



KNOW THE MARKETS

J.P.Morgan
ASSET MANAGEMENT



Global Strength. Local Expertise.

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Page reference

Global economy

4. Global growth forecast
5. Global PMI
6. Global Inflation
7. Central bank inflation targets and forecasted policy rates
8. United States: Cyclical sectors
9. United States: Survey data
10. United States: Economic monitor
11. United States: Labor market
12. United States: Inflation
13. United States: Monetary policy
14. Trade: Tariffs on U.S. imports
15. United States: Tariff impact on global trade
16. United States: Federal finances
17. Europe: Fiscal spending

Regional economy

18. Japan: Economic snapshot
19. Japan: Currency
20. China: Property sector fundamentals
21. China: Consumption
22. China: Monetary Policy and credit growth
23. India: Economic snapshot
24. Vietnam: Economic snapshot
25. Vietnam: Inflation, policy rate and FDI
26. Thailand: Economic snapshot
27. Thailand: Tourism and exports
28. Thailand: Inflation and interest rates

Equities

29. Global and Asia equity market returns
30. Global equities: Earnings expectations
31. Global equities: Valuations
32. United States: Sector earnings and valuations
33. United States: Corporate tax rates
34. United States: Index concentration
35. Europe: Earnings and valuations
36. Japan: Sector earnings and valuations
37. China: Sector earnings and valuations
38. China: Technology-related industries
39. India: Sector earnings and valuation
40. Vietnam: Sector earnings and valuation
41. Thailand: Sector earnings and valuation

Fixed income

42. Global fixed income: Yields and duration
43. Global fixed income: Interest rate sensitivity
44. U.S. high yield bonds
45. Thai yield curve and market-implied policy rate
46. Thai Fixed Income: liquidity and non-resident flows
47. US vs Thai Bond Yields

Other asset classes

48. Asset class returns
49. U.S. recessions and market performance
50. Currencies
51. Gold
52. REITs

Investing principles

53. Plan on living a long time
54. Cash isn't always king
55. Timing the market
56. Portfolio construction, asset class returns and volatility
57. Equity annual returns and intra-year declines
58. Time, diversification and the volatility of returns
59. SET Index: Historical returns by holding period

Know The Markets team

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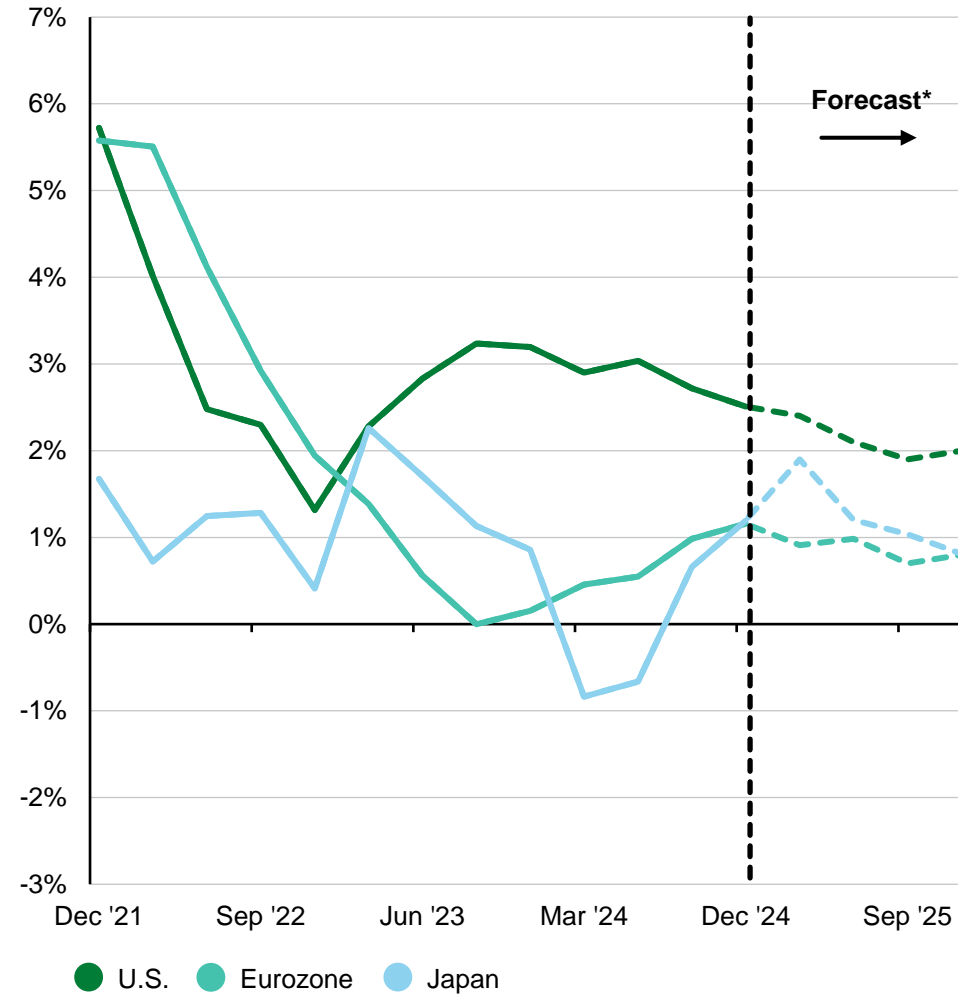


Tanita Tumrasvin
Investment Strategist

Global growth forecasts

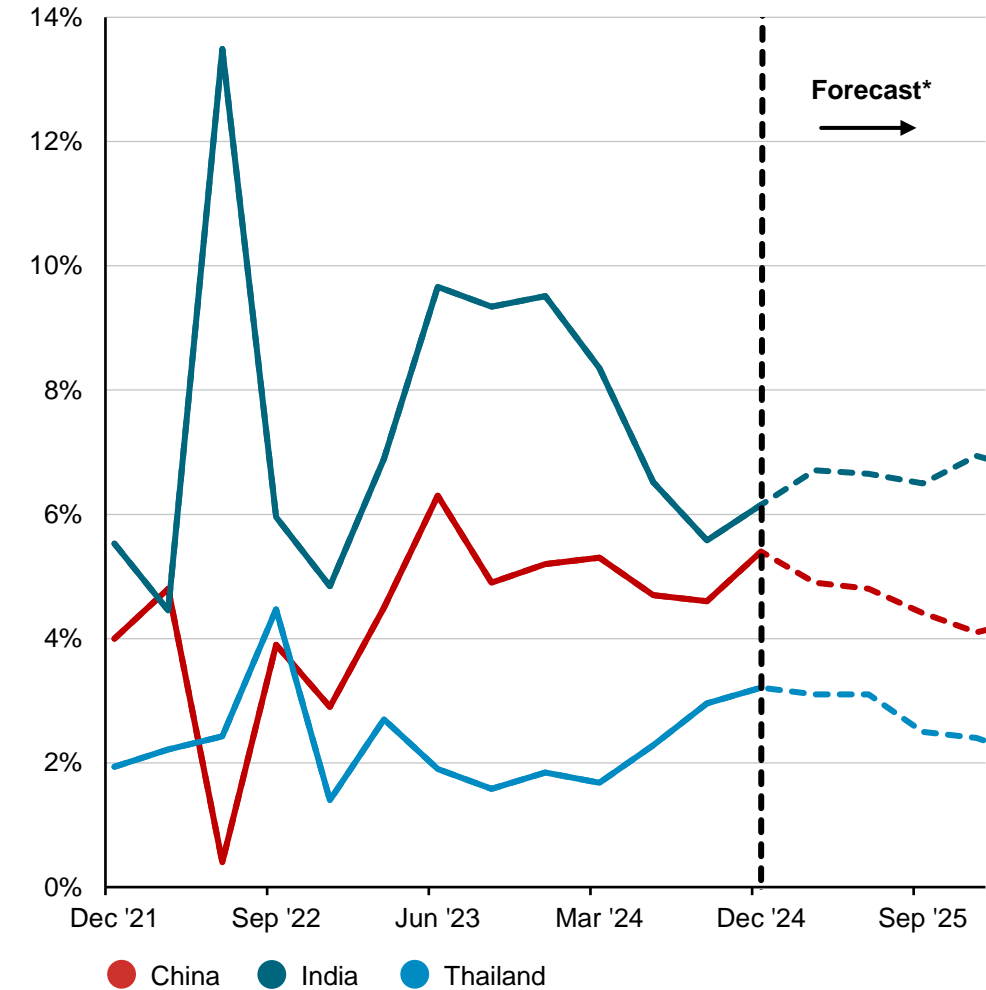
Developed markets quarterly real GDP growth

Year-over-year change



Emerging markets quarterly real GDP growth

Year-over-year change



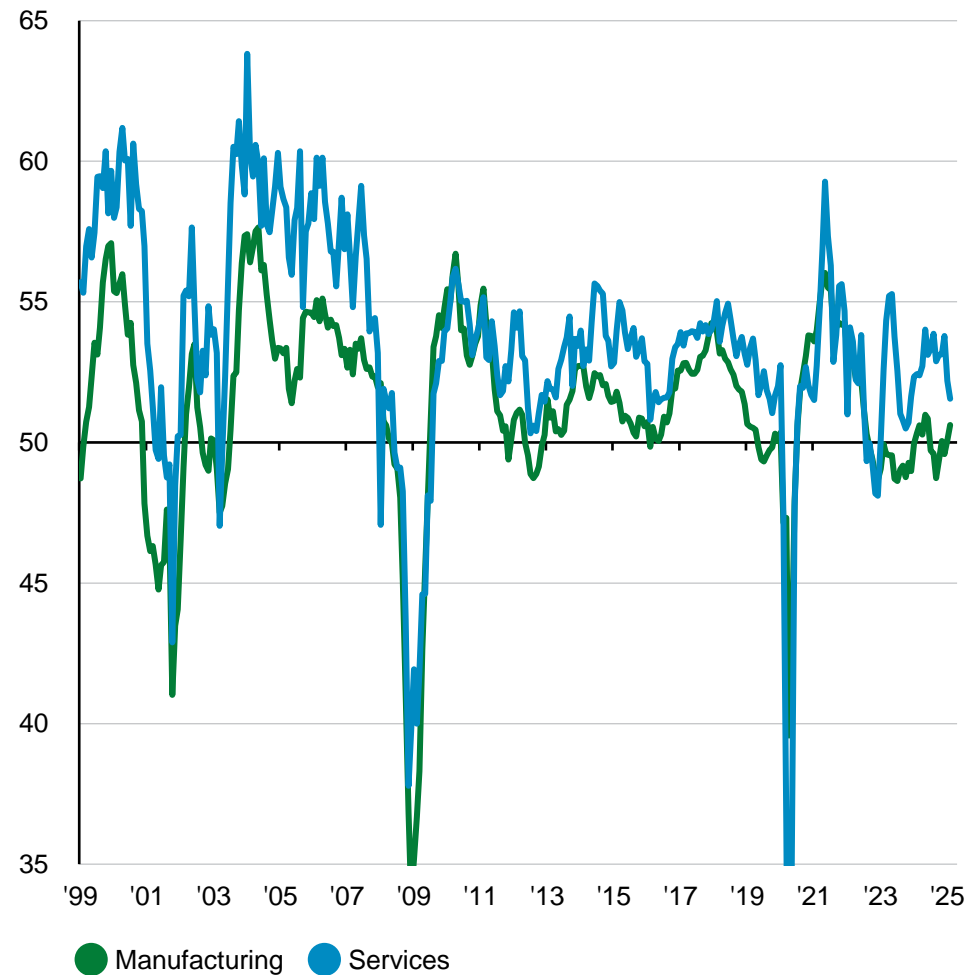
Source: FactSet, J.P. Morgan Asset Management. *Real GDP growth forecasts are based on FactSet Economic Estimates, which are consensus estimates compiled by FactSet.

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Global Purchasing Managers' Index (PMI)

Global manufacturing and services PMI

Index

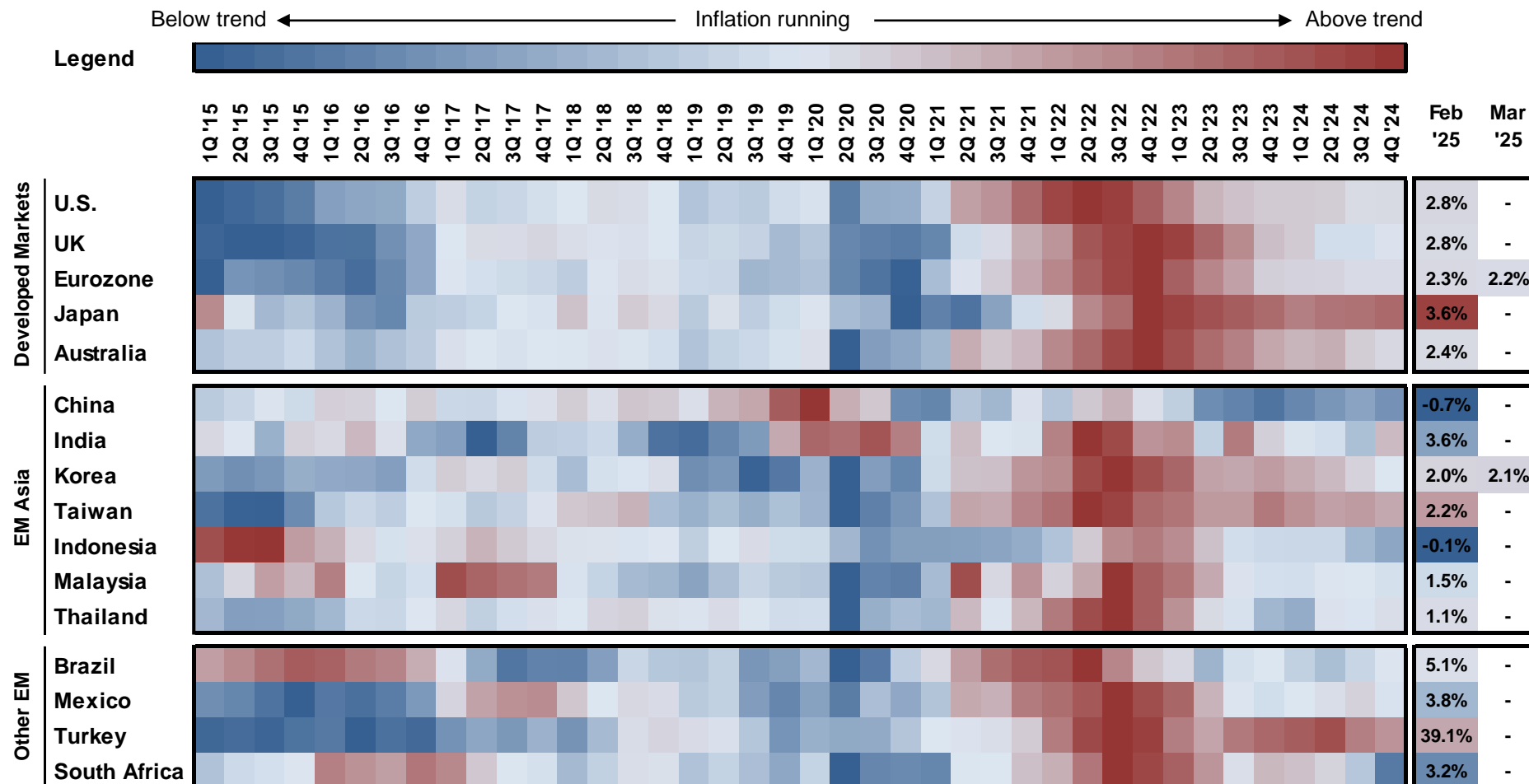


Global manufacturing PMI breakdown

	Apr '24	May '24	Jun '24	Jul '24	Aug '24	Sep '24	Oct '24	Nov '24	Dec '24	Jan '25	Feb '25	Mar '25
Global											50.6	50.3
DM*											50.0	49.1
EM**											51.2	51.3
U.S. (Markit)											52.7	50.2
U.S. (ISM)											50.3	49.0
Eurozone											47.6	48.6
Japan											49.0	48.4
China (Markit)											50.8	51.2
China (NBS)											50.2	50.5
Korea											49.9	49.1
Taiwan											51.5	49.8
Indonesia											53.6	52.4
India											56.3	58.1

Source: Institute for Supply Management, J.P. Morgan Economic Research, National Bureau of Statistics of China, S&P Global, J.P. Morgan Asset Management. PMIs are relative to 50, which indicates deceleration (below 50) or acceleration (above 50) of the sector. Heatmap colors are based on PMI relative to the 50 level, with green (red) corresponding to acceleration (deceleration). *Developed market includes Australia, Canada, Denmark, eurozone, Japan, New Zealand, Norway, Sweden, Switzerland, UK and the U.S. **Emerging market includes Brazil, Chile, China, Colombia, Croatia, Czech Republic, Hong Kong SAR, Hungary, India, Indonesia, Israel, Korea, Malaysia, Mexico, Philippines, Poland, Romania, Russia, Saudi Arabia, Singapore, South Africa, Taiwan, Thailand, Turkey and Vietnam. *Guide to the Markets – Asia*. Data reflect most recently available as of 31/03/25.

Year-over-year change

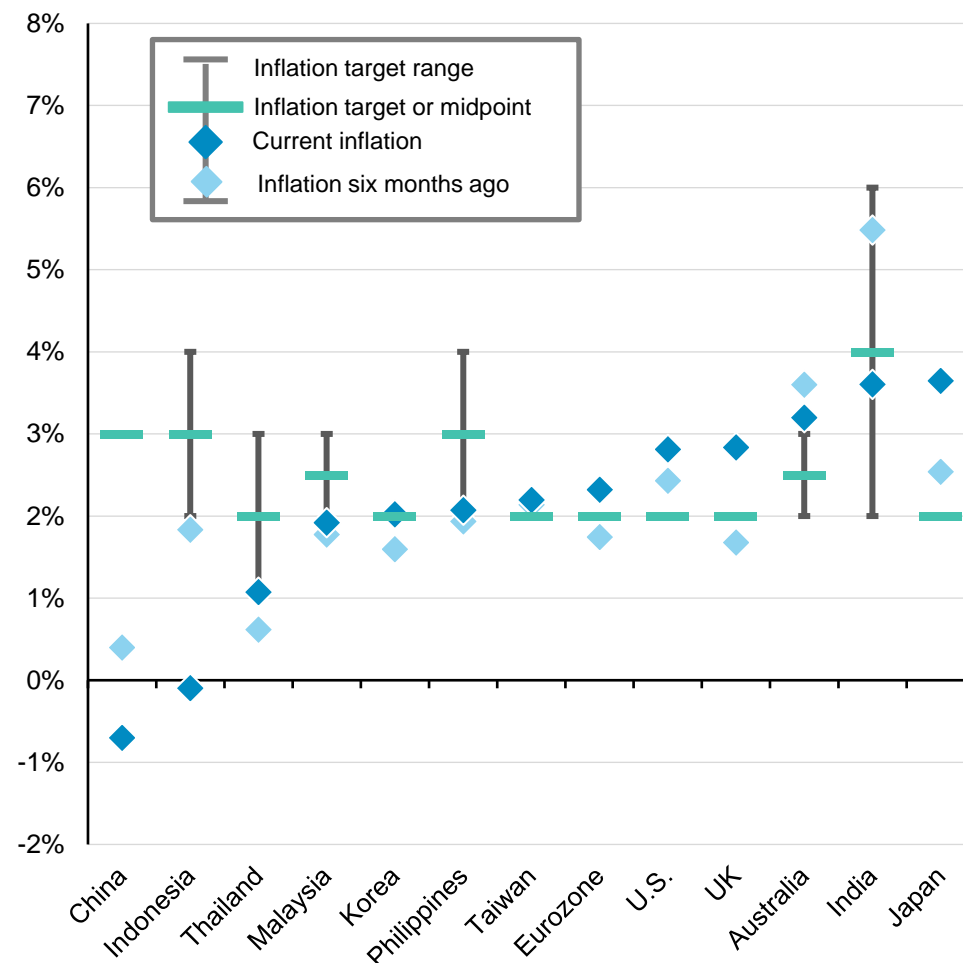


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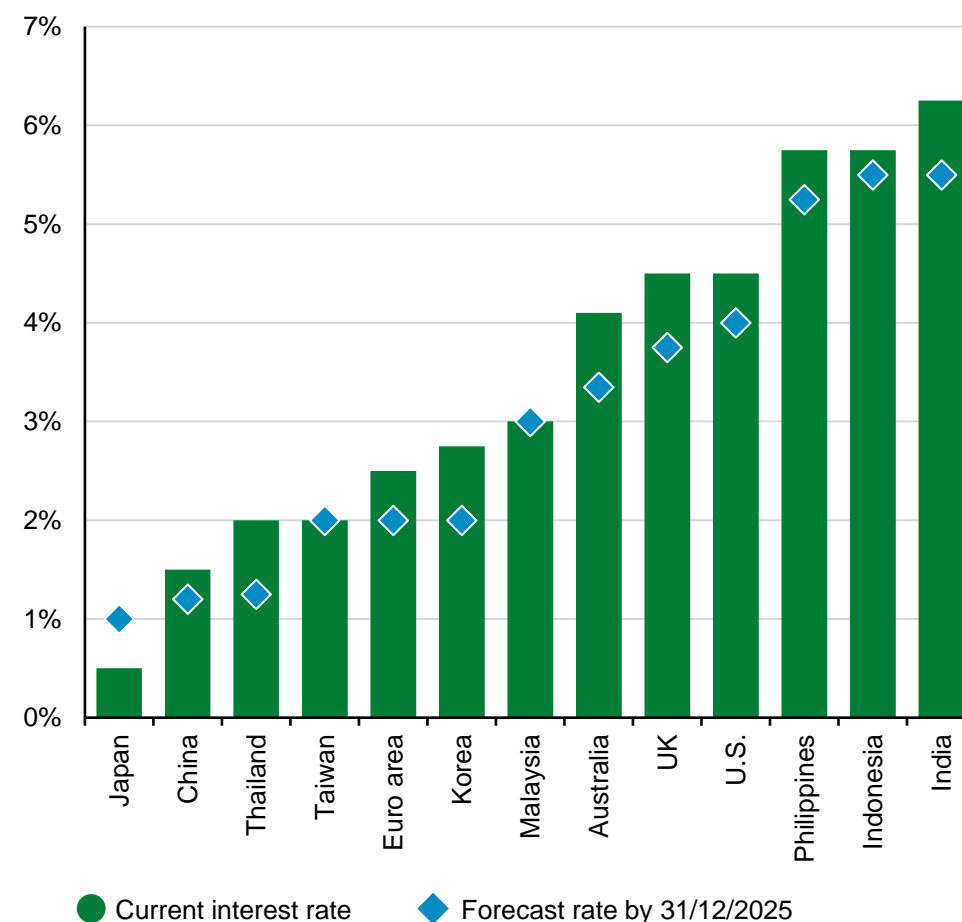
Central bank inflation targets and forecasted policy rates

Inflation and central bank inflation targets

Year-over-year change



Forecasted change in central bank policy rates****

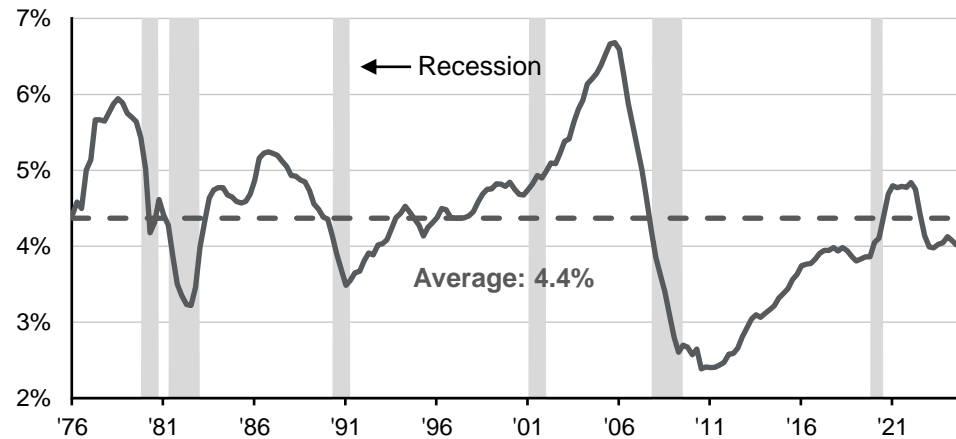


Source: FactSet, J.P. Morgan Asset Management; (Right) J.P. Morgan Economic Research. *While the U.S. Federal Reserve officially targets 2% headline personal consumption expenditure (PCE) inflation, headline consumer price index (CPI) is used for U.S. inflation in this chart due to the timelier release of data. The inflation figure used for Australia is based on trimmed-mean CPI, which is the preferred metric used by the Reserve Bank of Australia for its inflation target. The inflation figure used for Malaysia is based on core CPI, which is the preferred metric used by the Bank Negara Malaysia (The Central Bank of Malaysia) for its inflation target. Inflation figures for other listed economies are based on headline CPI, in accordance with their preferred inflation target metric. **Forecasts are based on forecasts estimated by J.P. Morgan Economic Research.
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United States: Cyclical sectors

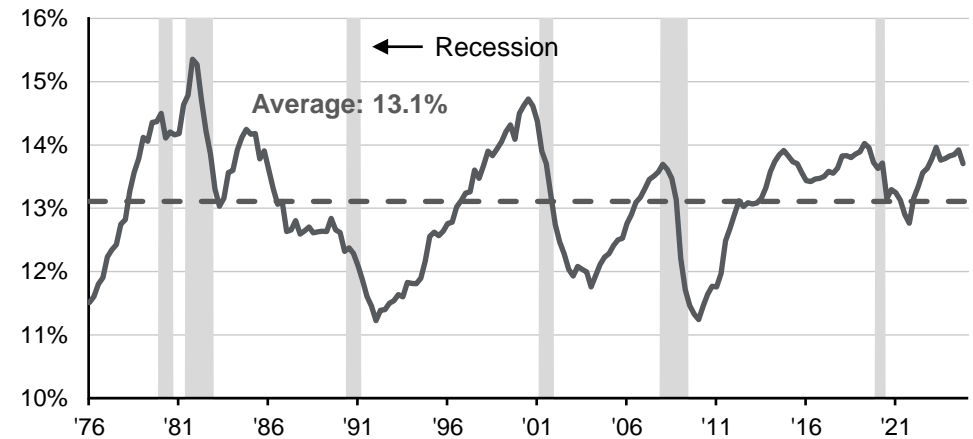
Residential investment as a share of GDP

Quarterly, seasonally adjusted



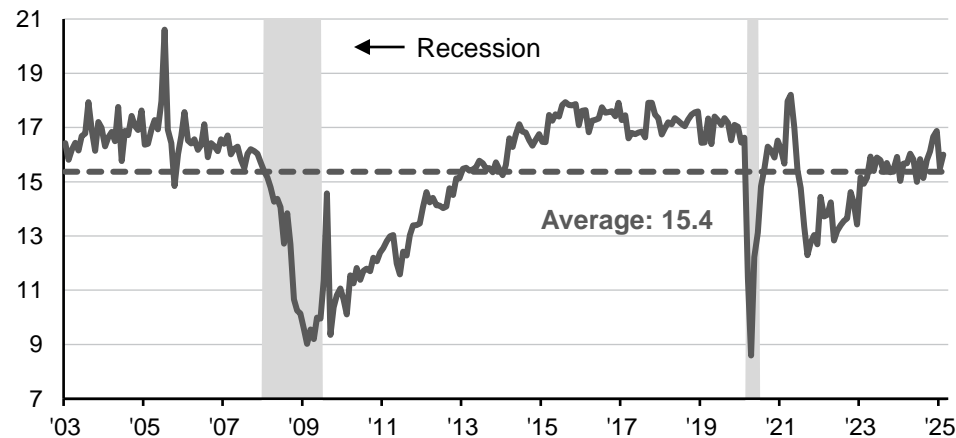
Business fixed investment as a share of GDP

Quarterly, seasonally adjusted



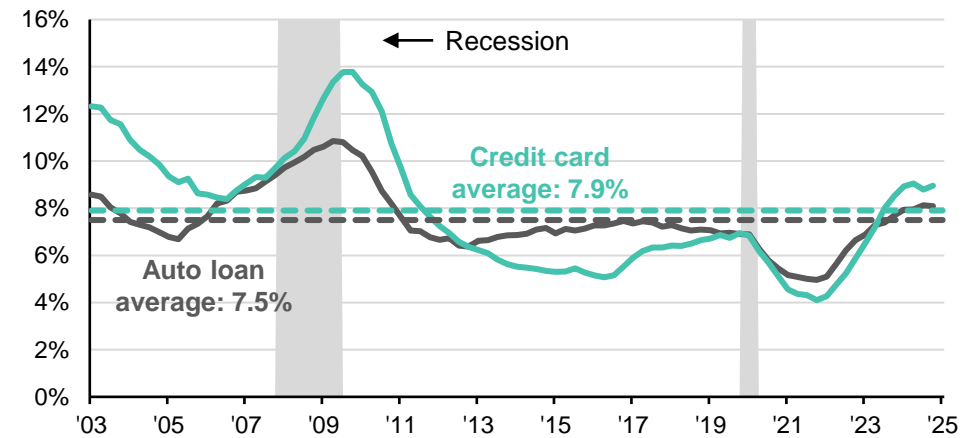
Light vehicle sales

Million vehicles, seasonally adjusted annualized rate



Flows into early delinquencies

Share of balance delinquent 30+ days

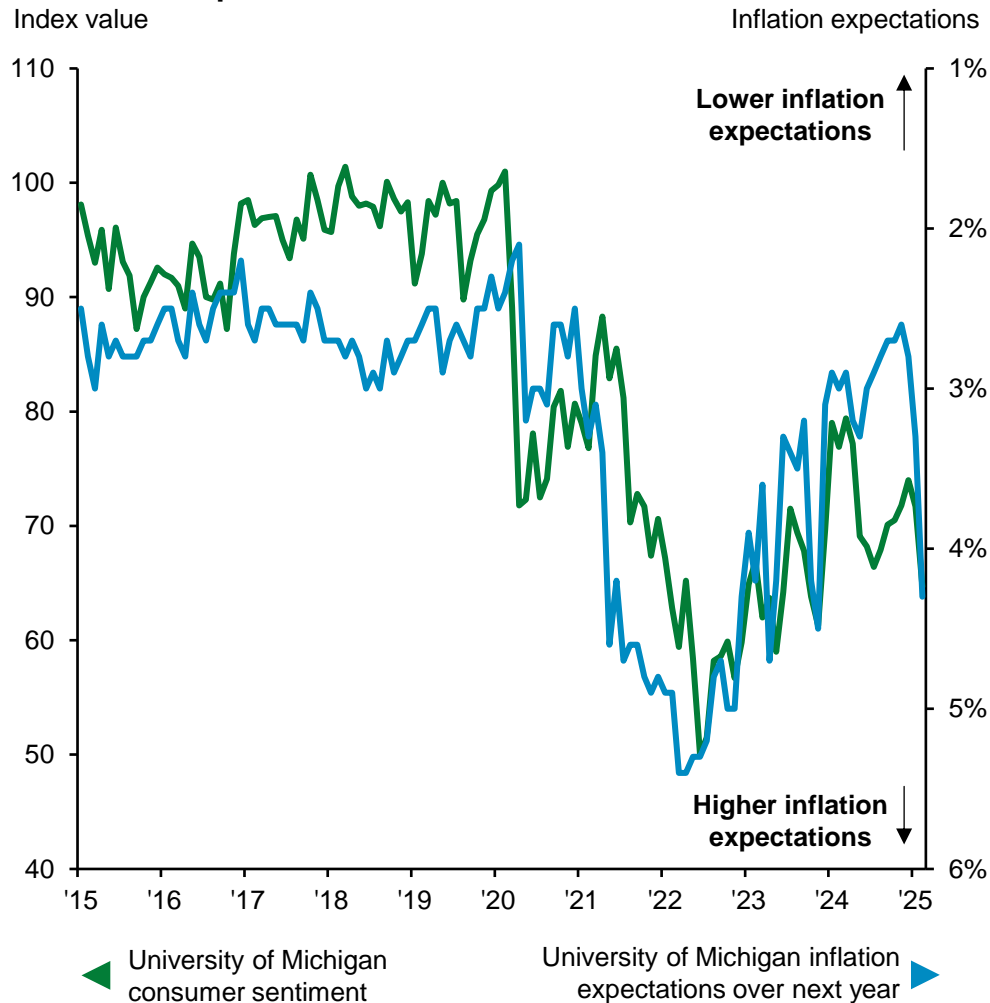


Source: Bureau of Economic Analysis, FactSet, U.S. Census Bureau, J.P. Morgan Asset Management. Data for light vehicle sales is quarterly apart from the latest monthly data point.

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United States: Survey data

Consumer expectations



Business confidence



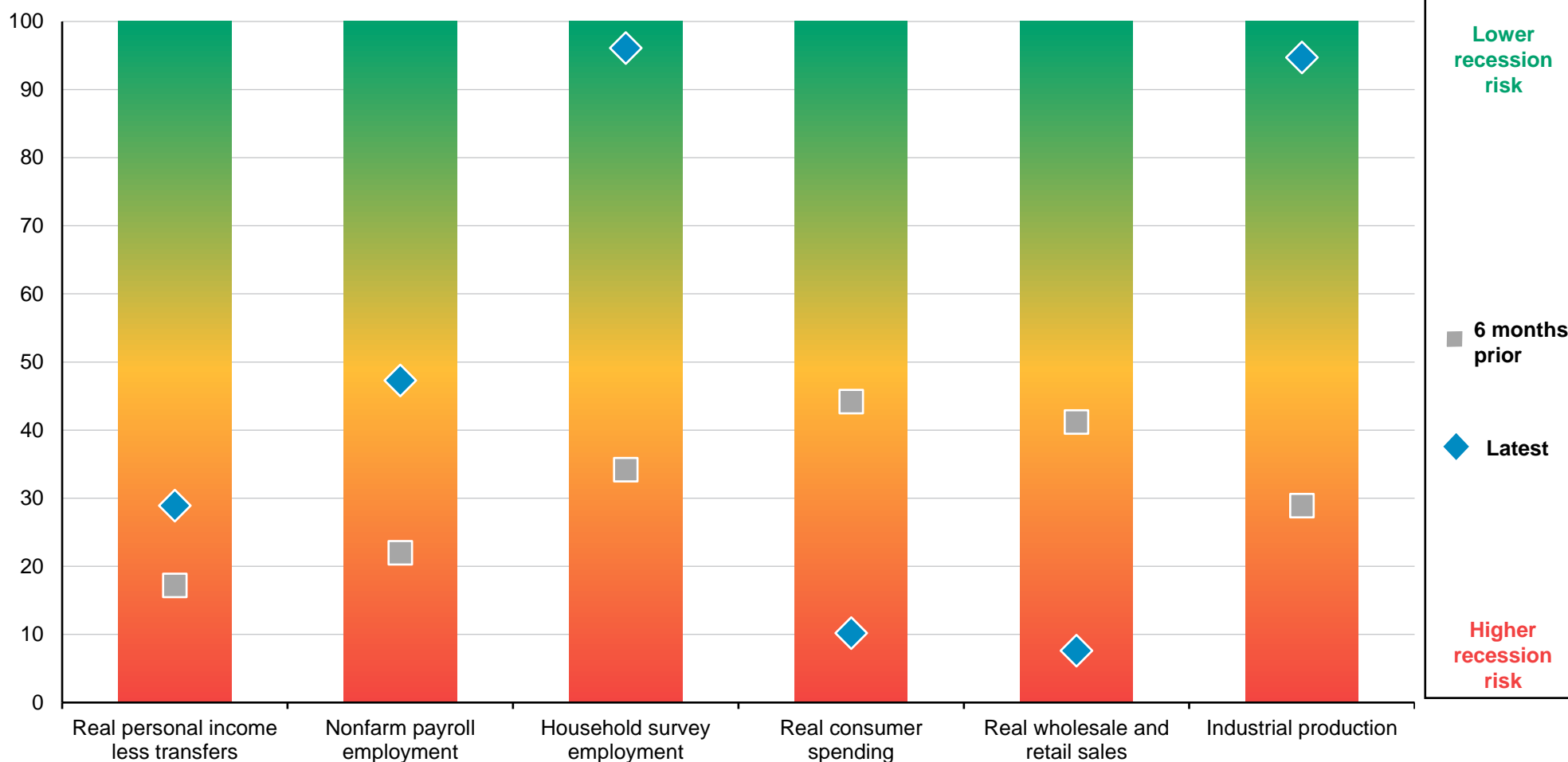
Source: FactSet, J.P. Morgan Asset Management; (Left) University of Michigan; (Right) Chief Executive Group, National Federation of Independent Business (NFIB). The University of Michigan sentiment survey contains 50 core questions focusing on how consumers view prospects for their own financial situation, the general economy over the near term and economy over the long term. The CEO confidence survey looks at current U.S. CEOs' view of current business conditions. The NFIB Small Business Optimism Index measures the overall optimism and outlook of small business owners regarding the economic conditions, sales expectations, hiring plans and capital expenditures.

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United States: Economic monitor

U.S. variables used by NBER in making recessions determination*

Percentile rank relative to historic data since 1990



Source: FactSet, Federal Reserve, U.S. Bureau of Economic Analysis, U.S. Census Bureau, U.S. Department of Labor, J.P. Morgan Asset Management. Transformations used for each of the indicators are three-month moving averages. Real wholesale sales are calculated using PPI. Past performance is not a reliable indicator of current and future results.

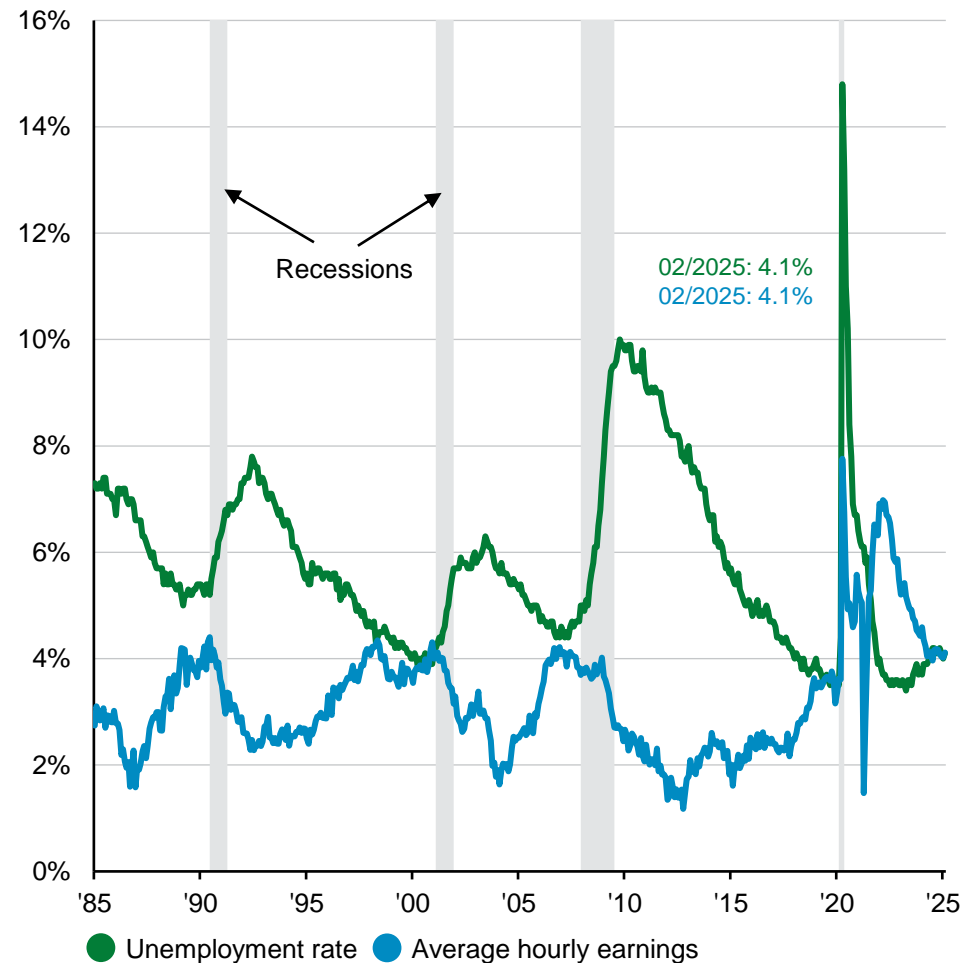
*The NBER's definition of a recession involves a significant decline in economic activity that is spread across the economy and lasts more than a few months. Specifically, they consider real personal income less transfers, nonfarm payroll employment, employment as measured by the household survey, real personal consumption expenditures, wholesale-retail sales adjusted for price changes and industrial production. There is no fixed rule about which measures contribute to the process or how they are weighted, but the committee notes that "in recent decades, the two measures we have put the most weight on are real personal income less transfers and nonfarm payroll employment."

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United States: Unemployment and labor demand

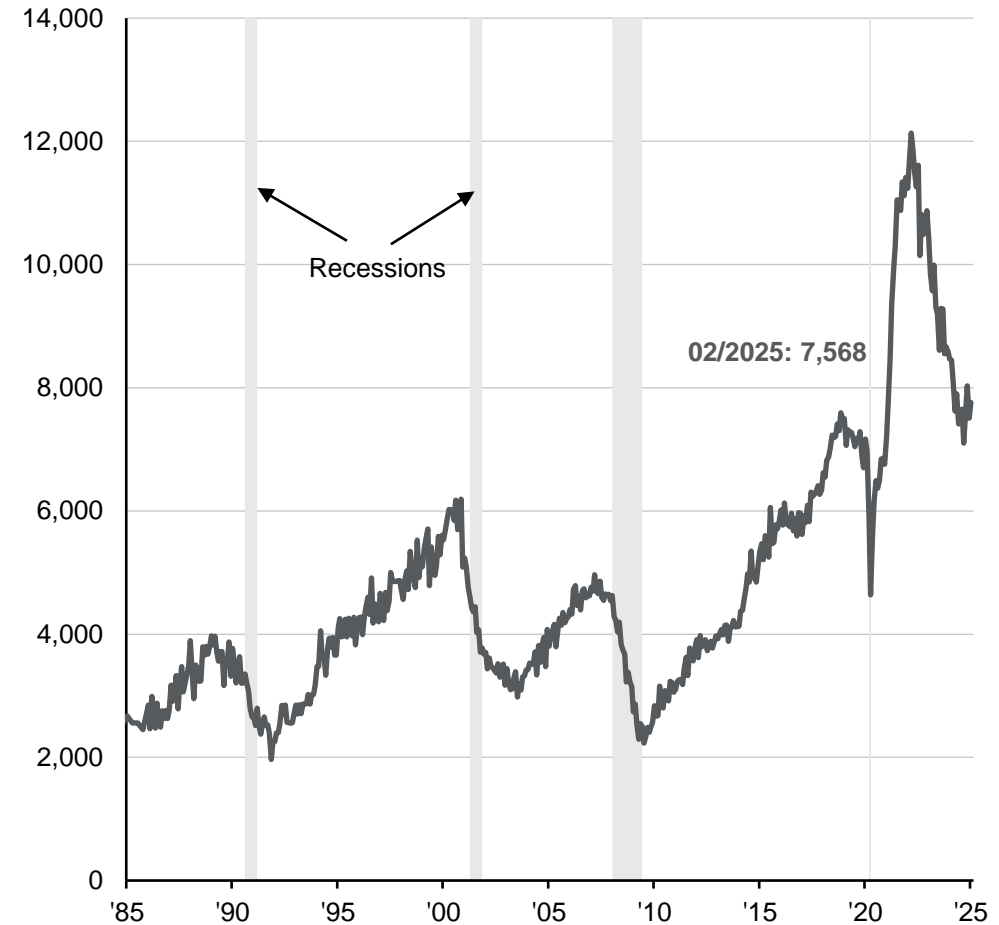
Unemployment rate and average hourly earnings*

Share of labor force, year-over-year change, seasonally adjusted



JOLTS job openings**

Total job openings, thousands, seasonally adjusted

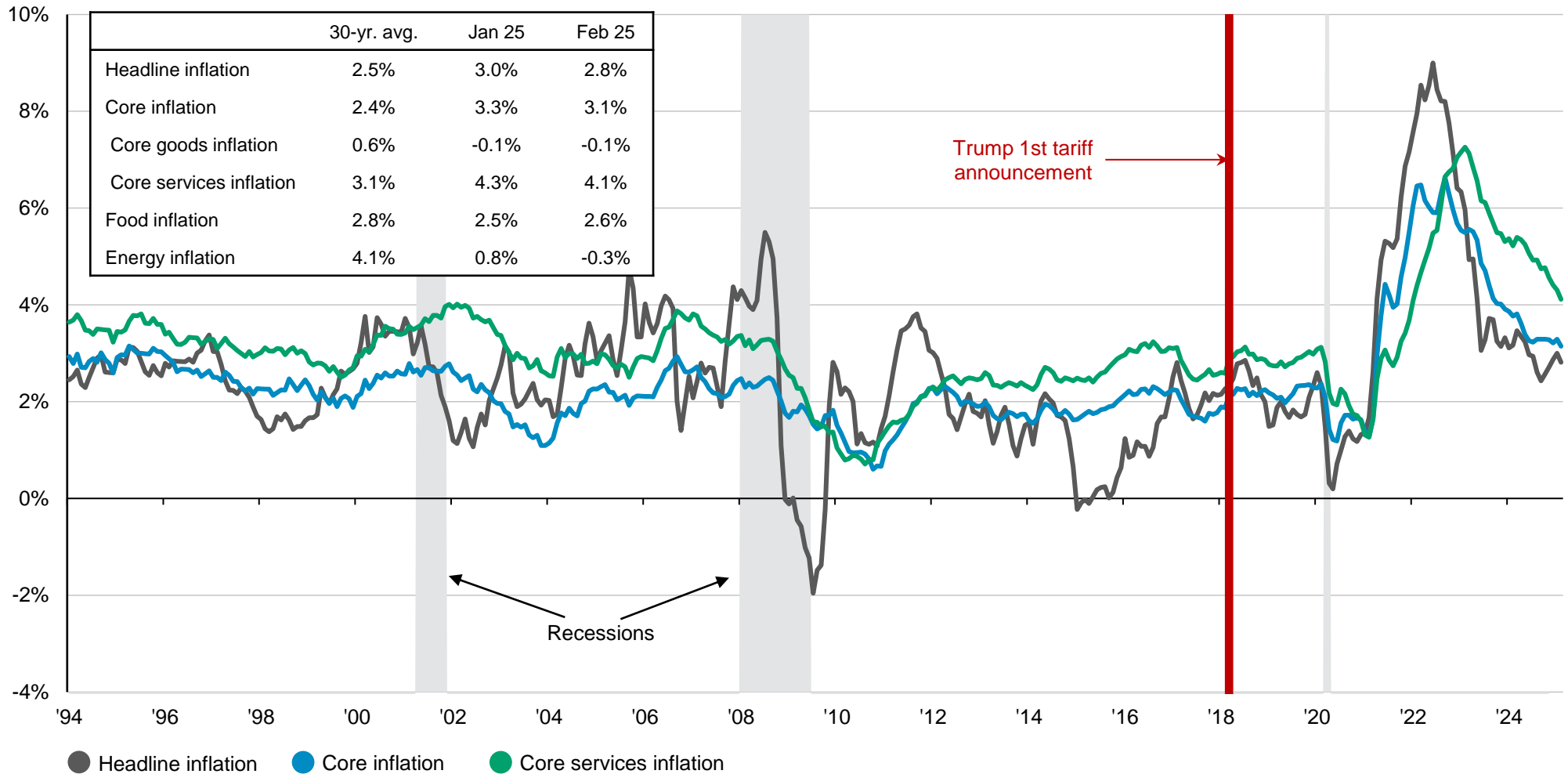


Source: FactSet, U.S. Bureau of Labor Statistics, J.P. Morgan Asset Management. *Average hourly earnings are calculated from the wages of production and non-supervisory workers. **The Job Openings and Labor Turnover Survey (JOLTS) job openings up to November 2000 are J.P. Morgan Asset Management estimates. *Guide to the Markets – Asia*. Data reflect most recently available as of 31/03/25.

United States: Inflation

Headline and core inflation

% change vs. prior year, seasonally adjusted

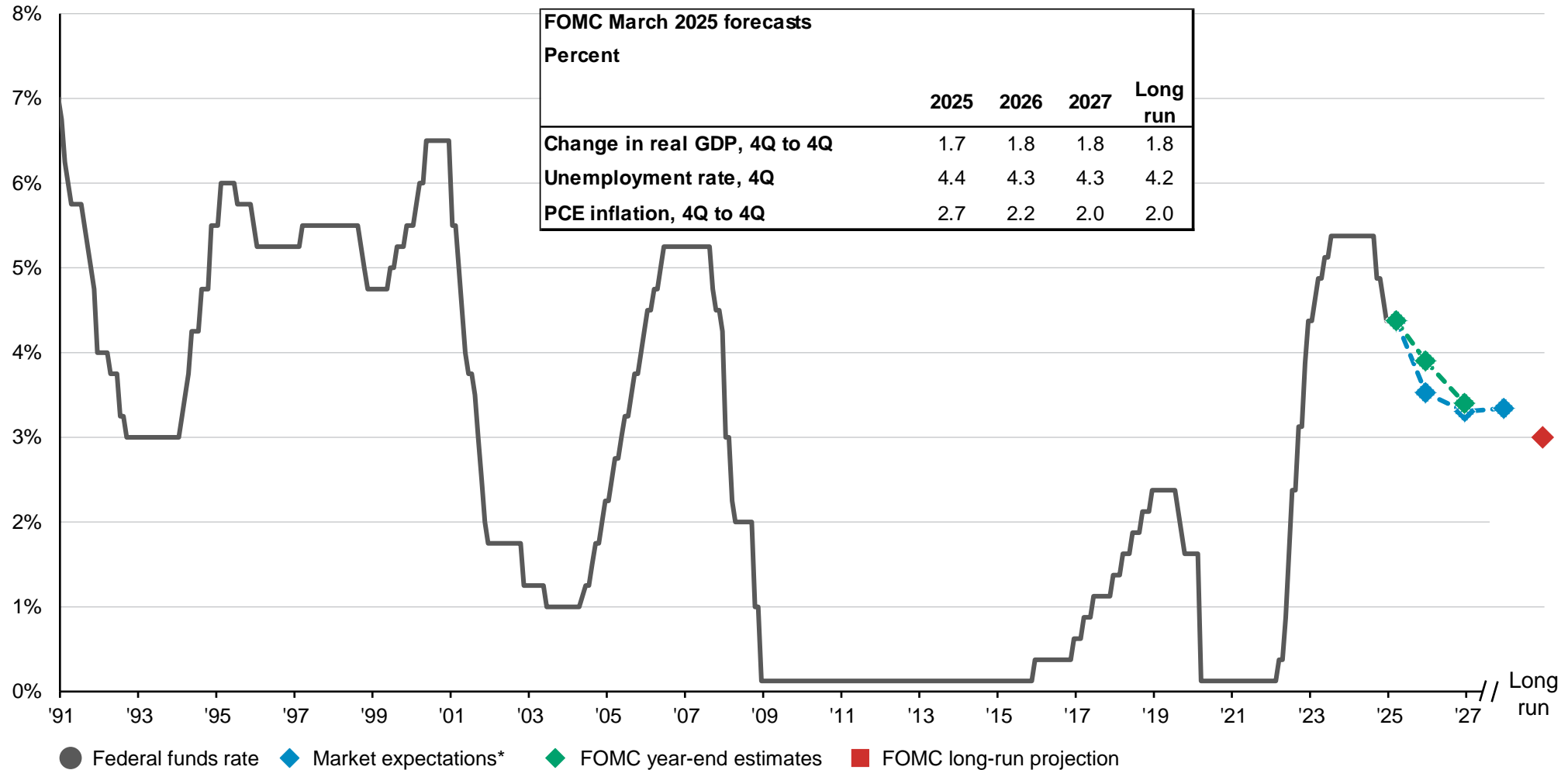


Source: BLS, FactSet, J.P. Morgan Asset Management. Inflation measure is based on consumer price index (CPI).
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United States: Monetary policy

Federal funds rate expectations

Market expectations for the fed funds rate

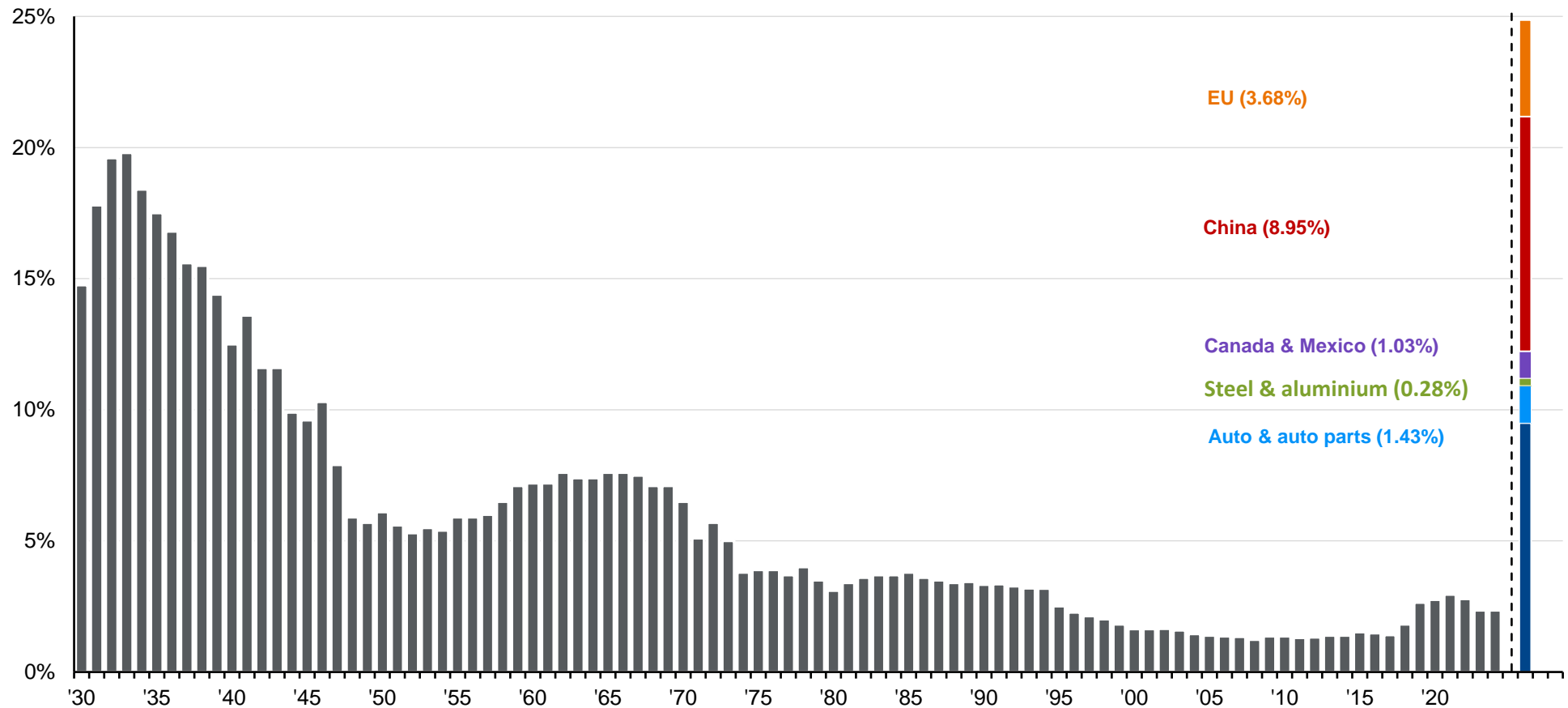


Source: Bloomberg, FactSet, U.S. Federal Reserve, J.P. Morgan Asset Management. *Market expectations are based on overnight index swap rates. Federal Reserve projections shown are the median estimates of Federal Open Market Committee (FOMC) participants.
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Trade: Tariffs on U.S. imports

Average tariff rate on U.S. goods imports for consumption*

Duties collected / value of total imports for consumption



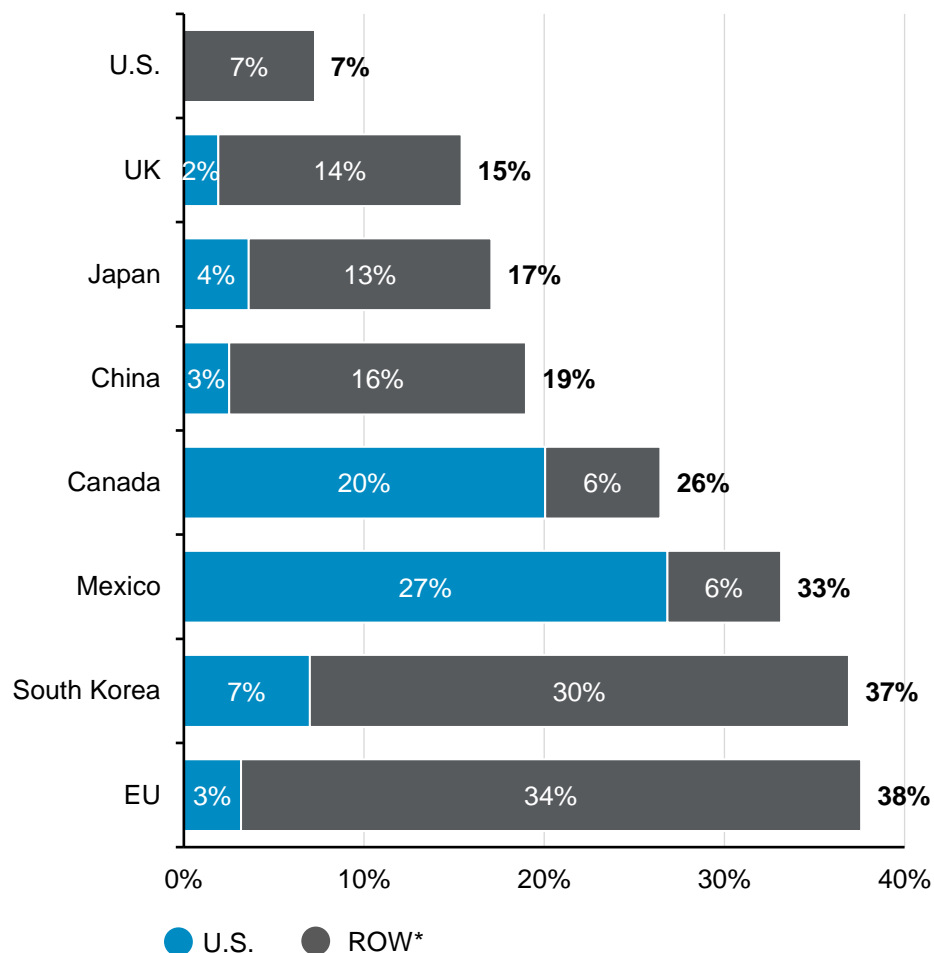
Source: Goldman Sachs Investment Research, Tax Foundation, U.S. Department of Commerce, United States International Trade Commission, J.P. Morgan Asset Management. *Imports for consumption: goods brought into an economy for direct use or sale in the domestic market. This does not include goods admitted into bonded warehouses or foreign trade zones. The data above incorporates all current official revisions for 2010-2020 as of July 2021. Forecasts are based on current data and assumptions about future economic conditions. Actual results may differ materially due to changes in economic, market and other conditions.

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Trade: Exposure to U.S. trade policy

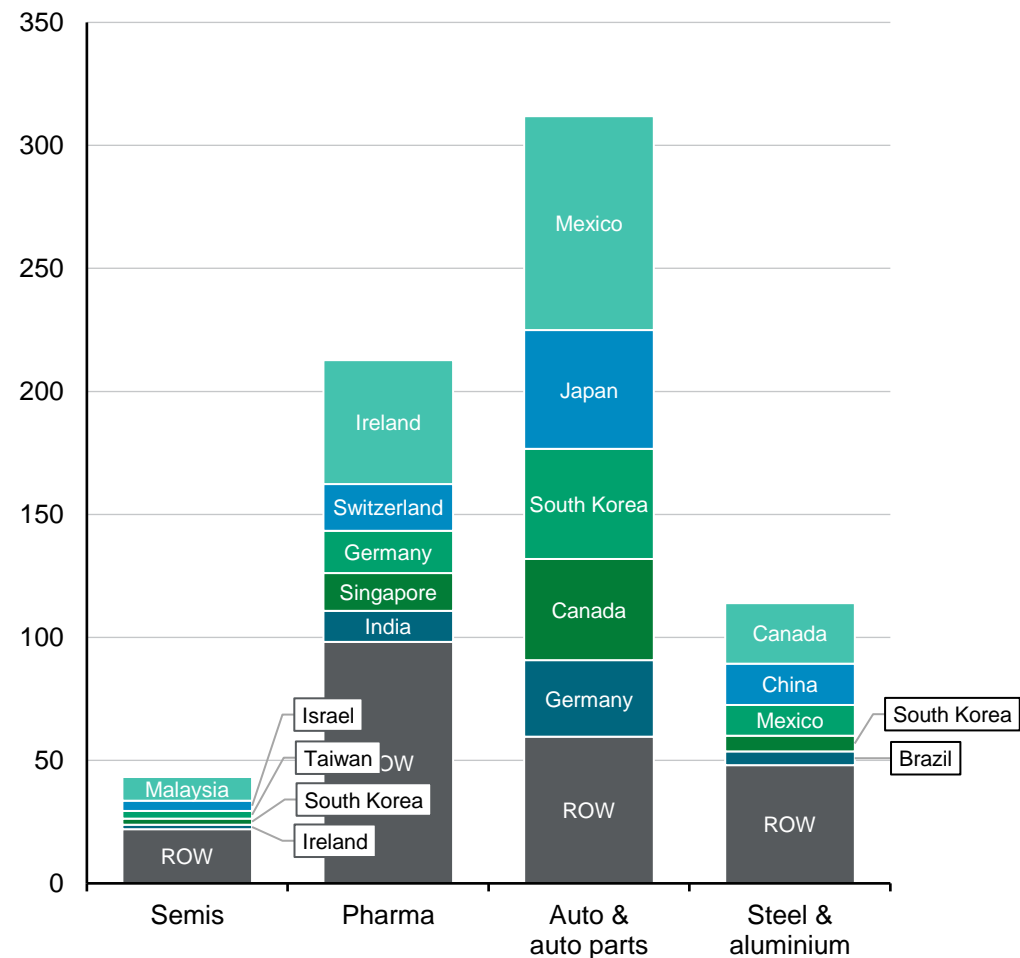
Exports by market

% of nominal GDP, USD, goods, 2023



U.S. imports for select categories** by market

USD billion, 2024



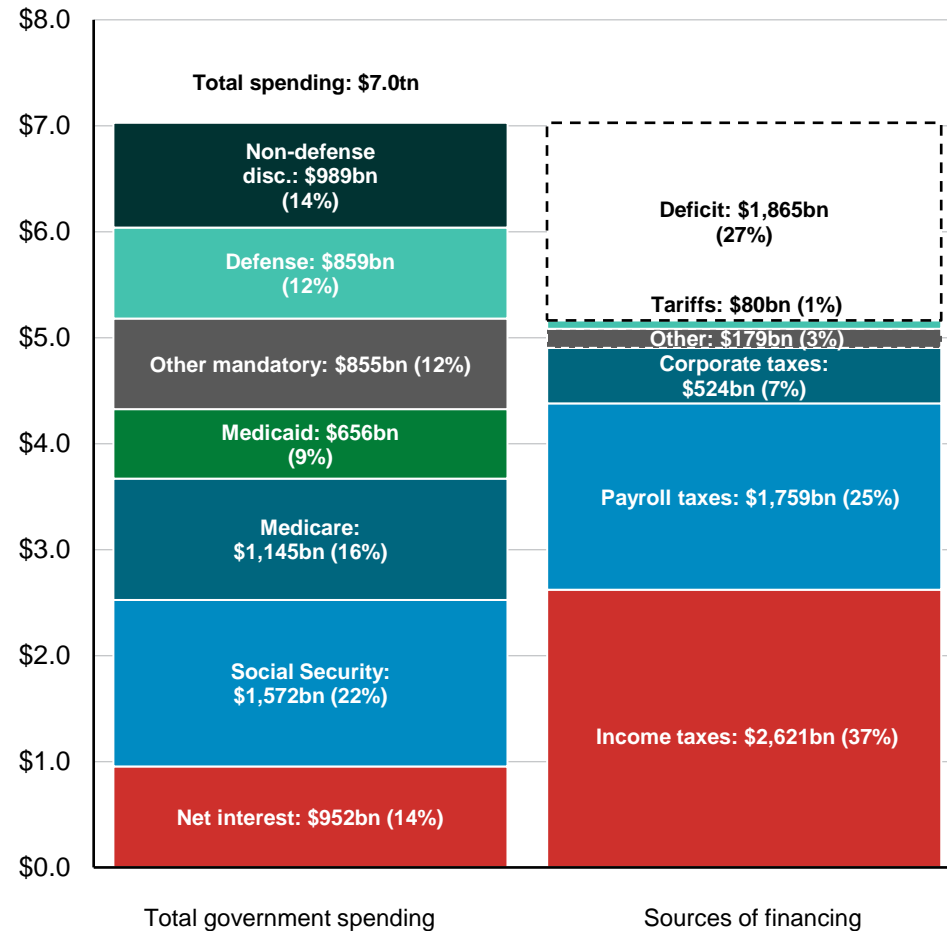
Source: UN Comtrade, J.P. Morgan Asset Management. *ROW refers to rest of the world. **Pharmaceuticals (pharma) refer to all goods in HS 30 (Pharmaceutical Products). Auto & auto parts include goods in HS 8702 (Motor Vehicles for the Transport of Ten or More Persons), HS 8703 (Motor Cars and Other Motor Vehicles), HS 8706 (Chassis Fitted with Engines, for Motor Vehicles), HS 8707 (Bodies for Motor Vehicles) and HS 8708 (Parts and Accessories for Motor Vehicles). Semiconductors (semis) include HS 854231 (Processors and Controllers), HS 854232 (Memories), HS 854233 (Amplifiers) and HS 854239 (Other Electronic Integrated Circuits). Steel and aluminium refer to all goods in HS 72 (Iron and Steel), 73 (Articles of Iron or Steel), 76 (Aluminum and Articles Thereof).

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United States: Federal finances

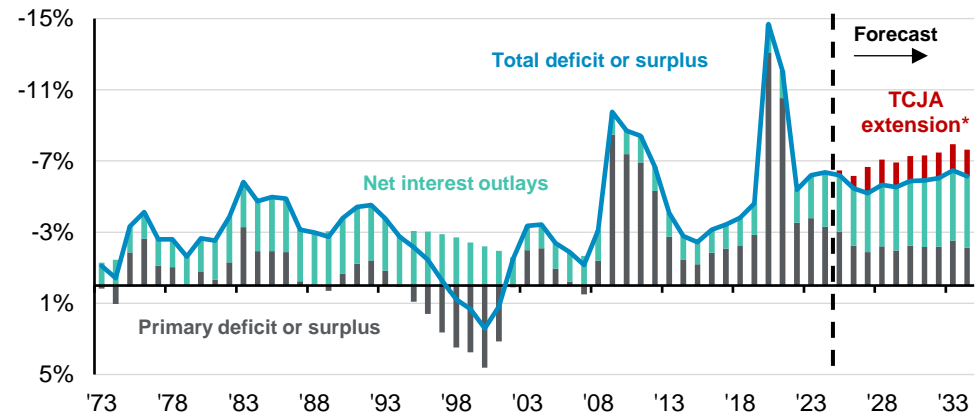
The 2025 federal budget

USD trillions



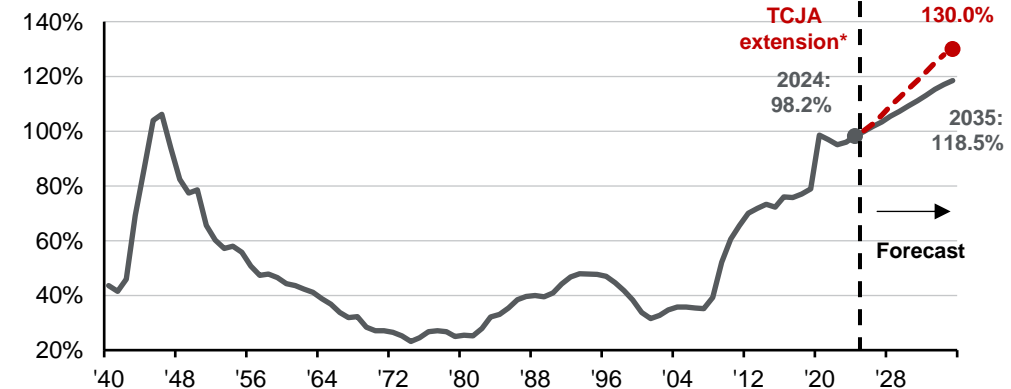
Federal deficit and net interest outlays

Share of GDP, 1973-2035, CBO Baseline Forecast, inverted



Federal net debt** (accumulated deficits)

Share of GDP, 1940-2035, CBO Baseline Forecast, end of fiscal year



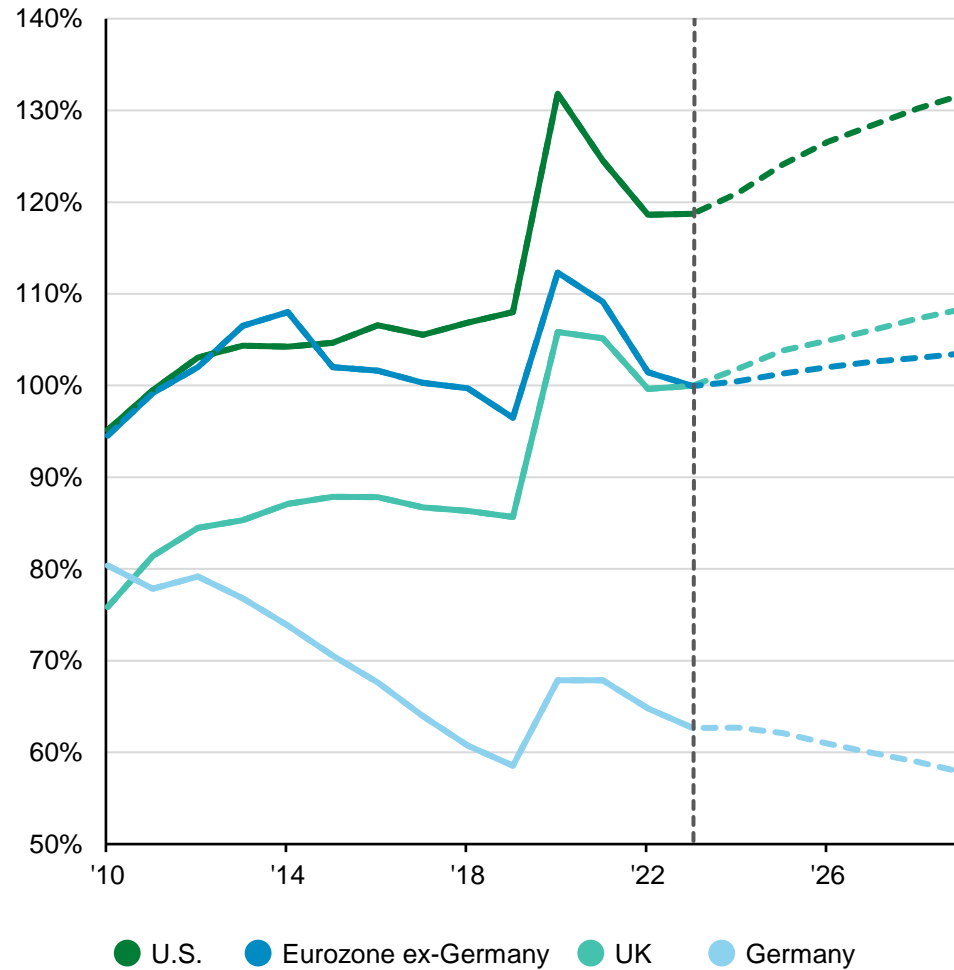
Source: CBO, J.P. Morgan Asset Management; (Left) Numbers may not sum to 100% due to rounding; (Top and bottom right) BEA, Treasury Department. Estimates are from the Congressional Budget Office (CBO) January 2025 An Update to the Budget Outlook: 2025 to 2035. "Other" spending includes, but is not limited to, health insurance subsidies, income security and federal civilian and military retirement. Years shown are fiscal years. All CBO estimates are adjusted by JPMAM to reflect GDP revisions resulting from the 2024 annual update of the National Economic Accounts. *Adjusted by JPMAM to include estimates from the CBO May 2024 report "Budgetary Outcomes Under Alternative Assumptions About Spending and Revenues" on the extension of TCJA provisions. Forecasts are not a reliable indicator of future performance. Forecasts, projections and other forward-looking statements are based upon current beliefs and expectations. They are for illustrative purposes only and serve as an indication of what may occur. Given the inherent uncertainties and risks associated with forecasts, projections or other forward-looking statements, actual events, results or performance may differ materially from those reflected or contemplated. **Net debt refers to debt held by the public, which excludes intragovernmental holdings (such as securities held by government trust funds, like the Social Security Trust Fund). Gross federal debt is the sum of debt held by the public and intragovernmental debt.

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Europe: Fiscal spending

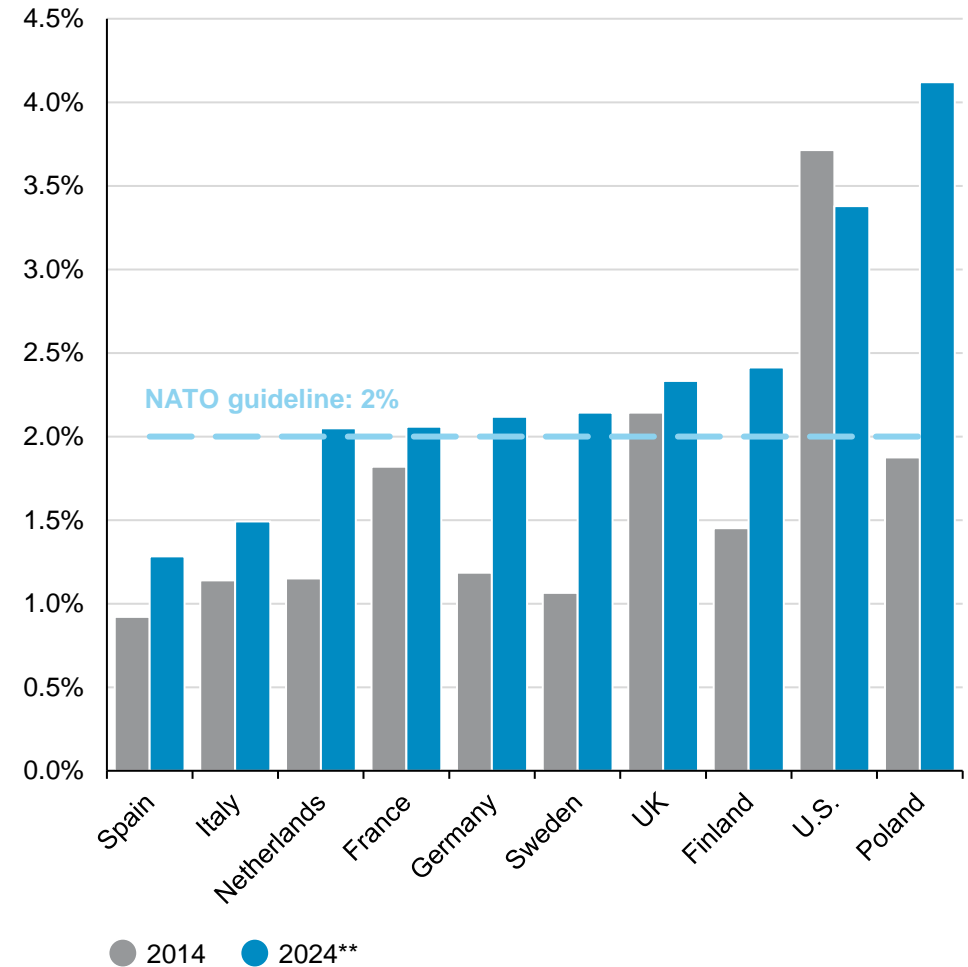
Government debt*

Share of GDP



Defense expenditure

Share of GDP

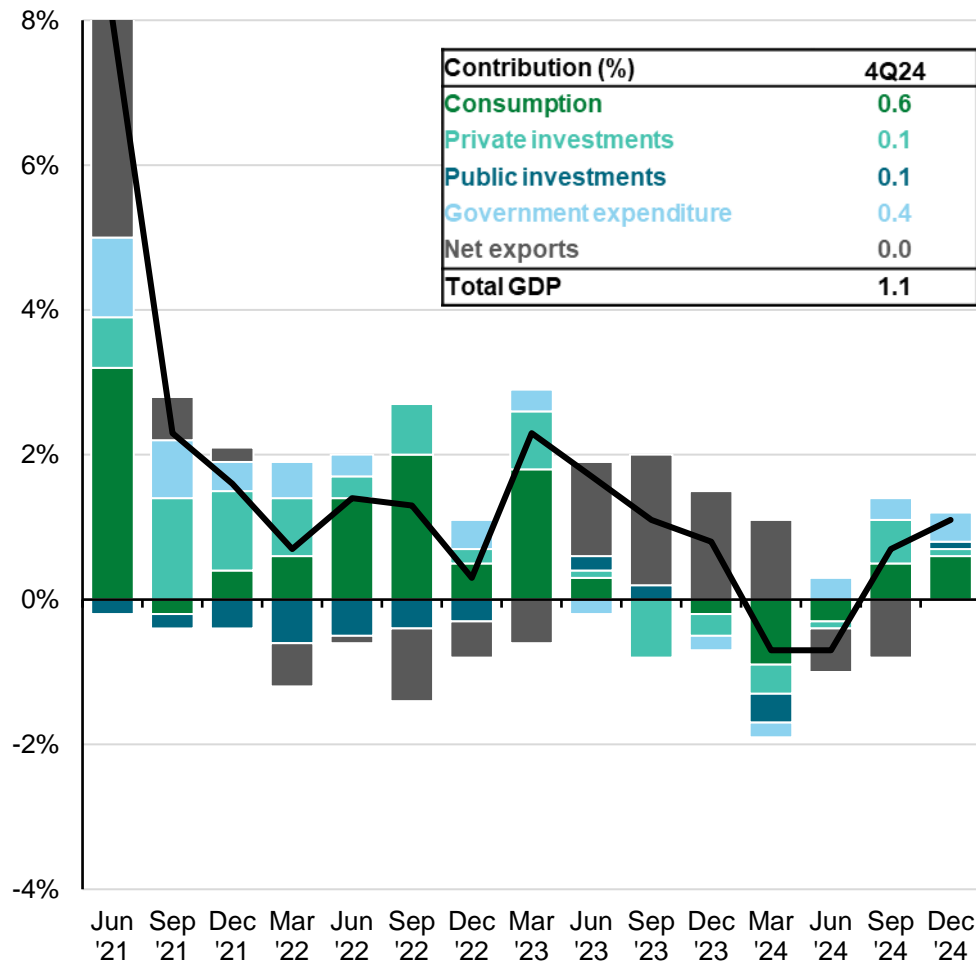


Source: J.P. Morgan Asset Management; (Left) FactSet, IMF; (Right) North Atlantic Treaty Organization (NATO). *Debt refers to gross debt at face value. Dotted line forecasts are based on IMF World Economic Outlook as of October 2024. **Figures for 2024 are NATO estimates.
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Japan: Economic snapshot

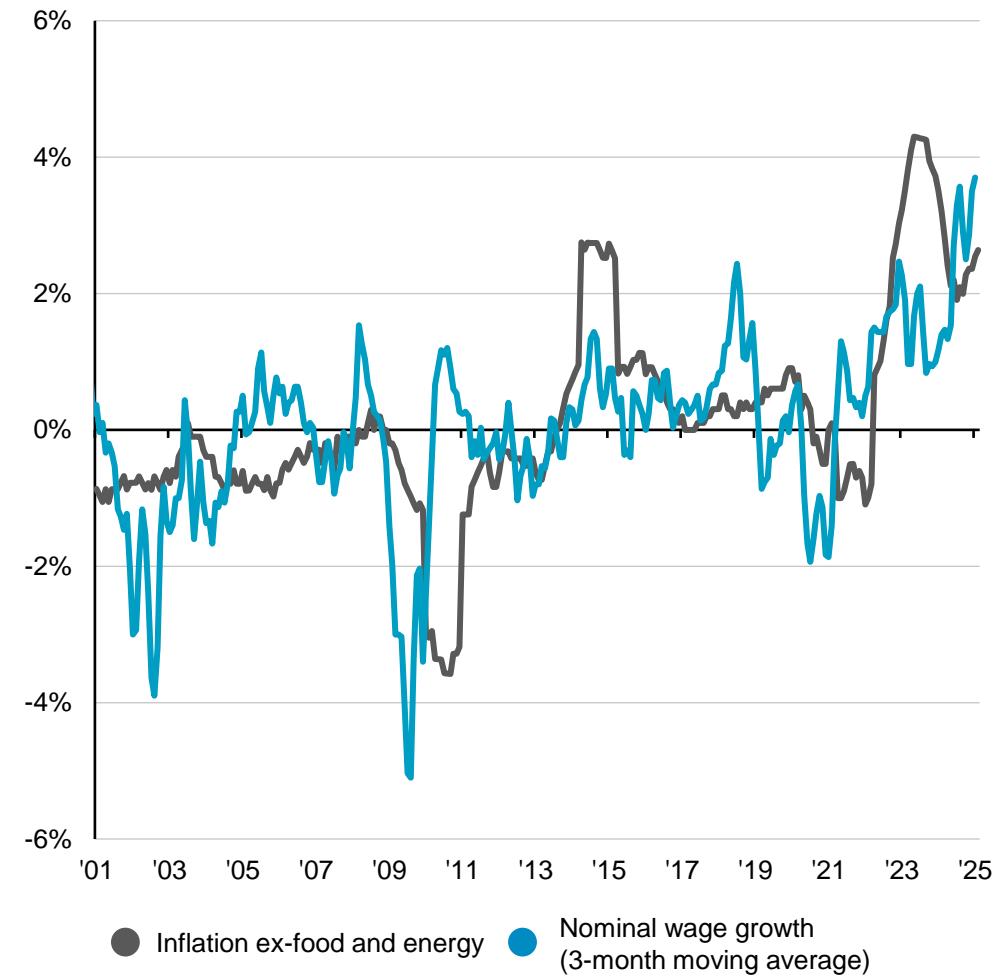
Component contribution to GDP

Year-over-year change



Japan core inflation and wage growth

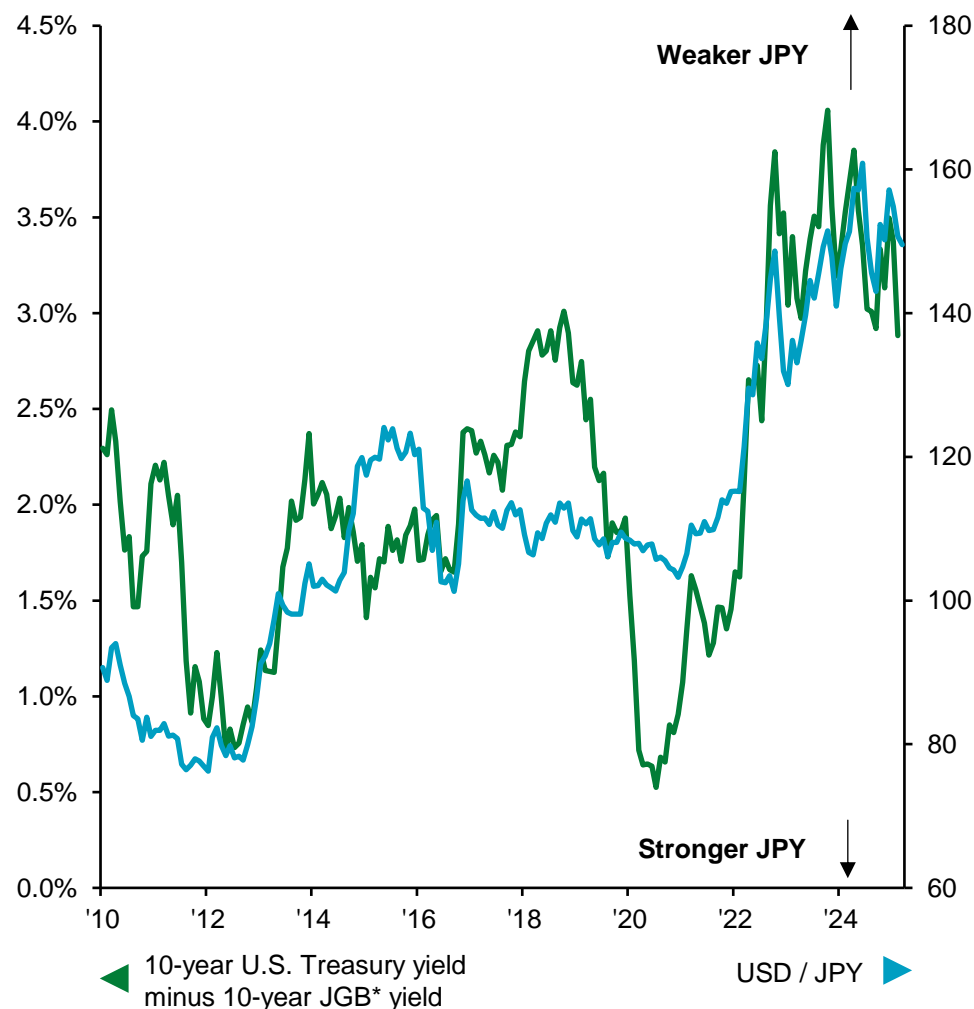
Year-over-year change



Source: FactSet, J.P. Morgan Asset Management; (Left) Japanese Cabinet Office; (Right) Japan Ministry of Health, Labor and Welfare, Japan Ministry of Internal Affairs and Communications. Component contribution to GDP may not add up to the total due to rounding.
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Japan: Currency

U.S. – Japan interest rate differential and USD / JPY



Net short positions** on yen and USD / JPY

Number of contracts*** at Chicago Mercantile Exchange



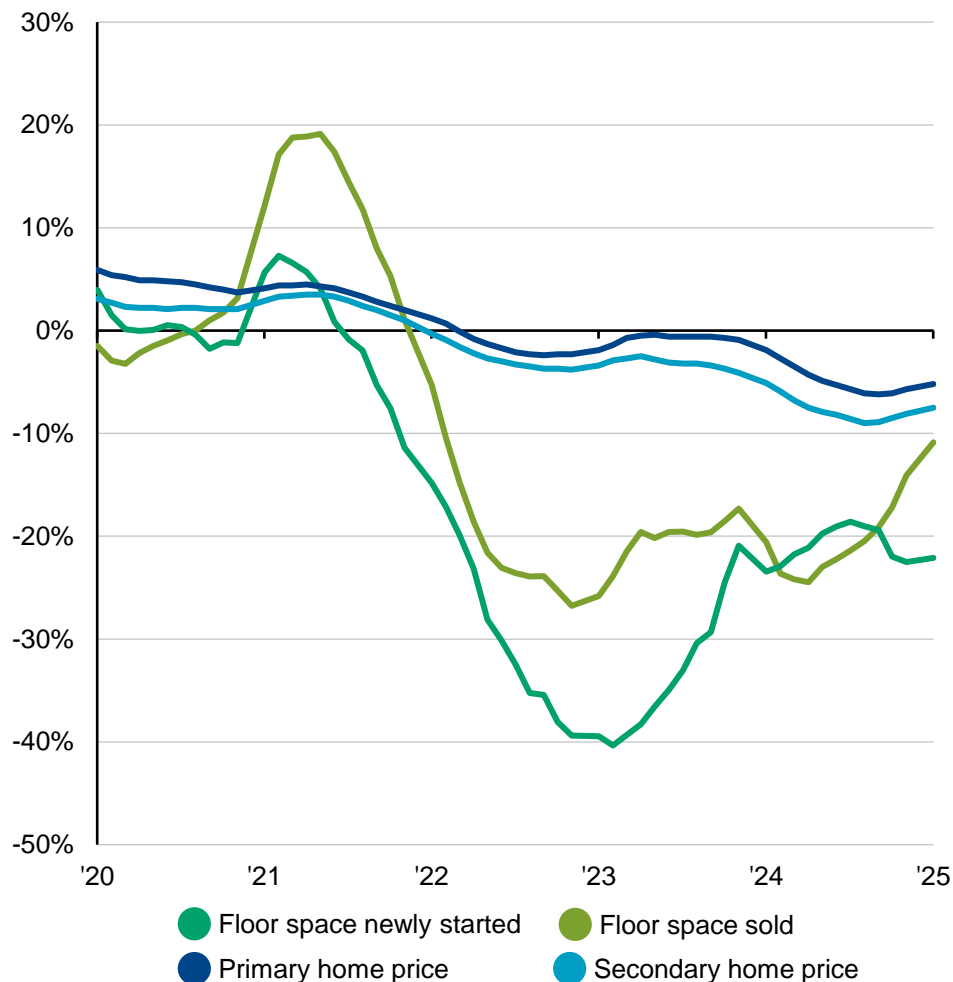
Source: Bloomberg, Commodity Futures Trading Commission, FactSet, J.P. Morgan Asset Management. *JGB refers to Japanese government bonds. **Net positions capture that of leveraged funds and asset managers. Above 0 will mean net short positions and below 0 will mean net long positions. ***Japanese futures contracts are valued at 12,500,000 JPY each.

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China: Property sector fundamentals

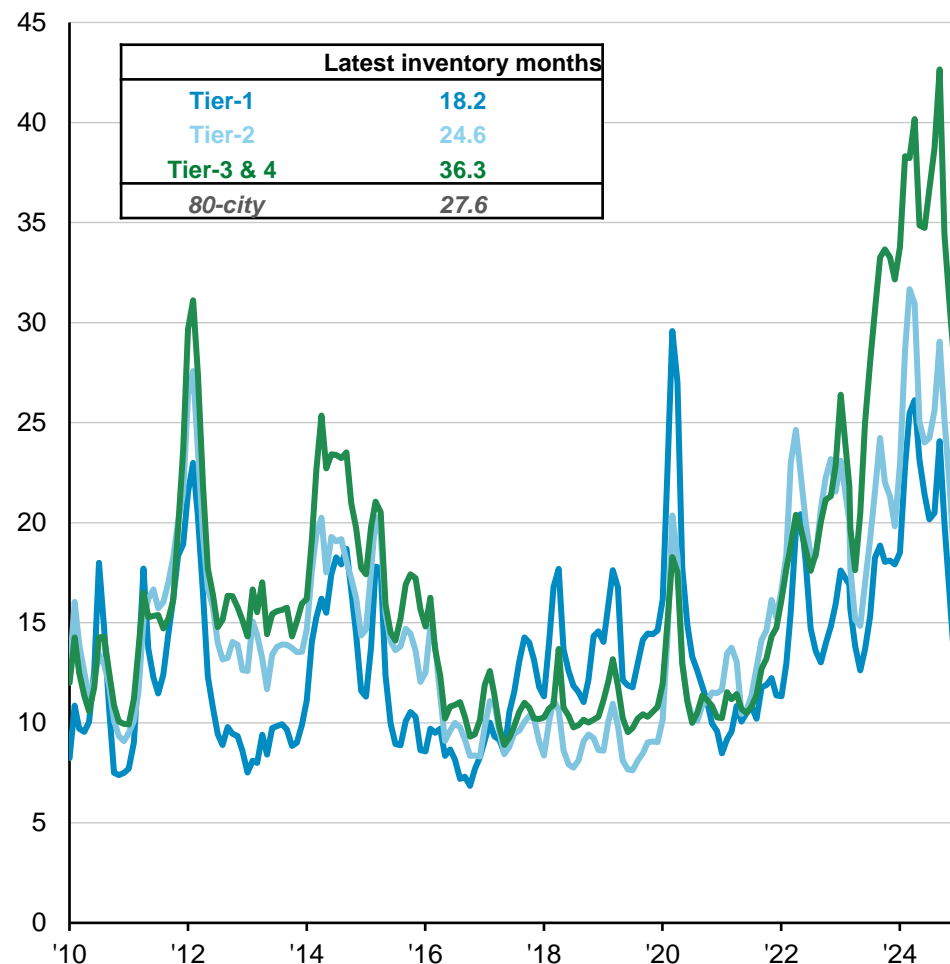
China residential property price* and volume

Year-over-year change



Housing inventory months*** in China

Average across 80 key cities****



Source: National Bureau of Statistics of China, J.P. Morgan Asset Management; (Left) Wind; (Right) China Real Estate Information Corporation (CRIC), Citi Property Research. *Price indices refer to residential buildings in 70 large and medium-sized cities in China. **Housing inventory months is the average number of months to clear housing stock based on month-end inventory over trailing three-month average of sales volume, and only includes primary market property. Inventory months picked up in March 2020, mainly on lower sales volume (-40%/-29%/-27% y/y in 1Q20 in Tier-1, Tier-2 and Tier-3/4 cities, respectively) due to COVID pandemic. ***80 key cities (4 Tier-1, 27 Tier-2 and 49 Tier-3 & 4) are selected by CRIC based on data representativeness and availability. ****Guide to the Markets – Asia. Data reflect most recently available as of 31/03/25.

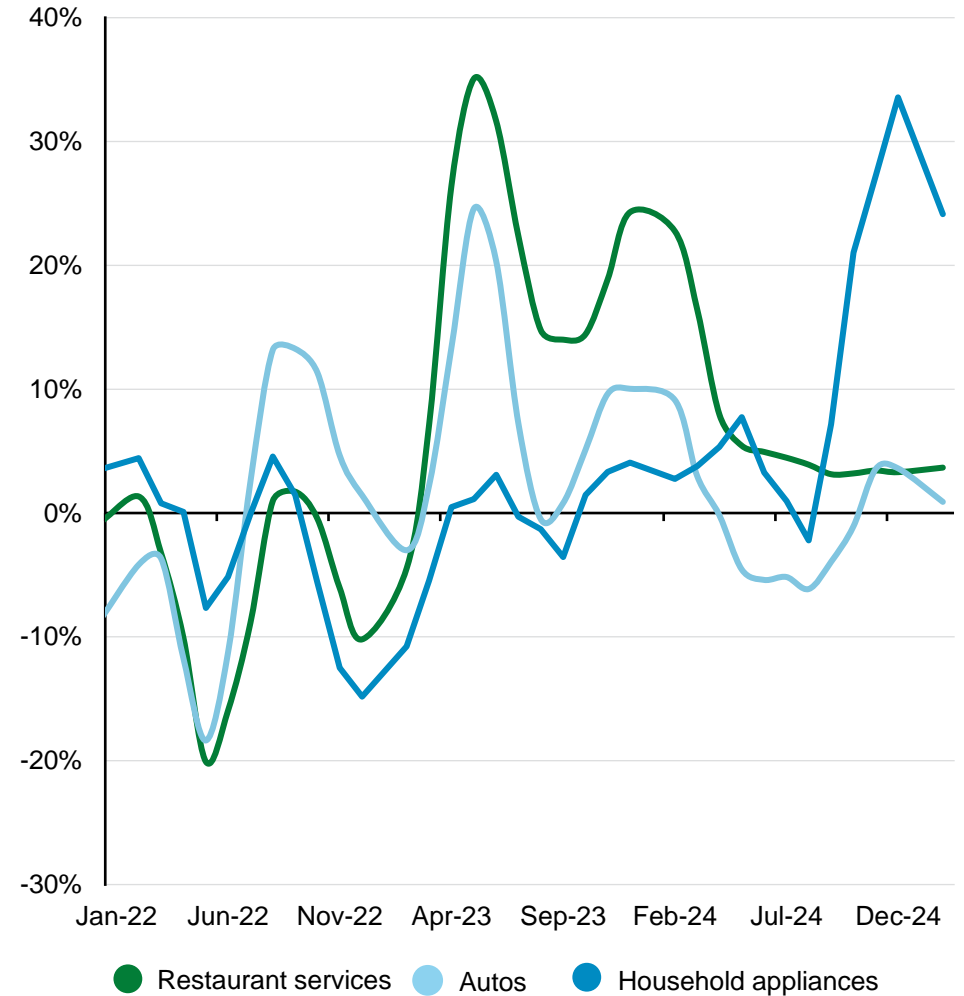
China: Consumption

Consumer confidence and consumption



Consumption in key categories

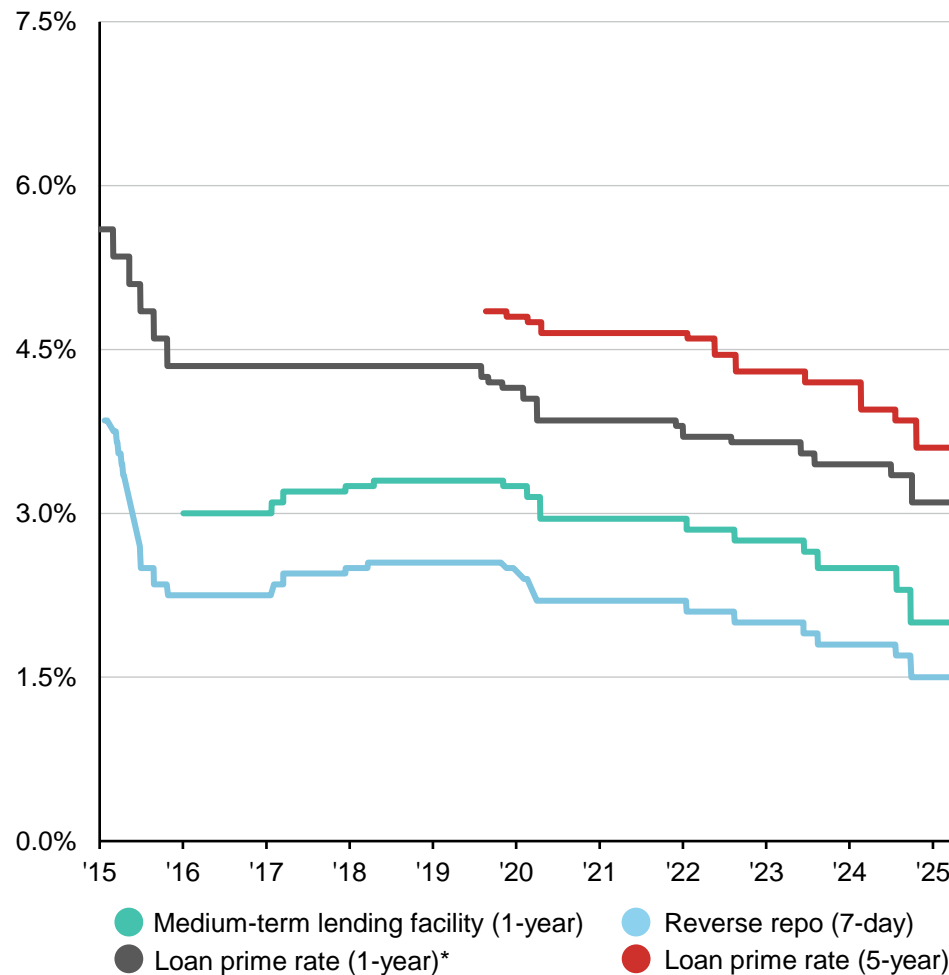
Year-over-year change, 3-month moving average



China: Monetary policy and credit growth

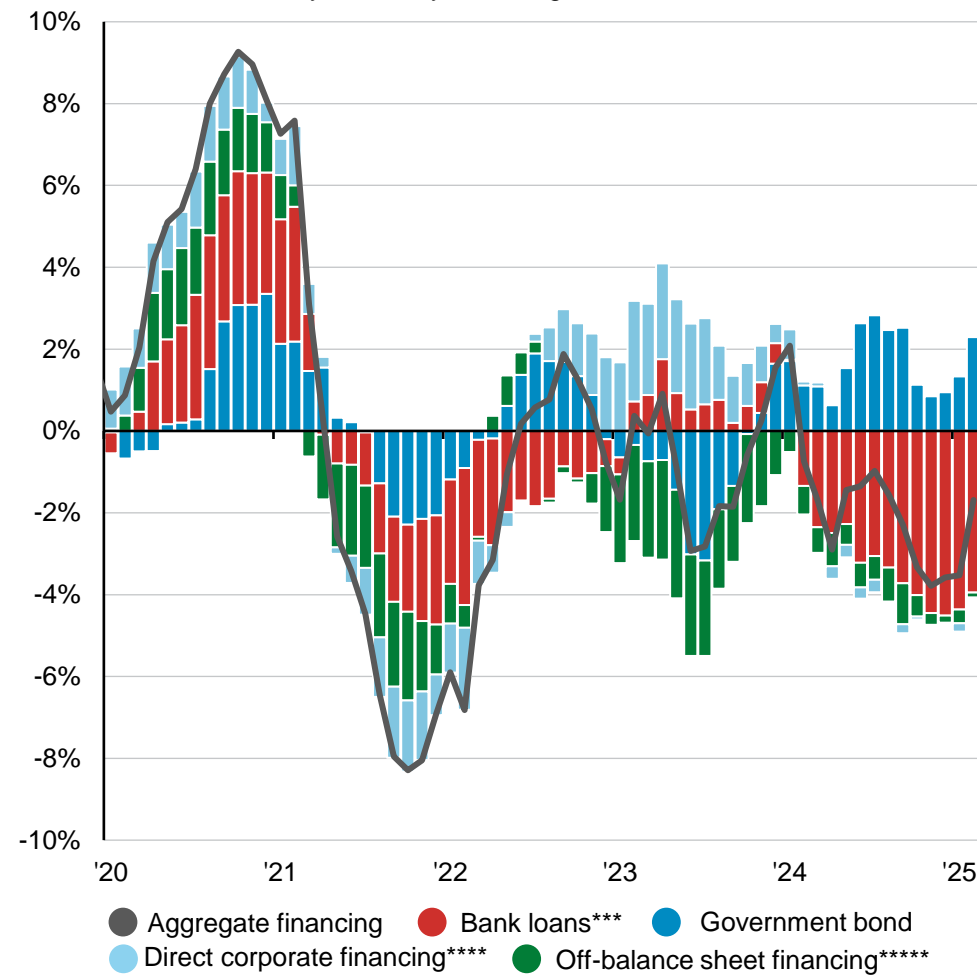
Key interest rates

Per annum



Chinese credit impulse**

Share of nominal GDP, year-over-year change



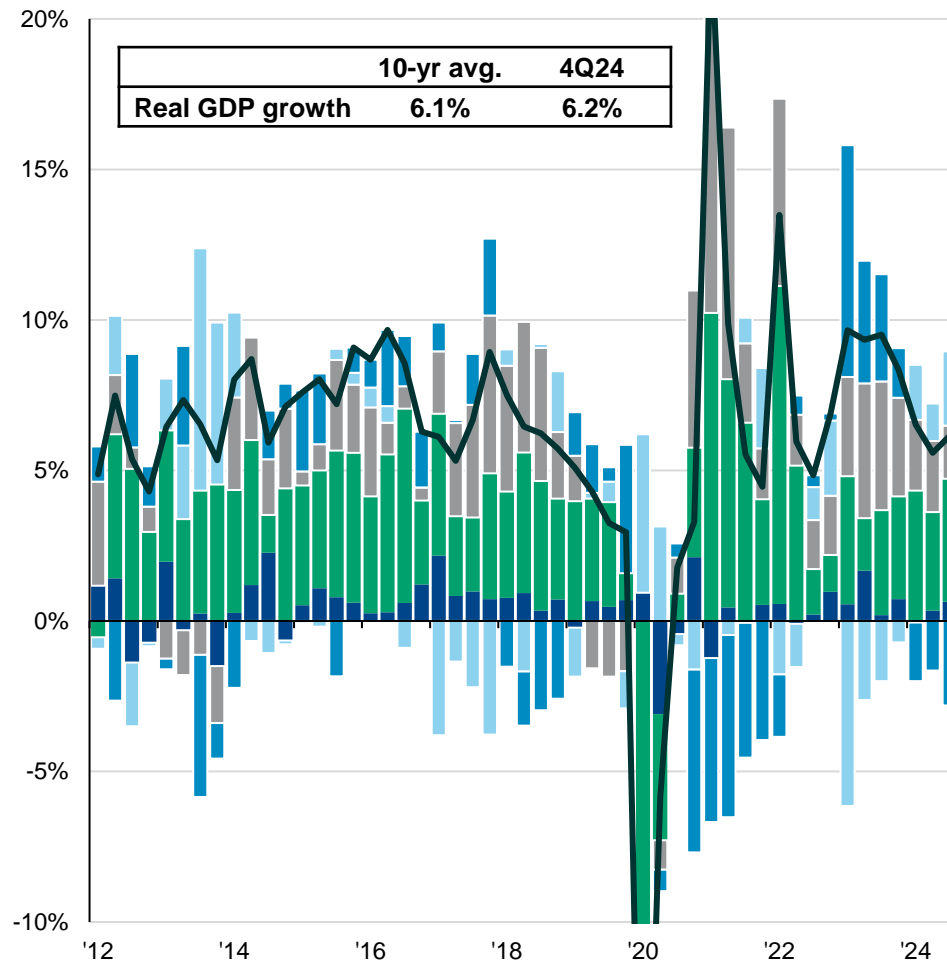
Source: CEIC, J.P. Morgan Asset Management; (Left) People's Bank of China (PBoC); (Right) Ministry of Finance of China. *Previously, the 1-year lending rate was a key interest rate. In August 2019, the PBoC started to release 1-year and 5-year loan prime rates (LPR) on a monthly basis, which are based on quotes from 18 large banks. LPR has become the benchmark for commercial loans and floating rate loan contracts. **Credit impulse measures the year-over-year change of credit flow (net aggregate social financing) as a percentage of nominal GDP. Rolling 12-month nominal GDP and credit stock are used in the calculation. ***Refers to loans in local currency, loans in foreign currency and loan write-offs. ****Refers to corporate bond financing and non-financial enterprise equity financing. *****Refers to entrusted loans, trust loans, banker's acceptance bill and asset-backed securities.

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India: Economic snapshot

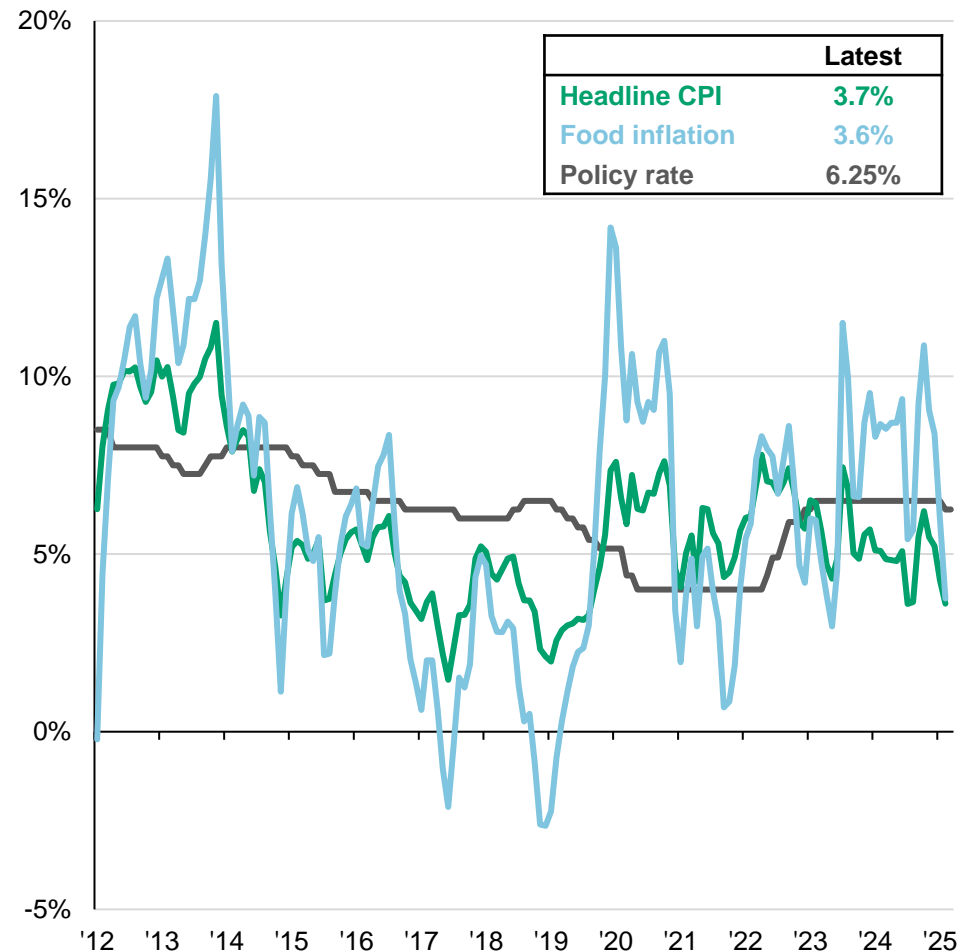
Component contribution to GDP

Year-over-year change



Consumer price index

Year-over-year change

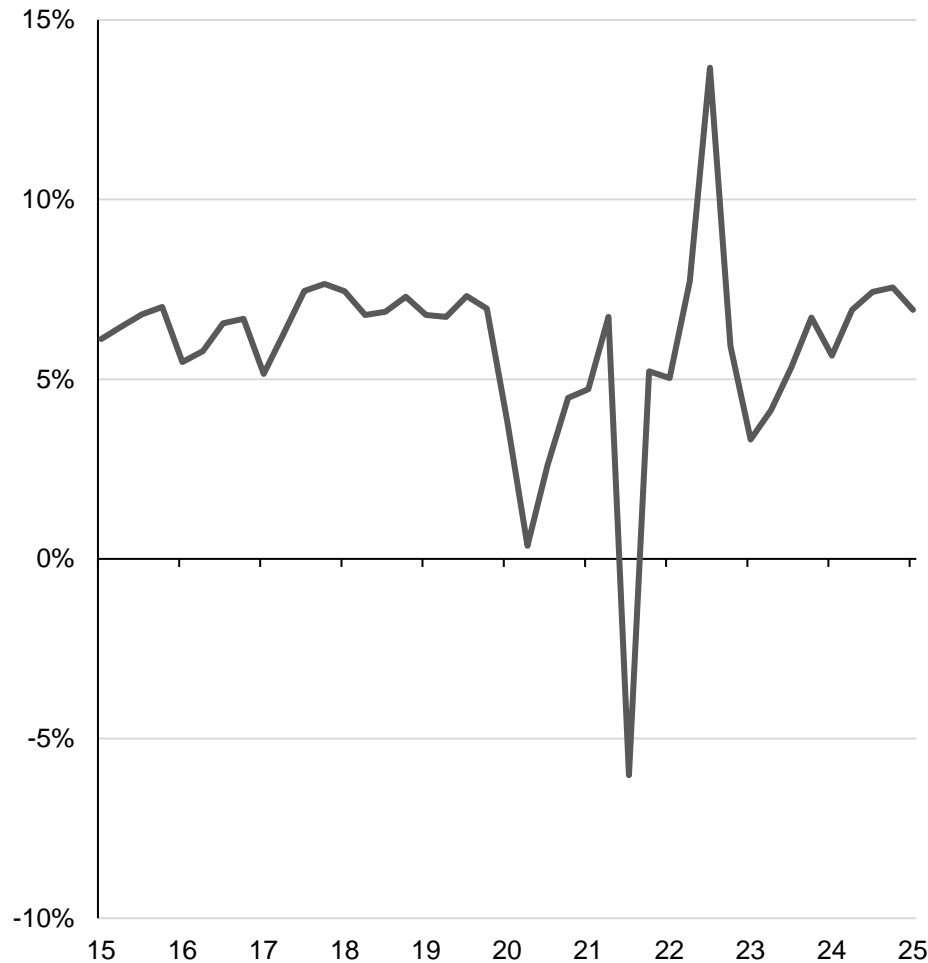


Source: FactSet, Ministry of Statistics and Program Implementation India, J.P. Morgan Asset Management; (Right) Reserve Bank of India. *Others includes the inventories, valuables and statistical discrepancy categories. Data reflect most recently available as of 31/03/25.

Vietnam: Economic snapshot

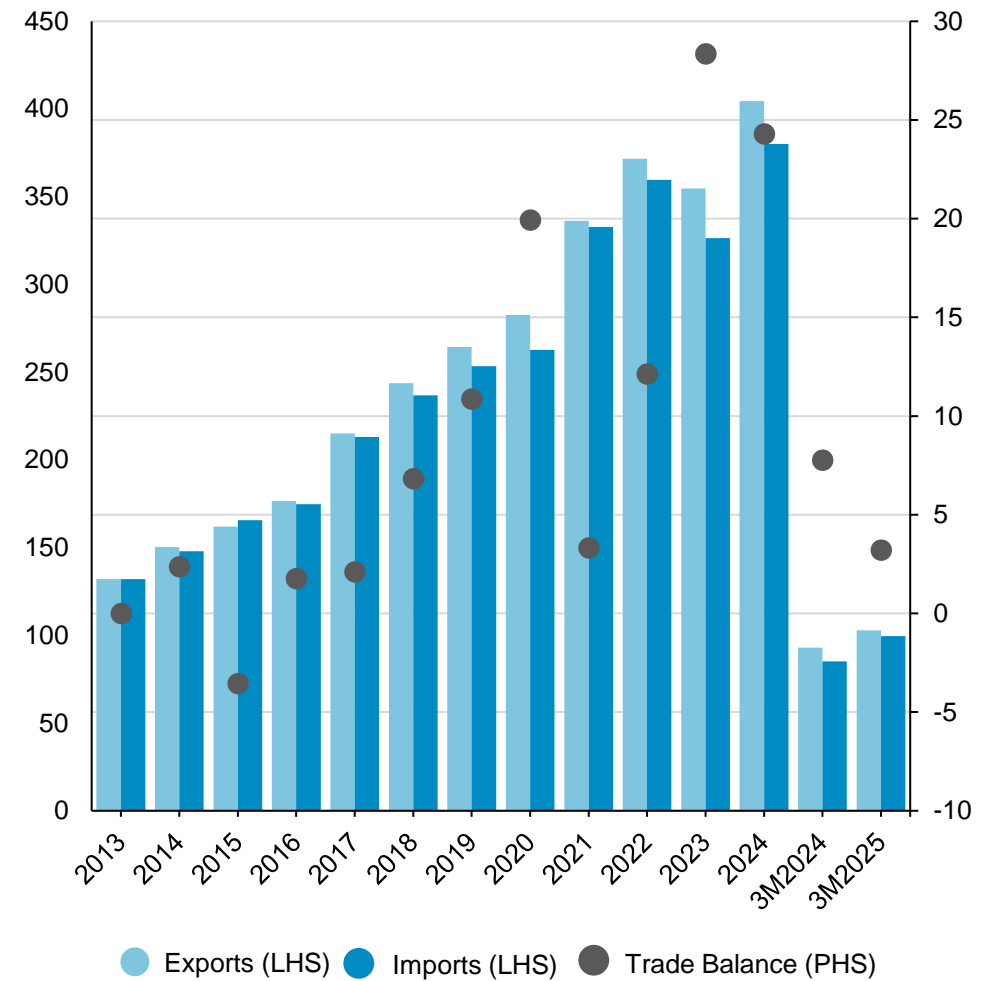
Real GDP

Year-over-year change



Trade value

USDbn

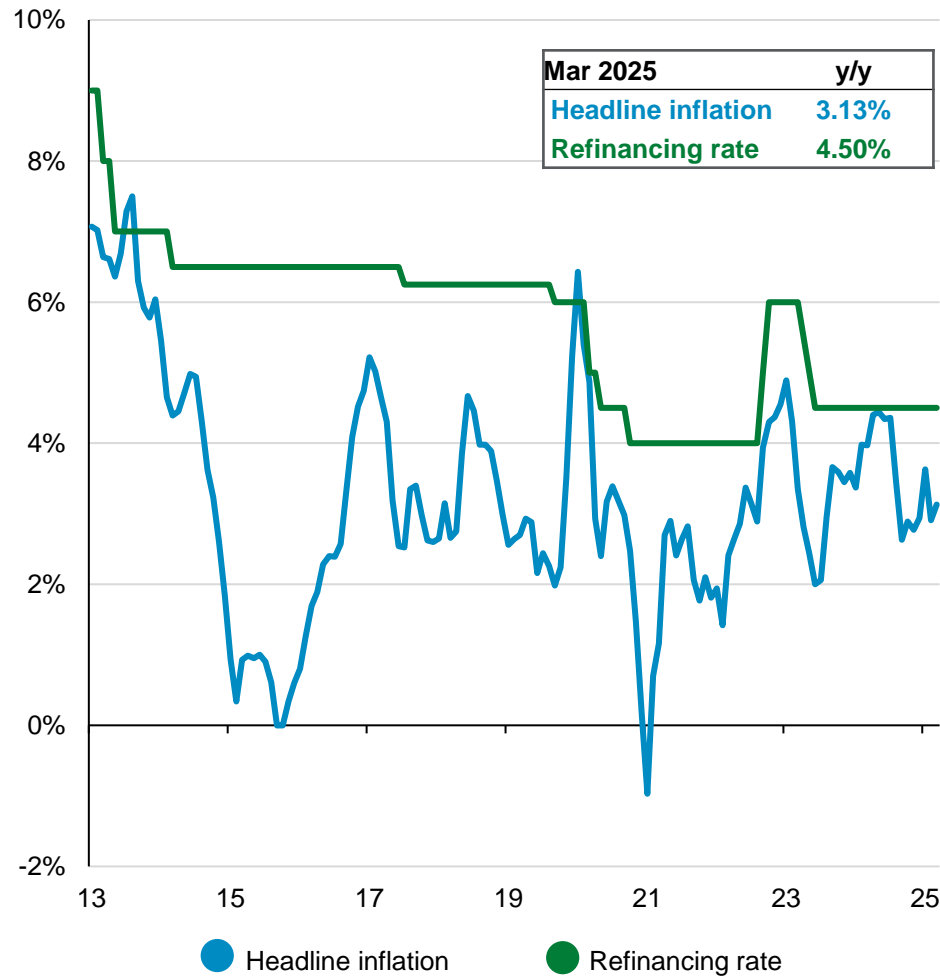


Source: General Statistics Office of Vietnam, Bloomberg, Kasikorn Asset Management.
Data reflect most recently available as of 07/04/25.

Vietnam: Inflation, interest rate and FDI

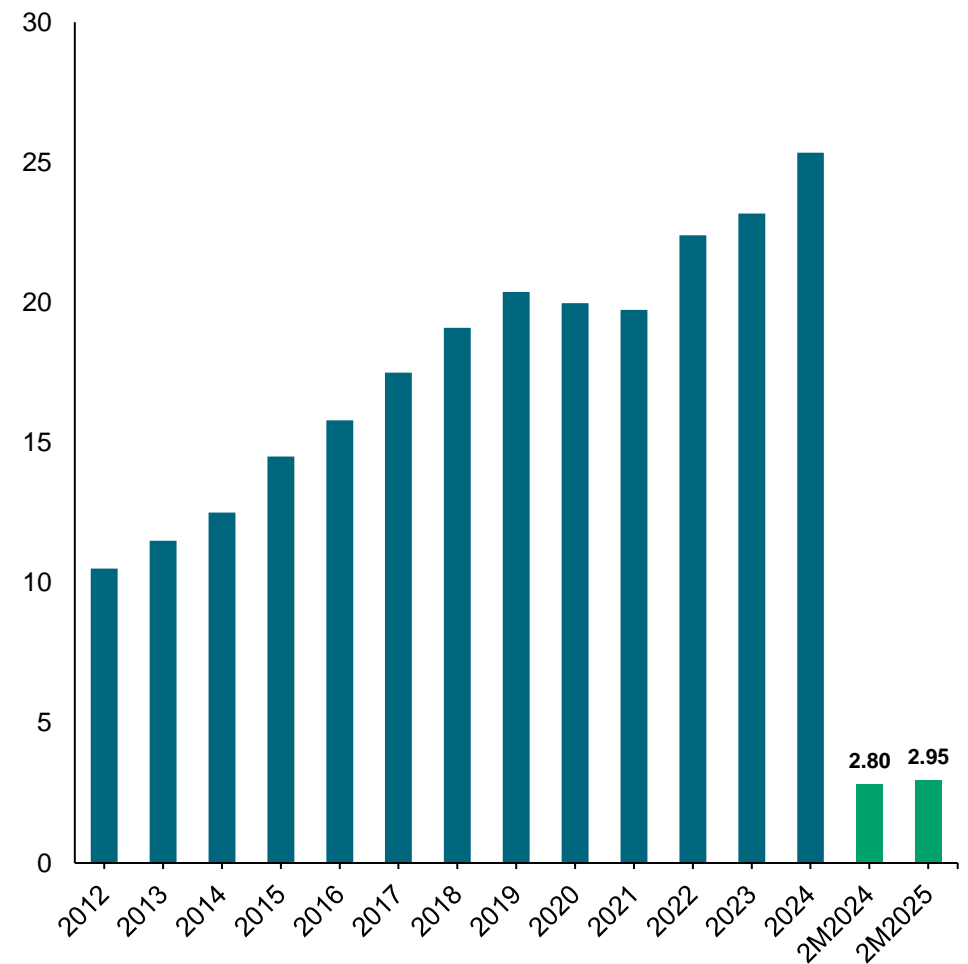
Consumer price index and policy rate

Year-over-year change



FDI disbursement

Billion USD, value of implemented capital

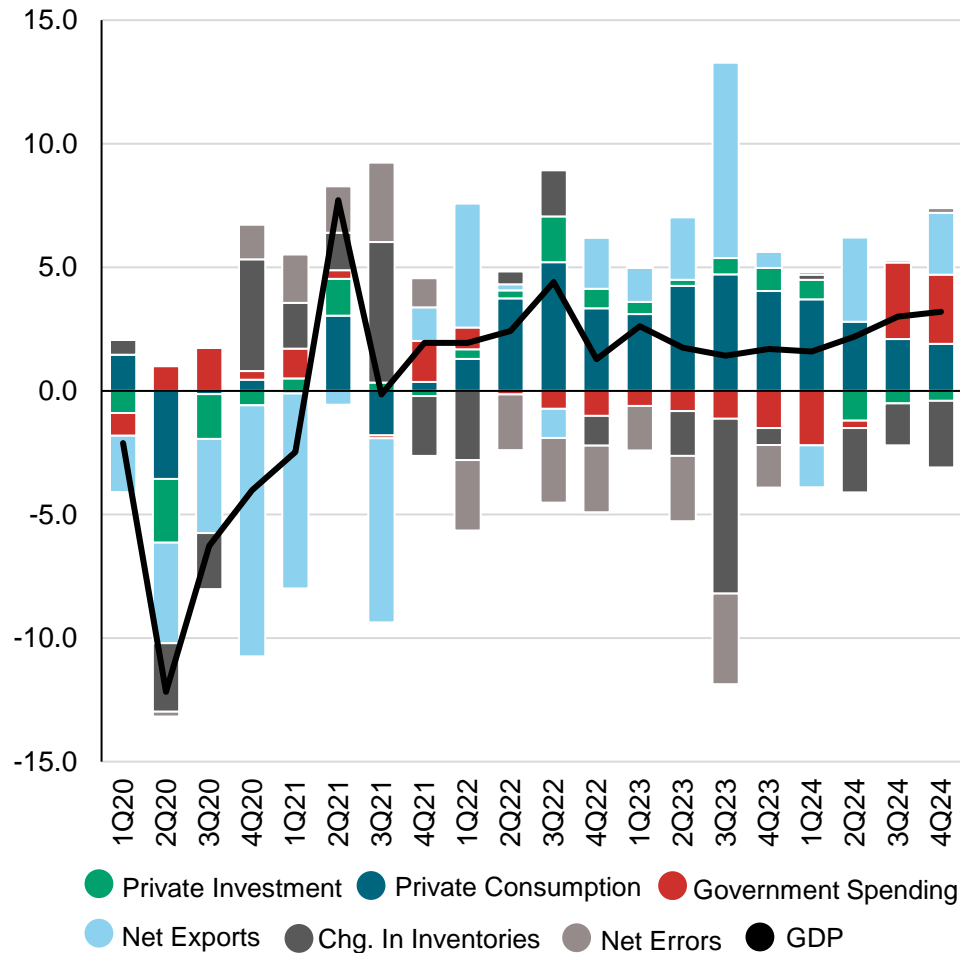


Source: General Statistics Office of Vietnam, Foreign Investment Agency (FIA), Ministry of Planning and Investment, Kasikorn Asset Management.
Data reflect most recently available as of 07/04/25.

Thailand: Economic snapshot

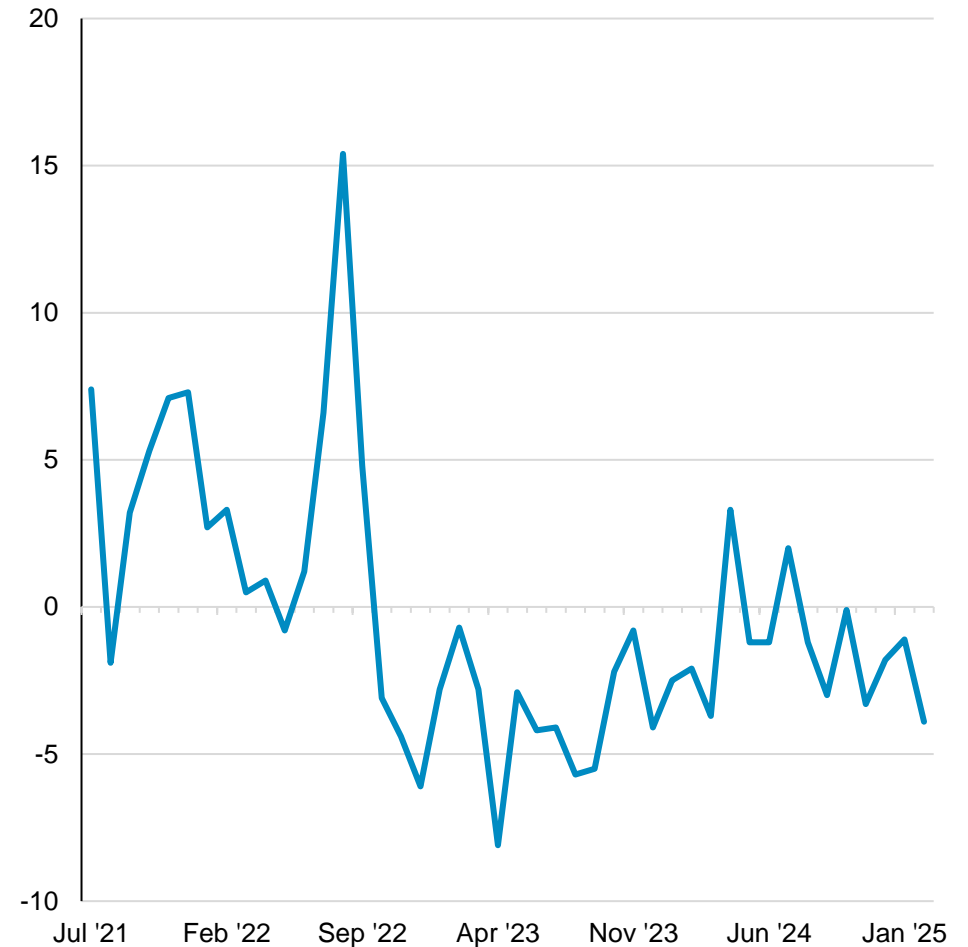
Component contribution to GDP

%, Year-over-year change



Manufacturing production index (MPI)

%, Year-over-year change

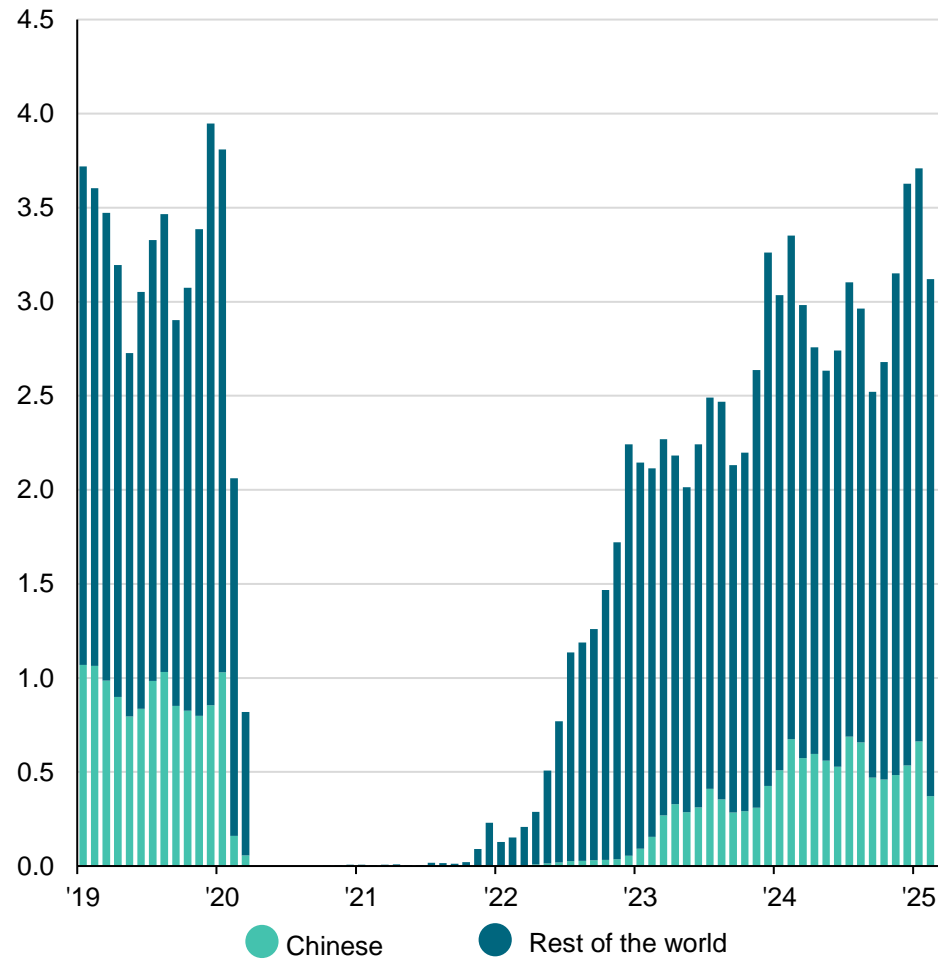


Source: (Left) National Economic and Social Development Council Thailand, (Right) Bloomberg, Kasikorn Asset Management.
Data reflect most recently available as of 31/03/25.

Thailand: Tourism and exports

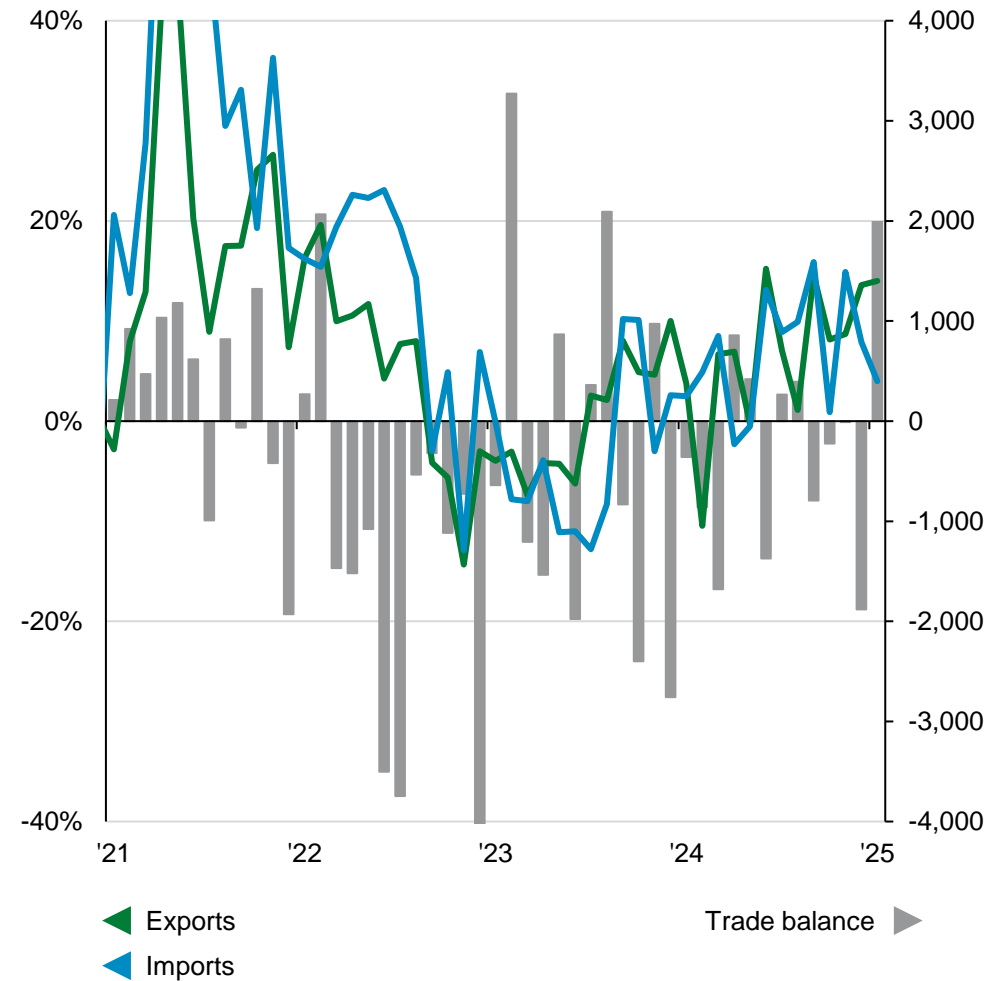
Tourist arrivals

Person, million



Exports and imports

Year-over-year change

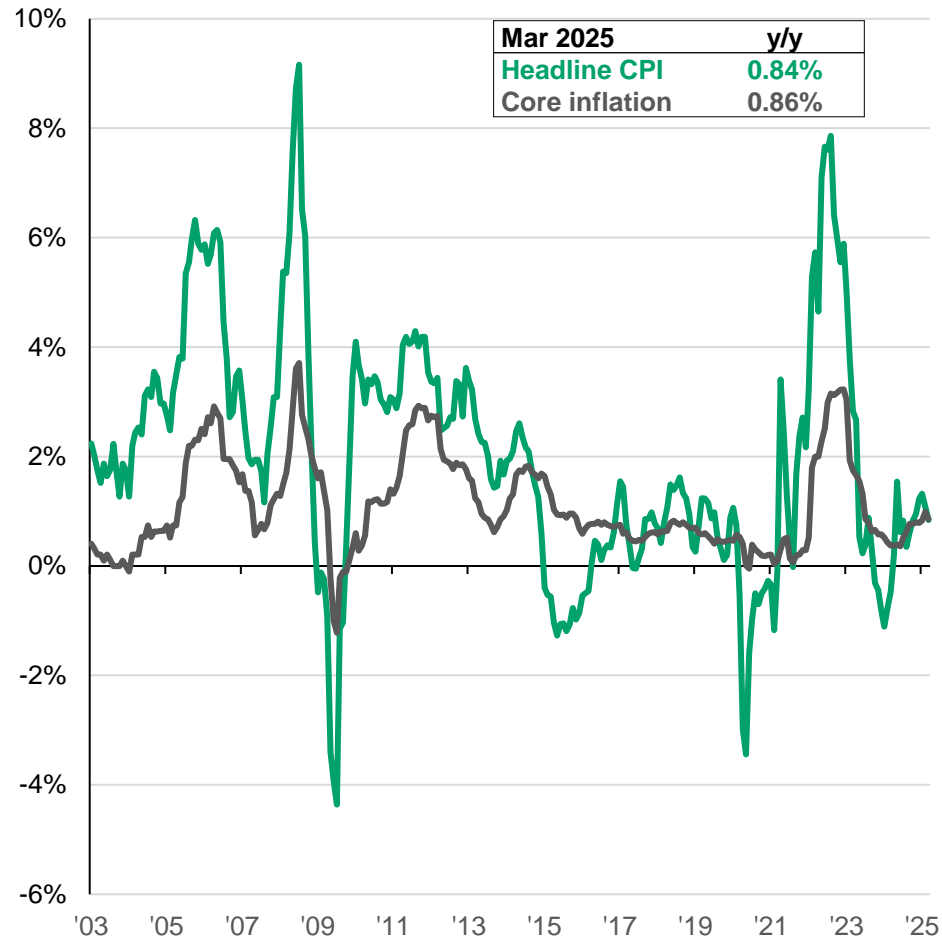


Source: Bloomberg, Kasikorn Asset Management. (Left) Ministry of Tourism & Sports Thailand. (Right) Ministry of Commerce Thailand.
Data reflect most recently available as of 31/03/2025

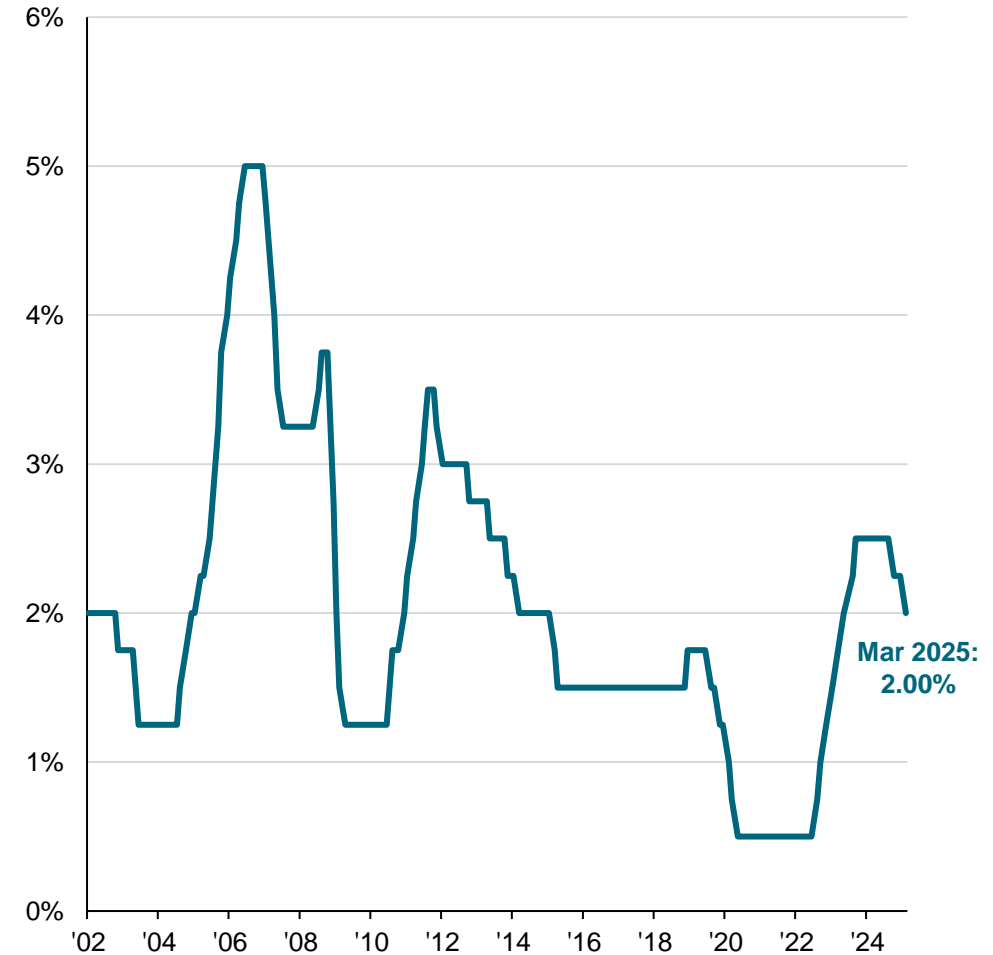
Thailand: Inflation and interest rates

Consumer price index

Year-over-year change



Thailand benchmark policy rate



Source: Bloomberg, Kasikorn Asset Management. (Left) Ministry of Commerce Thailand. (Right) Bank of Thailand.
Data reflect most recently available as of 07/04/25.

Global and Asia equity market returns

Equities

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	1Q '25	10-yrs ('15 - '25)	
													Ann. Ret.	Ann. Vol
	China A 52.1%	Japan 9.9%	Taiwan 19.6%	China 54.3%	U.S. - 4.4%	Taiwan 37.7%	Korea 45.2%	U.S. 28.7%	ASEAN - 4.1%	Taiwan 31.3%	Taiwan 35.1%	China 15.1%	Taiwan 12.7%	China 25.1%
	India 23.9%	China A 2.4%	U.S. 12.0%	Korea 47.8%	India - 7.3%	China A 37.2%	Taiwan 42.0%	Taiwan 26.8%	India - 7.5%	U.S. 26.3%	U.S. 25.0%	Europe 10.6%	U.S. 12.5%	Korea 23.3%
	U.S. 13.7%	U.S. 1.4%	Korea 9.2%	India 38.8%	Taiwan - 8.2%	U.S. 31.5%	China A 38.4%	India 26.7%	Europe - 14.5%	Korea 23.6%	China 19.7%	Korea 5.2%	India 8.1%	China A 23.0%
	Taiwan 10.1%	Europe - 2.3%	APAC ex- JP 7.1%	APAC ex- JP 37.3%	ASEAN - 8.4%	Europe 24.6%	China 29.7%	Europe 17.0%	Japan - 16.3%	India 21.3%	China A 14.9%	APAC ex- JP 1.2%	Europe 6.3%	Taiwan 20.8%
	China 8.3%	India - 6.1%	ASEAN 6.2%	China A 32.6%	Japan - 12.6%	China 23.7%	APAC ex- JP 22.8%	Japan 2.0%	APAC ex- JP - 17.2%	Japan 20.8%	India 12.4%	Japan 0.5%	Japan 5.6%	India 19.2%
	ASEAN 6.4%	Korea - 6.3%	Japan 2.7%	ASEAN 30.1%	APAC ex- JP - 13.7%	Japan 20.1%	U.S. 18.4%	ASEAN 0.2%	U.S. - 18.1%	Europe 20.7%	ASEAN 12.4%	China A - 0.3%	APAC ex- JP 4.6%	APAC ex- JP 16.9%
	APAC ex- JP 3.1%	China - 7.6%	China 1.1%	Taiwan 28.5%	Europe - 14.3%	APAC ex- JP 19.5%	India 15.9%	China A - 1.0%	China - 21.8%	APAC ex- JP 7.7%	APAC ex- JP 10.6%	ASEAN - 1.4%	China 2.7%	Europe 16.5%
	Japan - 3.7%	APAC ex- JP - 9.1%	Europe 0.2%	Europe 26.2%	China - 18.7%	Korea 13.1%	Japan 14.9%	APAC ex- JP - 2.7%	China A - 26.5%	ASEAN 0.8%	Japan 8.7%	India - 2.9%	Korea 2.2%	ASEAN 15.9%
	Europe - 5.7%	Taiwan - 11.0%	India - 1.4%	Japan 24.4%	Korea - 20.5%	ASEAN 8.8%	Europe 5.9%	Korea - 7.9%	Korea - 28.9%	China A - 10.9%	Europe 2.4%	U.S. - 4.3%	ASEAN 1.2%	U.S. 15.4%
	Korea - 10.7%	ASEAN - 18.4%	China A - 15.2%	U.S. 21.8%	China A - 27.6%	India 7.6%	ASEAN - 6.2%	China - 21.6%	Taiwan - 29.1%	China - 11.0%	Korea - 23.1%	Taiwan - 12.6%	China A 0.2%	Japan 14.0%

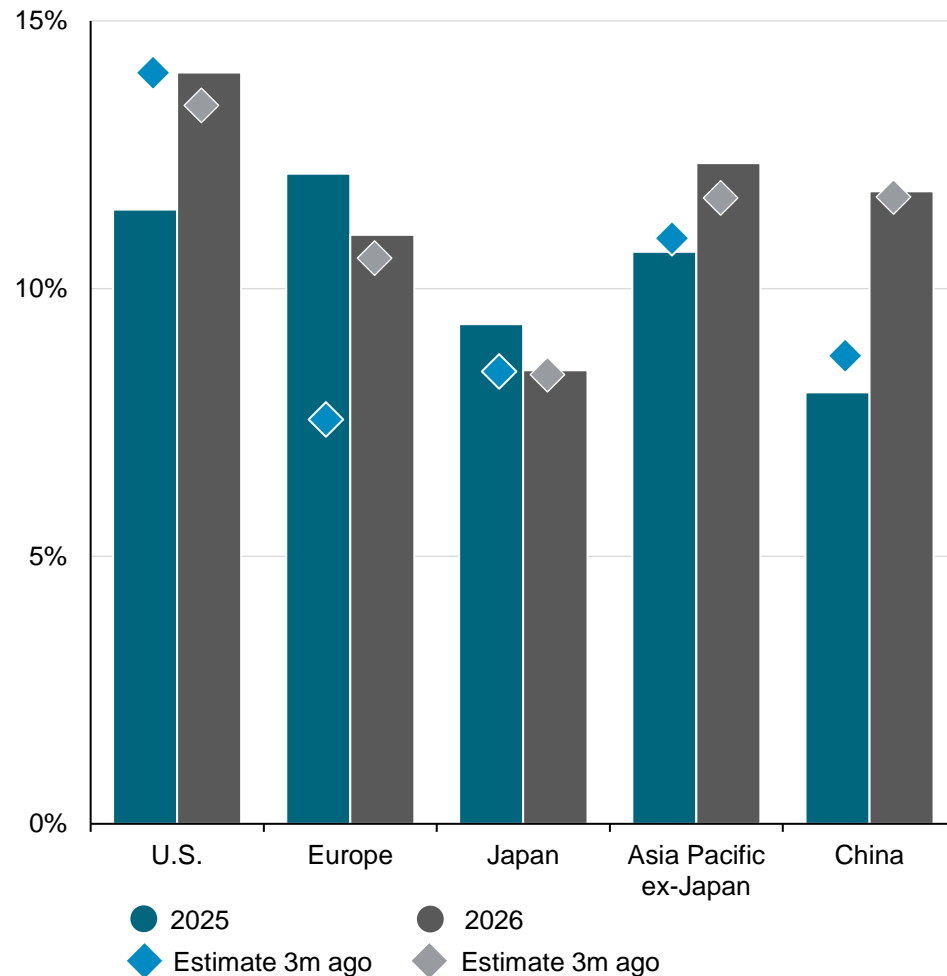
Source: FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management. Returns are total returns in U.S. dollars based on MSCI indices, except the U.S., which is the S&P 500, and China A, which is the CSI 300 index in U.S. dollar terms. China return is based on the MSCI China index. 10-yr total (gross) return data is used to calculate annualized returns (Ann. Ret.) and annualized volatility (Ann. Vol.) and reflect the period 31/03/15 – 31/03/25. Past performance is not a reliable indicator of current and future results.

Guide to the Markets – Asia. Data reflect most recently available as of 31/03/25.

Global equities: Earnings expectations

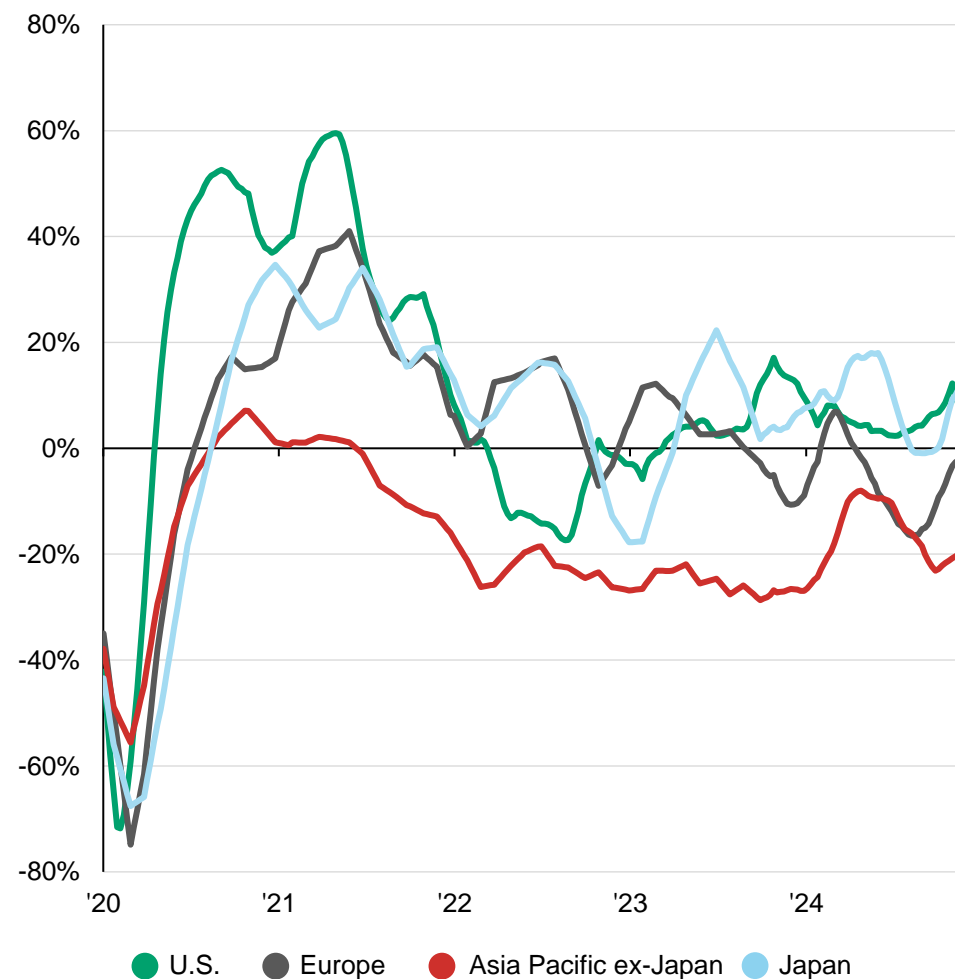
Earnings growth

Earnings per share, year-over-year change, consensus estimates



Earnings revisions ratios

Net earnings revisions to consensus estimates, 13-week moving average

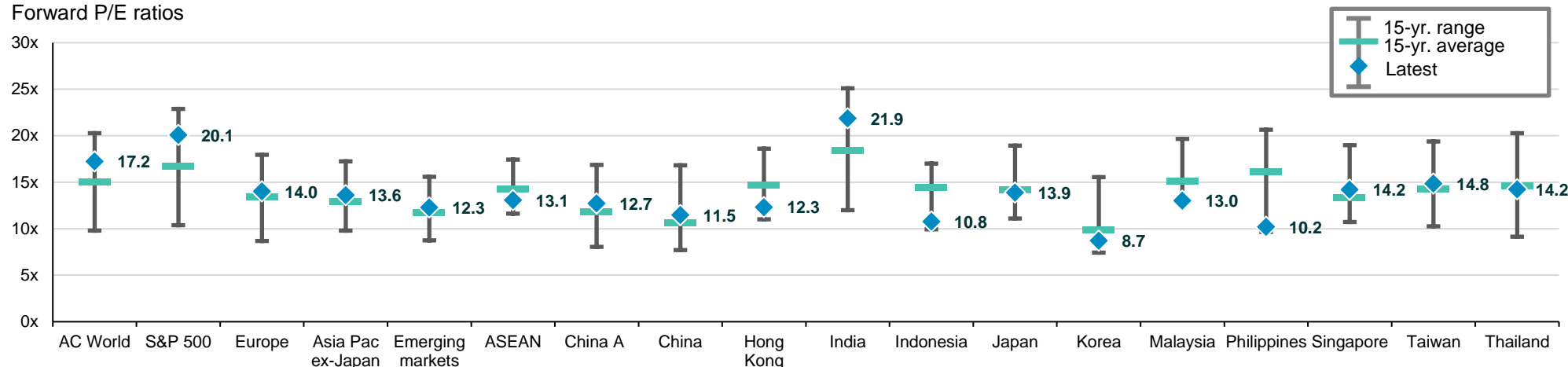


Source: FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management. U.S., Europe, Japan, , Asia Pacific ex-Japan and China equity indices used are the S&P 500, MSCI Europe, MSCI Japan, MSCI AC Asia Pacific ex-Japan and MSCI China, respectively. Consensus estimates used are calendar year estimates from FactSet. Revisions are based on the current unreported year. Net earnings revisions is (number of companies with upward earnings revisions minus number of companies with downward earnings revisions) divided by the number of total companies. Past performance is not a reliable indicator of current and future results. *Guide to the Markets – Asia*. Data reflect most recently available as of 31/03/25.

Global equities: Valuations

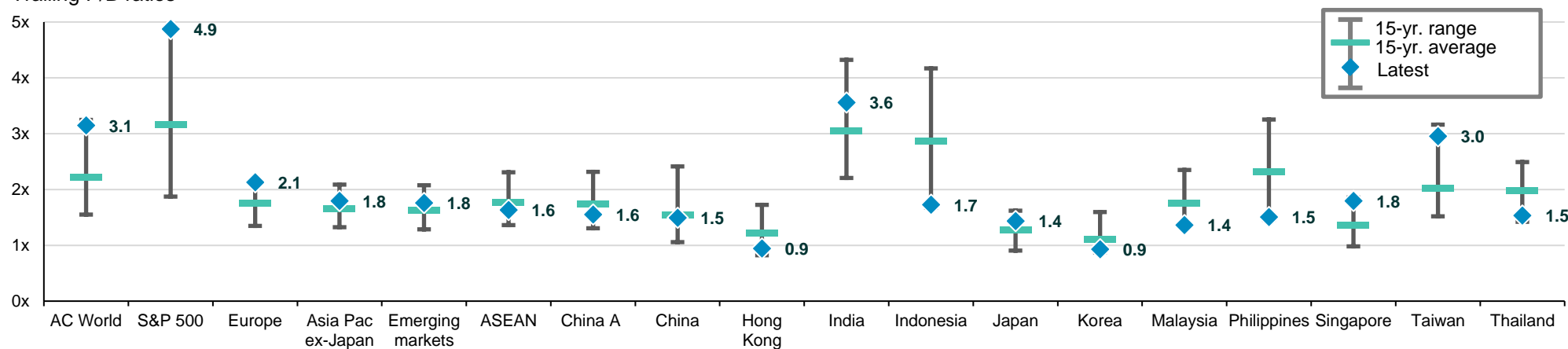
Equity market valuations – Price-to-earnings

Forward P/E ratios



Equity market valuations – Price-to-book

Trailing P/B ratios



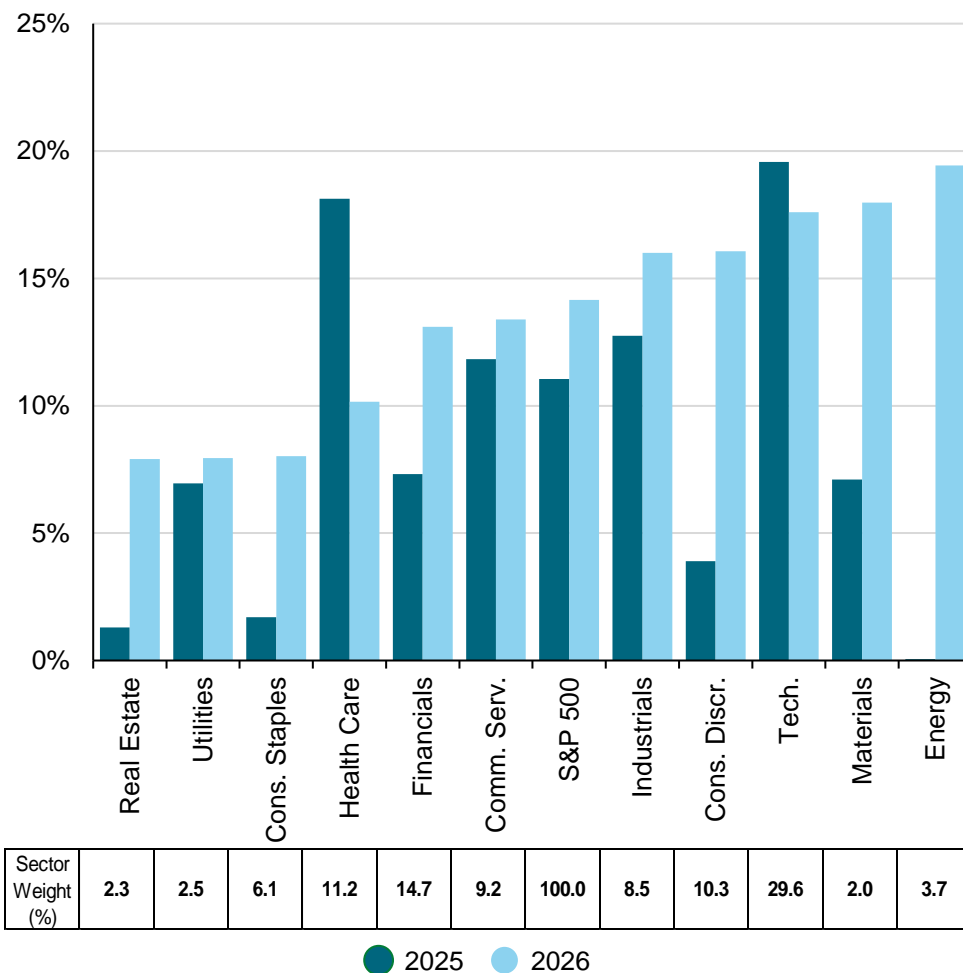
Source: China Securities Index, FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management. All valuation measures are based on respective MSCI data, except the U.S., which is represented by the S&P 500, and China A, which is represented by the CSI 300 index. Price-to-earnings (P/E) and price-to-book (P/B) ratios are in local currency terms. Past performance is not a reliable indicator of current and future results.

Guide to the Markets – Asia. Data reflect most recently available as of 31/03/25.

United States: Sector earnings and valuations

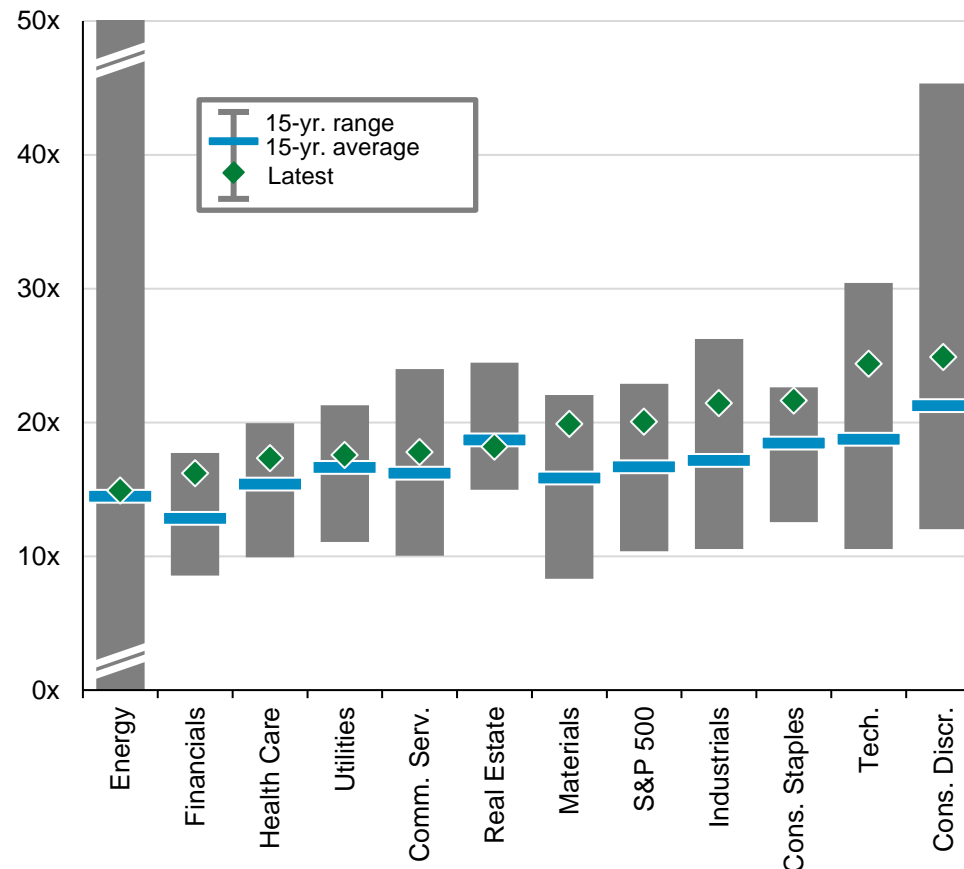
S&P 500 earnings growth estimates

Earnings per share, year-over-year change, consensus estimates



S&P 500 price-to-earnings

Forward P/E ratios

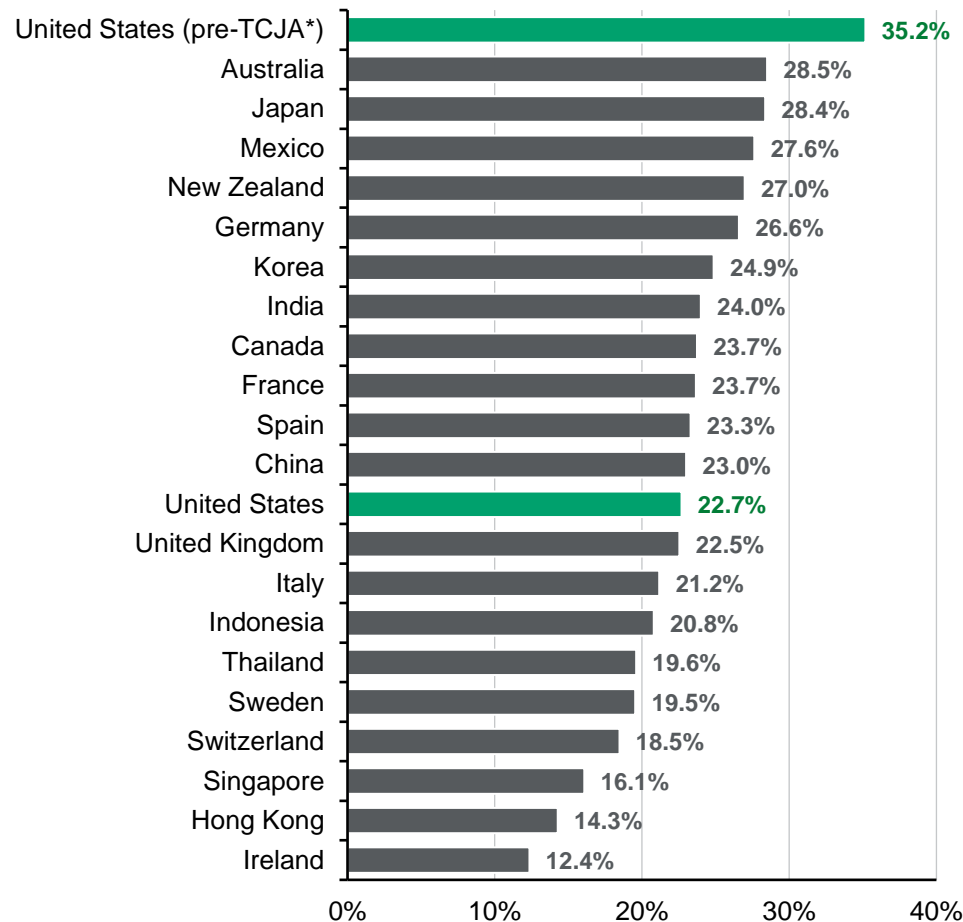


Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management. Tech refers to Technology; Cons. Staples refers to Consumer Staples; Comm. Serv. refers to Communication Services; Cons. Discr. refers to Consumer Discretionary. Axis may be cut off to maintain a more reasonable scale. Energy 15-year P/E range is - 263.8 to 77.2. Past performance is not a reliable indicator of current and future results.
Guide to the Markets – Asia. Data reflect most recently available as of 31/03/25.

United States: Corporate tax rates

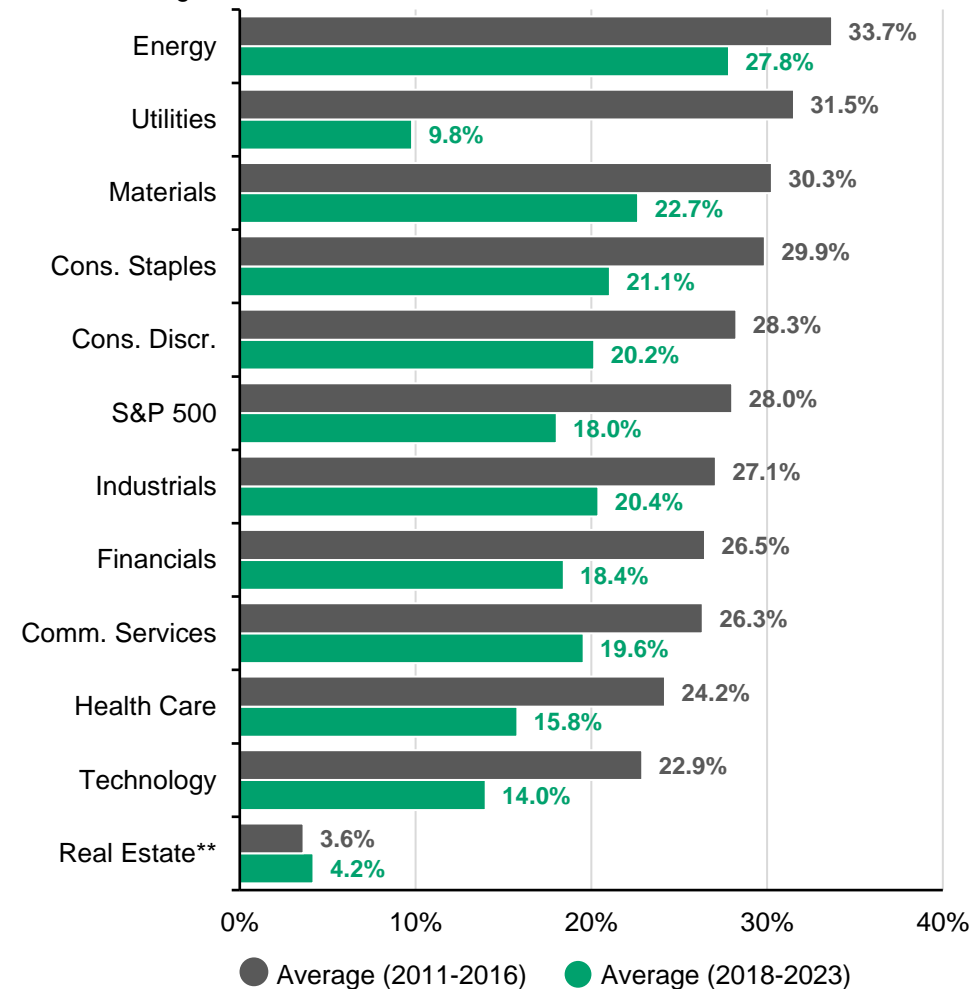
Effective corporate tax rates

Annual tax rates, 2023



S&P 500 effective sector tax rates

Annual average tax rate



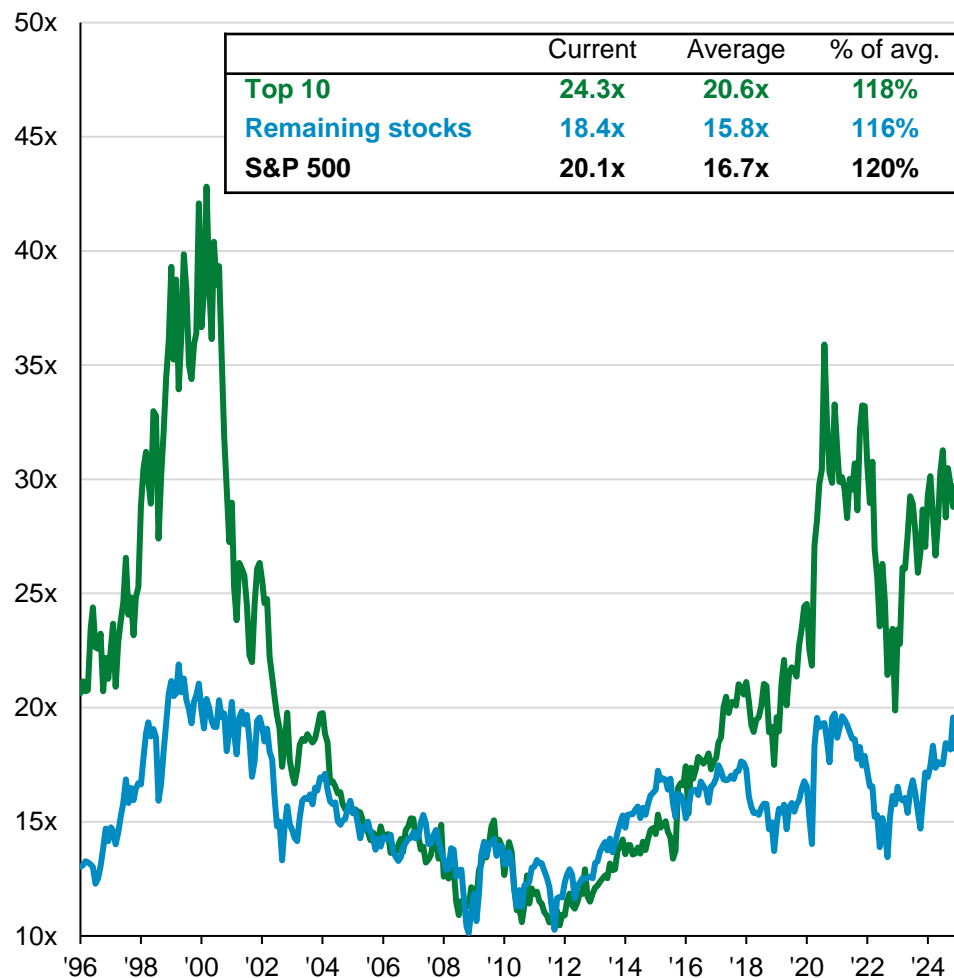
Source: J.P. Morgan Asset Management; (Left) OECD; (Right) Compustat, FactSet, Standard & Poor's. *TCJA refers to Tax Cuts and Jobs Act. The Pre-TCJA datapoint refers to 2017, as the TCJA applied only to tax years beginning in 2018. **Real estate effective tax rate average from 2018 to 2023 is a bottoms-up calculation due to limitations in availability of data.

Guide to the Markets – Asia. Data reflect most recently available as of 31/03/25.

United States: Index concentration

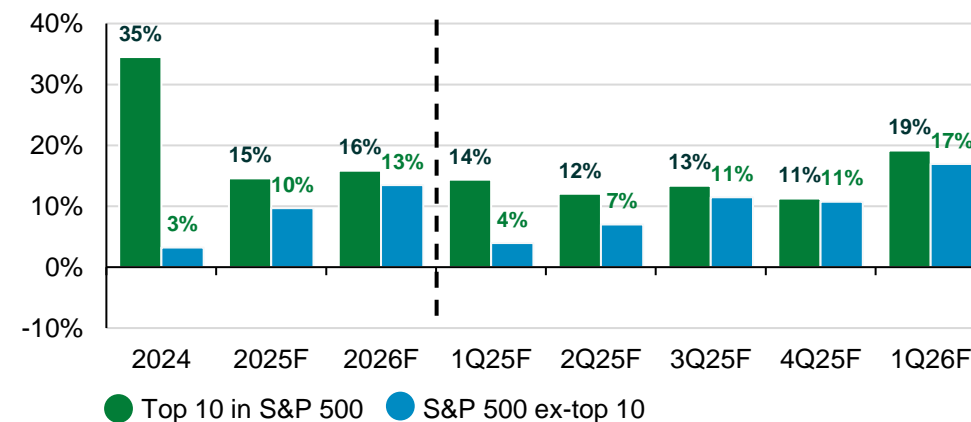
P/E ratio of the top 10 and remaining companies in S&P 500

Next 12 months, 1996 - present



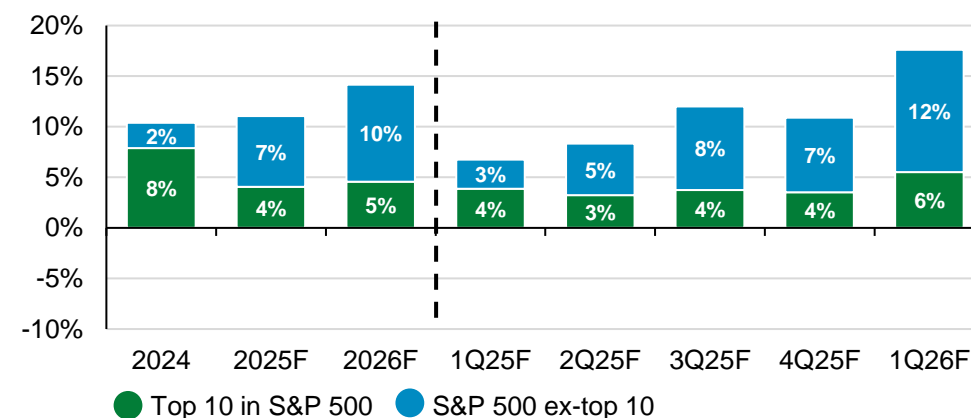
Earnings growth

Pro-forma earnings per share, year-over-year



Contribution to earnings growth

Pro-forma earnings per share, year-over-year percentage points



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

The top 10 S&P 500 companies are based on the 10 largest index constituents at the beginning of each month. Forecast assumes that the top 10 largest index constituents at the time of publication by market cap remain the top 10.

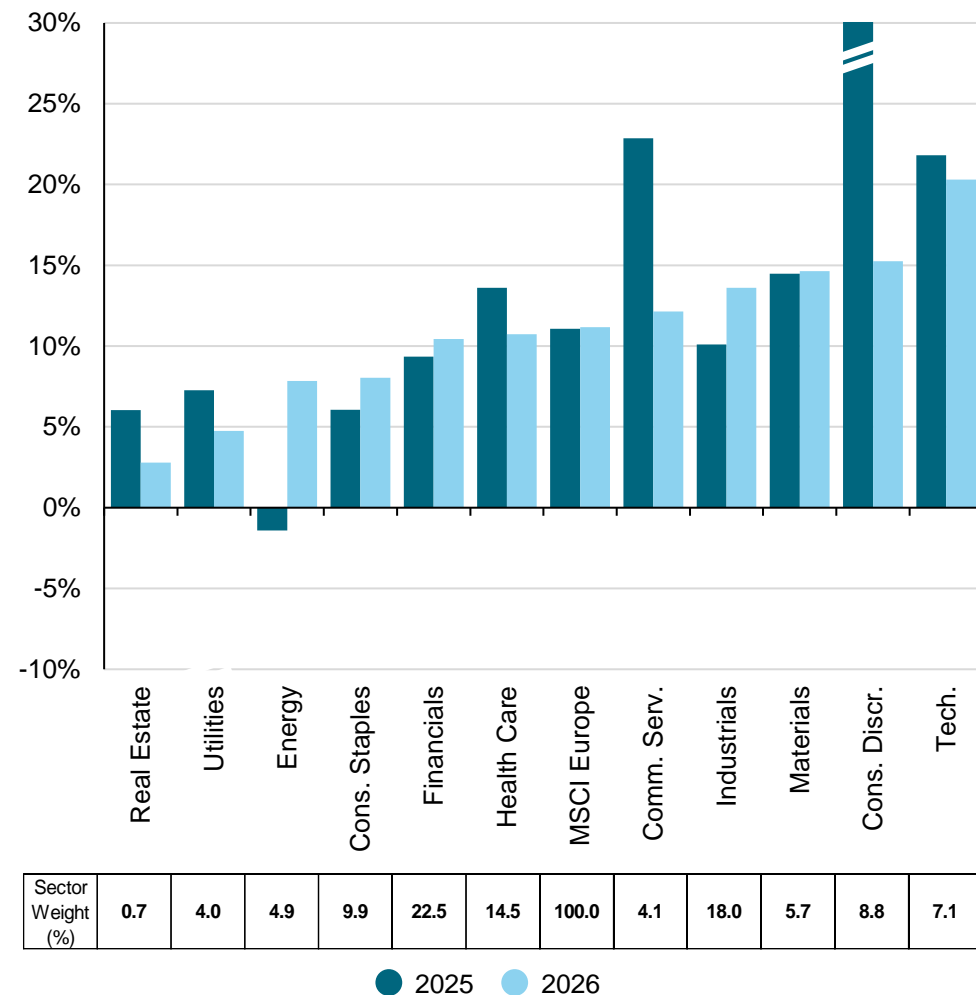
Guide to the Markets – Asia. Data reflect most recently available as of 31/03/25.

Europe: Sector earnings and valuations

Equities

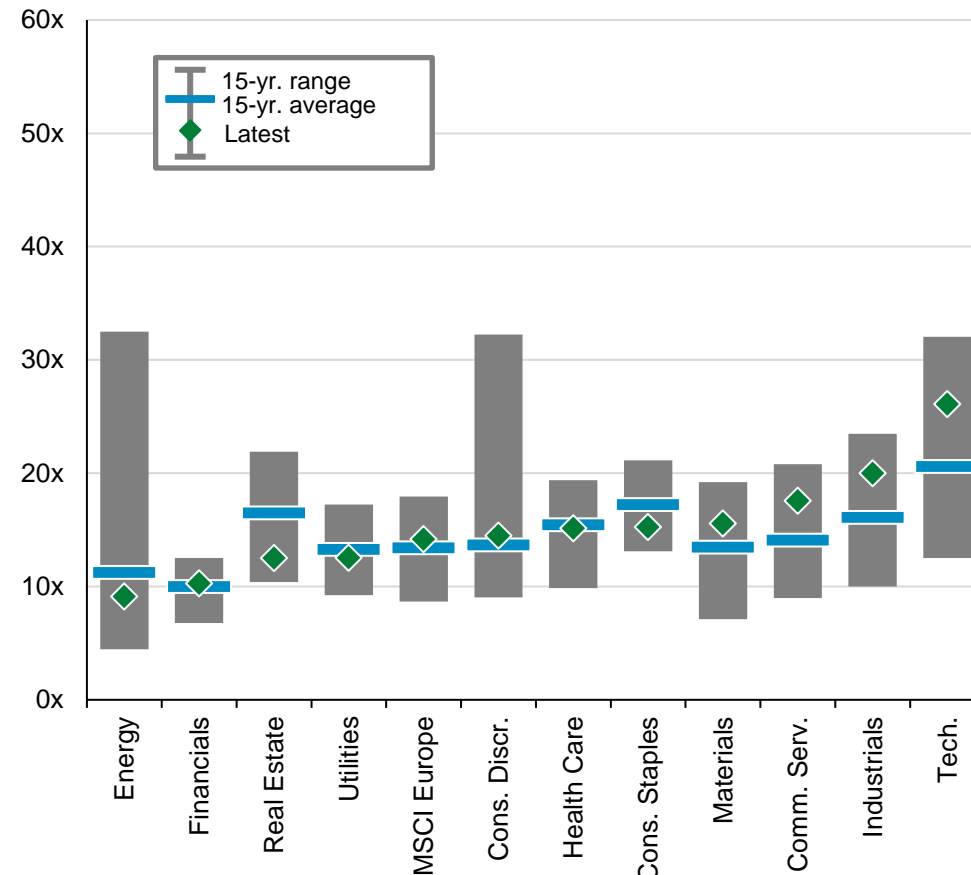
MSCI Europe ex-UK earnings and performance

Earnings per share, year-over-year change, consensus estimates



MSCI Europe price-to-earnings

Forward P/E ratios



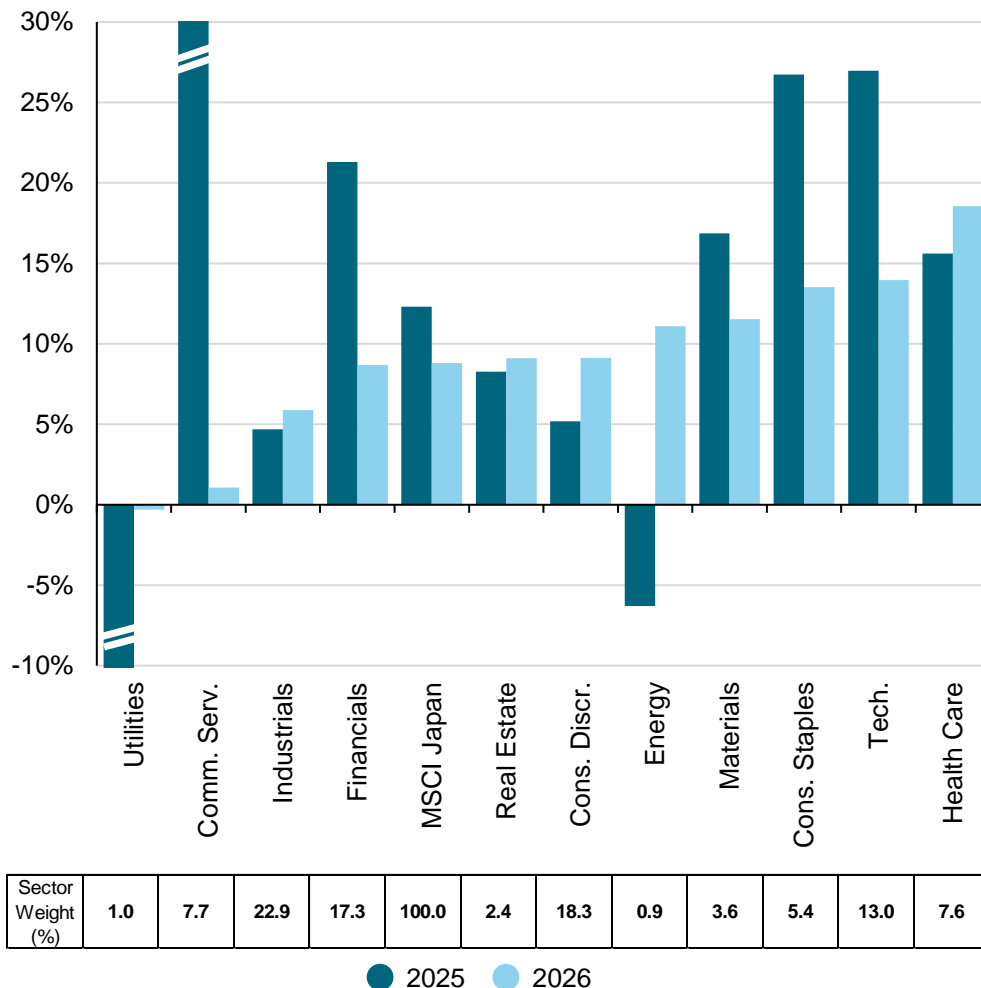
Source: FactSet, MSCI, J.P. Morgan Asset Management. Tech refers to Technology; Cons. Staples refers to Consumer Staples; Comm. Serv. refers to Communication Services; Cons. Discr. refers to Consumer Discretionary. Axis may be cut off to maintain a more reasonable scale. Cons. Discr. 2024 earnings growth estimate is 31%. Past performance is not a reliable indicator of current and future results.

Guide to the Markets – Asia. Data reflect most recently available as of 31/03/25.

Japan: Sector earnings and valuations

MSCI Japan earnings growth estimates

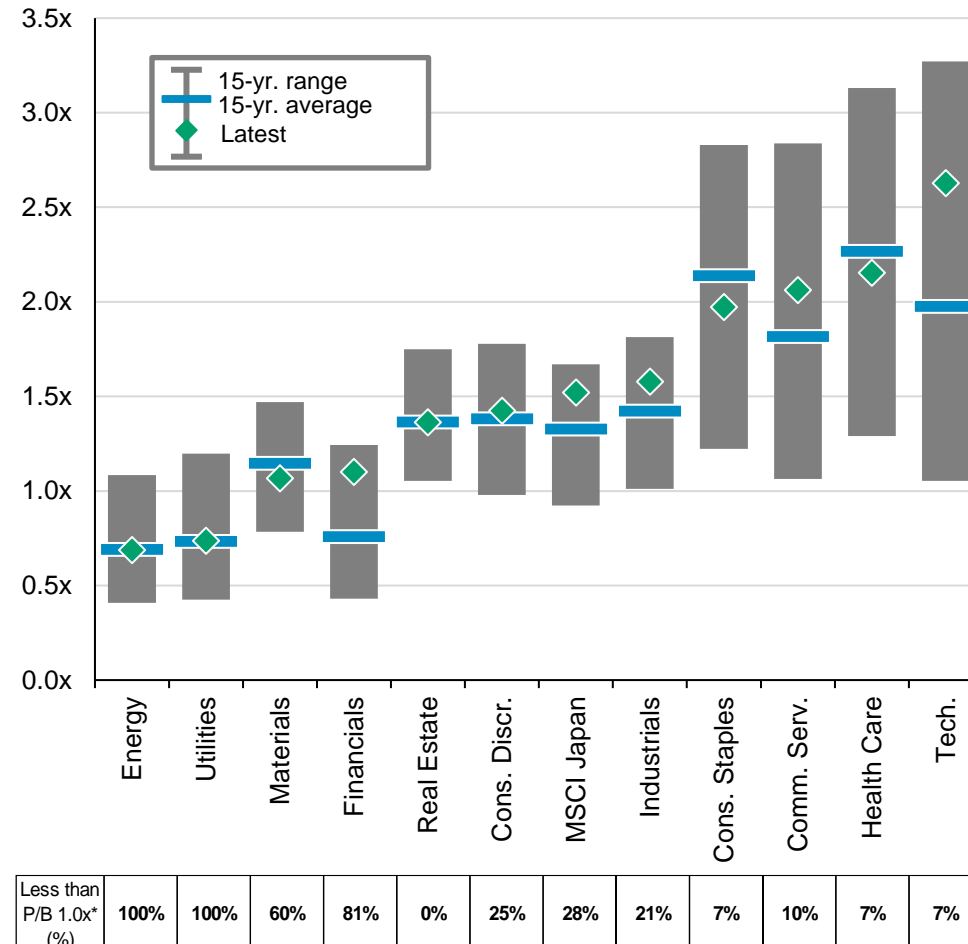
Earnings per share, year-over-year change, consensus estimates



Sector Weight (%)	1.0	7.7	22.9	17.3	100.0	2.4	18.3	0.9	3.6	5.4	13.0	7.6
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MSCI Japan price-to-book

Trailing P/B ratios



Less than P/B 1.0x* (%)	100%	100%	60%	81%	0%	25%	28%	21%	7%	10%	7%	7%
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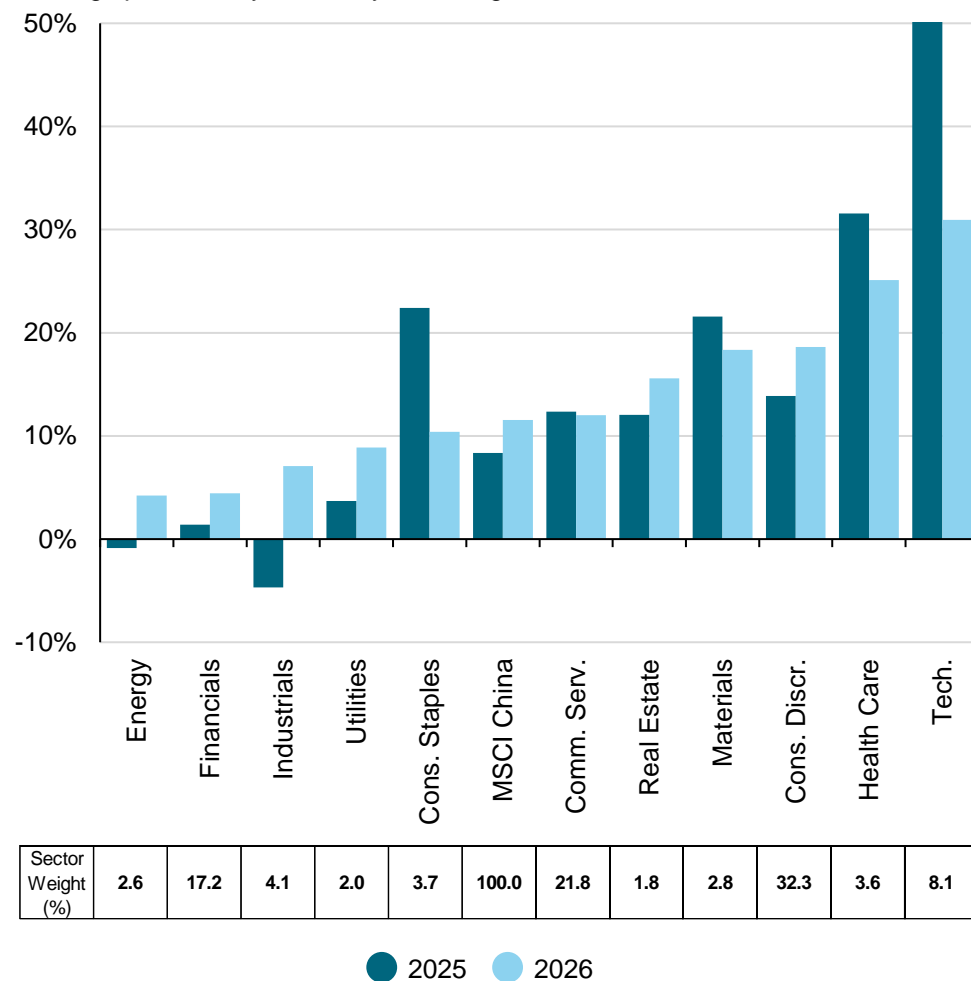
Source: FactSet, MSCI, J.P. Morgan Asset Management. Cons. Discr. refers to Consumer Discretionary, Comm. Services refers to Communication Services, Cons. Staples refers to Consumer Staples, Tech refers to Technology. Consensus estimates used are calendar year estimates from FactSet. Utilities 2025 earnings growth estimate is -27%. Communication Services 2024 earnings growth estimate is 42%. *Percentage of companies with a valuation of less than 1.0x price-to-book ratio is calculated based on the number of constituents. Past performance is not a reliable indicator of current and future results.

Guide to the Markets – Asia. Data reflect most recently available as of 31/03/25.

China: Sector earnings and valuations

MSCI China earnings growth estimates

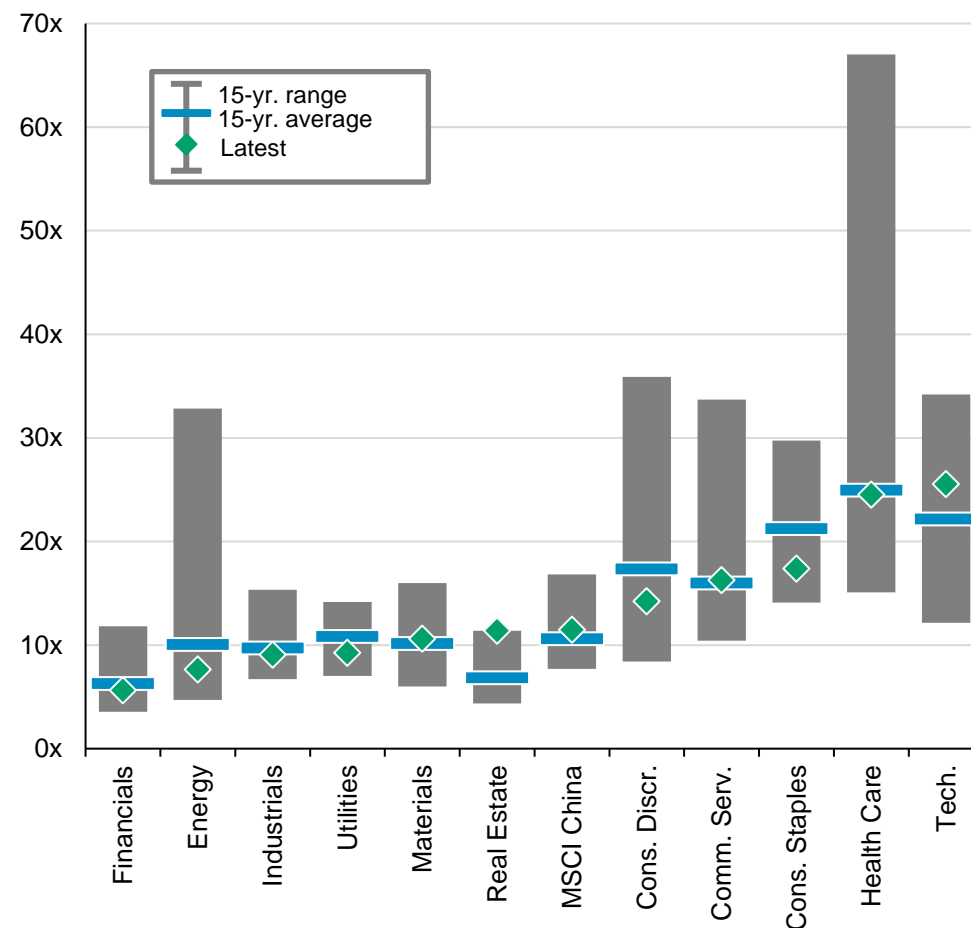
Earnings per share, year-over-year change, consensus estimates



Sector Weight (%)	2.6	17.2	4.1	2.0	3.7	100.0	21.8	1.8	2.8	32.3	3.6	8.1
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MSCI China price-to-earnings

Forward P/E ratios

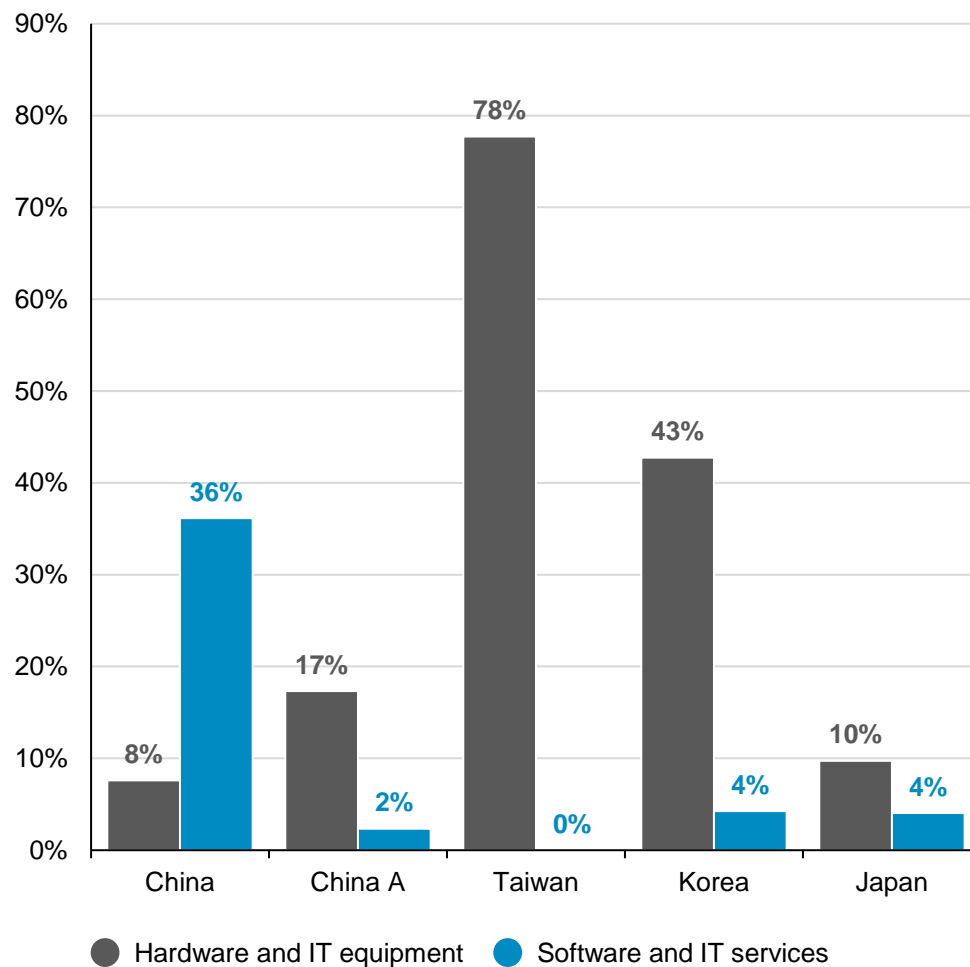


Source: FactSet, MSCI, J.P. Morgan Asset Management. Tech refers to Technology; Cons. Staples refers to Consumer Staples, Comm. Services refers to Communication Services; Cons. Discr. refers to Consumer Discretionary. Consensus estimates used are calendar year estimates from FactSet. Technology 2025 earnings growth estimate is 68%. Past performance is not a reliable indicator of current and future results.
Guide to the Markets – Asia. Data reflect most recently available as of 31/03/25.

China: Technology-related industries

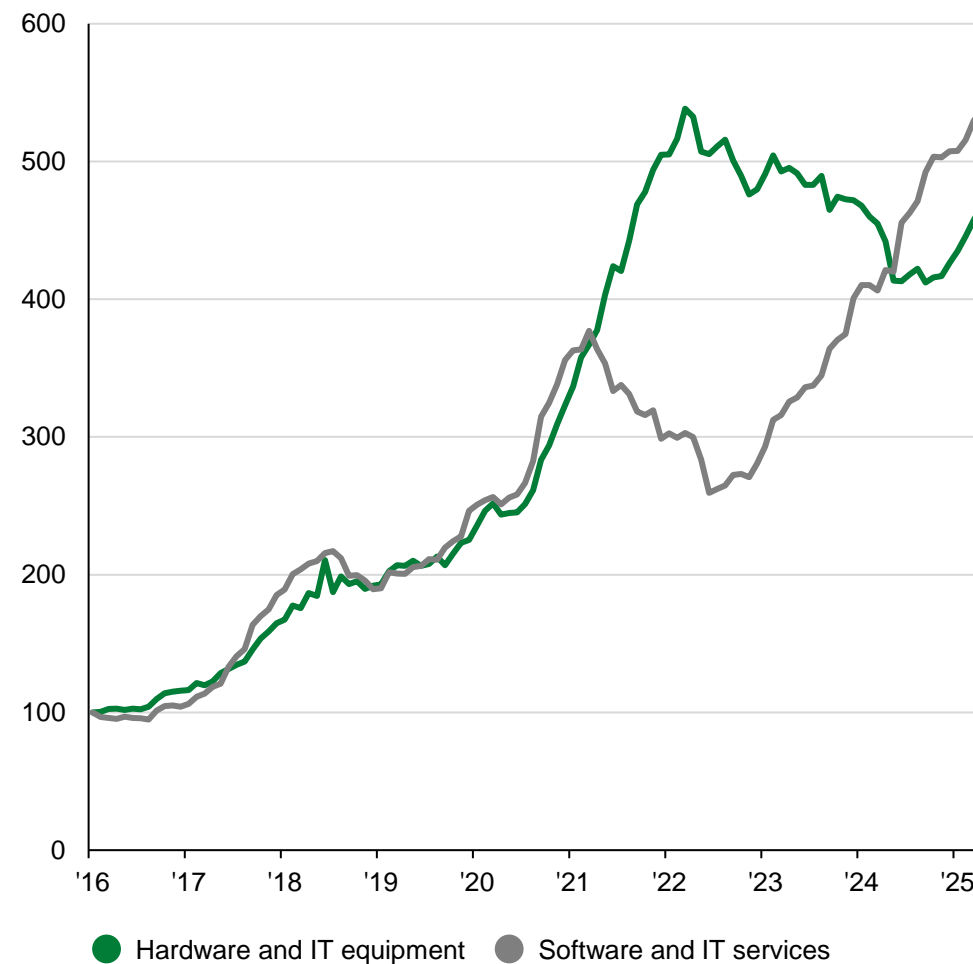
Technology exposure in Asian markets

MSCI indices weight, select technology industries



Earnings in Chinese technology names

Relative level, Dec 2015 = 100, select technology industries

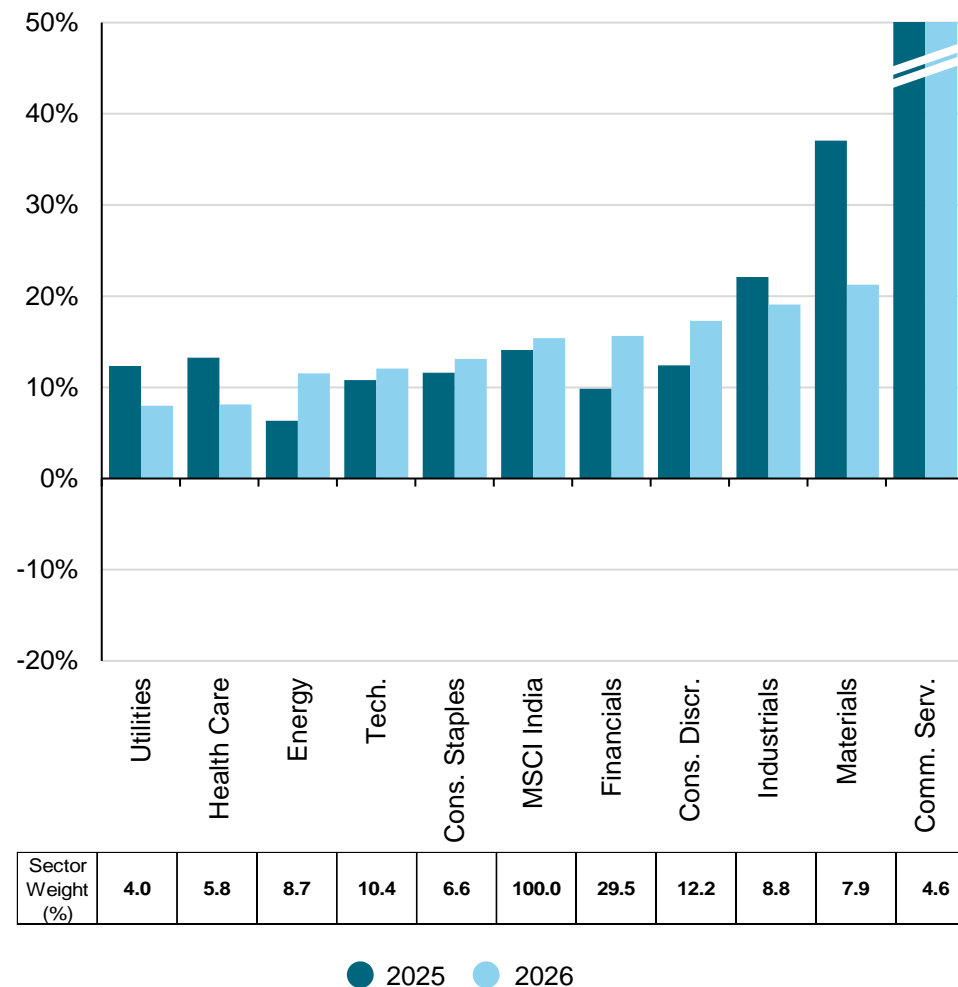


Source: FactSet, MSCI, J.P. Morgan Asset Management. Based on MSCI China, MSCI China A Onshore, MSCI Taiwan, MSCI Korea and MSCI Japan index. Hardware and IT equipment includes electronic equipment instruments & components, communications equipment, semiconductors & semiconductor equipment and technology hardware storage & peripherals. Software and IT services include IT services, software, interactive media & services and broadband retail. Based on GICS classification. Based on respective constituents of the MSCI China and MSCI China A Onshore index as of latest data. All data in USD terms. *Guide to the Markets – Asia*. Data reflect most recently available as of 31/03/25.

India: Sector earnings and valuations

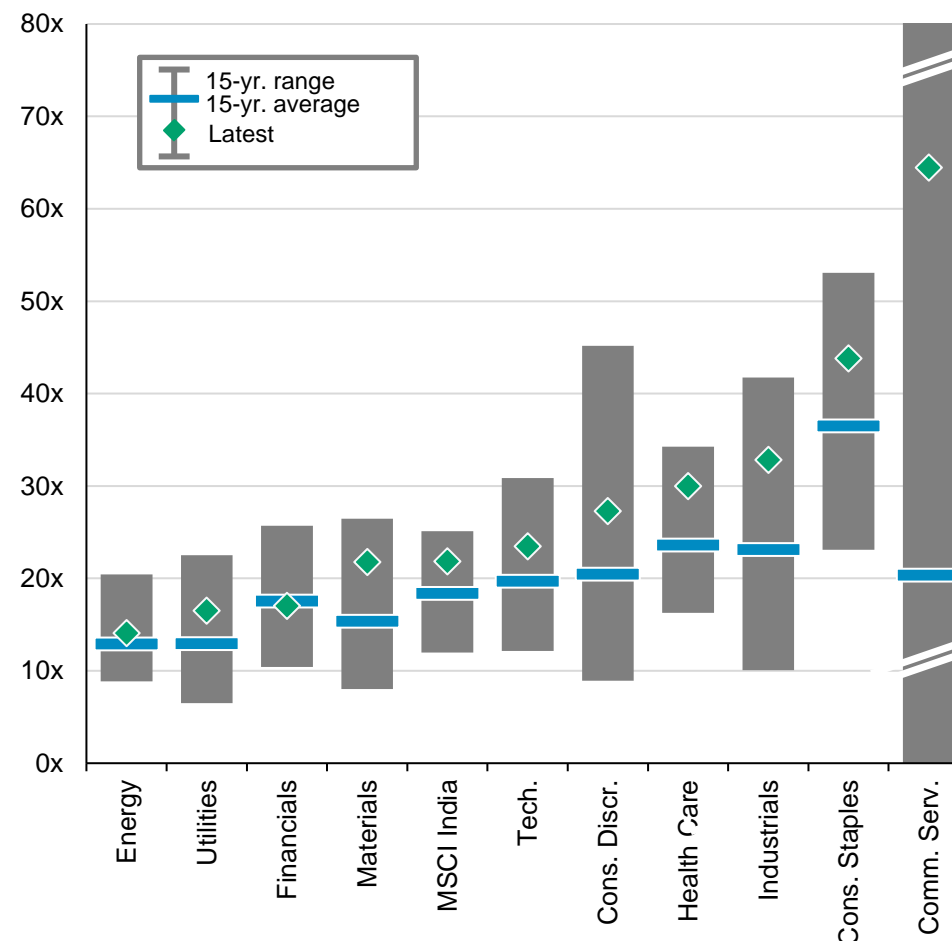
MSCI India earnings growth estimates

Earnings per share, year-over-year change, consensus estimates



MSCI India price-to-earnings

Forward P/E ratios

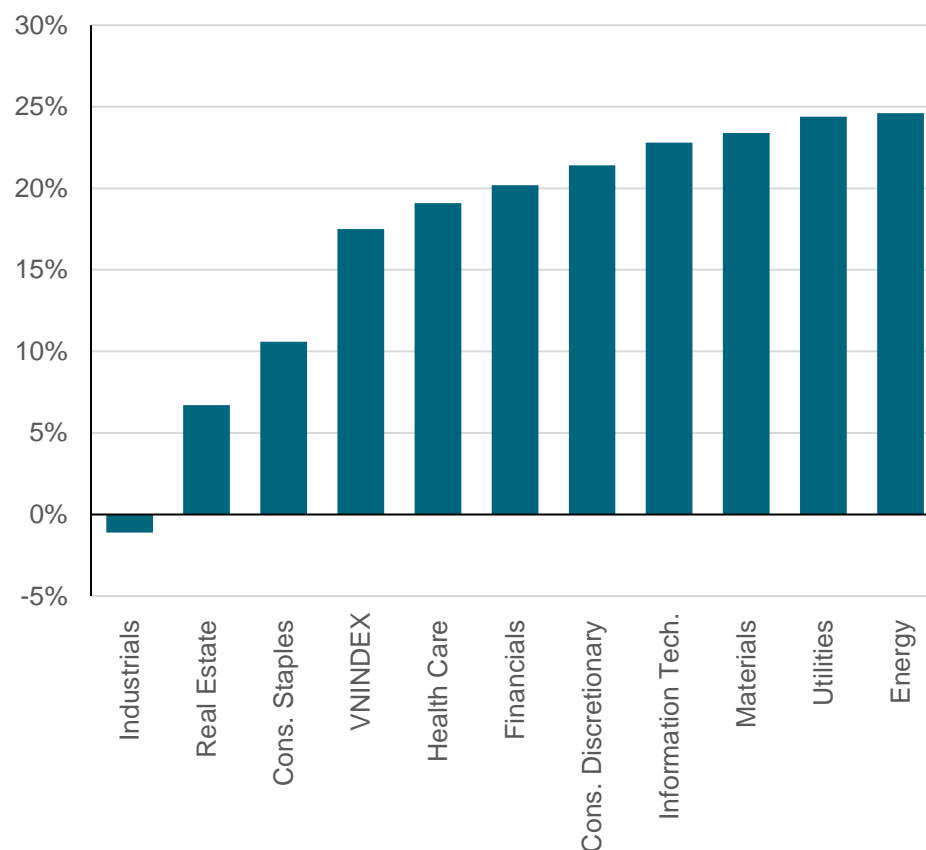


Source: FactSet, MSCI, J.P. Morgan Asset Management. Tech refers to Technology; Cons. Staples refers to Consumer Staples; Comm. Serv. refers to Communication Services; Cons. Discr. refers to Consumer Discretionary. Consensus estimates used are calendar year estimates from FactSet. Communication Services 2025 earnings growth estimate is 309% and 2025 earnings growth estimate is 71%. Data for MSCI India real estate sector is unavailable. Communication Services 15-year P/E range is -1781.7 to 317.1. Past performance is not a reliable indicator of current and future results. Axis may be cut off to maintain a more reasonable scale. *Guide to the Markets – Asia*. Data reflect most recently available as of 31/03/25.

Vietnam: Sector earnings and valuations

VN Index 2025 earnings growth estimates

Earnings per share, year-over-year change, consensus estimates



Sector weight (%)	7.2	25.1	10.8	100	8.3	35.2	2.9	1.6	9.2	5.2	1.9
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VN Index price-to-earnings

Forward P/E ratios

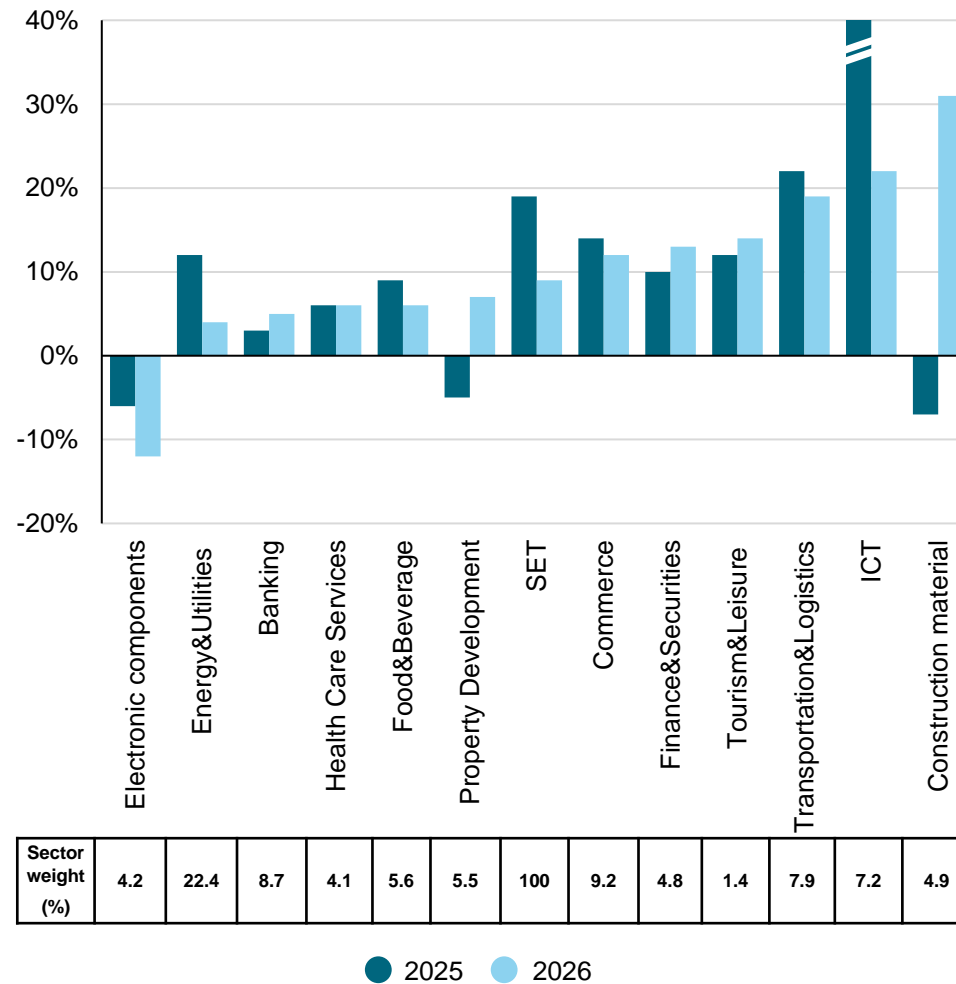


Source: Bloomberg, Kasikorn Asset Management. Tech refers to Technology; Cons. Staples refers to Consumer Staples; Comm. Services refers to Communication Services; Cons. Discr. refers to Consumer Discretionary.. Axis may be cut off to maintain a more reasonable scale.
Data reflect most recently available as of 08/04/25.

Thailand: Sector earnings and valuations

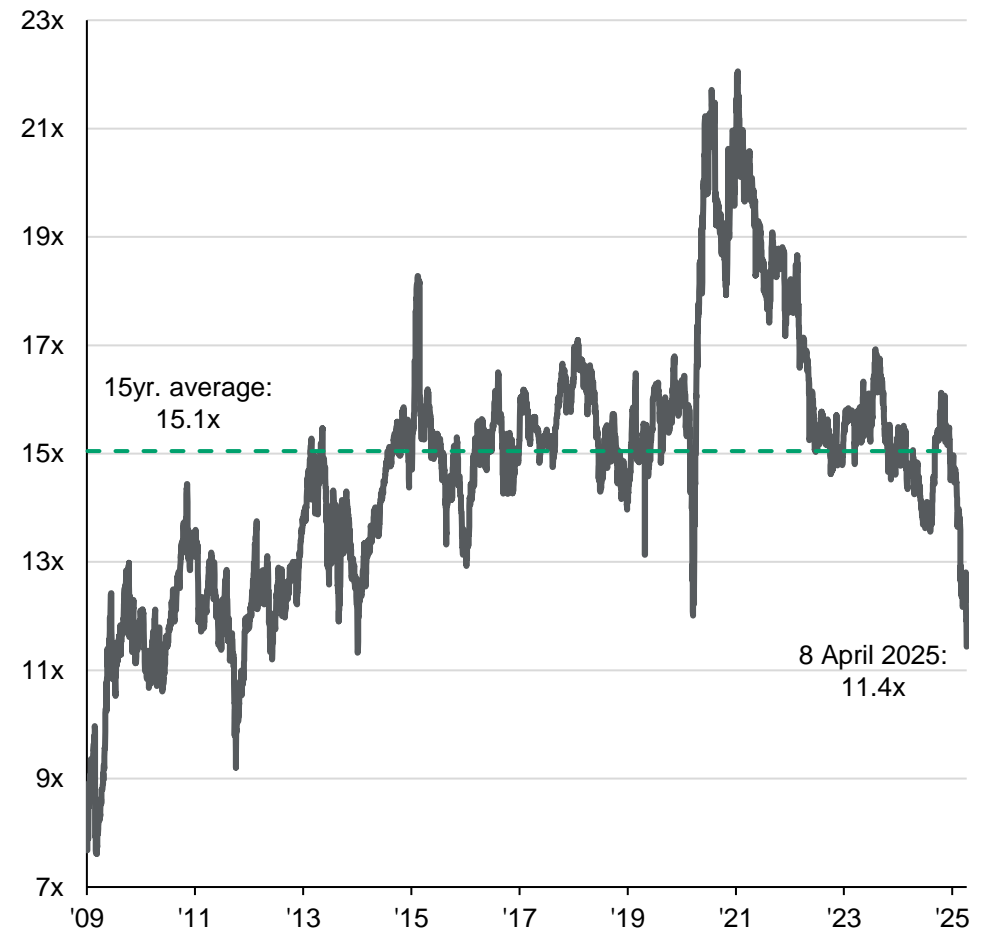
SET Index earnings growth estimates

Earnings per share, year-over-year change, consensus estimates



SET Index price-to-earnings

Forward P/E ratios

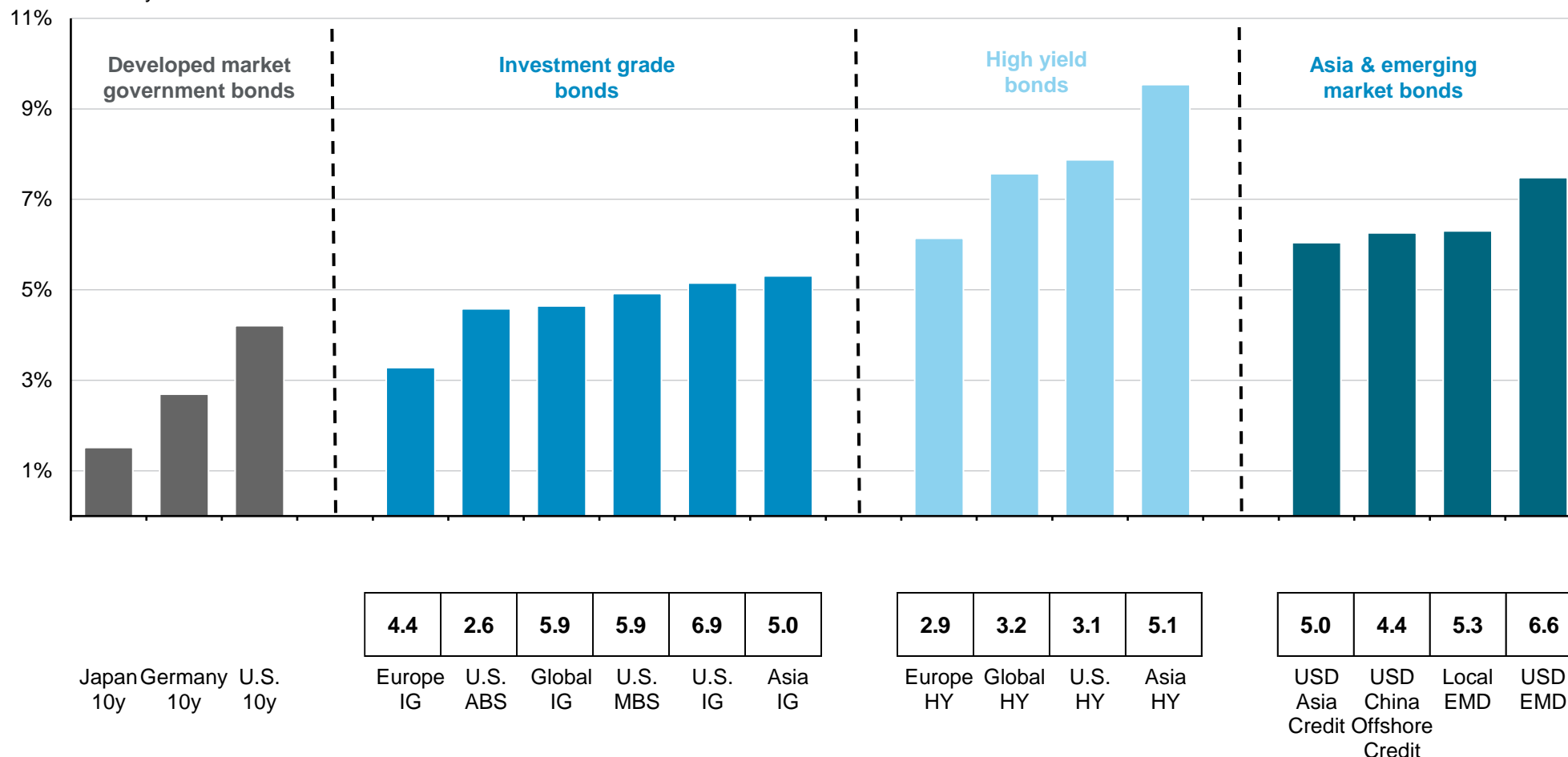


Source: Bloomberg, Kasikorn Asset Management. Axis may be cut off to maintain a more reasonable scale.
Data reflect most recently available as of 08/04/25.

Global fixed income: Yields and duration

Fixed income yields

Yield to maturity



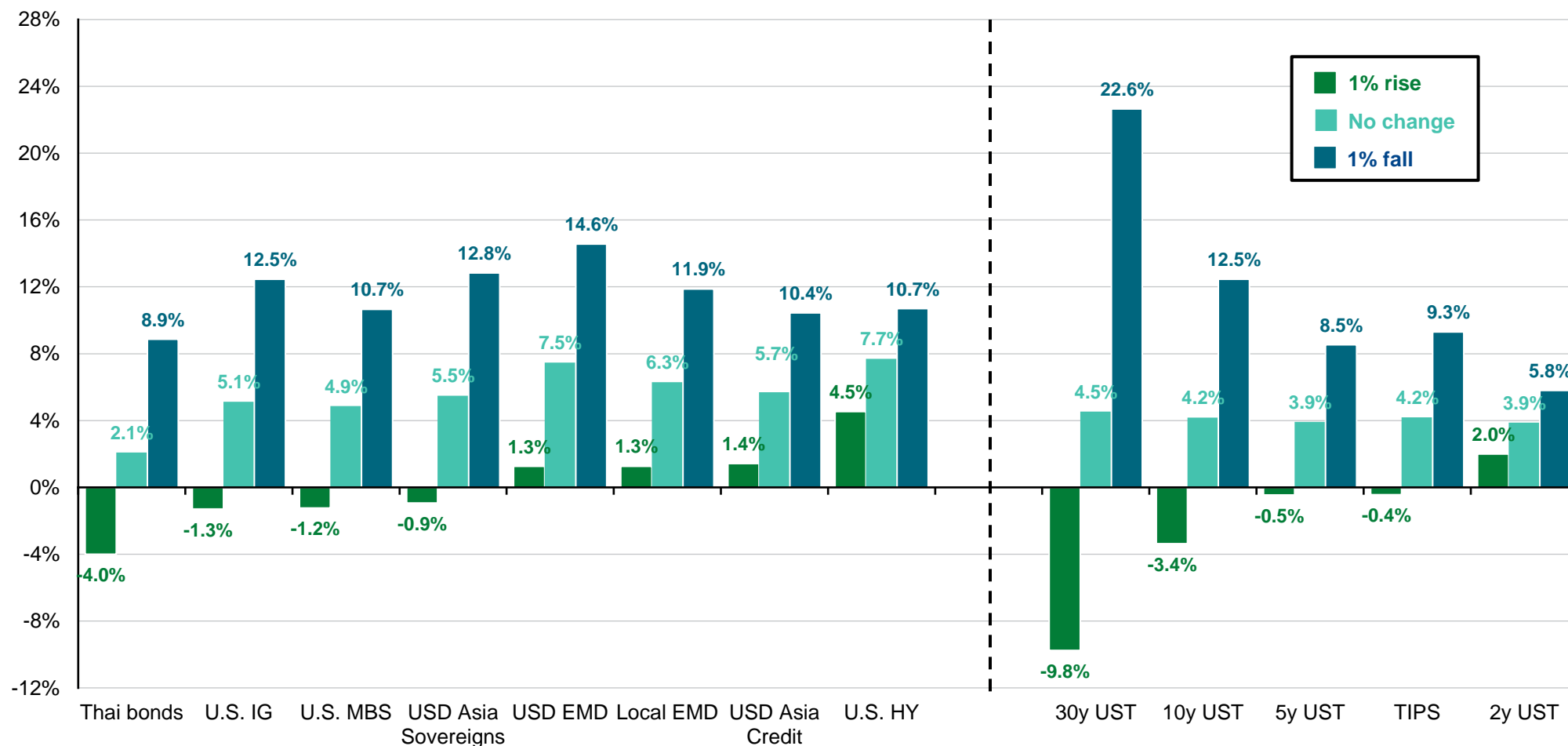
Source: Bloomberg, FactSet, ICE BofA Merrill Lynch, J.P. Morgan Economic Research, J.P. Morgan Asset Management. Based on Bloomberg U.S. Aggregate Credit – Corporate Investment Grade Index (U.S. IG), Bloomberg Euro Aggregate Credit – Corporate (Europe IG), J.P. Morgan Asia Credit Investment Grade Index (Asia IG), Bloomberg Global Aggregate – Corporate (Global IG), Bloomberg U.S. Aggregate Credit – Corporate High Yield Index (U.S. HY), Bloomberg U.S. Aggregate Securitized – Asset Backed Securities (U.S. ABS), Bloomberg U.S. Aggregate Securitized – Mortgage Backed Securities (U.S. MBS), Bloomberg Pan European High Yield (Europe HY), J.P. Morgan Asia Credit High Yield Index (Asia HY), ICE BofA Global High Yield (Global HY), J.P. Morgan GBI-EM Global Diversified (Local EMD), J.P. Morgan EMBI Global (USD EMD), J.P. Morgan Asia Credit Index (JACI) (USD Asia Credit), J.P. Morgan Asia Credit China Index (USD China Offshore Credit). Duration is a measure of the sensitivity of the price (the value of the principal) of a fixed income investment to a change in interest rates and is expressed as number of years. Spread duration is shown for Asia IG, Asia HY, USD EMD, USD Asia Credit and USD China Offshore Credit. Rising interest rates mean falling bond prices, while declining interest rates mean rising bond prices. Yields are not guaranteed, positive yield does not imply positive return. Past performance is not a reliable indicator of current and future results.

Guide to the Markets – Asia. Data reflect most recently available as of 31/03/25.

Global fixed income: Interest rate sensitivity

Impact of a 1% rise or fall in interest rates based on duration

Total return, assumes a parallel shift in the yield curve

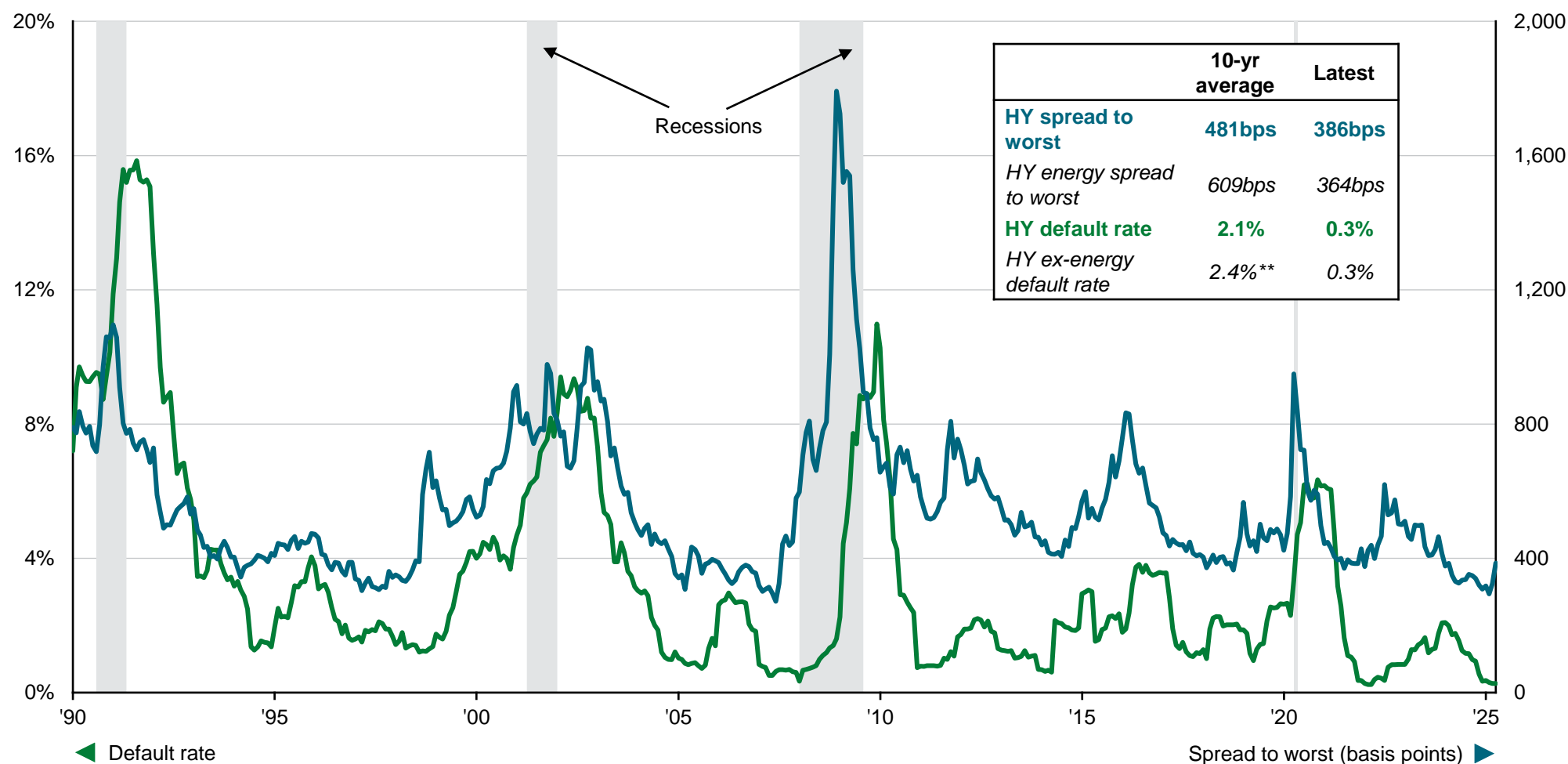


Source: Bloomberg, FactSet, J.P. Morgan Economic Research, J.P. Morgan Asset Management. Based on Bloomberg U.S. Treasury Bellwethers Index (2, 5, 10, 30-year UST), Bloomberg U.S. Treasury Inflation-Protected Notes Index (TIPS), Bloomberg U.S. Aggregate Securitized – MBS Index (U.S. MBS), Bloomberg U.S. Aggregate Credit – Corporate – Investment Grade Index (U.S. IG), Bloomberg U.S. Aggregate Credit – Corporate – High Yield Index (U.S. HY), J.P. Morgan Emerging Market Bond Index Global (EMBIG) (USD EMD), J.P. Morgan Asia Credit Index (USD Asia Credit), J.P. Morgan Asia Credit Index – Sovereigns (USD Asia Sovereigns), J.P. Morgan Government Bond Index – EM Global Diversified (GBI-EM) (Local EMD), J.P. Morgan Government Bond Index – EM Global Diversified Thailand (Thai Bonds). Past performance is not indicative of current or future results. The price return calculation is based on both the duration and convexity of the underlying index to movements in interest rates (Change in price = (-Modified Duration x change in yield) + (½ x Convexity x change in yield²)).

Guide to the Markets – Asia. Data reflect most recently available as of 31/03/25.

U.S. high yield bonds

High yield spread and default rate*

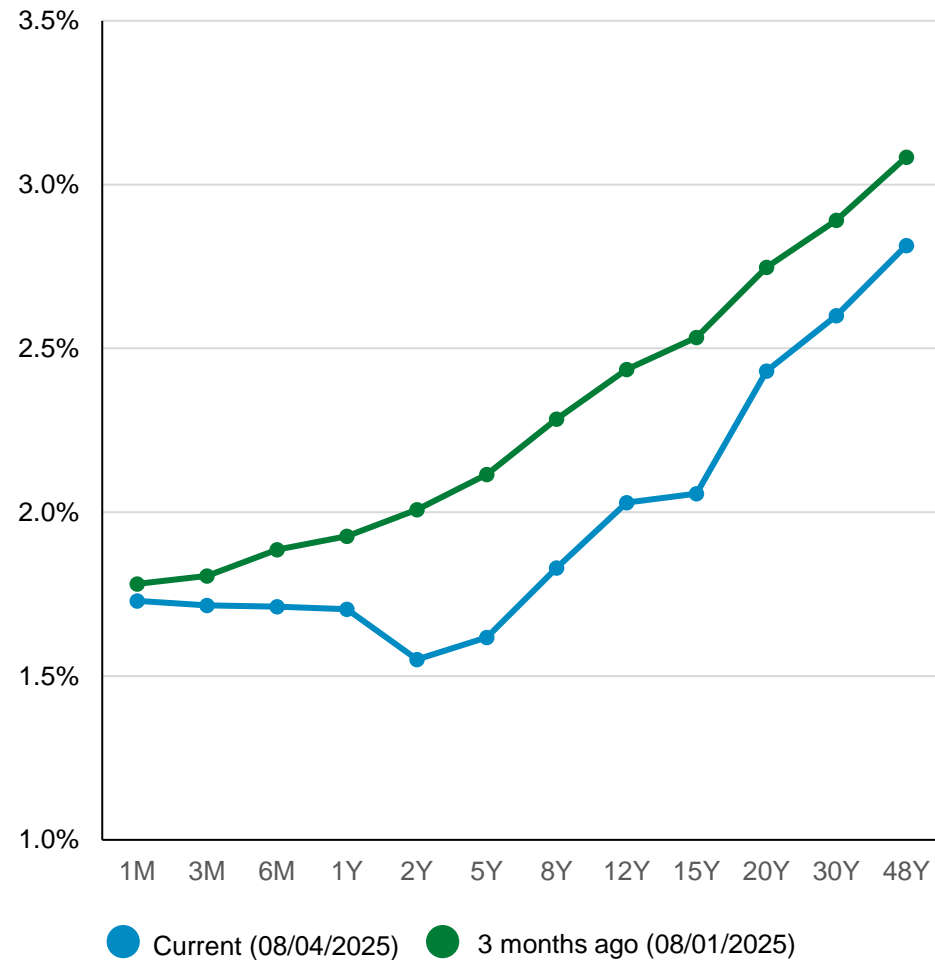


Source: J.P. Morgan Economic Research, J.P. Morgan Asset Management. *Default rate is defined as the percentage of the total market trading at or below 50% of par value and includes any Chapter 11 filing, pre-packaged filing or missed interest payments. Spreads indicated are benchmark yield-to-worst less comparable maturity Treasury yields. **Data reflects 23-year average and is as of 31/12/24. U.S. corporate high yield is represented by the J.P. Morgan Domestic High Yield Index. *Guide to the Markets – Asia*. Data reflect most recently available as of 31/03/25.

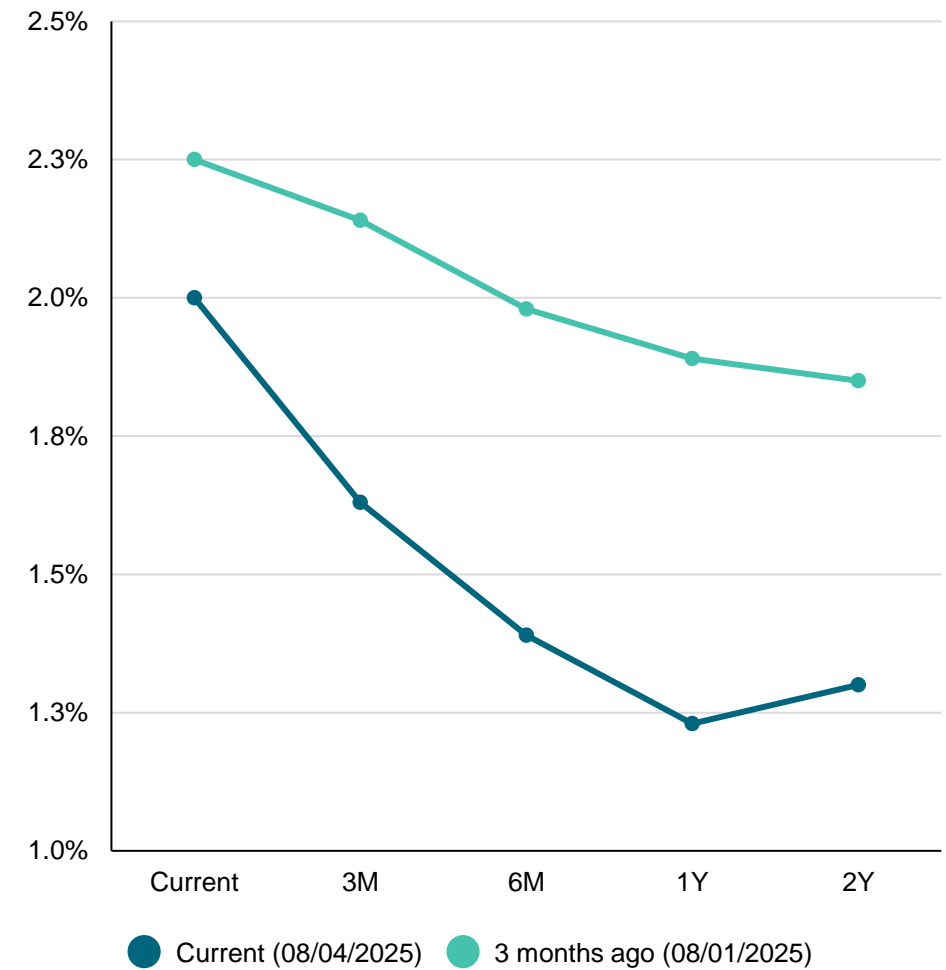
Thai yield curve and market-implied policy rate

Thai yield curve

Yields



Market-implied policy rate

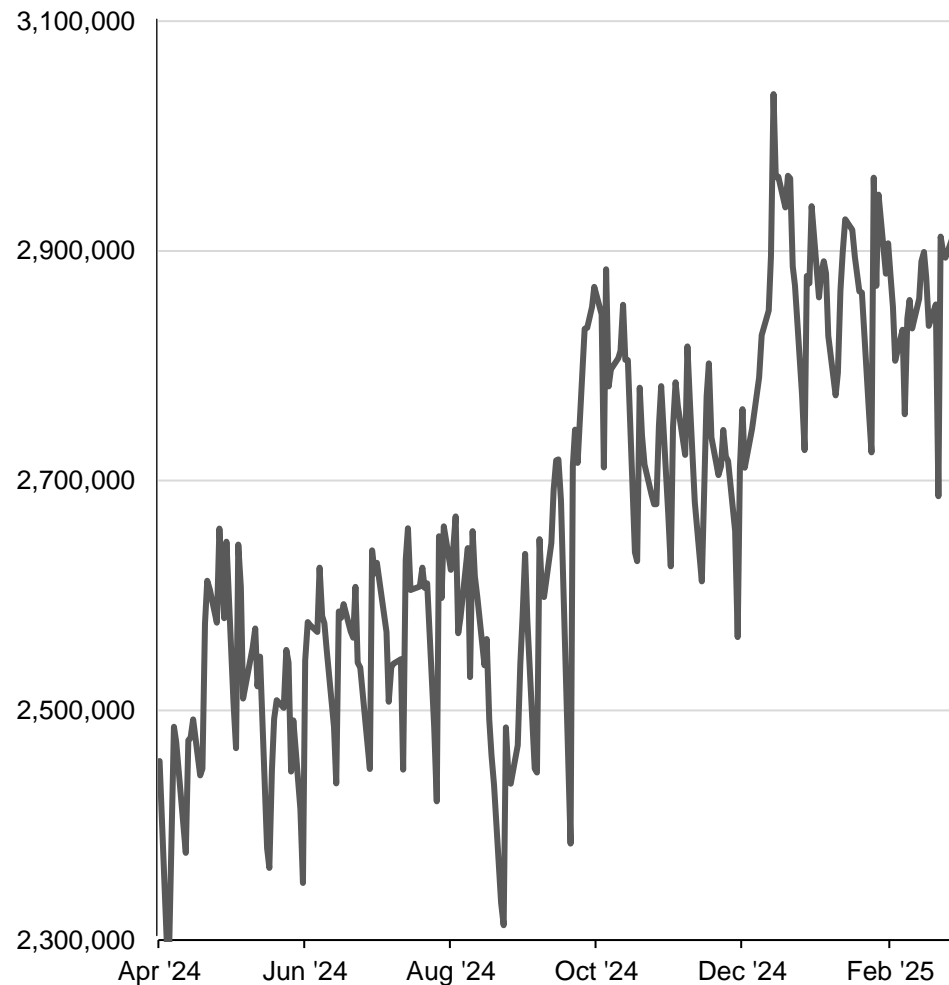


Source: Bloomberg, Thai Bond Market Association, Kasikorn Asset Management.
Data reflect most recently available as of 08/04/25.

Thai Fixed Income: liquidity and non-resident flows

Bilateral Repurchase Transactions

Total RP Outstanding, million THB



Non-resident holdings by maturity

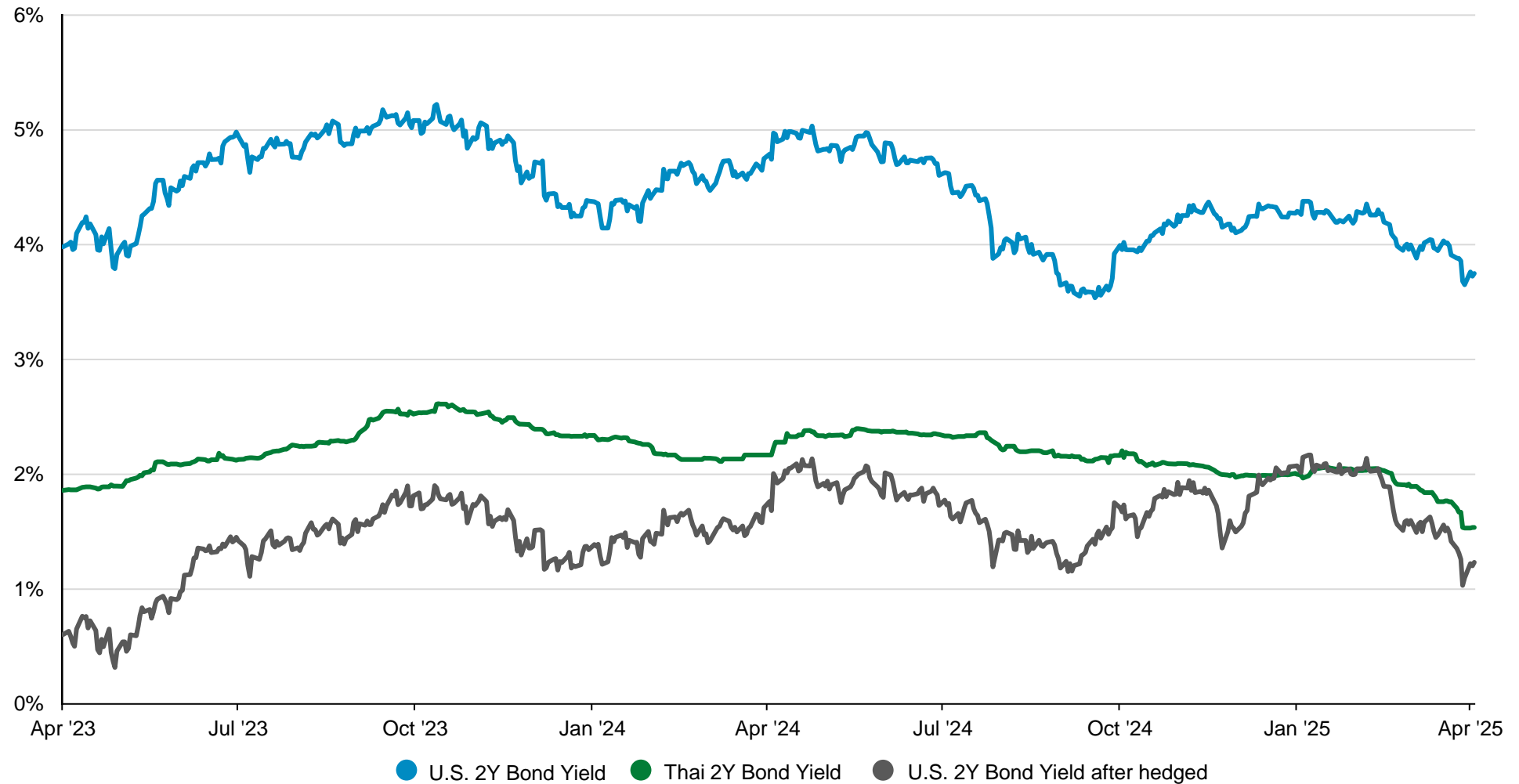
Trillion THB



Source: (Left) Bank of Thailand, (Right) Thai Bond Market Association, Kasikorn Asset Management.
Data reflect most recently available as of 08/04/25.

U.S. vs Thai bond yields

U.S. Bond Yield After Hedged in THB and TH Bond Yield



Source: Bloomberg, Kasikorn Asset Management.
Data reflect most recently available as of 08/04/25.

Asset class returns

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	1Q '25	10-yrns ('15 - '25)	
													Ann. Ret.	Ann. Vol.
Thai Equities	16.8%	Asian Bonds	27.0%	APAC ex- JP	Thai Bonds	Global Equities	APAC ex- JP	Global Equities	Thai Equities	Global Equities	Global Equities	EM ex- Asia	Global Equities	EM ex- Asia
Asian Bonds	8.3%	Cash	25.2%	Thai Equities	Cash	Diversified	Global Equities	EM ex- Asia	Cash	EM ex- Asia	Diversified	Thai Bonds	Diversified	Thai Equities
Thai Bonds	8.2%	Global Equities	14.0%	EM ex- Asia	Asian Bonds	Thai Bonds	Diversified	Diversified	Thai Bonds	Global Corp HY	APAC ex- JP	Global Bonds	APAC ex- JP	APAC ex- JP
Diversified	6.8%	Global Bonds	8.5%	Global Equities	Global Bonds	APAC ex- JP	Global Bonds	Global Corp HY	Asian Bonds	Diversified	Global Corp HY	Asian Bonds	Global Corp HY	Global Equities
Global Equities	4.7%	Thai Bonds	8.1%	Diversified	Global Corp HY	EM ex- Asia	Global Corp HY	Cash	Diversified	APAC ex- JP	Thai Bonds	Global Corp HY	Asian Bonds	Diversified
APAC ex- JP	3.1%	Diversified	7.1%	Thai Bonds	Diversified	Global Corp HY	Asian Bonds	Thai Equities	Global Corp HY	Asian Bonds	Asian Bonds	APAC ex- JP	Thai Bonds	Thai Bonds
Global Bonds	0.6%	Global Corp HY	5.8%	Global Corp HY	Thai Equities	Asian Bonds	Thai Bonds	Asian Bonds	EM ex- Asia	Global Bonds	Cash	Cash	EM ex- Asia	Global Corp HY
Global Corp HY	0.2%	APAC ex- JP	2.1%	Global Bonds	Global Equities	Thai Equities	Cash	APAC ex- JP	Global Bonds	Cash	Thai Equities	Diversified	Cash	Global Bonds
Cash	0.0%	Thai Equities	2.0%	Asian Bonds	EM ex- Asia	Global Bonds	EM ex- Asia	Global Bonds	APAC ex- JP	Thai Bonds	Global Bonds	Global Equities	Global Bonds	Asian Bonds
EM ex- Asia	-13.3%	EM ex- Asia	0.3%	Cash	APAC ex- JP	Cash	Thai Equities	Thai Bonds	Global Equities	Thai Equities	EM ex- Asia	Thai Equities	Thai Equities	Cash

Other asset classes

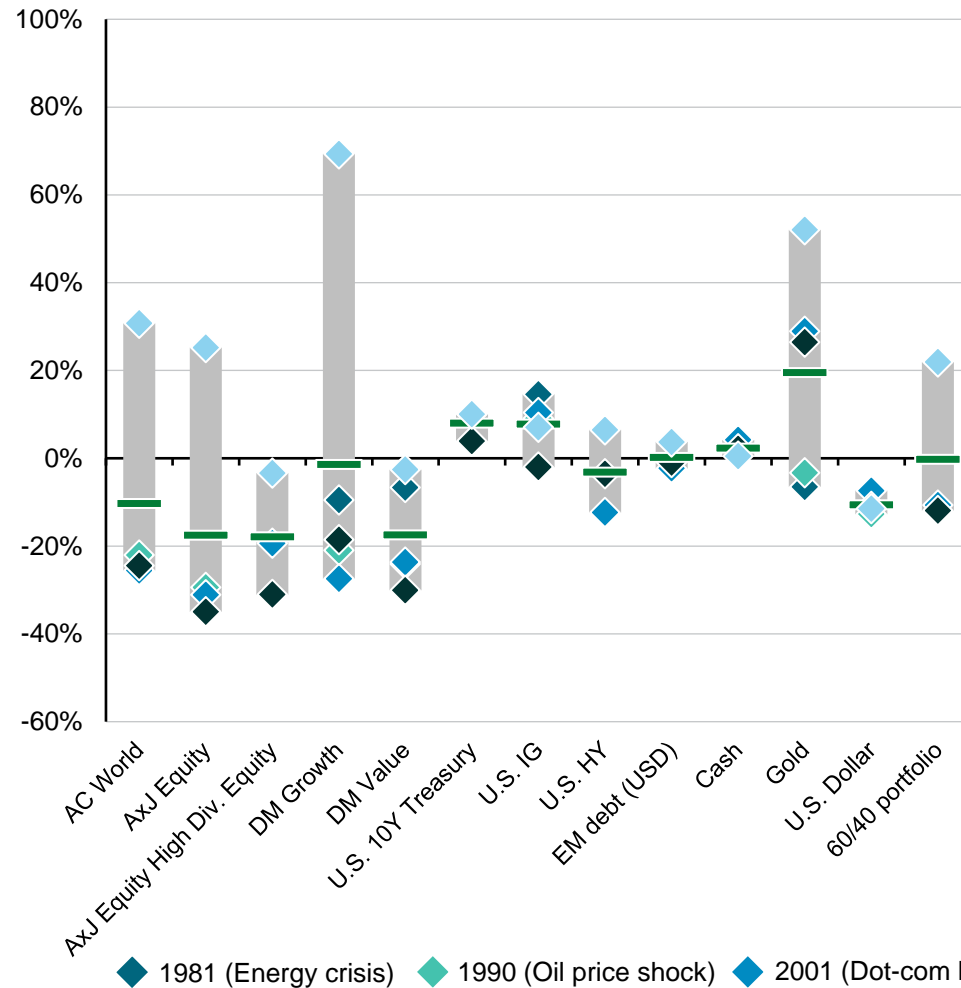
Source: Bloomberg, Dow Jones, FactSet, MSCI, J.P. Morgan Asset Management. The "Diversified" portfolio assumes the following weights: 55% in the MSCI AC World Index (*Global Equities*), 10% in the MSCI Thailand (*Thai Equities*), 5% in the Bloomberg Global Aggregate (*Global Bonds*), 30% in the JP Morgan GBI-EM Global Diversified Thailand (*Thai Bonds*). Other asset classes include Bloomberg Global Corporate High Yield Index (*Global Corp HY*), J.P. Morgan Asia Credit Index (*Asian Bonds*), Bloomberg U.S. Treasury – Bills (1-3 months) (*Cash*), MSCI AC Asia Pacific ex JP (*APAC ex-JP*) and MSCI EM ex Asia (*EM ex-Asia*). Diversified portfolio assumes annual rebalancing. All data represent total return in U.S. dollar terms for the stated period. 10-year total return data is used to calculate annualized returns (Ann. Ret.) and 10-year price return data is used to calculate annualized volatility (Ann. Vol.) and reflects the period 31/03/15 – 31/03/25. Please see disclosure page at end for index definitions. Past performance is not a reliable indicator of current and future results. Diversification does not guarantee investment returns and does not eliminate the risk of loss.

Guide to the Markets – Asia. Data reflect most recently available as of 31/03/25.

U.S. recessions and market performance

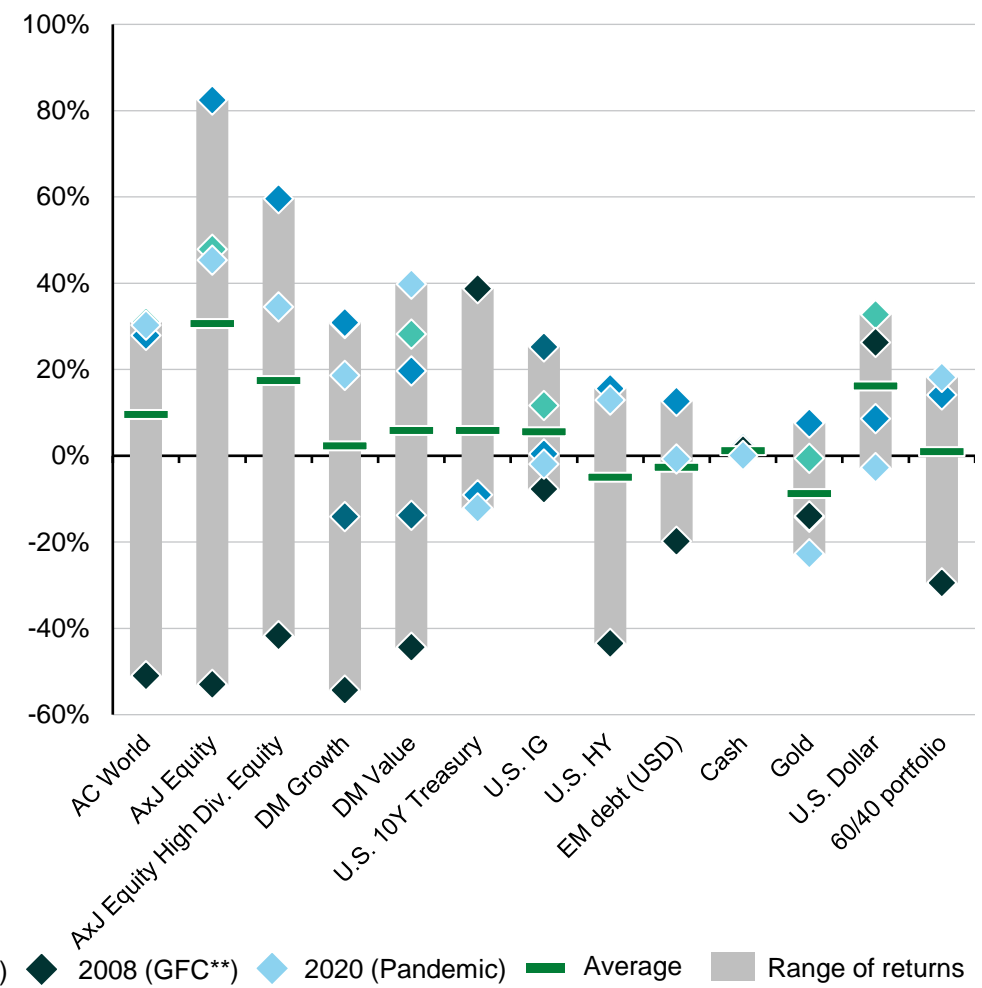
After the start of U.S. recession: first 6 months

Annualized returns*



After the start of U.S. recession: subsequent 6 months

Annualized returns*



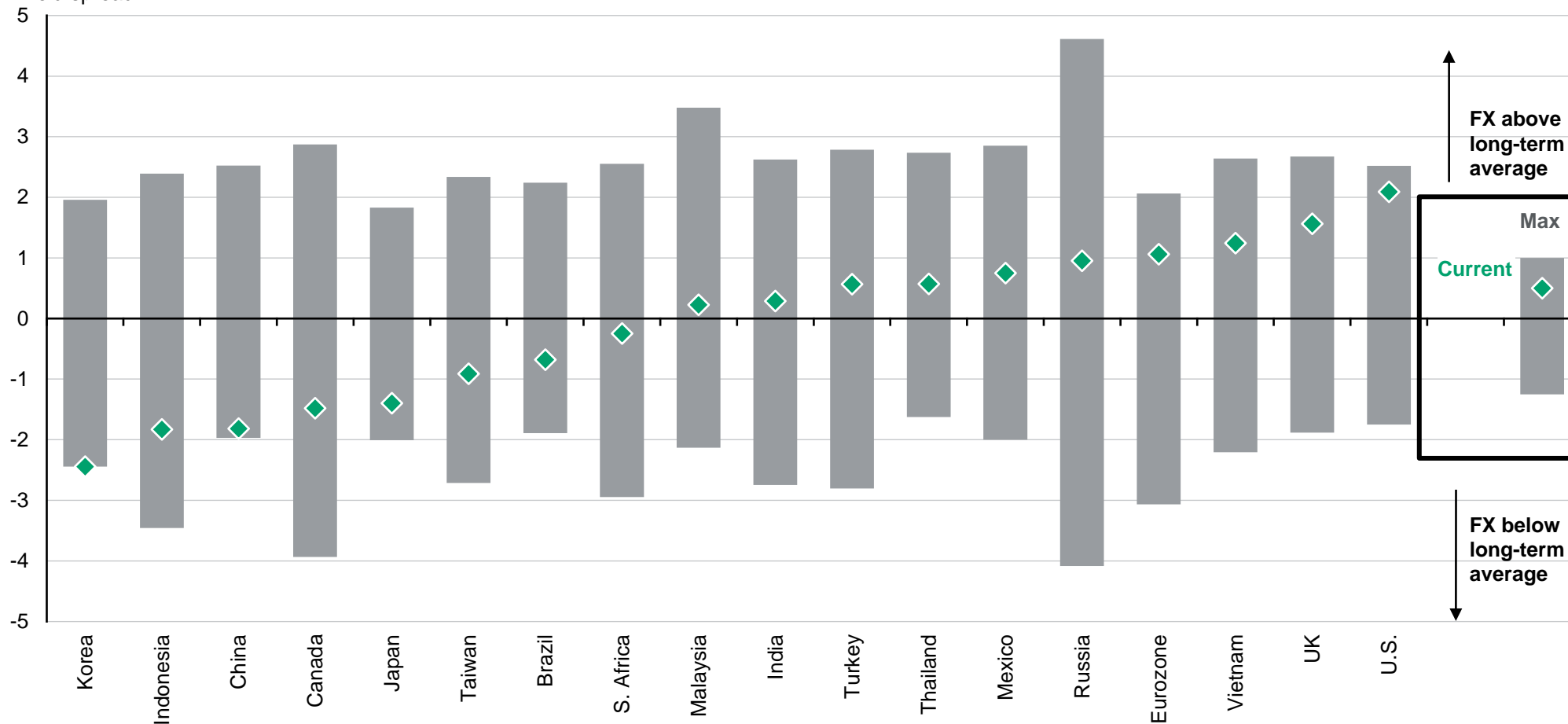
Source: FactSet, National Bureau of Economic Research (NBER), J.P. Morgan Asset Management. Based on MSCI AC World Index (AC World), MSCI Asia Pacific ex-Japan Index (AxJ Equity), MSCI Asia Pacific ex-Japan High Dividend Yield Index (AxJ Equity High Div. Equity), MSCI World Growth Index (DM Growth), MSCI World Value Index (DM Value), Bloomberg U.S. Treasury Bellwethers 10Y (U.S. 10Y Treasury), Bloomberg U.S. Corporate Investment Grade Index (U.S. IG), Bloomberg U.S. Credit Corporate High Yield (U.S. HY), J.P. Morgan EMBI Global (EM Debt USD), Bloomberg U.S. Treasury Bills 1-3M (Cash), Gold New Spot price (Gold), U.S. dollar index (U.S. dollar), 60% AC World and 40% Global Bonds (60/40 portfolio). *Total returns in local currency are used, unless otherwise specified. Recession dates are chosen according to NBER's Business Cycle Dating Committee definitions, namely Aug '81, Aug '90, April '01, Jan '08, Mar '20. **GFC stands for global financial crisis. Past performance is not indicative of current or future results.
Guide to the Markets – Asia. Data reflect most recently available as of 31/03/25.

Currencies

Currency deviation from 10-year average in real effective exchange rate* terms

Number of standard deviations away from long-term average**

Yield spread



Source: FactSet, J.P. Morgan Economic Research, J.P. Morgan Asset Management. *The real trade-weighted exchange rate index is the weighted average of a market's currency relative to a basket of other major currencies adjusted for the effects of inflation. The weights are determined by comparing the relative trade balances, in terms of one market's currency, with other markets within the basket. **Long-term average is calculated from 2014.

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

Guide to the Markets – Asia. Data reflect most recently available as of 31/03/25.

Gold

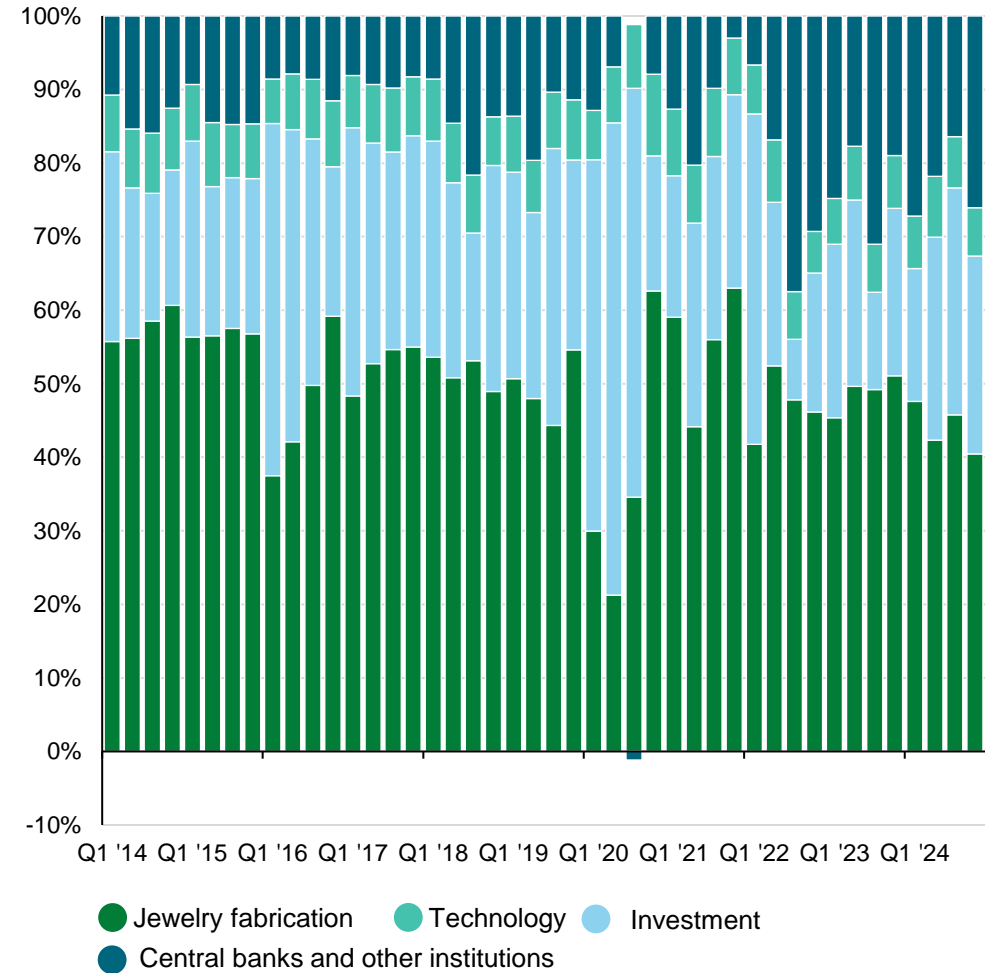
Gold prices and real rates

USD / Troy oz U.S. 10-year Treasury inflation-protected security (TIPS)



Gold demand by sector

Share of total demand activity



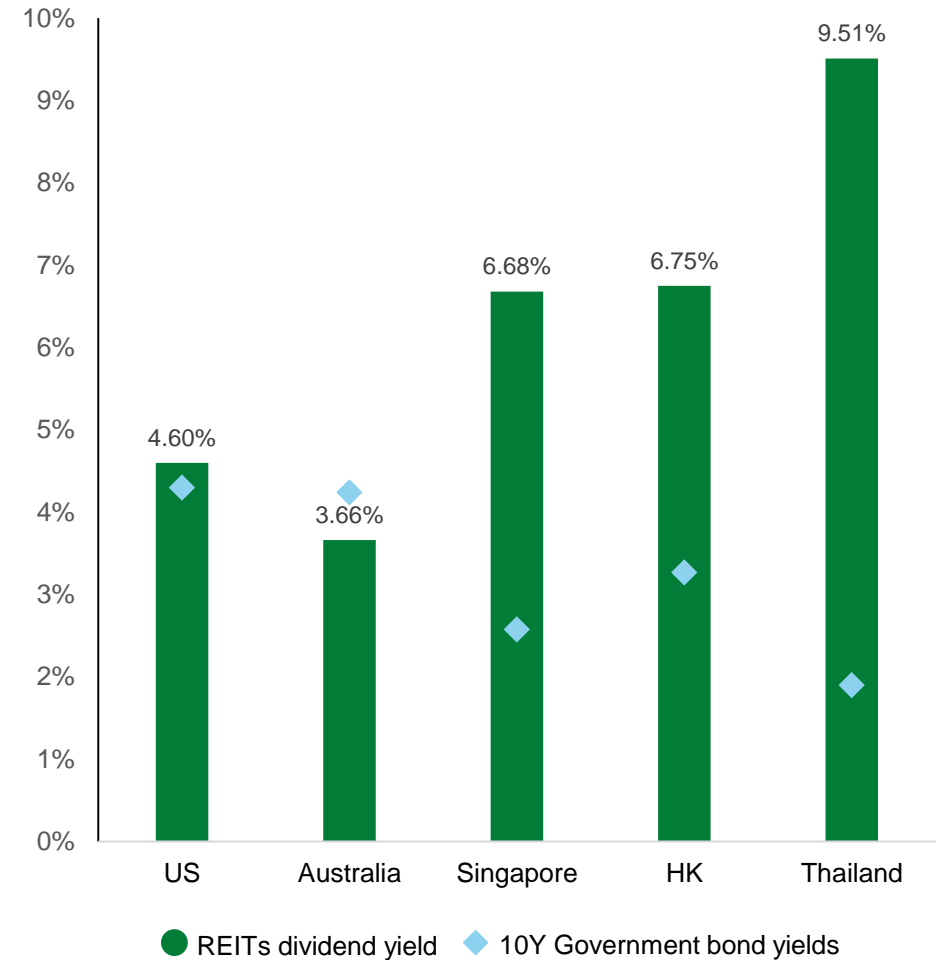
Source: FactSet, J.P. Morgan Asset Management; (Right) World Gold Council.
Guide to the Markets – Asia. Data reflect most recently available as of 31/03/25.

REITs

Global REITs vs US 10yr bond yield



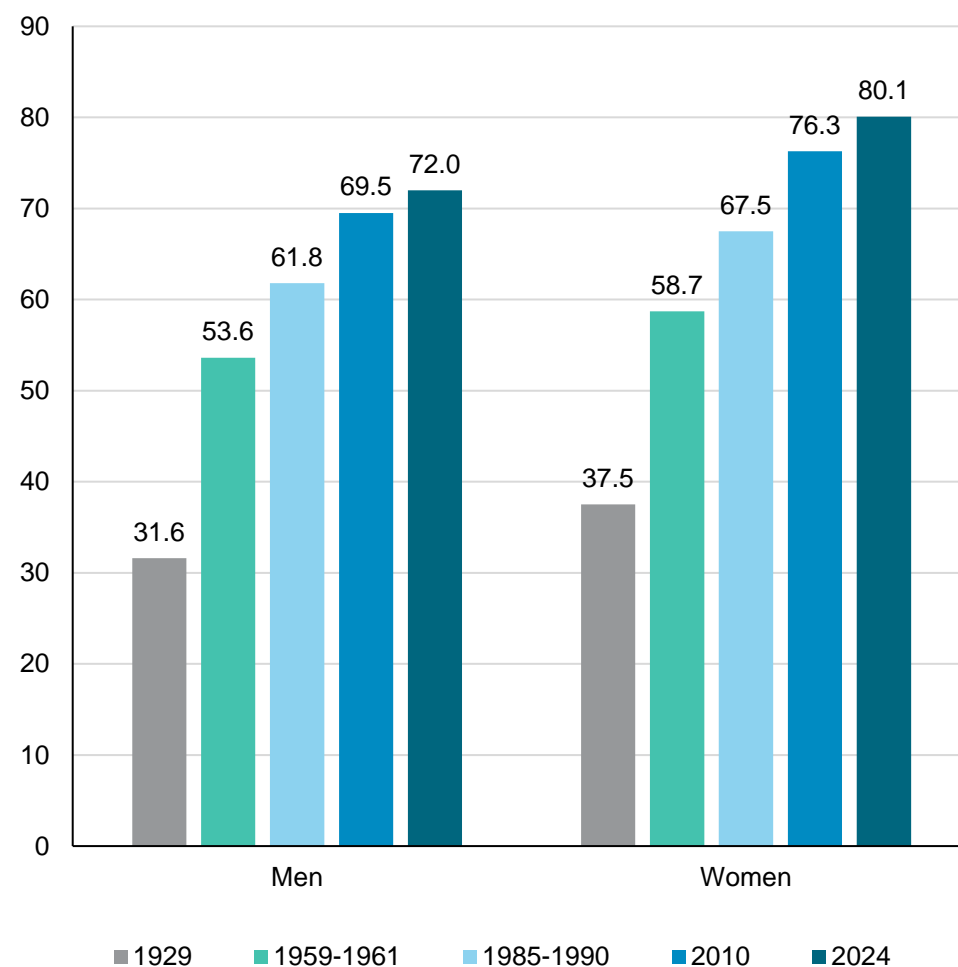
Regional REITs dividend yields



Plan on living a long time

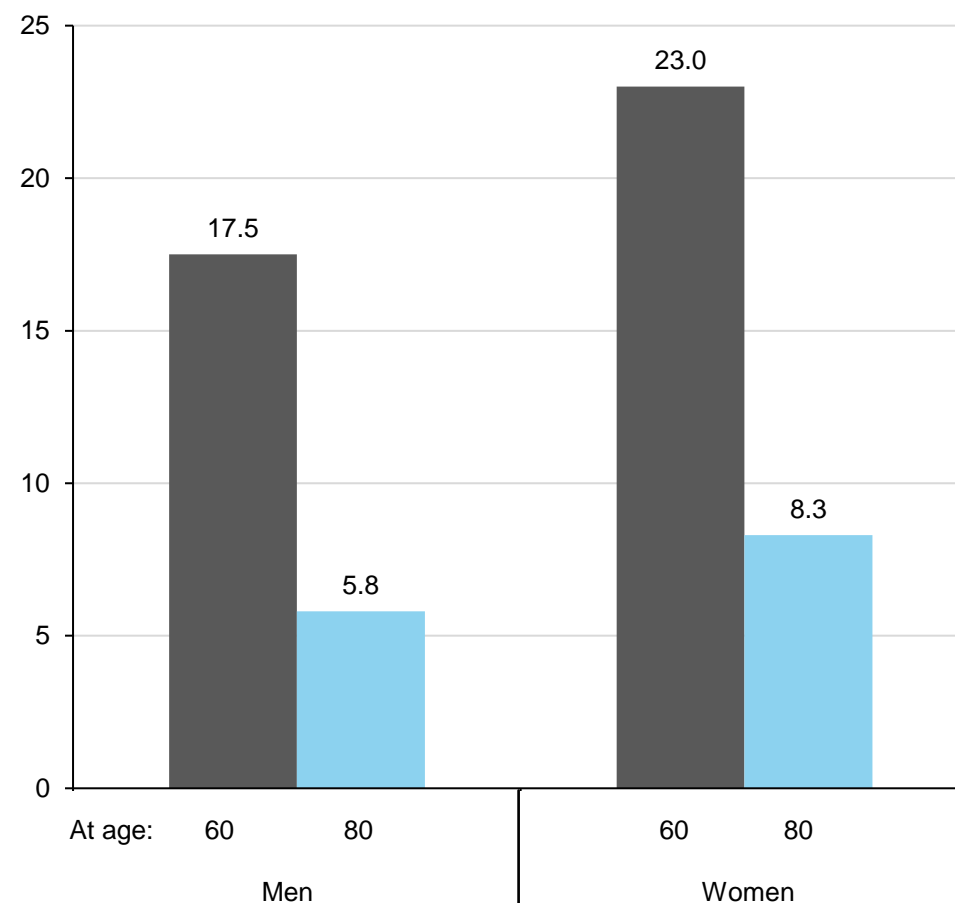
Thailand's life expectancy at birth by gender

Years



Thailand's life expectancy at age 60 and 80 by gender*

Years

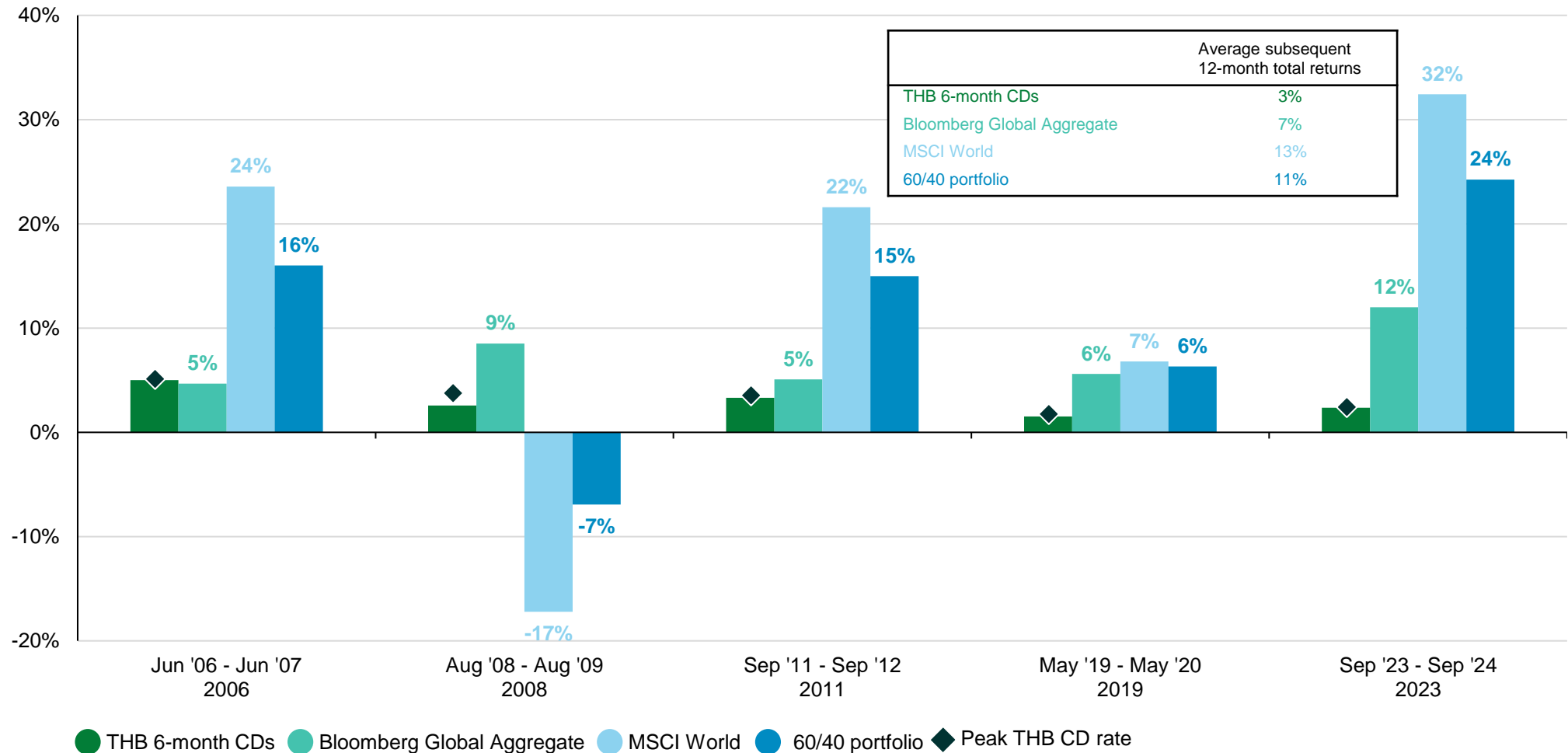


Source: Institute for Population and Social Research, Mahidol University, Kasikorn Asset Management. *Life expectancy at age 60 and 80 is the average number of years a person aged 60 and 80 is expected to live.
Data reflect most recently available as of 31/03/25.

Cash isn't always king

Investment opportunities outside of CDs

Peak 6-month certificate of deposit (CD) rate during previous cycles and subsequent 12-month total returns

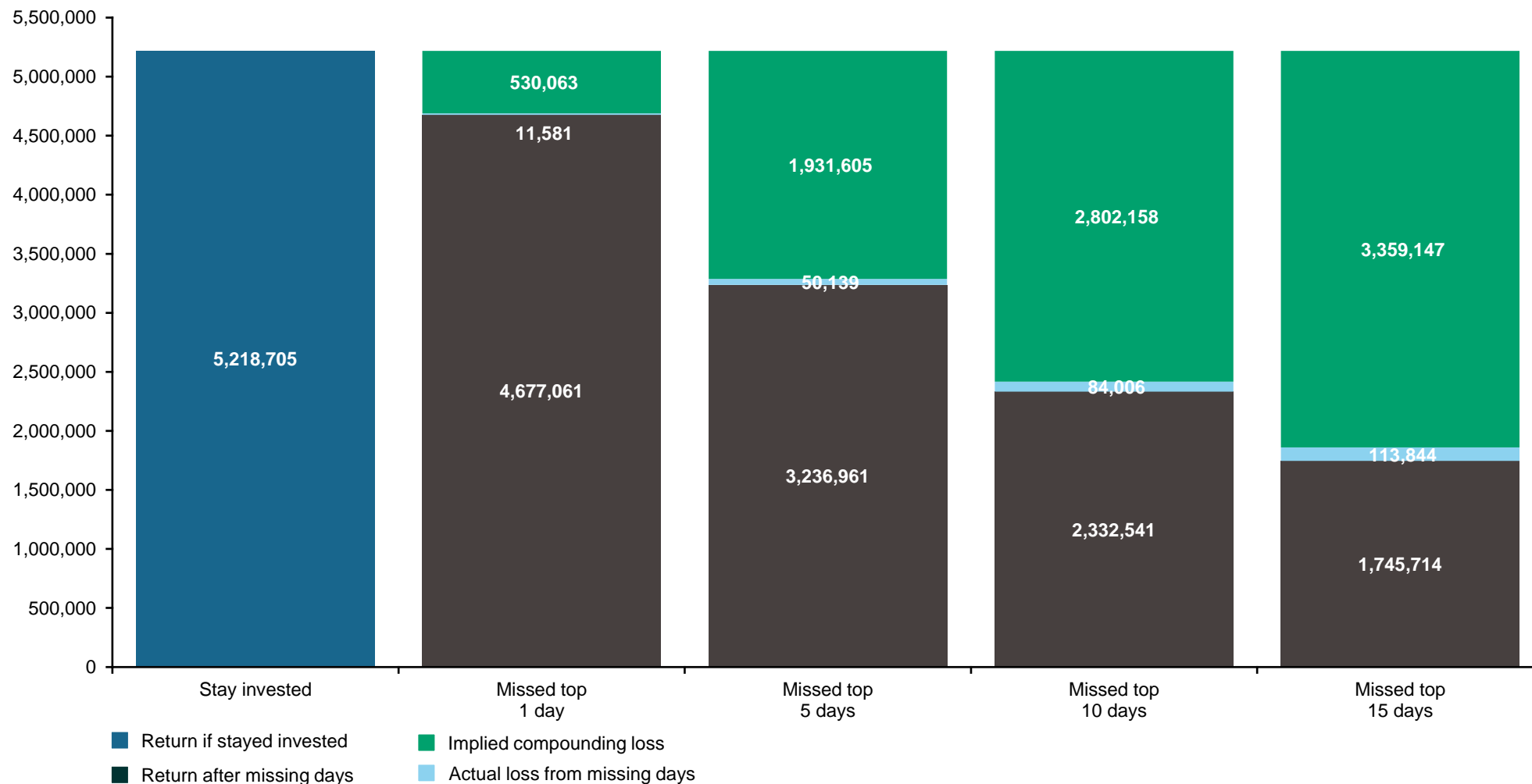


Source: Bloomberg, MSCI, Thai Bond Market Association, J.P. Morgan Asset Management. The 60/40 portfolio is 60% invested in MSCI World Total Return Index and 40% invested in Bloomberg Global Aggregate Total Return Index. The analysis references the month in which the month-end 6-month CD rate peaked during previous cycles. CD subsequent 12-month return calculation assumes reinvestment at the prevailing 6-month rate when the initial CD matures. All return calculations are in USD term, except THB 6-month CDs which is in THB term. Data reflect most recently available as of 31/03/25.

Timing the market

S&P 500 cumulative price return since 1980*

Hypothetical investment of \$100,000

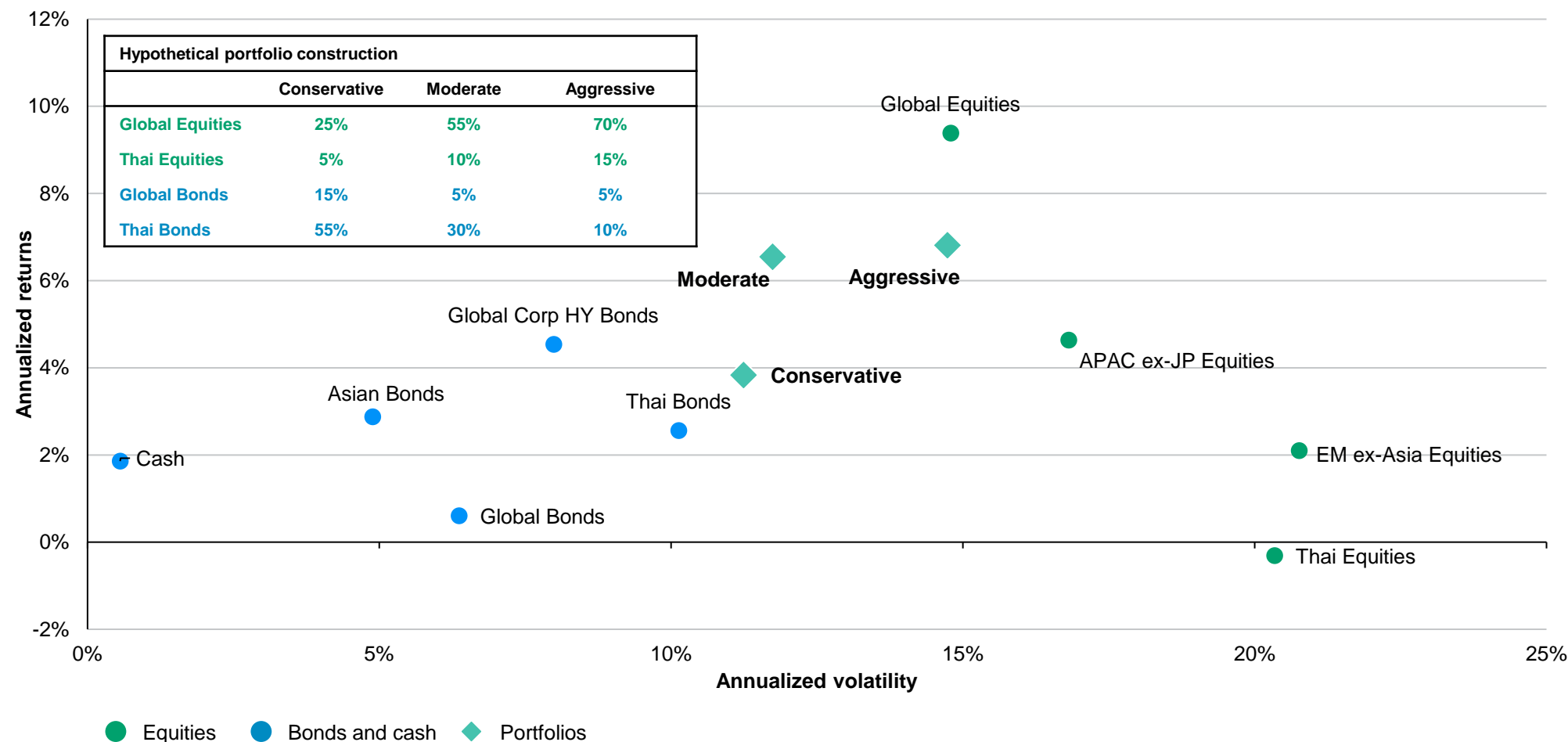


Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management. *More than 10,000 trading days used to calculate the total cumulative price return of S&P 500 since 01/01/80. Provided for illustrative purposes only, not to be constructed as investment advice. Past performance is not a reliable indicator of current and future results. Data reflect most recently available as of 31/03/25. Investments involve risk. Not all investments, strategies or ideas are suitable for all investors. Investors should make their own evaluation or seek independent advice and review offering documents carefully prior to making any investment. Provided to illustrate general market trends.

Portfolio construction, asset class returns and volatility

Annualized returns and volatility

Total returns in USD (31/03/2015 to 31/03/2025)



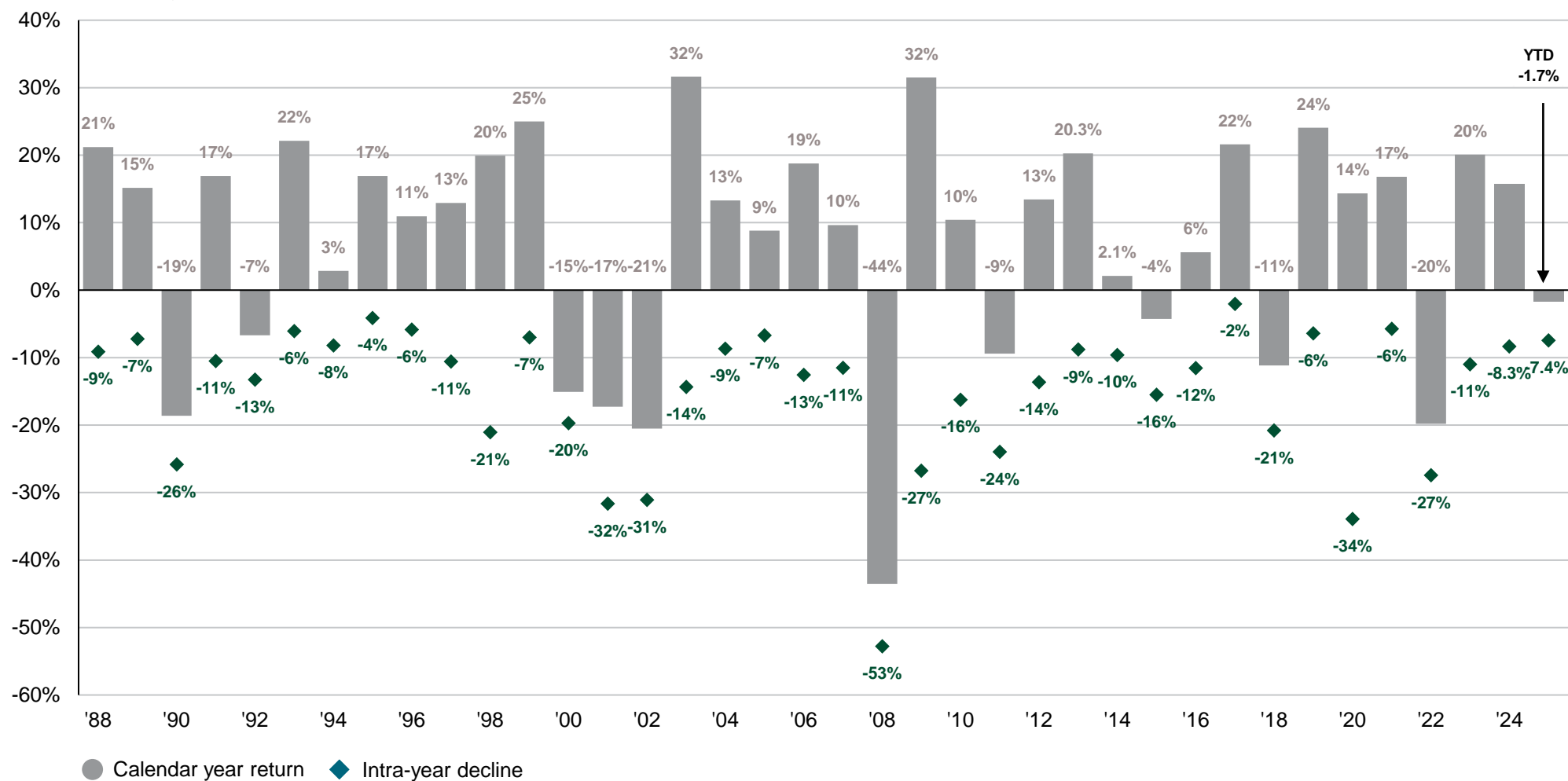
Source: Bloomberg, Dow Jones, FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management. Hypothetical portfolios were created to illustrate different risk/return profiles and are not meant to represent actual asset allocation. Asset class indices include MSCI AC World Index (Global Equities), MSCI Thailand (Thai Equities), Bloomberg Global Aggregate (Global Bonds), JP Morgan GBI-EM Global Diversified Thailand (Thai Bonds), Bloomberg Global Corporate High Yield Index (Global Corp HY), J.P. Morgan Asia Credit Index (Asian Bonds), Bloomberg U.S. Treasury – Bills (1-3 months) (Cash), MSCI AC Asia Pacific ex JP (APAC ex-JP) and MSCI EM ex Asia (EM ex-Asia). All data represent total return in U.S. dollar terms for the stated period. 10-year total return data is used to calculate annualized returns and 10-year price return data is used to calculate annualized volatility and reflects the period 31/03/2015 to 31/03/2025. Past performance is not a reliable indicator of current and future results.

Guide to the Markets – Asia. Data reflect most recently available as of 31/03/25.

Equity annual returns and intra-year declines

MSCI AC World intra-year declines vs. calendar year returns

Despite average intra-year drops of -15% (median: -11%), annual returns are positive in 27 of 87 (71%) years

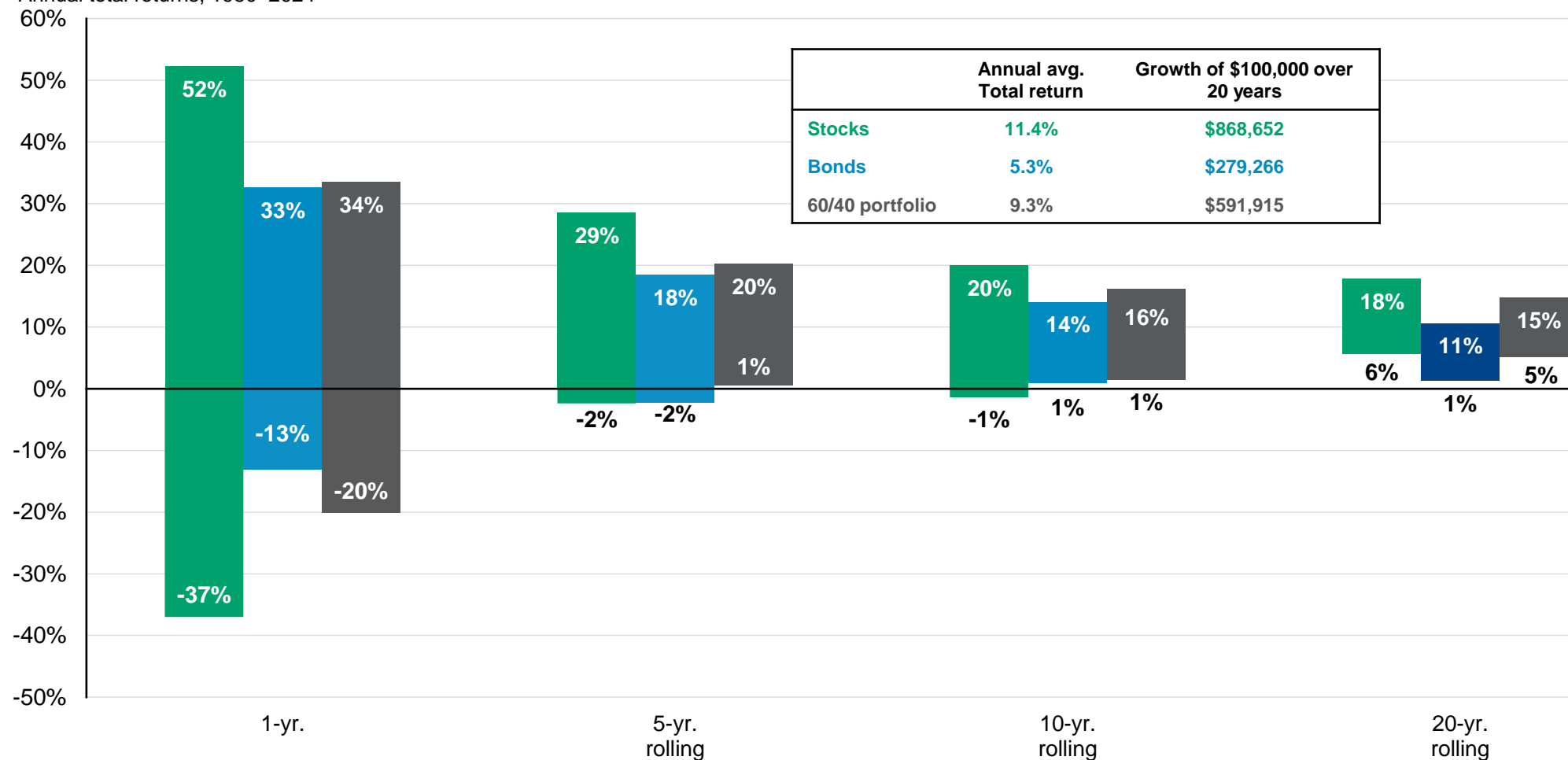


Source: FactSet, MSCI, J.P. Morgan Asset Management. Returns are price returns based on MSCI World Index in U.S. dollar terms. Intra-year decline is the largest peak to trough decline during the respective year. Past performance is not a reliable indicator of current and future results. Data reflect most recently available as of 31/03/25.

Time, diversification and the volatility of returns

Range of stock, bond and blended total returns

Annual total returns, 1950–2024

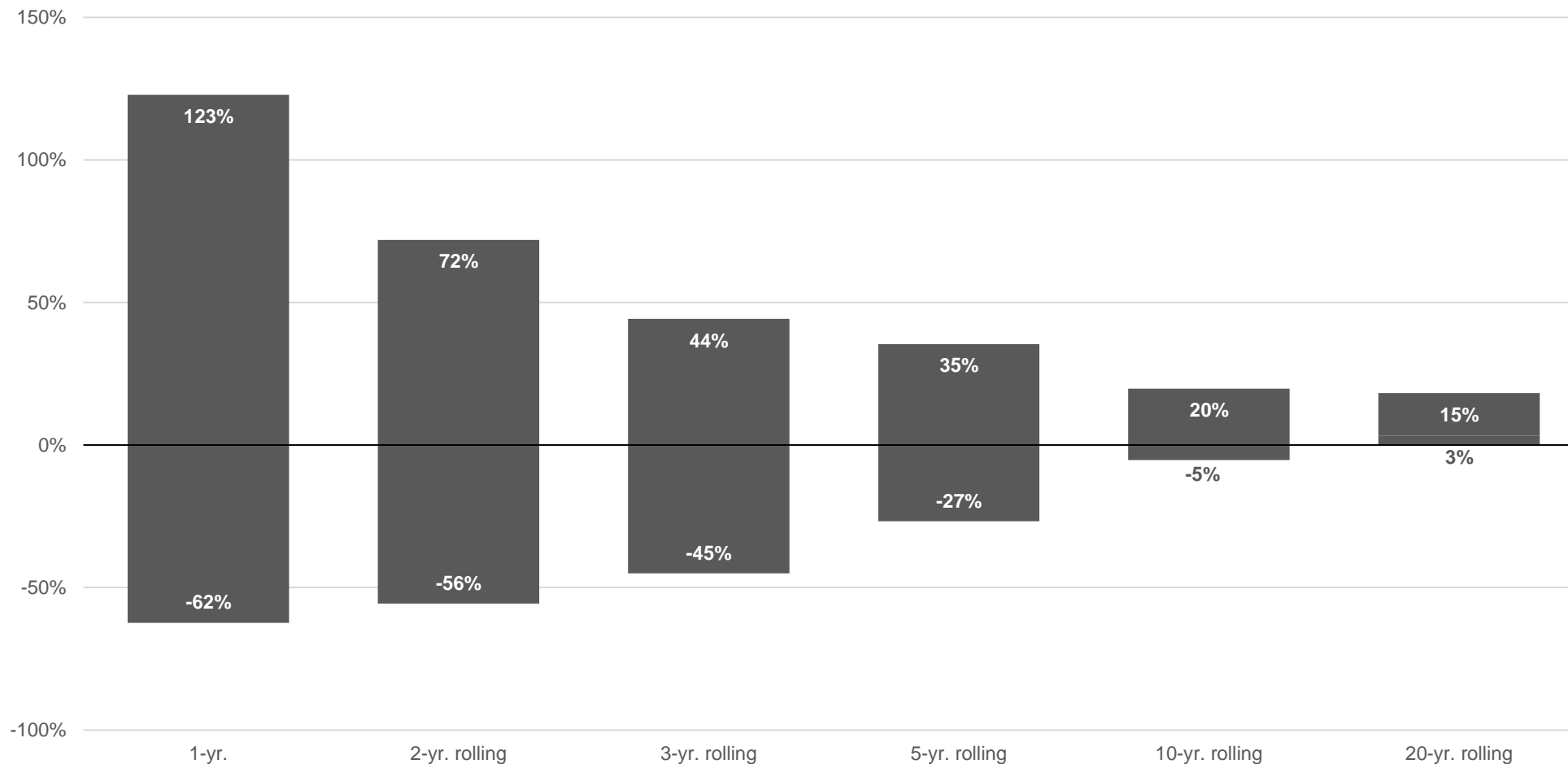


Source: Bloomberg, FactSet, Federal Reserve, Standard & Poor's, Strategas/Ibbotson, J.P. Morgan Asset Management. Returns shown are based on calendar year returns from 1950 to 2024. Bonds represent Strategas/Ibbotson for periods prior to 1976 and the Bloomberg Aggregate thereafter. Growth of \$100,000 is based on annual average total returns from 1950 to 2024. *Guide to the Markets* – U.S. Data reflect most recently available as of 31/12/24.

SET Index: Historical returns by holding period

Range of stock total returns (SET Index)

Annual total returns, 1995-2024



J.P. Morgan Asset Management: Index Definitions

All indexes are unmanaged and an individual cannot invest directly in an index. Index returns do not include fees or expenses.

The **S&P 500 Index** is widely regarded as the best single gauge of the U.S. equities market. This world-renowned index includes a representative sample of 500 leading companies in leading industries of the U.S. economy. Although the S&P 500 Index focuses on the large-cap segment of the market, with approximately 75% coverage of U.S. equities, it is also an ideal proxy for the total market. An investor cannot invest directly in an index.

The **Tokyo Stock Price Index ('TOPIX')** is a composite index of all common stocks listed on the First Section of Tokyo Stock Exchange (TSE). The index is basically a measure of the changes in aggregate market value of TSE common stocks. The base for the index is the aggregate market value of its component stocks as of the close on January 4, 1968. The aggregate market value is calculated by multiplying the number of listed shares of each component stock by its price and totaling the products derived there from.

The **Bombay Exchange Sensitive Index ('SENSEX')**, first compiled in 1986, was calculated on a "Market Capitalization-Weighted" methodology of 30 component stocks representing large, well-established and financially sound companies across key sectors. The base year of SENSEX was taken as 1978-79. SENSEX today is widely reported in both domestic and international markets through print as well as electronic media. It is scientifically designed and is based on globally accepted construction and review methodology. Since September 1, 2003, SENSEX is being calculated on a free-float market capitalization methodology.

The **Korea Composite Stock Price Index ('KOSPI')** is market capitalization based index on all common stocks listed on the Stock Market Division of the Korea Exchange (KRX) and excludes preferred stocks. The stock price index is calculated using the actual price traded on the market and not the "base price" used for market management such as establishment of price change limits. When no market price is available for issues that are not being traded or have halted trading, the latest closing price is used. KOSPI was assigned a base index of 100 set to January 4, 1980.

The **China Shenzhen Composite Index** is an actual market-cap weighted index that tracks the stock performance of all the A-share and B-share lists on Shenzhen Stock Exchange. The index was developed on April 3, 1991 with a base price of 100.

The **Euro Stoxx 600 Index** represents large, mid and small capitalization companies across 18 European countries.

The **MSCI® EAFE (Europe, Australia, Far East) Net Index** is recognized as the pre-eminent benchmark in the United States to measure international equity performance. It comprises 21 MSCI country indexes, representing the developed markets outside of North America.

The **MSCI Emerging Markets IndexSM** is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets. As of June 2007, the MSCI Emerging Markets Index consisted of the following 25 emerging markets indices: Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Israel, Jordan, Korea, Malaysia, Mexico, Morocco, Pakistan, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand, and Turkey.

The **MSCI ACWI (All Country World Index) Index** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets. As of June 2009 the **MSCI ACWI** consisted of 45 country indices comprising 23 developed and 22 emerging market country indices.

The following **MSCI Total Return IndicesSM** are calculated with gross dividends:

This series approximates the maximum possible dividend reinvestment. The amount reinvested is the dividend distributed to individuals resident in the country of the company, but does not include tax credits.

The **MSCI Europe IndexSM** is a free float-adjusted market capitalization index that is designed to measure developed market equity performance in Europe. As of June 2007, the MSCI Europe Index consisted of the following 16 developed market country indices: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

The **MSCI Pacific IndexSM** is a free float-adjusted market capitalization index that is designed to measure equity market performance in the Pacific region. As of June 2007, the MSCI Pacific Index consisted of the following 5 Developed Market markets: Australia, Hong Kong, Japan, New Zealand, and Singapore.

The **MSCI Europe ex UK IndexSM** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of the developed markets in Europe, excluding the United Kingdom. The

MSCI Europe ex UK Index consists of the following 15 developed market country indices: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, and Switzerland.

The **MSCI Pacific ex Japan IndexSM** is a free float-adjusted market capitalization index that is designed to measure equity market performance in the Pacific region, excluding Japan. As of June 2007, the MSCI Pacific Index consisted of the following 4 Developed Markets: Australia, Hong Kong, New Zealand, and Singapore.

The **MSCI USA IndexSM** is designed to measure the performance of the large and mid cap segments of the U.S. market. With 586 constituents, the index covers approximately 84% of the free float-adjusted market capitalization in the U.S.. The MSCI USA Index was launched on December 31, 1969.

The **MSCI China IndexSM** captures large and mid cap representation across China H shares, B shares, Red chips and P chips. With 148 constituents, the index covers about 84% of this China equity universe. The MSCI China Index was launched on December 31, 1992.

The **MSCI Indonesia IndexSM** is designed to measure the performance of the large and mid cap segments of the Indonesian market. With 25 constituents, the index covers about 84% of the Indonesian equity universe. The MSCI Indonesia Index was launched on December 31, 1990.

The **MSCI Korea IndexSM** is designed to measure the performance of the large and mid cap segments of the South Korean market. With 105 constituents, the index covers about 84% of the Korean equity universe. The MSCI Korea Index was launched on December 31, 1989.

The **MSCI India IndexSM** is designed to measure the performance of the large and mid cap segments of the Indian market. With 71 constituents, the index covers about 84% of the Indian equity universe. The MSCI India Index was launched on December 31, 1993.

The **MSCI Japan IndexSM** is designed to measure the performance of the large and mid cap segments of the Japan market. With 315 constituents, the index covers approximately 84% of the free float-adjusted market capitalization in Japan. The MSCI Japan Index was launched on December 31, 1969.

The **MSCI Hong Kong IndexSM** is designed to measure the performance of the large and mid cap segments of the Hong Kong market. With 42 constituents, the index covers approximately 84% of the free float-adjusted market capitalization of the Hong Kong equity universe. The MSCI Hong Kong Index was launched on December 31, 1972.

The **MSCI Taiwan IndexSM** is designed to measure the performance of the large and mid cap segments of the Taiwan market. With 113 constituents, the index covers approximately 84% of the free float-adjusted market capitalization in Taiwan. The MSCI Taiwan Index was launched on December 31, 1989.

The **MSCI Environmental, Social and Governance (ESG) Universal Indices** are designed to address the needs of asset owners who may look to enhance their exposure to ESG while maintaining a broad and diversified universe to invest in. By re-weighting free-float market cap weights based upon certain ESG metrics tilting away from free-float market cap weights, the indices enhance exposure to those companies that demonstrate both a higher MSCI ESG Rating and a positive ESG trend, while maintaining a broad and diversified investment universe.

J.P. Morgan Asset Management: Index Definitions, Risks and Disclosures

West Texas Intermediate (WTI) is the underlying commodity for the New York Mercantile Exchange's oil futures contracts.

The **Bloomberg Commodity Index** is calculated on an excess return basis and reflects commodity futures price movements. The index rebalances annually weighted 2/3 by trading volume and 1/3 by world production and weight-caps are applied at the commodity, sector and group level for diversification. Roll period typically occurs from 6th-10th business day based on the roll schedule.

The **Bloomberg Commodity Subindexes** represent commodity groups and sectors, as well as single commodities, that make up the Bloomberg Commodity Index. The subindexes track exchange-traded futures of physical commodities, and the commodity groups and sectors, like in the case of the broad index, are weighted to account for economic significance and market liquidity. The various subindexes include Agriculture, Energy, Livestock, Grains, Industrial Metals, Precious Metals and Softs.

The **Bloomberg High Yield Index** covers the universe of fixed rate, non-investment grade debt. Pay-in-kind (PIK) bonds, Eurobonds, and debt issues from countries designated as emerging markets (e.g., Argentina, Brazil, Venezuela, etc.) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included. Original issue zeroes, step-up coupon structures, and 144-As are also included.

The **Bloomberg 1-3 Month U.S. Treasury Bill Index** includes all publicly issued zero-coupon U.S. Treasury Bills that have a remaining maturity of less than 3 months and more than 1 month, are rated investment grade, and have \$250 million or more of outstanding face value. In addition, the securities must be denominated in U.S. dollars and must be fixed rate and non convertible.

The **Bloomberg Corporate Bond Index** is the Corporate component of the U.S. Credit index.

The **Bloomberg TIPS Index** consists of Inflation-Protection securities issued by the U.S. Treasury.

The **J.P. Morgan EMBI Global Index** includes U.S. dollar denominated Brady bonds, Eurobonds, traded loans and local market debt instruments issued by sovereign and quasi-sovereign entities.

The **J.P. Morgan GBI-EM Global Diversified** consists of regularly traded, liquid fixed-rate, domestic currency government bonds to which international investors can gain exposure. The weightings among the countries are more evenly distributed within this index.

The **J.P. Morgan Corporate Emerging Markets Bond Index (CEMBI)**: The CEMBI tracks total returns of US dollar-denominated debt instruments issued by corporate entities in Emerging Markets countries, and consists of an investable universe of corporate bonds.

The **J.P. Morgan Domestic High Yield Index** is designed to mirror the investable universe of the U.S. dollar domestic high yield corporate debt market.

The **VIX-CBOE Volatility Index** measures market expectations of near-term volatility conveyed by S&P 500 Index (SPX) option prices.

The **MOVE-Merrill Lynch Option Volatility Index** is a blended implied normal volatility for constant one-month at-the-money options on U.S. Treasuries.

Price to forward earnings is a measure of the price-to-earnings ratio (P/E) using forecasted earnings. **Price to book value** compares a stock's market value to its book value. **Price to cash flow** is a measure of the market's expectations of a firm's future financial health. **Price to dividends** is the ratio of the price of a share on a stock exchange to the dividends per share paid in the previous year, used as a measure of a company's potential as an investment.

Bonds are subject to interest rate risks. Bond prices generally fall when interest rates rise.

The price of **equity** securities may rise, or fall because of changes in the broad market or changes in a company's financial condition, sometimes rapidly or unpredictably. These price movements may result from factors affecting individual companies, sectors or industries, or the securities market as a whole, such as changes in economic or political conditions. Equity securities are subject to "stock market risk" meaning that stock prices in general may decline over short or extended periods of time.

Small-capitalization investing typically carries more risk than investing in well-established "blue-chip" companies since smaller companies generally have a higher risk of failure. Historically, smaller companies' stock has experienced a greater degree of market volatility than the average stock.

Mid-capitalization investing typically carries more risk than investing in well-established "blue-chip" companies. Historically, mid-cap companies' stock has experienced a greater degree of market volatility than the average stock.

Real estate investments may be subject to a higher degree of market risk because of concentration in a specific industry, sector or geographical sector. Real estate investments may be subject to risks including, but not limited to, declines in the value of real estate, risks related to general and economic conditions, changes in the value of the underlying property owned by the trust and defaults by borrower.

International investing involves a greater degree of risk and increased volatility. Changes in currency exchange rates and differences in accounting and taxation policies can raise or lower returns. Also, some markets may not be as politically and economically stable as other nations. Investments in **emerging markets** can be more volatile. The normal risks of international investing are heightened when investing in emerging markets. In addition, the small size of securities markets and the low trading volume may lead to a lack of liquidity, which leads to increased volatility. Also, emerging markets may not provide adequate legal protection for private or foreign investment or private property.

Investments in **commodities** may have greater volatility than investments in traditional securities, particularly if the instruments involve leverage. The value of commodity-linked derivative instruments may be affected by changes in overall market movements, commodity index volatility, changes in interest rates, or factors affecting a particular industry or commodity, such as drought, floods, weather, livestock disease, embargoes, tariffs and international economic, political and regulatory developments. Use of leveraged commodity-linked derivatives creates an opportunity for increased return but, at the same time, creates the possibility for greater loss.

Derivatives may be riskier than other types of investments because they may be more sensitive to changes in economic or market conditions than other types of investments and could result in losses that significantly exceed the original investment. The use of derivatives may not be successful, resulting in investment losses, and the cost of such strategies may reduce investment returns.

There is no guarantee that the use of **long and short positions** will succeed in limiting an investor's exposure to domestic stock market movements, capitalization, sector swings or other risk factors. Investing using long and short selling strategies may have higher portfolio turnover rates. Short selling involves certain risks, including additional costs associated with covering short positions and a possibility of unlimited loss on certain short sale positions.

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J.P. Morgan Asset Management: Risks and Disclosures

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Unless otherwise stated, all data are as of Dec 31, 2024 or most recently available.

MI-GTMASIA-E Dec 2024

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