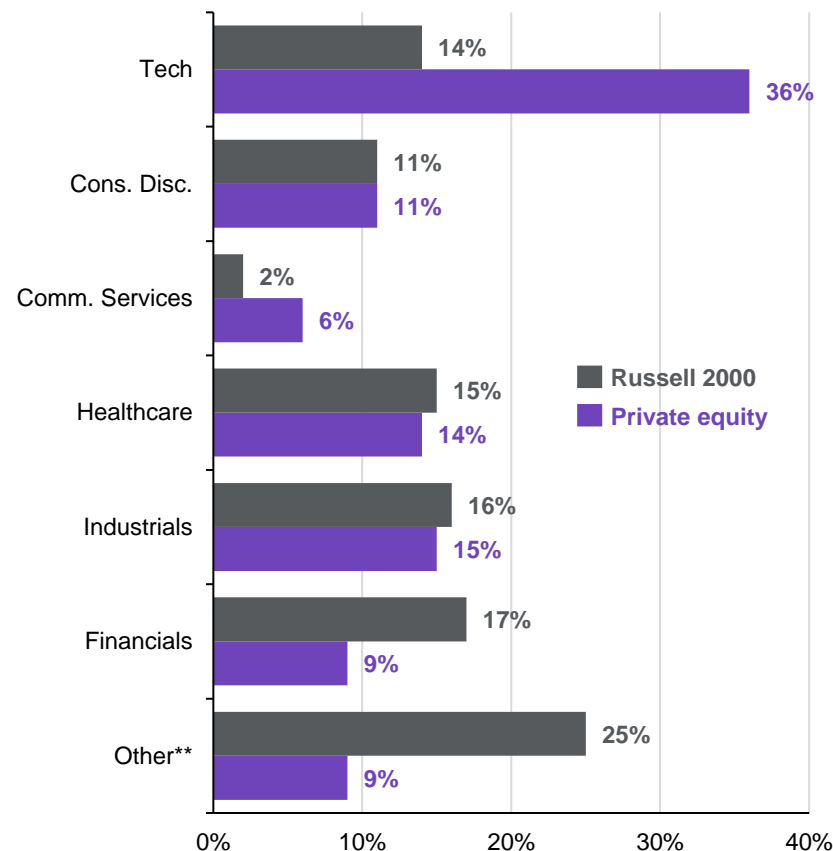


Average market value and median age at IPO



Private equity vs. small cap sector weights

2023

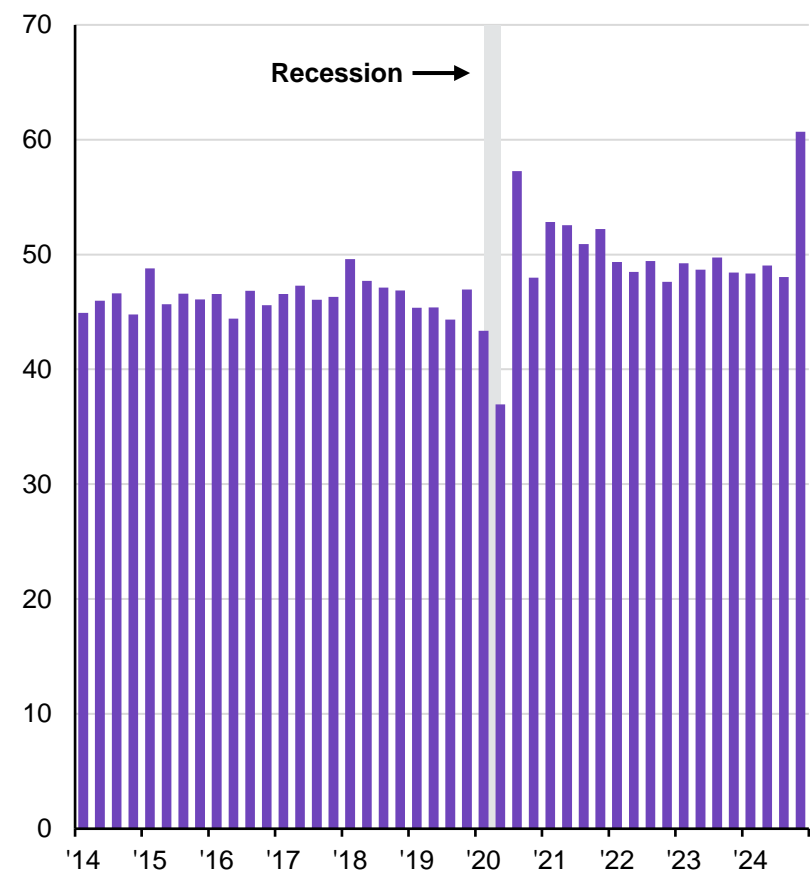


Sources: Cambridge Associates, Jay Ritter, University of Florida, Russell, World Federation of Exchanges, J.P. Morgan Asset Management.
(Top left) *Number of listed U.S. companies is represented by the sum of number of companies listed on the NYSE and the NASDAQ. (Bottom left) Average market value is calculated by dividing the total market value at first closing price by the total number of IPOs for each period. The sample is IPOs with an offer price of at least \$5, excluding ADRs, unit offers, closed-end funds, REITs, natural resource limited partnerships, small best efforts offers, banks and S&Ls and stocks not listed on CRSP (CRSP includes Amex, NYSE and NASDAQ stocks). (Right) **Other includes real estate, utilities and energy. Percentages may not sum due to rounding. Sector weights are as of December 31, 2023. Data are based on availability as of February 28, 2025.

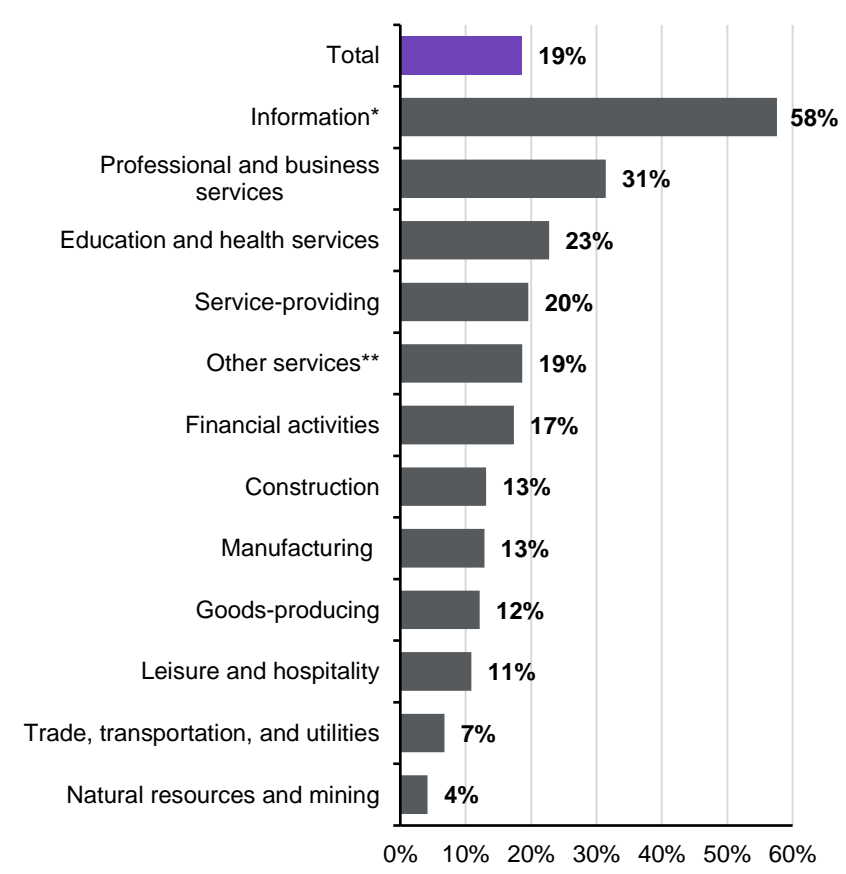


U.S. business formation

U.S. applications for business formation by corporations
Seasonally adjusted, thousands, 1Q14 – 4Q24



Growth in business establishments by private industry
December 2019 – June 2024



Source: Bureau of Labor Statistics, U.S. Census Bureau, J.P. Morgan Asset Management.
Business formation data as of 4Q24 represents the average monthly business applications from corporations.*Information includes broadcasting (excluding internet), data processing, hosting and related services, motion picture and sound recording industries, publishing industries (excluding internet) and telecommunications.**Other services includes unclassified businesses.
Data are based on availability as of February 28, 2025.



Global private equity fundraising

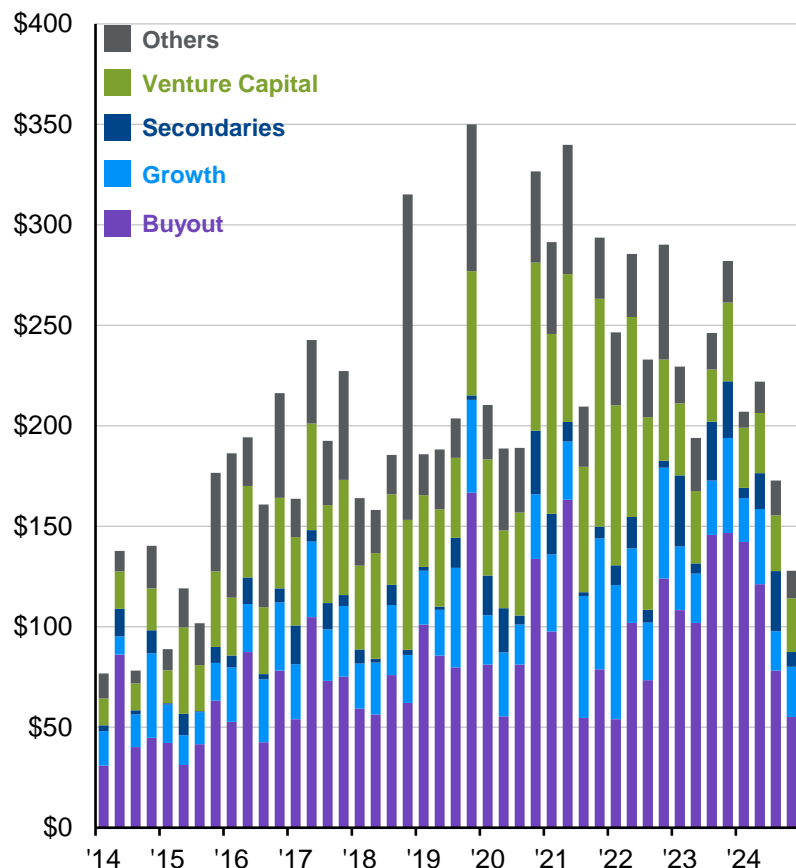
GTA

MI

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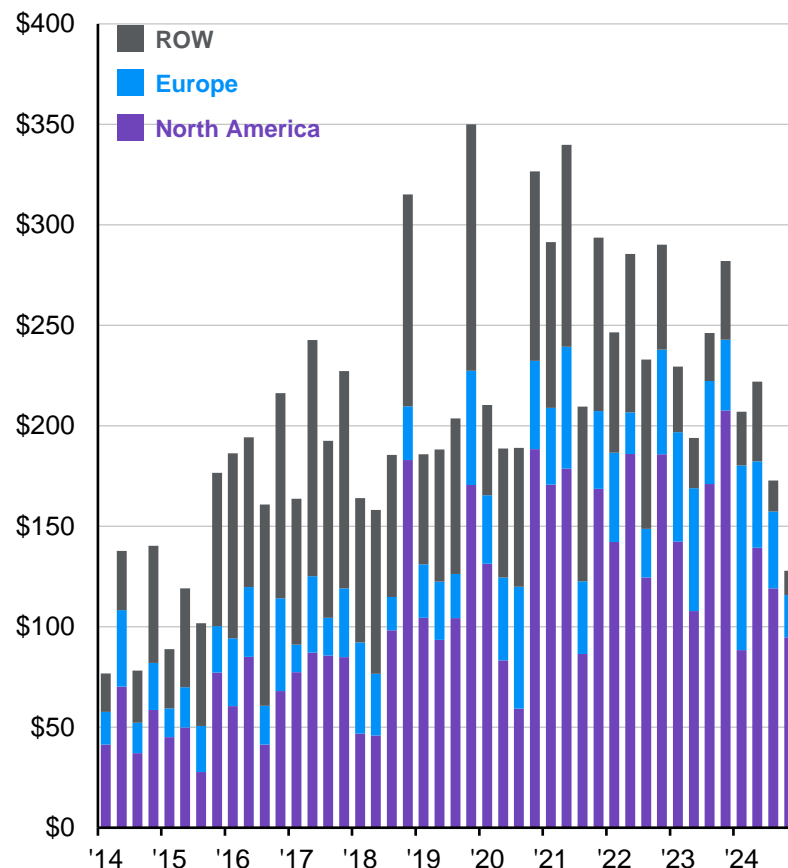
Global private equity fundraising by type

USD billions, 1Q14 – 4Q24



Global private equity fundraising by region

USD billions, 1Q14 – 4Q24



Private equity

Source: Preqin, J.P. Morgan Asset Management. (Left) Buyout funds: Acquire all or a significant amount of equity in their target company, often financed by a high proportion of debt; Growth equity funds: Take minority stakes in companies, financed by all-equity deal structures; Secondary funds: Purchase existing stakes in private equity funds from other limited partners (LPs); Venture capital funds: Invest in early-stage companies with high growth potential; Others: Includes funds raised for restructuring or turnaround deals which use a combination of debt and equity financing. (Right) Fundraising by region is defined as the location of the manager raising the funds. Data are based on availability as of February 28, 2025.

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Global private equity investments and exits

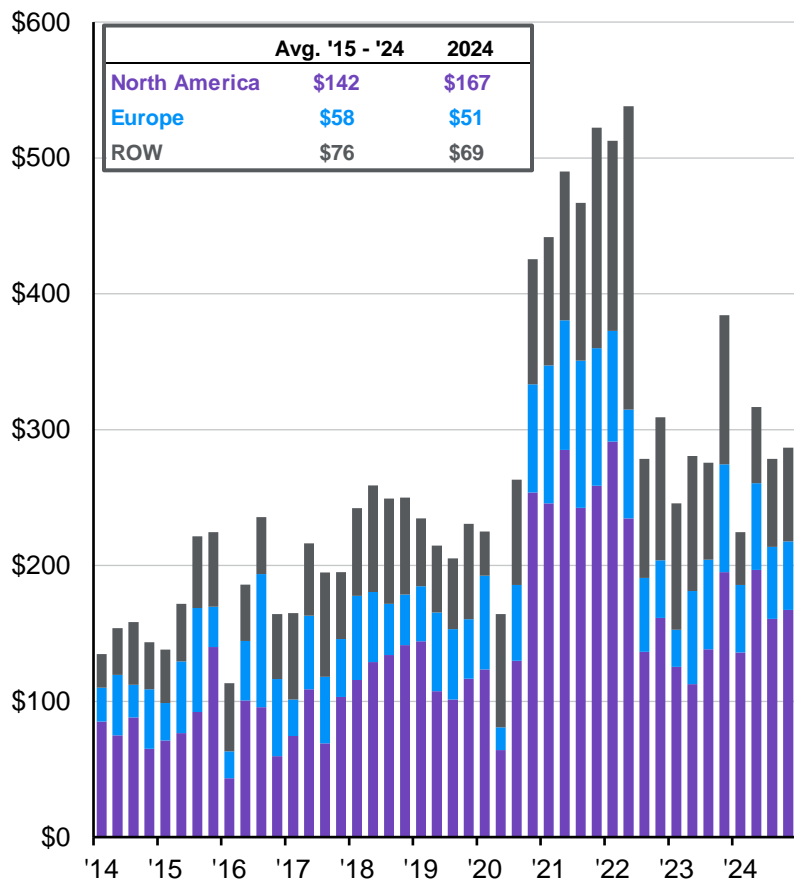
GTA

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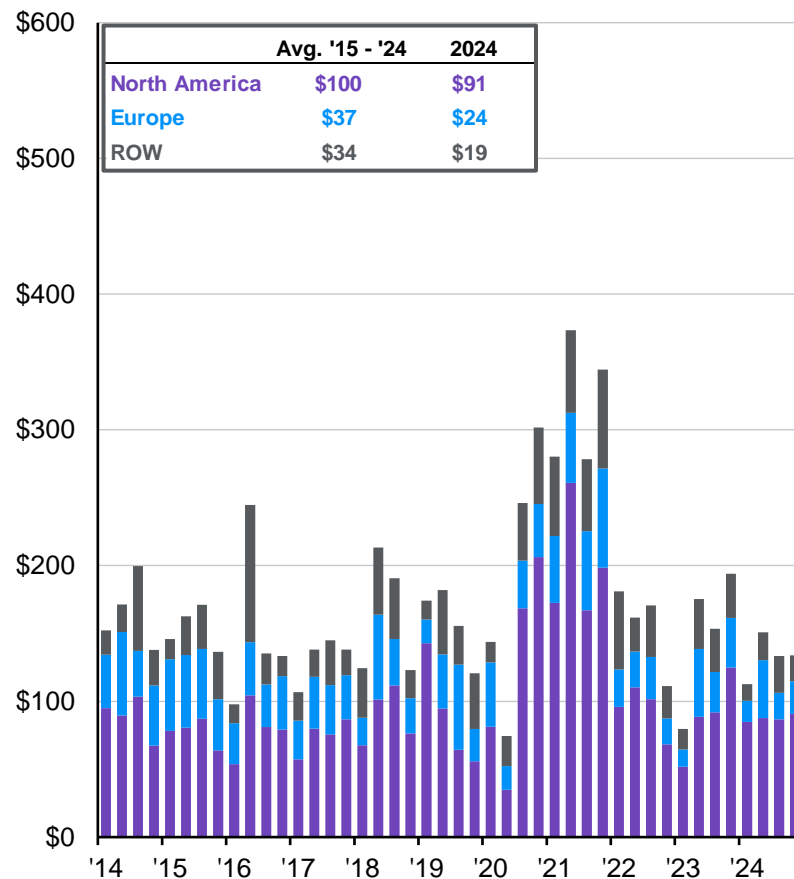
Private equity investments by value

USD billions, 1Q14 – 4Q24



Private equity exits by value

USD billions, 1Q14 – 4Q24



Source: Preqin, J.P. Morgan Asset Management.
Data are based on availability as of February 28, 2025.



U.S. private equity investments and exits

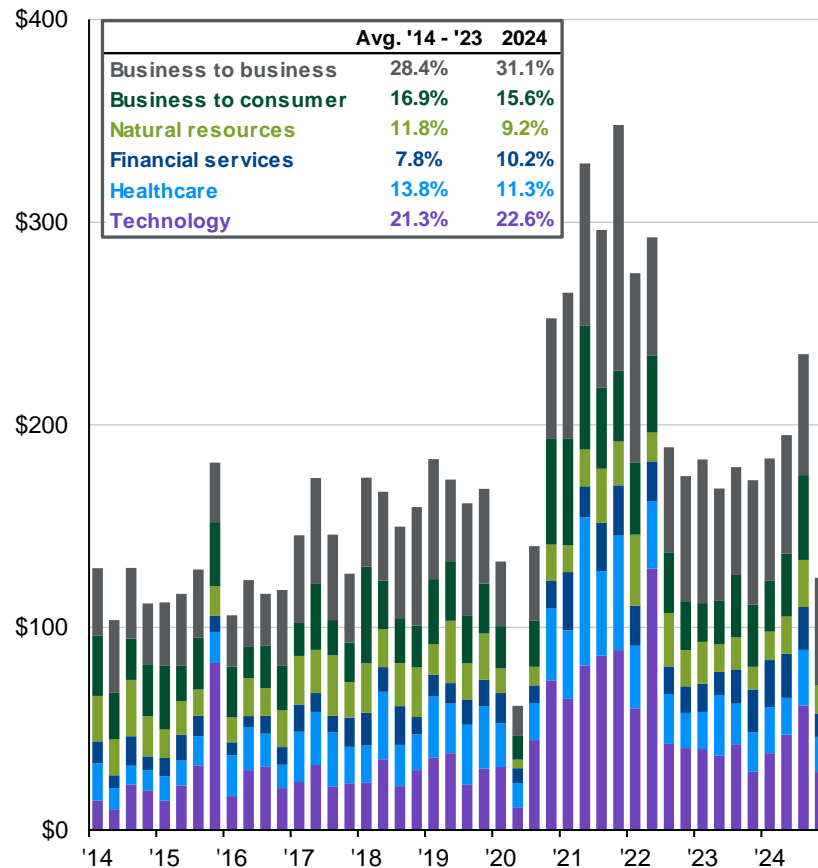
GTA

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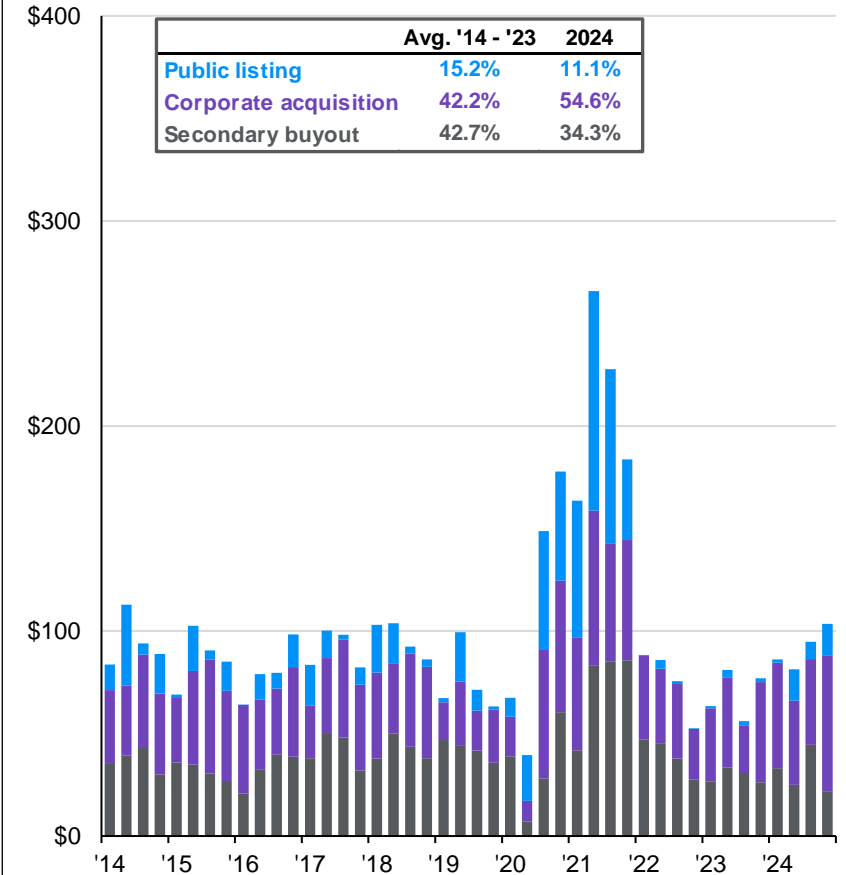
U.S. private equity investments by sector

USD billions, 1Q14 – 4Q24



U.S. private equity exits by type

USD billions, 1Q14 – 4Q24



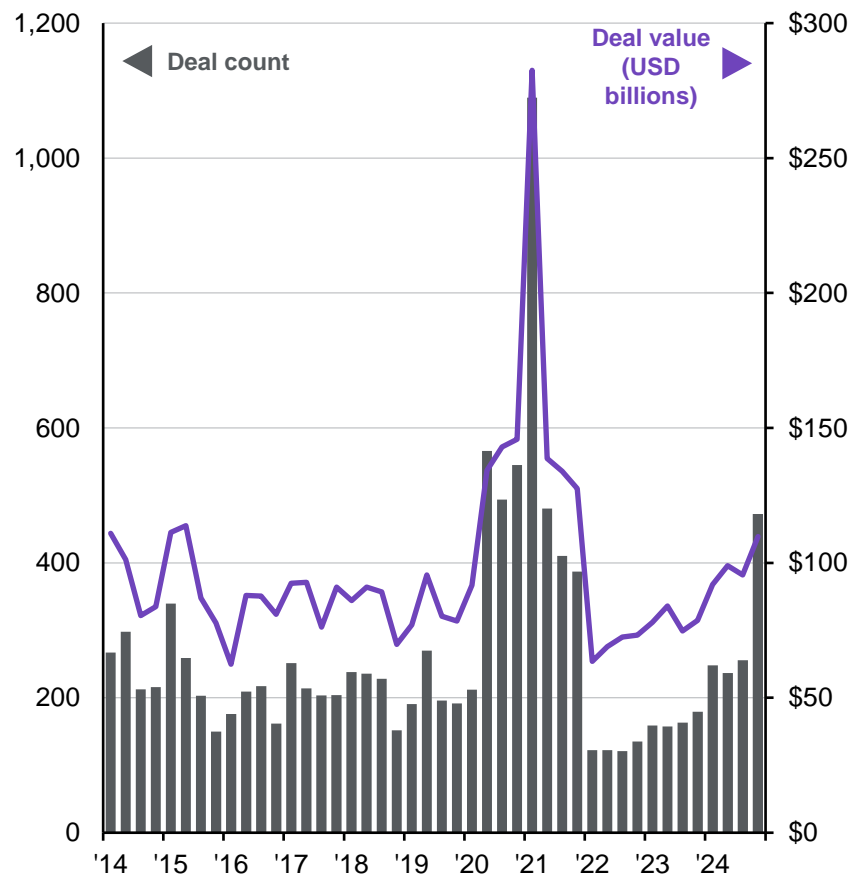
Source: PitchBook, J.P. Morgan Asset Management.
(LHS) Natural resources = Materials & resources and energy.
Data are based on availability as of February 28, 2025.



IPOs by deal value and count

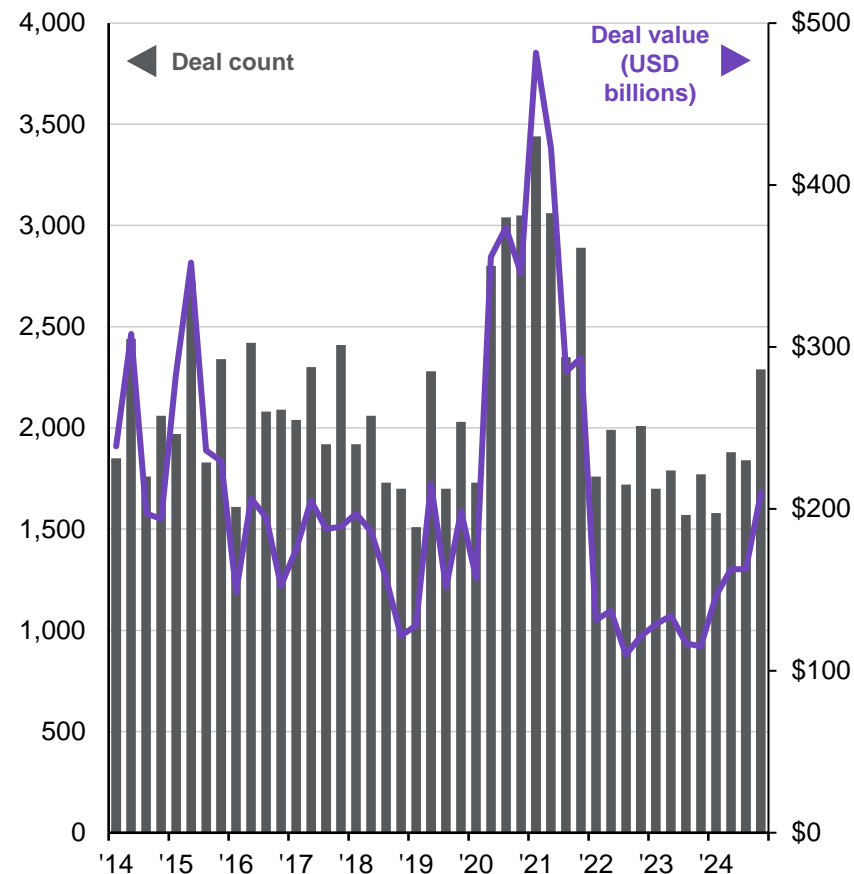
US IPOs

Deal value and deal count by announcement, 1Q14 – 4Q24



Global IPOs

Deal value and deal count by announcement, 1Q14 – 4Q24



Source: Bloomberg, J.P. Morgan Asset Management.
Data are based on availability as of February 28, 2025.



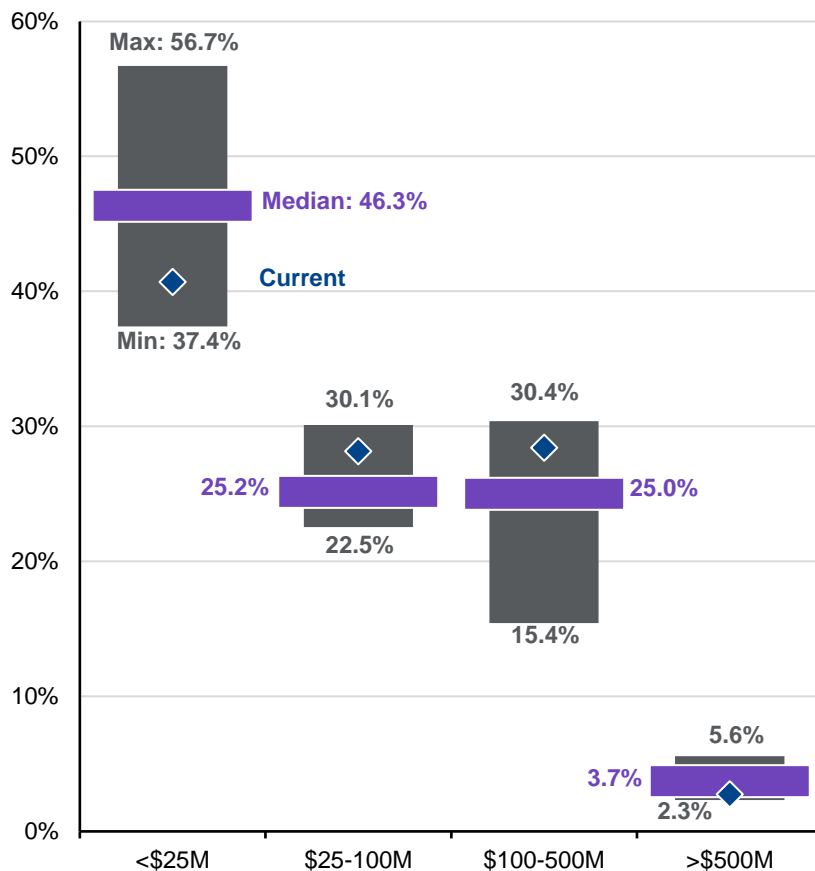
U.S. private equity investments by size and type

GTA MI 56

Private equity

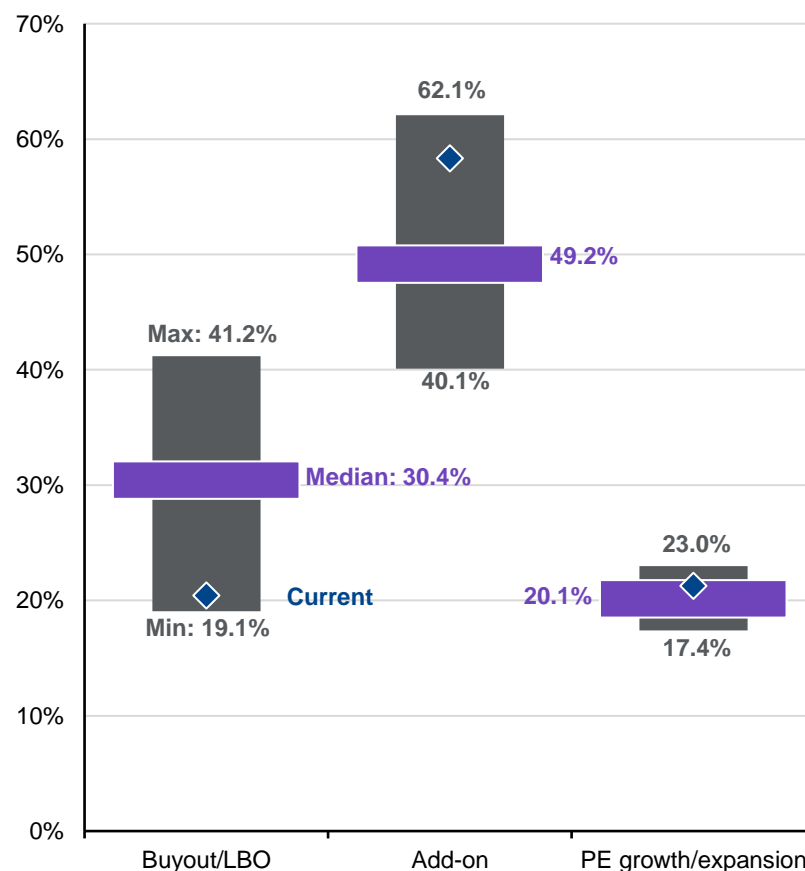
U.S. private equity investments by size

% of total number of investments, 2008 – 4Q24



U.S. private equity investments by type

% of total number of investments, 2008 – 4Q24



Source: PitchBook, J.P. Morgan Asset Management. Private equity investment size and type activity are as of December 31, 2024. PE growth/expansion is defined as a deal type that occurs when a private equity firm makes a non-control, equity investment in a company. Cash is received by the company and not the selling shareholders. Data are based on availability as of February 28, 2025.



U.S. leveraged buyouts

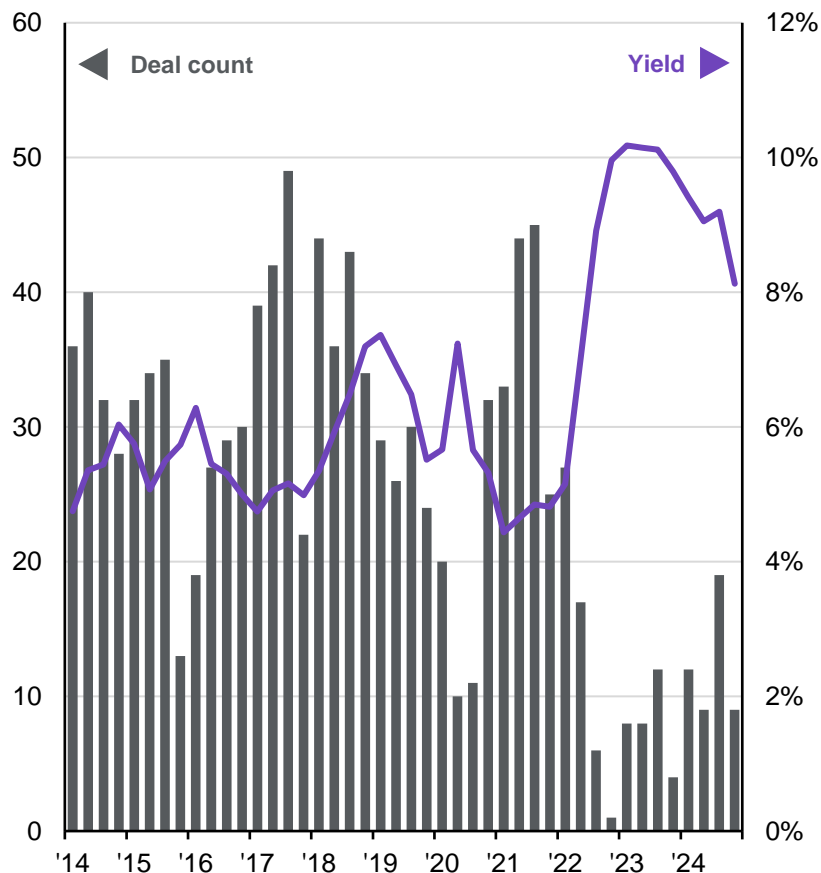
GTA

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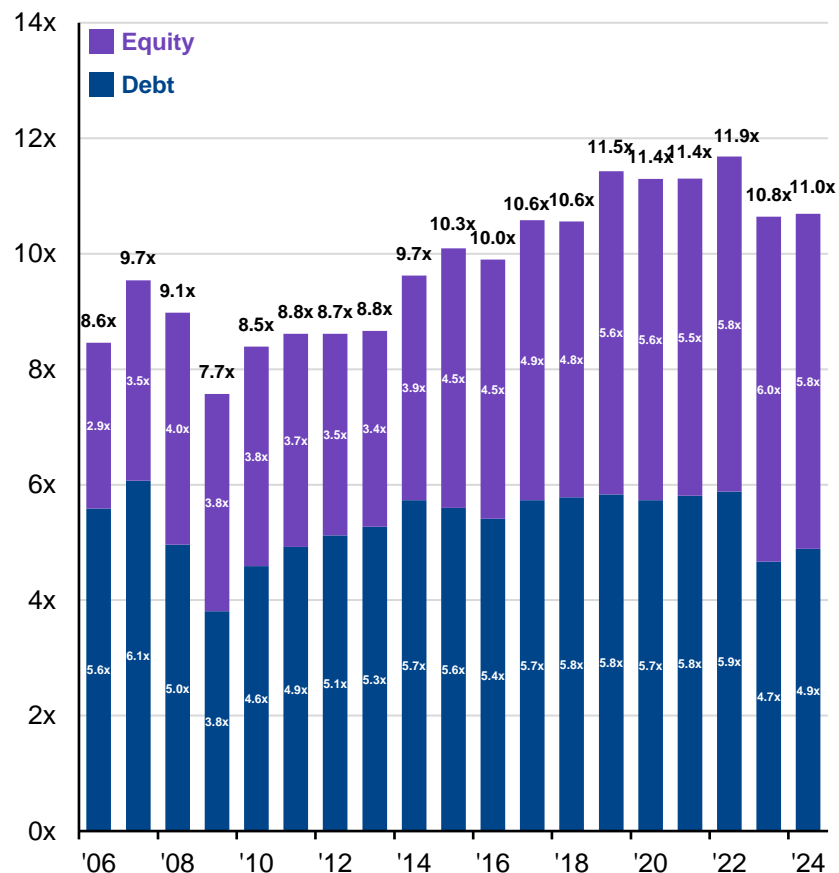
57

U.S. LBOs: deal activity and yield 1Q14 – 4Q24

Private equity



U.S. LBOs: purchase price multiples Equity and debt over trailing EBITDA



Source: LCD, PitchBook, J.P. Morgan Asset Management. (Left) Yield represents the average new-issue yield on broadly syndicated loans. Past performance is not a reliable indicator of current and future results. Data are based on availability as of February 28, 2025.



U.S. middle market

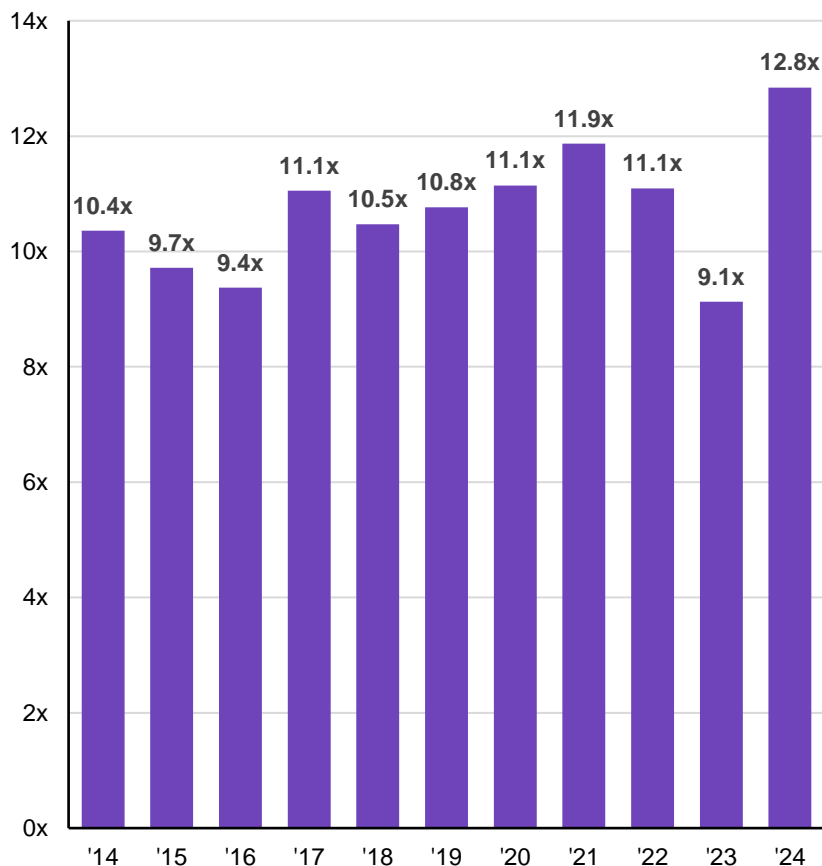
GTA

MI

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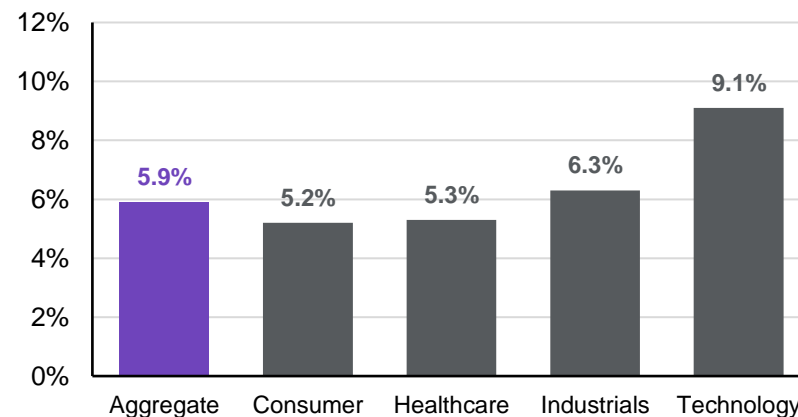
U.S. middle market: buyout multiples

Median enterprise value over EBITDA



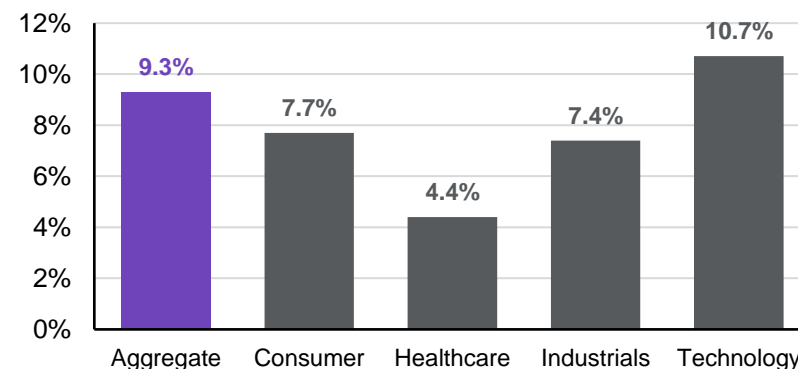
U.S. middle market private company revenues by sector

4Q24, year-over-year growth



U.S. middle market private company earnings by sector

4Q24, year-over-year growth



Source: Golub Capital, LCD, PitchBook, J.P. Morgan Asset Management. (Left) Middle market companies are represented by North American and Europe buyouts with a deal value between \$100M - \$1Bn. (Right) Middle market revenue and earnings data are from the Golub Capital Altman Index. "The Golub Capital Altman Index measures the actual revenue and EBITDA (earnings before interest, taxes, depreciation and amortization) growth of US middle market private companies for the first two months of each calendar quarter. The index is based on aggregated data from approximately 150 companies in the loan portfolio of Golub Capital, a leading middle market lender." Data are based on availability as of February 28, 2025.

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Global private equity returns

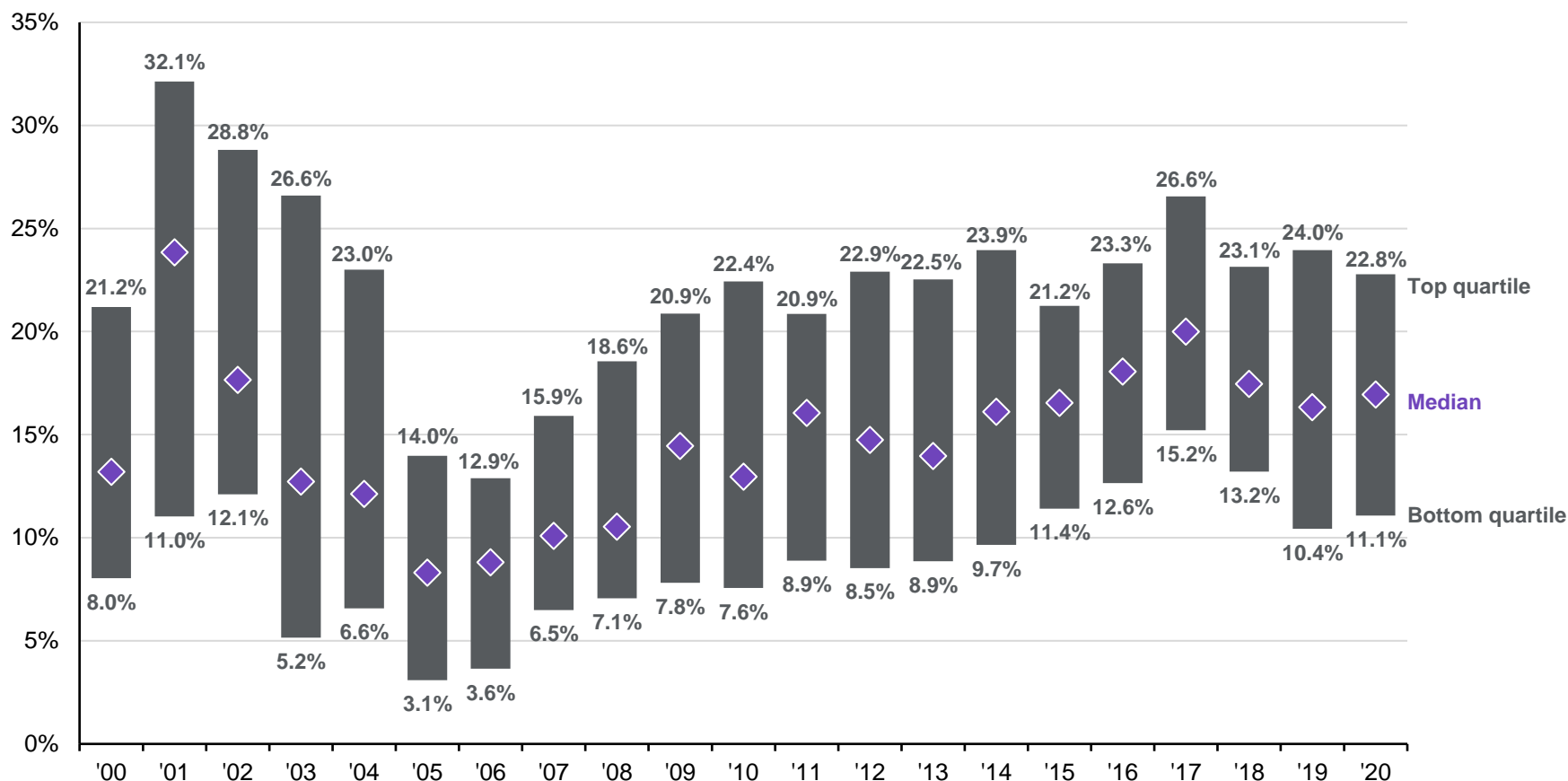
GTA

MI

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Global private equity return dispersion by vintage year

2000 - 2020, Internal rate of return (IRR)



Source: Burgiss, J.P. Morgan Asset Management. Global private equity is represented by global buyout funds. IRR performance data is as of September 30, 2024. Past performance is not a reliable indicator of current and future results. Data is based on availability as of February 28, 2025.

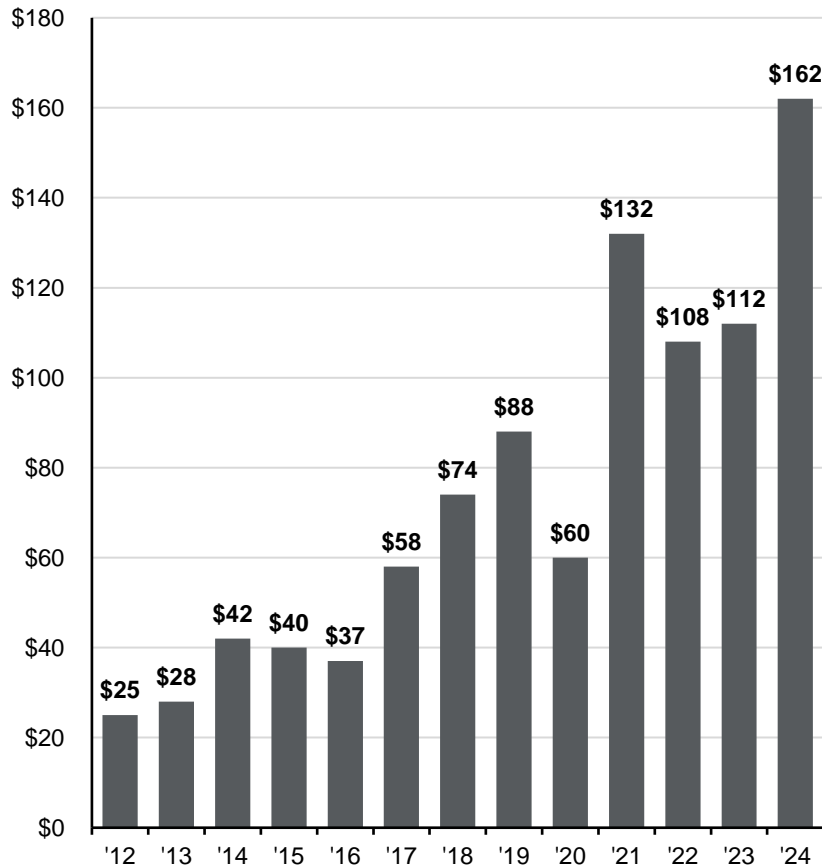


Global private secondary market

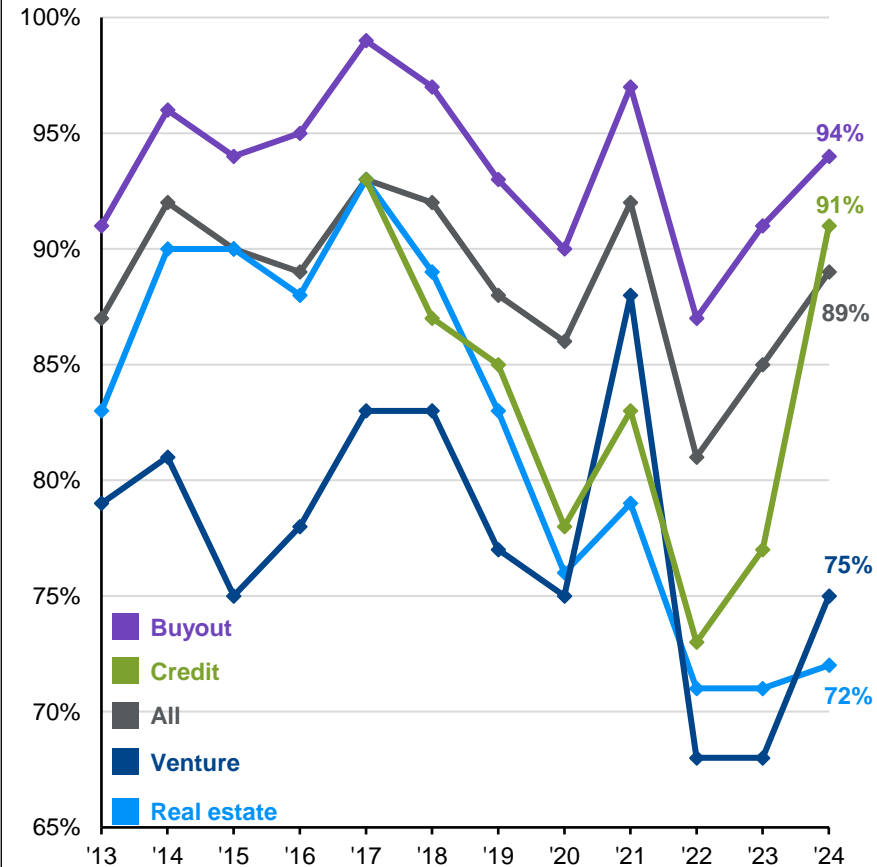
GTA MI 60

Private equity

Secondary market volume
USD billions



Secondary pricing*
Percent of net asset value (NAV)



Source: Greenhill, Jefferies, J.P. Morgan Asset Management. "Global Secondary Market Review," Jefferies, January 2025. Secondary market volume represents total value of general partner and limited partners-led secondary transactions. Secondary transactions involve selling an existing stake of a target company to raise liquidity, exit a position, modify exposures, or lock in gains. *Secondary pricing of LP portfolios. Data are based on availability as of February 28, 2025.



U.S. venture capital

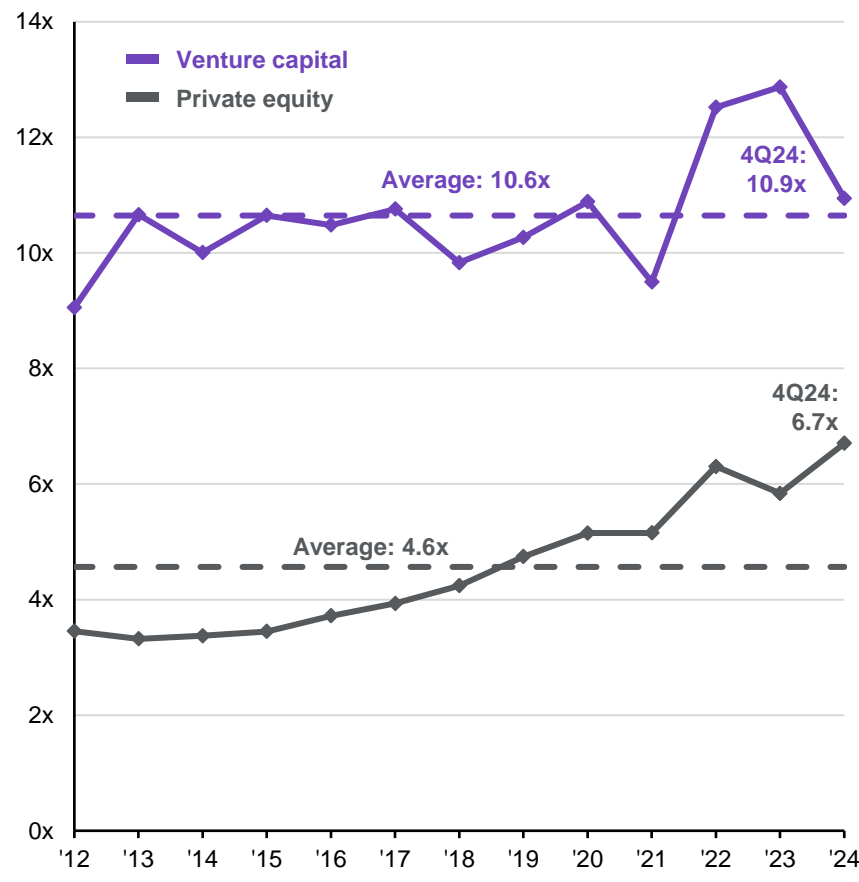
GTA

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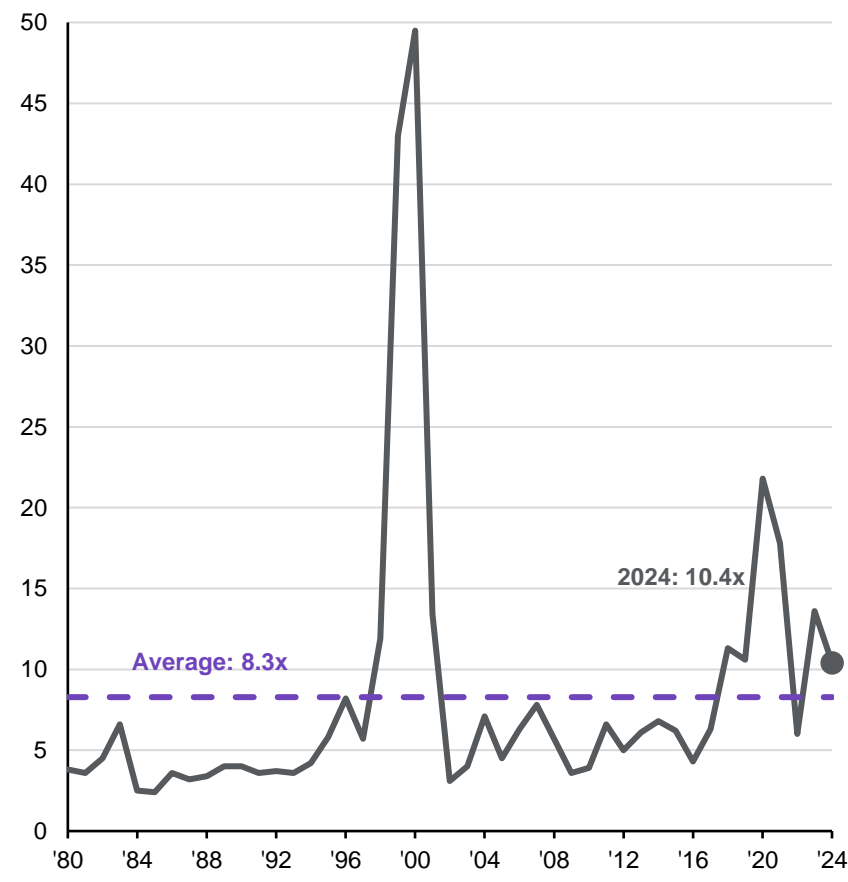
Investment and exit activity

Number of investments/number of exits*, 2012 - 2024



Venture capital IPO valuations

1980 – 2024, price-to-sales**



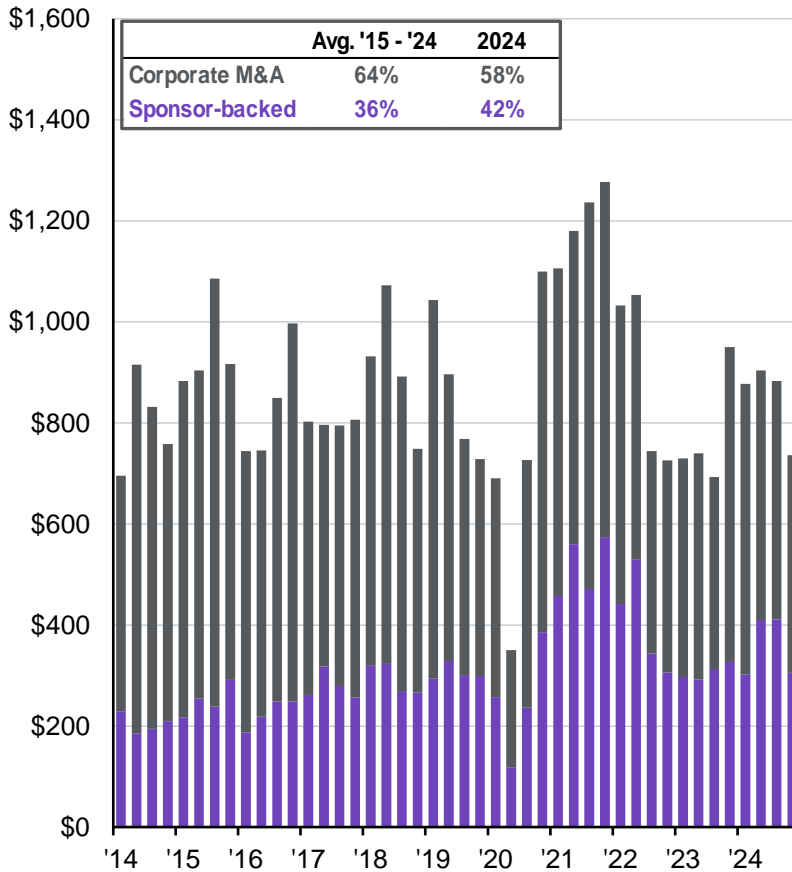
Source: PitchBook, Jay Ritter, Cordell Eminent Scholar, Eugene F. Brigham Department of Finance, Insurance, Real Estate Warrington College of Business, University of Florida, J.P. Morgan Asset Management. *Number of investments is defined as deal count. **Price is defined as the first closing market price. Sales are defined as the last twelve months revenues as reported in the prospectus. Data are based on availability as of February 28, 2025.



Global mergers and acquisitions

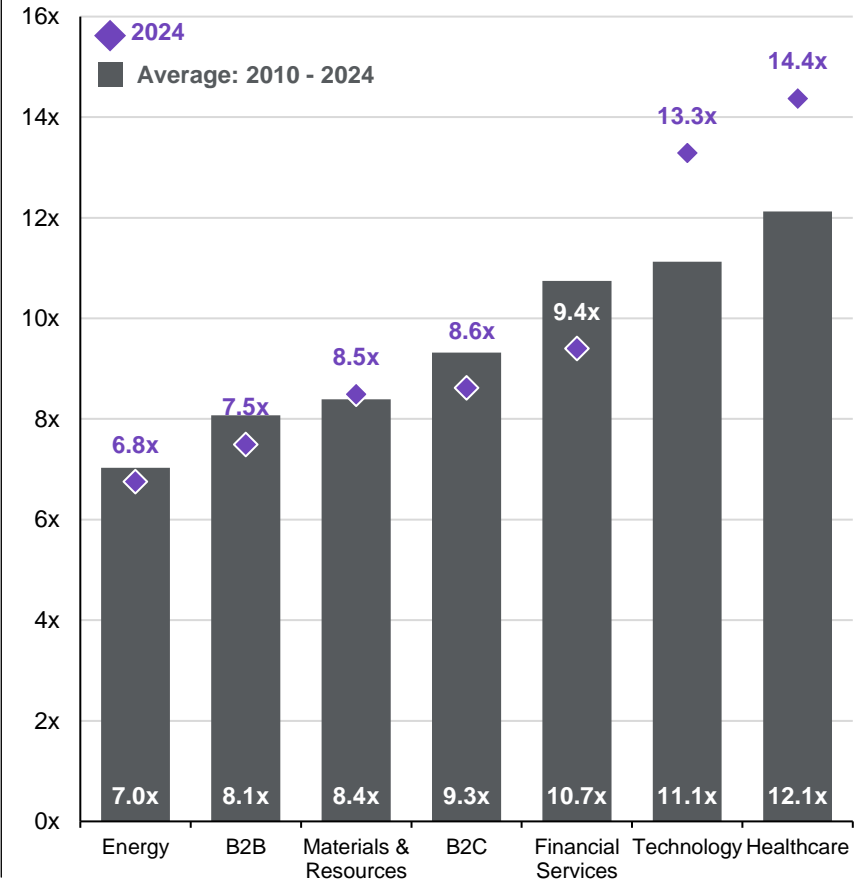
Global M&A by acquirer type

USD billions, 1Q14 – 4Q24



Global M&A multiples by sector

Enterprise value/EBITDA, trailing 12-month multiples



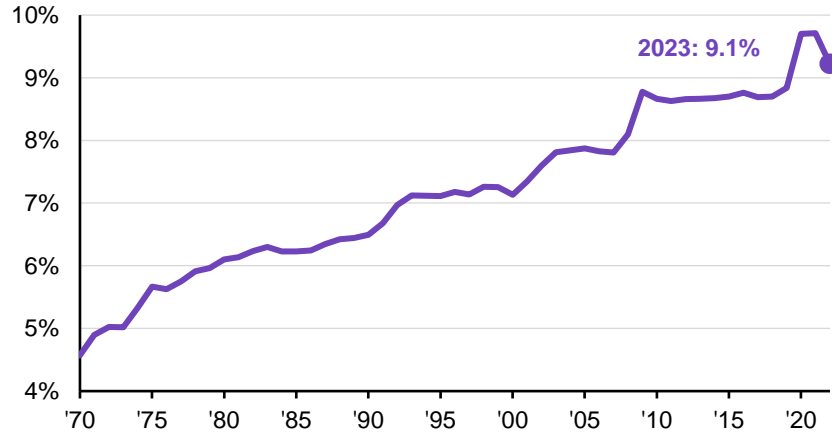
Source: PitchBook, J.P. Morgan Asset Management. M&A deal data are as of December 31, 2024. "B2B" = Business to business. "B2C" = Business to consumer. Percentages may not sum to 100 due to rounding. Data are based on availability as of February 28, 2025.



Healthcare dynamics

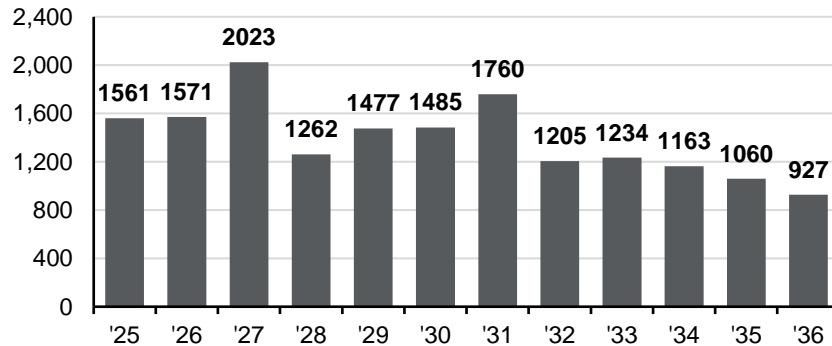
OECD average current expenditure on health

Percent of GDP



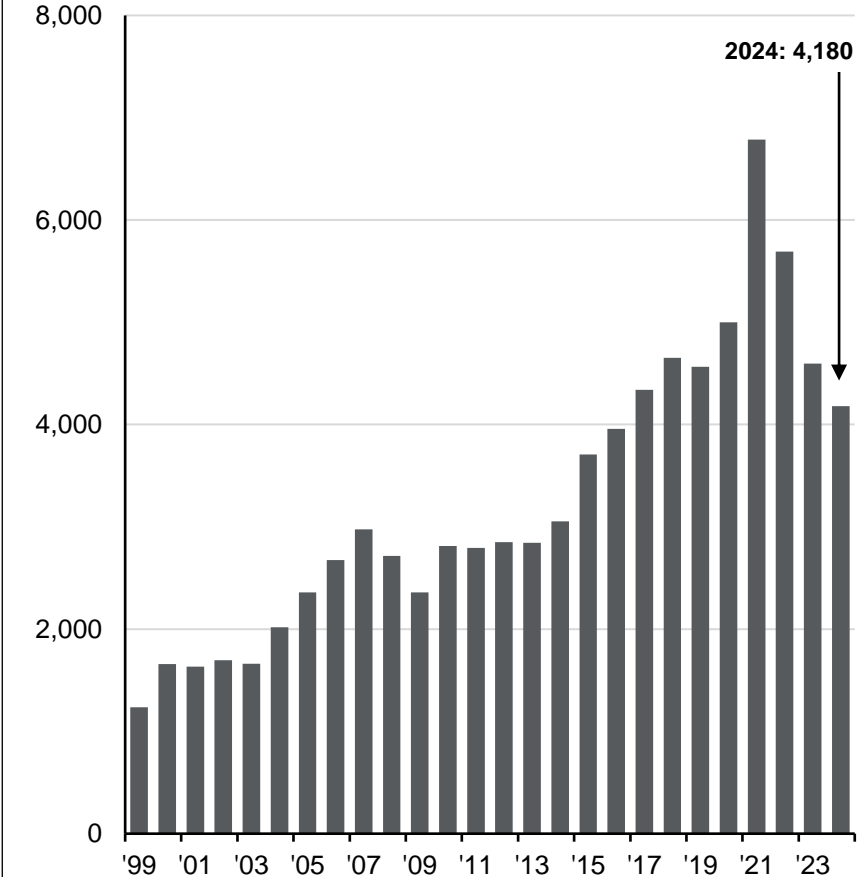
U.S. drug patent expiration

Number of patents expiring each calendar year



Global Healthcare M&A activity

Completed deal count, 25 years



Source: Bloomberg, FDA, OECD, J.P. Morgan Asset Management.
(Top left) OECD Health Statistics. (Bottom left) Total patents expiring are from the FDA's Orange Book and Purple Book.
Data are based on availability as of February 28, 2025.

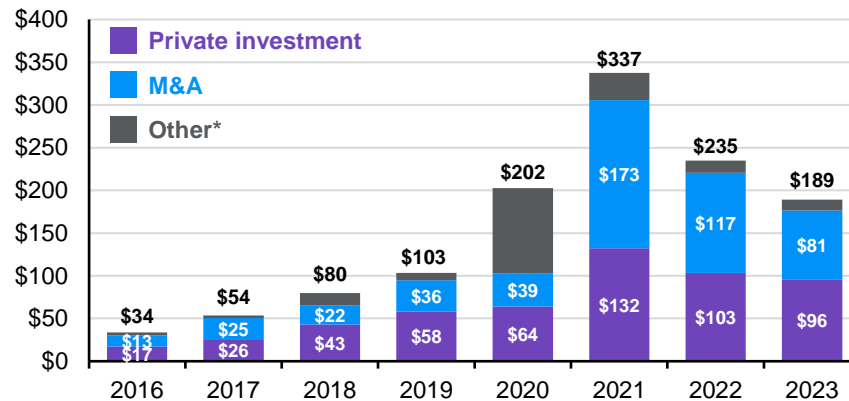


Global investment in artificial intelligence

GTA MI 64

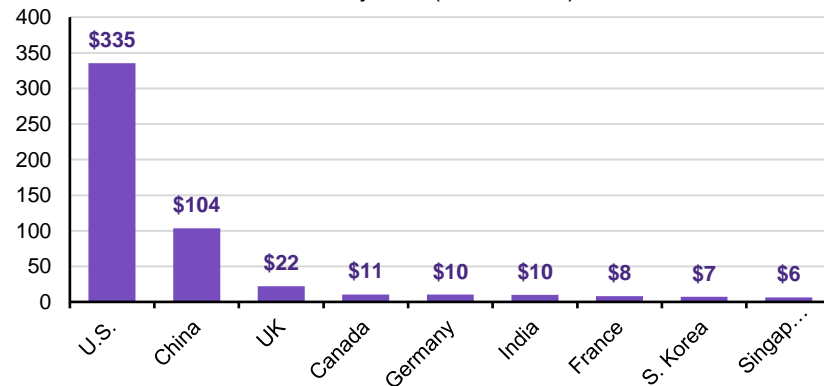
Global corporate investment in AI by type

USD billions



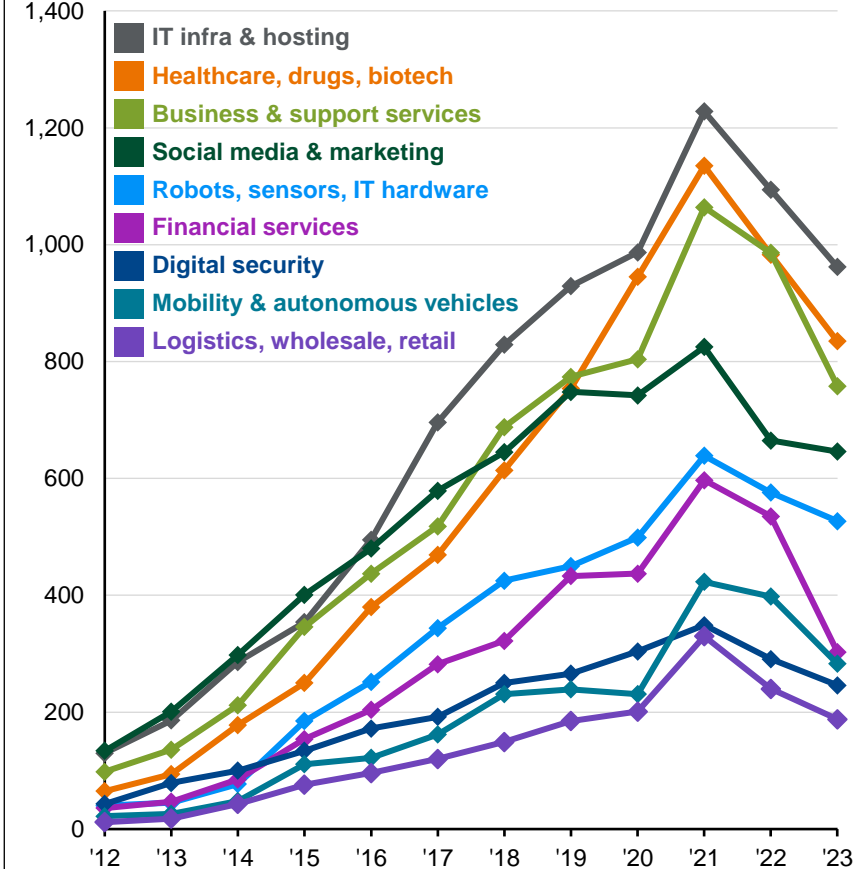
Global private investment in AI by region

USD billion, sum over last 10 years (2013-2023)



Global venture capital investments in AI by industry

Number of investments



Source: OECD, Preqin, Stanford University, J.P Morgan Asset Management.

(Left) Stanford Artificial Intelligence Index Report 2024. *Other includes minority stake and public offering. (Right) Data from OECD.AI.

Data are based on availability as of February 28, 2025.



Venture investment in artificial intelligence

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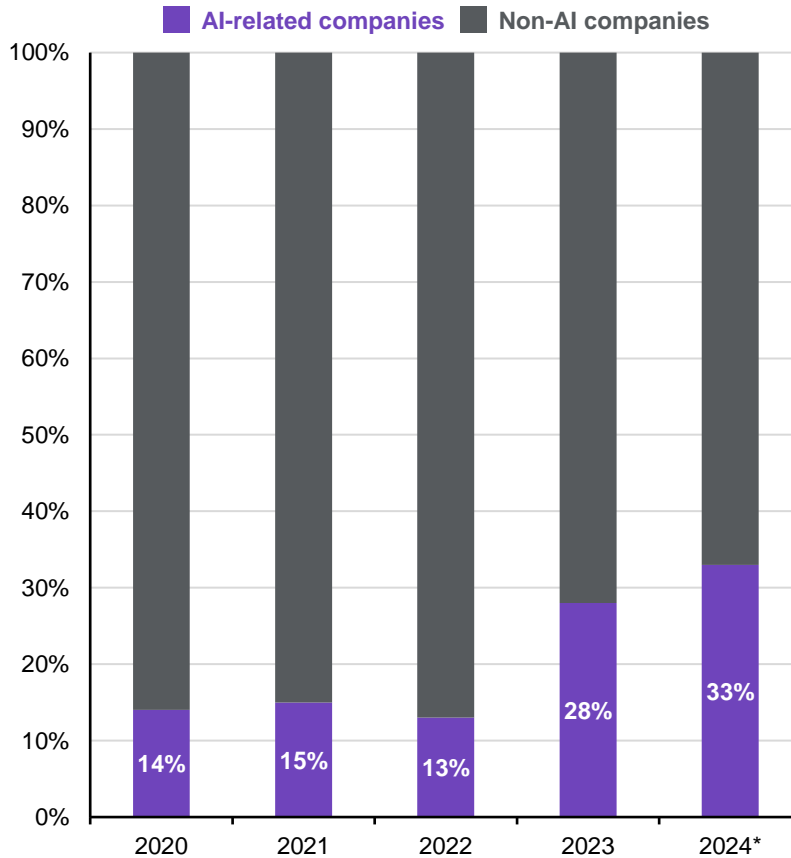
MI

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Private equity

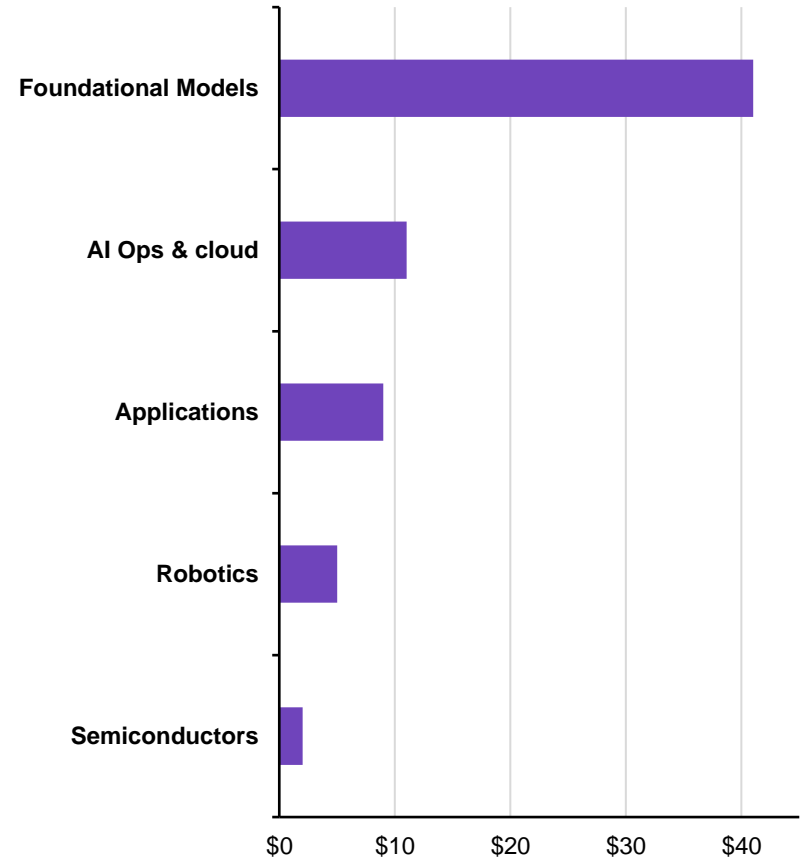
U.S. venture capital investments in AI

% share of equity investments into U.S. VC-backed companies



AI & ML venture capital investment by type

2024 VC deals continued, USD billions



Source: Crunchbase, EY, Pitchbook, J.P. Morgan Asset Management. *2024 Data is through 3Q 2024. Data are based on availability as of February 28, 2025.



Cash flows, the J-curve and returns in private equity

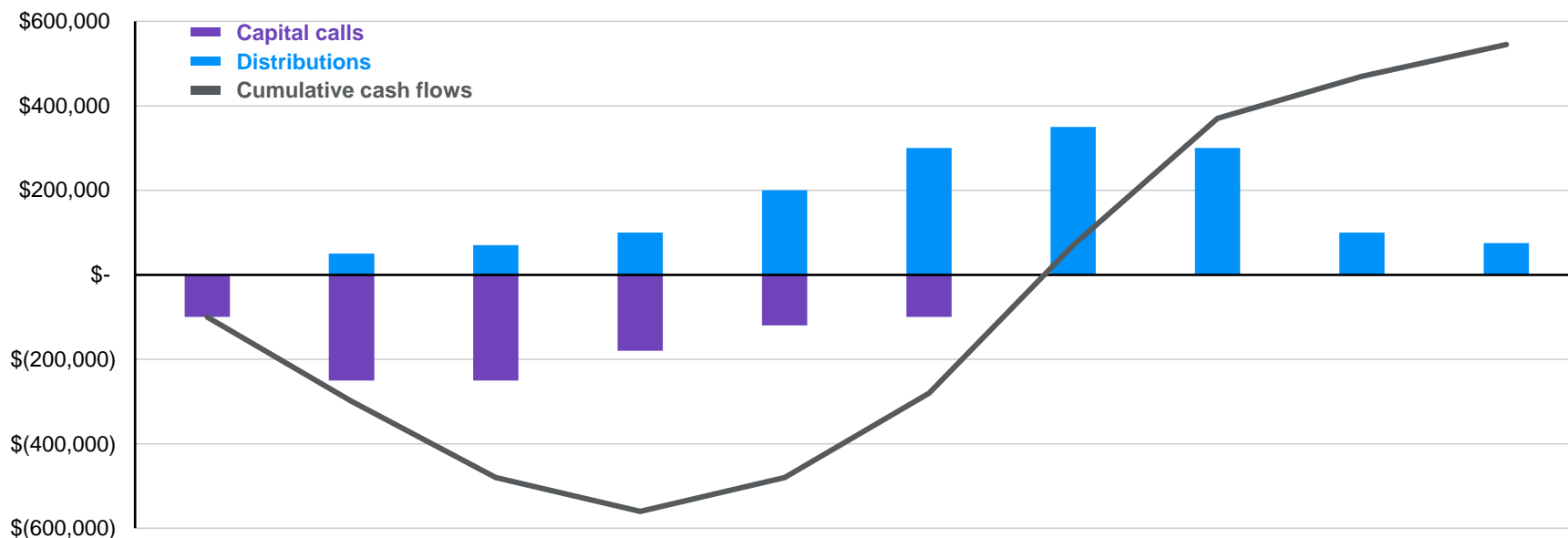
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Illustrative annual cash flows from a private equity investment

Assuming a \$1M investment



End of Year	1	2	3	4	5	6	7	8	9	10
Net Cash Flow	-\$100,000	-\$200,000	-\$180,000	-\$80,000	\$80,000	\$200,000	\$350,000	\$300,000	\$100,000	\$75,000
Balance	\$900,000	\$700,000	\$520,000	\$440,000	\$520,000	\$720,000	\$1,070,000	\$1,370,000	\$1,470,000	\$1,545,000
Annual Return	-10%	-22%	-26%	-15%	18%	38%	49%	28%	7%	5%

Internal Rate of Return: 15%

Discount rate that equates the sum of positive and negative discounted cash flows

Multiple on Invested Capital: 1.54x

Ending Balance/Starting Balance
 $= 1,545,000 / 1,000,000 = 1.545$

Time-Weighted Return: 4.4%

$(\text{Ending Balance} / \text{Starting Balance})^{(1 / \text{Number of Years}) - 1}$
 $= (1.545^{1/10}) - 1 = 4.4\%$

Source: J.P. Morgan Asset Management.

Assumes a 10-year investment cycle with a five-year investment period (common direct investment private equity fund terms). In calculating both the multiple on invested capital and time-weighted return, the above example implicitly assumes that capital earns a zero return before it is called and after it is distributed. If we instead assume that this capital is invested in a USD cash account paying 3.1%*, the MOIC and TWR are 1.59 times and 4.76% respectively. If we assume that it is invested in U.S. equities, returning 6.70%*, the MOIC and TWR are 1.65 times and 5.14% respectively. (*from JPMAM's 2025 Long-term Market Assumptions). There is no assurance that a private equity fund will make any distributions or perform in a similar fashion. The above cash flows are illustrative of those that may be experienced by an investor in a direct investment private equity fund and are not intended to be illustrative of the cash flows experienced by an investor.

Data are based on availability as of February 28, 2025.

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Private credit fundraising

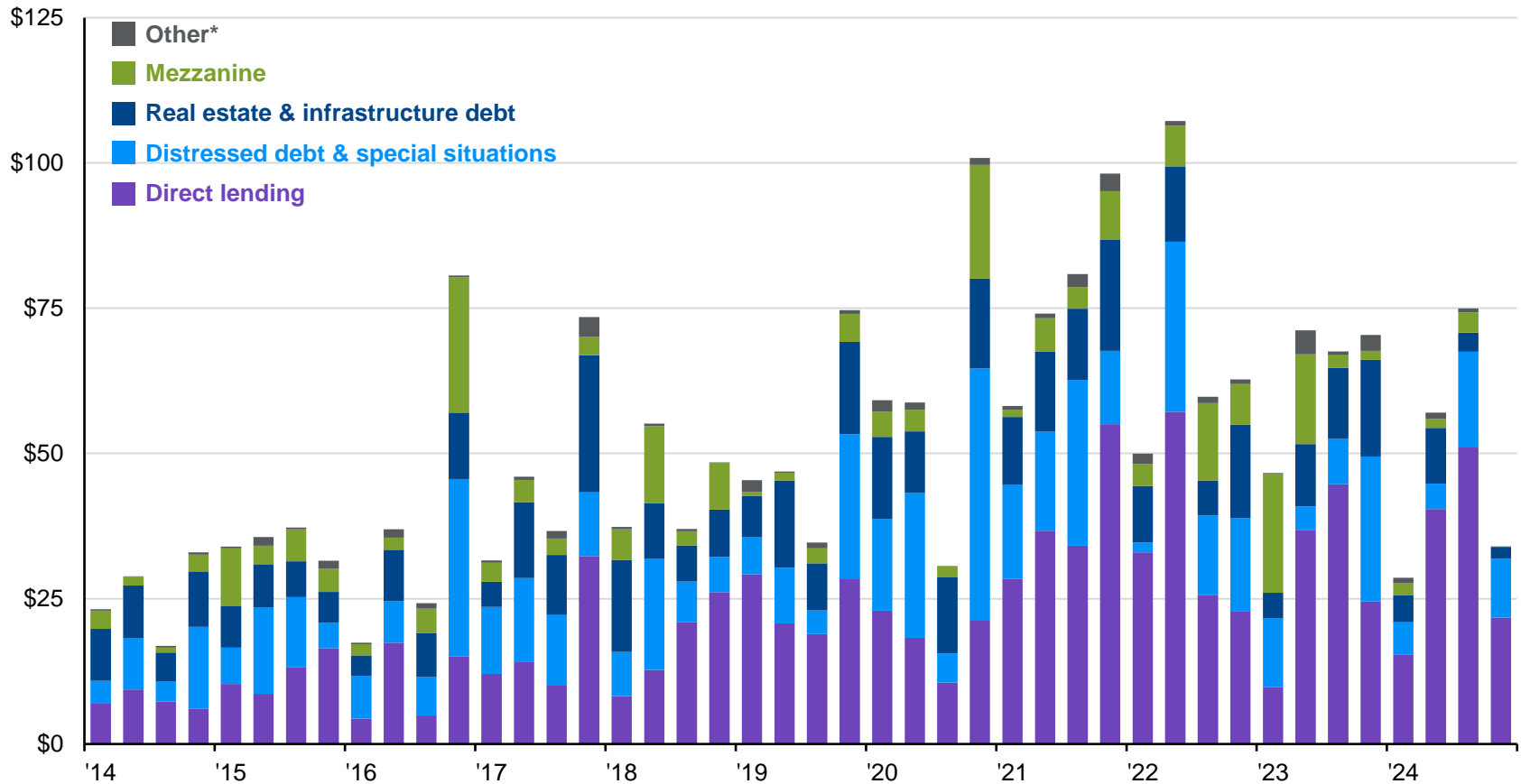
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Global private credit fundraising by type

USD billions, 1Q14 – 4Q24



Source: Preqin, J.P. Morgan Asset Management. *Other includes venture debt and fund of funds. Data are based on availability as of February 28, 2025.



Private credit deal activity

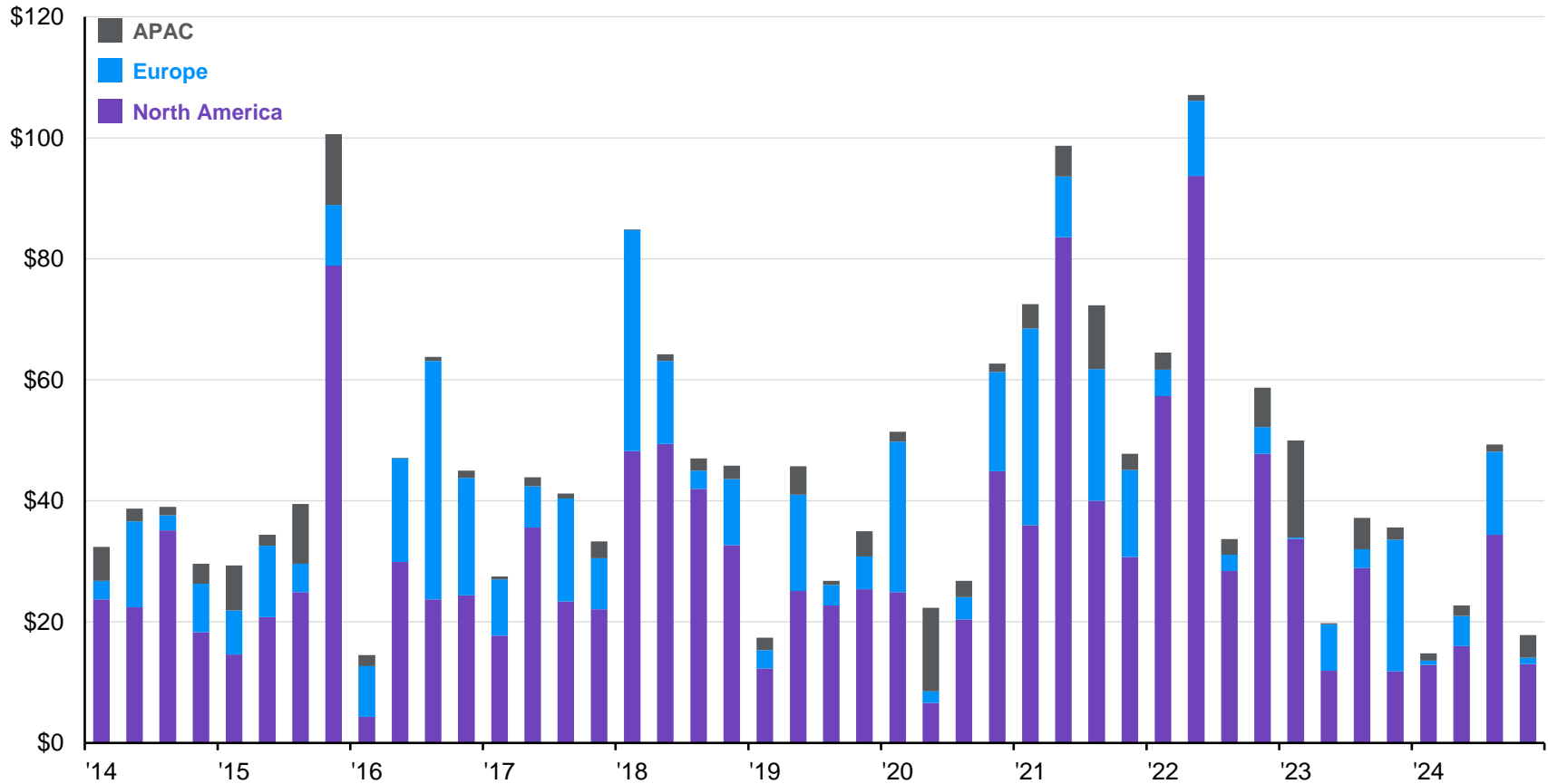
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Global private credit deal activity

Aggregate deal value by region, USD billions, 1Q14 – 4Q24



Source: Preqin, J.P. Morgan Asset Management. APAC includes data from Asia, Australia and New Zealand. Data are based on availability as of February 28, 2025.



U.S. banks and credit market participants

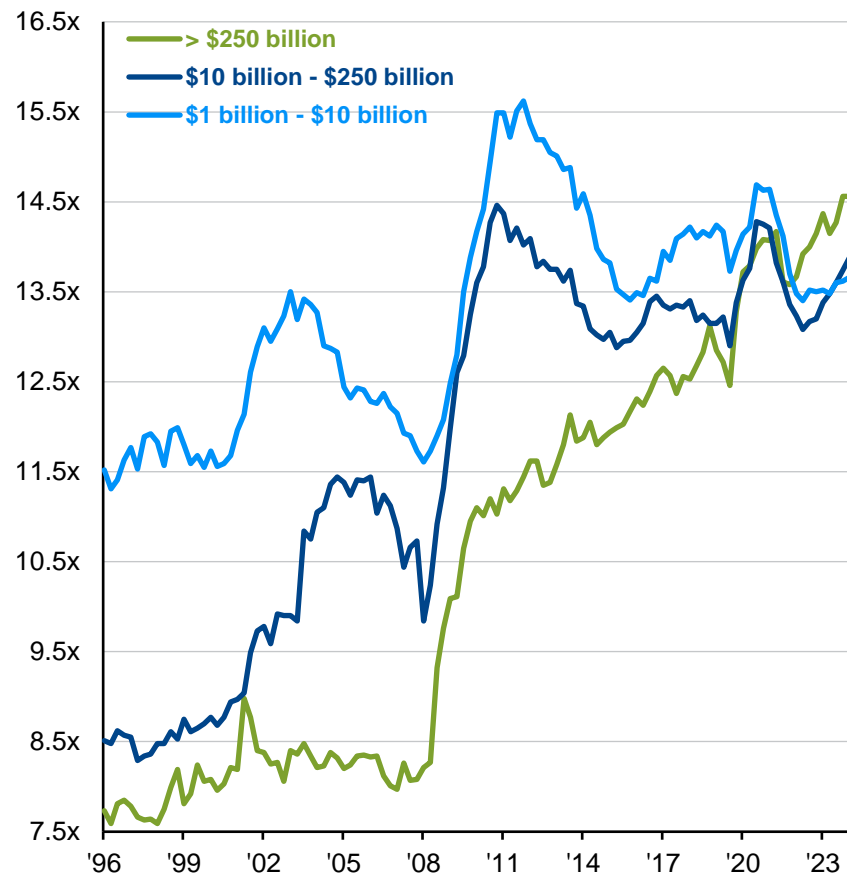
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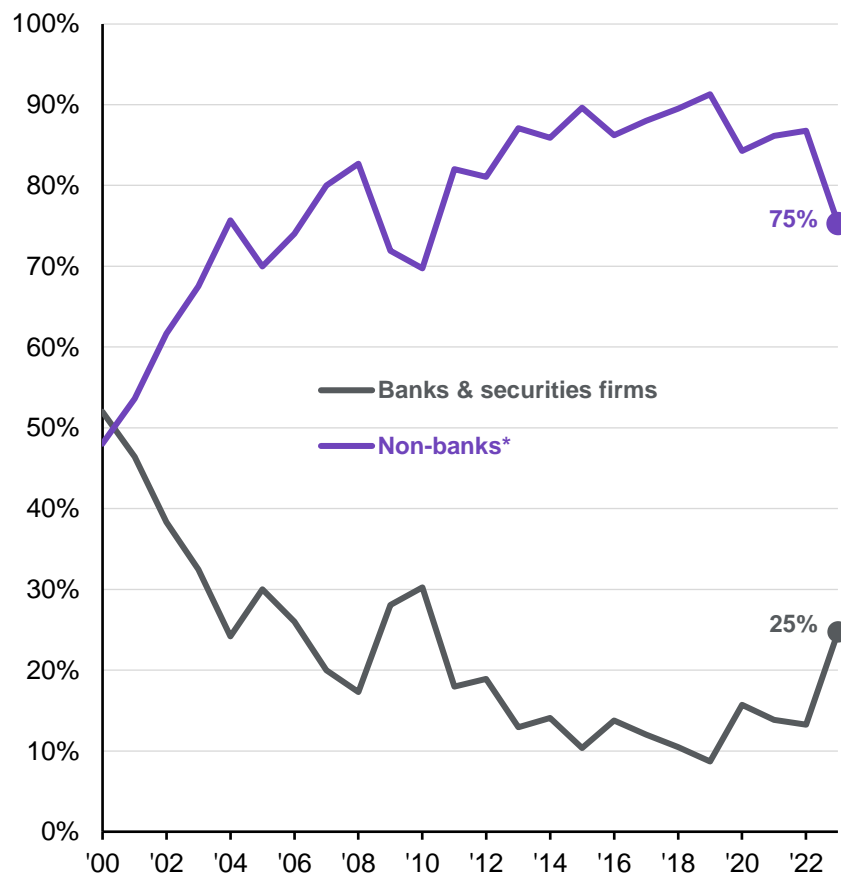
Tier 1 risk-based capital ratios by bank asset size

Ratios, quarterly, 4Q96 – 3Q24



Primary market sources of financing

New-issue market for broadly syndicated loans, 1999 – 2022



Source: FDIC, LCD, PitchBook, J.P. Morgan Asset Management. (Right) Data is as of December 31, 2022. Pitchbook does not update this data due to the current sample size no longer accurately reflecting the lender breakdown at close. Broadly syndicated loans are the most common type of leveraged loans and represent lending to below investment grade companies by institutional investors (banks and non-banks). Broadly syndicated loans are senior secured. *Non-bank includes institutional investors and finance companies. Data are based on availability as of February 28, 2025.



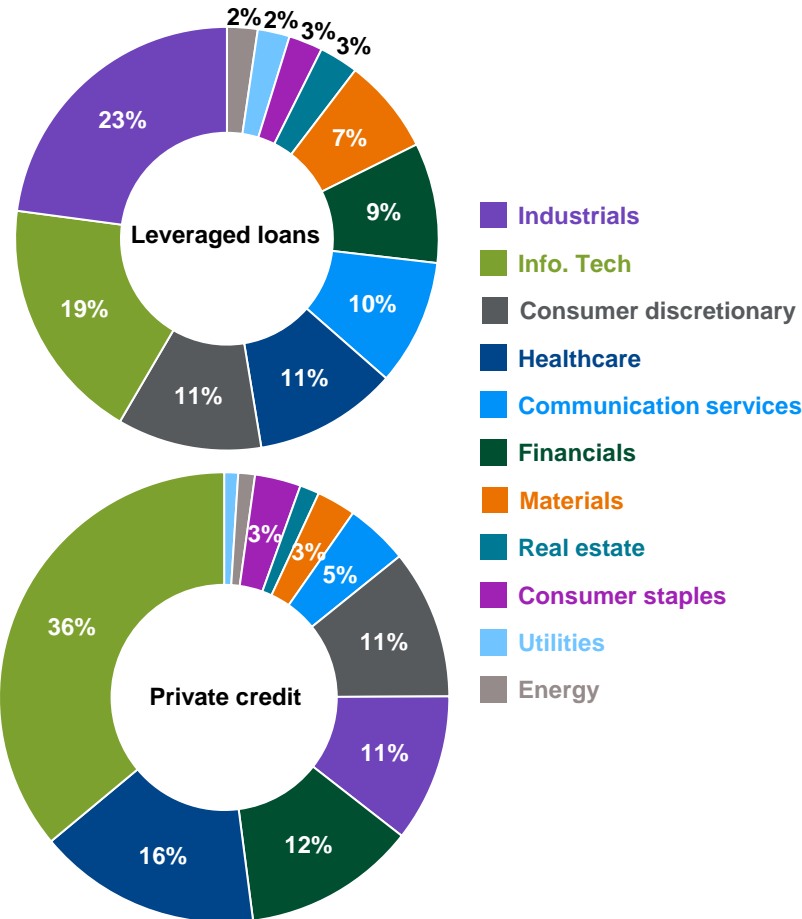
U.S. private credit vs. leveraged loans

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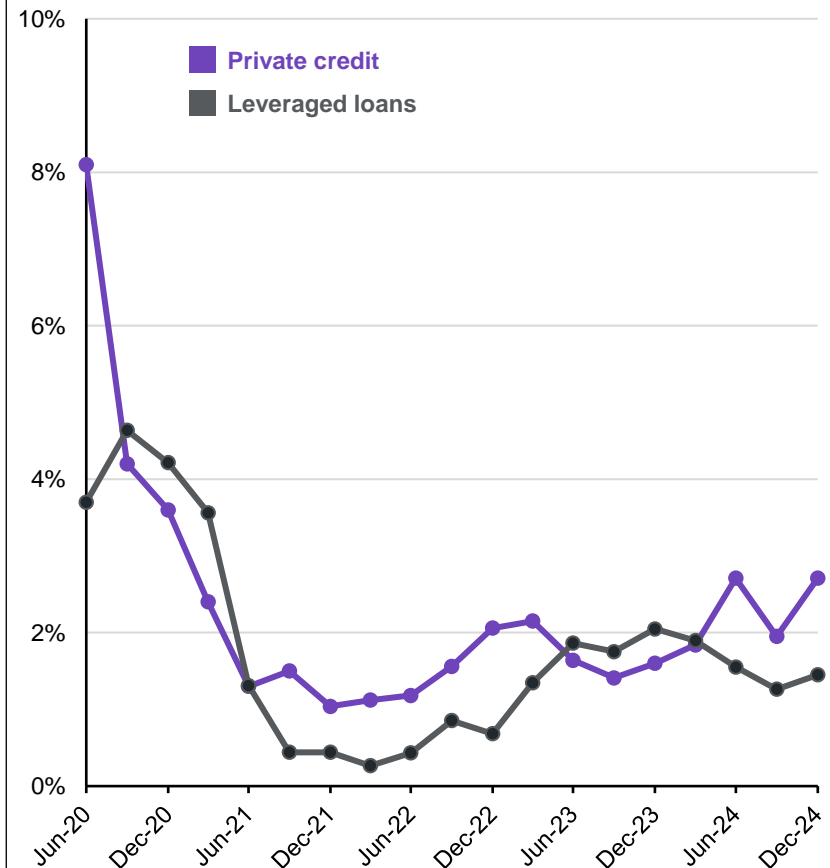
70

Leveraged loans vs. private credit sector exposure



Private credit and leveraged loans default rate

Quarterly, 2Q20 – 4Q24



Source: Cliffwater, LCD, Pitchbook, Proskauer, Standard & Poor's, J.P. Morgan Markets Research, J.P. Morgan Asset Management. Pitchbook defines leveraged loans as a commercial loan provided by a group of lenders that is either: 1) rated BB+ or lower, 2) not rated or rated BBB- or higher and has a base rate spread of 125 bps or higher and is secured by a first or second lien. Private credit (direct lending) is defined as when a non-bank lender directly lends to a company. All leveraged loans data are from the Morningstar LSTA U.S. Leveraged Loan Index. (Left) For private credit, information technology includes business services. Private credit sector exposure is as of March 31, 2024. Leveraged loans sector exposure is as of January 31, 2025. (Right) The leveraged loans default rate is calculated using the LTM number of defaults as a % of total issuers. The private credit default rate is calculated by dividing the number of defaulted loans by the aggregate number of loans in the Index. Data are based on availability as of February 28, 2025.



Leveraged buyout financing

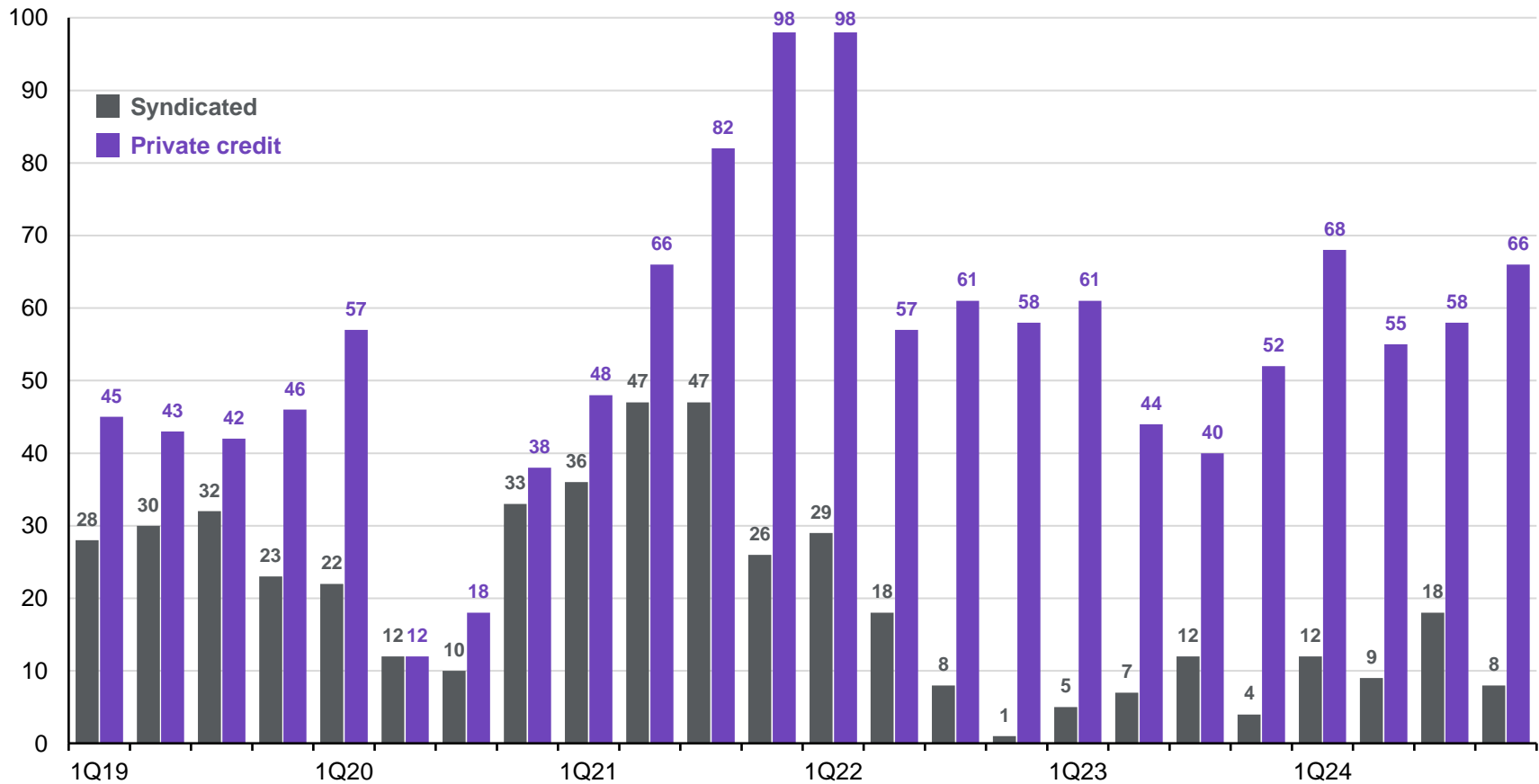
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Sources of LBO financing

Number of deals of broadly syndicated or private credit loans, quarterly, 1Q19–4Q24



Source: LCD, Pitchbook, Morningstar LSTA U.S. Leveraged Loan Index, J.P. Morgan Asset Management. Data are as of December 31, 2024. Data are based on availability as of February 28, 2025.



Sponsored vs. non-sponsored leveraged loans

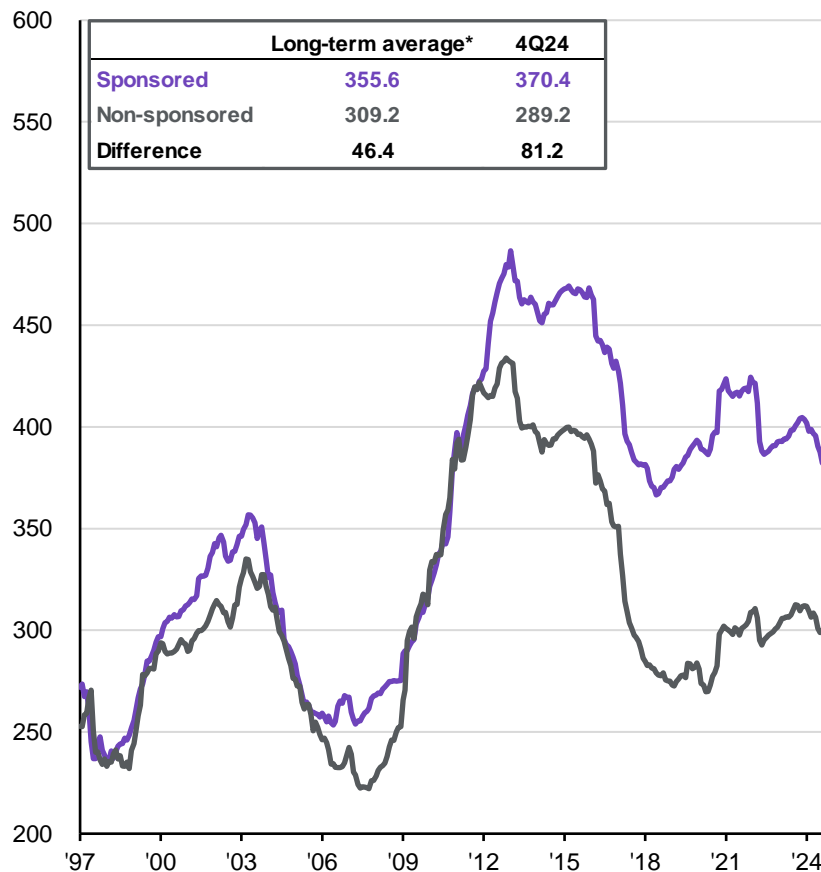
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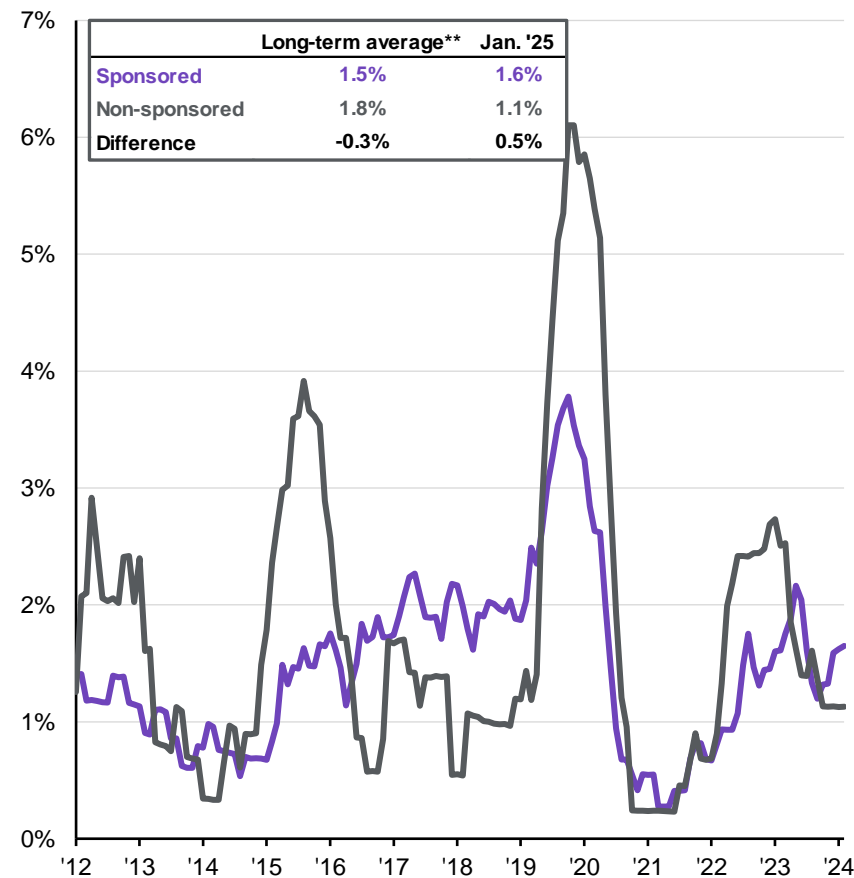
Sponsored and non-sponsored leveraged loan spreads

Weighted average nominal spreads, monthly, 1Q97 – 4Q24



Sponsored and non-sponsored leveraged loan default rates

By issuer count, monthly, December 2012 – January 2025



Source: LCD, Pitchbook, Morningstar LSTA U.S. Leveraged Loan Index, J.P. Morgan Asset Management. Sponsored financing is when a non-bank lender provides credit to a business that is either wholly-owned or majority-owned by a private equity firm. Non-sponsored financing is when a lender provides credit to a company not backed by a financial institution.

(Left) *Averages are since 1997. (Right) **Average default rates are since December 2012.

Data are based on availability as of February 28, 2025.



Lending dynamics

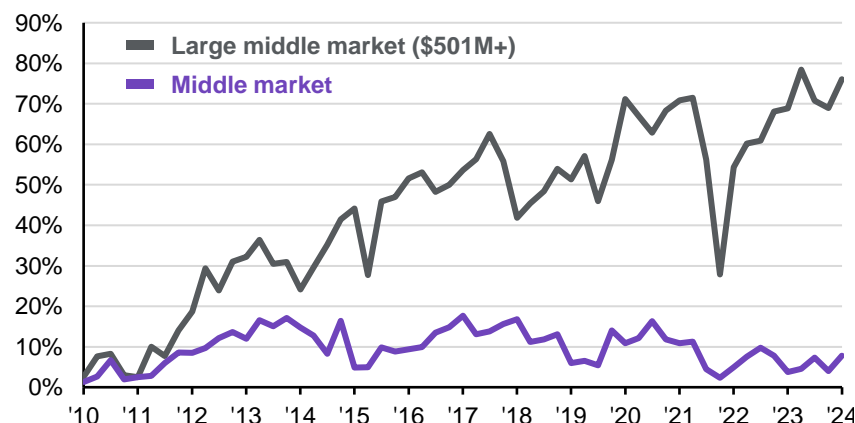
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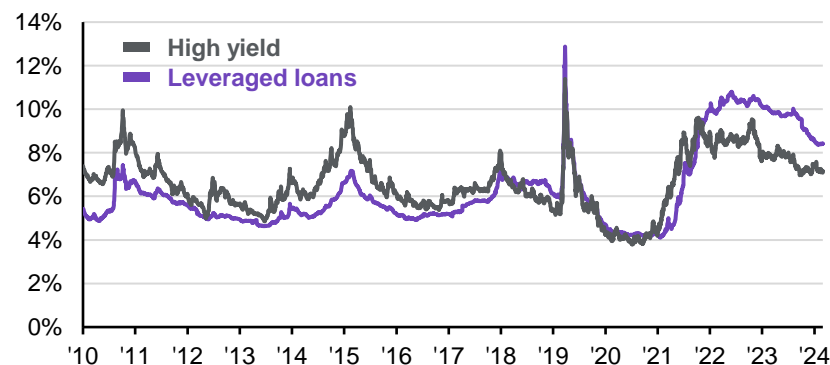
Covenant-lite loans*

% of total loans, 4Q10 – 4Q24, quarterly, by deal size



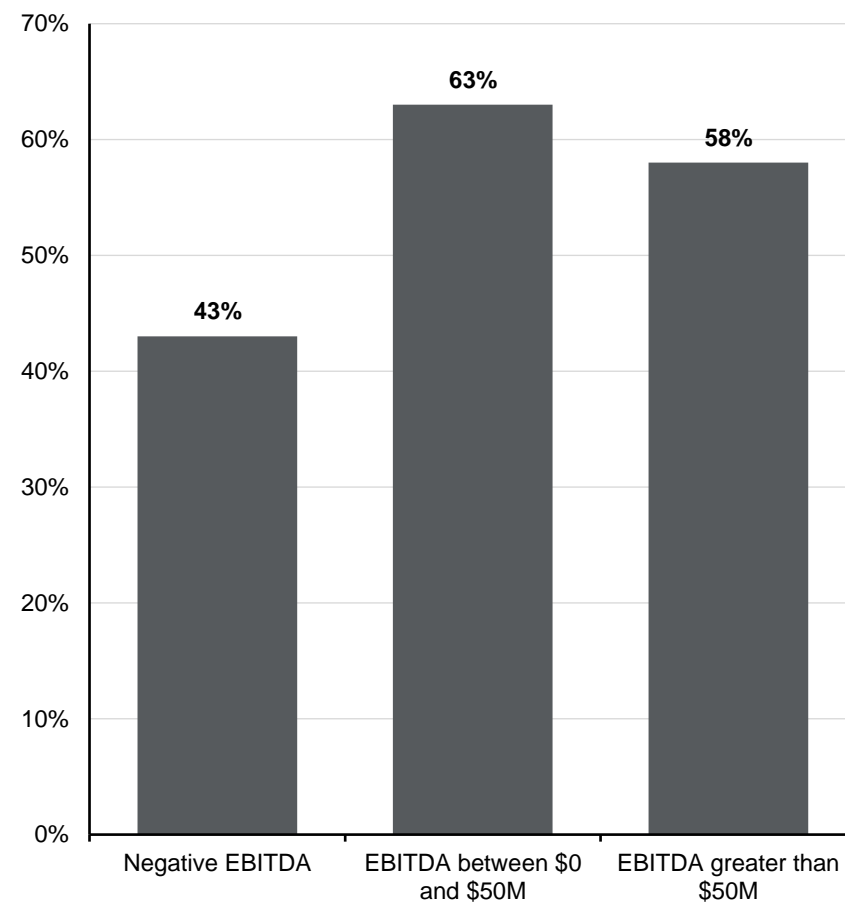
High yield vs. leveraged loan yields

% daily, Jan. 2010 – Feb. 2025



Average discounted recovery rates by EBITDA

1987 – 2023



Source: Bank of America, LCD, Pitchbook, Morningstar, S&P, J.P. Morgan Asset Management.

(Top left) *Covenant-lite loans are a type of financing that is issued with fewer restrictions on the borrower regarding collateral, level of income, and loan payment terms, and fewer protections for the lender, including financial maintenance tests that measure the debt-service capabilities of the borrower. Deal size refers to the total size of the debt facility. (Bottom left) High yield data is represented by the daily yield to worst from the ICE BofA US High Yield Index. Leveraged loan yields are represented by the daily yields from the Morningstar Leveraged Loan Index. Past performance is not a reliable indicator of current and future results. Data are based on availability as of February 28, 2025.



Credit market stress

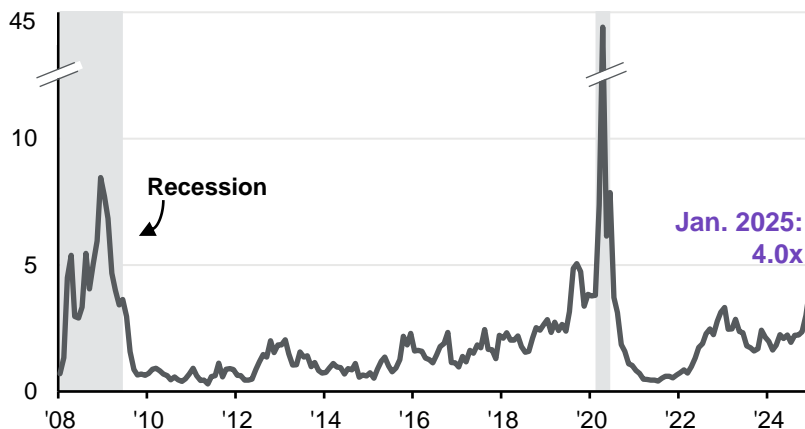
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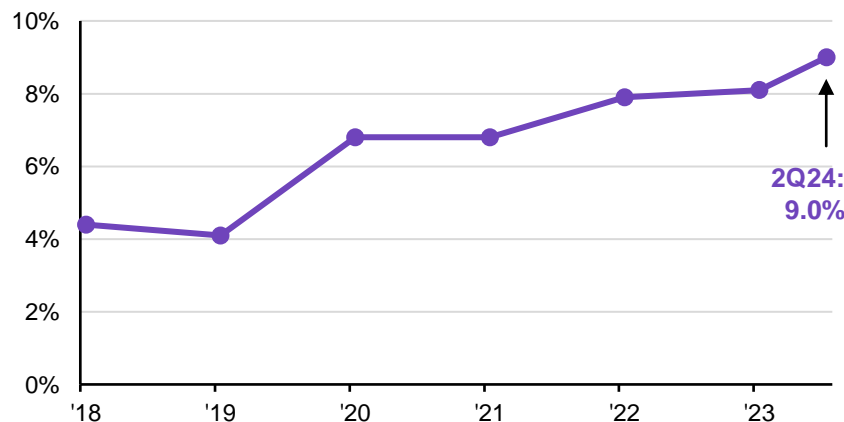
U.S. leveraged loans downgrade/upgrade ratio

Rolling 3-month period



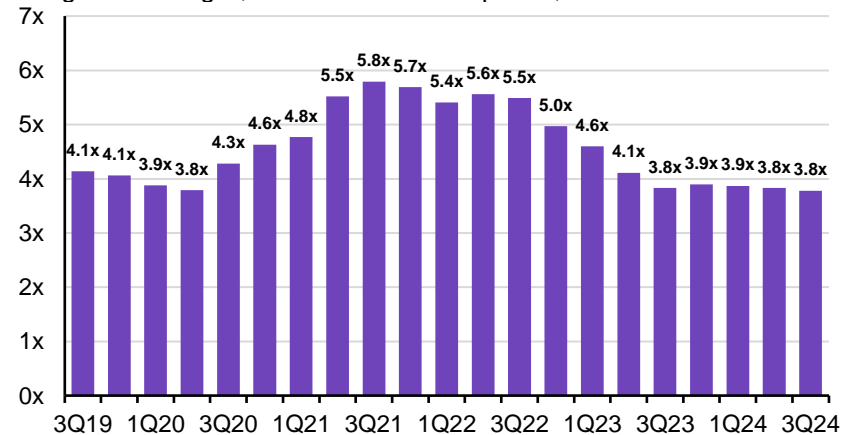
Payment-in-kind** income by year

% of BDC's interest and dividend income, 2018 – 2Q24



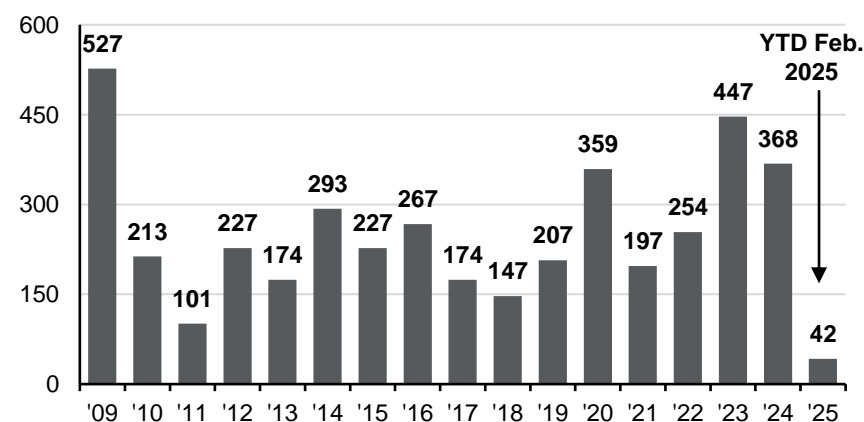
U.S. leveraged loans interest rate coverage

Weighted average*, EBITDA/Interest expense, 3Q19 – 3Q24



U.S. leveraged loans amendments and extensions by year

Count

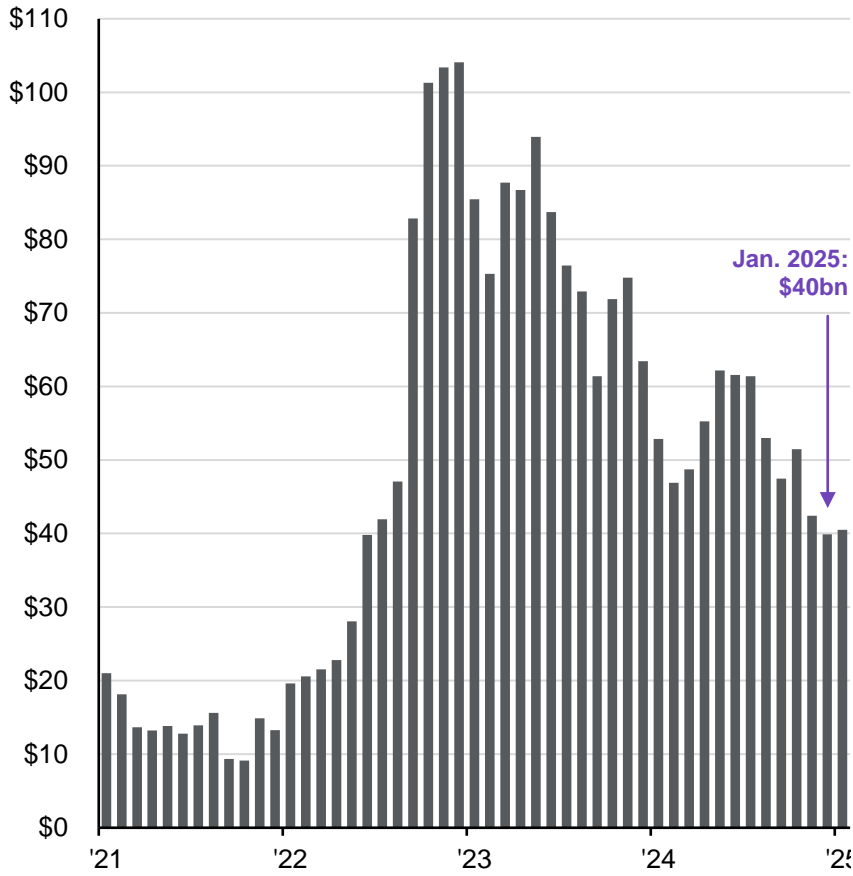


Source: Fitch, LCD, PitchBook, J.P. Morgan Asset Management. (Top right) *Averages are weighted by outstanding loan amount. (Bottom left) ***Payment-in-kind (PIK) is defined as a borrowing arrangement under which a borrower can make interest payments in non-cash forms. "BDC" = Business development company. Data is an average of Fitch-rated BDCs. Data are based on availability as of February 28, 2025.

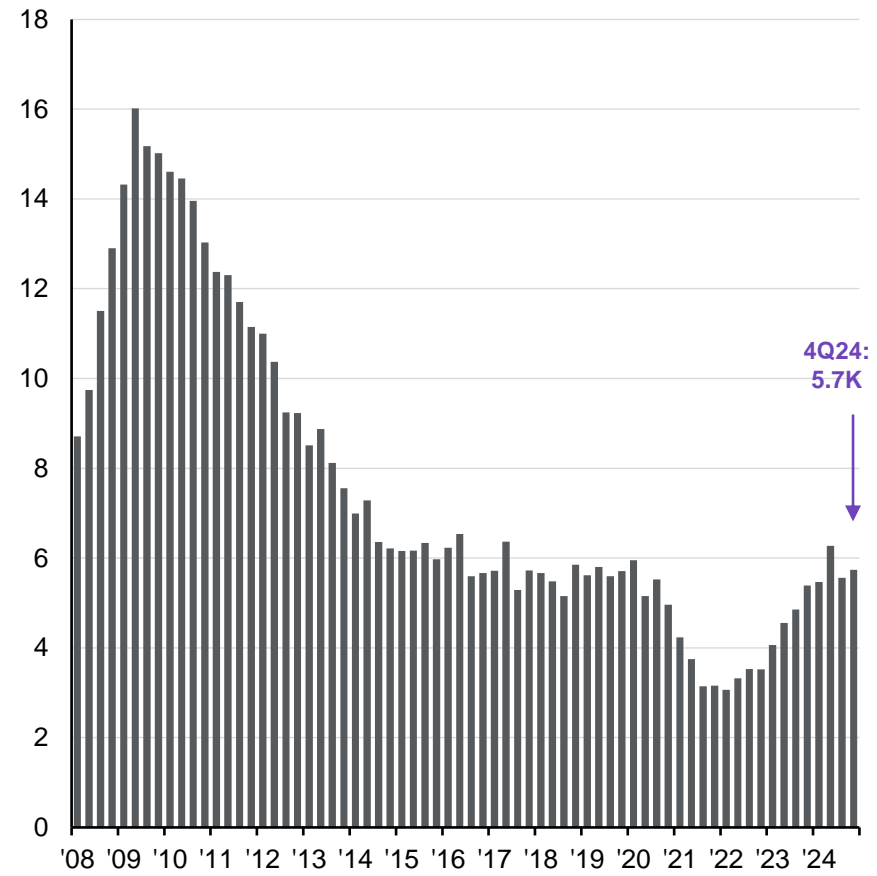


U.S. distressed loans

U.S. distressed loan volume outstanding
USD billions



Business bankruptcy filings by year
U.S., 1Q08 – 4Q24, in thousands



Source: LCD, Pitchbook, Morningstar, United States Courts, J.P. Morgan Asset Management. Distressed loan data are from the Morningstar LSTA U.S. Leveraged Loan Index, which defines distressed loans as performing leveraged loans priced below 80 cents on the dollar. Data are based on availability as of February 28, 2025.



Public and private credit returns

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Private credit

2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	YTD '24*	2014-2023	
											Ann.	Vol.**
Mezzanine Debt 17.7%	Mezzanine Debt 16.0%	High Yield 17.1%	Mezzanine Debt 14.0%	Mezzanine Debt 9.2%	Mezzanine Debt 14.6%	Investment Grade 9.9%	Distressed Debt 22.4%	Mezzanine Debt 7.3%	High Yield 13.4%	Direct Lending 8.5%	Mezzanine Debt 12.0%	High Yield 8.6%
CML - Apartment 9.6%	Direct Lending 5.5%	Direct Lending 11.2%	Distressed Debt 11.4%	Direct Lending 8.1%	Investment Grade 14.5%	High Yield 7.1%	Mezzanine Debt 18.0%	Direct Lending 6.3%	Leveraged Loans 13.2%	High Yield 8.0%	Direct Lending 8.8%	Investment Grade 7.2%
Direct Lending 9.6%	CML - Office 3.2%	Leveraged Loans 9.8%	Direct Lending 8.6%	CML - Industrial 3.7%	High Yield 14.3%	CML - Industrial 6.6%	Direct Lending 12.8%	Distressed Debt 4.6%	Direct Lending 12.1%	Mezzanine Debt 7.4%	Distressed Debt 6.9%	Leveraged Loans 6.3%
Investment Grade 7.5%	CML - Retail 3.0%	Distressed Debt 8.5%	High Yield 7.5%	Distressed Debt 3.5%	Direct Lending 9.0%	CML - Apartment 6.5%	Leveraged Loans 5.5%	Leveraged Loans 0.1%	Mezzanine Debt 11.4%	Leveraged Loans 6.8%	Leveraged Loans 4.7%	Distressed Debt 5.2%
CML - Senior* 7.4%	CML - Industrial 2.9%	Mezzanine Debt 8.0%	Investment Grade 6.4%	CML - Senior* 2.6%	Leveraged Loans 8.6%	CML - Senior* 6.3%	High Yield 5.3%	CML - Retail -7.6%	Distressed Debt 10.4%	CML - Retail 6.5%	High Yield 4.6%	CML - Apartment 4.4%
CML - Retail 7.0%	CML - Senior* 2.7%	Investment Grade 6.1%	CML - Apartment 6.3%	CML - Apartment 2.6%	CML - Apartment 8.3%	CML - Office 6.3%	CML - Apartment 2.0%	CML - Office -7.6%	Investment Grade 8.5%	CML - Apartment 6.4%	CML - Retail 3.5%	CML - Senior* 4.0%
CML - Office 6.7%	CML - Apartment 1.6%	CML - Retail 3.4%	CML - Senior* 5.7%	CML - Retail 2.4%	CML - Senior* 8.1%	CML - Retail 6.1%	CML - Senior* 1.9%	CML - Senior* -9.0%	CML - Retail 6.2%	CML - Senior* 6.1%	CML - Apartment 3.4%	CML - Industrial 3.9%
CML - Industrial 6.2%	Distressed Debt 0.6%	CML - Senior* 2.9%	CML - Office 5.5%	CML - Office 2.4%	CML - Retail 8.0%	Direct Lending 5.5%	CML - Retail 1.9%	CML - Industrial -9.5%	CML - Industrial 5.8%	CML - Industrial 6.0%	CML - Senior* 3.3%	CML - Retail 3.6%
Distressed Debt 5.5%	Leveraged Loans 0.5%	CML - Industrial 2.8%	CML - Industrial 5.2%	Leveraged Loans 1.1%	CML - Office 7.9%	Mezzanine Debt 4.7%	CML - Industrial 1.8%	CML - Apartment -9.8%	CML - Apartment 5.6%	Investment Grade 5.3%	CML - Office 3.2%	CML - Office 3.6%
High Yield 2.5%	Investment Grade -0.7%	CML - Apartment 2.7%	CML - Retail 5.1%	High Yield -2.1%	CML - Industrial 7.5%	Leveraged Loans 3.2%	CML - Office 1.6%	High Yield -11.2%	CML - Senior* 5.6%	CML - Office 4.6%	CML - Industrial 3.2%	Mezzanine Debt 3.4%
Leveraged Loans 2.0%	High Yield -4.5%	CML - Office 2.6%	Leveraged Loans 4.2%	Investment Grade -2.5%	Distressed Debt 2.2%	Distressed Debt 1.8%	Investment Grade -1.0%	Investment Grade -15.8%	CML - Office 4.5%	Distressed Debt 3.6%	Investment Grade 3.0%	Direct Lending 2.9%

Source: Bloomberg, Cliffwater, Gilberto-Levy, J.P. Morgan, Preqin, J.P. Morgan Asset Management.

CML is commercial mortgage loans. CML: Gilberto-Levy Commercial Mortgage Performance Index; Direct Lending: Cliffwater Direct Lending Index; Distressed Debt: Preqin Quarterly Distressed Debt Index; Investment Grade: Bloomberg U.S. Aggregate Credit - Corporates - Investment Grade Index; High Yield: Bloomberg U.S. Aggregate Credit - Corporate - High Yield Index; Leveraged Loans: J.P. Morgan Leveraged Loan Index; Mezzanine Debt: Preqin Quarterly Mezzanine Debt Index. Annualized return (Ann.) and volatility (Vol.) represents the period from 12/31/2013 to 12/31/2023. *Year-to-date 2024 data updated through 9/30/2024. **Volatility calculated as the annualized standard deviation of quarterly returns. Past performance is not a reliable indicator of current and future results.

Data are based on availability as of February 28, 2025.

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Hedge funds and manager selection

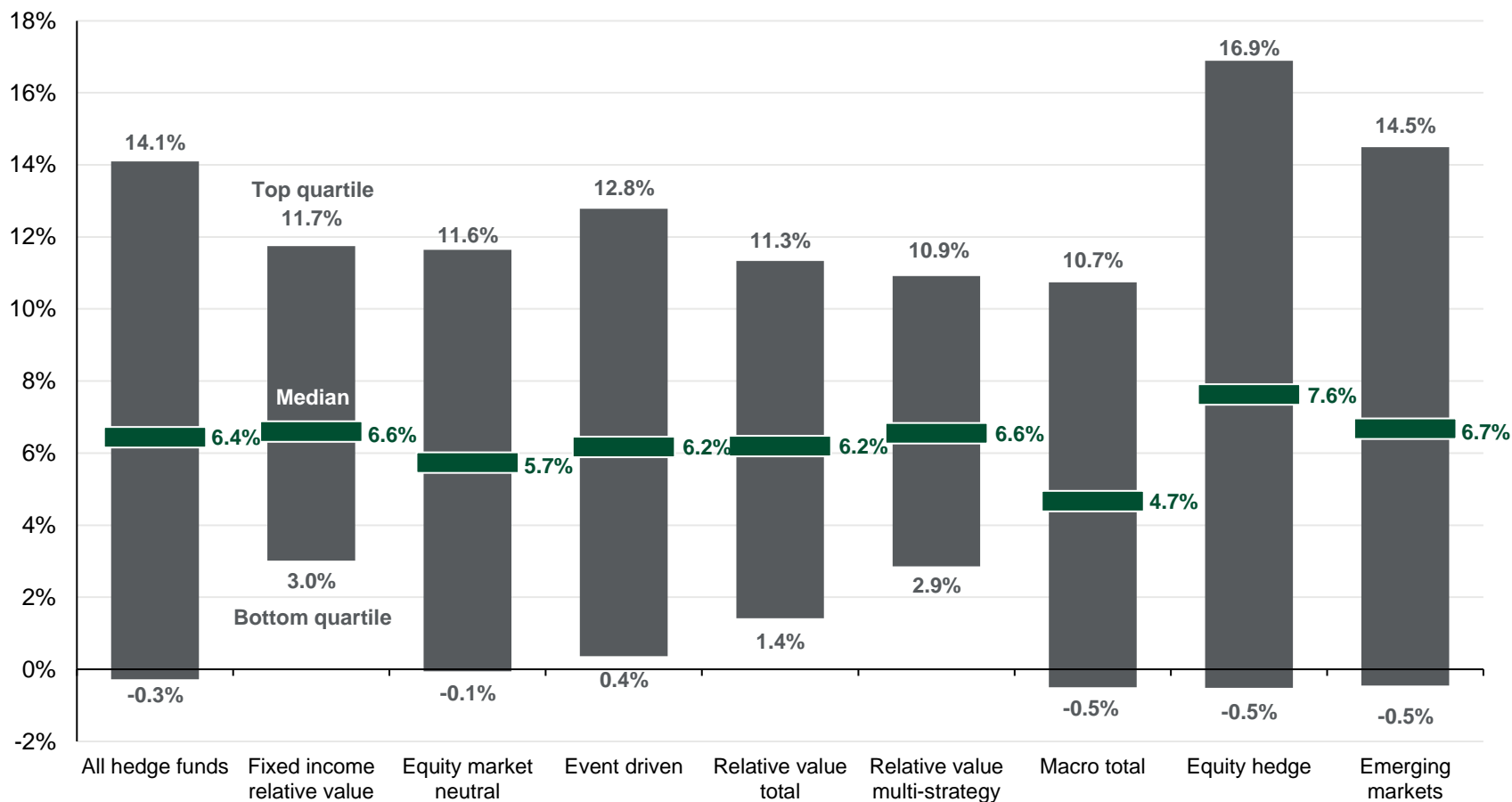
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Hedge fund manager dispersion

Based on returns from 2014-2024 in USD



Source: PivotalPath, J.P. Morgan Asset Management.

Manager dispersion is based on monthly returns for hedge funds. Green bar denotes median. All hedge funds: Fund Weighted Composite Index, Equity market neutral: Equity hedge – equity market neutral, Event-driven: Event-Driven (Total), Relative value: Relative Value (Total), Relative value multi-strategy: Relative Value Multi-Strategy, Macro total: Macro (Total), Equity hedge: Equity Hedge (Total), Emerging markets: Emerging Markets Global. Past performance is not a reliable indicator of current and future results.

Data are based on availability as of November 30, 2024.



Hedge fund strategy returns

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2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2015-2024	
										Ann.	Vol.
Eq. Market Neutral 4.5%	Distressed 9.8%	Global Equities 24.6%	Merger Arbitrage 4.3%	Global Equities 27.3%	Global Equities 16.8%	Distressed 20.0%	Global Macro 9.7%	Global Equities 22.8%	Equity Long/Short 18.2%	Global Equities 9.8%	Global Equities 16.5%
Merger Arbitrage 2.6%	Global Equities 8.5%	Equity Long/Short 12.8%	Relative Value 2.1%	Global Bonds 6.8%	Equity Long/Short 14.2%	Global Equities 19.0%	Merger Arbitrage 2.7%	Equity Long/Short 5.9%	Global Equities 18.0%	Equity Long/Short 6.4%	Equity Long/Short 7.8%
Global Macro 0.4%	Relative Value 5.4%	HFRI Composite 8.5%	Distressed 2.1%	Equity Long/Short 6.7%	Global Bonds 9.2%	Equity Long/Short 16.3%	Eq. Market Neutral 1.8%	Relative Value 5.8%	Distressed 15.4%	HFRI Composite 5.3%	Distressed 7.7%
Relative Value 0.2%	Merger Arbitrage 3.5%	Distressed 7.7%	Eq. Market Neutral -0.8%	Global Macro 6.0%	HFRI Composite 8.9%	HFRI Composite 13.9%	Relative Value -0.6%	Global Bonds 5.7%	HFRI Composite 13.7%	Distressed 5.2%	Global Bonds 7.2%
Equity Long/Short -0.2%	Equity Long/Short 3.4%	Global Bonds 7.4%	Global Bonds -1.2%	HFRI Composite 5.6%	Distressed 8.4%	Merger Arbitrage 13.4%	HFRI Composite -2.8%	Eq. Market Neutral 5.2%	Eq. Market Neutral 11.0%	Merger Arbitrage 5.1%	HFRI Composite 5.7%
HFRI Composite -0.2%	HFRI Composite 3.2%	Relative Value 5.5%	HFRI Composite -1.2%	Merger Arbitrage 5.3%	Merger Arbitrage 2.9%	Global Macro 11.1%	Distressed -3.1%	HFRI Composite 4.5%	Relative Value 9.8%	Relative Value 4.4%	Global Macro 5.2%
Global Equities -1.8%	Global Bonds 2.1%	Merger Arbitrage 5.0%	Equity Long/Short -2.2%	Relative Value 4.1%	Relative Value 2.7%	Relative Value 9.5%	Equity Long/Short -8.1%	Distressed 3.4%	Merger Arbitrage 8.4%	Eq. Market Neutral 3.6%	Merger Arbitrage 4.9%
Global Bonds -3.2%	Eq. Market Neutral 1.6%	Eq. Market Neutral 4.9%	Global Macro -3.6%	Eq. Market Neutral 2.3%	Global Macro 2.0%	Eq. Market Neutral 7.4%	Global Bonds -16.2%	Merger Arbitrage 3.2%	Global Macro 5.7%	Global Macro 3.0%	Relative Value 4.1%
Distressed -7.4%	Global Macro -1.3%	Global Macro 2.5%	Global Equities -8.9%	Distressed -0.7%	Eq. Market Neutral -1.2%	Global Bonds -4.7%	Global Equities -18.0%	Global Macro -1.0%	Global Bonds -1.7%	Global Bonds 0.2%	Eq. Market Neutral 2.4%

Source: Bloomberg, Factset, Hedge Fund Research Institute (HFRI), MSCI, J.P. Morgan Asset Management. All returns are in USD. Global equities reflect the MSCI AC World Index and global bonds reflect the Bloomberg Global Aggregate Index. All hedge fund returns are from HFRI. HFRI Composite: HFRI FW Composite Index. Returns may fluctuate as hedge fund reporting occurs on a lag, and HFRI data is reported on a one-month lag. Please see disclosure pages for index definitions. Past performance is not a reliable indicator of current and future results. Data are based on availability as of February 28, 2025.



Hedge funds and traditional portfolios

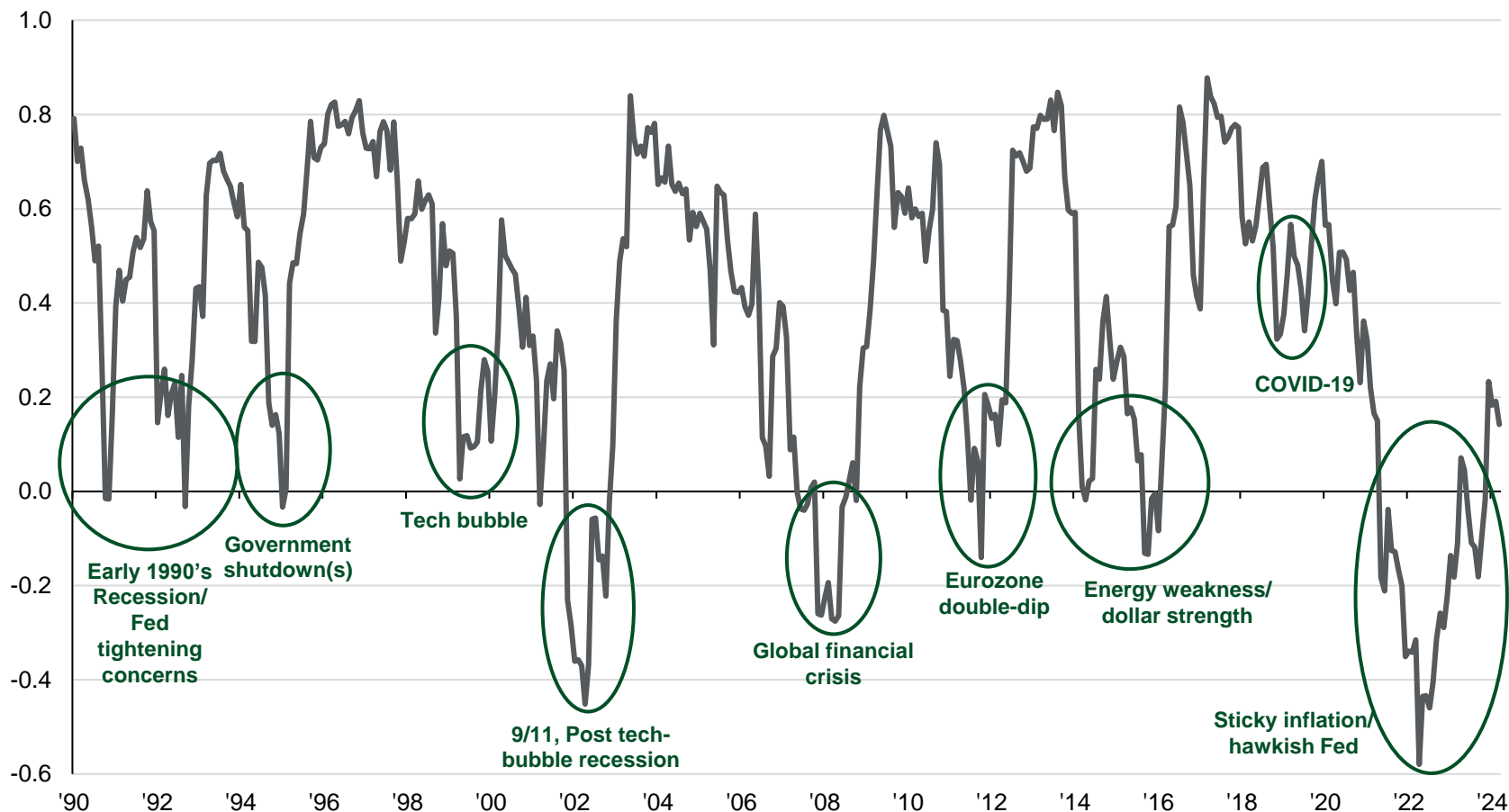
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Hedge fund correlation with a 60/40 stock-bond portfolio*

Monthly, rolling 12 months



Source: Bloomberg, FactSet, HFRI, Standard & Poor's, J.P. Morgan Asset Management.

*60/40 portfolio is 60% S&P 500 and 40% Bloomberg U.S. Aggregate. Hedge funds are represented by HFRI Macro. Past performance is not a reliable indicator of current and future results.

Data are based on availability as of February 28, 2025.

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Hedge fund performance and volatility

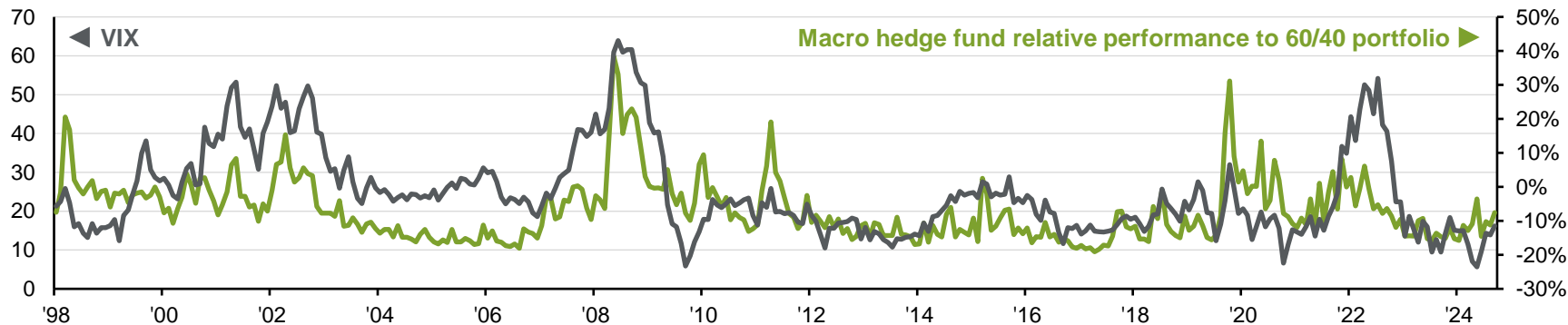
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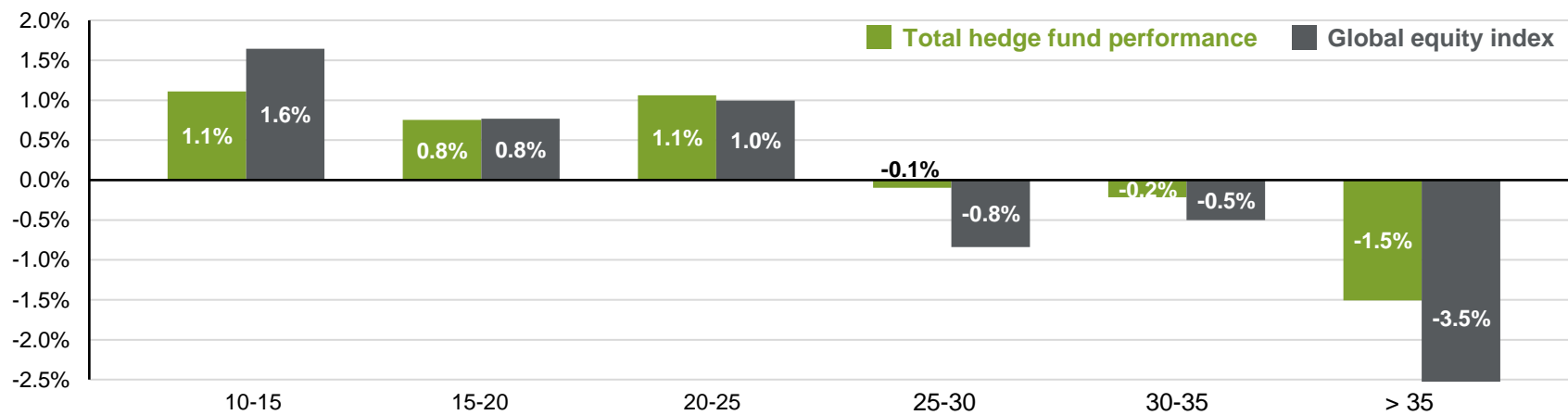
Macro hedge fund relative performance & volatility

VIX index level, y/y change in relative performance of Hedge Fund Research Institute Macro Index



Hedge funds vs. global equity performance and volatility

Average monthly returns by VIX level, Nov. 1990 – Feb. 2025, total return



Source: Bloomberg, CBOE, FactSet, HFRI, MSCI, Standard & Poor's, J.P. Morgan Asset Management.

Monthly VIX reading is an average. Macro hedge fund relative performance volatility is since June 30, 1998. Numbers may not sum to aggregate total return due to rounding. Global equity index = MSCI All Country World Index. 60/40 portfolio = 60% S&P 500 Total Return Index and 40% Bloomberg U.S. Aggregate Total Return Index. Past performance is not a reliable indicator of current and future results.

Data are based on availability as of February 28, 2025.

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Volatility, rates and hedge fund returns

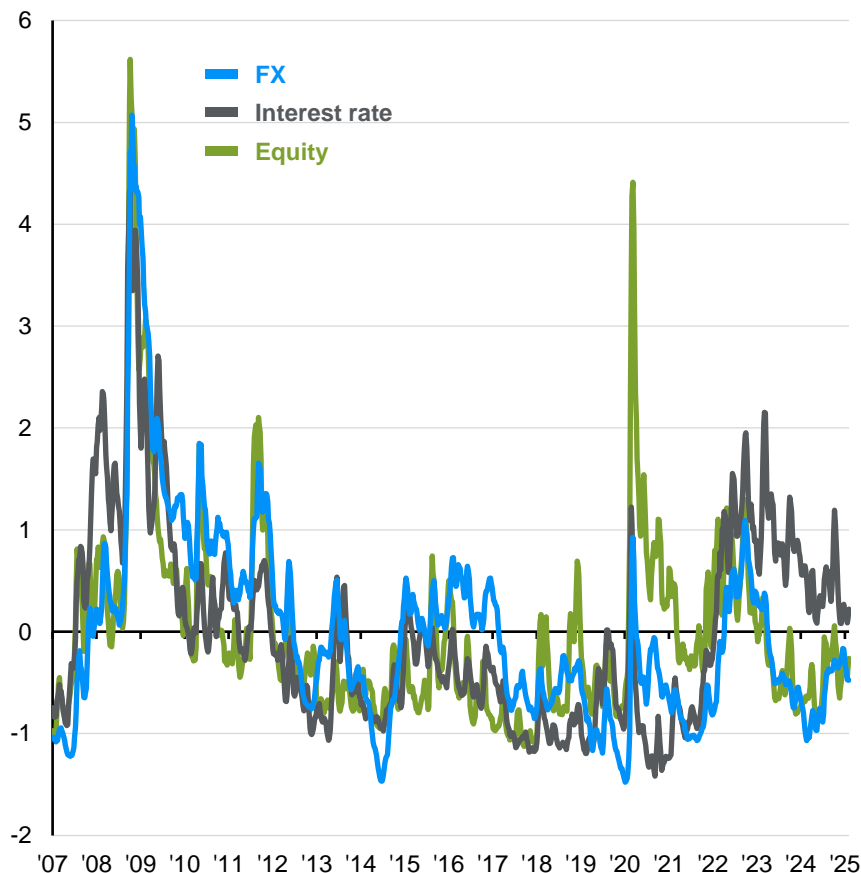
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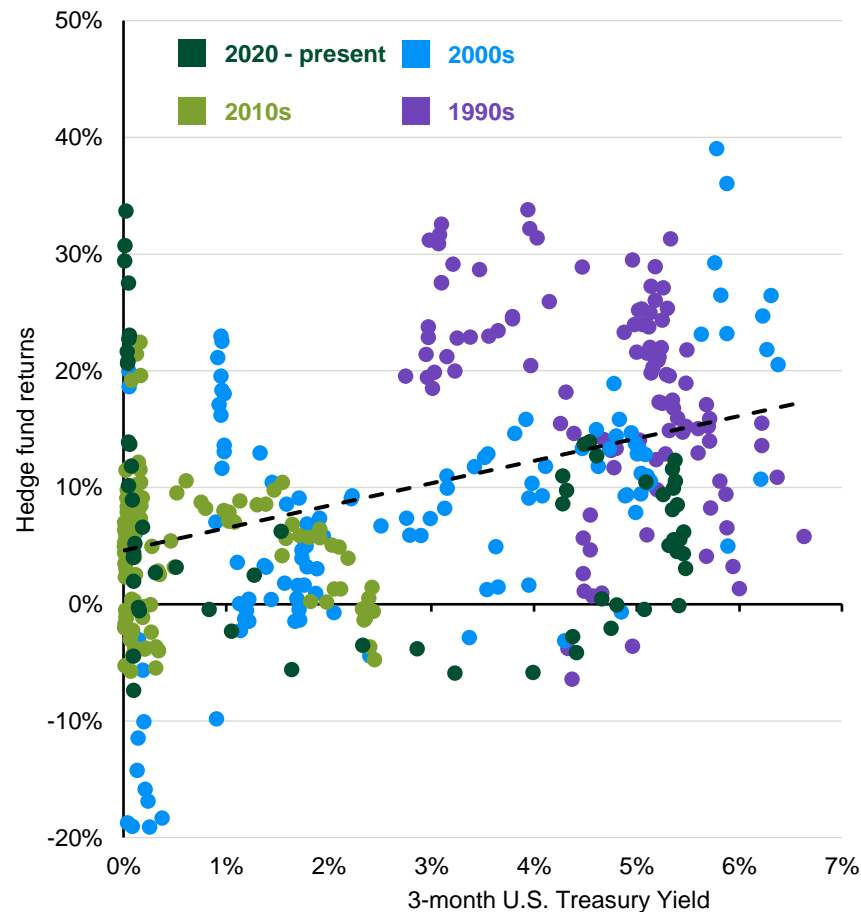
Equity, interest rate and foreign exchange volatility

Z-score, 4-week moving average



Hedge fund returns and short rates

Dec. 1990 – Feb. 2025, year-over-year, total return



Source: CBOE, FactSet, HFRI, ICE BofA, J.P. Morgan Index Research, J.P. Morgan Asset Management. (Left) Equity volatility is represented by the VIX Index, interest rate volatility is represented by the MOVE Index and foreign exchange volatility is represented by the J.P. Morgan Global FX Volatility Index. (Right) 3-month U.S. T-bill yield: Bloomberg U.S. Short Treasury (1-3 months) Index, Hedge fund returns: HFRI Fund Weighted Composite (USD) Index. Past performance is not a reliable indicator of current and future results. Data are based on availability as of February 28, 2025.



J.P. Morgan Asset Management – Definitions

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Real estate

Base rent – The gross revenue from rental payments.

Capitalization rate (Cap rate) – The rate of return on a real estate investment property defined as the net operating income from the property divided by the current market price of the property.

Cap rate spread – The difference between the cap rate and a Treasury security with the same maturity.

Core real estate – High quality properties in primary markets with high occupancy rates, credit-worthy tenants and long leases.

Effective rent – Base rent less rental concessions and tenant improvements.

Gross absorption – Space that became physically occupied in a specific period.

Mezzanine debt – Financing that is half-way between equity and debt by which the lender can convert to equity if the loan is not paid on time or in full.

Net absorption – Space that became physically occupied minus space that was physically vacated in a specific period.

Net absorption rate – Net absorption during a specific period divided by space available to lease at the start of that period.

Occupancy rate – The percentage of available space that is occupied.

Real estate prime yield – The real estate yield on a property at a prime location.

Real estate net operating income – Income after operating expenses but before interest, taxes, capital spending, depreciation and amortization.

Real estate yields – Annual income divided by total investment. Note that annual income, unlike NOI, does deduct interest costs so that real estate yields should be lower than cap rates.

Real estate yield spread – The difference between the yields and a Treasury security with the same maturity.

Vacancy rate – The percentage of available space that is unoccupied.

Private equity

Buyout fund – Private equity fund that focuses on taking a majority stake or full control of mature, undervalued.

Called capital – The amount of capital wired to a fund that is “drawn down” over time as the general partner selects investments.

Committed capital – The specific amount of capital that a limited partner is obliged to provide to a closed-end fund for investments. The capital commitment is “drawn down” or “called” over time, meaning a portion of the commitment must be wired to the closed-end fund by a set date.

Corporate mergers and acquisition (M&A) – The consolidation of companies through financial transactions.

Dry powder – The amount of capital that has been committed to a private capital fund minus the amount that has been called by the general partner for investment.

Earnings before interest, taxes, depreciation and amortization (EBITDA) – A broad measure of the cash profit generated by a company’s operations.

Enterprise value (EV) – The total value of a company including equity and debt.

General partner (GP) – The managing partner of a limited partnership. The general partner is managed by the asset management team responsible for making fund investments (i.e., the intermediary between investors with capital and businesses seeking capital to grow).

Growth fund – Private equity fund that targets firms with the potential for scalable and renewed growth.

Initial public offering (IPO) – When shares of a private company are made available to the public for the first time.

Internal rate of return (IRR) – The dollar-weighted internal rate of return. This return considers the daily timing of cash flows and cumulative fair stated value, as of the end of the reported period.

Leveraged buyout (LBO) – The acquisition of another company using a significant amount of debt to finance the acquisition.

Limited partner (LP) – An investor in a Limited Partnership, which is a form of legal entity used for certain hedge funds, private equity funds and real estate funds.

Middle market – Companies having revenues between \$10 million and \$1 billion.

Multiple of invested capital (MOIC) – Calculation performed by adding the remaining (reported) value and the distributions received (cash out) and subsequently dividing that amount by the total capital contributed.

Net asset value (NAV) – This is the current fair stated value for each of the investments, as reported by the administrator of the fund.

Private equity – Equity capital invested in a private company through a negotiated process.

Sponsor-backed acquisition – Acquisition of a company by a private equity firm.

Secondary fund – Private equity funds that purchase existing assets from a primary private equity fund.

Venture capital – A specialized form of private equity, characterized chiefly by high-risk investment in new or young companies following a growth path in technology and other value-added sectors.



Private credit

Amend and extend – A technique that allows an issuer to delay part of its loan maturity or amend existing terms through an amendment rather than a refinancing.

Covenant-lite loans – A type of financing that is issued with fewer restrictions on the borrower regarding collateral, level of income, and loan payment terms, and fewer protections for the lender, including financial maintenance tests that measure the debt-service capabilities of the borrower.

Direct lending – A loan made by an investor or non-bank lender to a company.

Distressed debt – The securities of a company that has either defaulted, is under bankruptcy protection or is in financial distress and is moving towards default or bankruptcy in the near future.

Hedge-adjusted yield – The yield on a foreign currency denominated asset minus the cost of hedging the asset back into U.S. dollars. For assets countries with short-term rates that are lower than U.S. rates, the hedge-adjusted yield will be lower than the yield denominated in foreign currency.

Leveraged loan – A commercial loan provided by a group of lenders that is either: 1) rated BB+ or lower, 2) not rated or rated BBB- or higher and has a base rate spread of 125 bps or higher and is secured by a first or second lien. This loan is structured, arranged and administered by one or several banks, and is then syndicated to other institutional investors. As such, this market is often referred to as the broadly syndicated loan market.

Mezzanine commercial real estate debt – Loan finance that is half-way between equity and secured debt, either unsecured or with junior access to security. A mezzanine fund is a fund focusing on mezzanine financing.

Net IRR – The dollar-weighted internal rate of return, net of management fees and carried interest generated by the fund. This return considers the daily timing of all cash flows and the cumulative fair stated value, as of the end of the reported period.

Non-sponsored loan – Credit provided to a business that is *not* wholly-owned or majority-owned by a private equity firm or another financial sponsor.

Payment-in-kind (PIK) – An interest payment in which the borrower makes an interest payment in forms other than cash. This includes, but is not limited to, a type of debt whose interest payments come in the form of additional debt accrued onto existing debt.

Performing loans – Loans that are not in default.

Private credit – Nonbank corporate credit provided through bilateral agreements or small “club deals” outside the realm of public securities or commercial banks. This definition excludes bank loans, broadly syndicated loans, and funding provided through publicly traded assets such as corporate bonds.

Sponsored loan – Credit provided by a non-bank lender to a business that is either wholly-owned or majority-owned by a private equity firm or another financial sponsor.

Syndicated loan – A loan extended by a group of financial institutions, often referred to as a loan syndicate, to a single borrower.

Hedge funds

Distressed securities – Funds that invest in debt and equity securities of firms in reorganization or bankruptcy.

Long/short (L/S) equity – Funds that involve long and/or short positions in equity securities deemed to be under- or overvalued, respectively. Exposures to sectors, geographies, and market capitalizations are often flexible and will change over time.

Merger arbitrage/event-driven – Funds that invest in opportunities created by significant corporate transactions and events which tend to alter a company’s financial structure or operating strategy.

Opportunistic/Macro – Funds that involve investments in a wide variety of strategies and instruments, which often have a directional stance based on the manager’s global macroeconomic views.

Relative value/Arbitrage – Funds that involve the simultaneous purchase and sale of similar securities to exploit pricing differentials. Strategies in this sector offer potential to generate consistent returns while minimizing directional risk.



J.P. Morgan Asset Management – Risks & disclosures

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