

Guide to the Markets

Australia | 4Q 2022 | As of 30 September 2022



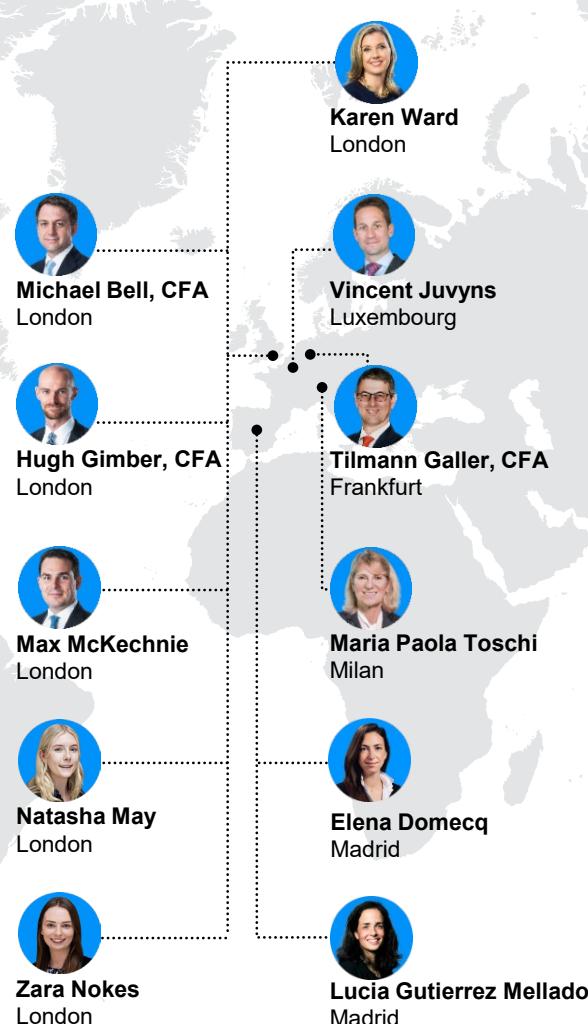
Global Market Insights Strategy Team

GTM AUS 2

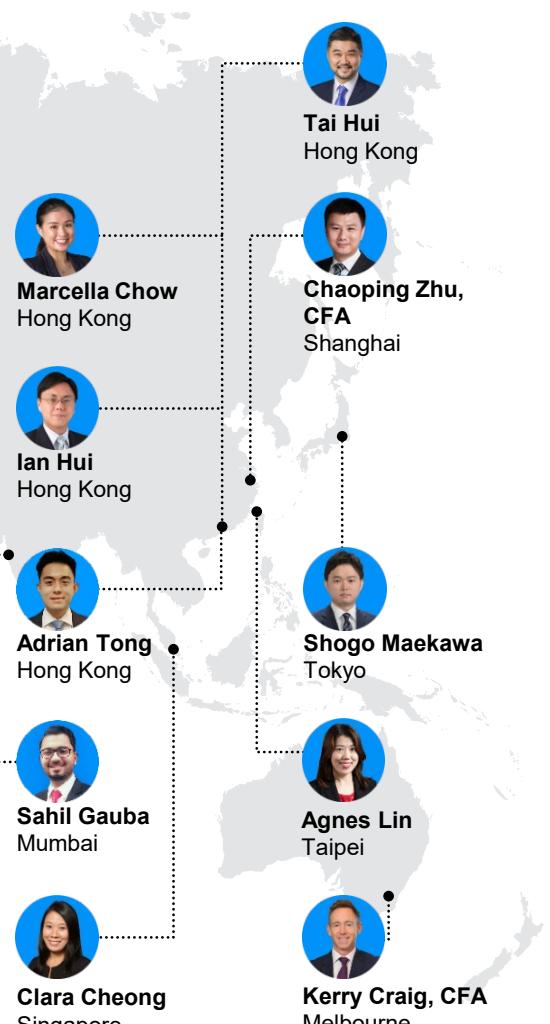
Americas



Europe



Asia





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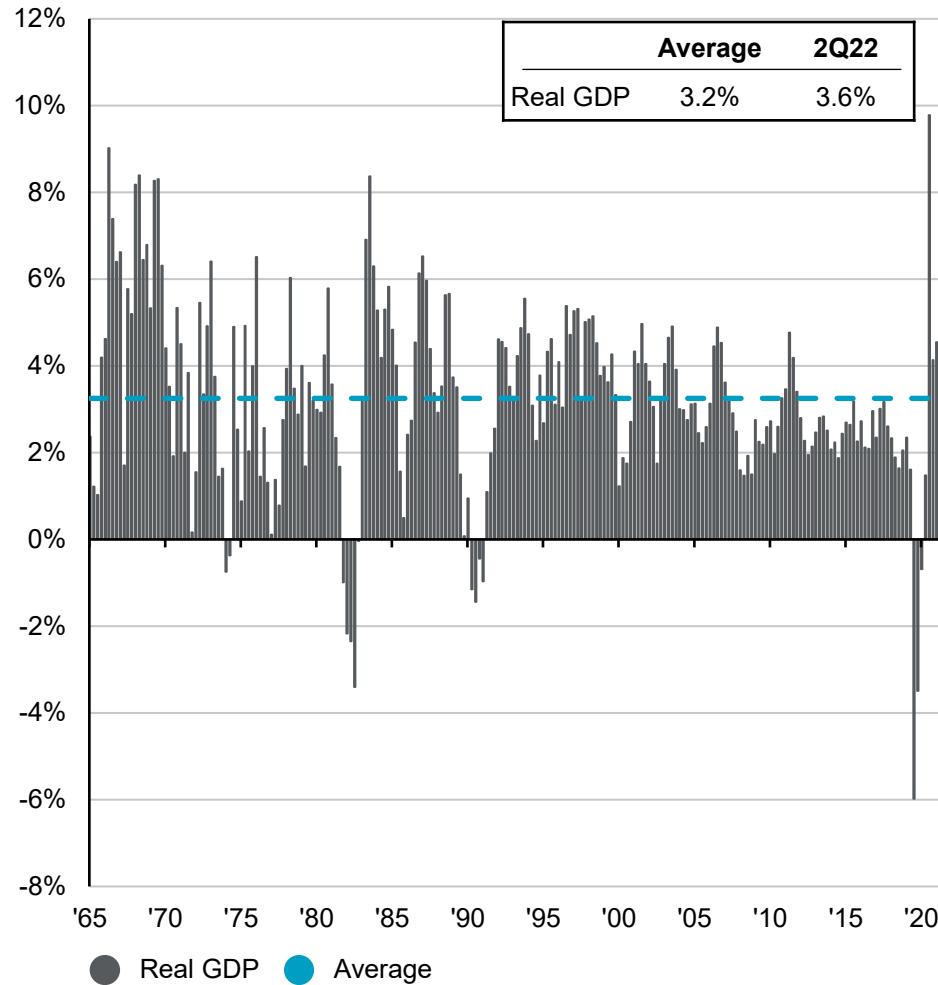
Economic growth and composition of GDP

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Local economy

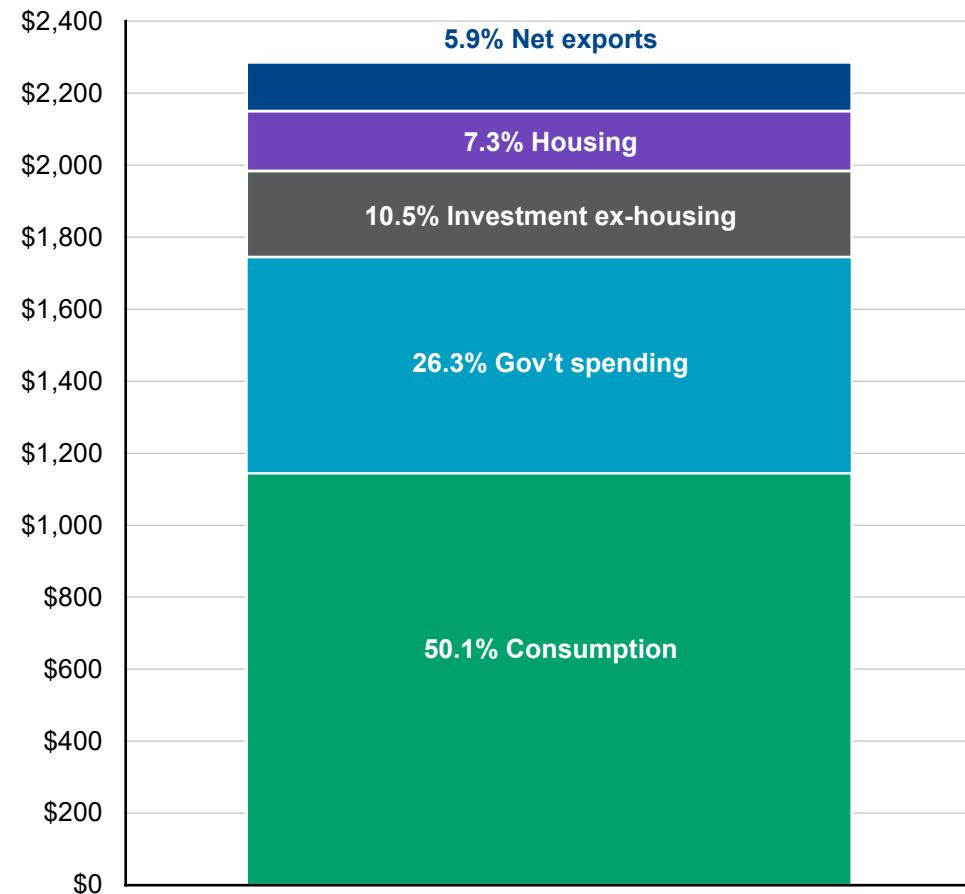
Real GDP

Year-over-year



Components of GDP

Nominal GDP, sum of last four, AUD billions*



Source: Australian Bureau of Statistics, FactSet, J.P. Morgan Asset Management. *Values may not sum to 100% due to rounding.
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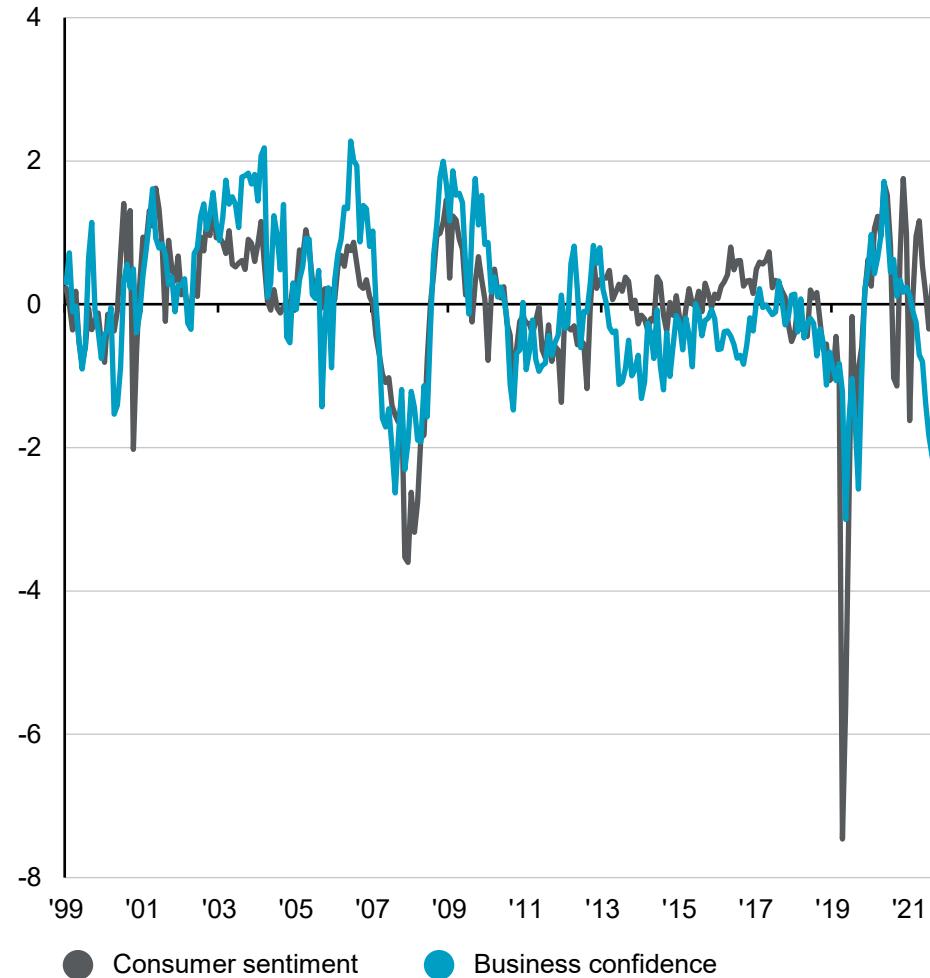
Consumer and business confidence

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Local economy

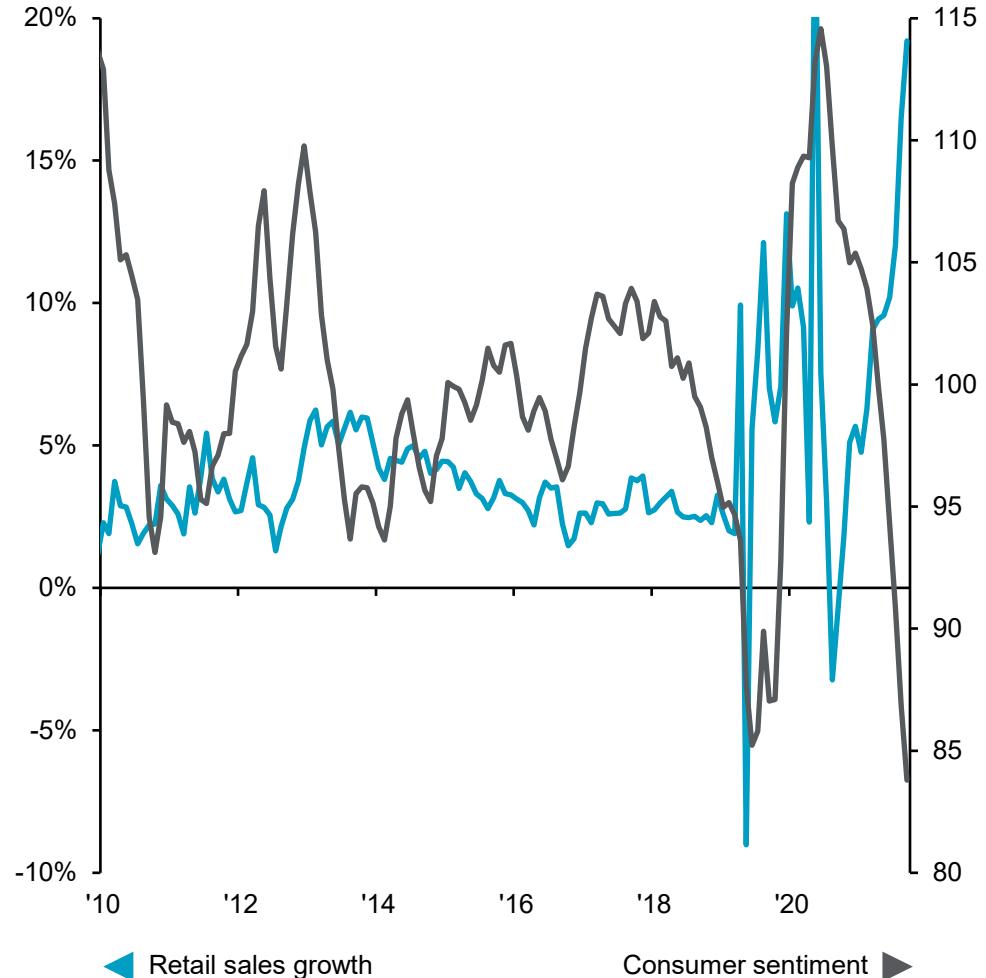
Consumer sentiment and business confidence

Z-score



Consumer sentiment and retail sales

Year-over-year



Source: FactSet, Westpac, J.P. Morgan Asset Management; (Left) National Australia Bank; (Right) Australian Bureau of Statistics.
Retail sales growth figures have been truncated, April 2021 retail sales growth was 25%.
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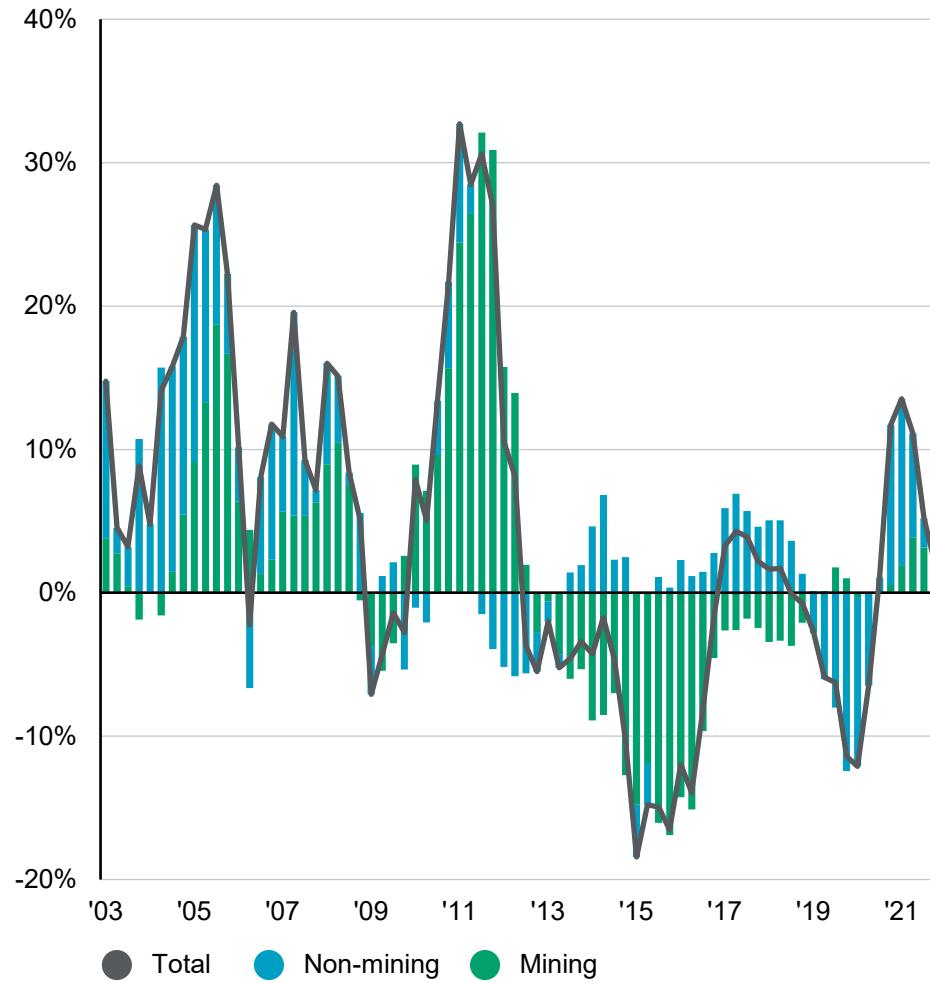
Investment

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Local economy

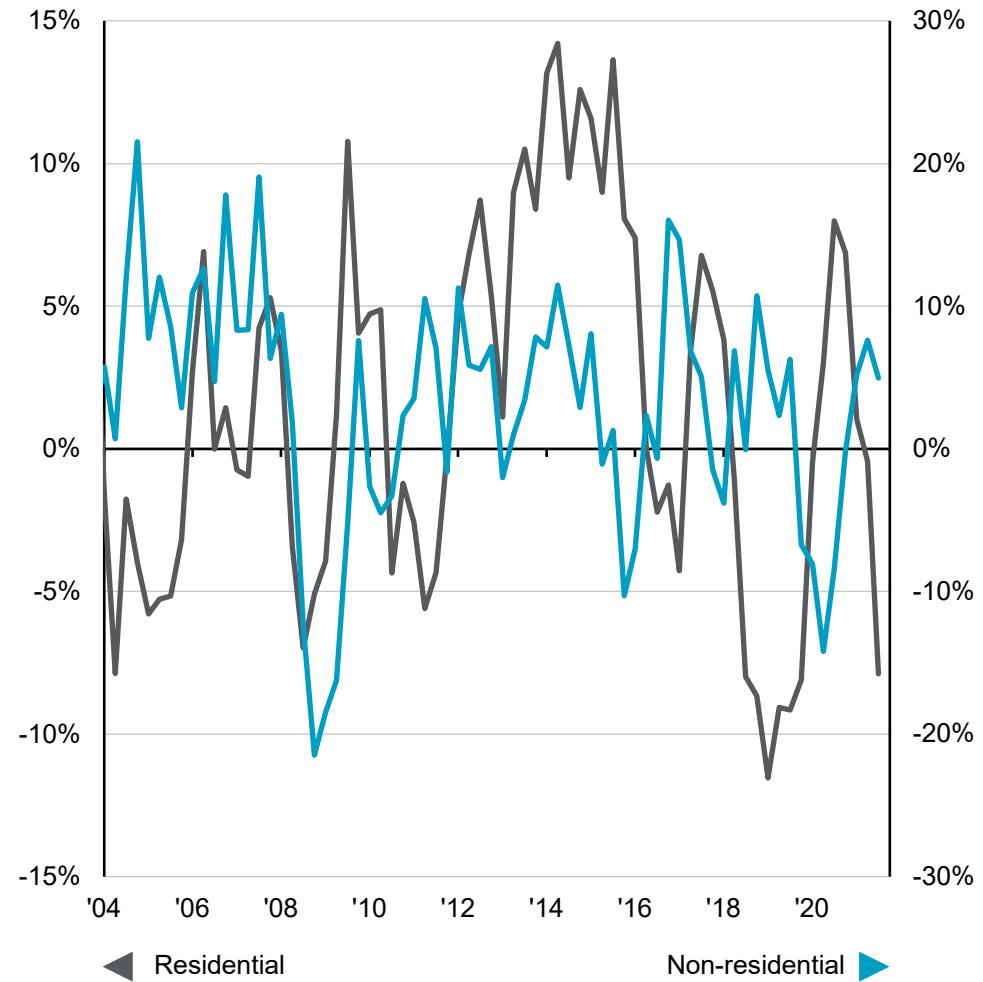
Business investment

Contribution to annual growth



Construction activity

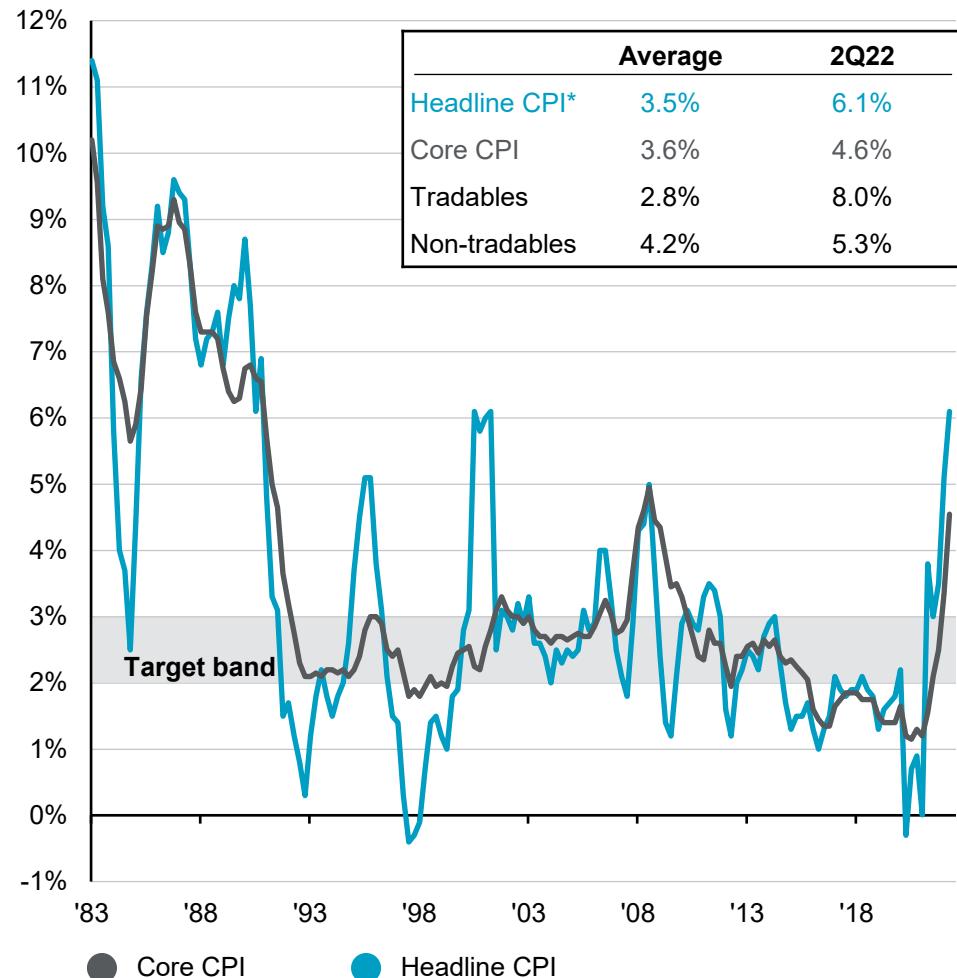
Private sector, year-over-year



Source: Australian Bureau of Statistics, FactSet, J.P. Morgan Asset Management.
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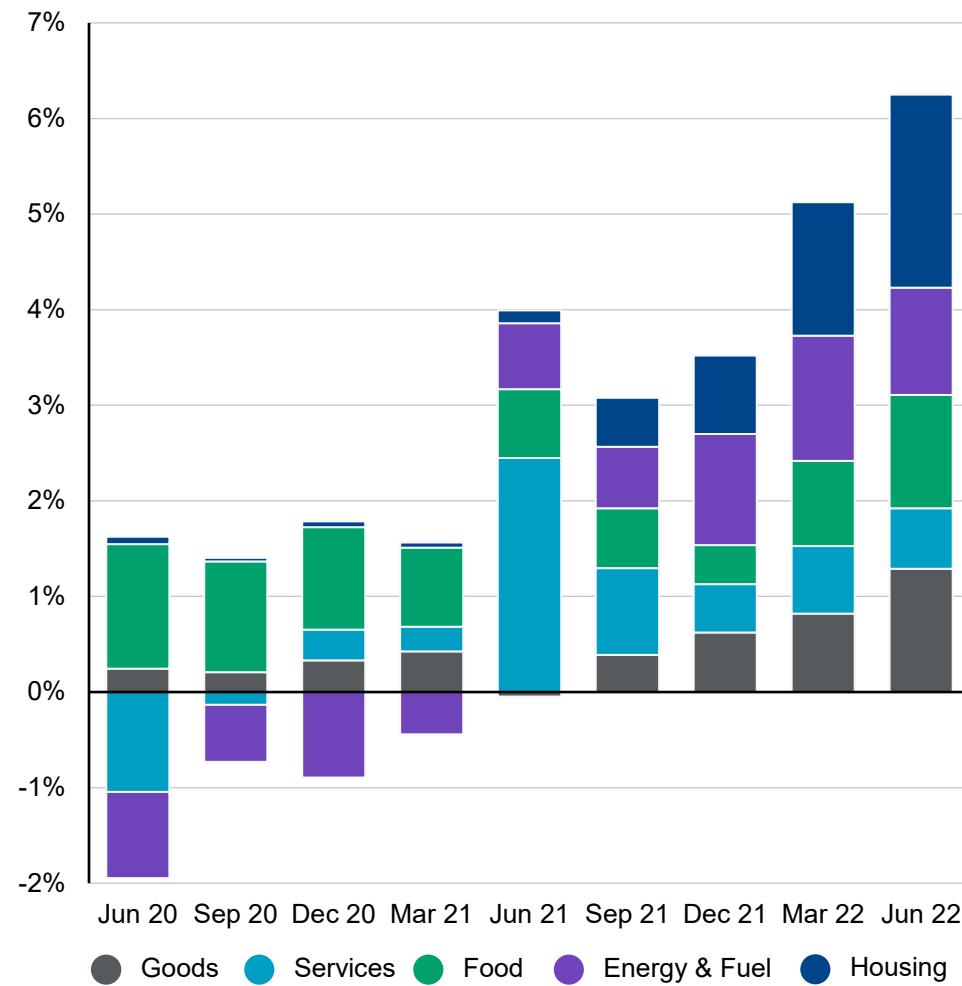
CPI and core CPI inflation

Year-over-year



Inflation components contribution

Year-over-year



Source: Australian Bureau of Statistics, FactSet, J.P. Morgan Asset Management. *CPI is the Consumer Price Index, core CPI is the average of the trimmed mean and weighted median measures of inflation. Tradables represent approximately 35% of the CPI basket and non-tradables 65%. Core goods CPI is goods CPI excluding volatile items.

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Unemployment and wages

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Local economy

Unemployment and underutilisation rates

Seasonally adjusted



Wage growth and labour availability

Year-over-year



Source: Australian Bureau of Statistics, FactSet, J.P. Morgan Asset Management; (Right) NAB.
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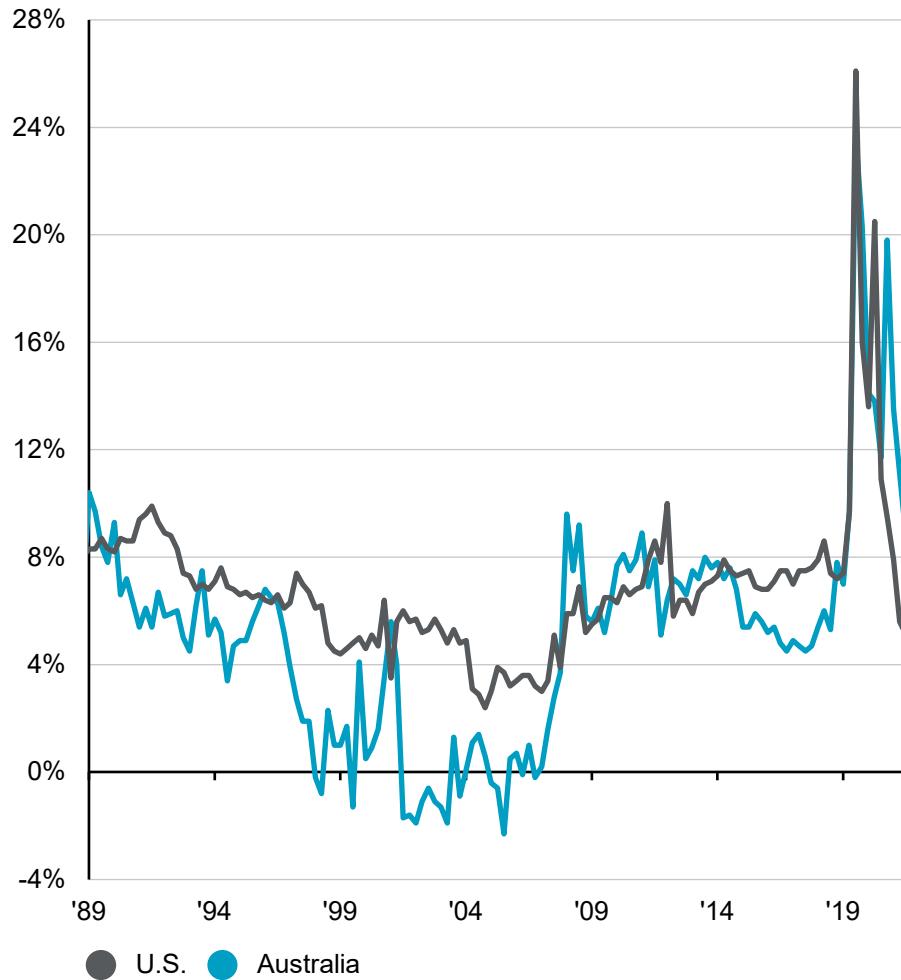
Consumer finances

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Local economy

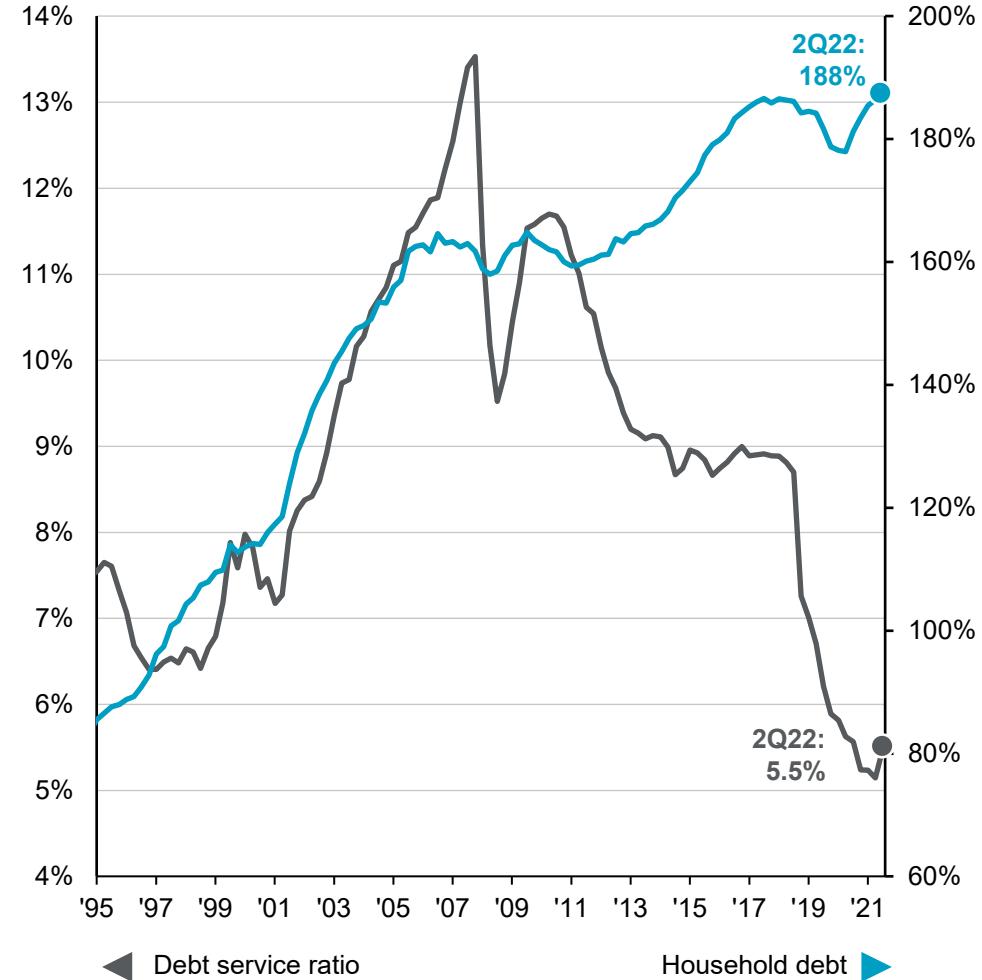
Savings rate

Percent of annualised household disposable income



Household debt and debt service ratio

Interest payments to household disposable income, seasonally adjusted

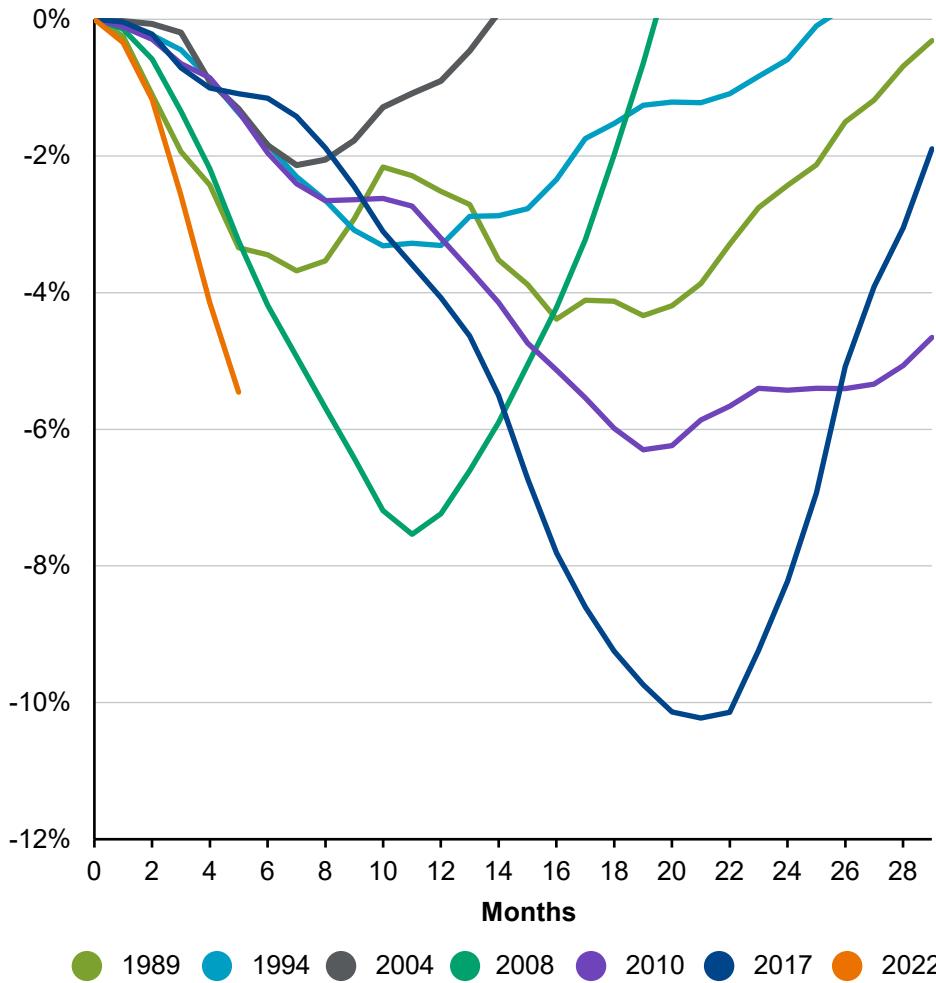


Source: Australian Bureau of Statistics, BEA, FactSet, Reserve Bank of Australia, J.P. Morgan Asset Management.
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Residential real estate prices

House price cycles

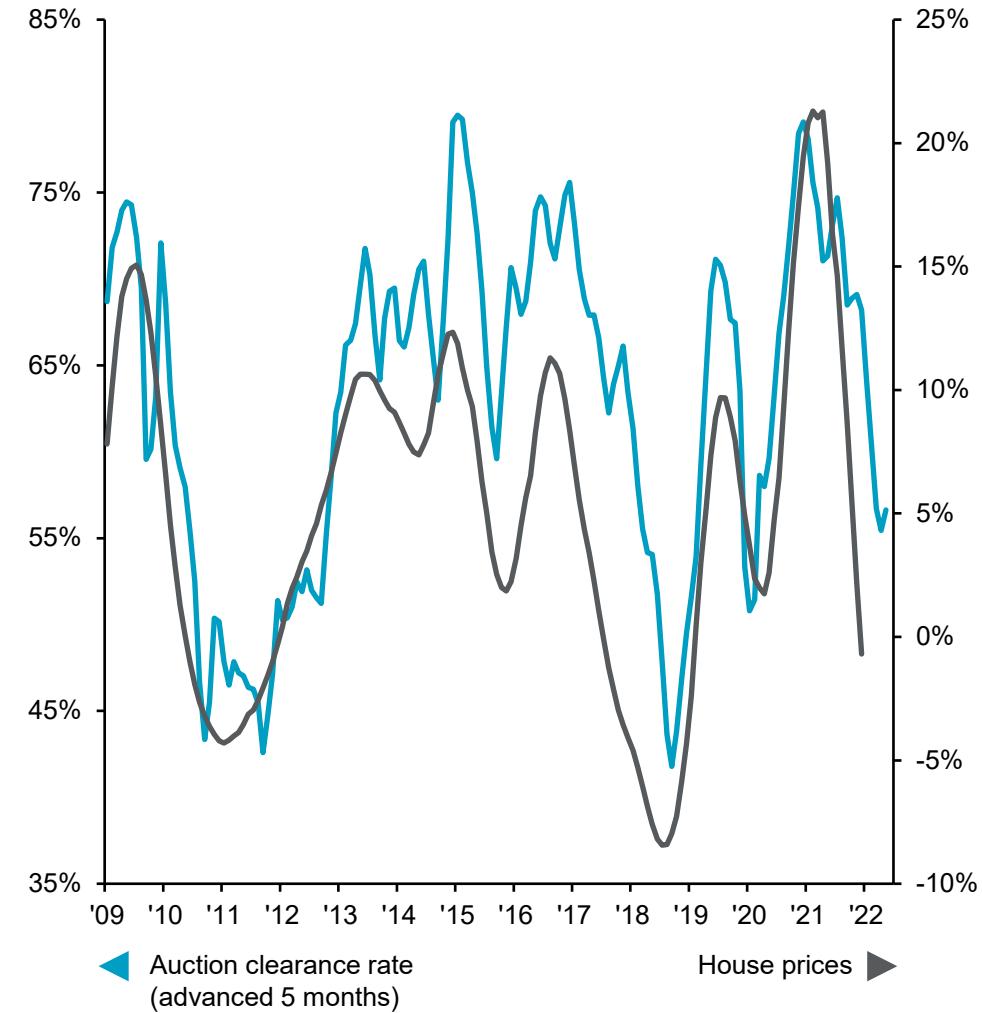
Drawdown from prior peak



Source: RPD CoreLogic, J.P. Morgan Asset Management.
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Auction clearance rate and house prices

3-month moving average



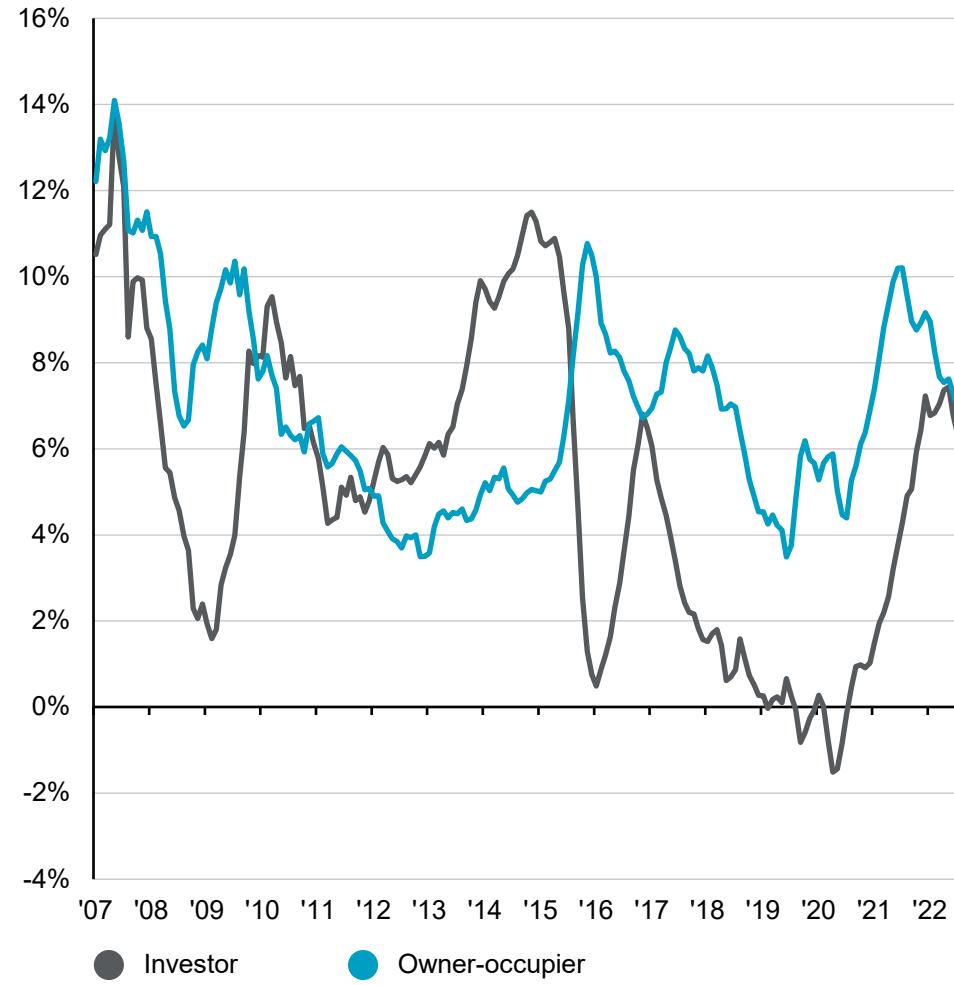


Residential real estate financing

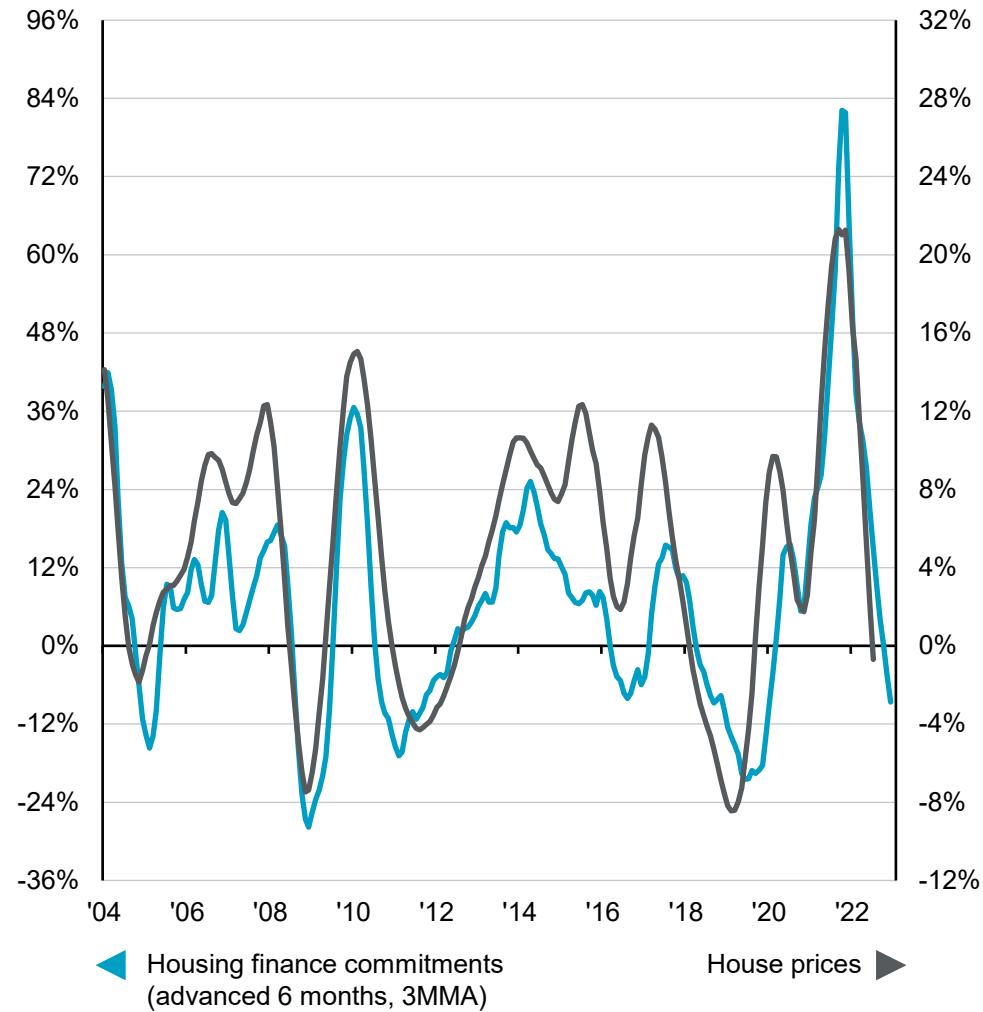
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Local economy

Mortgage lending
3-month annualised growth rate



Housing finance and house prices
Year-over-year



Source: Australian Bureau of Statistics, J.P. Morgan Asset Management; (Right) RPD CoreLogic.
House price is the year-over-year change in the hedonic index for national dwelling prices. Past performance is not a reliable indicator of current and future results.

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ASSET MANAGEMENT



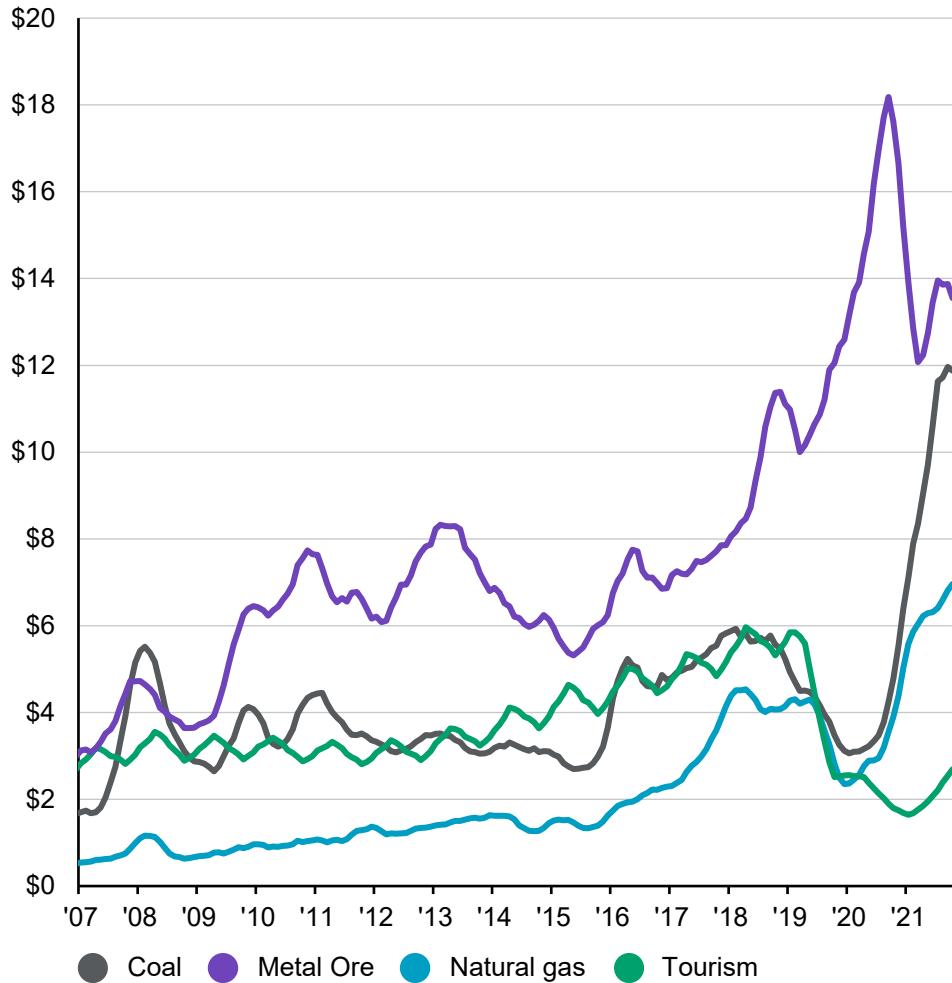
Trade

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Local economy

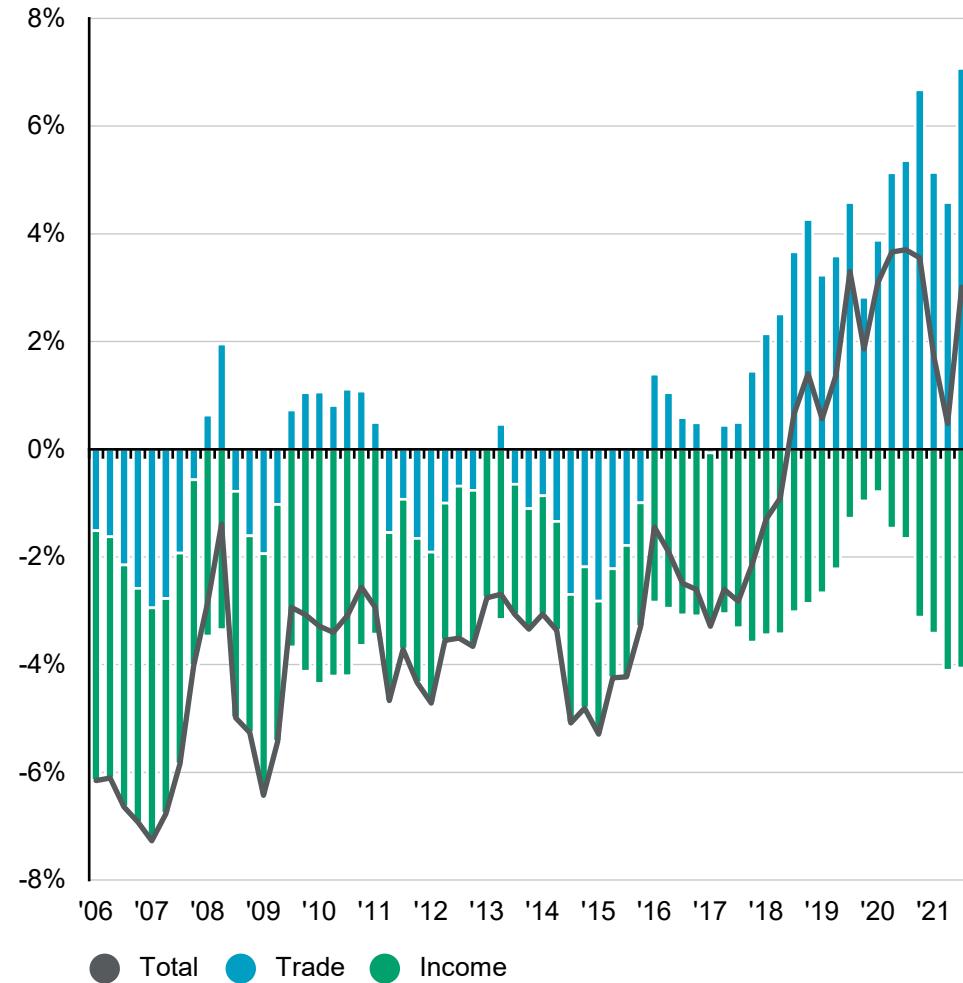
Exports by type

AUD billion, six-month moving average



Current account

% of nominal GDP



Source: Australian Bureau of Statistics, FactSet, J.P. Morgan Asset Management.
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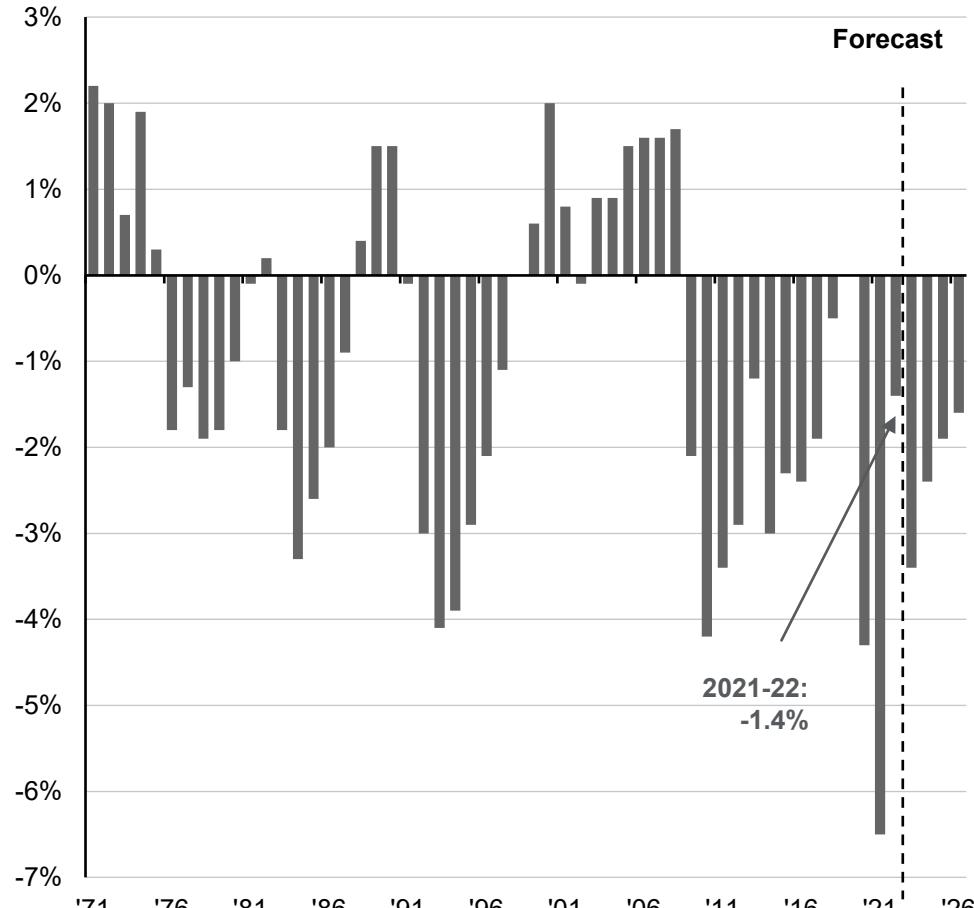
Government finances

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Local economy

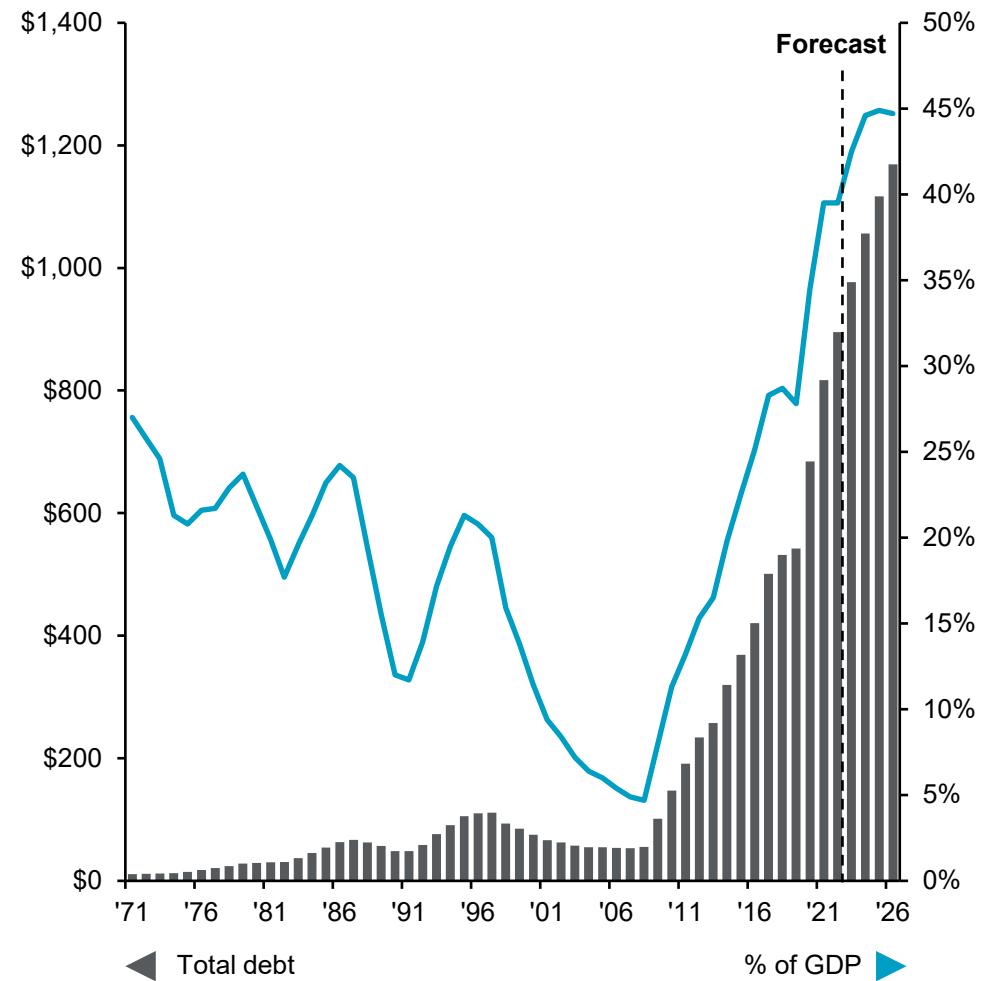
Commonwealth budget surplus/deficit

% of GDP, 2022-23 Budget



Commonwealth gross debt

AUD billions, 2022-23 Budget



Source: Australian Treasury, J.P. Morgan Asset Management.
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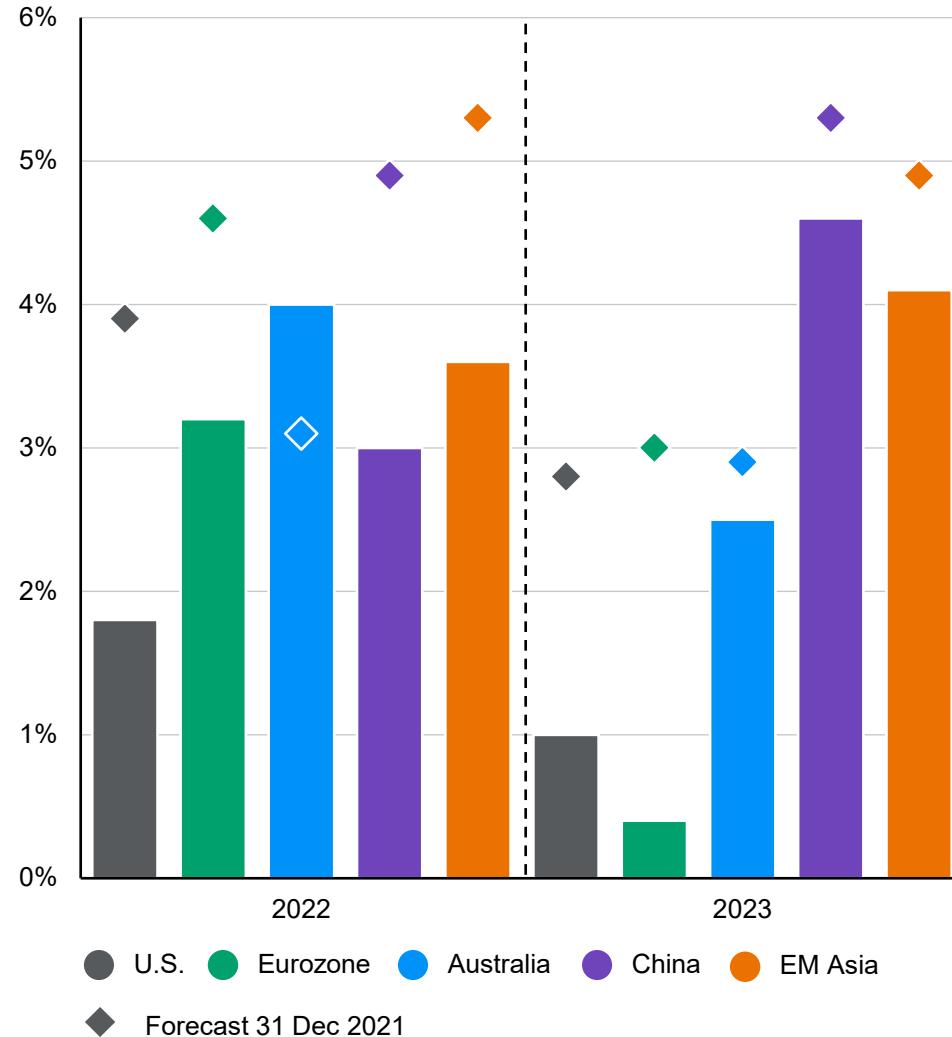
Global growth

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Global economy

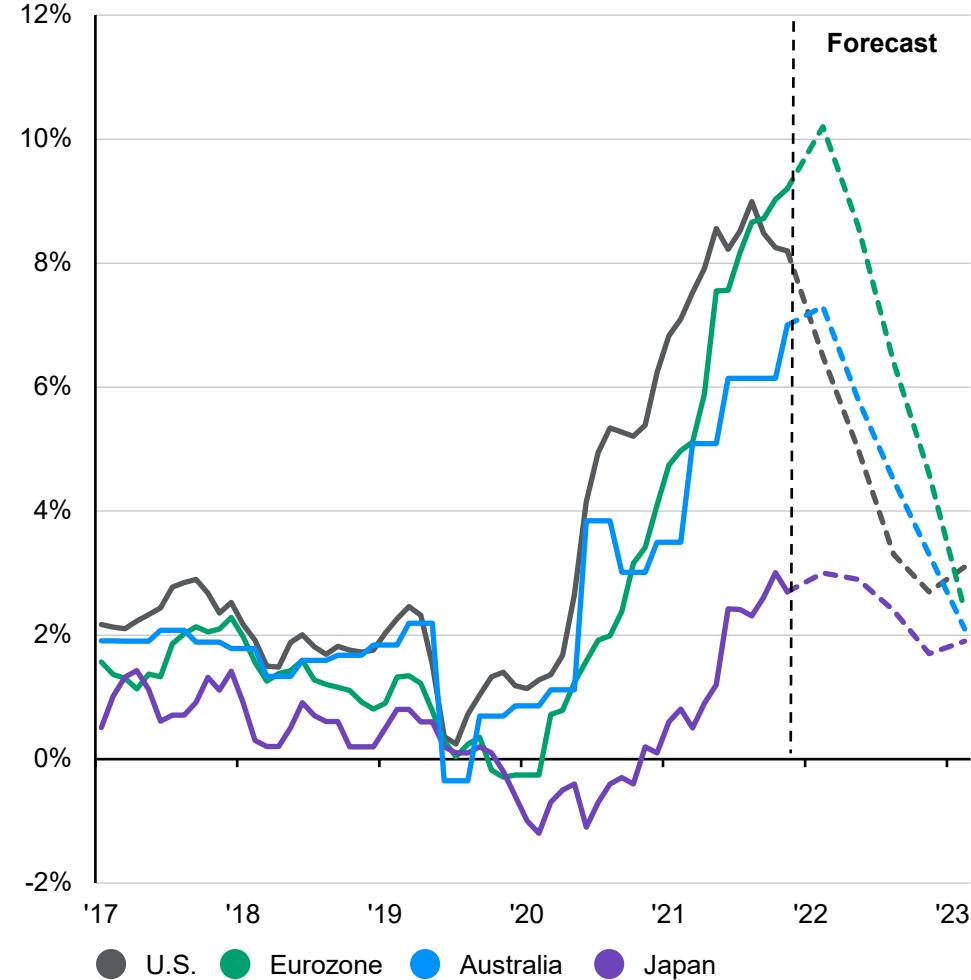
Real GDP growth forecast

Annual



Inflation forecast

Headline CPI inflation, year-over-year



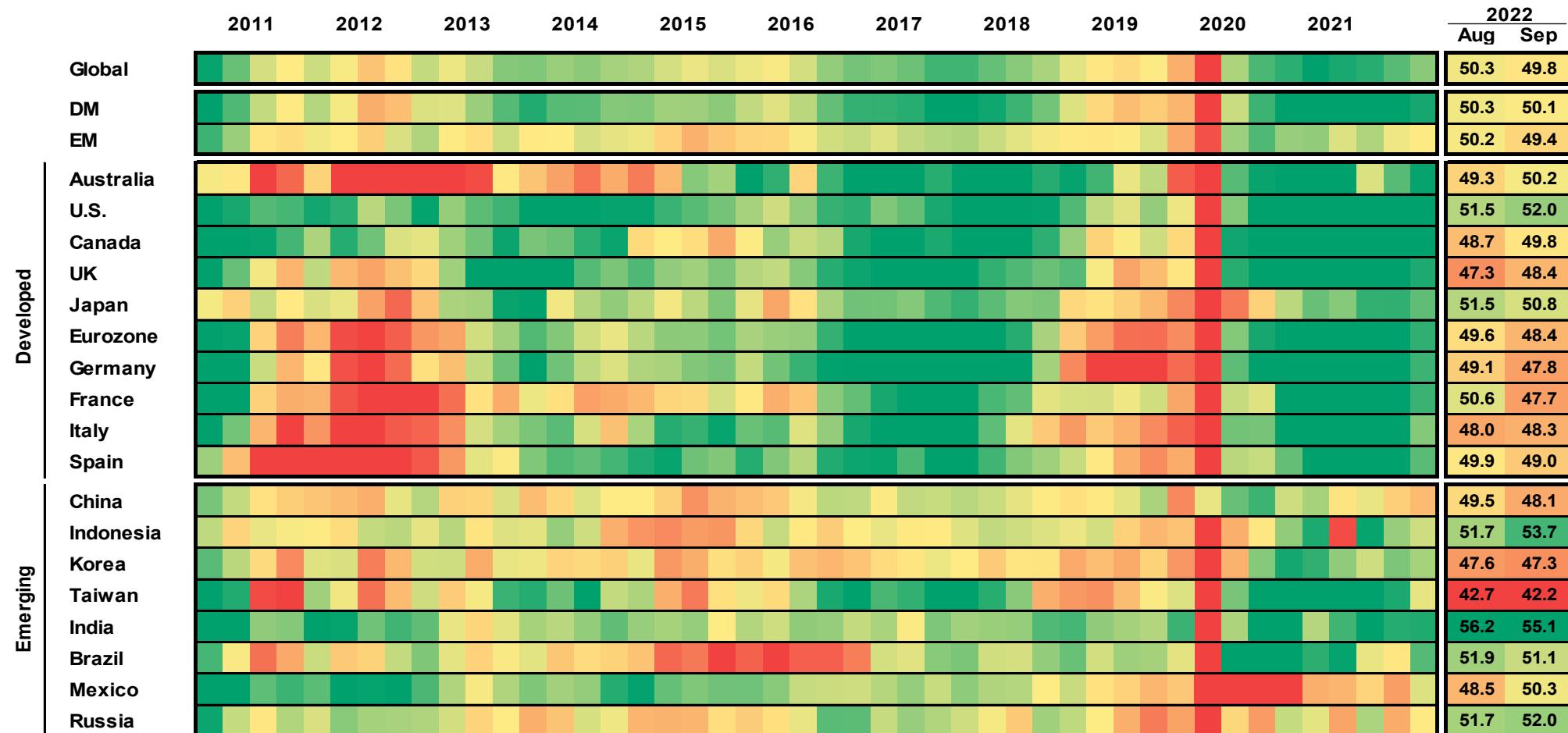
Source: J.P. Morgan Economic Research, J.P. Morgan Asset Management. Past performance is not a reliable indicator of current or future results.
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Global manufacturing momentum

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Global composite Purchasing Managers' Index, quarterly



Source: AIG, FactSet, Markit, J.P. Morgan Asset Management. Heatmap colours are based on PMI relative to the 50 level, which indicates acceleration or deceleration of the sector, for the time period shown. Heatmap is based on quarterly averages, with the exception of the two most recent figures, which are single month readings. Data for Canada, Indonesia and Mexico are back-tested and filled in from December 2008 to November 2010 for Canada and May 2011 for Indonesia and Mexico due to lack of existing PMI figures for these countries. DM and EM represent developed markets and emerging markets, respectively.

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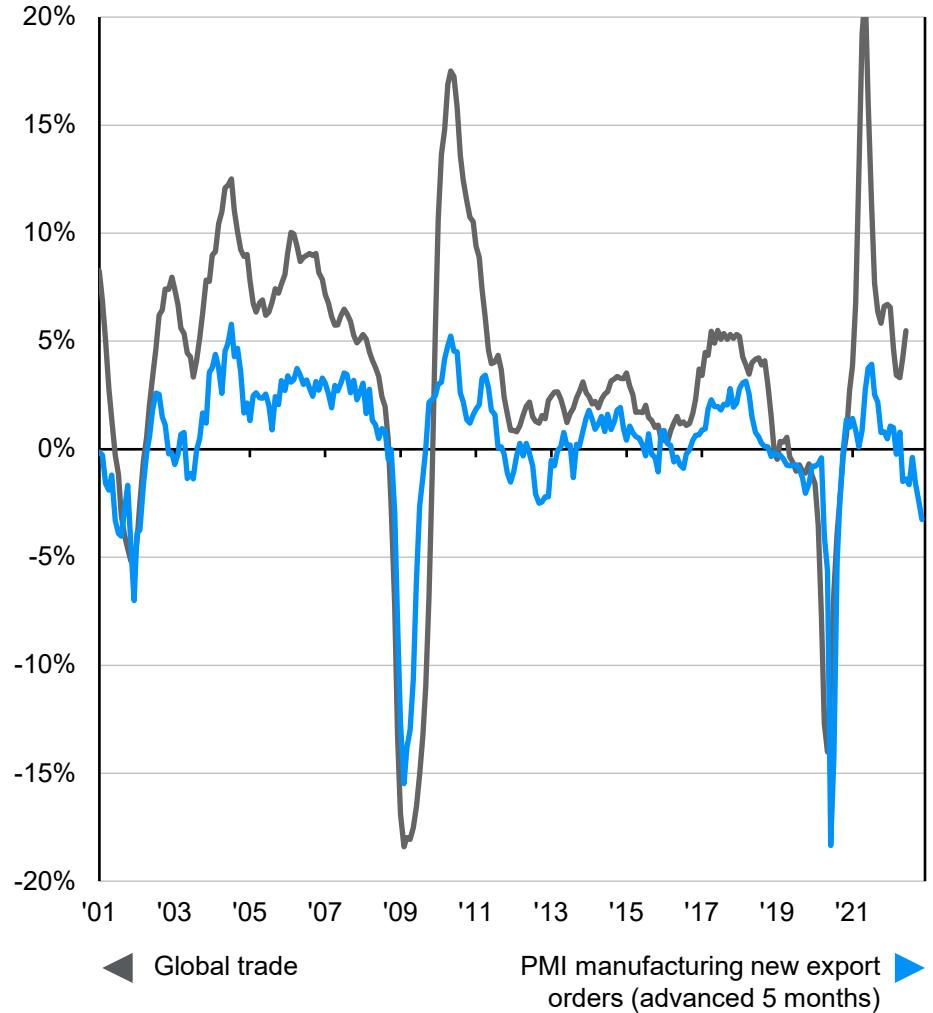
Global trade

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Global economy

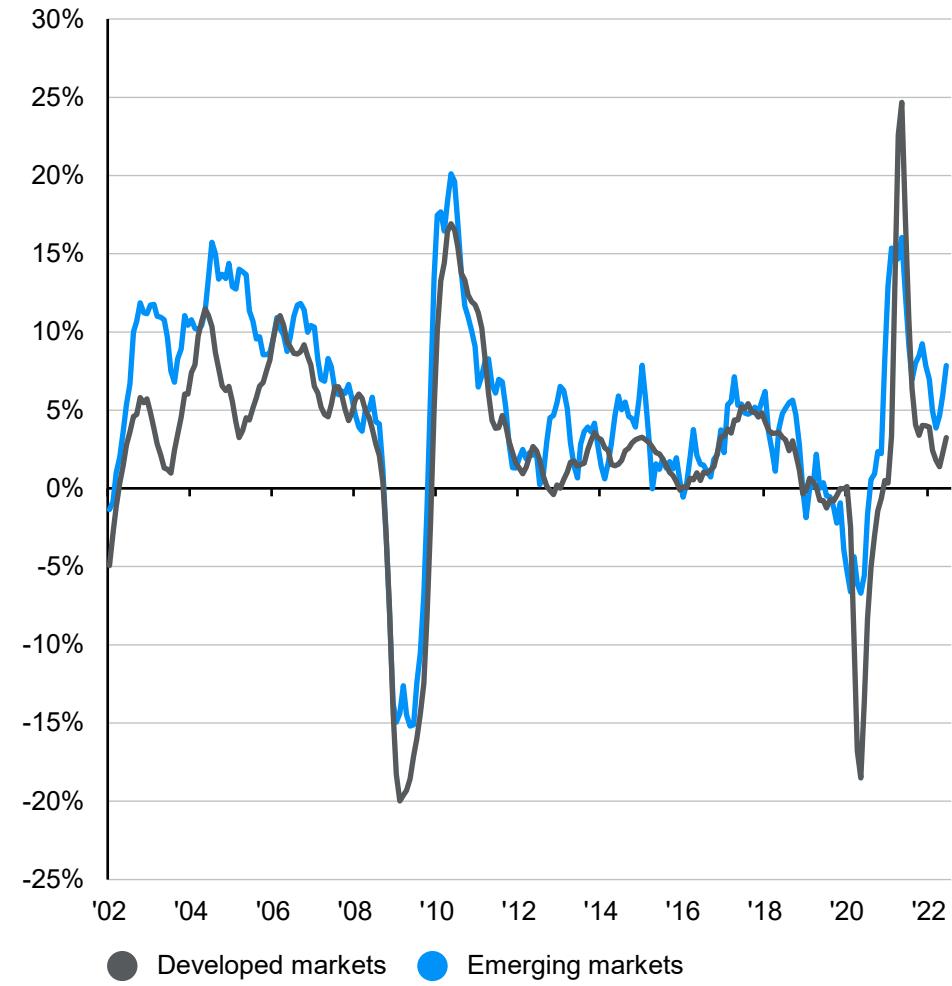
Global trade activity

Year-over-year, 3-month moving average



Export growth

Year-over-year, 3-month moving average



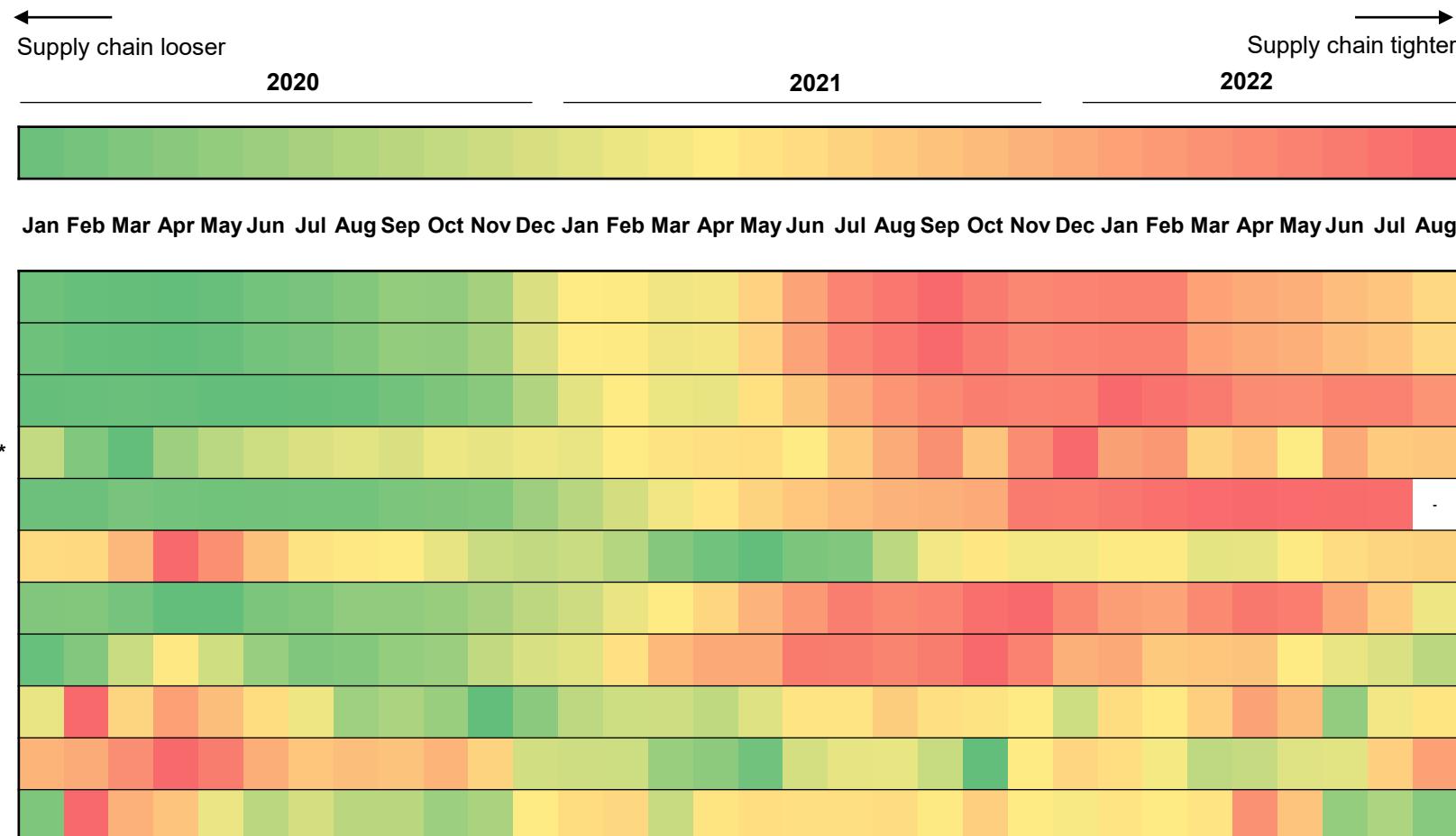
Source: FactSet, Netherlands Bureau for Economic Policy Analysis, J.P. Morgan Asset Management.
Emerging markets and developed markets as defined by Netherlands Bureau of Policy Research world trade monitor.
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Global supply chains

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Global economy

Supply chain pressures



Source: Drewry, FactSet, IHS Markit, J.P. Morgan Economic Research, Port of Los Angeles, Shanghai Shipping Index, Susquehanna Financial Group, U.S. Federal Reserve, J.P. Morgan Asset Management. Global shipping costs: Drewry World Container Index; The China Containerized Freight Index for January and February 2020 is estimated by extrapolating between December 2019 and March 2020. The Port of LA loaded container ratio is calculated by dividing the total number of loaded containers by the total number of empty containers. Semiconductor lead time is the time between ordering a chip and delivery. The output, input prices and supplier delivery time of developed markets and EM Asia are measured using the corresponding manufacturing PMI sub-indices. *Green signifies more loaded containers relative to empty containers at the Port of LA, which implies less supply chain disruptions. **Green signifies lower input prices as the impact of input cost pressures has eased. ***Green signifies shorter supplier delivery time. Guide to the Markets – Australia. Data as of 30 September 2022.

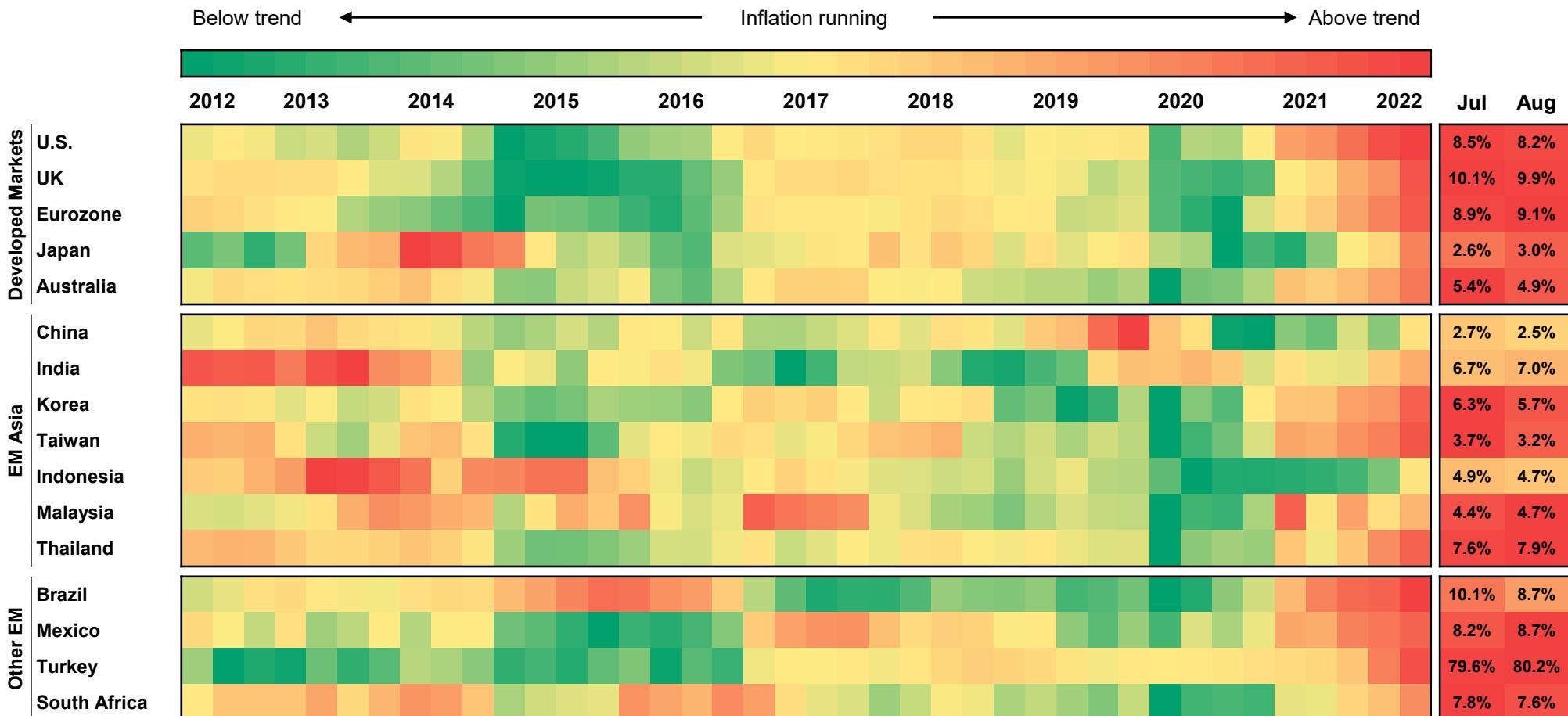


Global inflation heatmap

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Headline consumer prices

Year-over-year, quarterly



Source: Department of Statistics Malaysia, DGBAS, Eurostat, FactSet, Goskomstat of Russia, IBGE, India Ministry of Statistics & Programme Implementation, INEGI, J.P. Morgan Economic Research, Korean National Statistical Office, Melbourne Institute, Ministry of Commerce Thailand, Ministry of Internal Affairs & Communications Japan, National Bureau of Statistics China, Office for National Statistics UK, Statistics Indonesia, Statistics Institute Turkey, Statistics South Africa, U.S. Department of Labor, J.P. Morgan Asset Management. Quarterly averages, with the exception of the two most recent figures, which are single month readings, are shown. Colours are based on z-score of year-over-year inflation rate relative to each country's own 10-year history where red (green) indicates inflation above (below) long-run trend. EM represents emerging markets.
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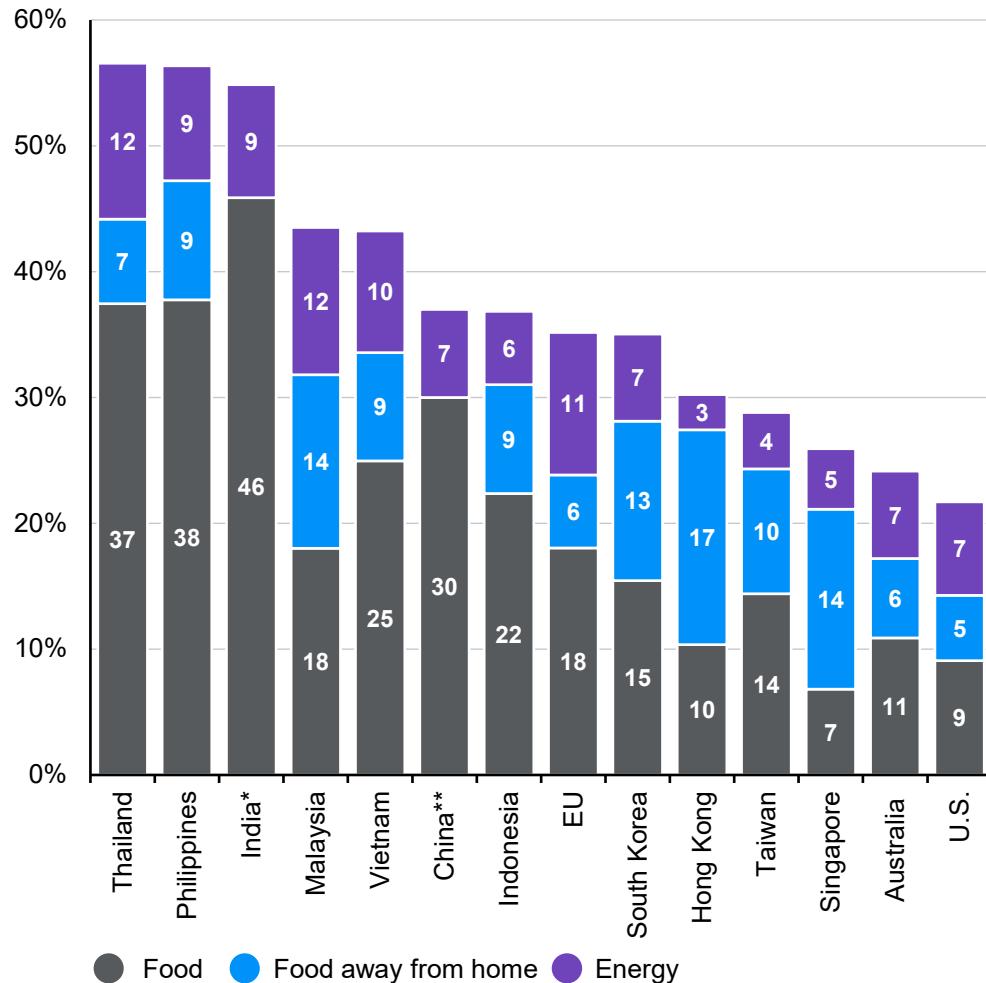


Global food and energy inflation

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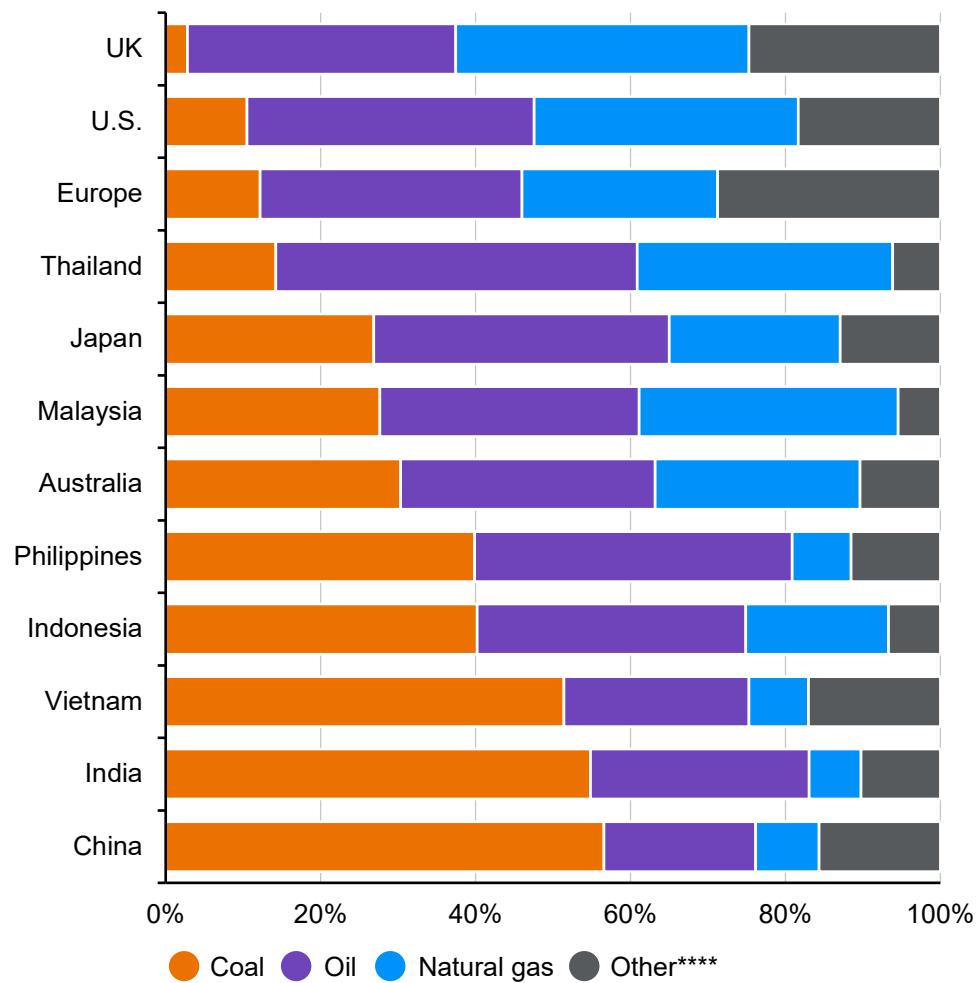
Global economy

Food and energy weights within CPI baskets



Energy consumption by fuel type

Share of total energy consumption***



Source: J.P. Morgan Asset Management; (Left) ABS, CEIC; (Right) BP Statistical Review of World Energy. *India's food away from home CPI is zero.

China NBS does not provide detailed CPI weights. *Energy includes energy used by households and transportation. ****Other include nuclear energy, hydroelectric and other forms of renewable energy.

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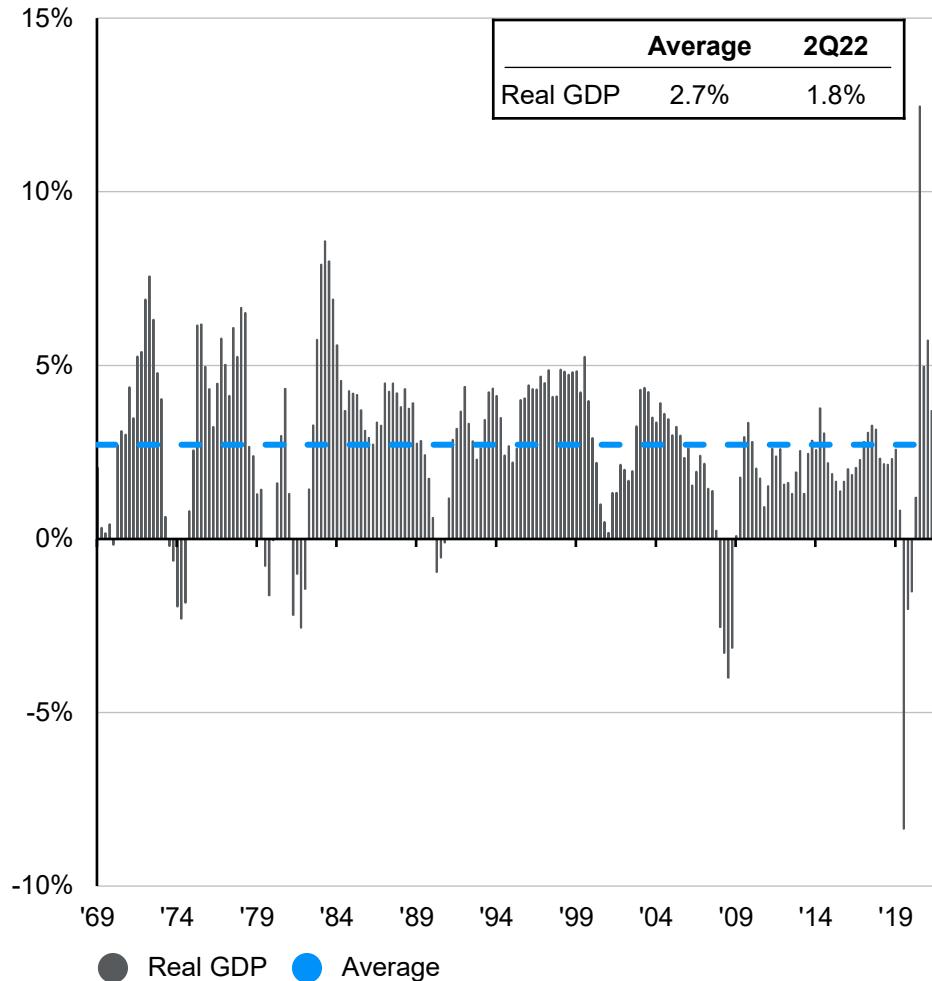


U.S.: GDP and inflation

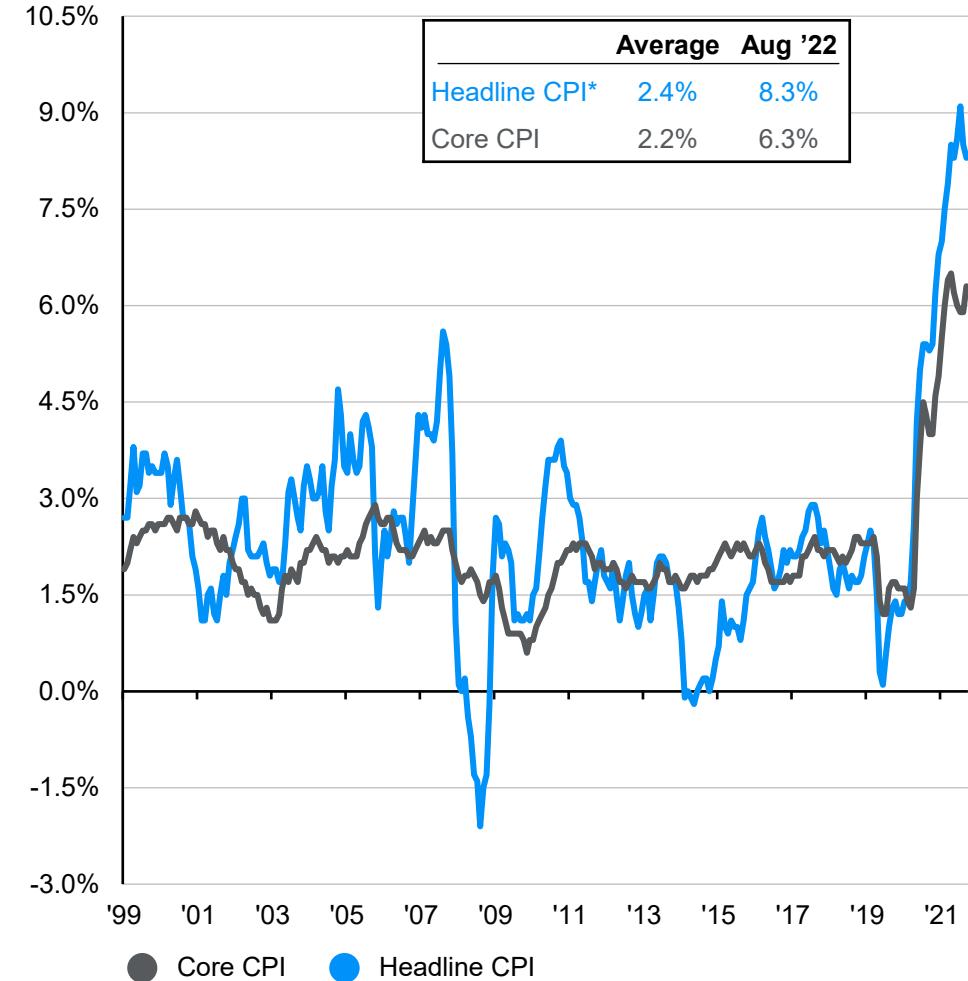
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Global economy

Real GDP
Year-over-year



Inflation
Year-over-year



Source: FactSet, J.P. Morgan Asset Management; (Left) BEA; (Right) BLS. *CPI is the Consumer Price Index.
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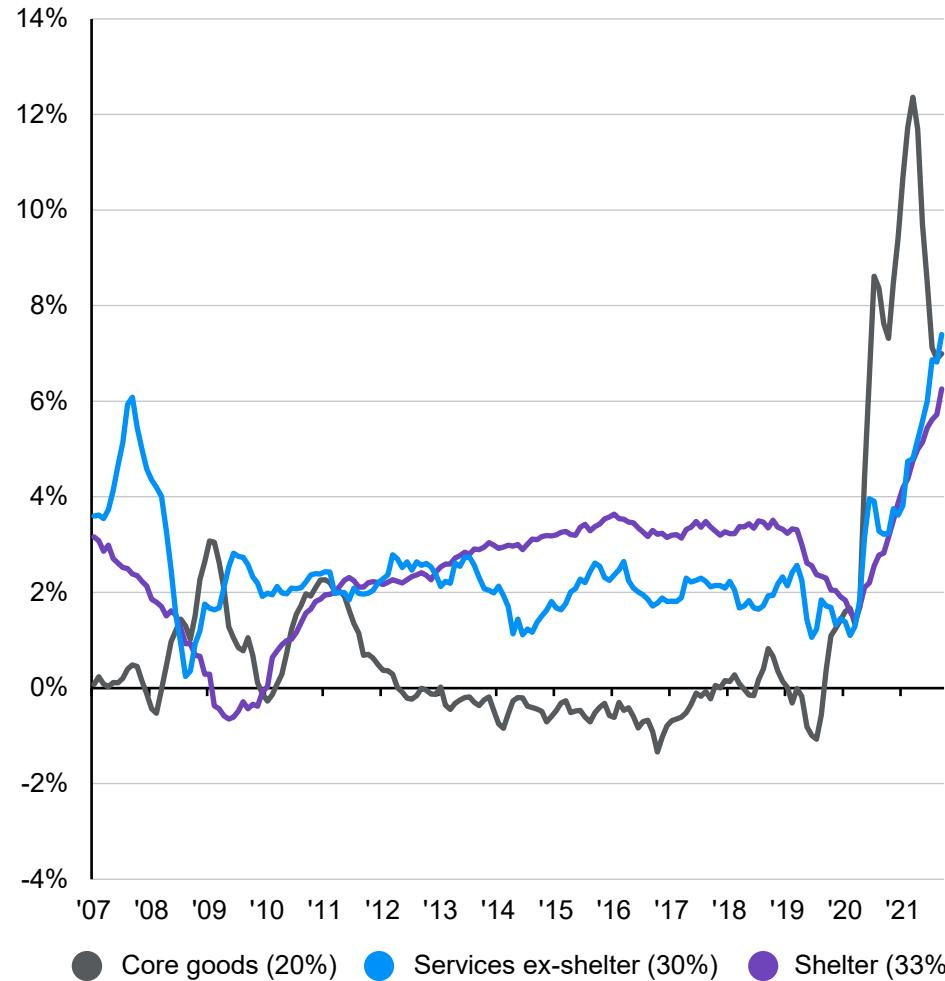
U.S.: Inflation components

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Global economy

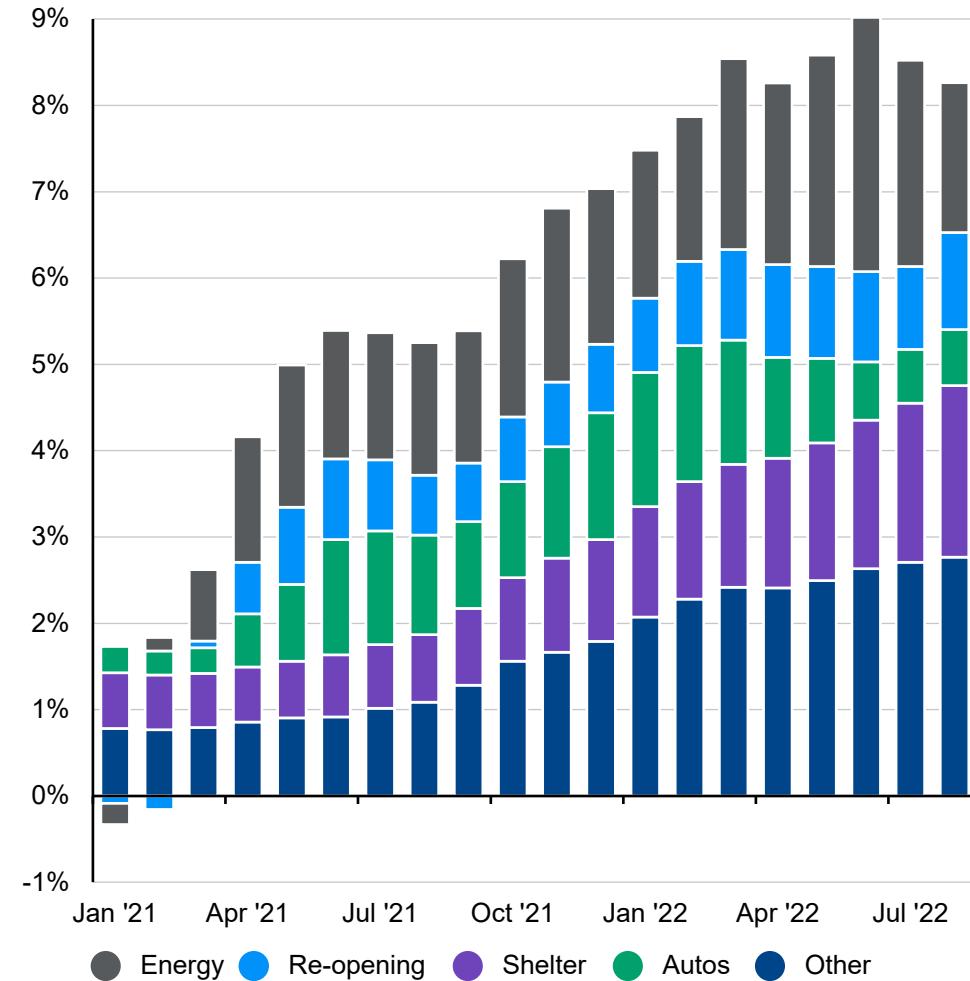
Selected components of U.S. headline inflation

Year-over-year



Inflation components contribution*

Year-over-year



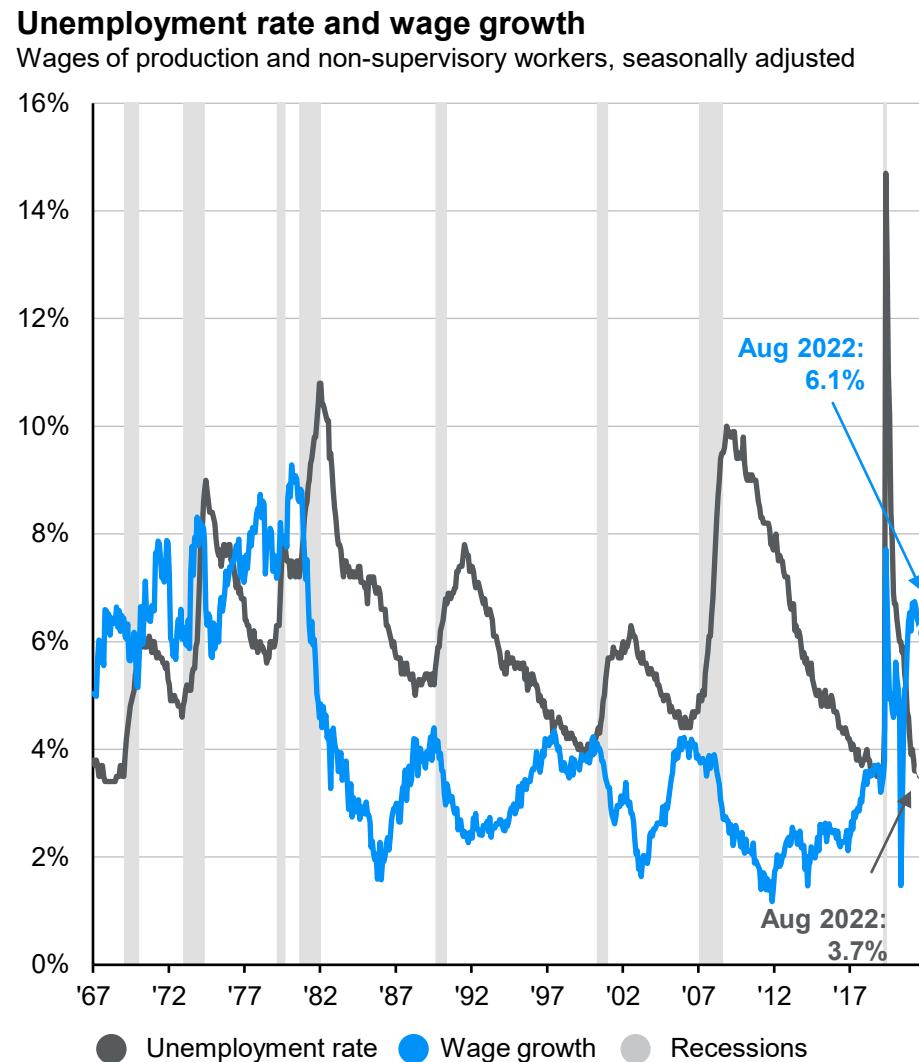
Source: BEA, FactSet, J.P. Morgan Asset Management. *Autos represents new and used vehicles. Re-opening is represented by food away from home, transportation services and lodging away from home. Shelter excludes the lodging away from home component that is shown in the re-opening theme. Guide to the Markets – Australia. Data as of 30 September 2022.



U.S.: Labour market

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Global economy



Source: BLS, FactSet, J.P. Morgan Asset Management.
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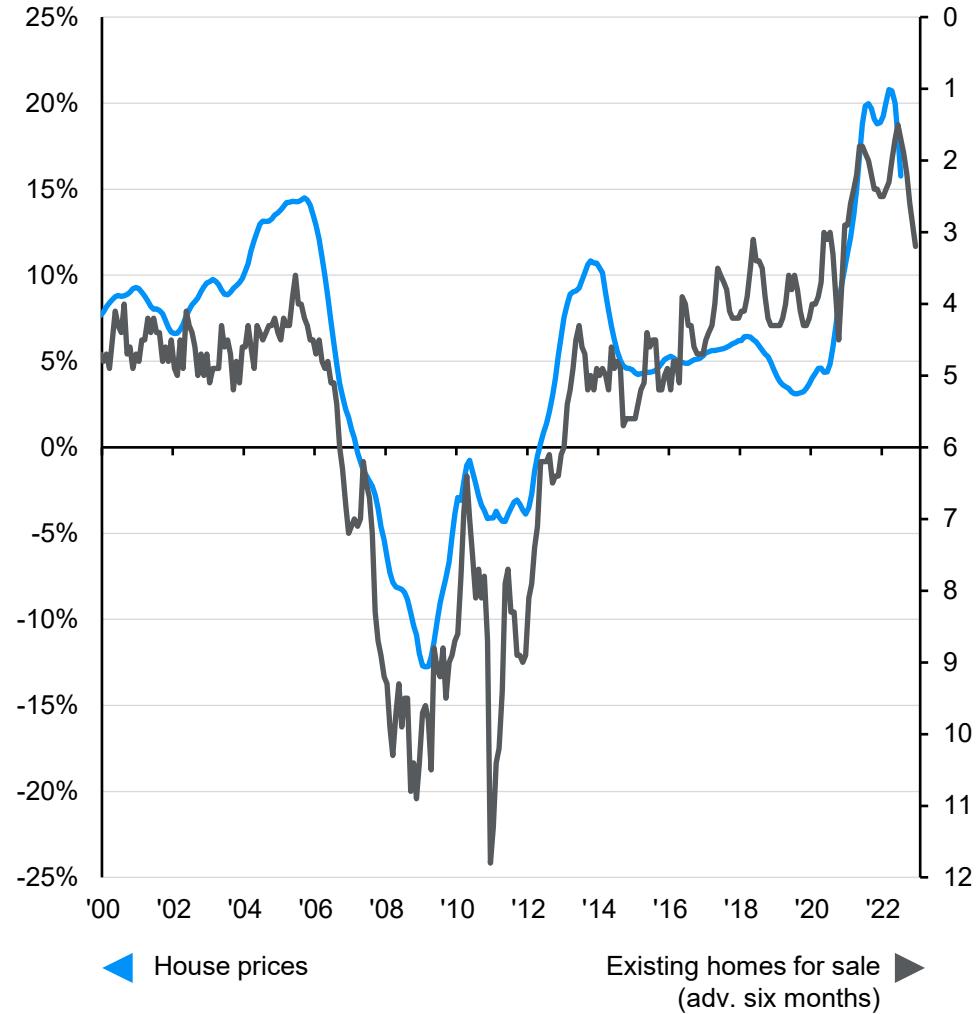
U.S.: Housing market

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Global economy

House prices and supply

Year-over-year



Housing starts

Millions



Source: J.P. Morgan Asset Management; (Left) Case-Shiller, Standard & Poor's, U.S. National Association of Realtors; (Right) U.S. Census Bureau. Guide to the Markets – Australia. Data as of 30 September 2022.



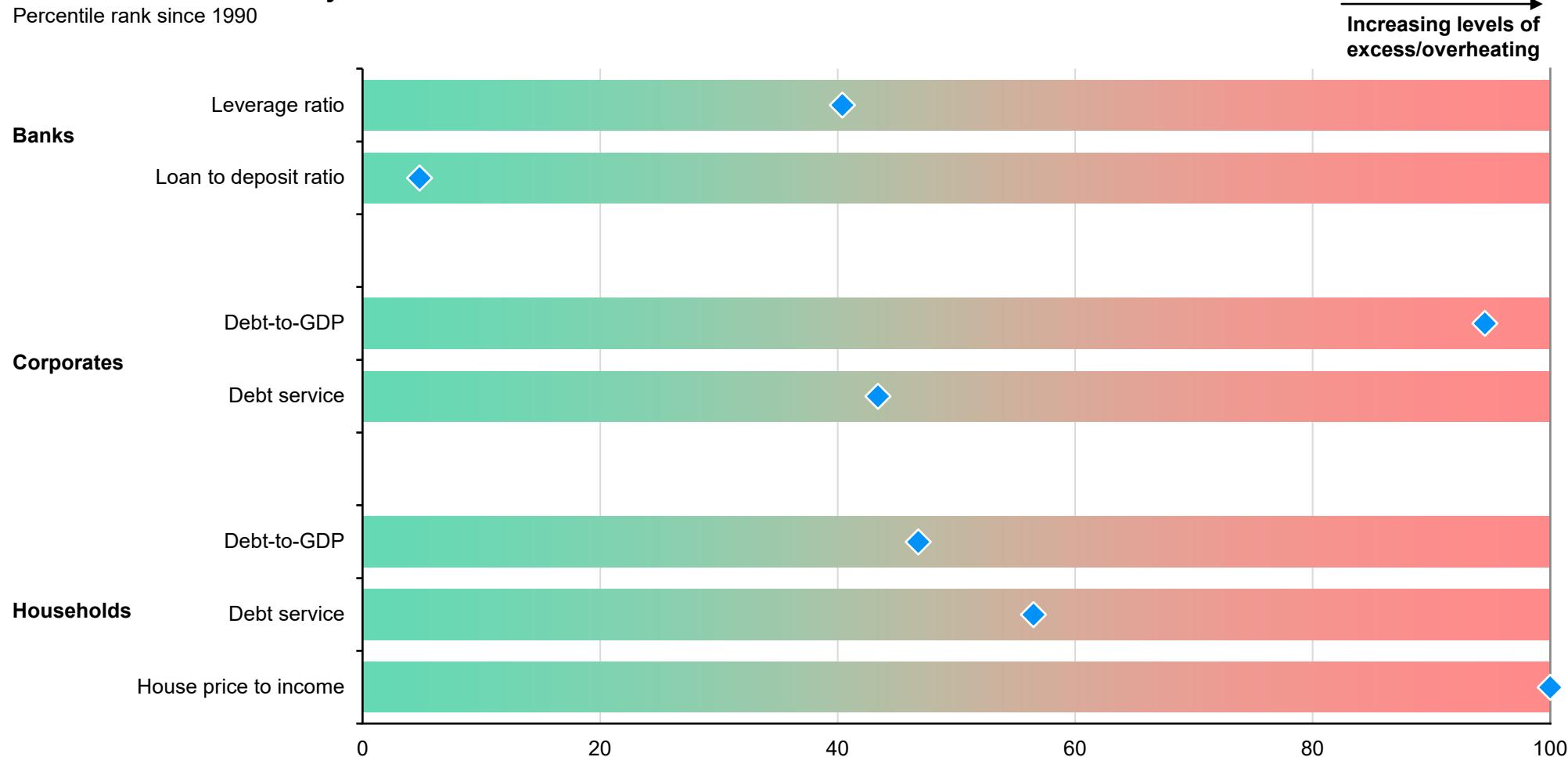
U.S.: Economic vulnerability

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Global economy

U.S. economic vulnerability monitor

Percentile rank since 1990



Source: Bank of International Settlements, Bureau of Economic Analysis, Bureau of Labor Statistics, FactSet, Federal Reserve Bank of St. Louis, New York Fed, OECD, Refinitiv Datastream, U.S. Federal Reserve and J.P. Morgan Asset Management. Leverage ratio is tier 1 bank risk-based capital as a % of average total assets. All percentile rankings are calculated from first quarter 1990 or January 1990, except for Debt Service, which was calculated from first quarter 1999 due to data availability.

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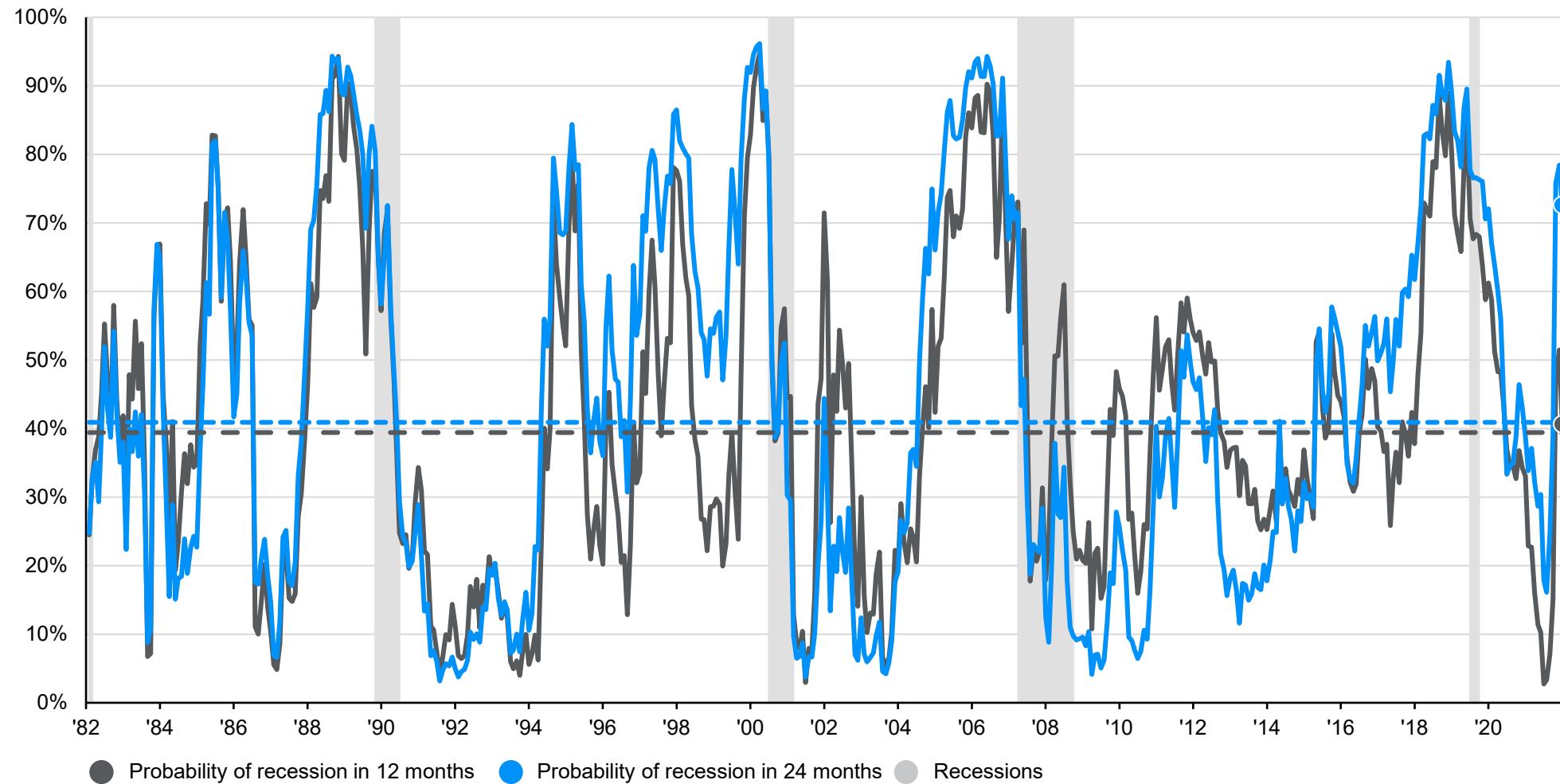


U.S.: Recession probability

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Market implied probability of recession

Global economy



Source: Bloomberg L.P., National Bureau of Economic Research (NBER), J.P. Morgan Asset Management. Recession probabilities derived from a logistic regression model with the U.S. 10 year – U.S. 2 year spread, U.S. 10 year – U.S. 3 month spread and Goldman Sachs Financial Conditions Index deviation from average as inputs. Dependent variable is the binary classification of whether there is a recession in the next 12 to 24 months using NBER's classification of U.S. recessions.

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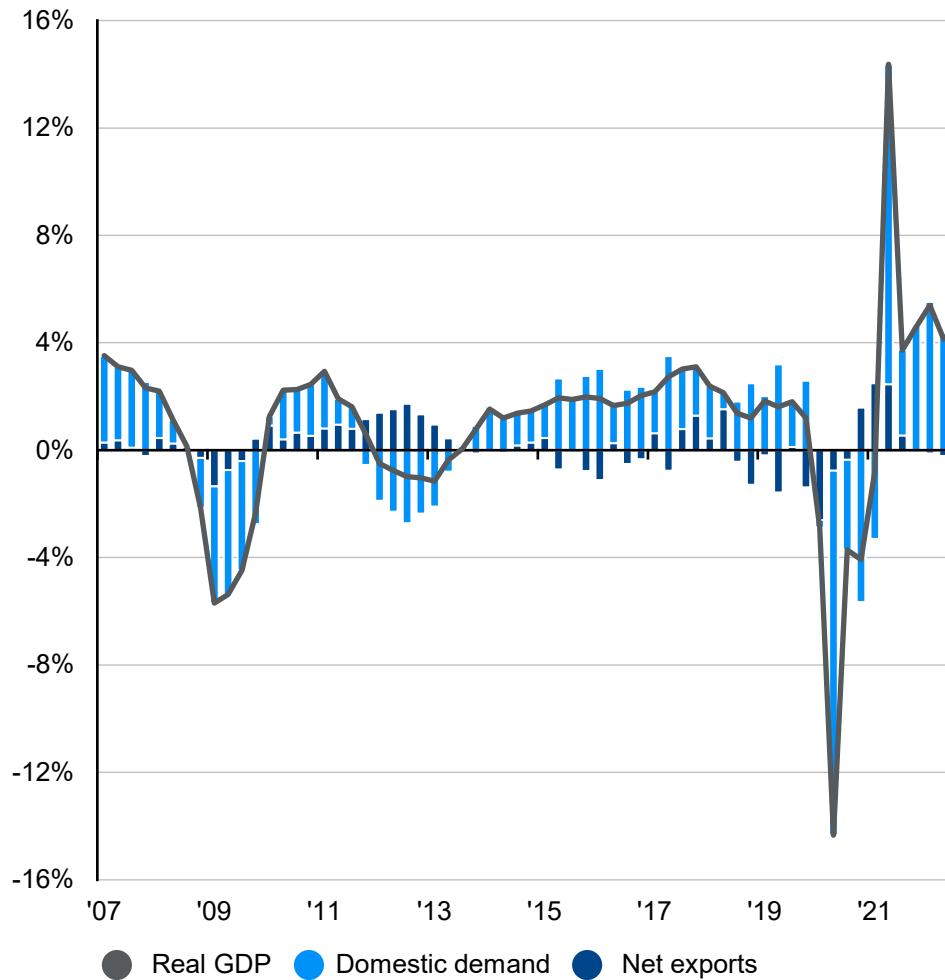
Eurozone: GDP and inflation

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Global economy

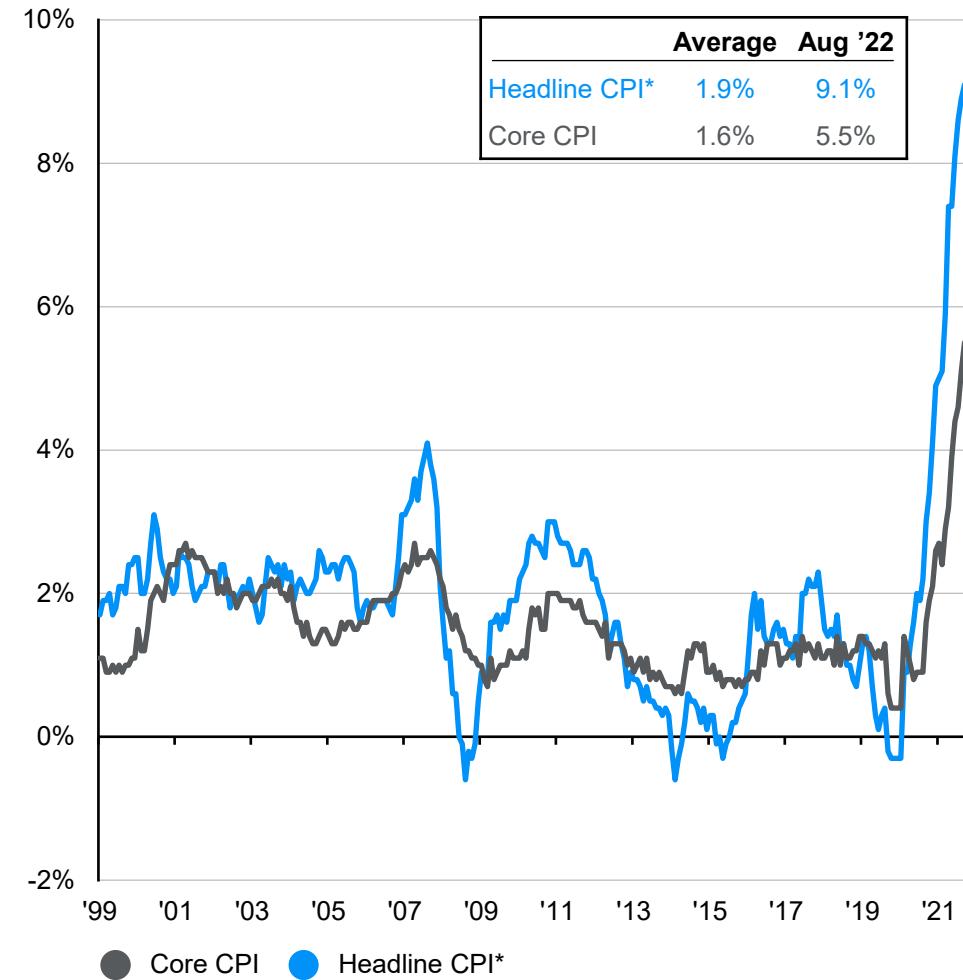
Real GDP

Contribution to real GDP growth, year-over-year



Inflation

Year-over-year



Source: Eurostat, FactSet, J.P. Morgan Asset Management. *CPI is the Consumer Price Index. Core CPI is CPI excluding food and energy.
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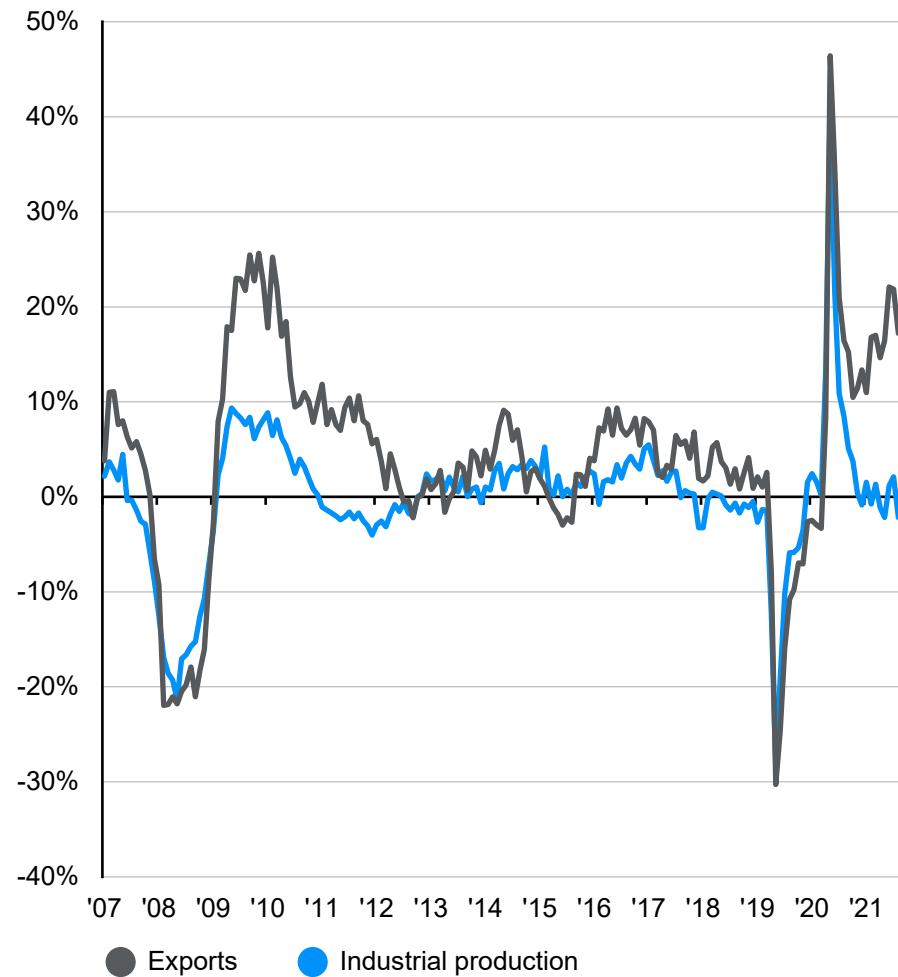
Eurozone: Growth indicators

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Global economy

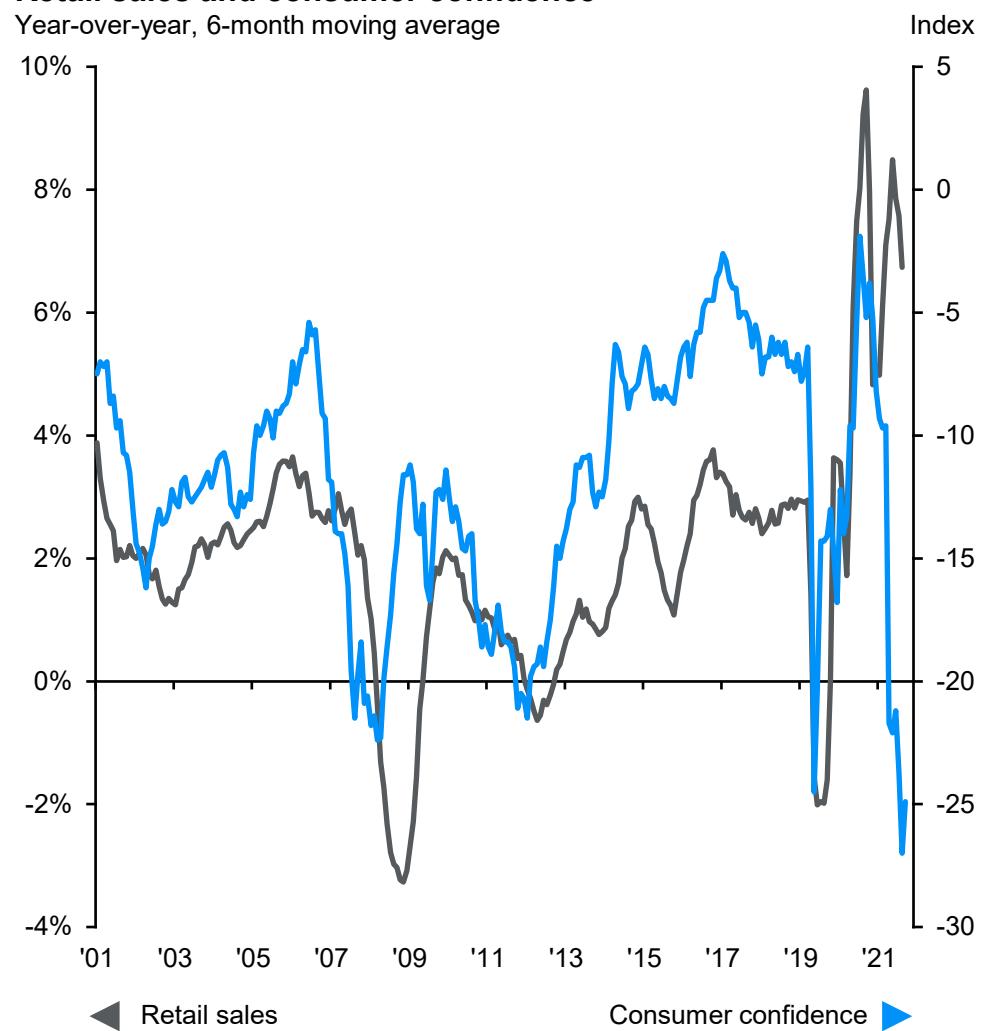
Eurozone activity

Year-over-year



Retail sales and consumer confidence

Year-over-year, 6-month moving average



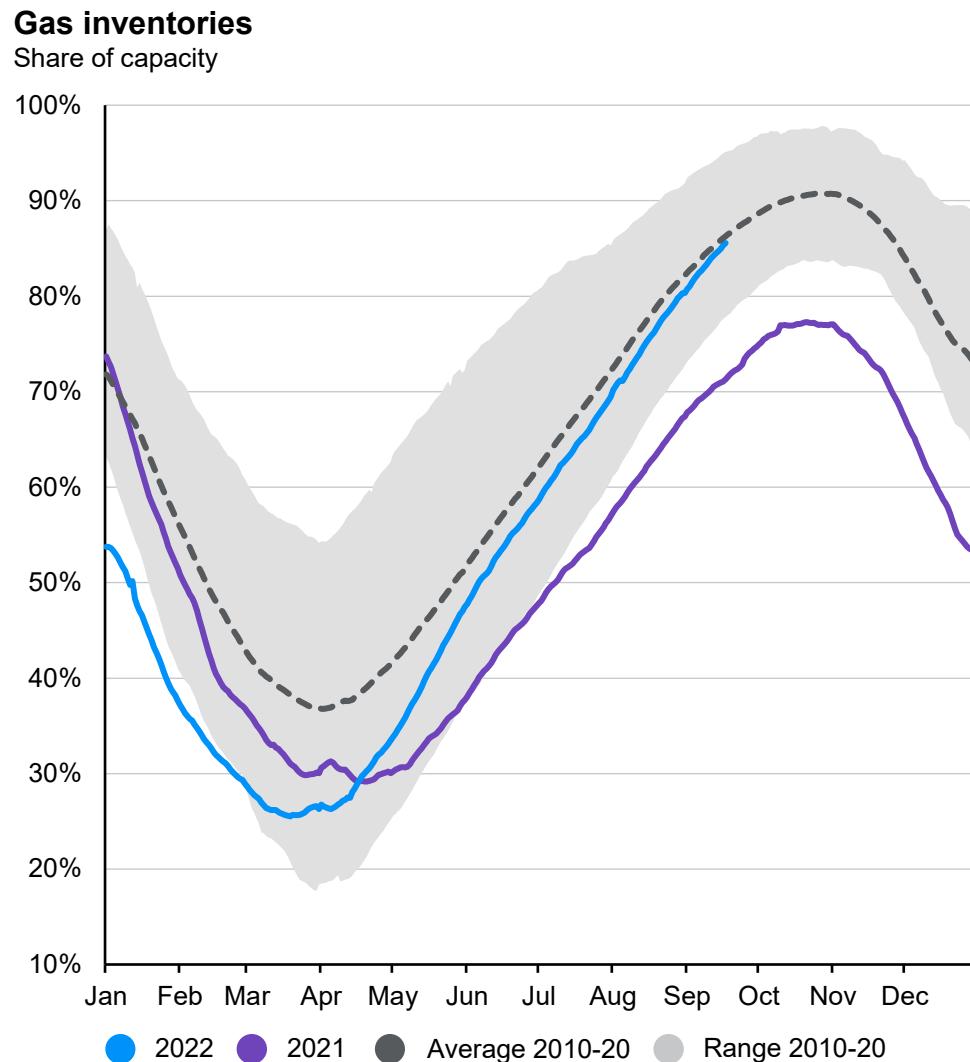
Source: Eurostat, FactSet, J.P. Morgan Asset Management; (Right) European Commission.
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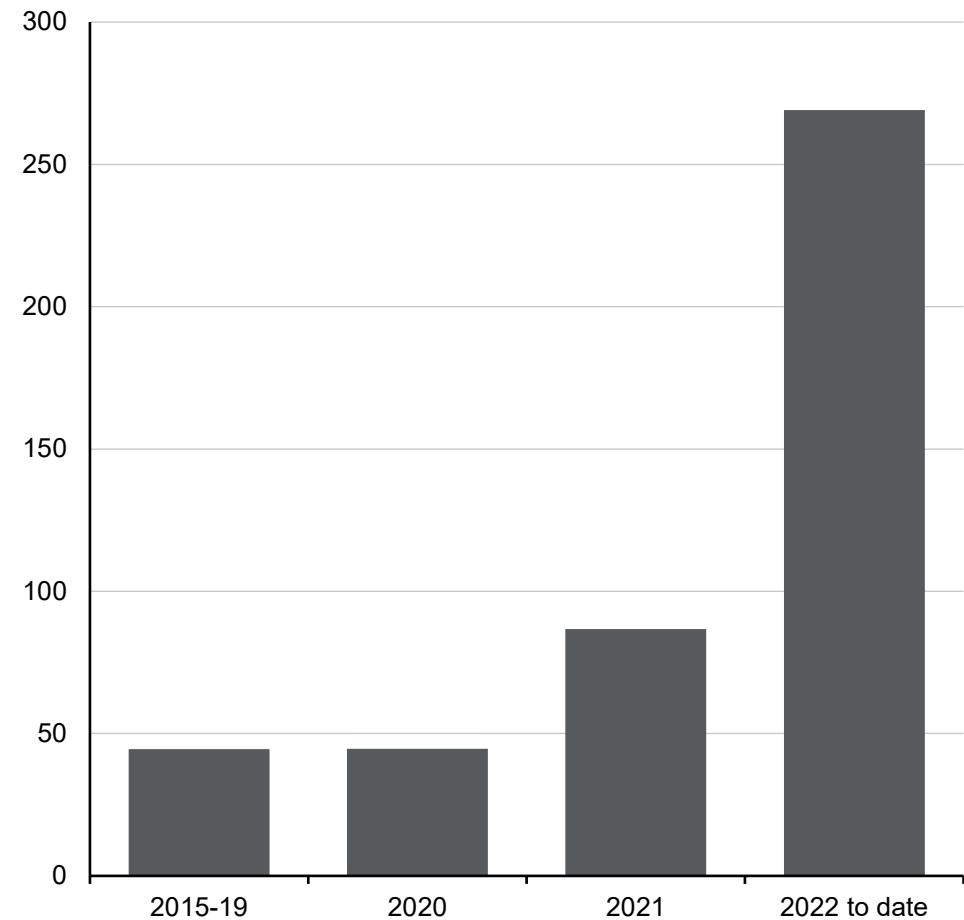
Eurozone: Energy crisis

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Global economy



Average 1-year forward baseload electricity price
EUR/MWh*



Source: FactSet, InterContinental Exchange, J.P. Morgan Asset Management. *Figures calculated as the average of the German, French, Italian and Spanish period averages.

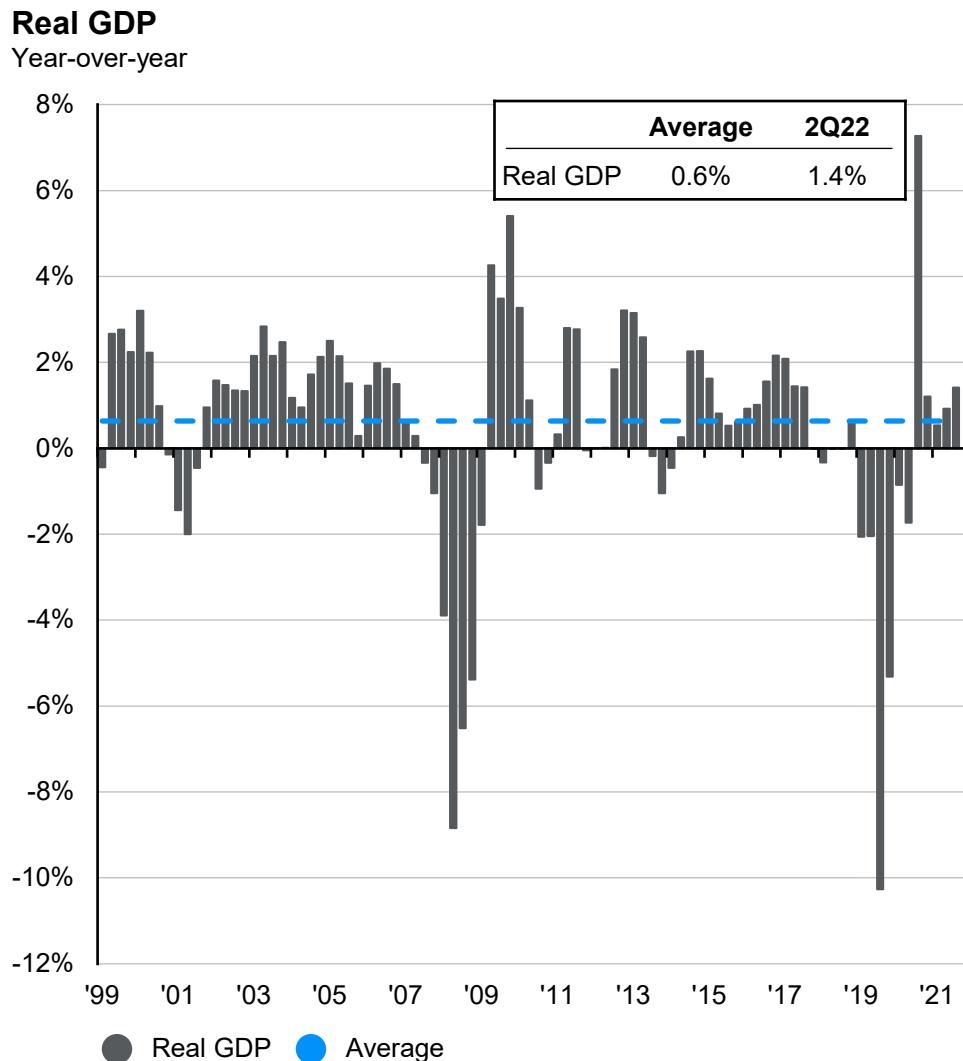
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Japan: GDP and inflation

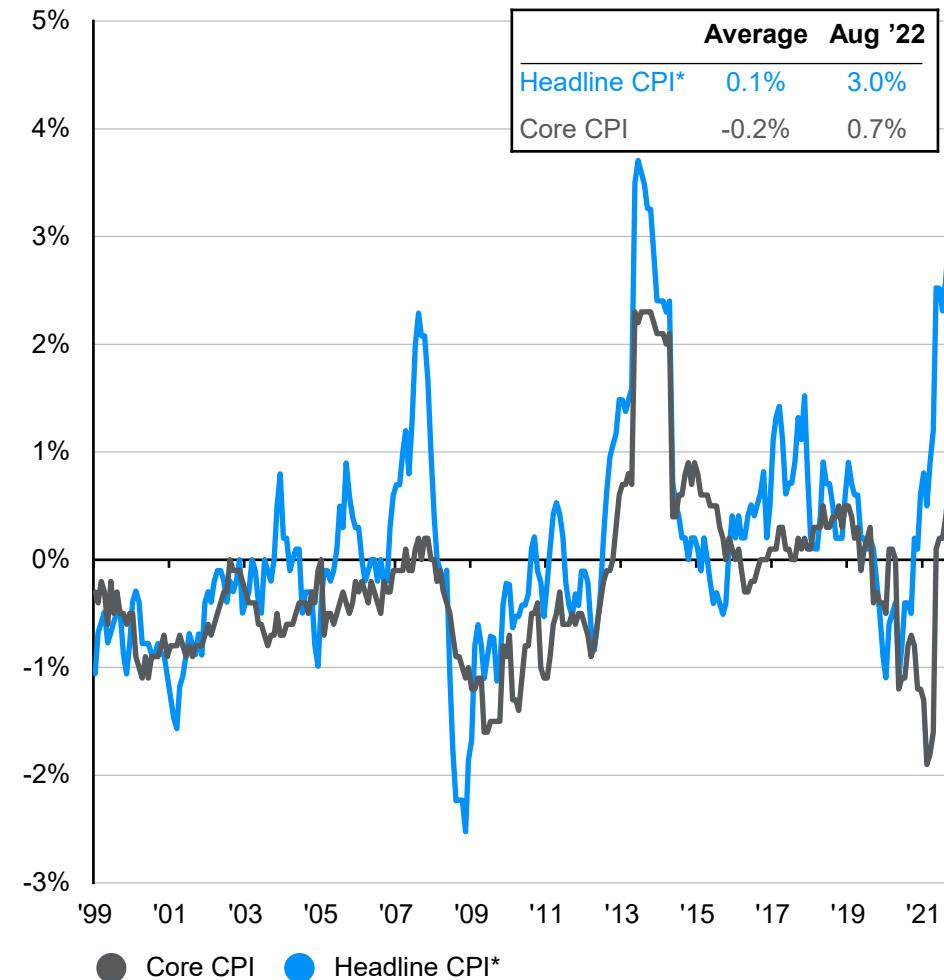
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Global economy



Inflation

Year-over-year



Source: FactSet, J.P. Morgan Asset Management; (Left) Japanese Cabinet Office; (Right) Ministry of Internal Affairs and Communications.

*CPI is the Consumer Price Index. Core CPI excludes food and energy prices.

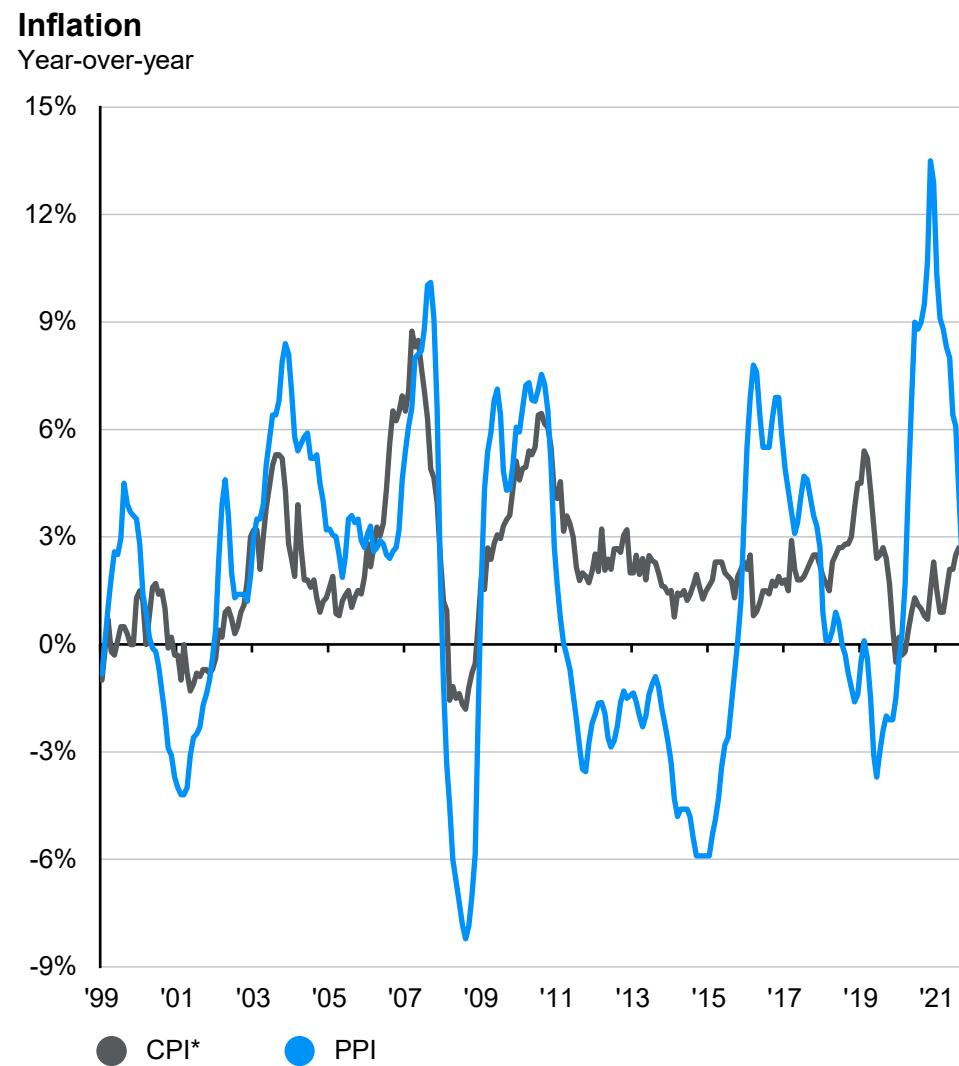
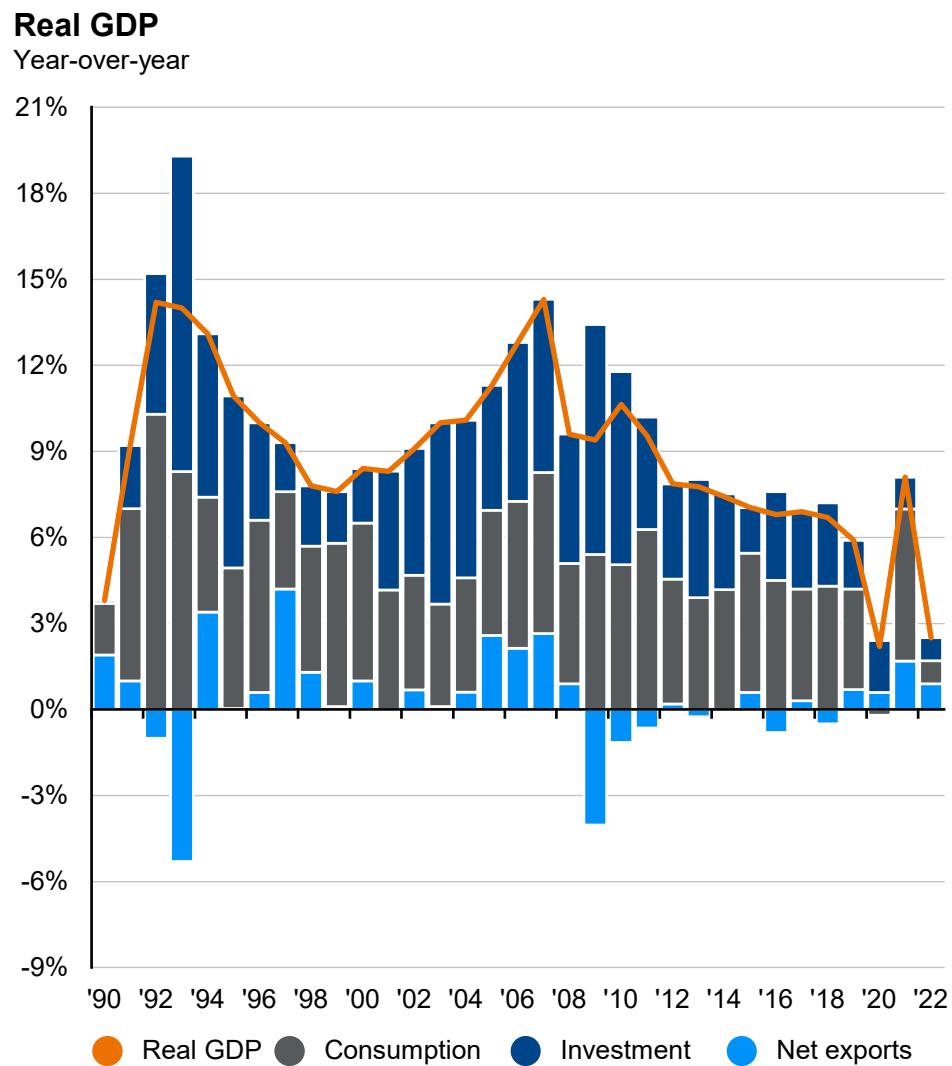
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China: GDP and inflation

GTM | AUS | 30

Global economy



Source: FactSet, NBS China, J.P. Morgan Asset Management. Latest Chinese GDP growth figure is 2Q22. *CPI is the Consumer Price Index, PPI is the producer price index.

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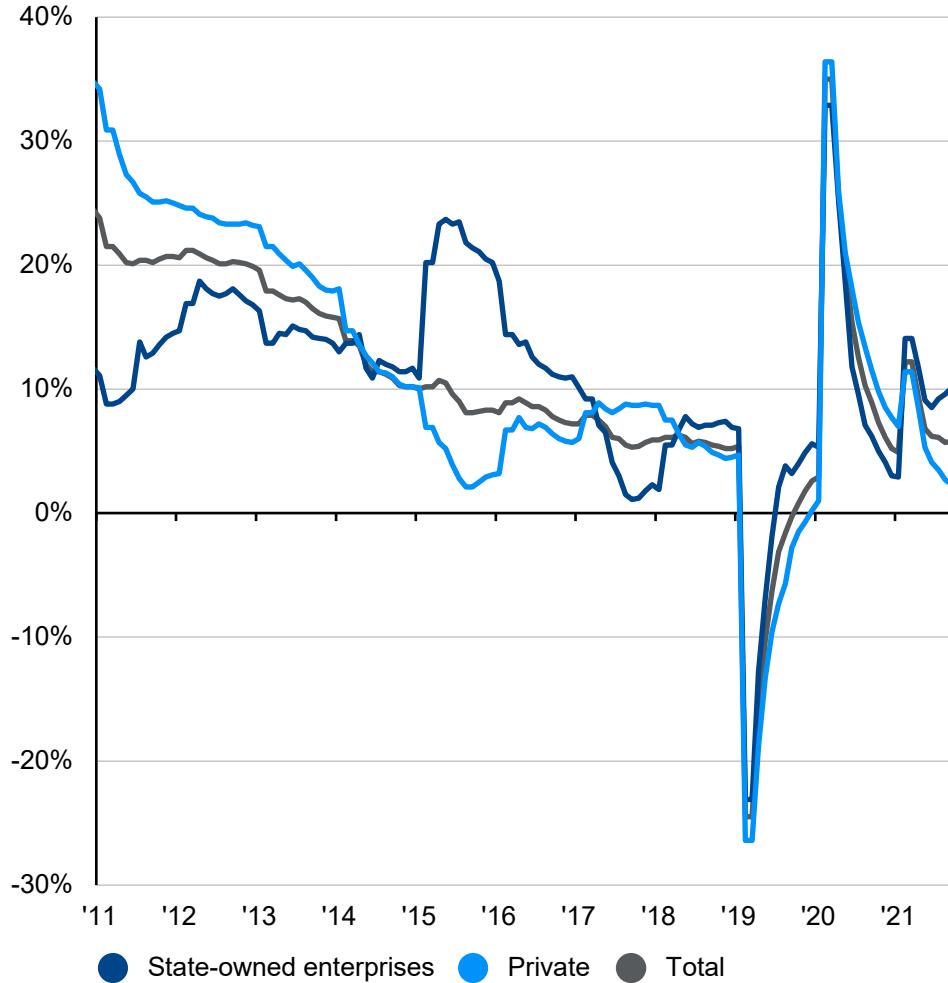
China: Cyclical indicators

GTM | AUS | 31

Global economy

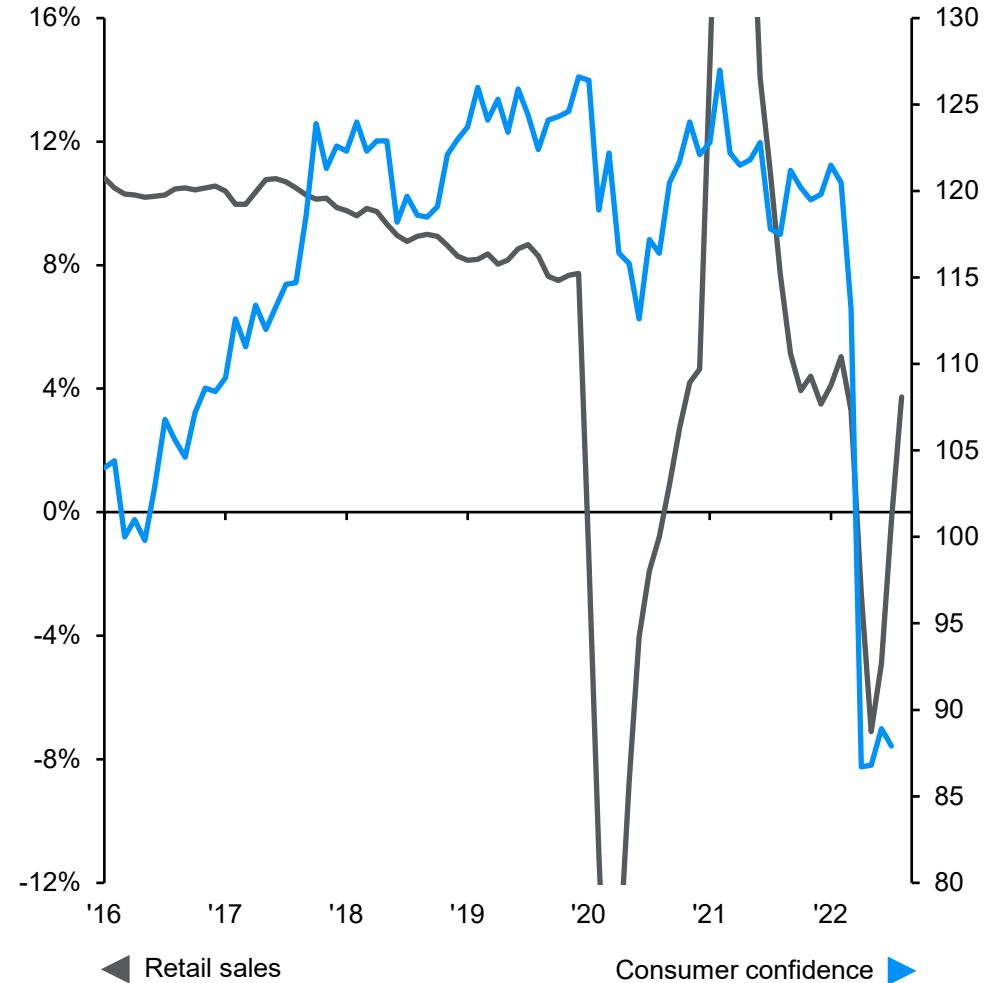
Fixed asset investment

Year-over-year, year-to-date



Consumption and confidence

Year-over-year, 3-month moving average



Source: CEIC, NBS China, J.P. Morgan Asset Management.
Guide to the Markets – Australia. Data as of 30 September 2022.

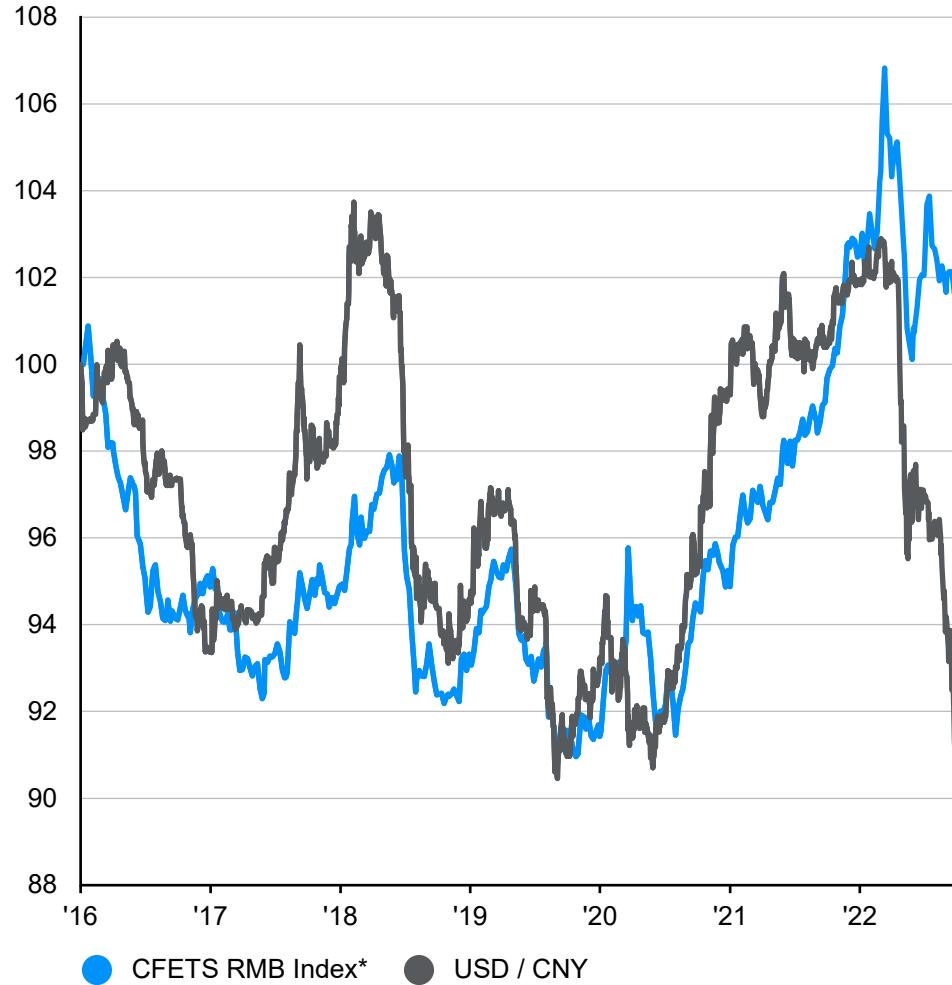


China: Financial dynamics

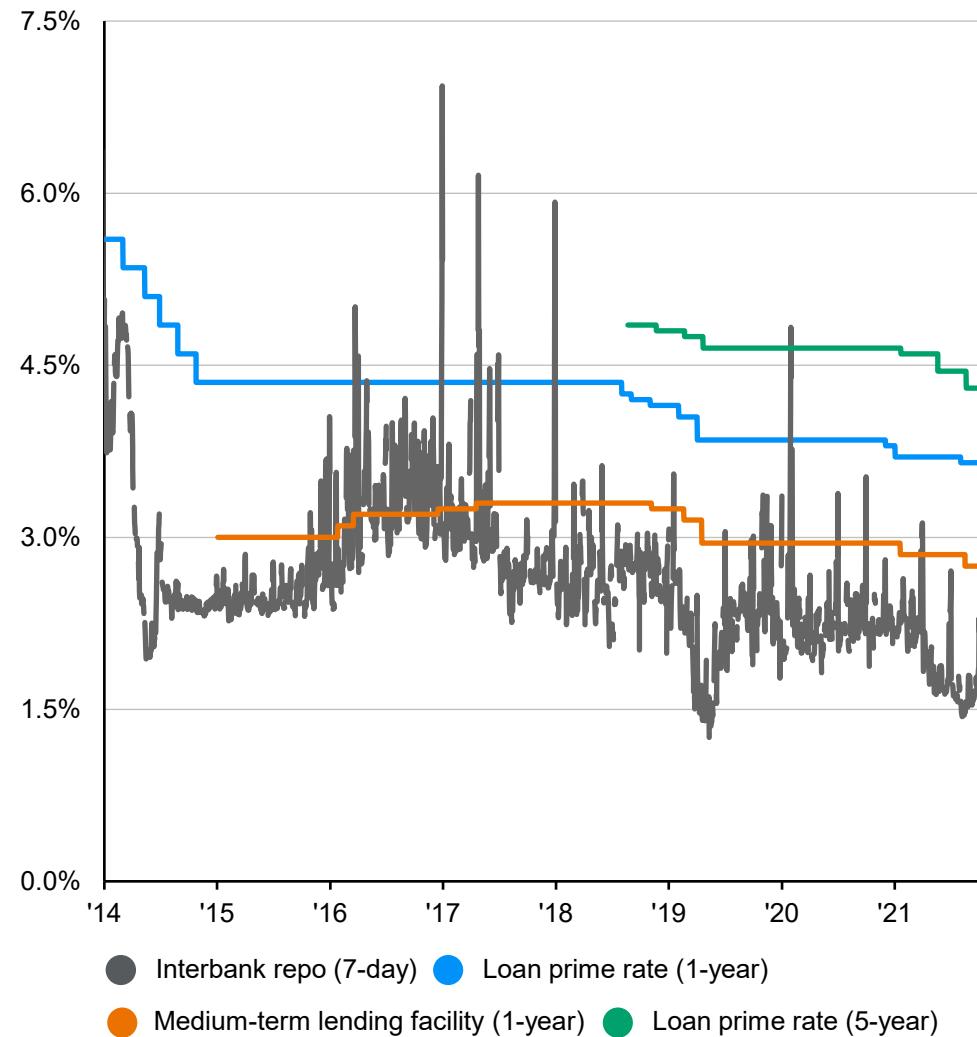
GTM | AUS | 32

Global economy

Chinese yuan
Indexed January 2016=100



Key policy rates
Per annum



Source: CEIC, FactSet, J.P. Morgan Asset Management; (Right) National Interbank Funding Center.

*CFETS RMB Index is the China Foreign Exchange Trade System basket of 24 currencies traded against the Chinese renminbi. The central bank requests all commercial banks to reference the finalised LPR to price their new lending and use LPR as the benchmark rate in floating rate loan contracts.

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

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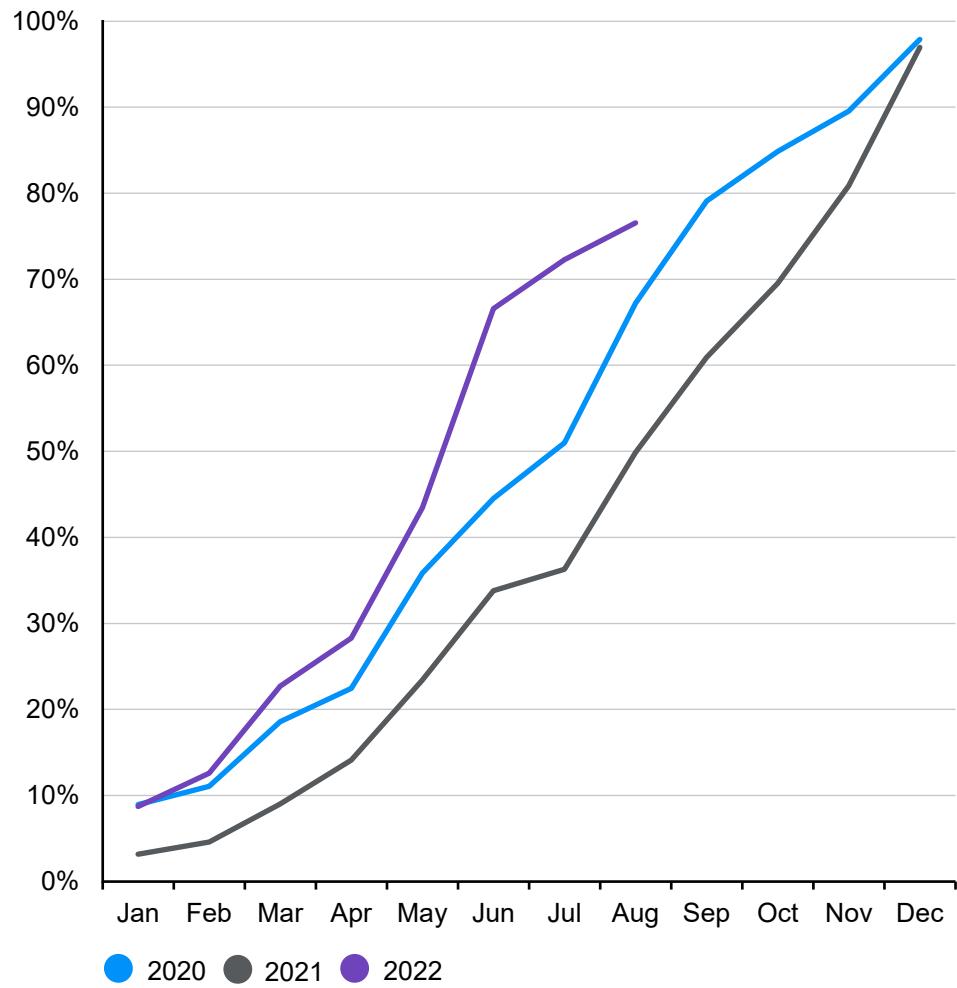
China: Fiscal policy

GTM | AUS | 33

Global economy



Local government bond issuance
Share of full year quota



Source: CEIC, J.P. Morgan Asset Management; (Right) FactSet, People's Bank of China. *Credit impulse measures the year-over-year change of credit flow (net aggregate social financing) as a percentage of nominal GDP.
Guide to the Markets – Australia. Data as of 30 September 2022.



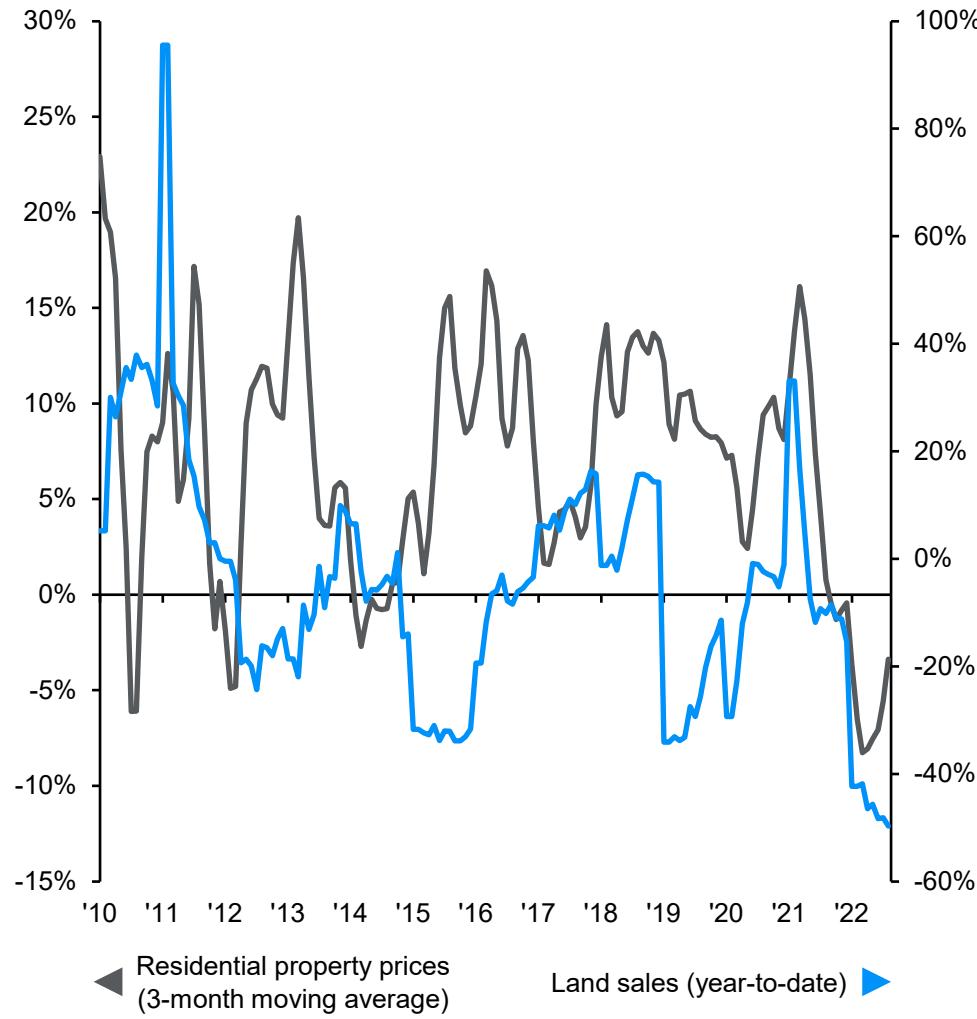
China: Housing market

GTM | AUS | 34

Global economy

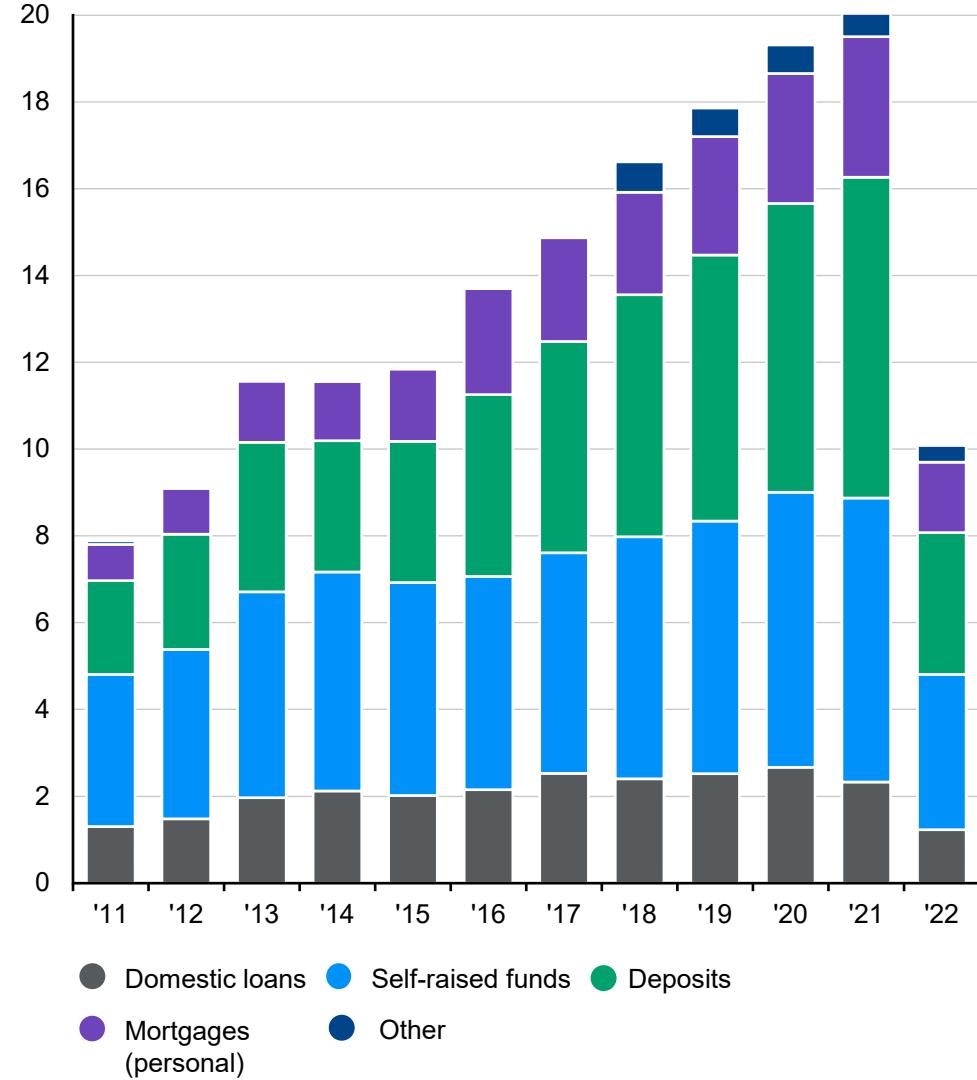
Property prices and land sales

Year-over-year



Funding sources of property developers

RMB trillions



Source: CEIC, National Bureau of Statistics of China, J.P. Morgan Asset Management.
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World equity market returns

GTM | AUS | 35

	10-years '12 - '21													
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	YTD	3Q '22	Ann.	Vol.
AUD Local	21.2% Asia ex JP 19.7%	53.6% U.S. 32.4%	24.3% U.S. 13.7%	25.6% Japan 12.1%	13.2% Small Cap 13.2%	31.5% Asia ex JP 35.9%	6.2% U.S. -4.4%	31.7% U.S. 31.5%	14.2% Asia ex JP 22.7%	36.6% U.S. 28.7%	-9.6% Australia -9.6%	1.7% U.S. -4.9%	20.6% U.S. 16.6%	Japan 16.5%
20.3% Australia 20.3%	47.4% Japan 54.4%	14.9% Asia ex JP 7.7%	14.0% U.S. 1.4%	12.5% U.S. 12.0%	27.5% EM 31.0%	-2.3% Portfolio -7.3%	24.8% Europe 24.6%	9.2% Small Cap 9.2%	24.1% Europe 23.3%	-13.9% U.S. -23.9%	0.4% Australia 0.4%	13.1% Portfolio 11.6%	Small Cap 16.0%	
18.4% Europe 16.4%	46.2% Europe 22.3%	8.7% Portfolio 6.8%	10.2% Small Cap 10.2%	12.1% EM 10.1%	20.0% Small Cap 20.0%	-2.8% Australia -2.8%	24.0% Portfolio 23.7%	8.1% EM 19.5%	19.0% Portfolio 17.2%	-15.0% Japan -5.5%	-0.4% Japan -0.8%	12.6% Europe 10.2%	Portfolio 13.6%	
17.1% EM 17.4%	30.7% Portfolio 21.9%	7.3% EM 5.6%	9.8% Europe 5.4%	11.8% Australia 11.8%	17.2% Japan 22.2%	-4.2% Japan -16.0%	23.4% Australia 23.4%	7.9% U.S. 18.4%	17.2% Australia 17.2%	-15.1% Portfolio -16.2%	-0.5% Small Cap -0.5%	12.3% Japan 13.0%	Asia ex JP 13.3%	
15.8% Portfolio 17.2%	20.2% Australia 20.2%	5.7% Japan 10.3%	8.4% Portfolio 3.3%	9.4% Portfolio 9.8%	16.9% Europe 13.7%	-4.6% Asia ex JP -12.0%	21.4% Small Cap 21.4%	4.2% Portfolio 8.6%	16.9% Small Cap 16.9%	-17.3% EM -20.5%	-1.1% Portfolio -2.9%	12.1% Asia ex JP 8.8%	Australia 13.1%	
14.6% U.S. 16.0%	19.9% Asia ex JP 6.2%	5.6% Australia 5.6%	2.6% Australia 2.6%	6.3% Asia ex JP 6.4%	16.7% Portfolio 19.1%	-4.7% EM -9.7%	19.4% Japan 18.1%	3.0% Japan 7.4%	7.3% Japan 12.7%	-18.2% Asia ex JP -21.6%	-3.9% Europe -4.1%	10.8% Australia 10.8%	U.S. 13.1%	
6.6% Small Cap 6.6%	13.4% EM 3.8%	3.1% Europe 5.2%	2.5% Asia ex JP -5.3%	4.0% Japan 0.3%	12.8% U.S. 21.8%	-4.8% Europe -10.0%	19.1% EM 18.5%	1.4% Australia 1.4%	3.8% EM 0.1%	-19.1% Europe -16.7%	-5.3% EM -8.0%	9.6% EM 8.4%	EM 12.5%	
6.2% Japan 20.9%	-0.8% Small Cap -0.8%	-3.8% Small Cap -3.8%	-3.9% EM -5.4%	0.7% Europe 7.9%	11.8% Australia 11.8%	-8.7% Small Cap -8.7%	18.7% Asia ex JP 18.2%	-3.5% Europe -1.7%	1.4% Asia ex JP -2.8%	-24.1% Small Cap -24.1%	-7.7% Asia ex JP -10.5%	8.0% Small Cap 8.0%	Europe 12.5%	

Source: FactSet, MSCI, Standard & Poor's, TOPIX, J.P. Morgan Asset Management. Annualised return (Ann.) and volatility (Vol.) covers the period 2012 to 2021. Volatility is based on local currency returns. Small Cap: S&P ASX Small Ordinaries; Asia ex JP: MSCI AC Asia ex Japan; EM: MSCI EM Index; Europe: MSCI Europe Index; Japan: TOPIX first section; Australia: ASX 200 Index; U.S.: S&P 500 Index. Hypothetical portfolio (for illustrative purposes only and should not be taken as a recommendation): 20% U.S.; 30% Australia; 15% EM; 15% Europe; 10% Japan; 10% small cap. All indices are total returns. Past performance is not a reliable indicator of current and future results.

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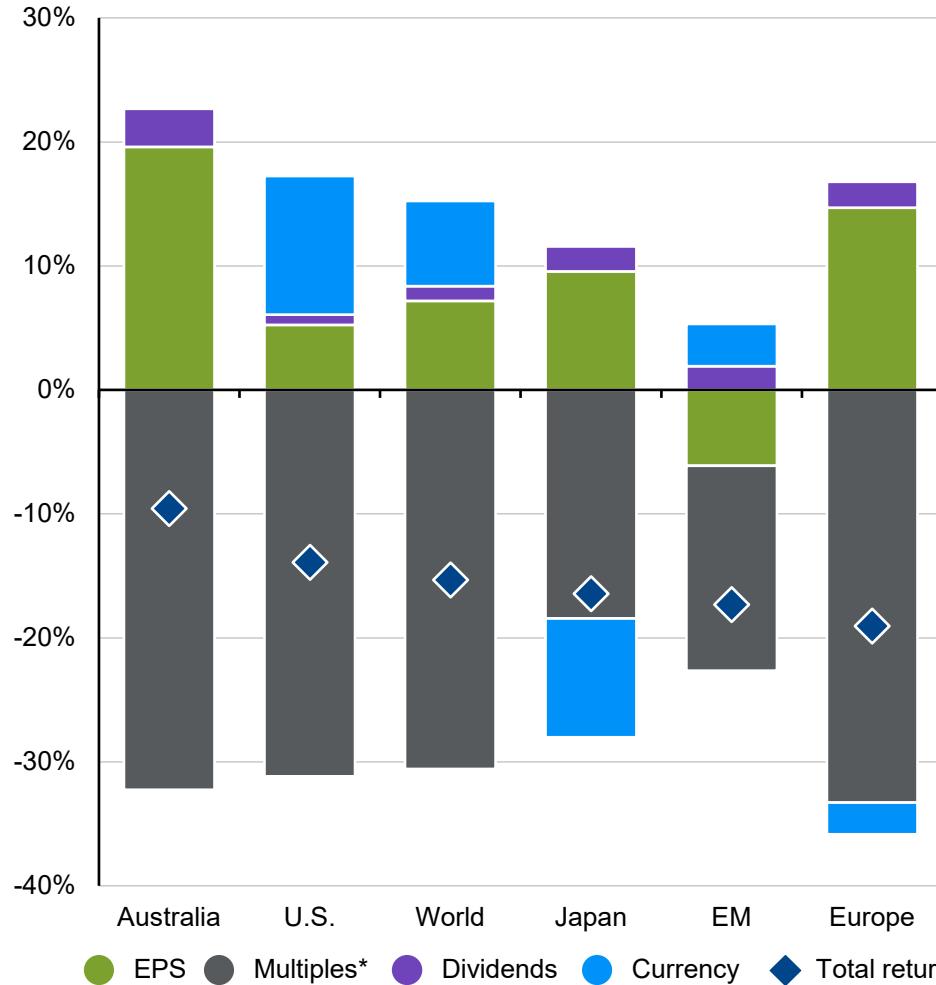
Global equities: Source of return and valuations

GTM | AUS | 36

Source of return

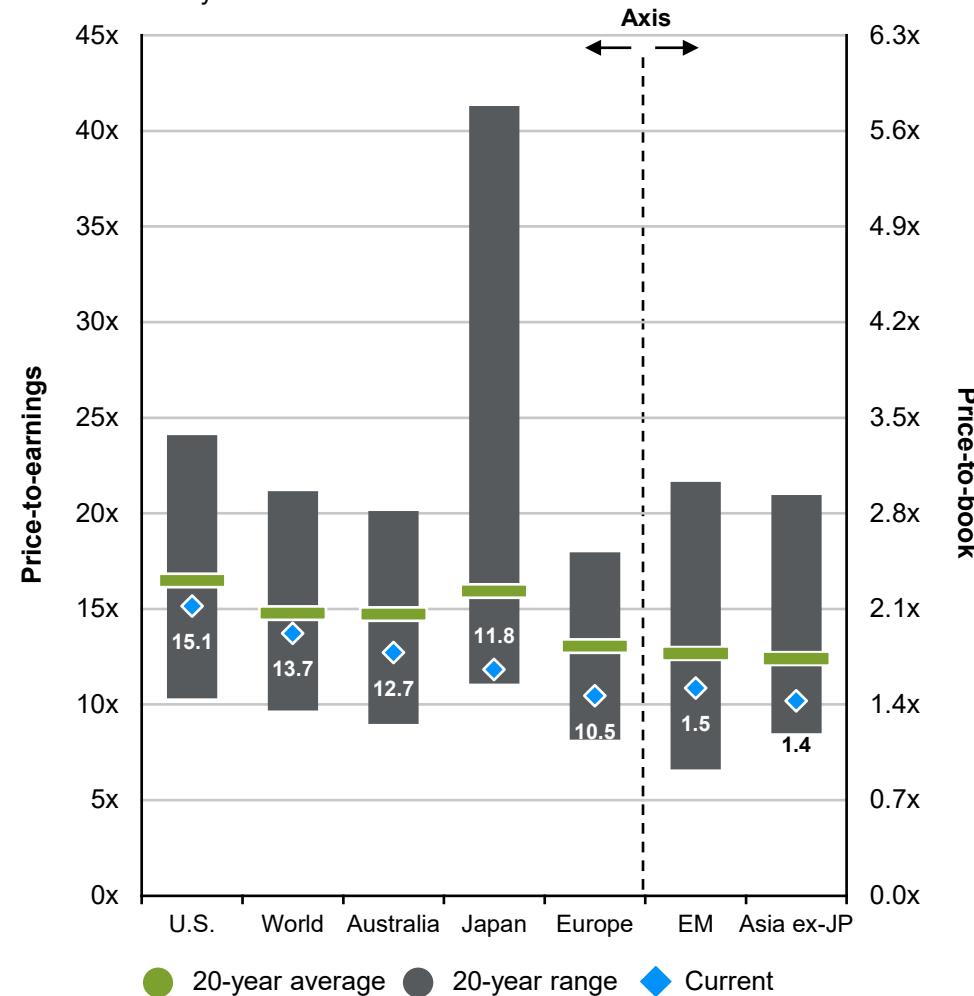
Year-to-date return, AUD

Equities



Global valuations

Current and 20-year historical valuations*



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

All return values are MSCI indices except the U.S. and Australia, which are the S&P 500 and ASX 200, respectively. *Multiple expansion is based on the forward P/E ratio and EPS growth outlook is based on NTMA earnings estimates. Chart is for illustrative purposes only. Past performance is not indicative of future results.

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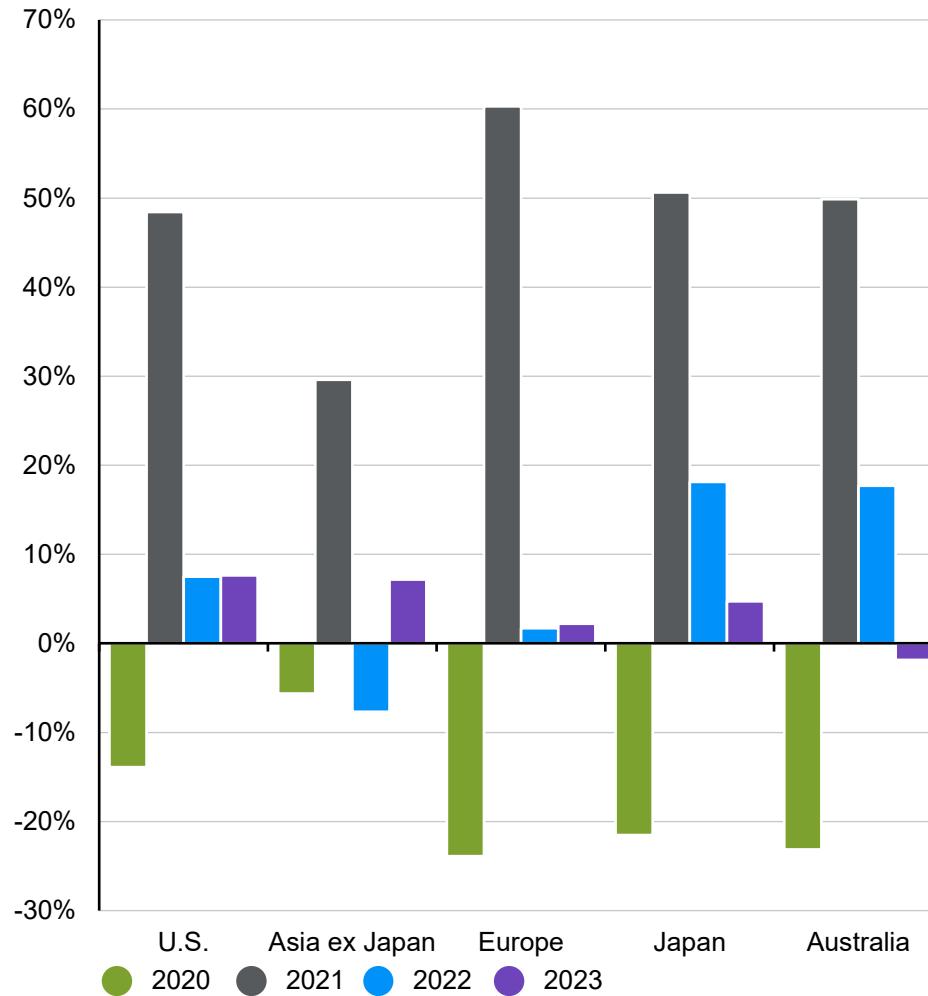
Global equities: Earnings and revisions

GTM | AUS | 37

Earnings growth

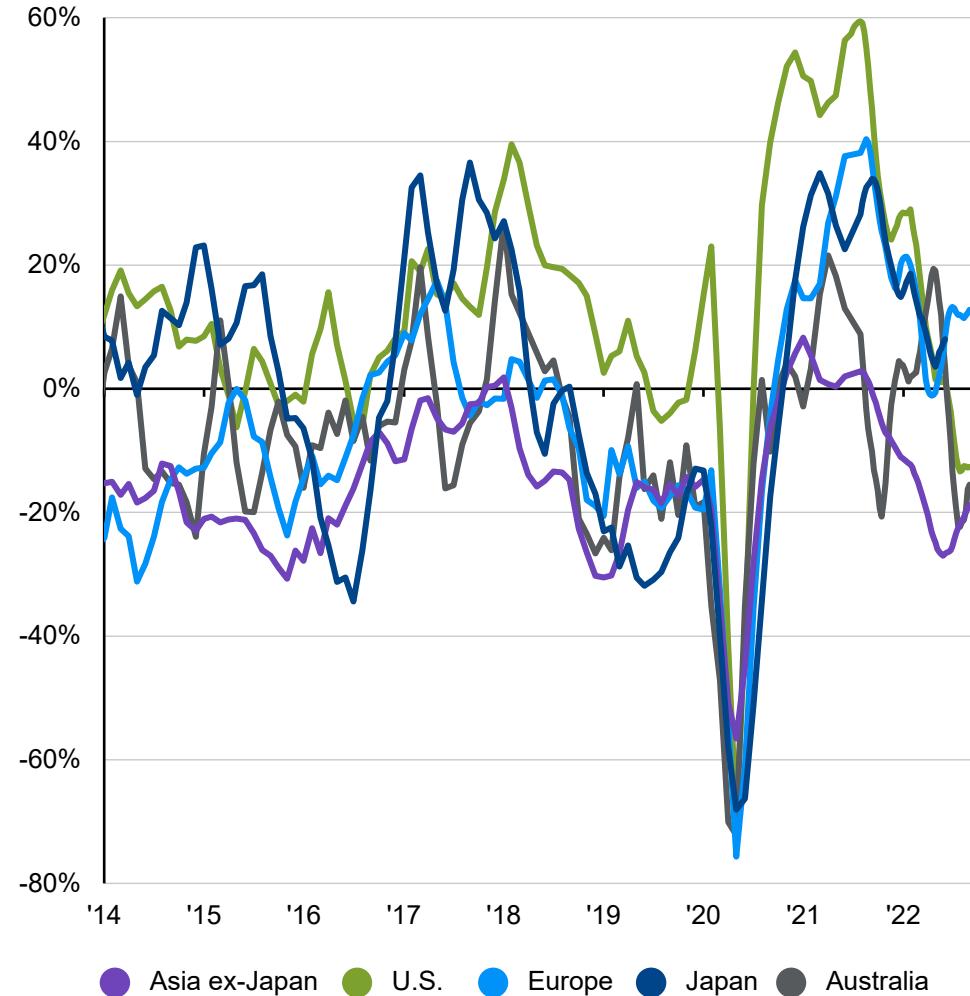
Earnings per share, year-over-year

Equities



Earnings revision ratios

13-week moving average



Source: FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management.
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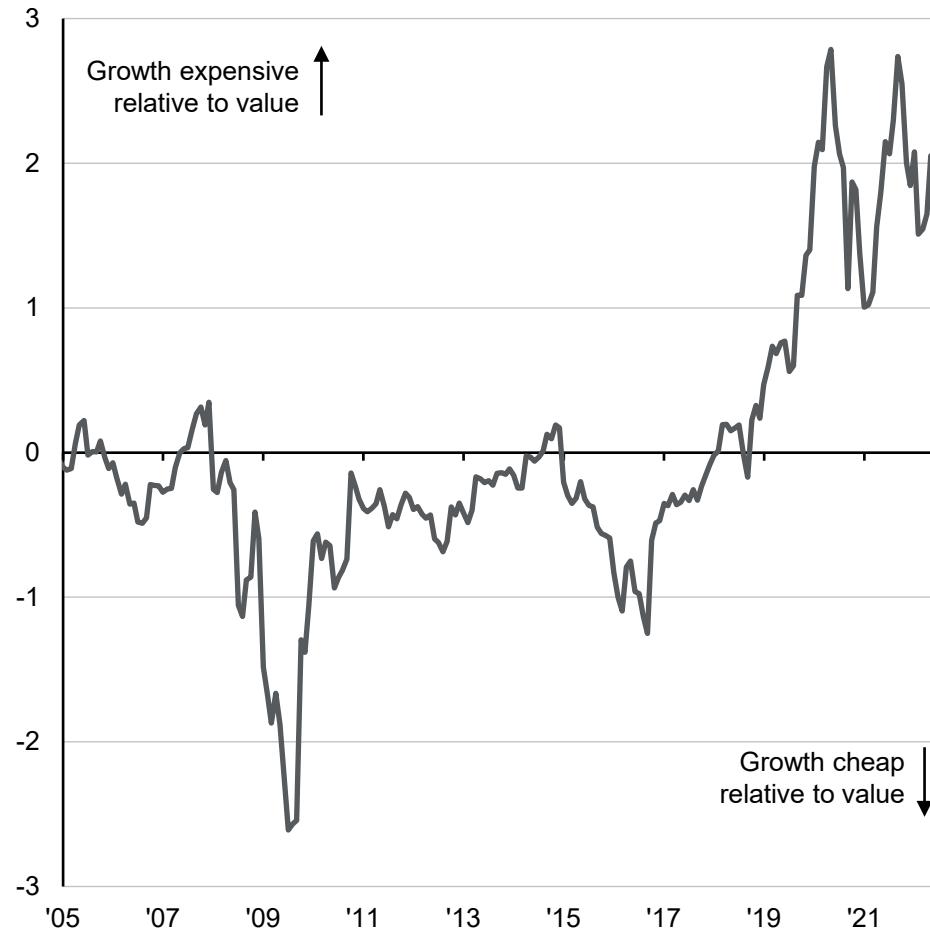
Global equities: Growth vs value

GTM | AUS | 38

Equities

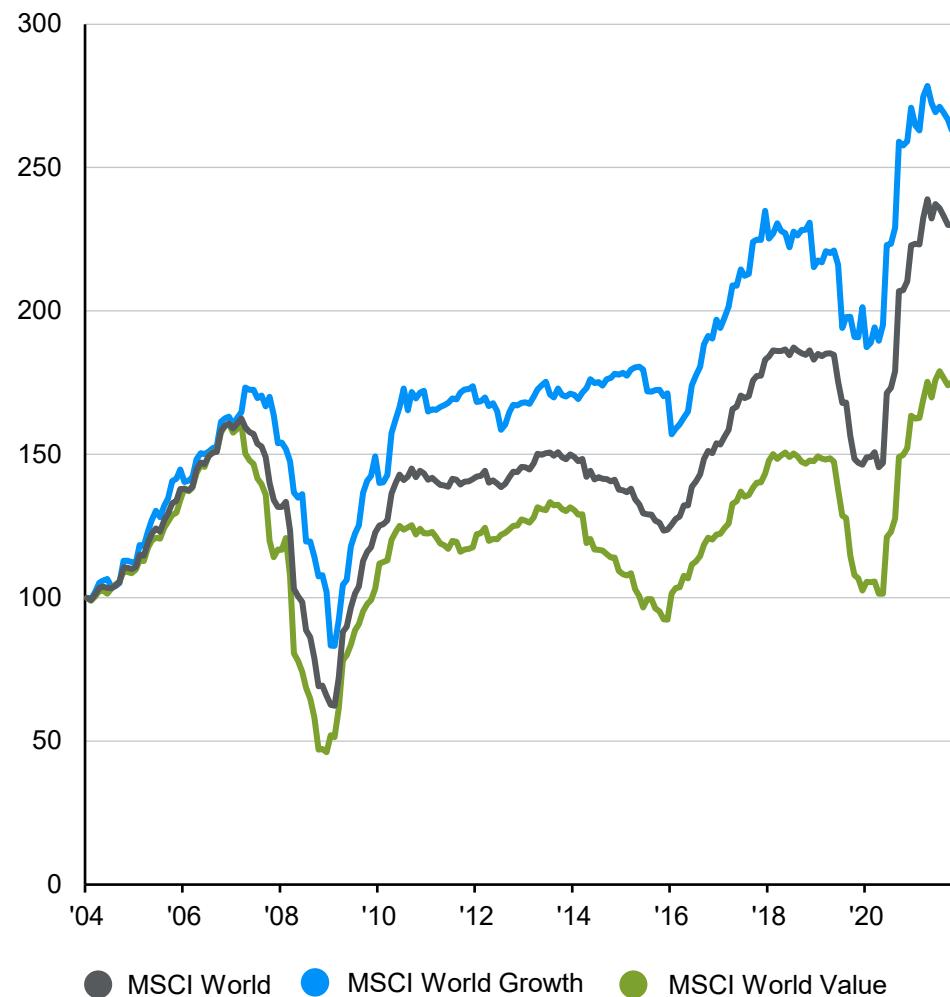
Growth vs. value valuations*

MSCI world growth/value fwd. P/E ratio, # of std. dev. over/under average



Trailing 12-months earnings per share

100 = December 2004



Source: FactSet, MSCI, J.P. Morgan Asset Management. *Growth is the MSCI World Growth index and value is the MSCI World Value index.
Past performance is not a reliable indicator of current and future results.

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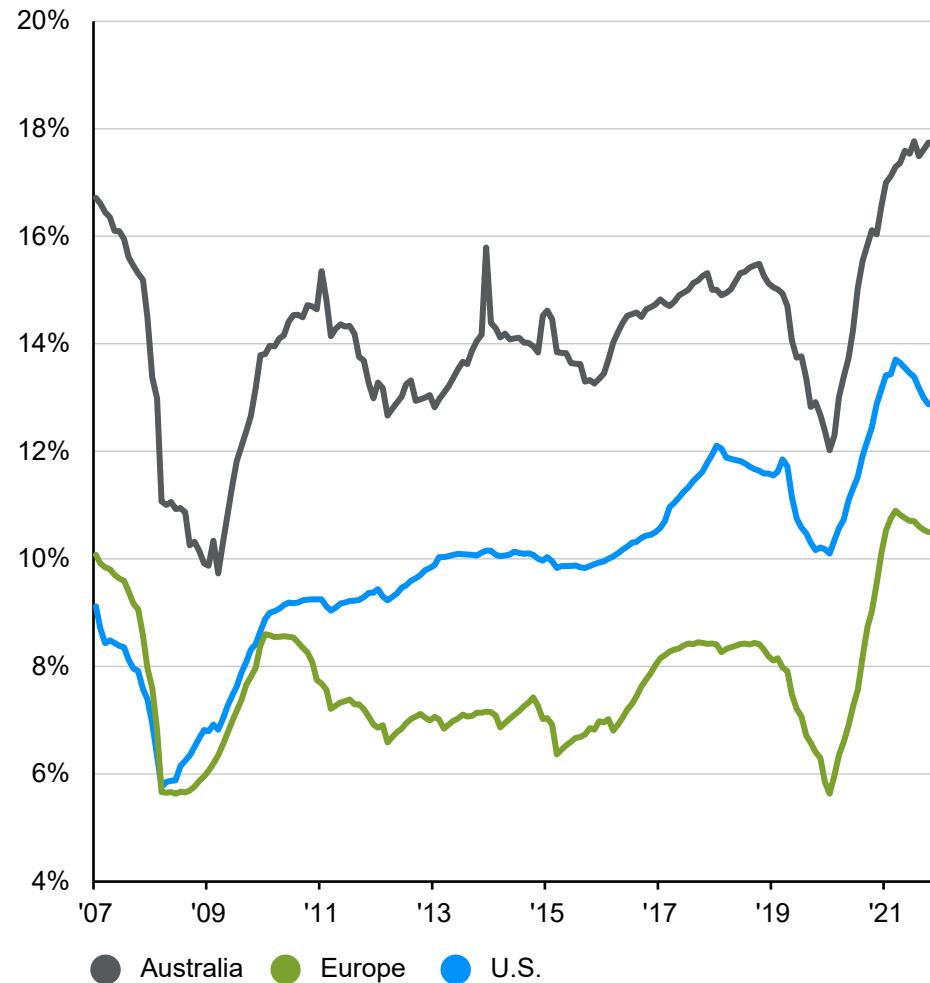
Global equities: Profit margins

GTM | AUS | 39

Profit margins

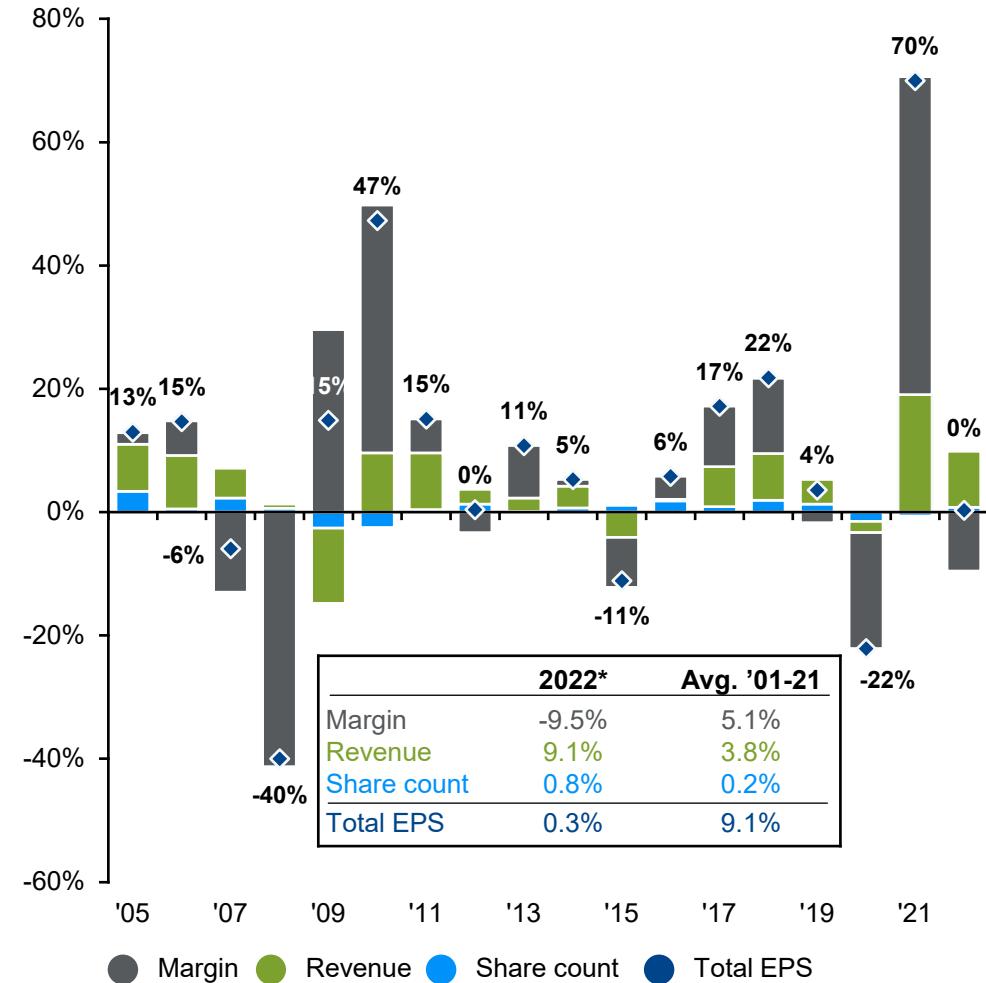
Margins of 12-month trailing earnings to revenues

Equities



S&P 500 operating EPS growth

Annual growth decomposed by revenue, changes in margin and share count



Source: J.P. Morgan Asset Management; (Left) FactSet, MSCI; (Right) Standard & Poor's. *EPS levels are based on annual operating earnings per share. Percentages may not sum due to rounding. Past performance is not indicative of future returns. 2022 earnings estimates are based on forecasts from FactSet Market Aggregates.

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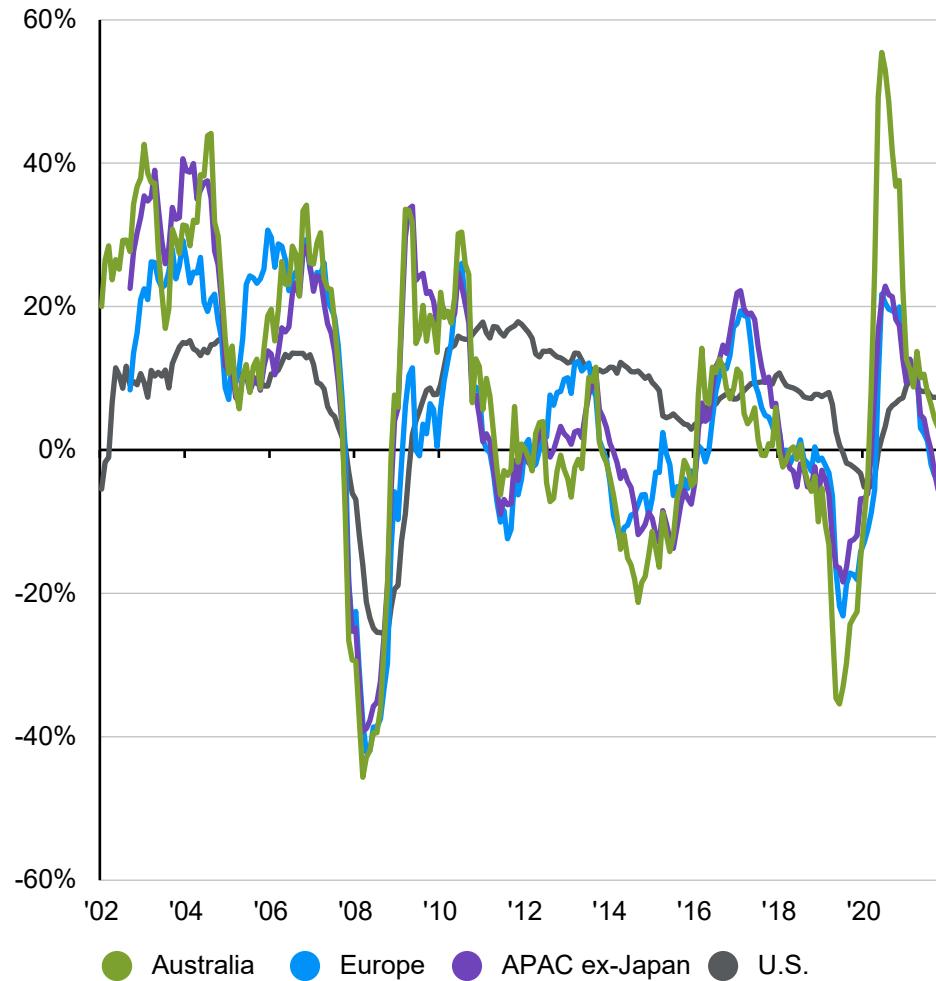
Global equities: Dividends

GTM | AUS | 40

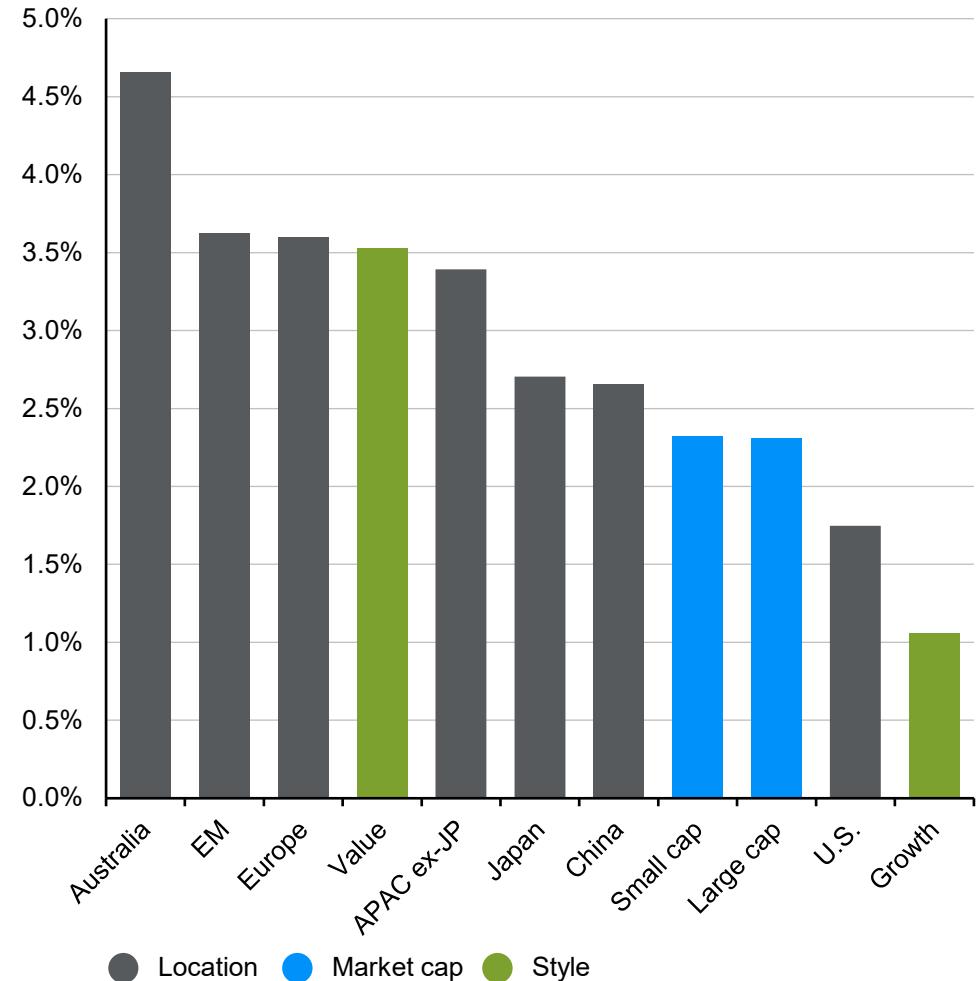
Equities

Dividend growth estimates

Dividends per share, year-over-year



Global dividend yields



Source: FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management. Value, growth, large and small cap indices represented by the MSCI World universe of companies.

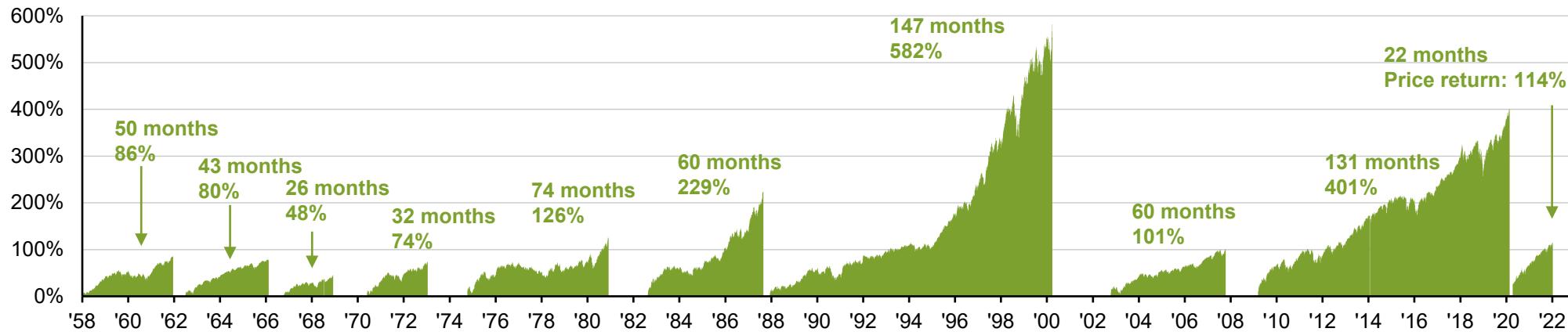
Guide to the Markets – Australia. Data as of 30 September 2022.



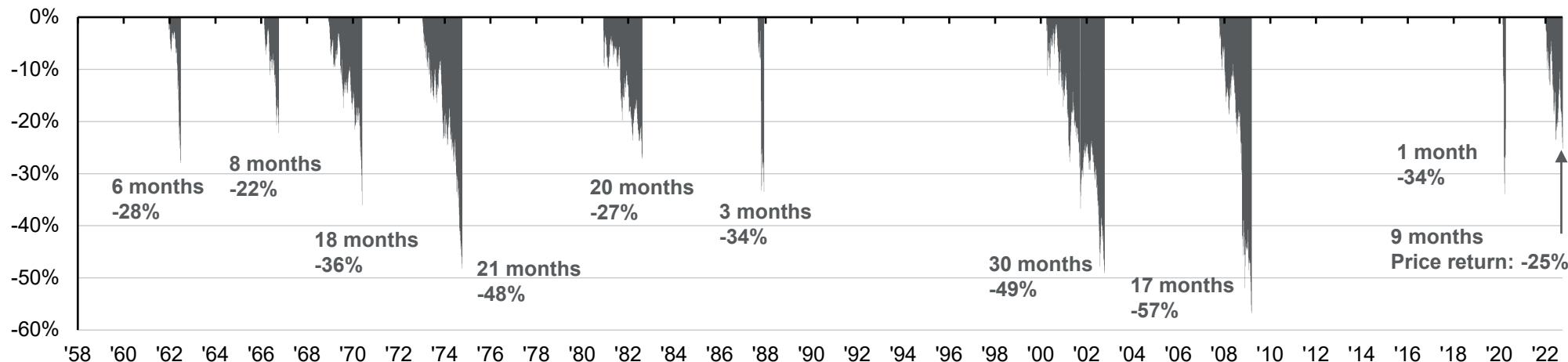
Bull and bear markets

GTM | AUS | 41

S&P 500 bull markets



S&P 500 bear markets



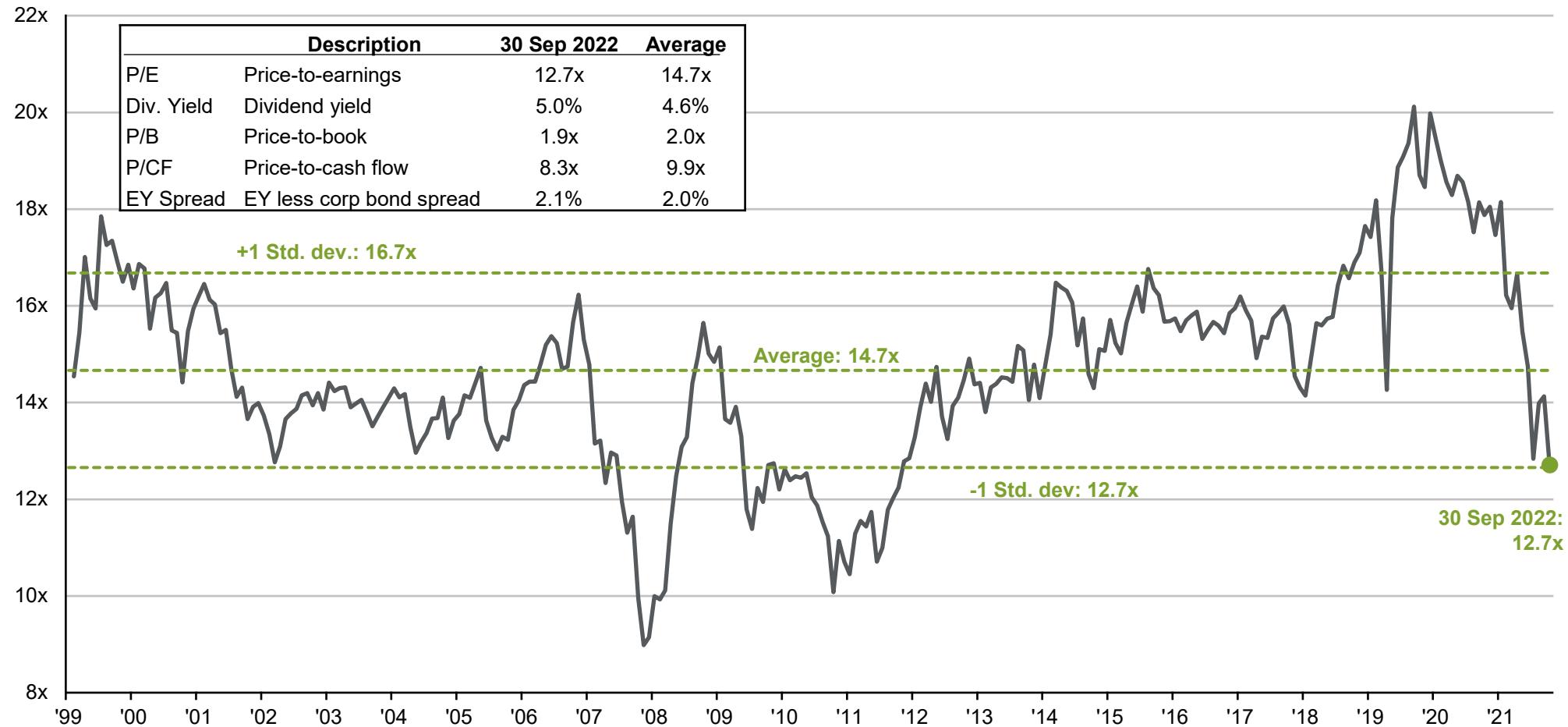
Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management. A bear market represents a 20% or more decline from the previous market high; a bull market represents a 20% increase from a market trough. Charts and labels refer to price return. Past performance is not a reliable indicator of current and future results.



Australia equity valuation

GTM | AUS | 42

ASX 200 Index: Forward P/E ratio



Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management. Price-to-earnings is price divided by consensus analyst estimates of earnings per share for the next 12 months. Dividend yield is calculated as the next 12-month consensus dividend divided by most recent price. Price-to-book ratio is the price divided by book value per share. Price-to-cash flow is price divided by NTM cash flow. EY minus corporate bond yield is the forward earnings yield (consensus analyst estimates of EPS over the next 12 months divided by price) less the yield on the AusBond Credit (5-10y) Index.

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

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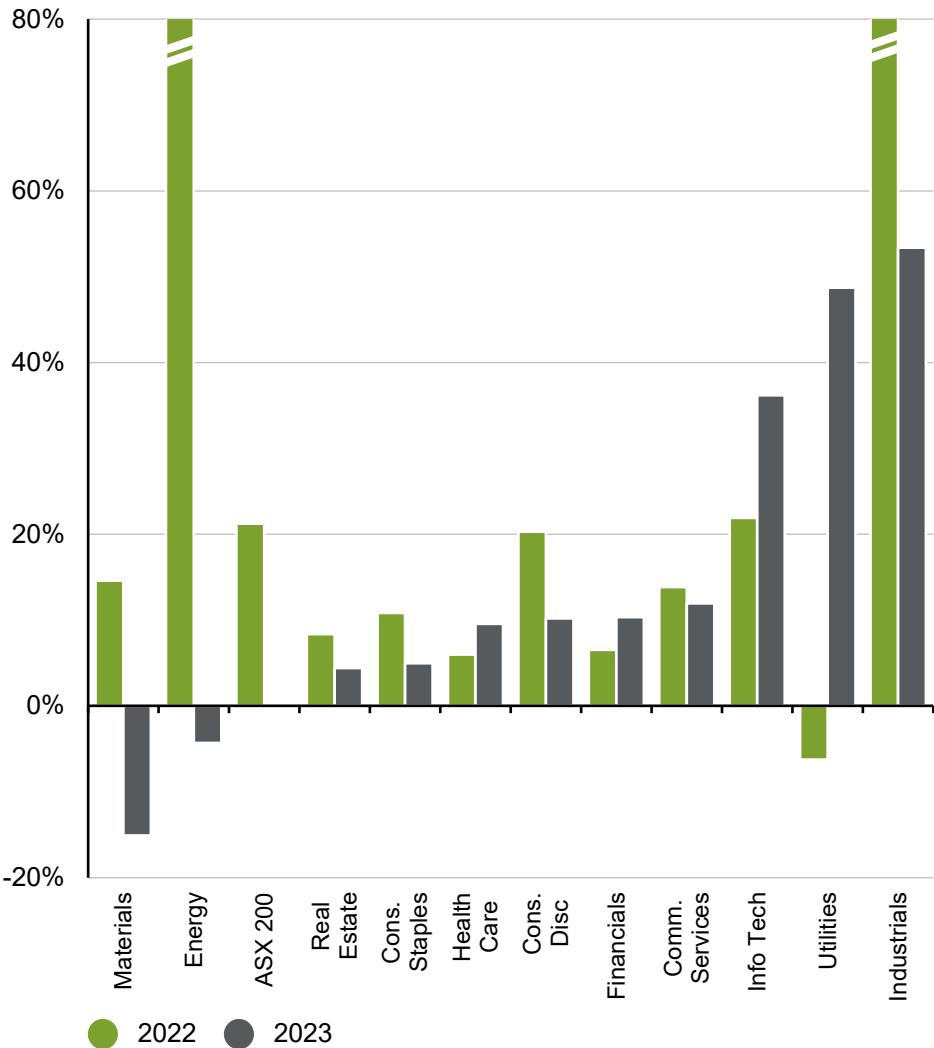


Australia sector earnings and valuations

GTM | AUS | 43

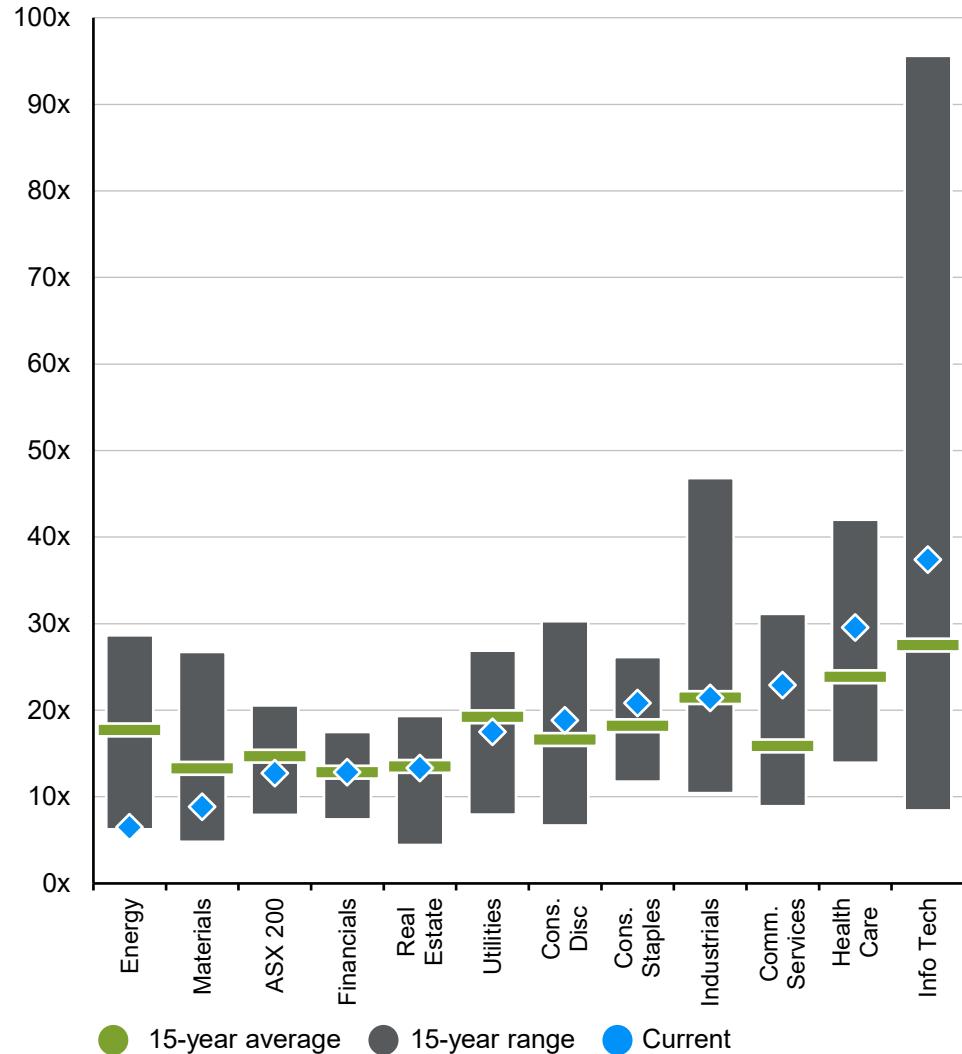
ASX 200 earnings per share growth estimates

Year-over-year



ASX 200 valuation

Forward price-to-earnings ratio



Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management. 2022 earnings per share estimates for energy and industrials are 138% and 125% respectively.

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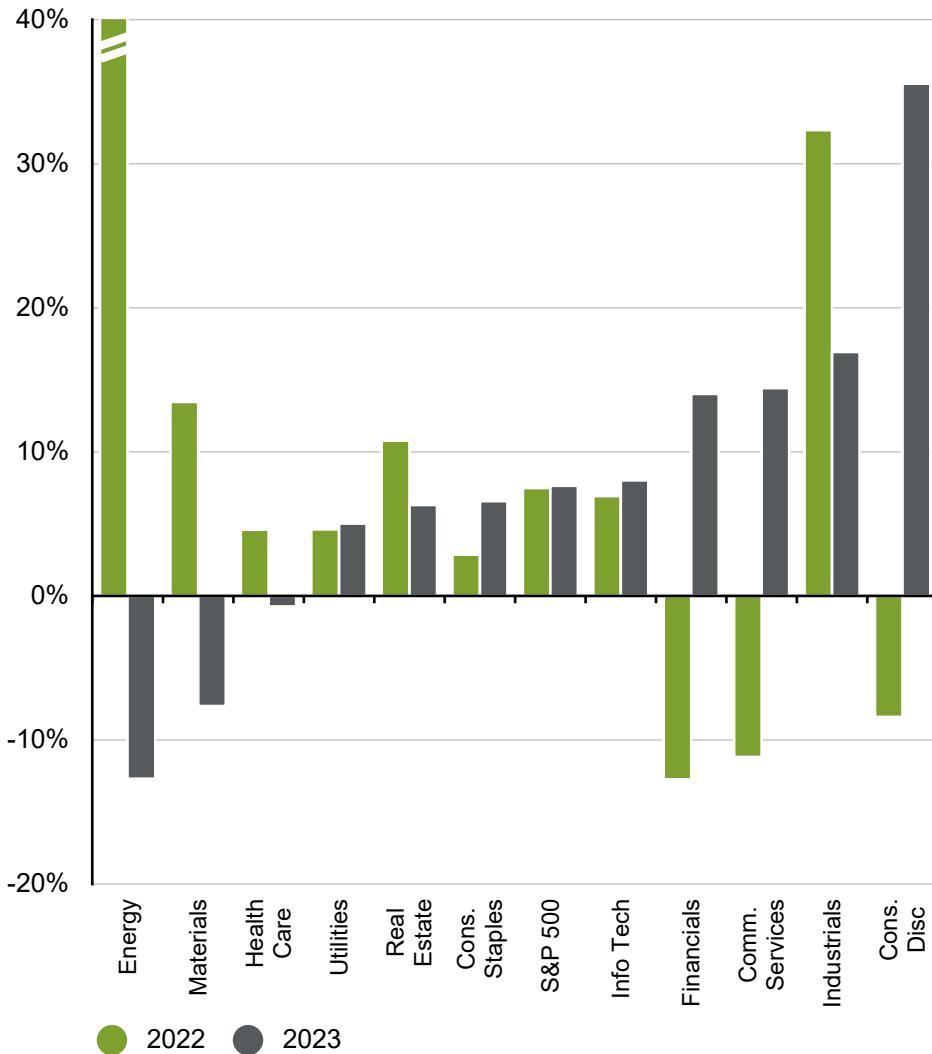


U.S. sector earnings and valuations

GTM | AUS | 44

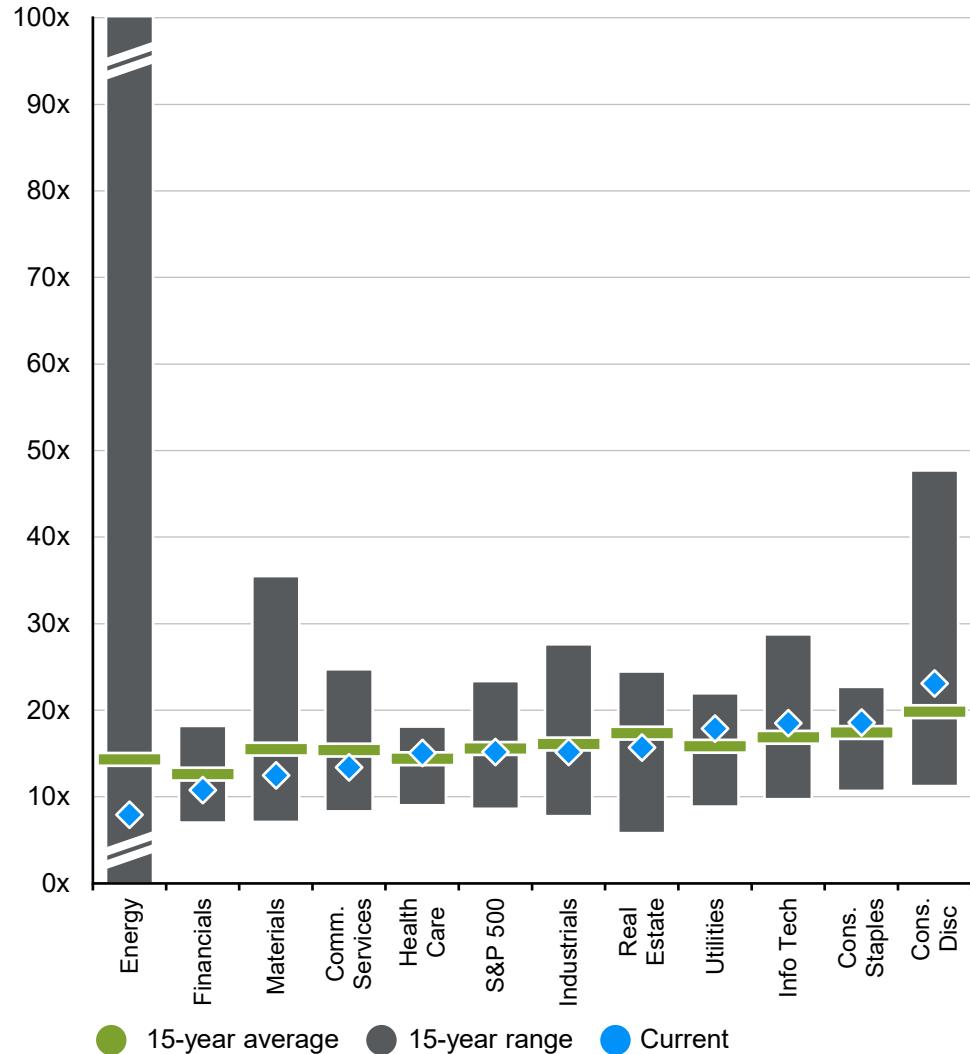
S&P 500 earnings per share growth estimates

Year-over-year



S&P 500 valuation

Forward price-to-earnings ratio



Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management. 2022 earnings per share estimate for energy is 147%.
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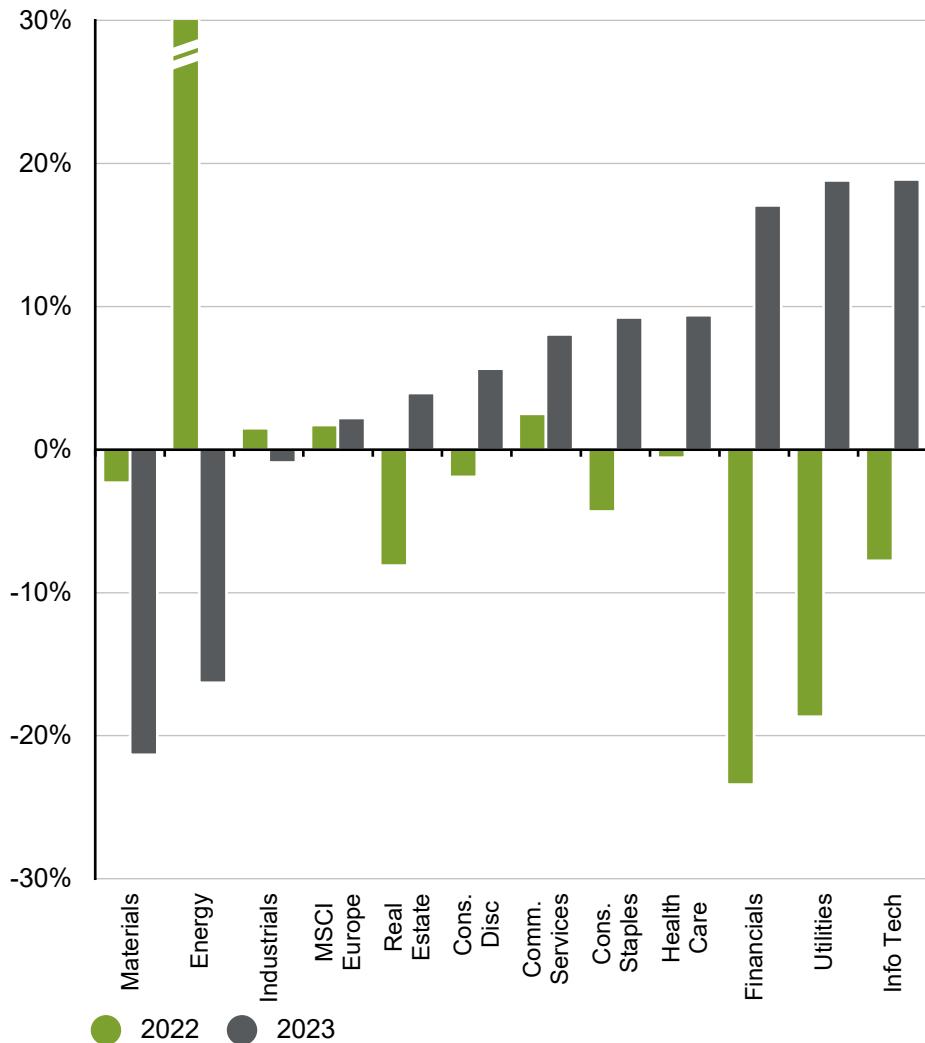
Europe sector earnings and valuations

GTM | AUS | 45

MSCI Europe earnings per share growth estimates

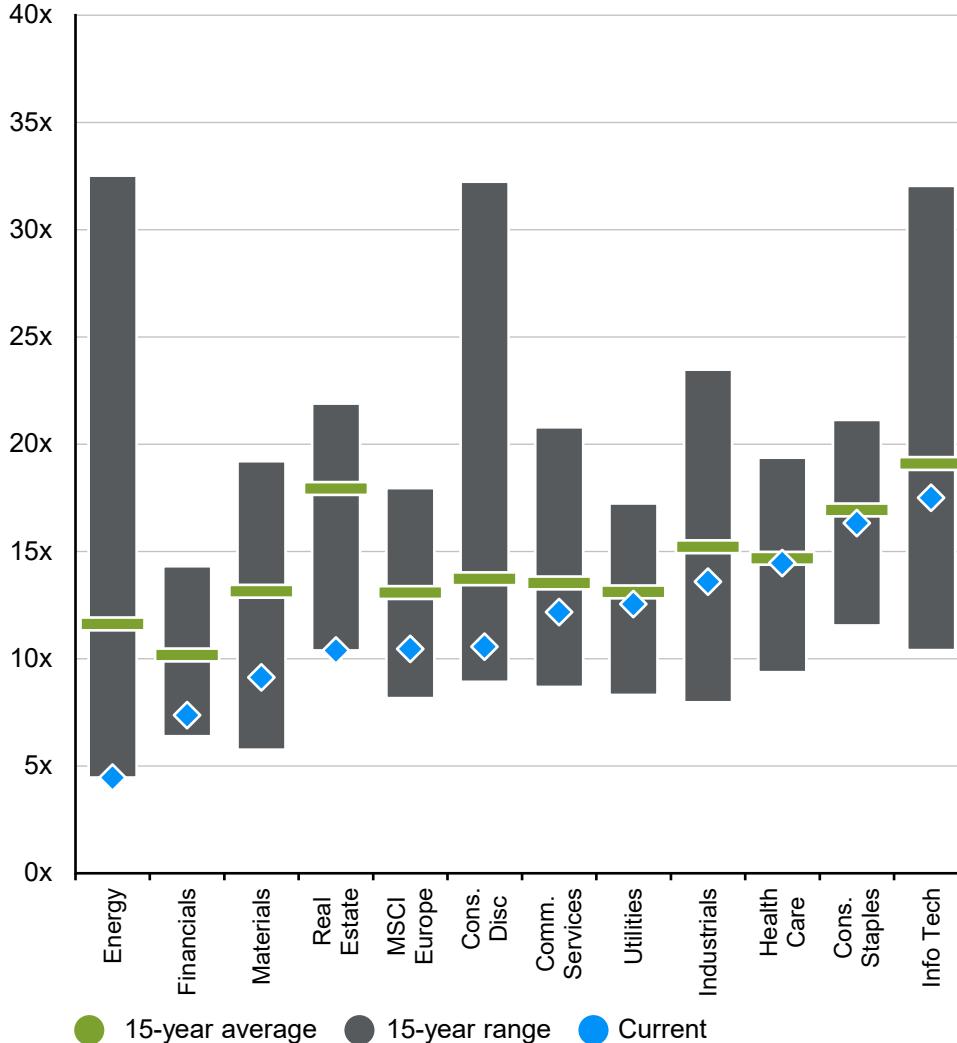
Year-over-year

Equities



MSCI Europe valuation

Forward price-to-earnings ratio*



Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management. 2022 earnings per share estimate for energy is 120%. *Real estate sector valuations start in September 2016.

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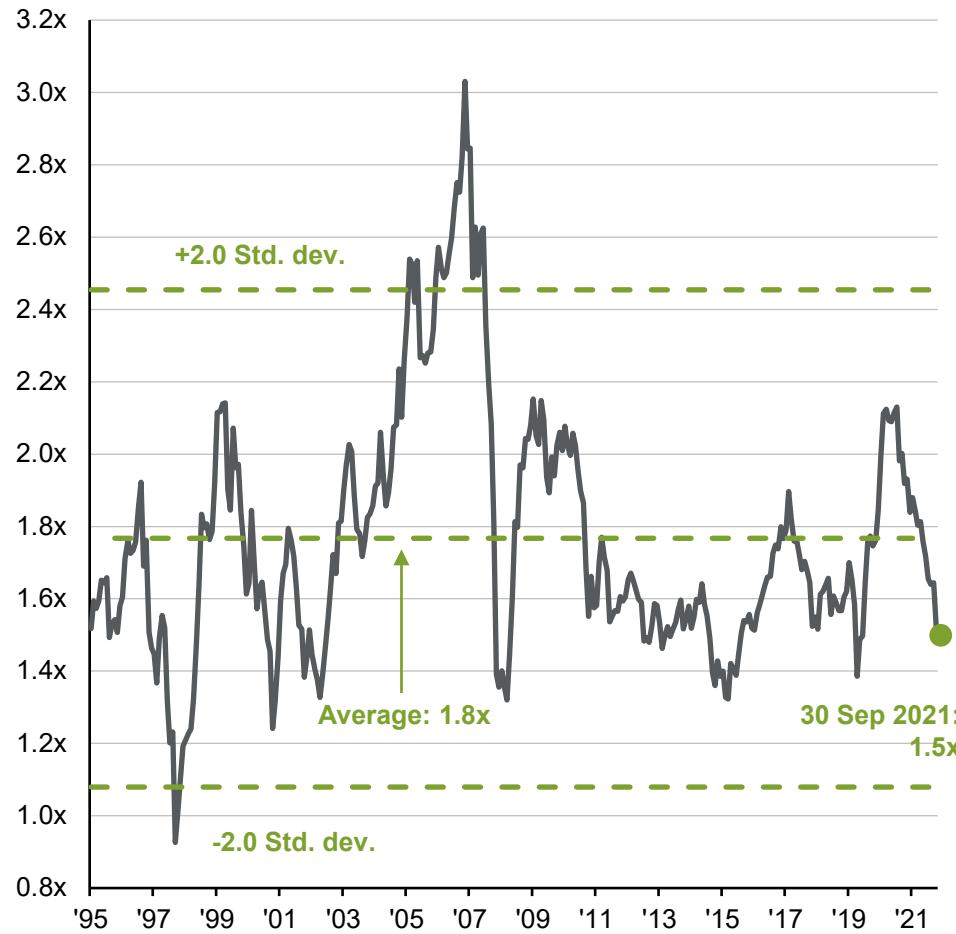


Emerging market equity valuations and returns

GTM | AUS | 46

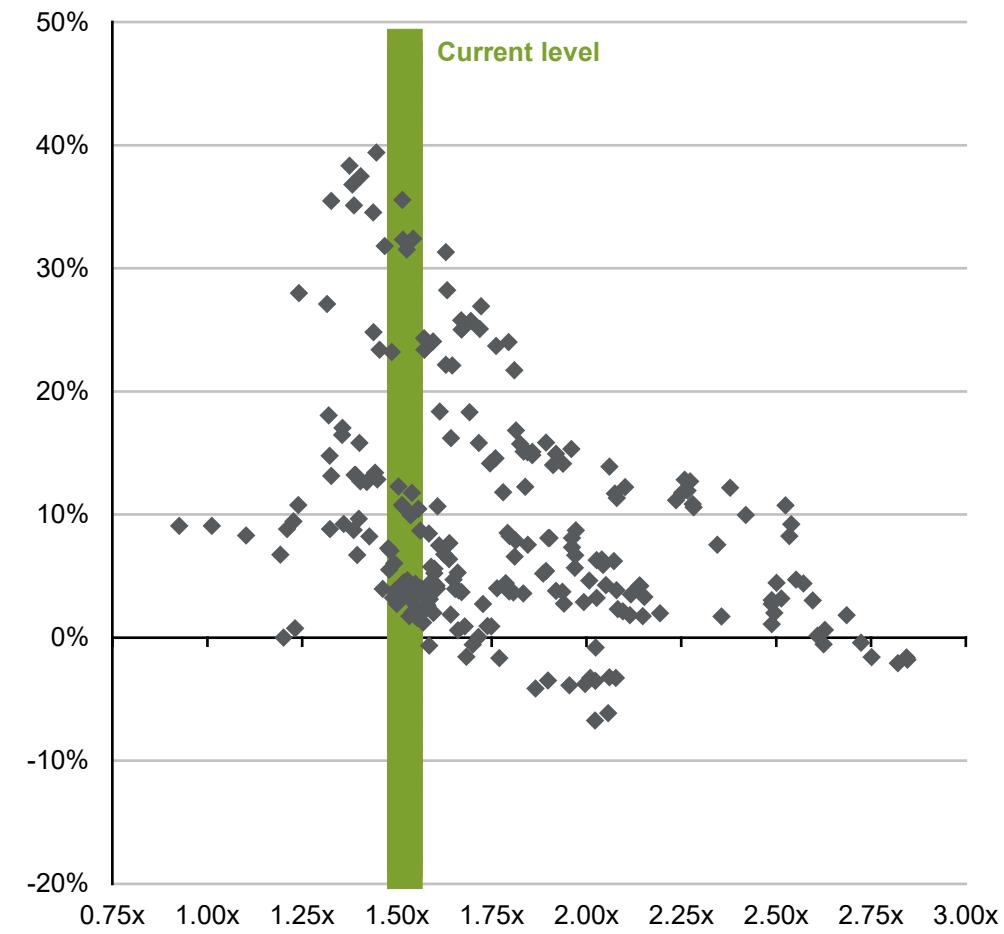
Equities

MSCI Emerging Market Index: Price-to-book ratio



MSCI Emerging Market Index: Price-to-book and returns

Price-to-book ratio and next five-year annualised return



Source: FactSet, MSCI, J.P. Morgan Asset Management. Past performance is not a reliable indicator of current and future results.
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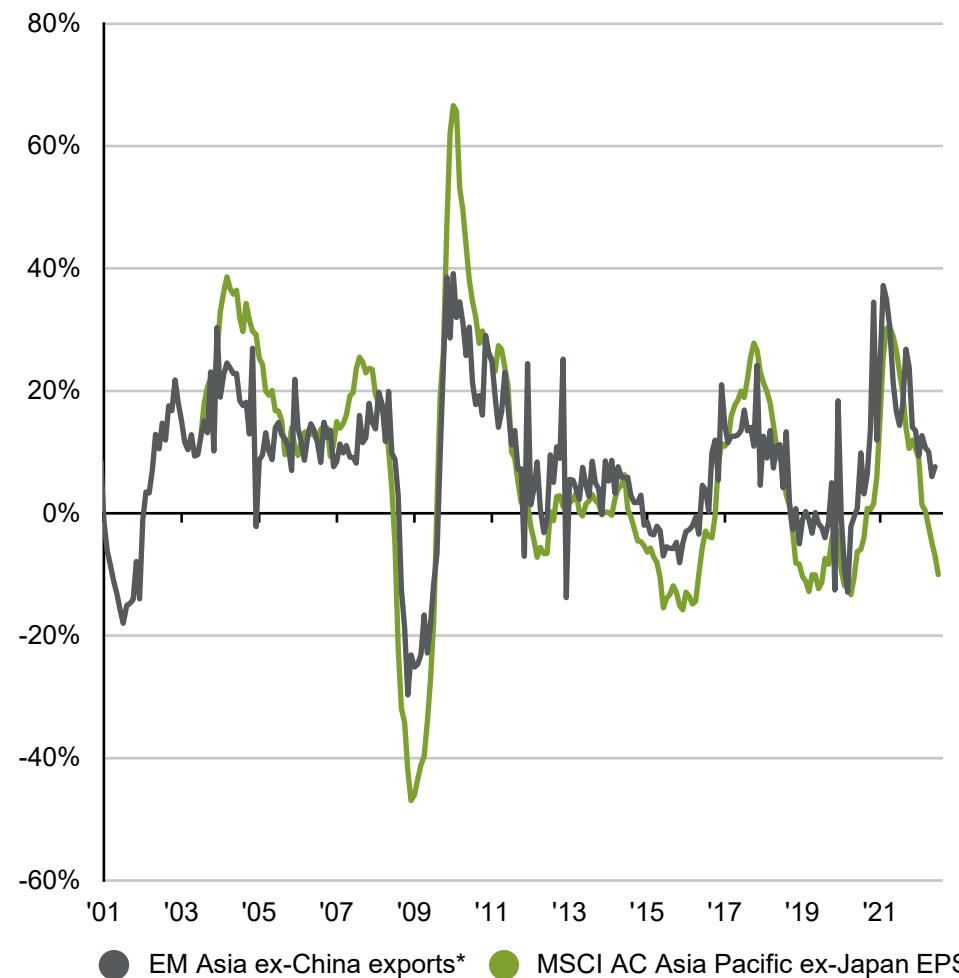
Emerging market equity performance drivers

GTM | AUS | 47

Growth in nominal exports and earnings per share

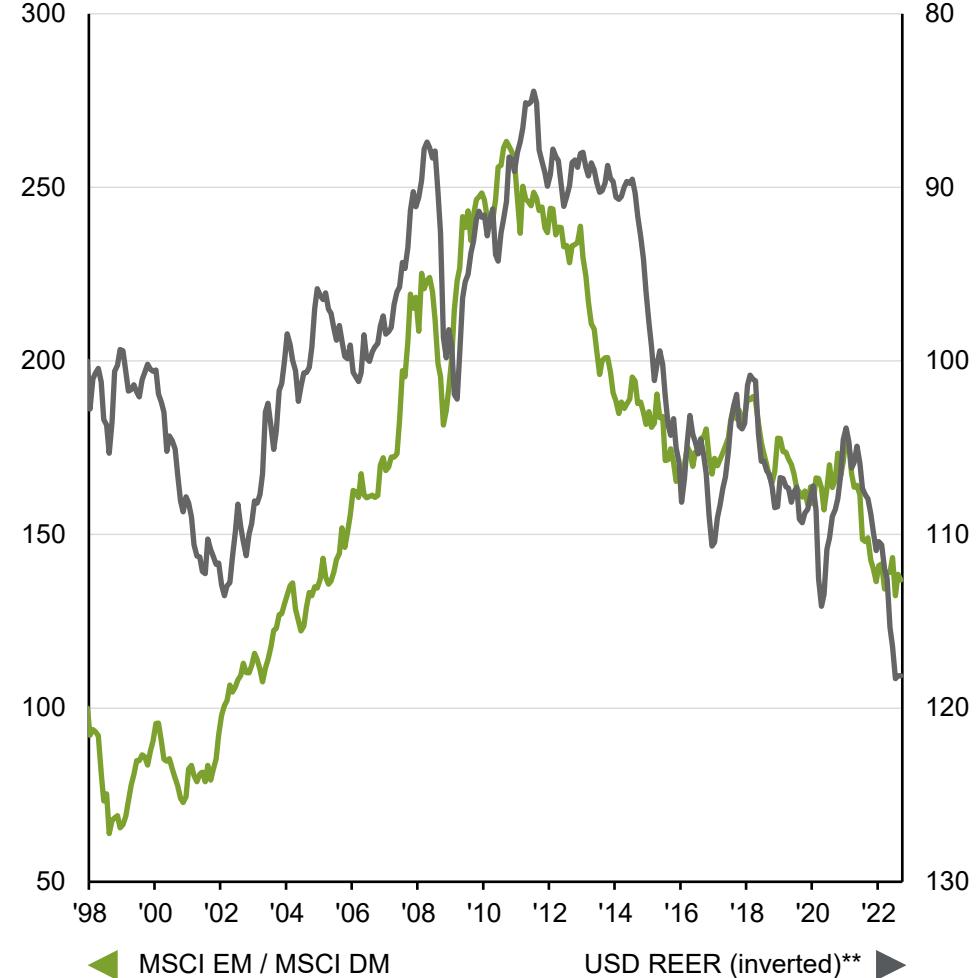
MSCI Asia Pacific ex-Japan, USD, year-over-year

Equities



EM equity relative performance to USD

Indexed 1998=100



Source: FactSet, MSCI, J.P. Morgan Asset Management; (Left) CEIC, national statistics agencies; (Right) U.S. Federal Reserve. *EM Asia ex-China includes Hong Kong, Korea, Malaysia, Singapore, Taiwan, Thailand and Vietnam. Overall exports aggregate is gross domestic product (GDP)-weighted.

**REER is the real effective exchange rate. Past performance is not a reliable indicator of current and future results.

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Fixed income sector returns

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Fixed income

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	YTD	3Q '22	Ten-yr Ann
AUD Local	13.5% U.S. TIPS 13.6%	17.8% Global HY 18.8%	25.3% Global HY 7.1%	16.0% U.S. MBS 6.1%	14.2% U.S. MBS 1.5%	15.3% Global HY 15.9%	5.1% Aus IG 5.1%	12.2% U.S. MBS 1.0%	14.6% EM Debt 14.4%	5.3% Aus IG 5.3%	12.5% U.S. TIPS 6.0%	-0.7% U.S. TIPS -13.6%	4.2% Global HY -1.2%	10.2% Global HY 6.8%
	13.4% Aus Gov 13.4%	17.1% EM Debt 18.5%	16.4% Global IG 0.3%	15.4% EM Debt 5.5%	13.9% EM Debt 1.2%	10.7% EM Debt 10.2%	3.5% Aus Gov 3.5%	12.1% U.S. Treas. 0.9%	13.9% Global HY 14.0%	4.1% Aus Gov 4.1%	7.6% Global HY 2.9%	-1.7% U.S. Treas. -13.1%	2.5% EM Debt -4.2%	8.6% EM Debt 5.0%
	9.8% U.S. Treas. 9.8%	9.9% Aus IG 9.9%	14.4% U.S. MBS -1.4%	14.8% U.S. Treas. 5.1%	13.4% U.S. Treas. 0.8%	5.6% Portfolio 5.4%	2.0% Global HY 7.6%	9.7% U.S. TIPS -1.3%	11.7% Global IG 11.5%	1.1% U.S. TIPS 11.0%	5.0% U.S. MBS -1.0%	-2.4% U.S. MBS -13.7%	2.3% U.S. Treas. -4.3%	7.5% Global IG 3.8%
	9.1% Aus IG 9.1%	9.8% Global IG 11.2%	12.9% U.S. Treas. -2.7%	13.3% U.S. TIPS 3.6%	10.9% U.S. TIPS -1.4%	5.2% U.S. TIPS 4.7%	1.2% EM Debt 9.3%	7.4% Global HY -2.4%	9.5% Portfolio 9.2%	0.8% Portfolio 6.1%	4.5% EM Debt -1.5%	-7.7% Portfolio -13.2%	1.5% U.S. TIPS -5.1%	6.7% U.S. TIPS 3.1%
	8.9% Portfolio 8.6%	8.7% Portfolio 9.3%	9.9% Portfolio 0.3%	12.8% Global IG 3.1%	8.5% Global IG -3.6%	4.8% Global IG 4.3%	1.0% Global IG 9.1%	7.2% Portfolio 0.7%	8.6% U.S. TIPS 8.4%	0.5% Global IG 10.4%	3.7% U.S. Treas. -2.3%	-7.8% Aus IG -7.8%	1.2% U.S. MBS -5.3%	6.4% Portfolio 4.1%
	8.4% EM Debt 8.5%	5.6% U.S. TIPS 7.0%	8.4% EM Debt -6.6%	11.7% Portfolio 6.0%	7.8% Global HY -2.1%	3.8% Aus IG 3.8%	0.9% Portfolio 5.1%	7.1% Global IG -3.6%	7.8% Aus Gov 7.8%	-1.6% Global HY 6.3%	3.1% Global IG -2.9%	-8.3% Global HY -16.1%	1.2% Portfolio -2.3%	5.9% U.S. MBS 2.3%
	6.2% U.S. MBS 6.2%	5.5% Aus Gov 5.5%	6.1% U.S. TIPS -8.6%	10.3% Aus Gov 10.3%	7.7% Portfolio 0.5%	2.5% Aus Gov 2.5%	-4.6% U.S. TIPS 3.0%	6.0% EM Debt -4.6%	7.1% Aus IG 7.1%	-1.6% U.S. Treas. 8.0%	2.3% Portfolio -1.1%	-10.5% Aus Gov -10.5%	0.0% Global IG -6.5%	5.7% U.S. Treas. 2.1%
	4.3% Global IG 4.3%	1.3% U.S. MBS 2.6%	4.3% Aus IG 4.3%	9.2% Global HY 2.5%	3.0% Aus IG 3.0%	2.2% U.S. MBS 1.7%	-5.1% U.S. MBS 2.5%	5.1% Aus Gov 5.1%	7.0% U.S. Treas. 6.9%	-3.5% EM Debt 5.9%	-1.6% Aus IG -1.6%	-10.6% Global IG -21.0%	-0.1% Aus IG -0.1%	4.8% Aus IG 4.8%
	2.6% Global HY 3.1%	0.7% U.S. Treas. 2.0%	0.3% Aus Gov 0.3%	8.1% Aus IG 8.1%	2.3% Aus Gov 2.3%	1.5% U.S. Treas. 1.0%	-5.3% U.S. Treas. 2.3%	3.9% Aus IG 3.9%	6.5% U.S. MBS 6.4%	-5.4% U.S. MBS 3.9%	-3.1% Aus Gov -3.1%	-12.1% EM Debt -22.2%	-0.7% Aus Gov -0.7%	3.8% Aus Gov 3.8%

Source: Barclays, Bloomberg Finance L.P., FactSet, ICE BofA, J.P. Morgan Asset Management. Aus Gov: AusBond Treasury (0+Y); U.S. Treas.: Barclays U.S. Aggregate Government – Treasury; Global IG: Barclays Global Aggregate – Corporate – Investment Grade; Aus IG: Bloomberg AusBond Credit (0+Y); Global HY: BoA/ML Global High Yield; EM Debt: J.P. Morgan EMBI Global; U.S. TIPS: Bloomberg Barclays U.S. Treasury Inflation-Protected Securities (TIPS); U.S. MBS: Bloomberg Barclays U.S. Aggregate Securitised – MBS. Hypothetical portfolio (for illustrative purposes only and should not be taken as a recommendation): 25% Aus Gov, 15% Aus IG, 10% Global IG, 15% Global HY, 10% EM Debt, 15% U.S. Treas., 5% U.S. TIPS, 5% U.S. MBS. Past performance is not a reliable indicator of current and future results.
Guide to the Markets – Australia. Data as of 30 September 2022.



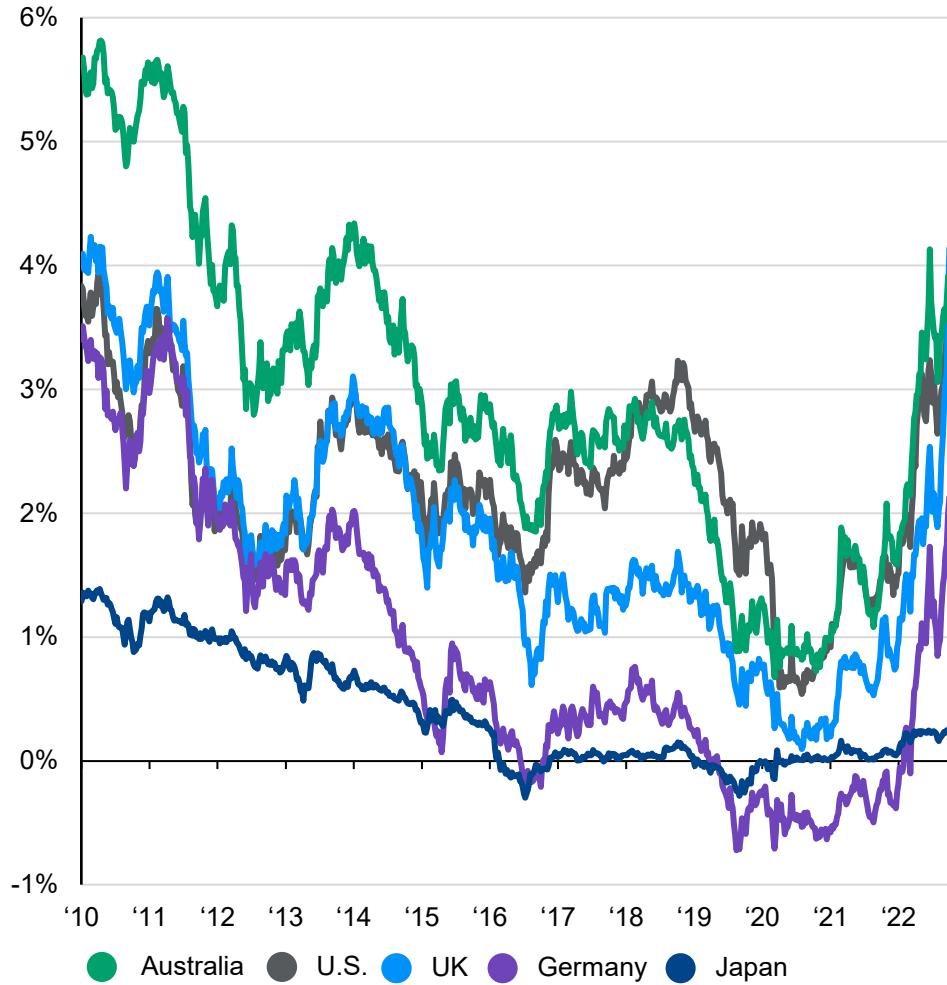
Government bond yields and inflation expectations

GTM | AUS | 49

Fixed income

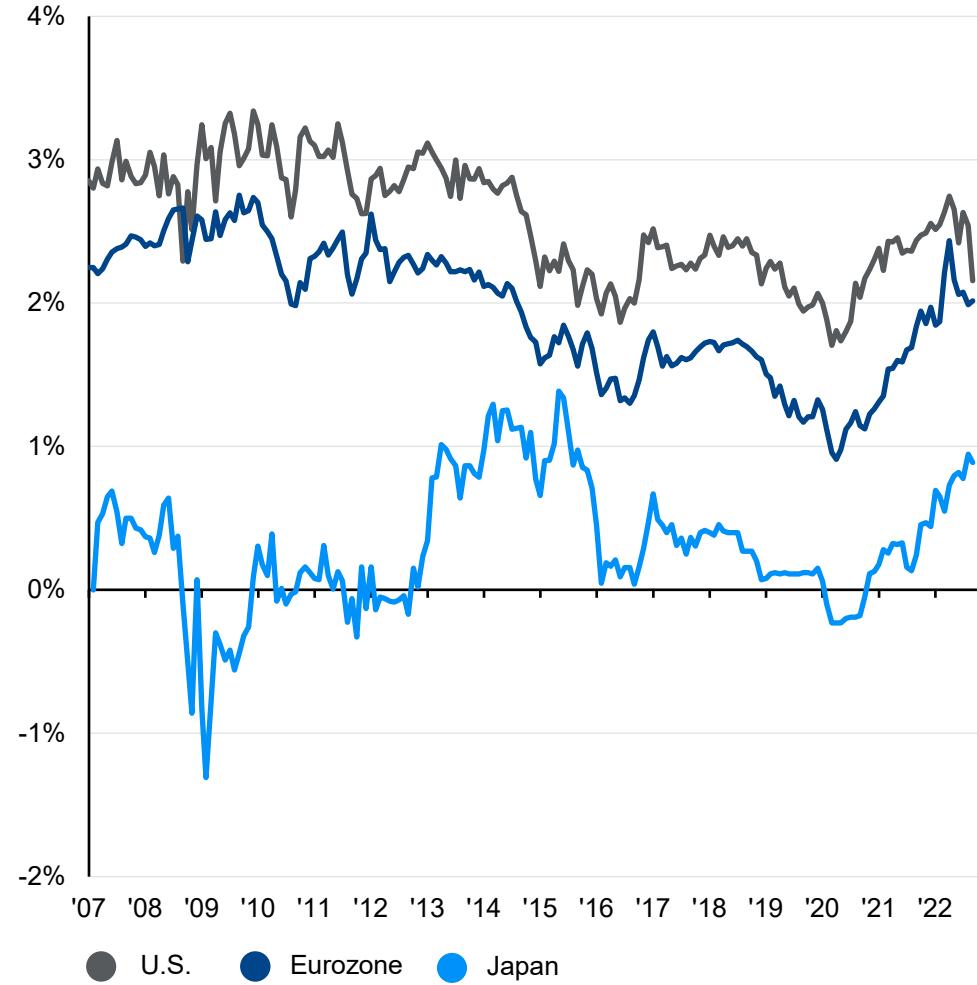
Government bond yields

10-year bond yield



Inflation expectations

5-year 5-year inflation swap rate



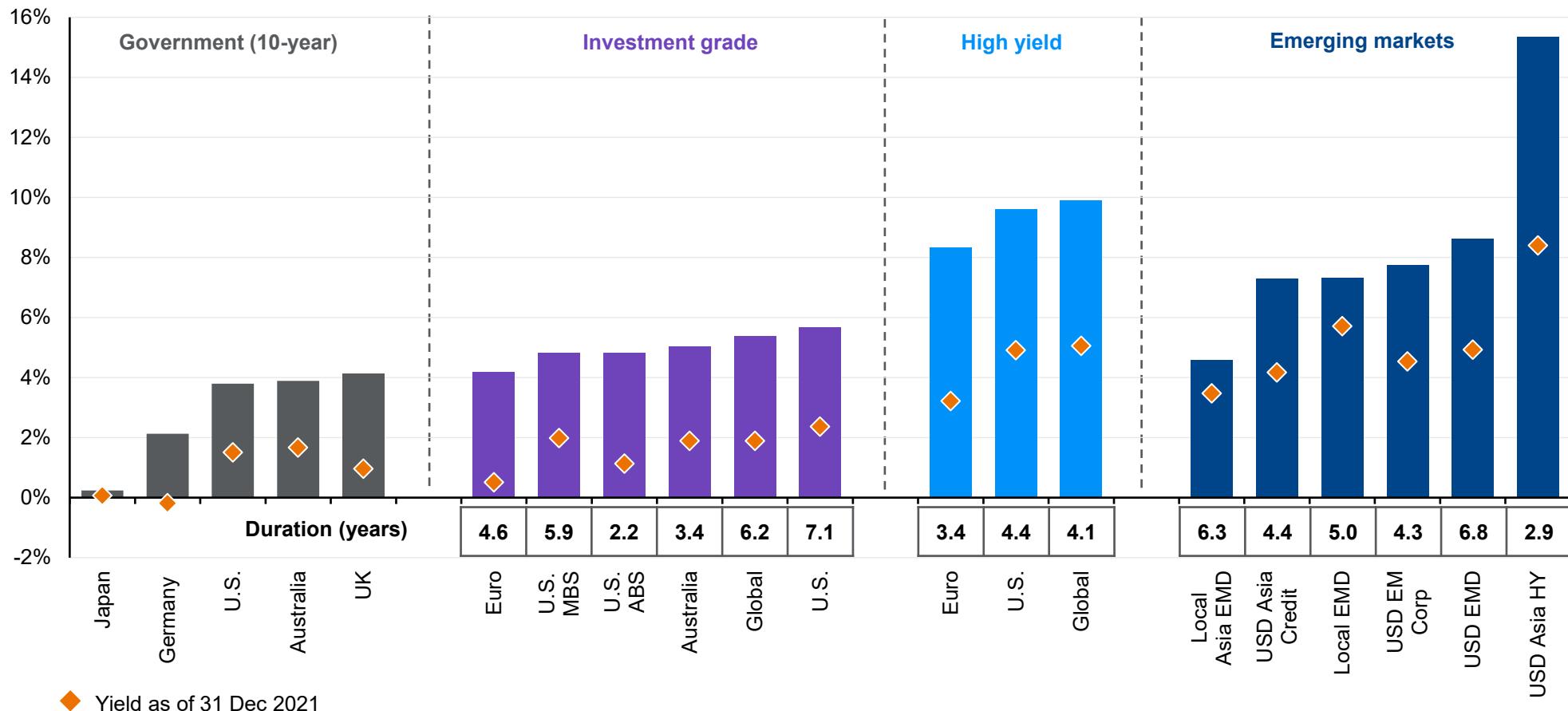
Source: J.P. Morgan Asset Management; (Left) FactSet, Tullett Prebon; (Right) Bloomberg Finance LP.
Guide to the Markets – Australia. Data as of 30 September 2022.



Fixed income yields

GTM | AUS | 50

Nominal yields



Source: Barclays, Bloomberg Finance L.P., FactSet, ICE BofA, J.P. Morgan Asset Management. Euro IG: Bloomberg Barclays Euro Aggregate – Corporate; Global IG: Bloomberg Barclays Global Aggregate – Corporate; Aus IG: Bloomberg AusBond Credit (0+Y); U.S. IG: Bloomberg Barclays U.S. Aggregate 0 Corporate. Euro HY: ICE BofA Euro Developed Markets Non-Financial High Yield Constrained Index; Global HY: ICE BofA Global High Yield; U.S. HY: ICE BofA U.S. High Yield Constrained Index; USD EM Corp: CEMBI Broad Diversified; Local EMD: GBI-EM Global Diversified; USD EMD EMBI Global; USD Asia Credit: JPM Asia Credit; Local Asia EMD: JPM JADE; USD Asia HY: JPM Asia HY. Past performance is not a reliable indicator of current and future results.

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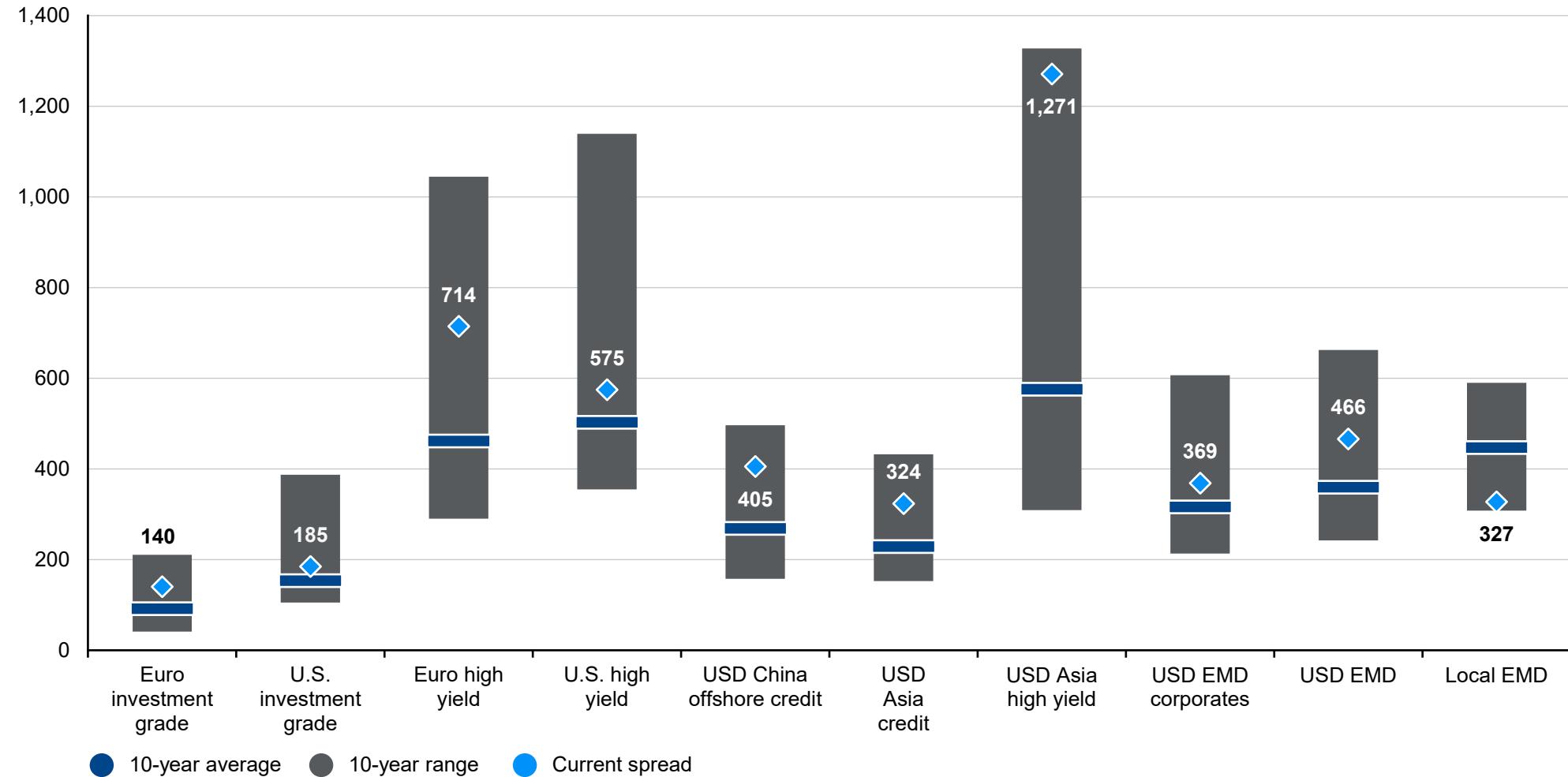
Fixed income valuations

GTM | AUS | 51

Fixed income

Spreads across fixed income sub-sectors

Basis points



Source: iBoxx, ICE BofA, J.P. Morgan Economics Research, J.P. Morgan Asset Management. J.P. Morgan Domestic High Yield Index (*U.S. high yield*), J.P. Morgan U.S. Liquid Index (JULI) (*U.S. investment grade*), J.P. Morgan Euro High Yield Index (*Euro high yield*), iBoxx EUR corporates (*Euro investment grade*), J.P. Morgan Asia Credit Index (JACI) (*USD Asia credit*), J.P. Morgan Asia Credit China Index (*USD China offshore credit*), J.P. Morgan Asia Credit High Yield Index (*USD Asia high yield*), J.P. Morgan EMBI Global (*EMD USD*), J.P. Morgan Corporate Emerging Markets Bond Index – CEMBI (*USD EMD corporates*), J.P. Morgan GBI-EM Global (*Local EMD*). Positive yield does not imply positive return. Past performance is not a reliable indicator of current and future results. *Guide to the Markets – Australia*. Data as of 30 September 2022.

J.P.Morgan
ASSET MANAGEMENT

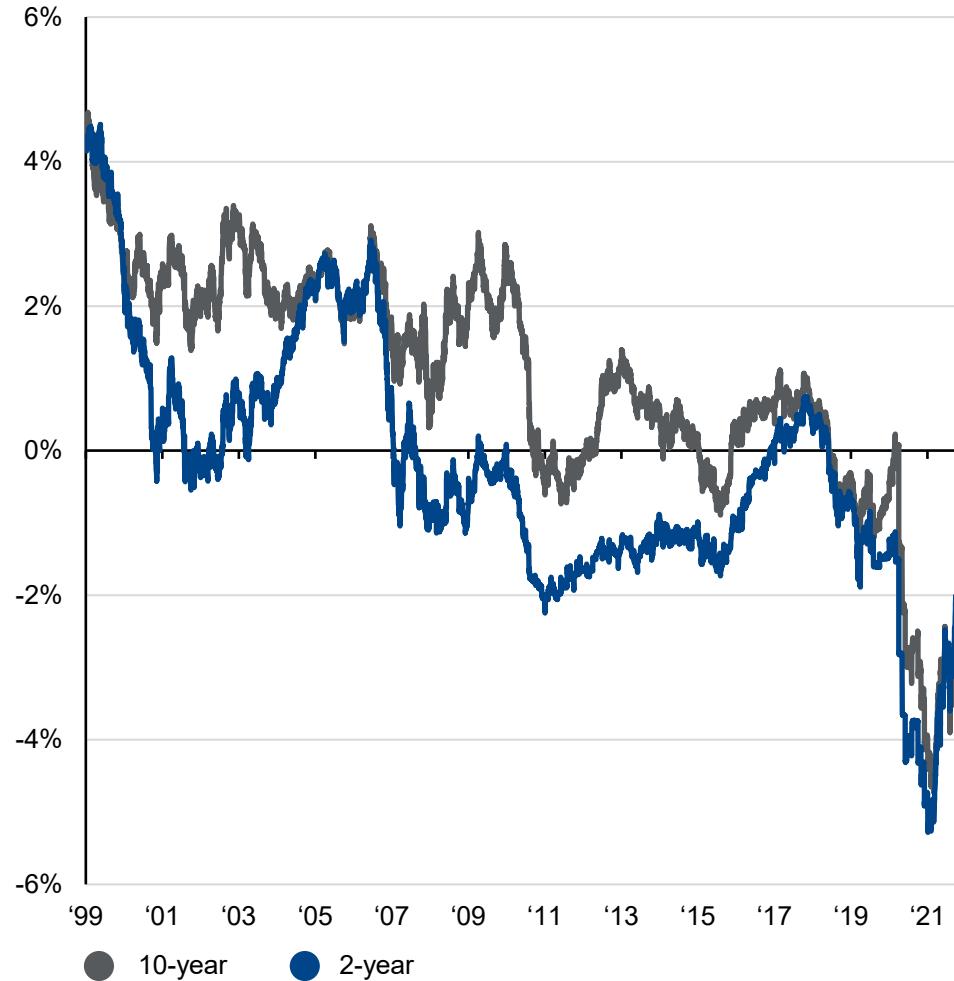


U.S. real yields

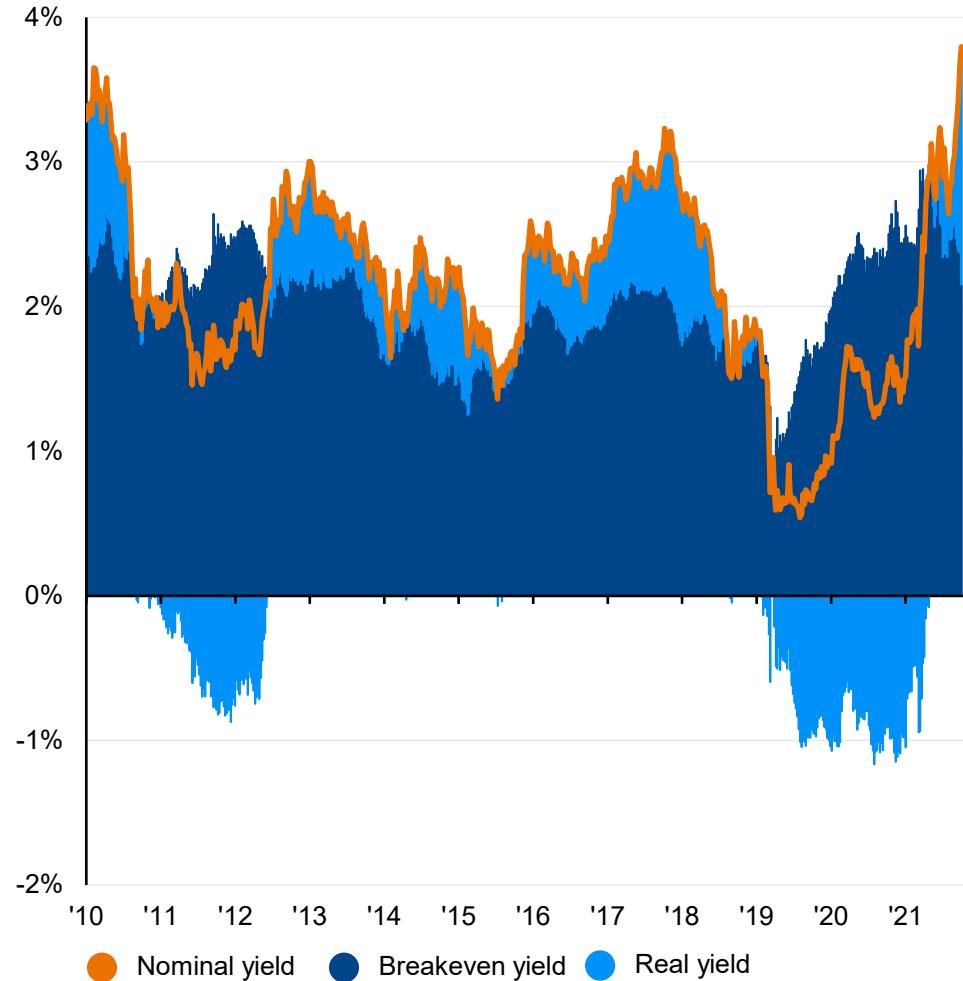
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Fixed income

Real U.S. Treasury yield*
Nominal yield less core CPI inflation



U.S. 10-year Treasury yield**
Nominal and real yield composition



Source: J.P. Morgan Asset Management; (Left) BLS, Tullett Prebon; (Right) Bloomberg Finance L.P.

*Real 10-year and 2-year Treasury yields are calculated as the daily Treasury yields less consumer price index inflation rate for that month except for September 2022, where real yields are calculated by subtracting August 2022 inflation rate. **Real yield calculated using 10-year breakeven, which represents the difference in yield between nominal and inflation-protected government bonds and is a market-based measure of average inflation expectations over the next 10 years.
Guide to the Markets – Australia. Data as of 30 September 2022.



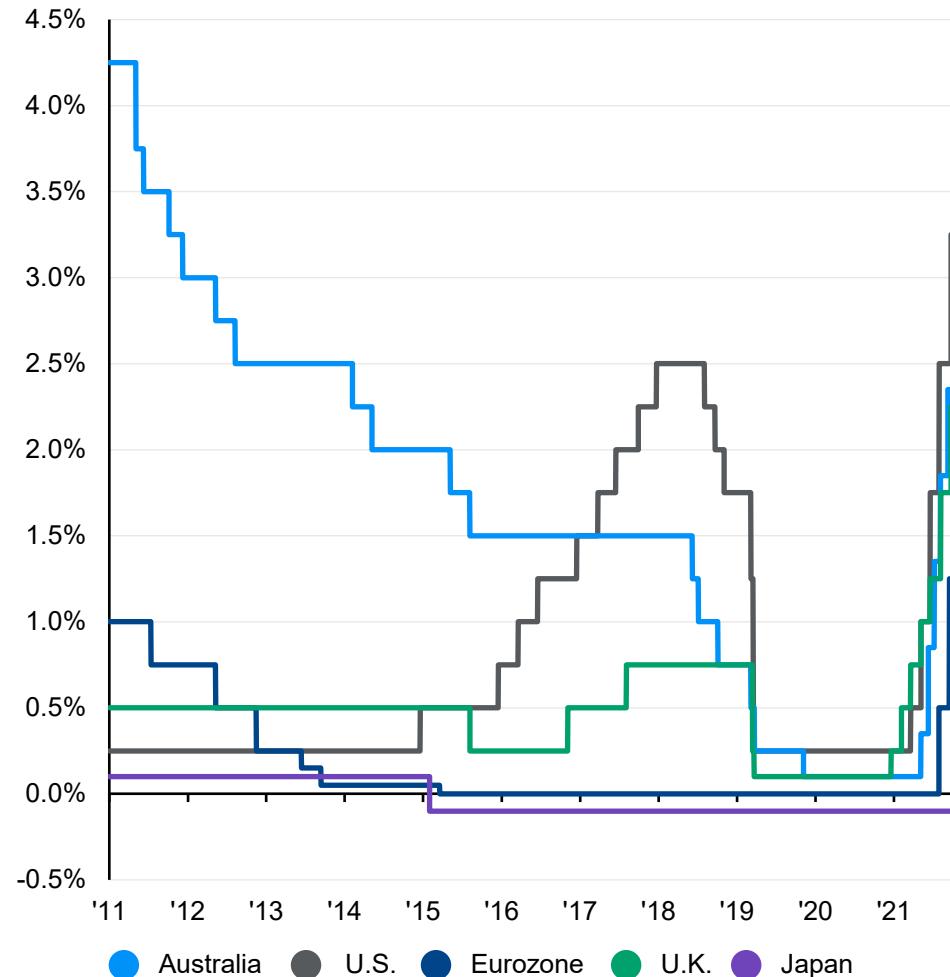
Central bank policy rates

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Fixed income

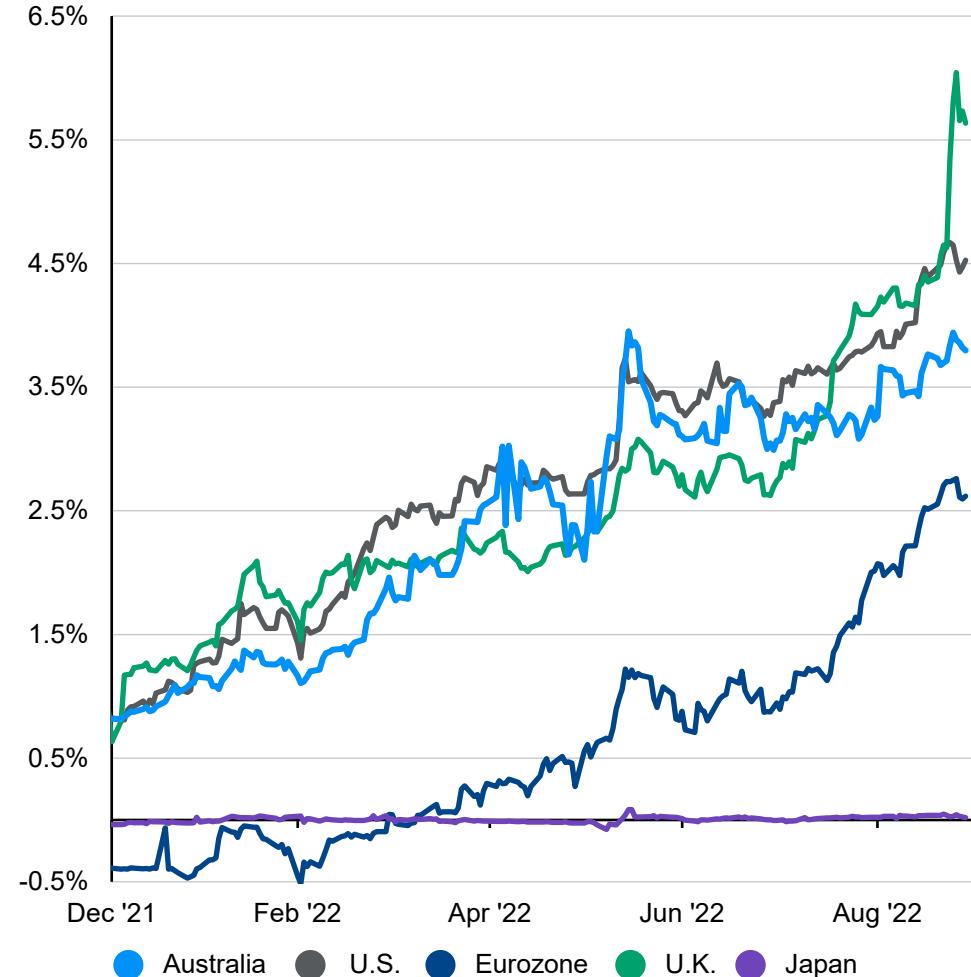
Central bank key policy rates

Target rates



Market expectations for central bank policy rates

Expected rate by 31 March 2023



Source: J.P. Morgan Asset Management; (Left) Bank of Japan, European Central Bank, FactSet, Reserve Bank of Australia, U.S. Federal Reserve; (Right) Bloomberg L.P. Past performance is not a reliable indicator of current and future results.
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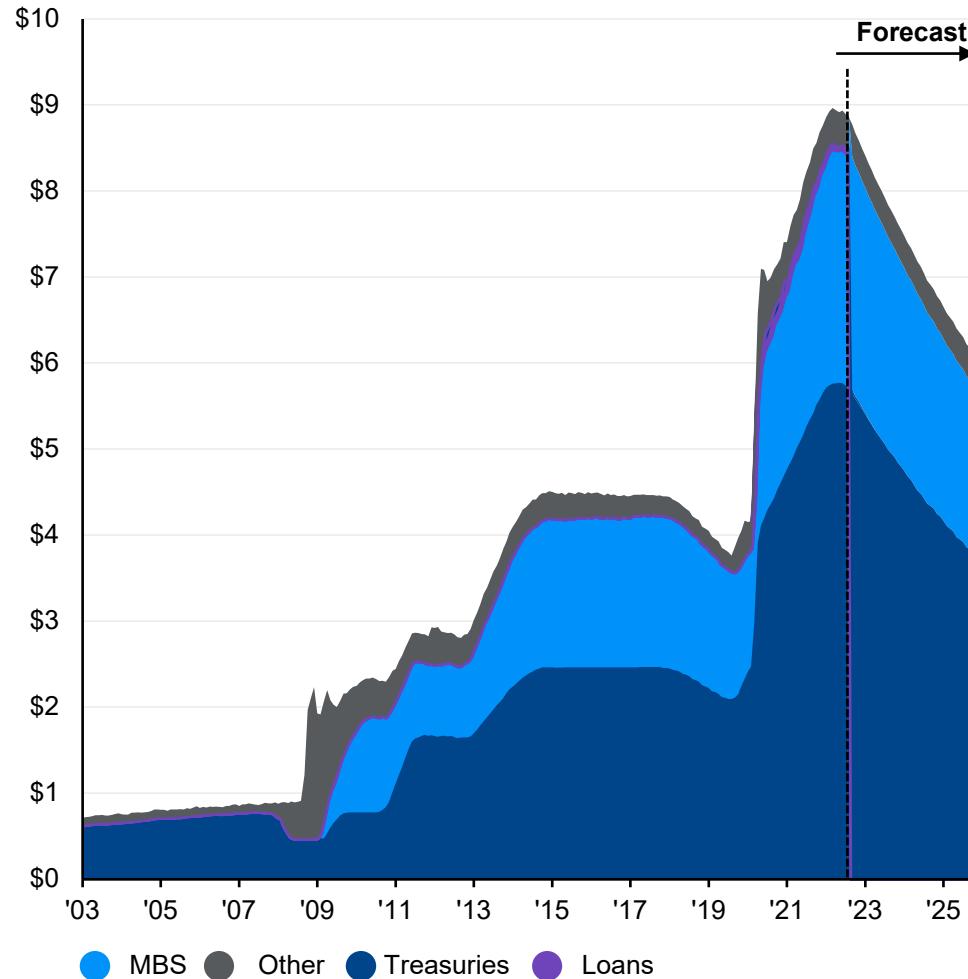
Central bank balance sheets

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Fixed income

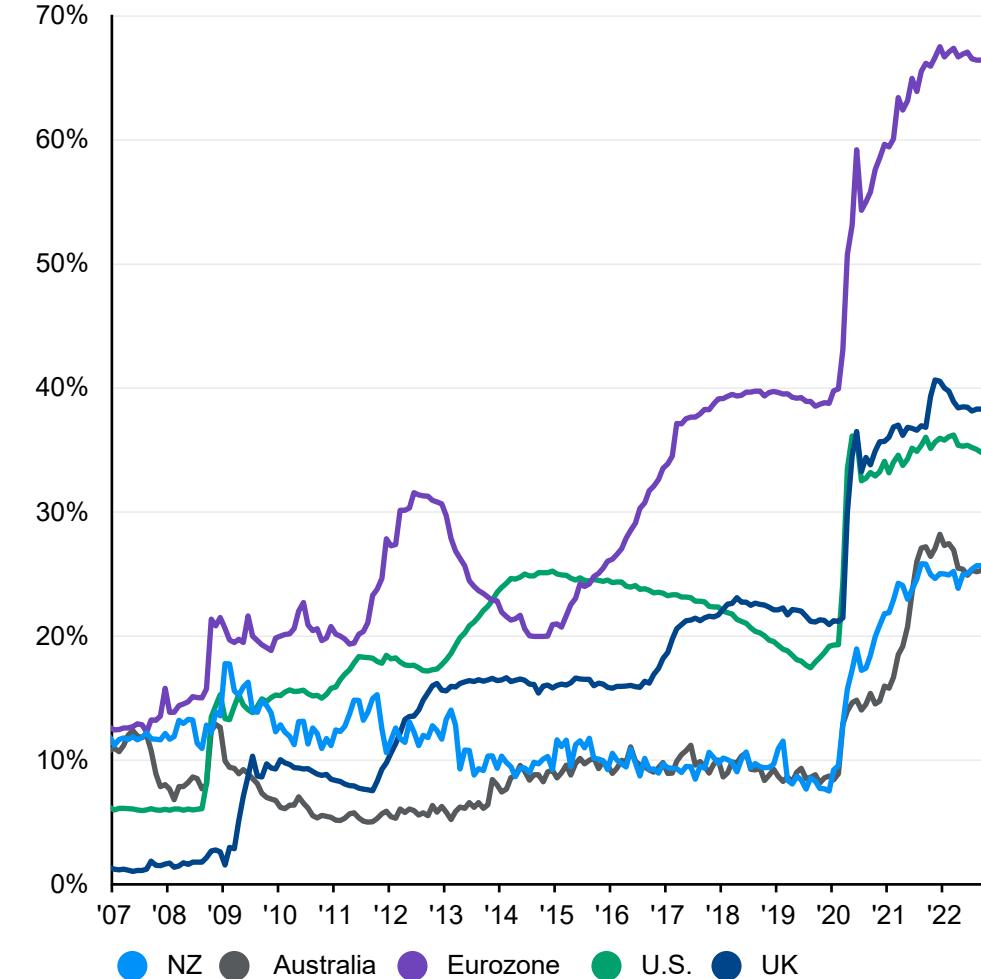
U.S. Federal Reserve balance sheet

USD trillions



Central bank balance sheets

% of nominal GDP



Source: Bank of England, European Central Bank, FactSet, RBA, U.S. Federal Reserve, J.P. Morgan Asset Management.
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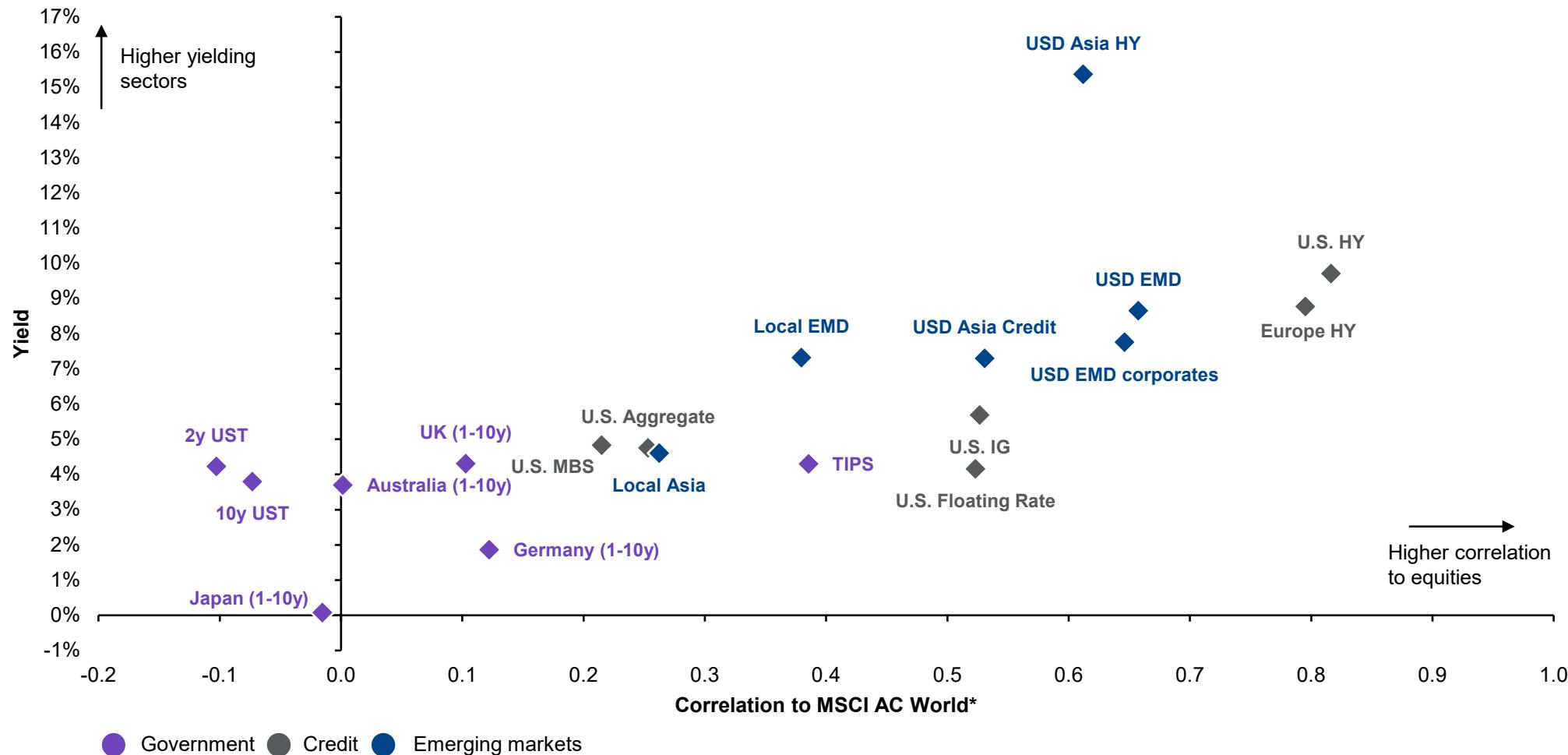


Fixed income yields and correlation

GTM | AUS | 55

Yields and correlation of fixed income returns to equities

10-year correlation between monthly total returns

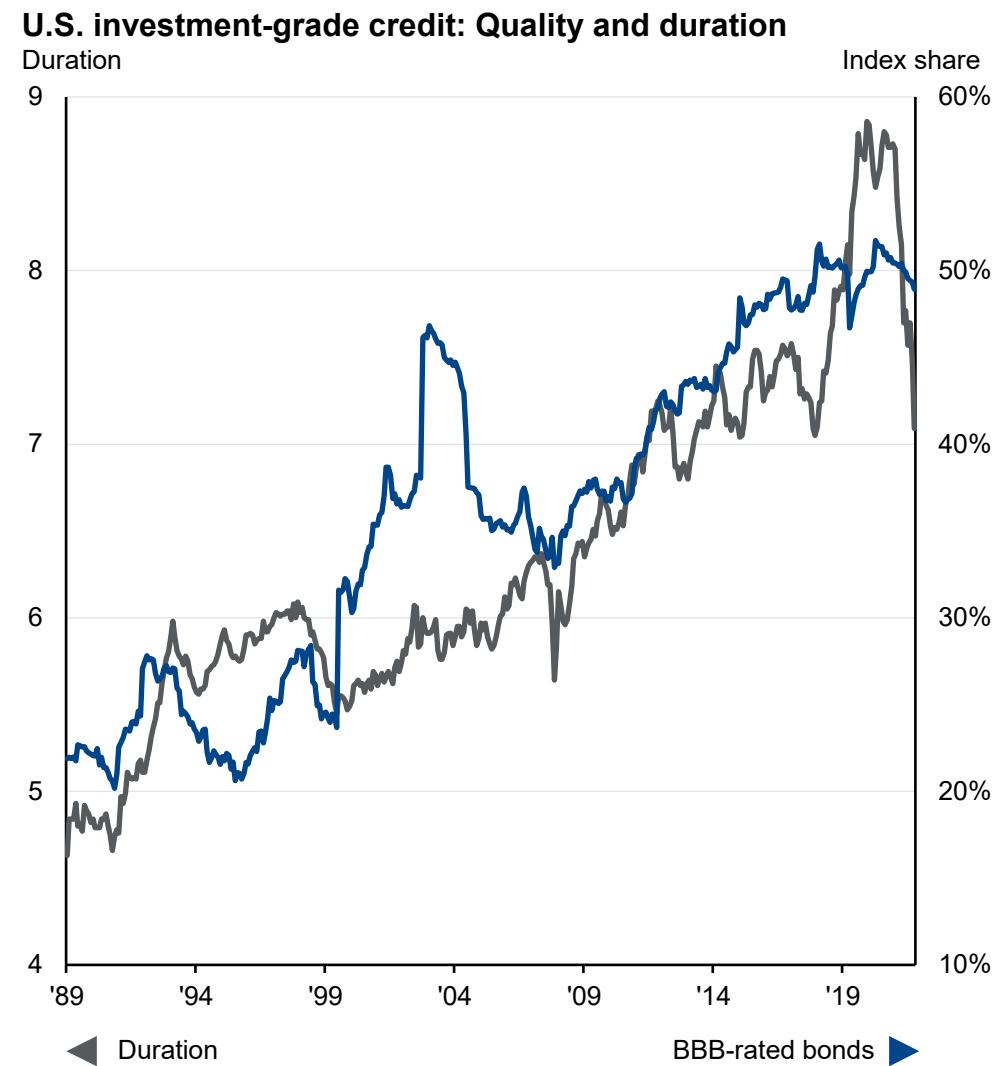
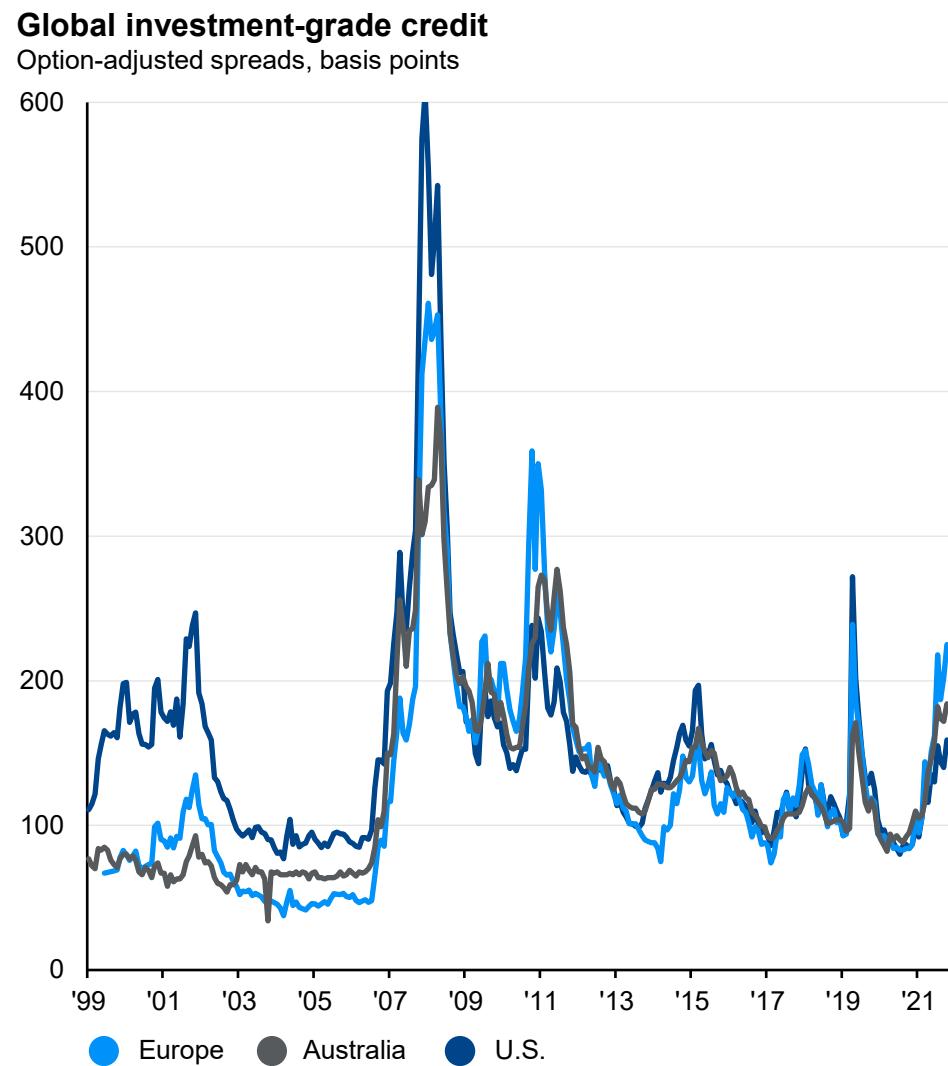


Source: Bank of America Merrill Lynch, Bloomberg Finance L.P., FactSet, ICE, J.P. Morgan Economic Research, MSCI, J.P. Morgan Asset Management, Bloomberg Barclays U.S. Treasury (UST) Bellwether 2y & 10y (2y & 10y UST), Bloomberg Barclays Treasury Inflation-Protected Securities (TIPS), ICE BofAML Country Government (1-10y) (Australia, Germany, Japan & UK (1-10y)), Bloomberg Barclays U.S. Aggregate, Credit – Investment Grade & High Yield (U.S. Aggregate, IG & HY), Bloomberg Barclays U.S. Floating Rate (U.S. Floating Rate), Bloomberg Barclays U.S. Aggregate Securitized – Mortgage-Backed Securities (U.S. MBS), Bloomberg Barclays Pan-European High Yield (Europe HY), J.P. Morgan GBI-EM Global (Local EMD), J.P. Morgan EMBI Global (USD EMD), J.P. Morgan Asia Credit (JACI) (USD Asia Credit), J.P. Morgan Asia Credit (JACI) – High Yield (USD Asia HY), J.P. Morgan CEMBI (USD EM Corporate Credit), J.P. Morgan Asia Diversified (JADE) (Local Asia). Guide to the Markets – Australia. Data as of 30 September 2022.

Global investment-grade credit

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Fixed income



Source: Bloomberg Barclays, FactSet, J.P. Morgan Asset Management.
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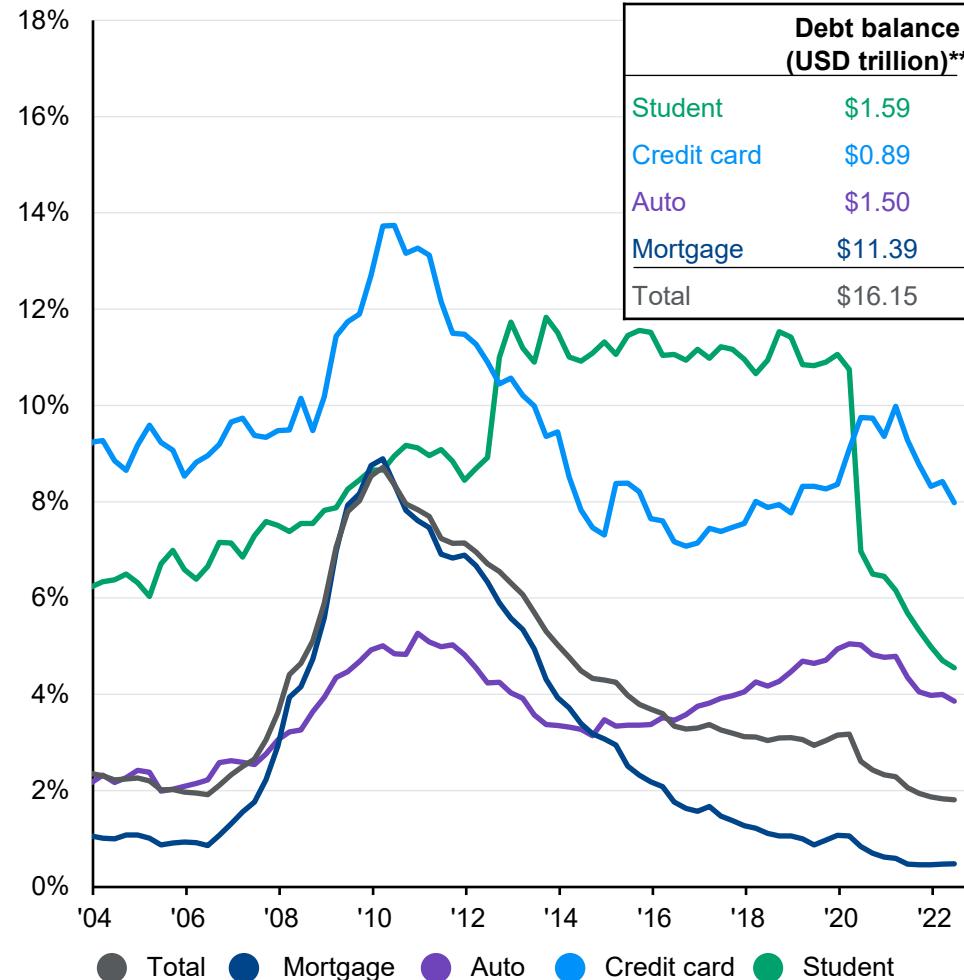
U.S. securitised market

GTM | AUS | 57

Fixed income

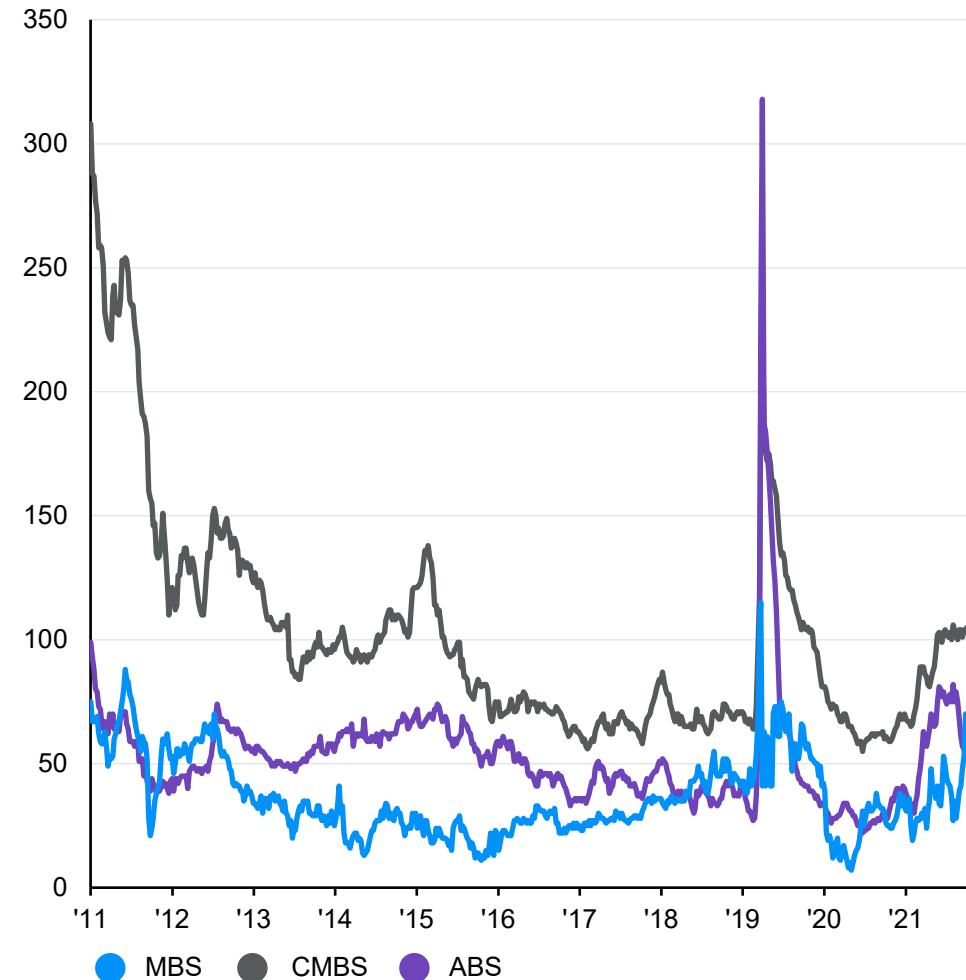
Consumer sector delinquency*

90+ days, % of outstanding balances



Securitised spreads

Option-adjusted spreads, basis points



Source: FactSet, J.P. Morgan Asset Management; (Left) Federal Reserve Bank of New York; (Right) Bloomberg Barclays.

*Delinquency rate is defined as loans at least 90 days late or more with repayments. **Sectors not shown but included in the total figure are Revolving Home Equity and Others. ABS is asset-backed securities, CMBS is commercial mortgage-backed securities, MBS is mortgage-backed securities.
Guide to the Markets – Australia. Data as of 30 September 2022.

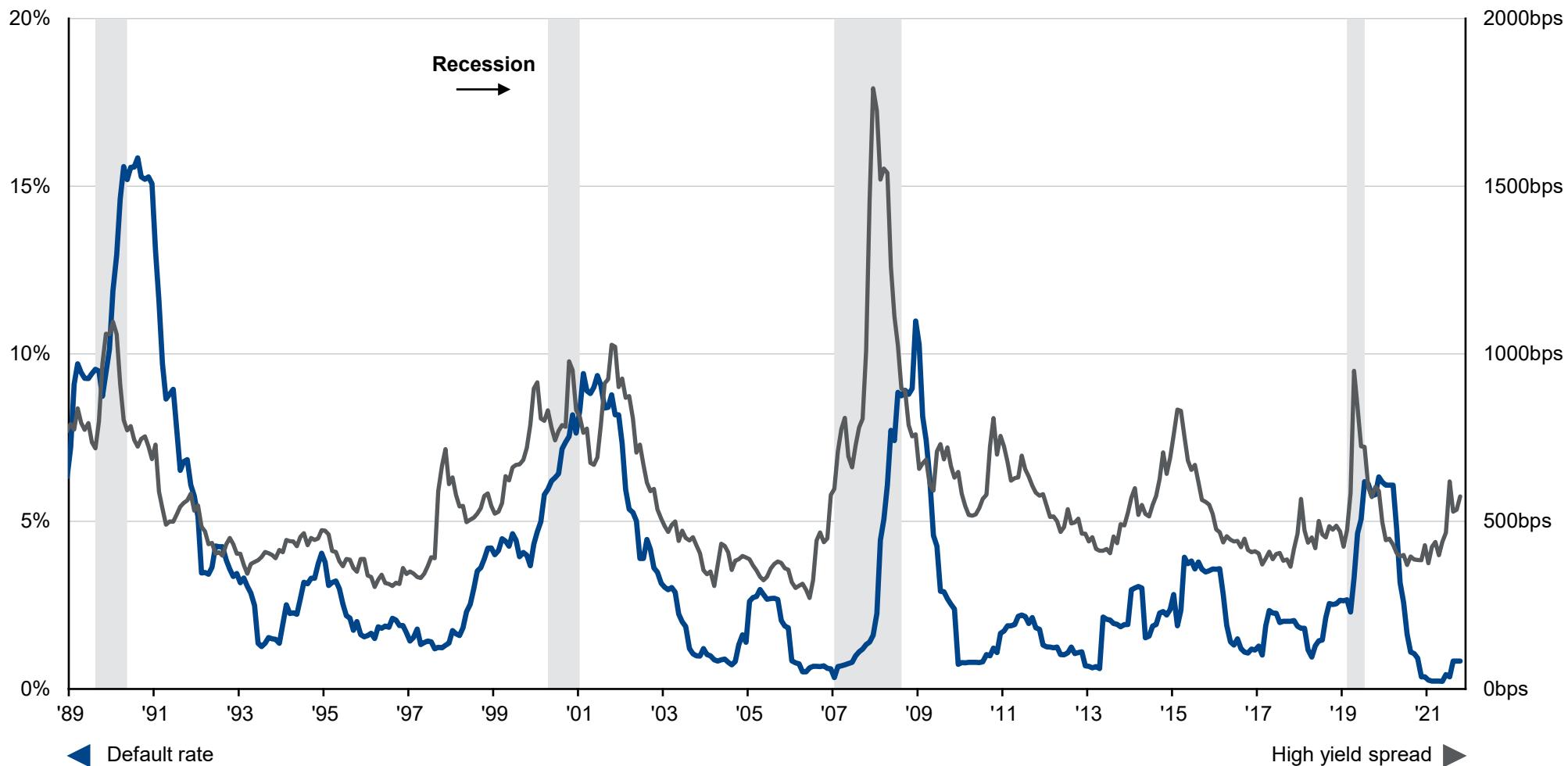


U.S. high yield: Spreads and defaults

GTM | AUS | 58

U.S. high yield spread and default rate

Fixed income



Source: J.P. Morgan Economic Research, J.P. Morgan Asset Management. Default rates are defined as the par value percentage of the total market trading at or below 50% of par value and include any Chapter 11 filing, prepackaged filing or missed interest payments. Spreads indicated are benchmark yield to worst less comparable maturity Treasury yields.

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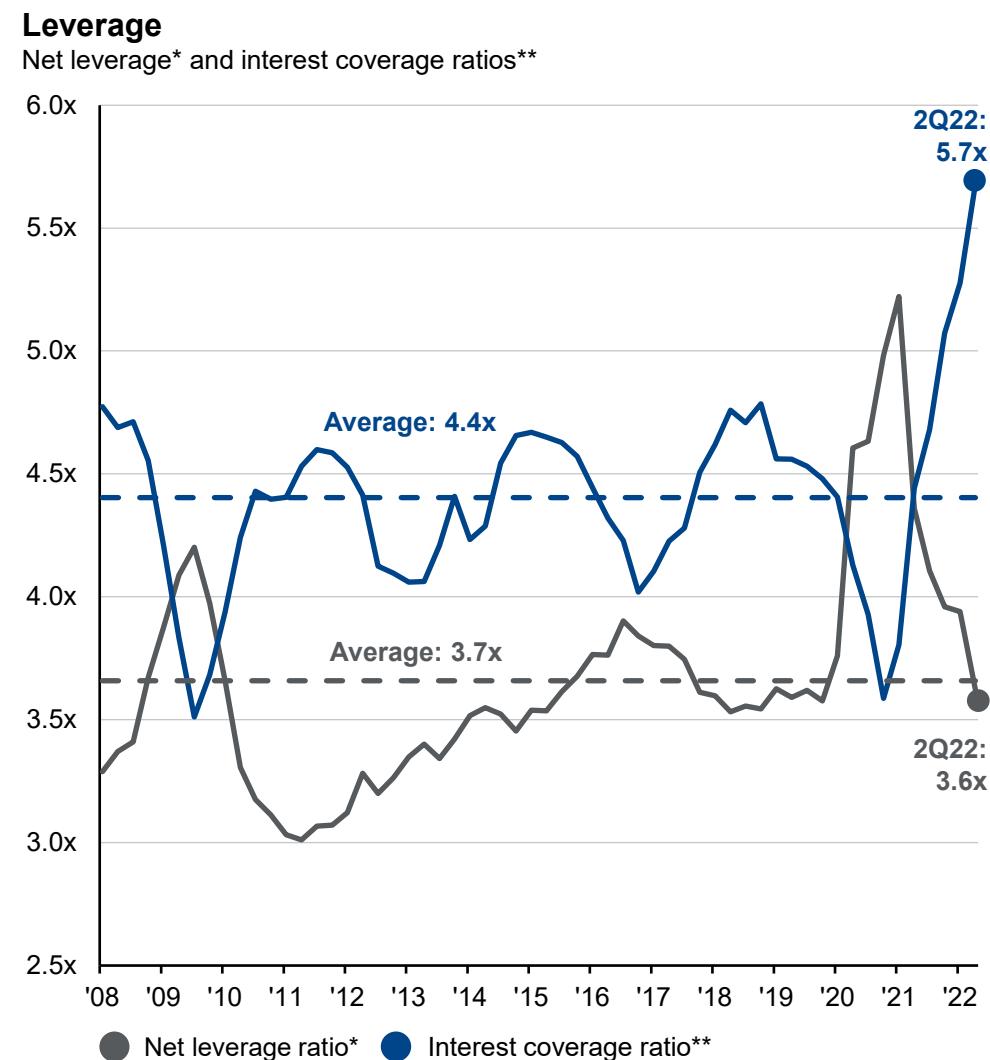
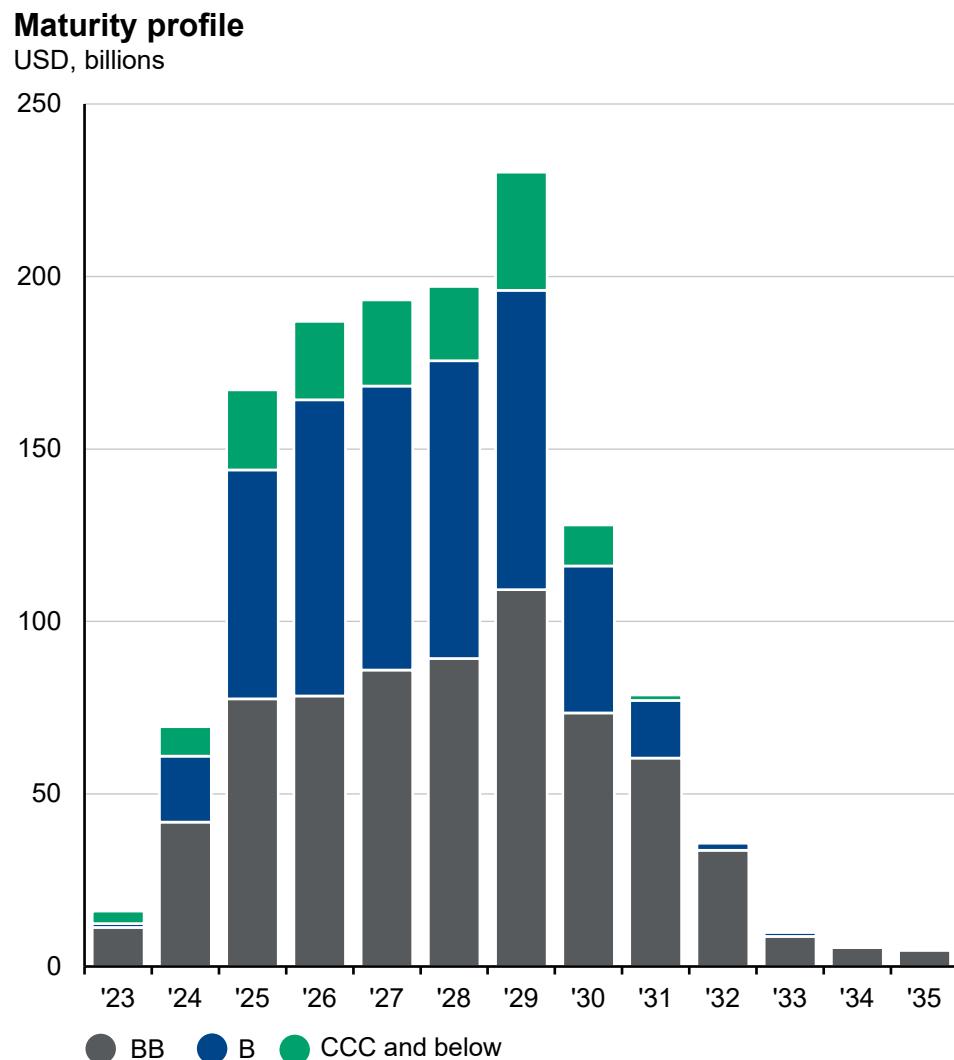
J.P.Morgan
ASSET MANAGEMENT



U.S. high yield: Fundamentals

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Fixed income



Source: J.P. Morgan Asset Management; (Left) Bloomberg L.P.; (Right) J.P. Morgan Economic Research. *Net leverage is net debt divided by adjusted earnings before interest, tax, depreciation and amortisation (EBITDA). **Interest coverage ratio is EBITDA over interest expense.
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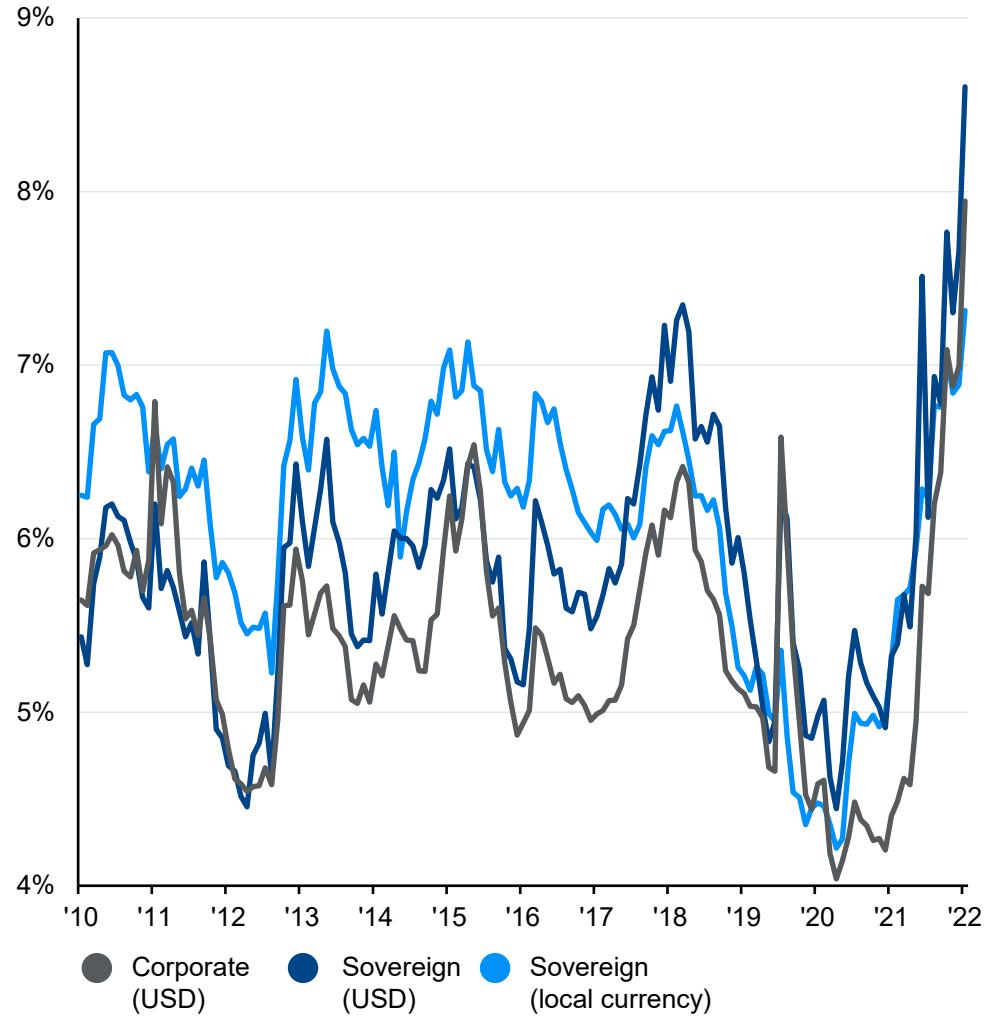
Emerging market debt

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Fixed income

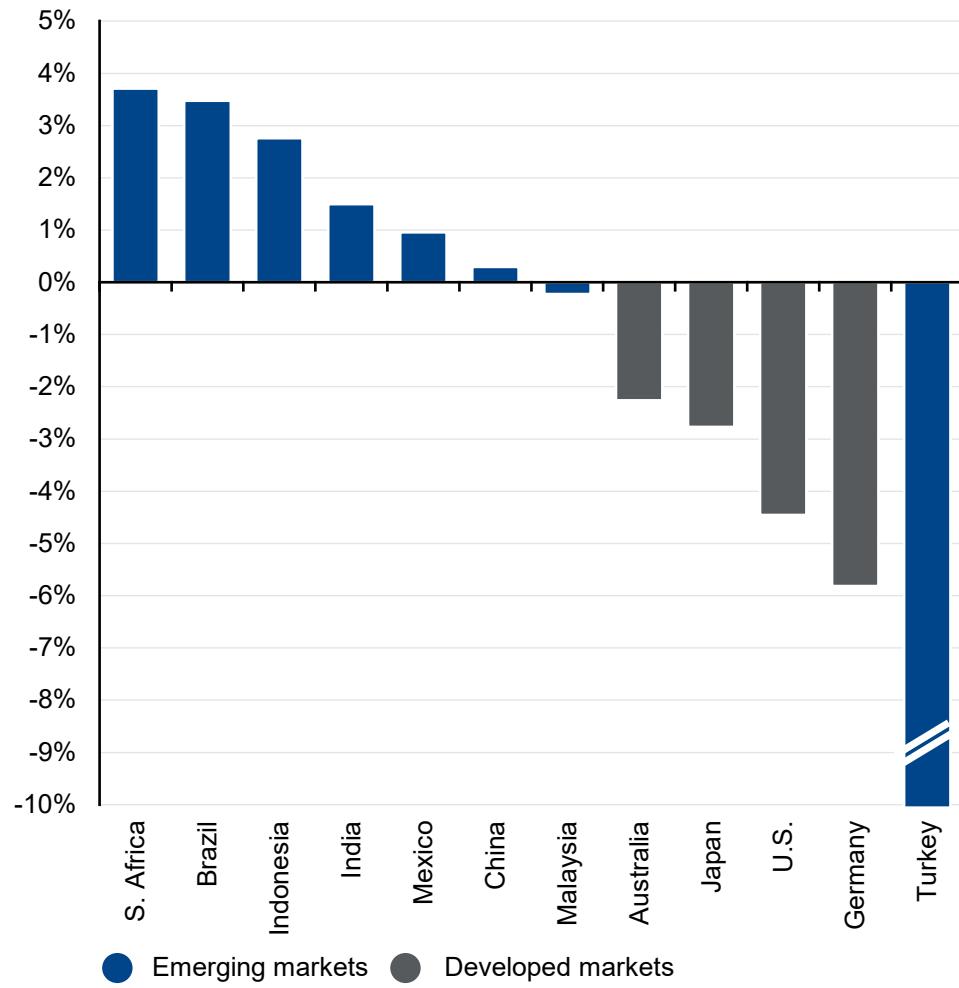
Emerging market bond yields

Yield to maturity



Real 10-year government bond yields

Local currency



Source: J.P. Morgan Asset Management; (Left) J.P. Morgan Securities Research; (Right) FactSet. Real yield is calculated by using nominal yield less current CPI for the respective countries. Sector yields based on J.P. Morgan GBI-EM (EM sovereign (local currency)), J.P. Morgan EMBI+ (EM sovereign (USD)), J.P. Morgan CEMBI (EM corporate (USD)). Past performance is not a reliable indicator of current and future results. Turkey real yield is -74%. Guide to the Markets – Australia. Data as of 30 September 2022.



China bonds

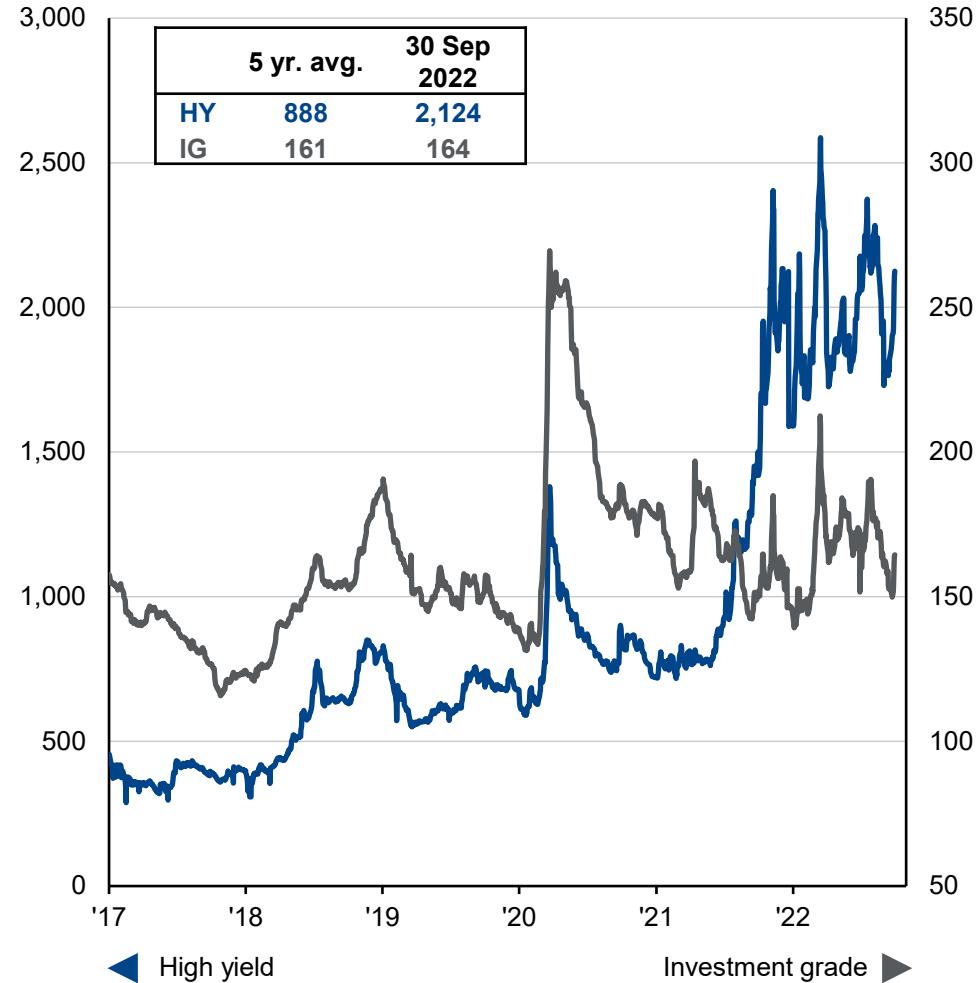
GTM | AUS | 61

Fixed income

Bond yields*



Offshore corporate credit spreads**



Source: J.P. Morgan Asset Management; (Left) FTSE Russell, J.P. Morgan Economics Research, National Interbank Funding Center; (Right) Bloomberg Finance L.P. *Credit indices shown are yield-to-worst, government bond index shown displays yield-to-maturity. FTSE Dim Sum Bond Index (*CNH China offshore credit*), J.P. Morgan Asia Credit China Index (*USD China offshore credit*). **Indices are Bloomberg Asia ex-Japan USD Credit High Yield and Bloomberg Asia ex-Japan USD Credit China IG. Yields are not guaranteed, positive yield does not imply positive return.
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Energy prices

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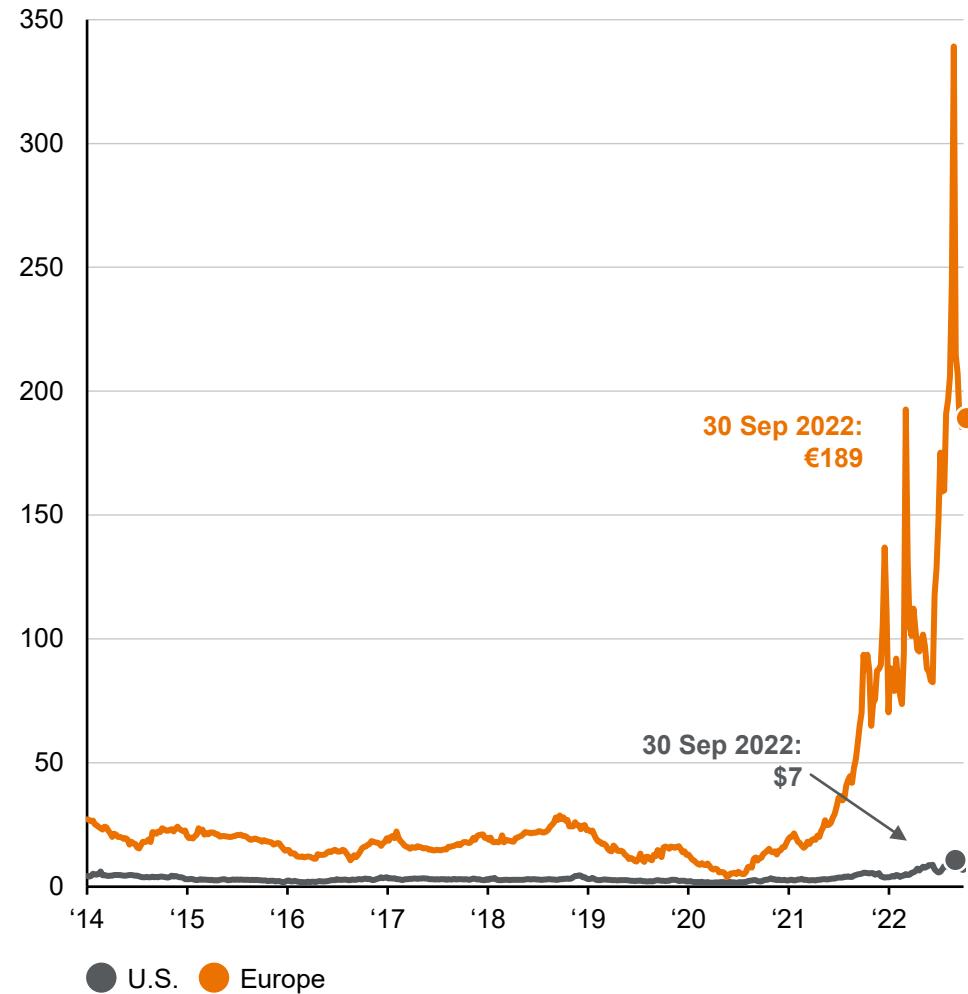
Price of oil

Brent crude, USD/barrel



Natural gas prices

EUR per MWh / USD per Mmbtu



Other asset classes

Source: FactSet, ICE, Nymex, J.P. Morgan Asset Management. Past performance is not a reliable indicator of current and future results.
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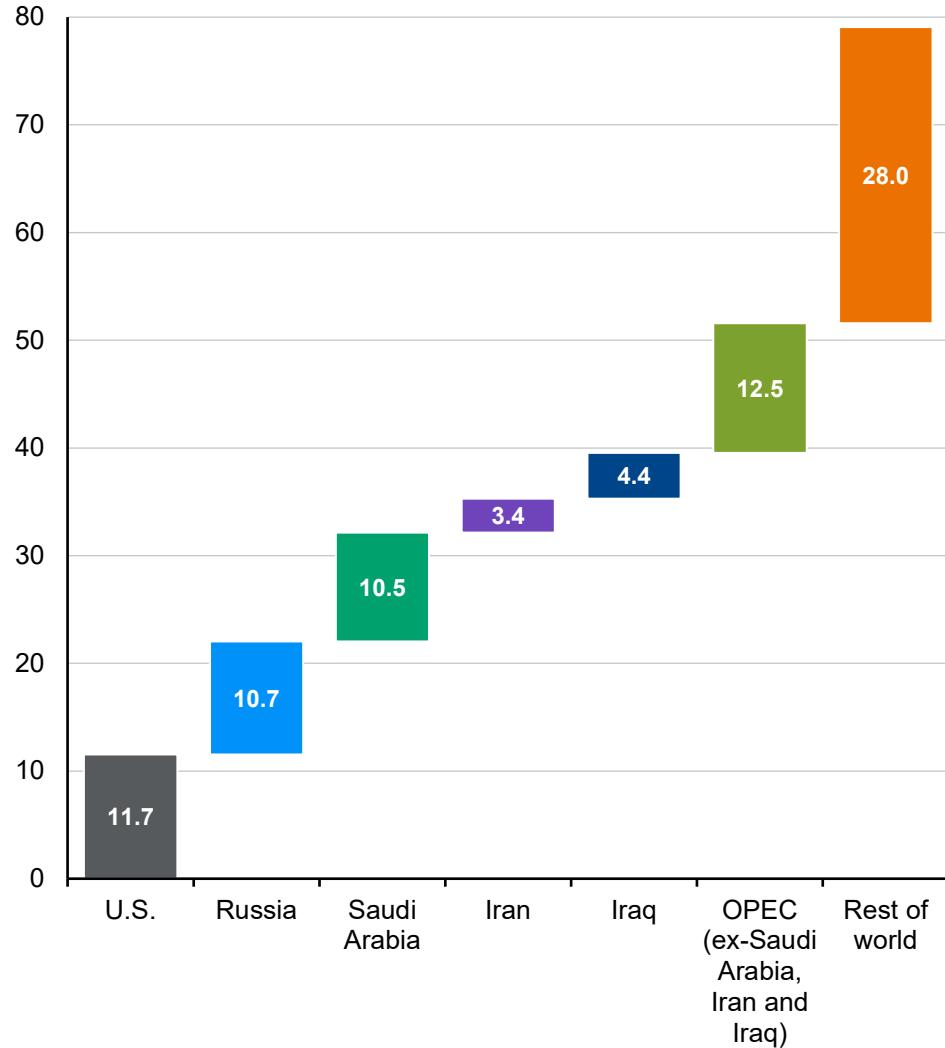


Oil supply

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Contribution to global oil production

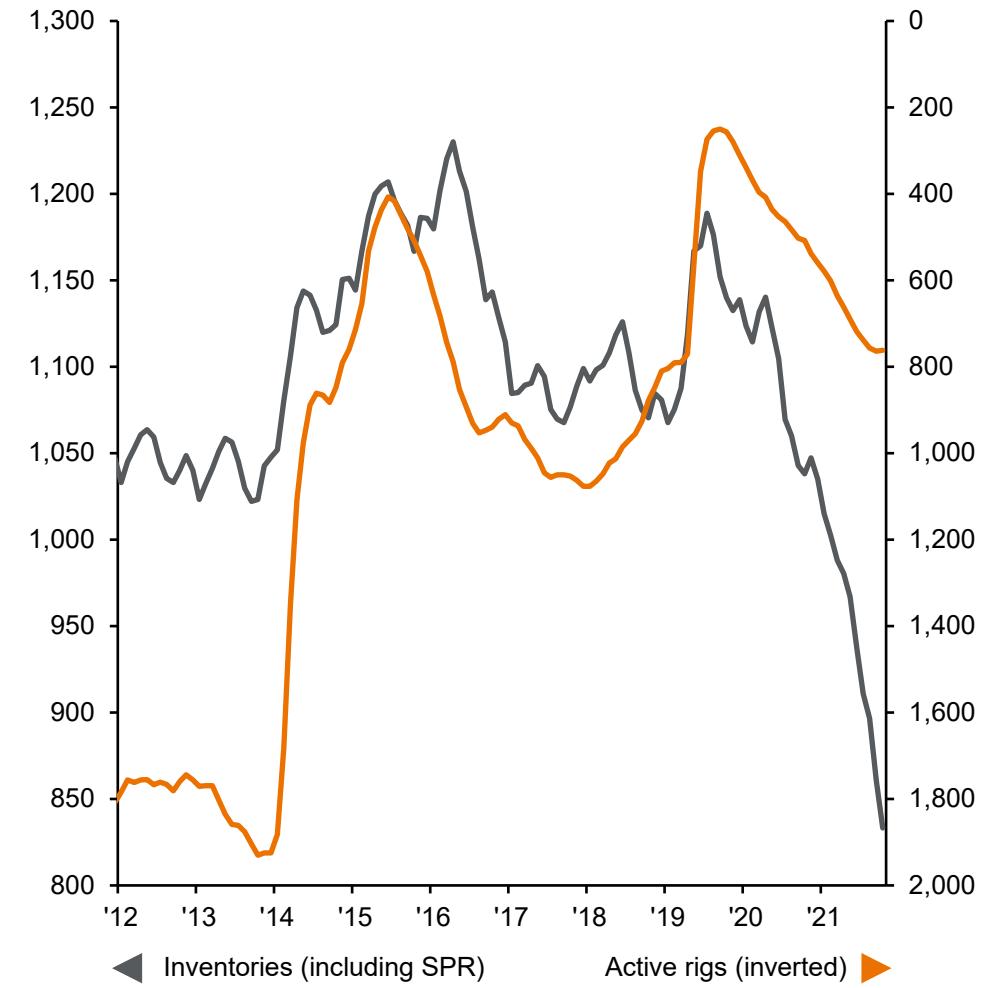
Millions of barrels per day



Other asset classes

U.S. crude oil inventories and rig count*

Millions of barrels



Source: Baker-Hughes, EIA, FactSet, U.S. Department of Energy, J.P. Morgan Asset Management. *Weekly U.S. crude oil and petroleum ending inventory includes strategic petroleum reserve, and active rig count represents both natural gas and oil rigs. Past performance is not a reliable indicator of current and future results.

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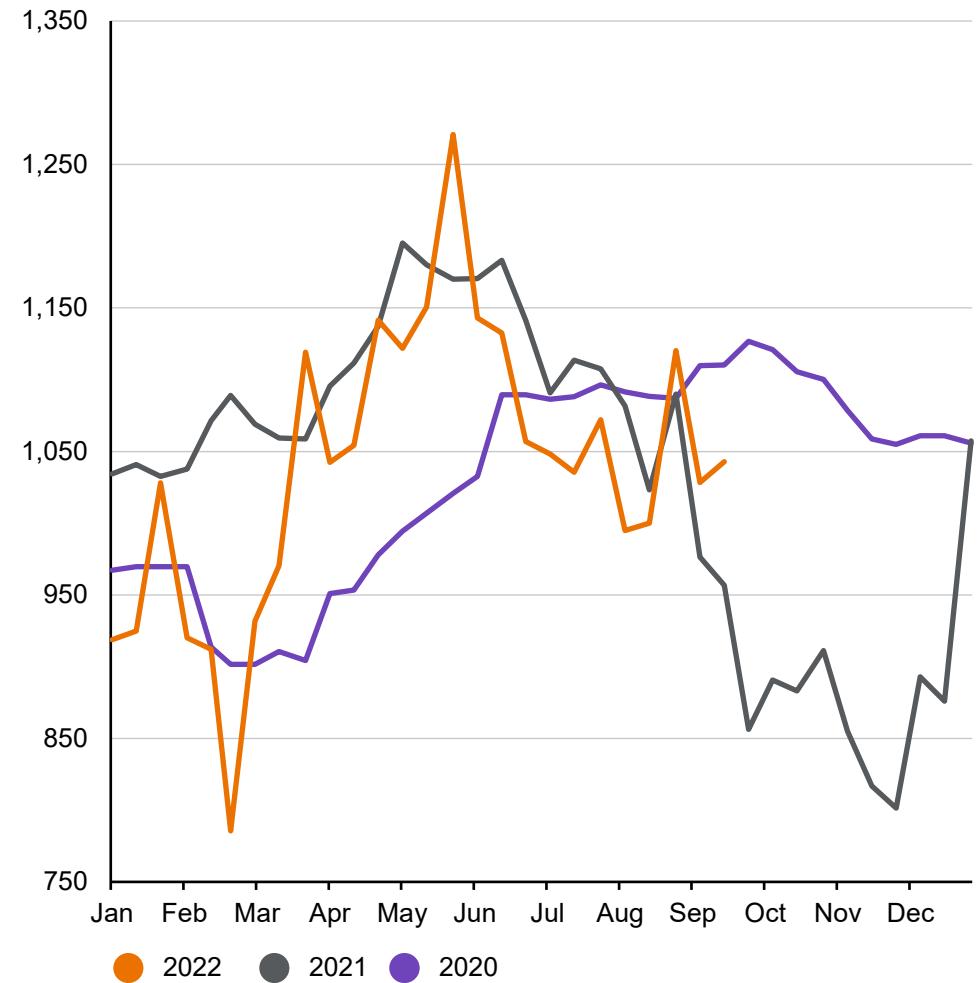
Iron ore

GTM | AUS | 64

Iron ore price
USD per MT, iron ore 62% Fe



China steel production
Millions tons per annum



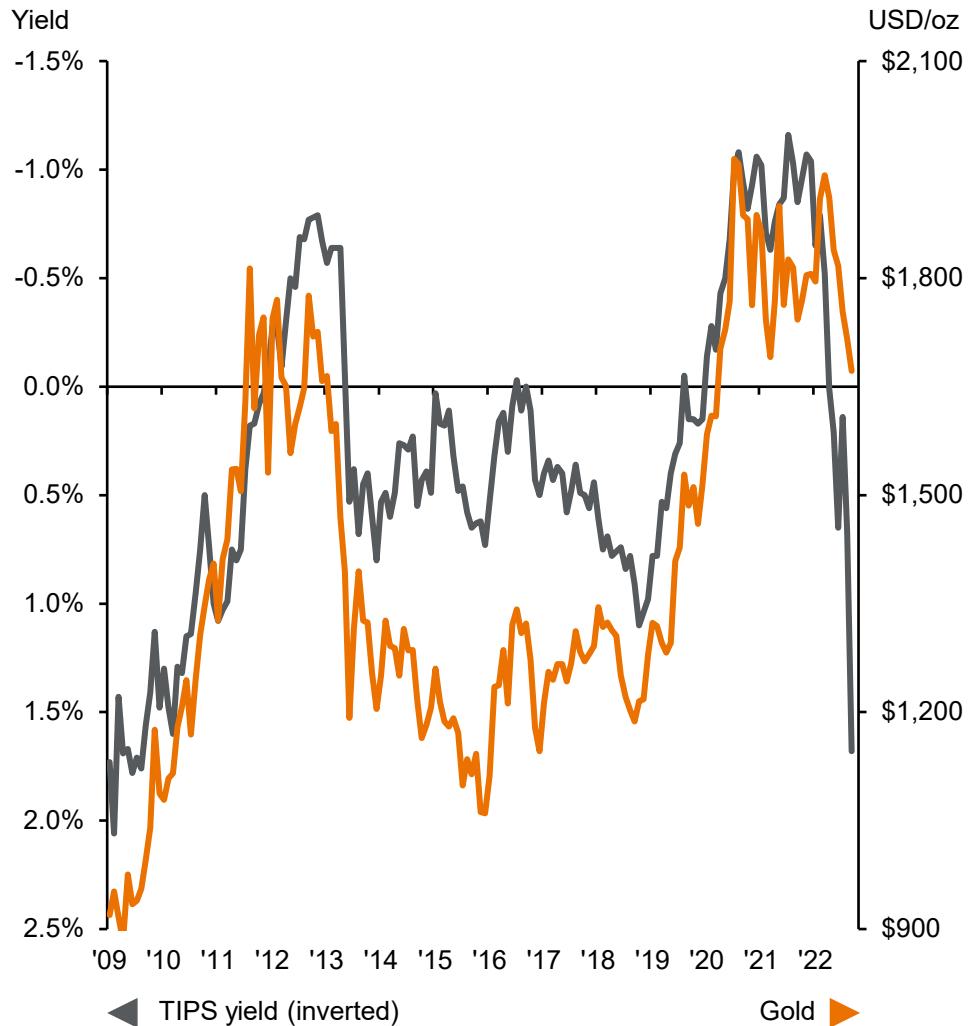
Source: J.P. Morgan Asset Management; (Left) FactSet; (Right) CEIC, CISA.
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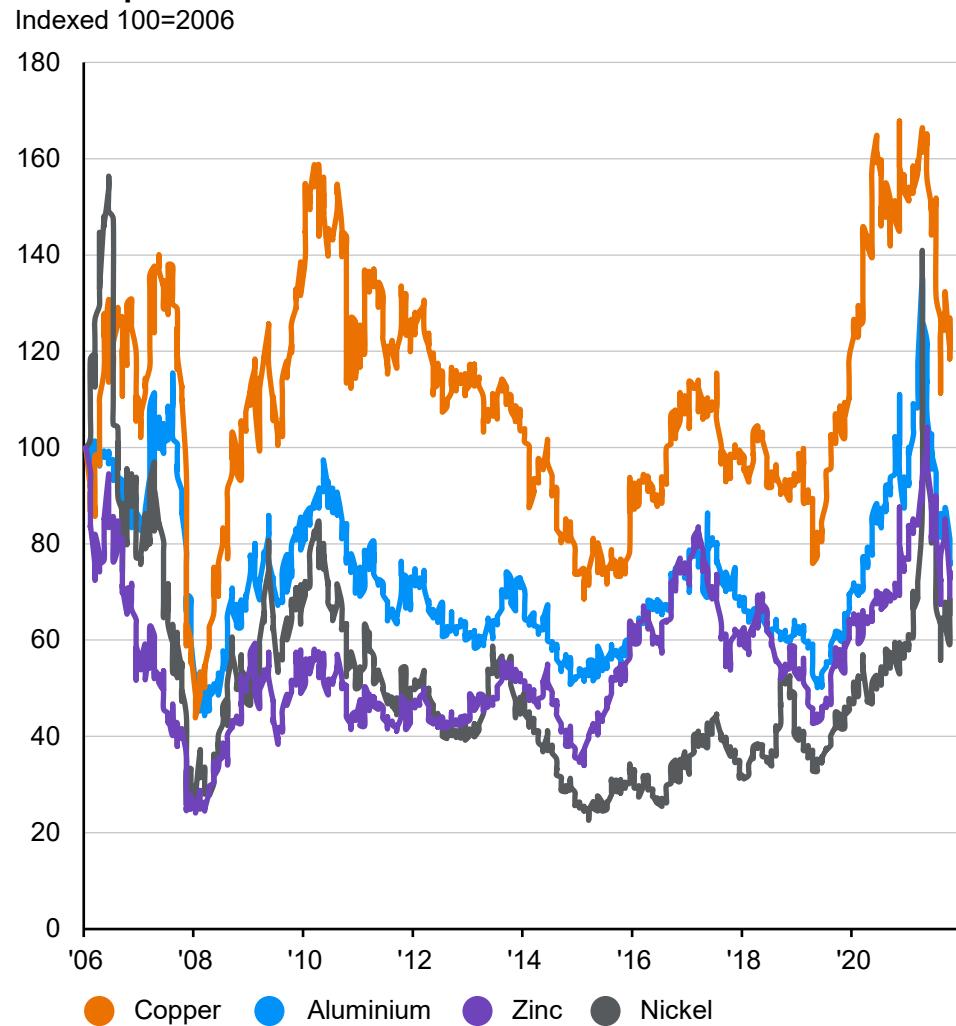
Metals

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Gold and real rates



Metals prices



Source: FactSet, J.P. Morgan Asset Management; (Left) U.S. Federal Reserve; (Right) London Metals Exchange. Past performance is not a reliable indicator of current and future results.

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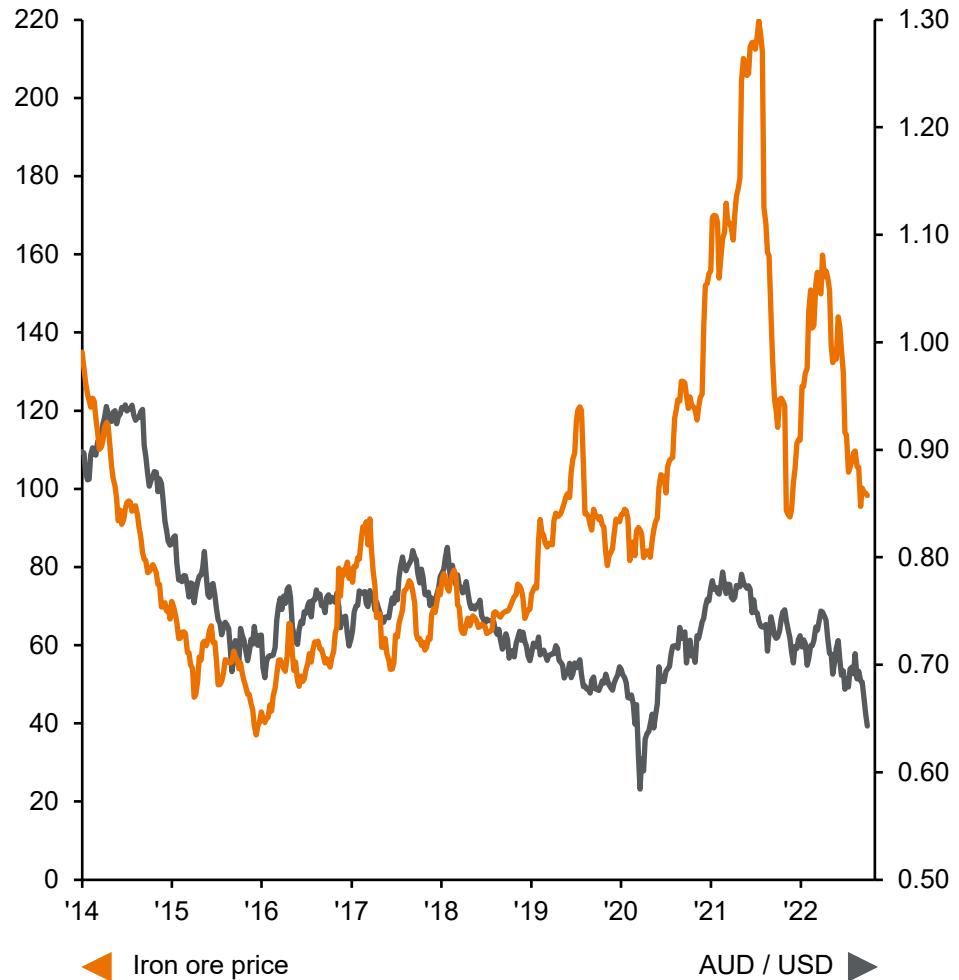


Australian dollar

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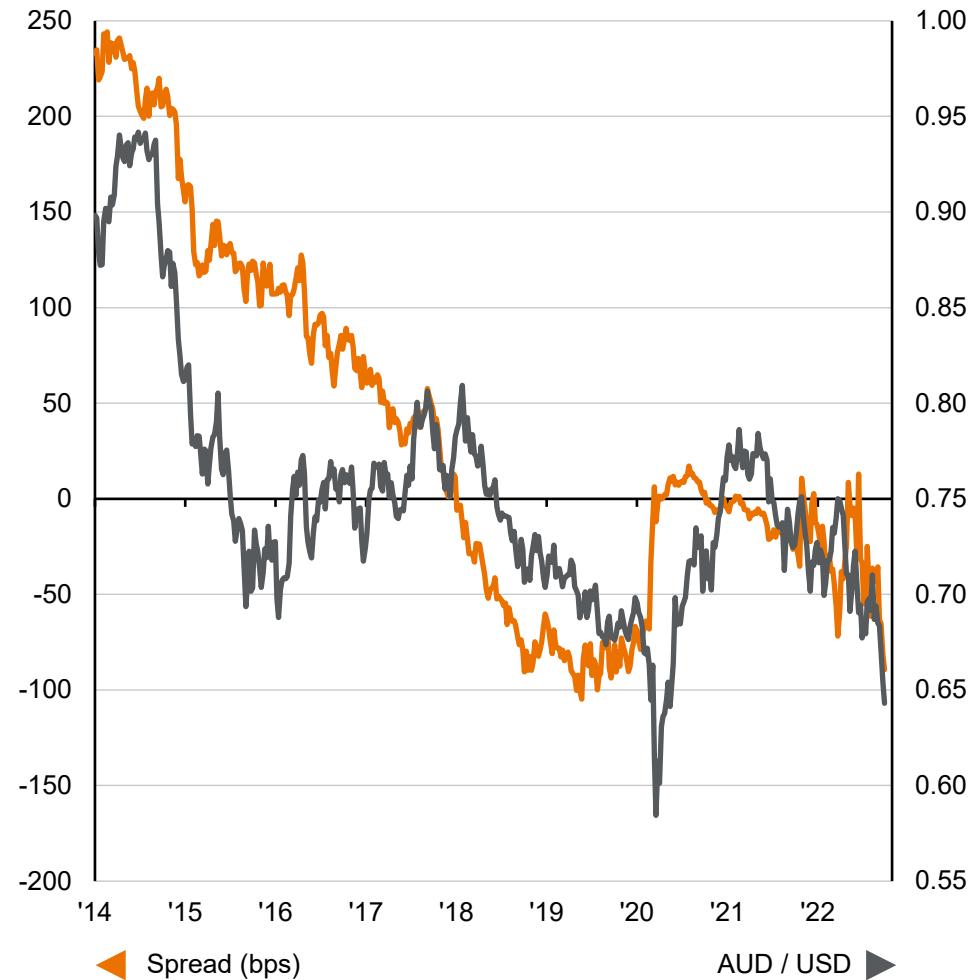
Iron ore price and FX

USD per MT, iron ore 62% Fe



Short rates and FX

2-year U.S. / Australia bond yield difference, basis points



Source: FactSet, WM/Reuters, J.P. Morgan Asset Management; (Left) Commodity Research Bureau. Past performance is not a reliable indicator of current and future results.

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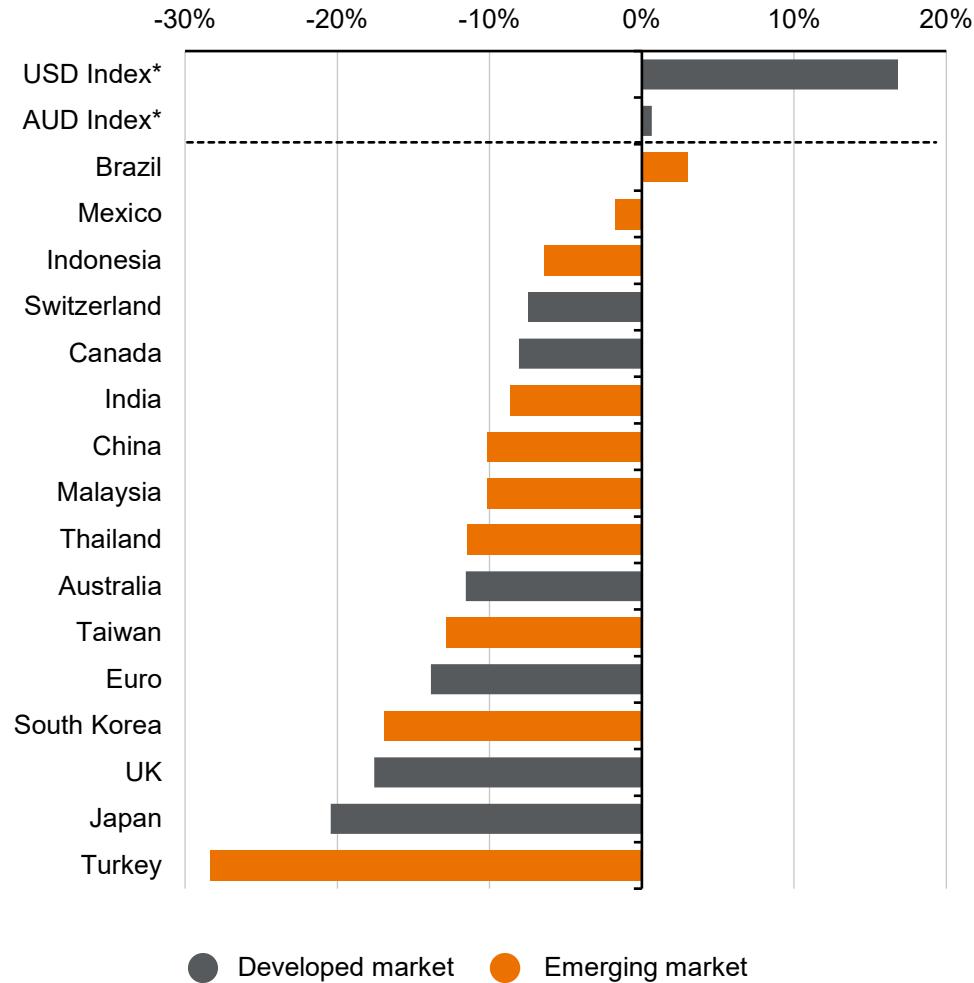


Global currencies

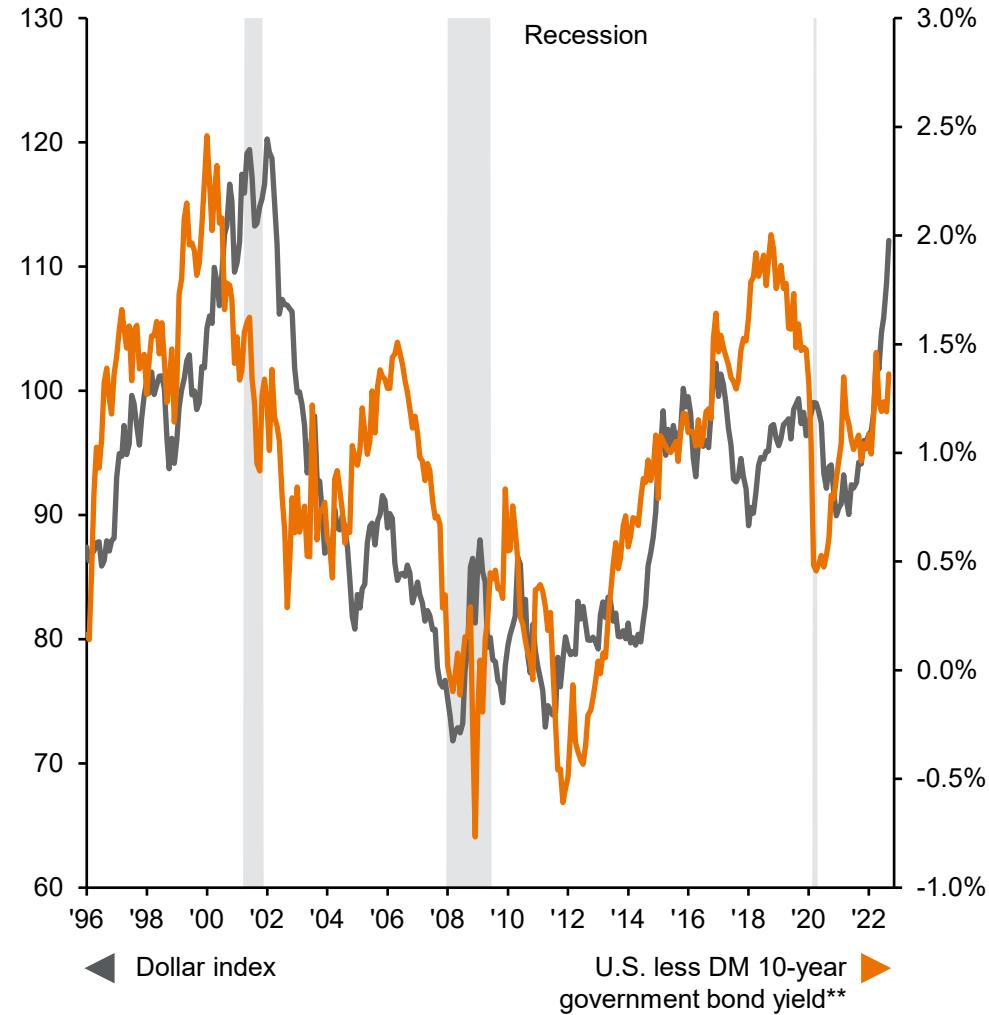
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Currency movements

YTD, vs USD



U.S. dollar index and interest rates differential



Source: FactSet, WM/Reuters, J.P. Morgan Asset Management; (Left) Reserve Bank of Australia; (Right) OECD.

*USD and AUD Index shows performance vs a basket of trading partners. **DM is developed markets and the yield is a GDP-weighted average of the 10-year government bond yields of Australia, Canada, France, Germany, Italy, Japan, Switzerland and the UK. Past performance is not a reliable indicator of current and future results.

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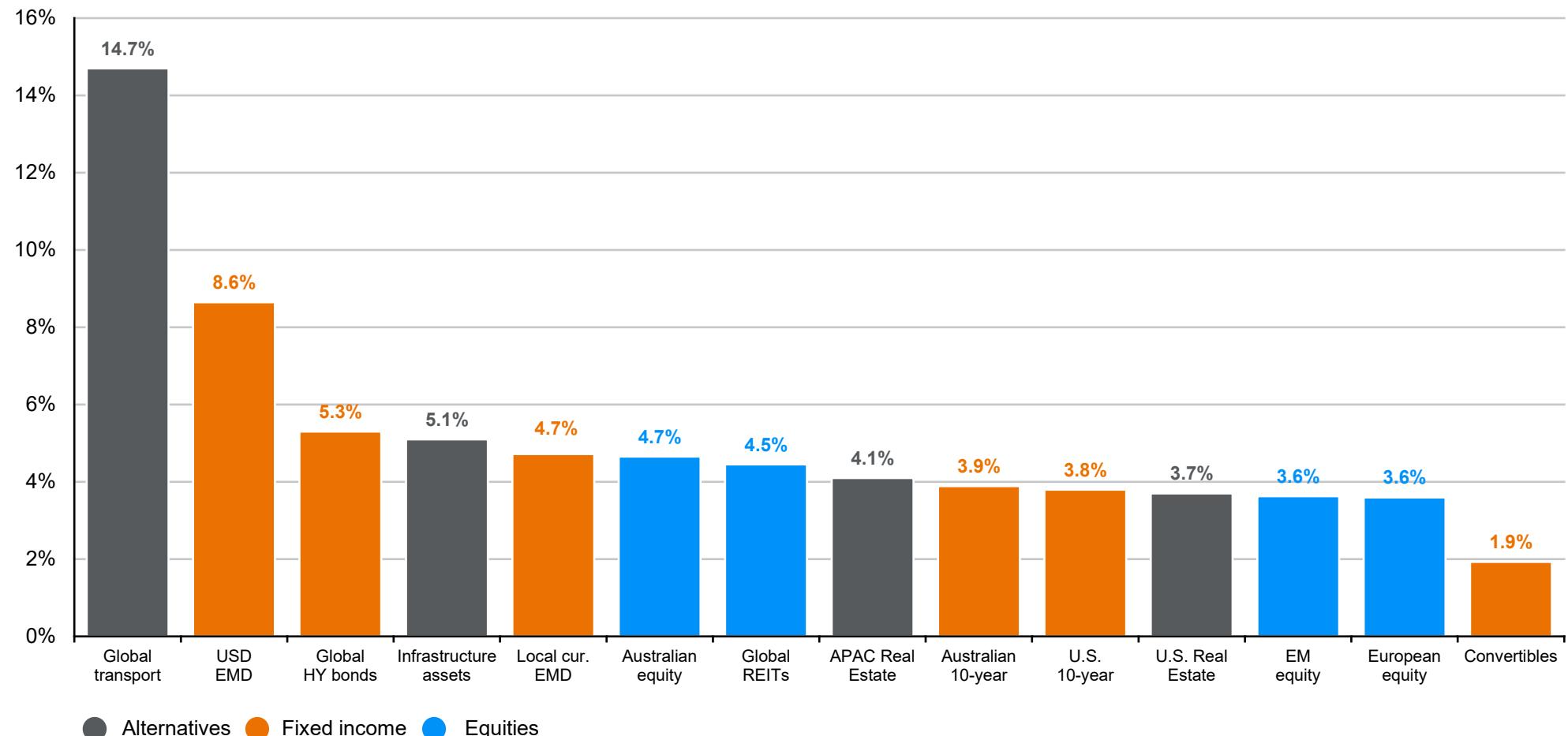


Alternative sources of income

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Asset class yields

Other asset classes



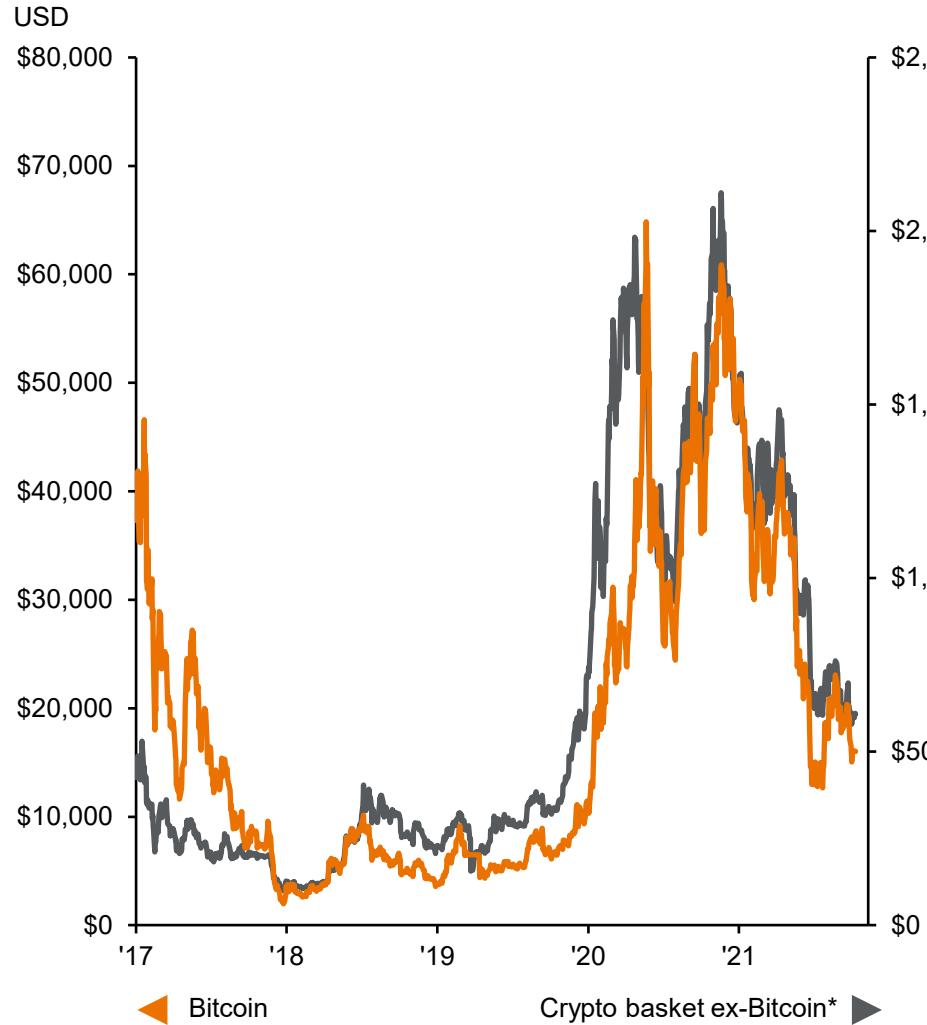
Source: Alerian, Bank of America, Bloomberg Finance L.P., Clarkson, Drewry Maritime Consultants, FactSet, Federal Reserve, FTSE, MSCI, NCREIF, Standard & Poor's, J.P. Morgan Asset Management. *Global transport*: Levered yields for transport assets are calculated as the difference between charter rates (rental income), operating expenses, debt amortisation and interest expenses, as a percentage of equity value. Asset classes are based on NCREIF ODCE (*Private real estate*), FTSE NAREIT Global/USA REITs (*Global REITs*), MSCI Global Infrastructure Asset Index (*Infrastructure assets*), MSCI Global Property Fund Index – North America (*U.S. Real Estate*), MSCI Global Property Fund Index – Asia-Pacific (*APAC real estate*), Global Bloomberg Barclays U.S Convertibles Composite (*Convertibles*), Bloomberg Barclays Global High Yield Index (*Global HY bonds*), J.P. Morgan Government Bond Index EM Global (GBI-EM) (*Local currency EMD*), J.P. Morgan Emerging Market Bond Index Global (EMBIG) (*USD EMD*), MSCI Emerging Markets (*EM equity*), MSCI Europe (*European equity*), MSCI USA (*U.S. equity*), ASX 200 (*Australian equity*). Transport and real estate yield is as of 30/06/22, infrastructure as of 31/03/22. Past performance is not a reliable indicator of current and future results.
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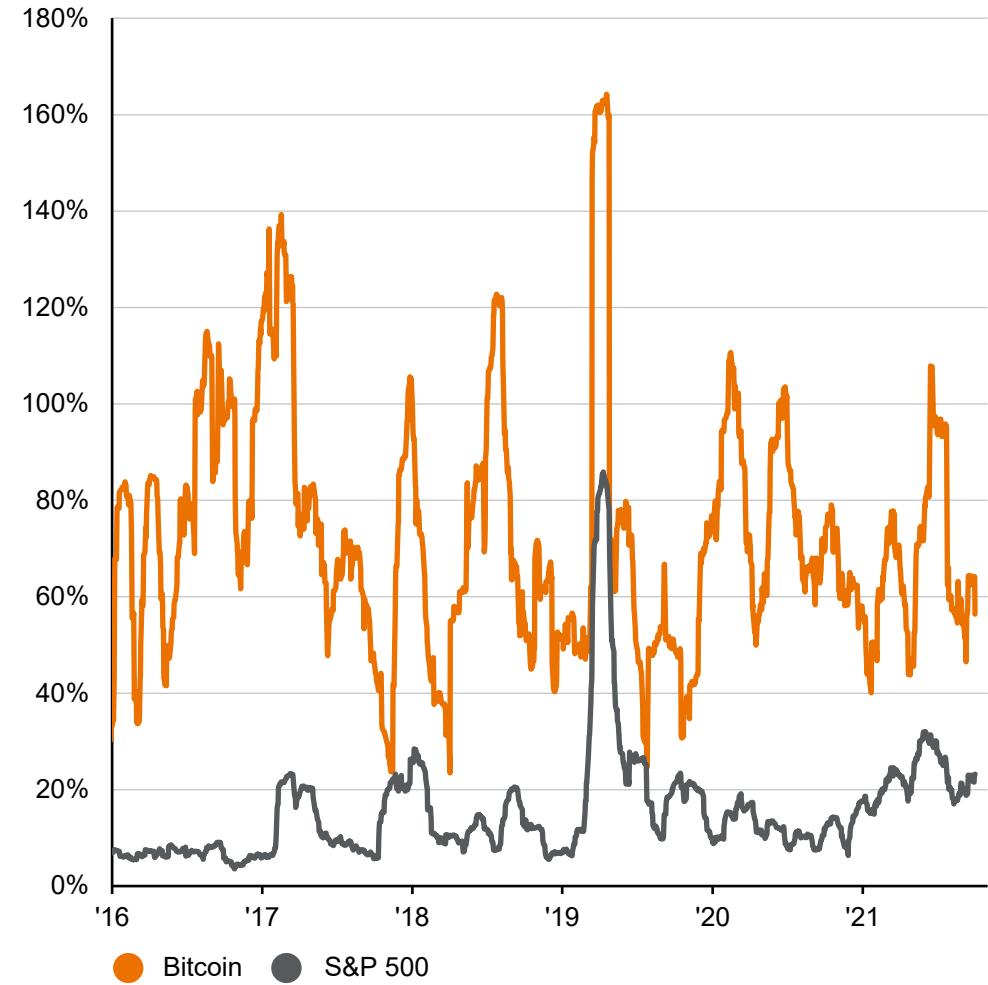
Crypto currencies

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Bitcoin and other crypto currency prices



30-day realised volatility



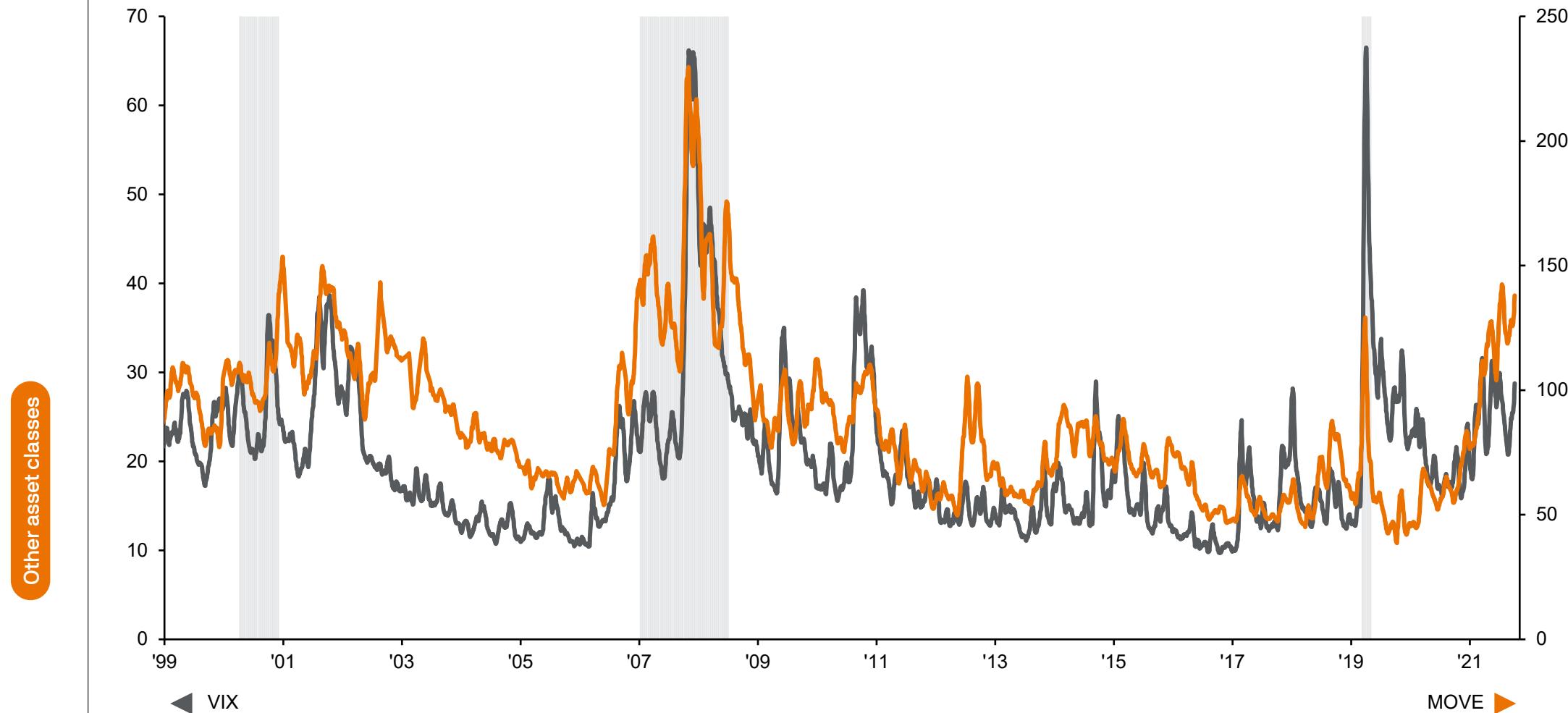
Source: Coinbase, FactSet, Standard & Poor's, J.P. Morgan Asset Management. *Equal weighted basket of Ethereum, Litecoin and Bitcoin Cash. Past performance is not a reliable indicator of current and future results.
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Volatility

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Equity and bond market volatility



Source: CBOE, FactSet, ICE BofAML, J.P. Morgan Asset Management.

The VIX-CBOE Volatility Index measures market expectations of near-term volatility conveyed by S&P 500 Index (SPX) option prices. The MOVE index measures the volatility in U.S. Treasury yields across different maturities.

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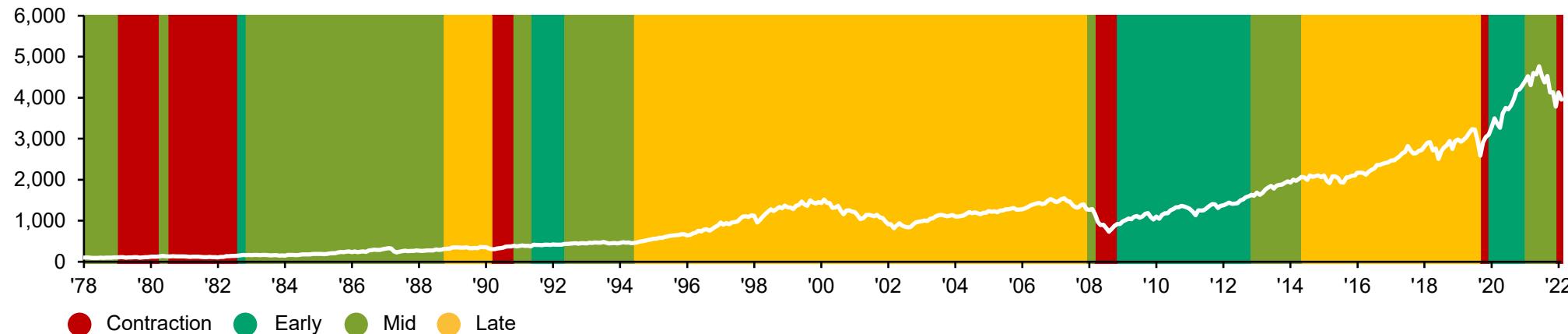
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The economic cycle and asset performance

GTM | AUS | 71

S&P 500 Index across different phases of the U.S. economic cycle



Annualised returns by stage of cycle

Annualised Returns	U.S. Equities	Australian Equities	EMU Equities	UK Equities	Japanese Equities	AxJ Equities	Chinese Equities	EM Equities	U.S. MBS	U.S. IG	U.S. HY	European IG	European HY	EM Sovereign Debt	U.S. 10Y Treasury
Contraction	(17.2%)	(24.1%)	(26.1%)	(20.0%)	(16.6%)	0.1%	6.6%	(3.7%)	(2.0%)	(10.2%)	(12.9%)	(7.8%)	(9.9%)	(14.2%)	6.7%
Early Cycle	21.3%	14.3%	13.1%	14.9%	12.4%	13.6%	8.3%	13.0%	2.4%	6.2%	13.1%	4.7%	13.5%	8.0%	4.2%
Mid Cycle	5.9%	8.6%	6.9%	8.0%	9.4%	(6.7%)	(13.6%)	(7.6%)	2.9%	1.3%	4.1%	0.8%	(0.3%)	(1.5%)	(1.1%)
Late Cycle	10.7%	10.3%	9.6%	7.4%	2.6%	11.1%	9.3%	13.6%	1.3%	0.7%	1.7%	1.2%	1.8%	4.5%	5.9%
Full Period	10.5%	8.9%	8.0%	7.5%	3.7%	8.9%	6.4%	9.8%	1.6%	1.2%	3.3%	1.4%	3.5%	3.4%	4.5%

Source: Bloomberg L.P., J.P. Morgan Asset Management.

Regime analysis inception date: 31/01/78. Economic cycle defined using - Core PCE Inflation, Private sector financial balance as a % of GDP, Consumer confidence, ISM manufacturing new orders, Unemployment rate, OECD composite leading indicator. Latest data as of 31/05/22. Monthly return analysis inception date: 31/01/93 for all assets except for Asia ex-Japan Equities and EM Equities (start date: 31/01/01), EM Sovereign Debt (start date: 28/02/02), European IG (start date: 31/07/98), European HY (start date: 26/02/99).

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Asset class returns (AUD)

GTM | AUS | 72

15 years '07-'21

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	YTD	3Q '22	Ann.	Vol.
EM equity 25.5%	Global Fl 32.0%	EM equity 38.8%	Aus. Fl 6.0%	Aus. Fl 11.4%	REITs 32.2%	DM equity 47.8%	REITs 27.3%	REITs 14.0%	REITs 13.9%	EM equity 27.5%	Global Fl 9.8%	DM equity 28.6%	EM equity 8.1%	DM equity 29.9%	Cash 0.5%	DM equity 0.4%	DM equity 8.6%	REITs 20.4%
Aus. equity 16.1%	Aus. Fl 14.9%	Aus. equity 37.0%	Cash 4.7%	Global Fl 5.6%	Aus. equity 20.3%	Aus. equity 20.2%	DM equity 15.3%	DM equity 12.1%	EM equity 12.1%	DM equity 13.9%	REITs 5.7%	Aus. equity 23.4%	DM equity 6.1%	REITs 18.5%	Global Fl -9.4%	Cash 0.4%	Aus. equity 6.2%	Aus. equity 14.3%
Cash 6.8%	Cash 7.6%	Port. 12.6%	EM equity 4.6%	Cash 5.0%	EM equity 17.1%	Port. 16.2%	Port. 10.8%	Global Fl 8.9%	Aus. equity 11.8%	Aus. equity 11.8%	Aus. Fl 4.5%	EM equity 19.1%	Aus. Fl 4.5%	Aus. equity 17.2%	Aus. equity -9.6%	Aus. equity 0.4%	Port. 5.7%	EM equity 12.9%
Port. 6.6%	Port. -15.6%	Cash 3.5%	Port. 1.7%	Port. -1.8%	DM equity 15.1%	EM equity 13.4%	Global Fl 10.0%	Port. 5.1%	DM equity 8.7%	Port. 9.2%	DM equity 2.0%	REITs 18.9%	Port. 1.5%	Port. 10.4%	Aus. Fl -10.0%	Global Fl -0.5%	EM equity 5.4%	DM equity 11.7%
Aus. Fl 3.5%	DM equity -24.9%	REITs 3.3%	Aus. equity 1.6%	REITs -2.0%	Port. 14.7%	Global Fl 13.0%	Aus. Fl 9.8%	Aus. Fl 2.6%	Port. 7.9%	REITs 5.1%	Cash 1.9%	Port. 16.5%	Aus. equity 1.4%	EM equity 3.8%	Port. -12.0%	Aus. Fl -0.6%	Aus. Fl 5.2%	Port. 10.0%
DM equity -1.6%	Aus. equity -38.4%	Aus. Fl 1.7%	REITs 0.4%	DM equity -5.0%	Aus. Fl 7.7%	REITs 6.6%	EM equity 7.3%	Aus. equity 2.6%	Aus. Fl 2.9%	Aus. Fl 3.7%	Port. 1.9%	Aus. Fl 7.3%	Cash 0.4%	Global Fl 1.1%	DM equity -15.3%	Port. -1.1%	Global Fl 3.9%	Global Fl 5.4%
Global Fl -1.7%	EM equity -41.0%	DM equity 1.4%	DM equity -1.4%	Aus. equity -10.5%	Cash 4.0%	Cash 2.9%	Aus. equity 5.6%	Cash 2.3%	Global Fl 2.6%	Cash 1.7%	Aus. equity -2.8%	Global Fl 7.0%	Global Fl -0.5%	Cash 0.0%	EM equity -17.3%	EM equity -5.3%	Cash 2.7%	Aus. Fl 3.2%
REITs -7.7%	REITs -55.2%	Global Fl -17.1%	Global Fl -7.4%	EM equity -18.2%	Global Fl 3.0%	Aus. Fl 2.0%	Cash 2.7%	EM equity -3.9%	Cash 2.1%	Global Fl -0.6%	EM equity -4.7%	Cash 1.5%	REITs -17.1%	Aus. Fl -2.9%	REITs -21.2%	REITs -5.4%	REITs 1.6%	Cash 0.6%

Source: Bloomberg Finance L.P., FactSet, FTSE, J.P. Morgan, MSCI, Standard & Poor's, J.P. Morgan Asset Management. Annualised return (Ann.) and volatility (Vol.) covers the period 2004 to 2018. EM equity: MSCI Emerging Markets; Australian Fl: Bloomberg AusBond Composite (0+Y); Global Fl: Barclays Global Aggregate; DM equity: MSCI World; Aus. equity: ASX 200 Index; REITs: FTSE EPRA/NAREIT Australia; Cash: Bloomberg AusBond Bank Bill Index. Portfolio is hypothetical portfolio (for illustration purposes only and should not be taken as a recommendation): 15% DM equities; 10% EM equities; 25% Australian equities; 25% Australian Fl; 10% Global Fl; 5% Cash and 10% REITs. Returns are unhedged, total return, in Australian dollars. Past performance is not a reliable indicator of current and future results.

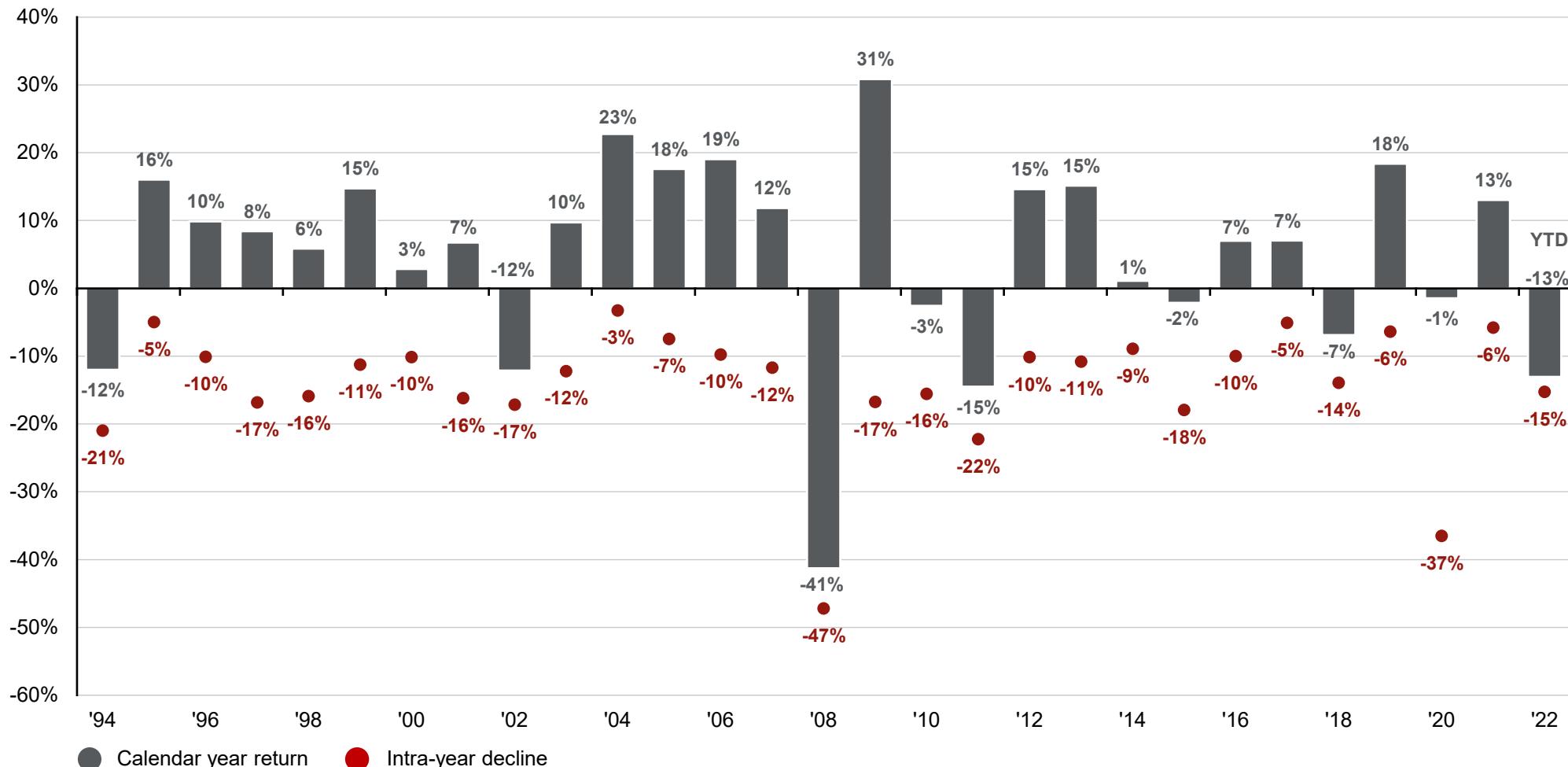


Annual equity returns and intra-year declines

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ASX 200 Index intra-year declines vs. calendar year returns

Despite average intra-year drops of 13.9% (median 11.3%), annual returns are positive in 20 out of 28 years





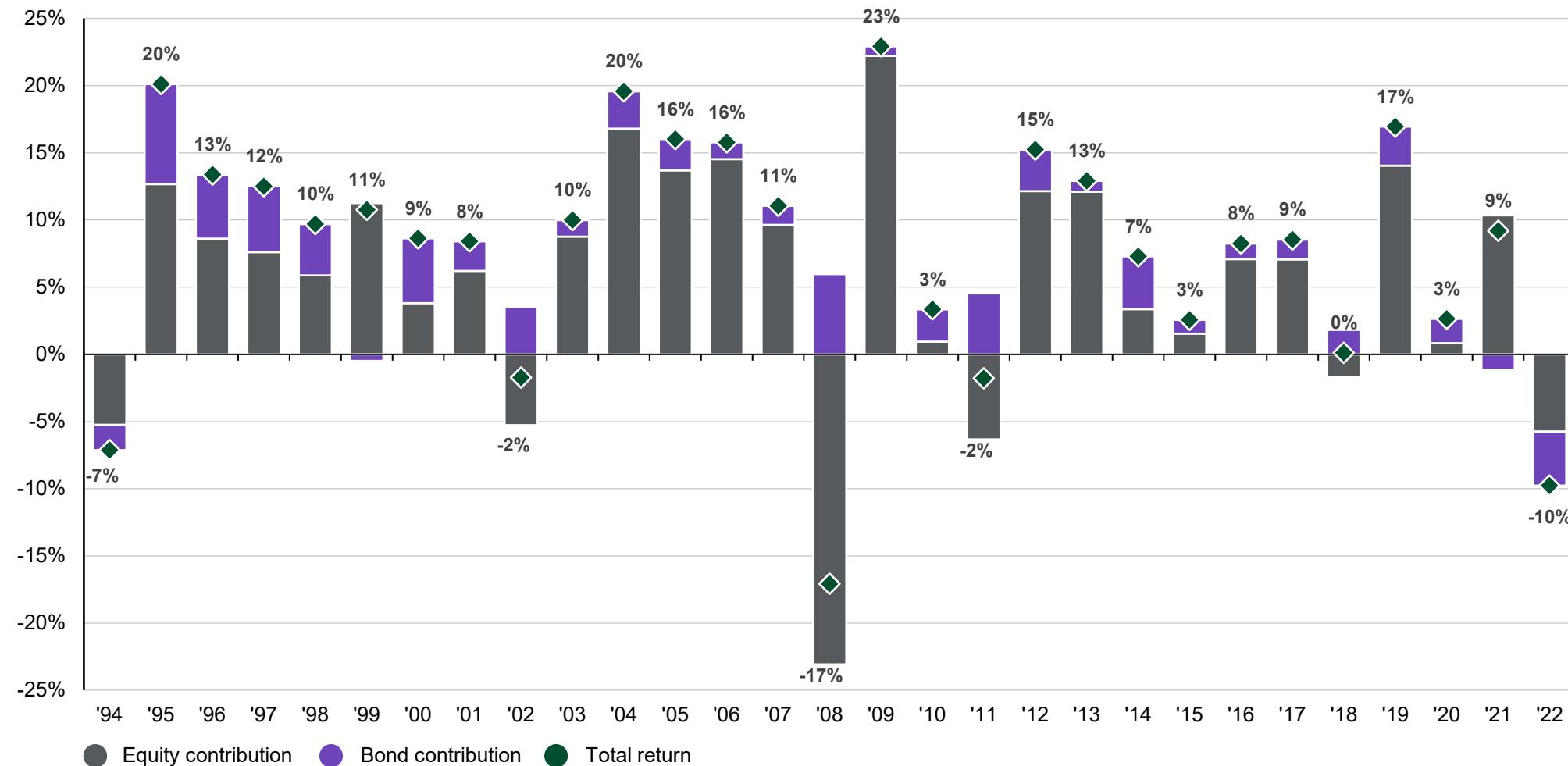
Portfolio returns and stock-bond contribution

GTM | AUS | 74

Investing principles

Annual returns on a 60/40 stock-bond portfolio

ASX 200 and AusBond Composite, total returns



Source: Bloomberg Finance L.P., Standard & Poor's, J.P. Morgan Asset Management. Total returns based on 60% allocation to ASX 200 Index and 40% in the AusBond Composite Index reweighted annually.

Guide to the Markets – Australia. Data as of 30 September 2022.

J.P.Morgan
ASSET MANAGEMENT

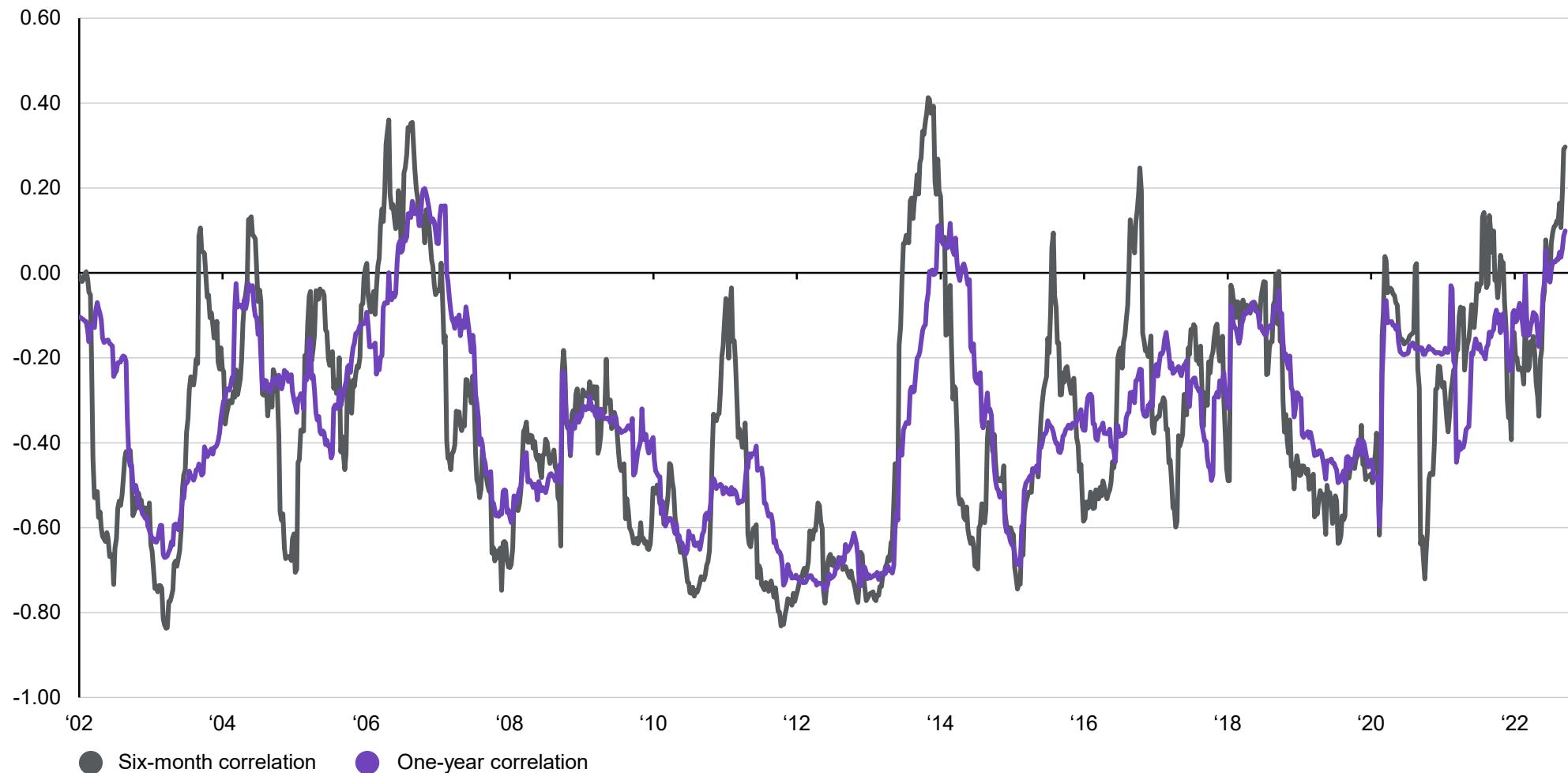


Stock-bond correlation

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Correlations between stocks and sovereign bonds

Weekly rolling correlation of U.S. equities and U.S. Treasuries



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

Rolling six-month and one-year correlations between weekly returns in the S&P 500 Index and the Bloomberg Barclays U.S. Aggregate Government Treasuries Index.

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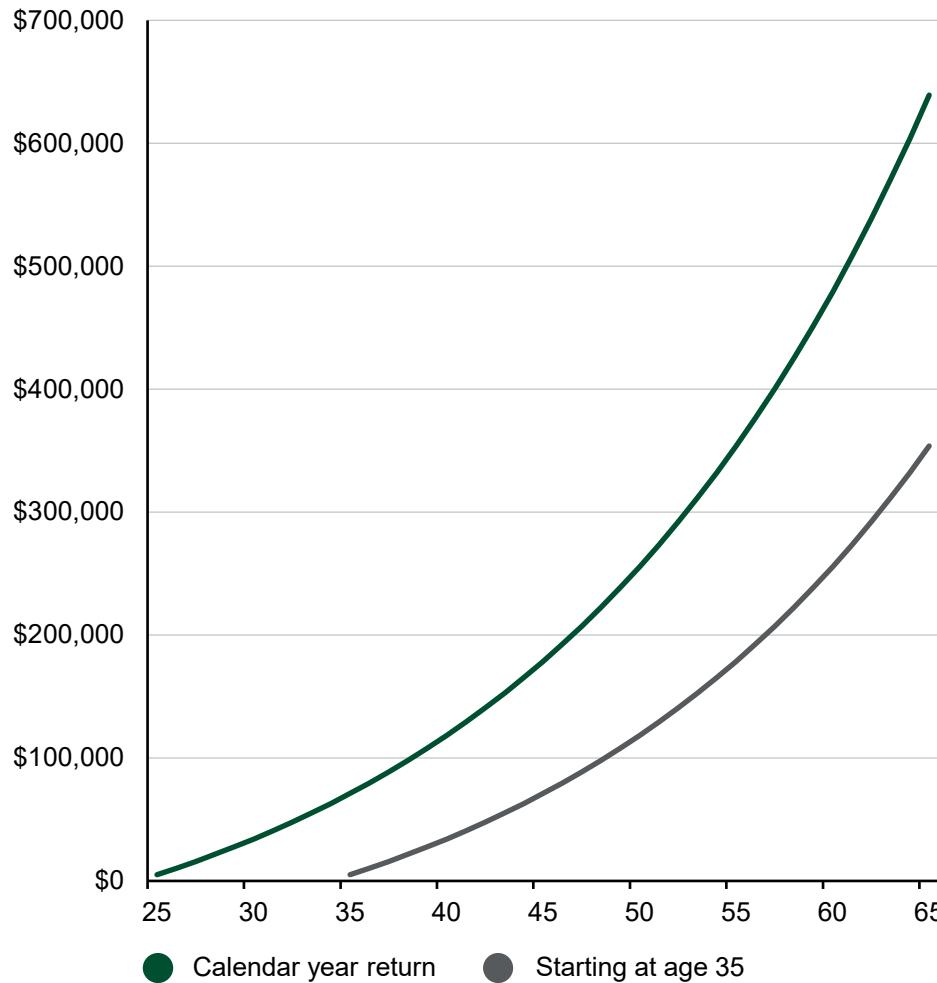


The power of compounding

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Investing principles

\$5,000 invested annually with 5% growth per year



One-off \$5,000 investment with/without income reinvested

AUD, MSCI Australia returns



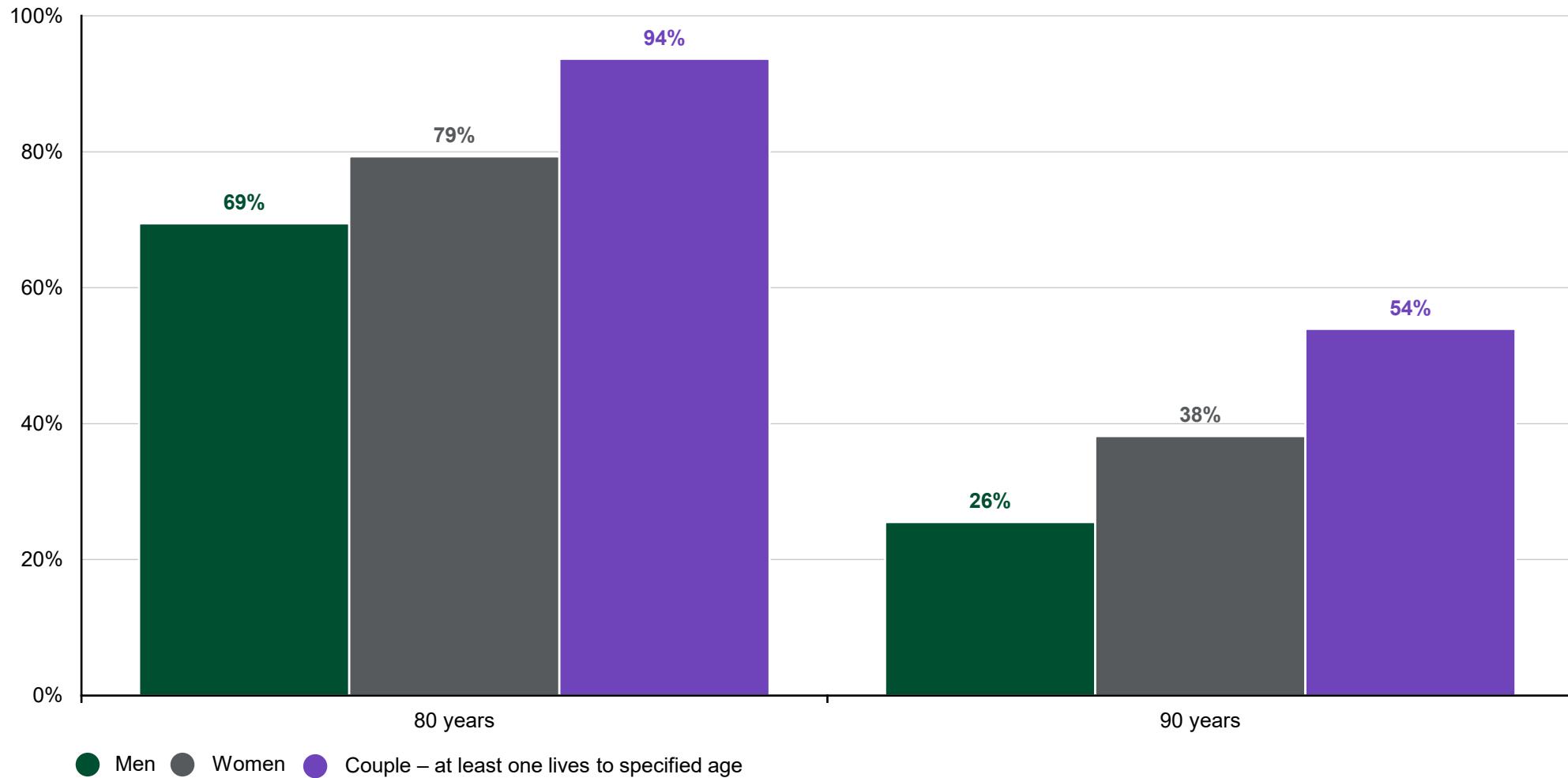
Source: FactSet, MSCI, J.P. Morgan Asset Management. Past performance is not a reliable indicator of current and future results.
Guide to the Markets – Australia. Data as of 30 September 2022.



Life expectancy

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Probability of reaching ages 80 and 90
Persons aged 65, by gender, and combined by couple



Source: ABS Life Tables, J.P. Morgan Asset Management.
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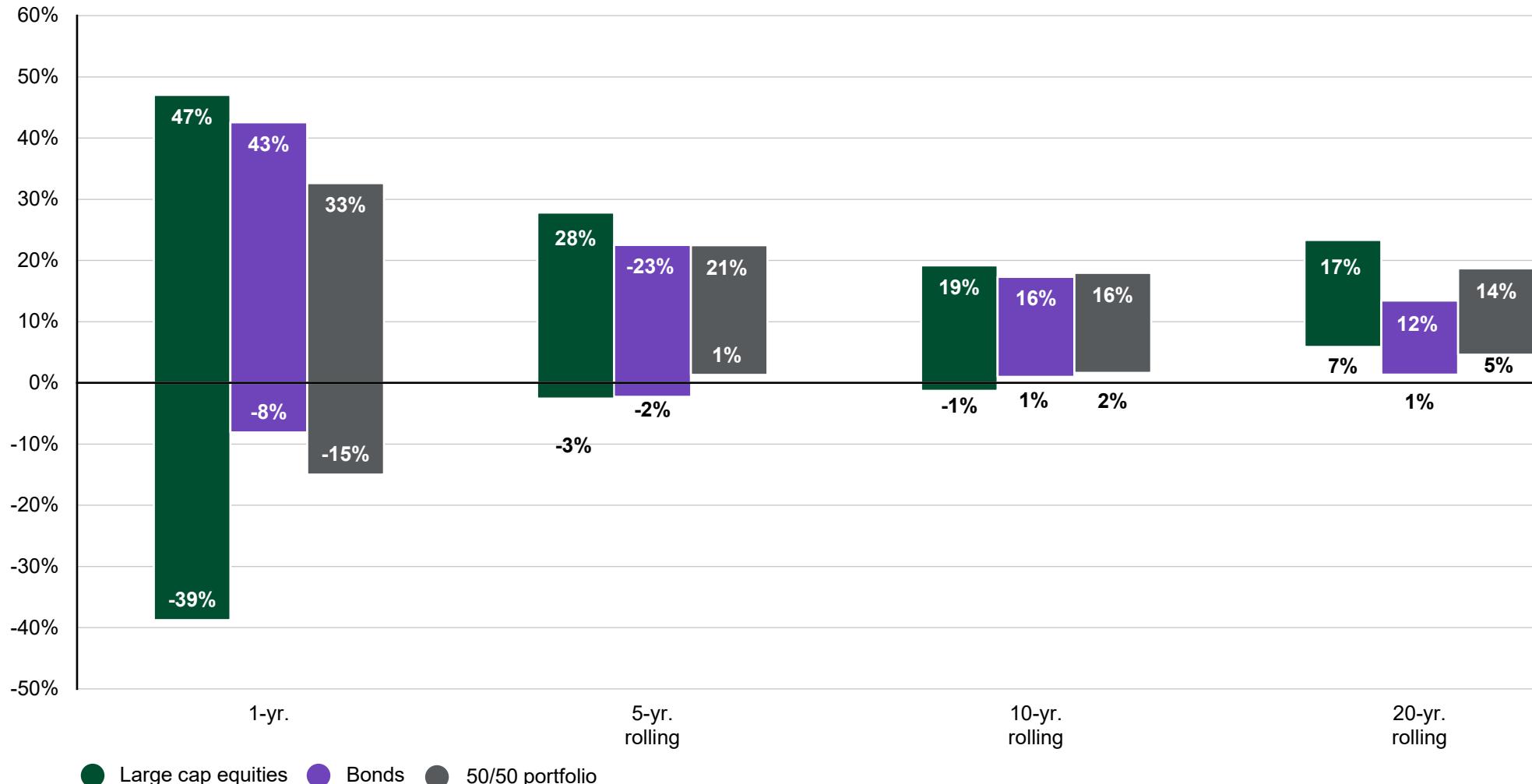


Time, diversification and the volatility of returns

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Range of equity, bond and blended total returns

Annual total returns, 1950-2021



Source: Barclays, FactSet, Robert Shiller, Strategas/Ibbotson, U.S. Federal Reserve, J.P. Morgan Asset Management. Returns shown are based on calendar year returns from 1950 to 2018. Large cap equity represents the S&P 500 Shiller Composite and bonds represents the Strategas/Ibbotson for periods from 1950 to 1980 and the Barclays Aggregate after index inception in 1980. Past performance is not a reliable indicator of current and future results.

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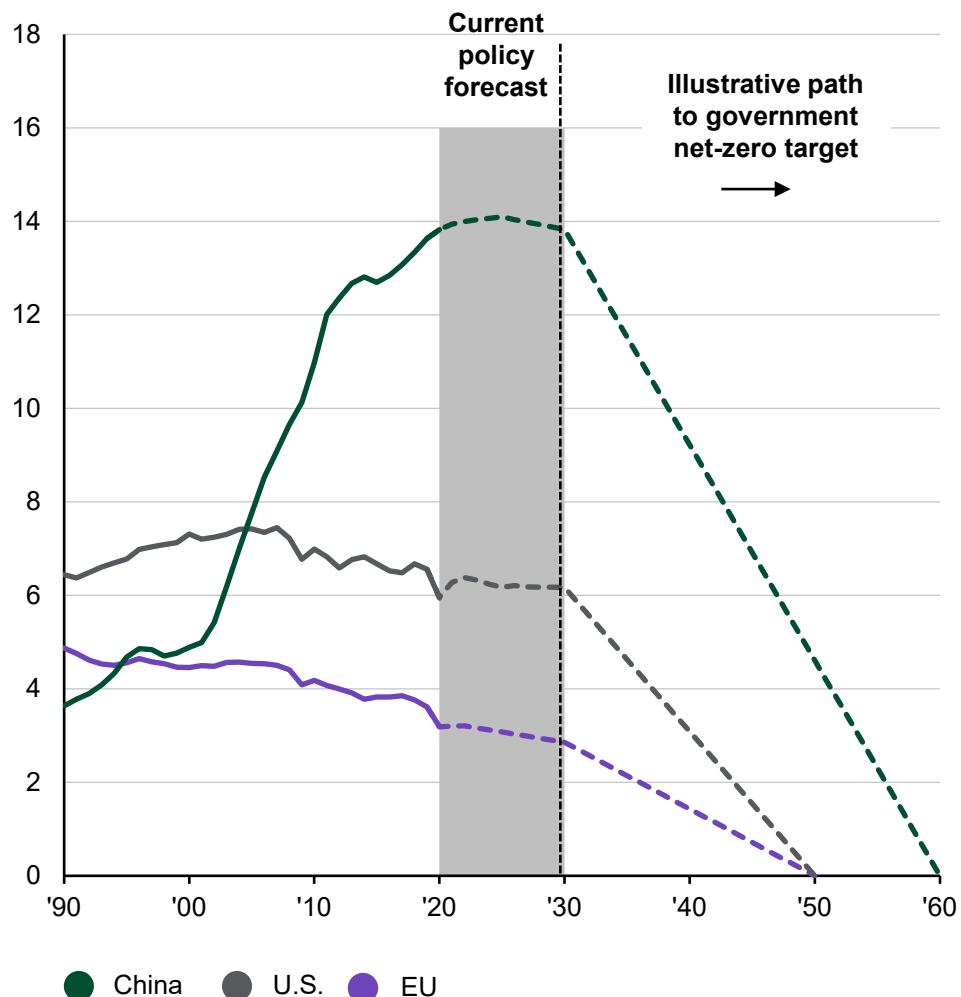


Emission targets and the global energy mix

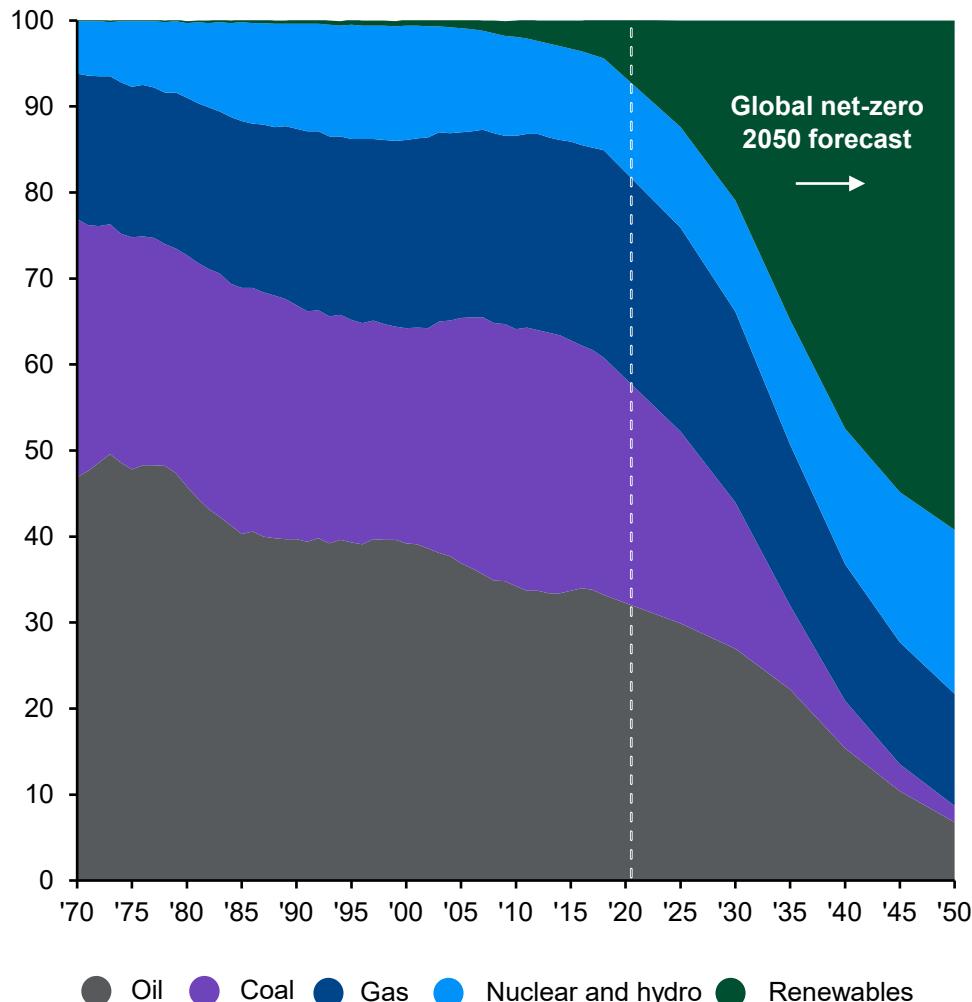
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Investing principles

Emissions targets
Billion tons/year, CO₂ equivalent



Global energy mix
% of primary energy



Source: J.P. Morgan Asset Management; (Left) Climate Action Tracker. Current policy forecast is the post-COVID-19 forecast provided by Climate Action Tracker. (Right) BP Energy Outlook 2020. Forecast is based on BP's scenario for global net-zero emissions by 2050.
Guide to the Markets – Australia. Data as of 30 September 2022.

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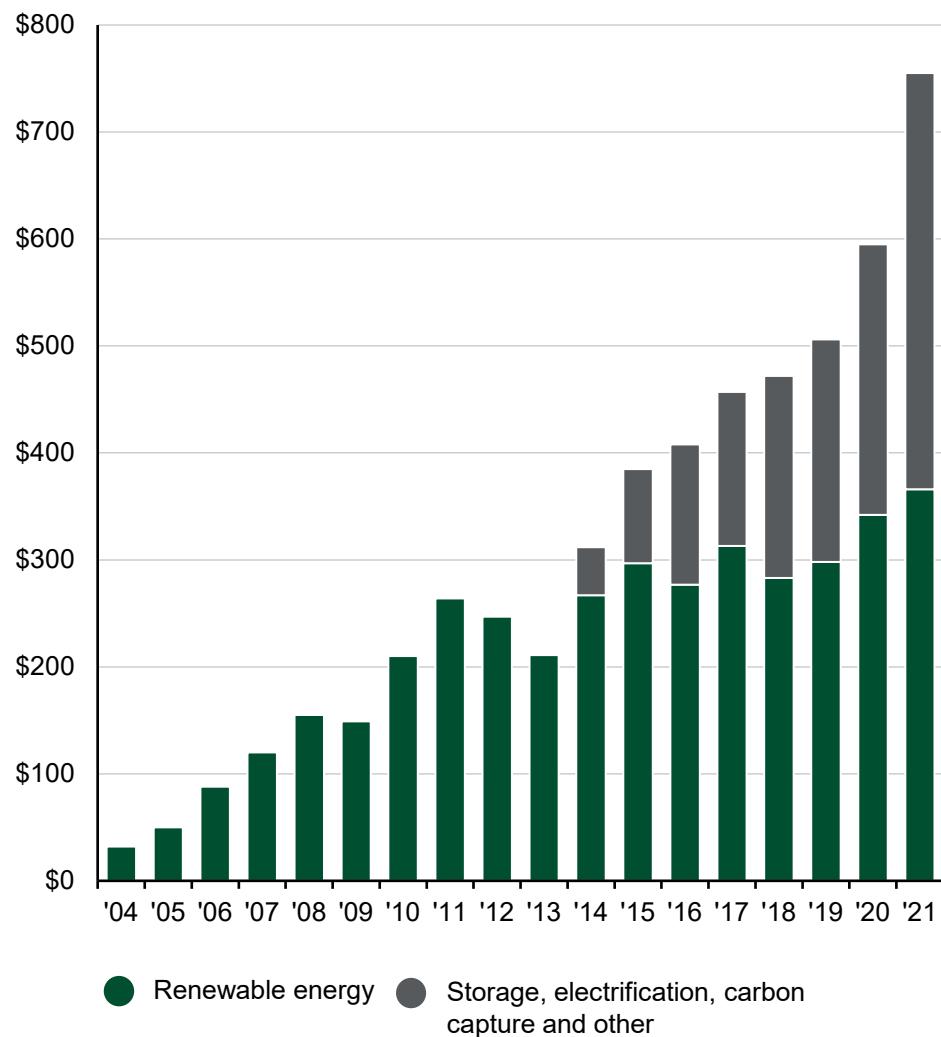
Investment in sustainable energy

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Investing principles

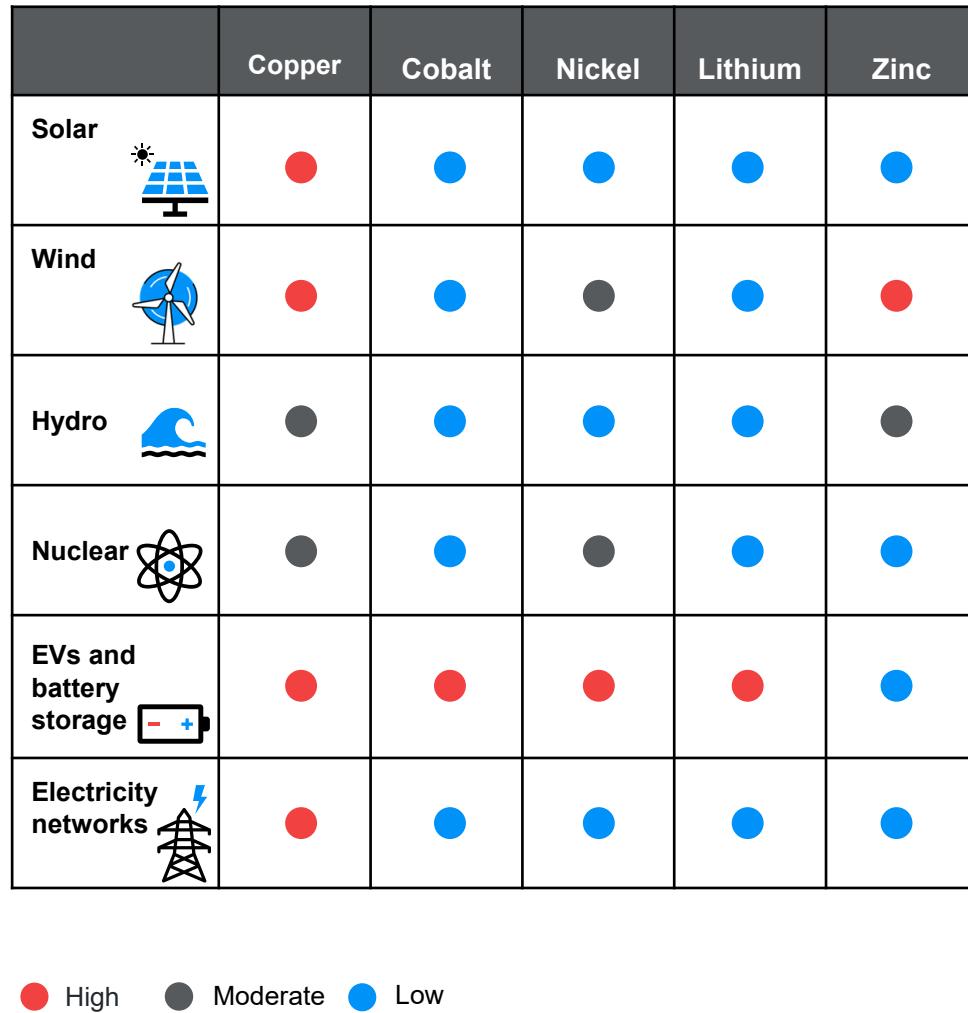
Global investments in energy transition

Billions USD



Commodity use in low-carbon energy production

Relative importance of commodities



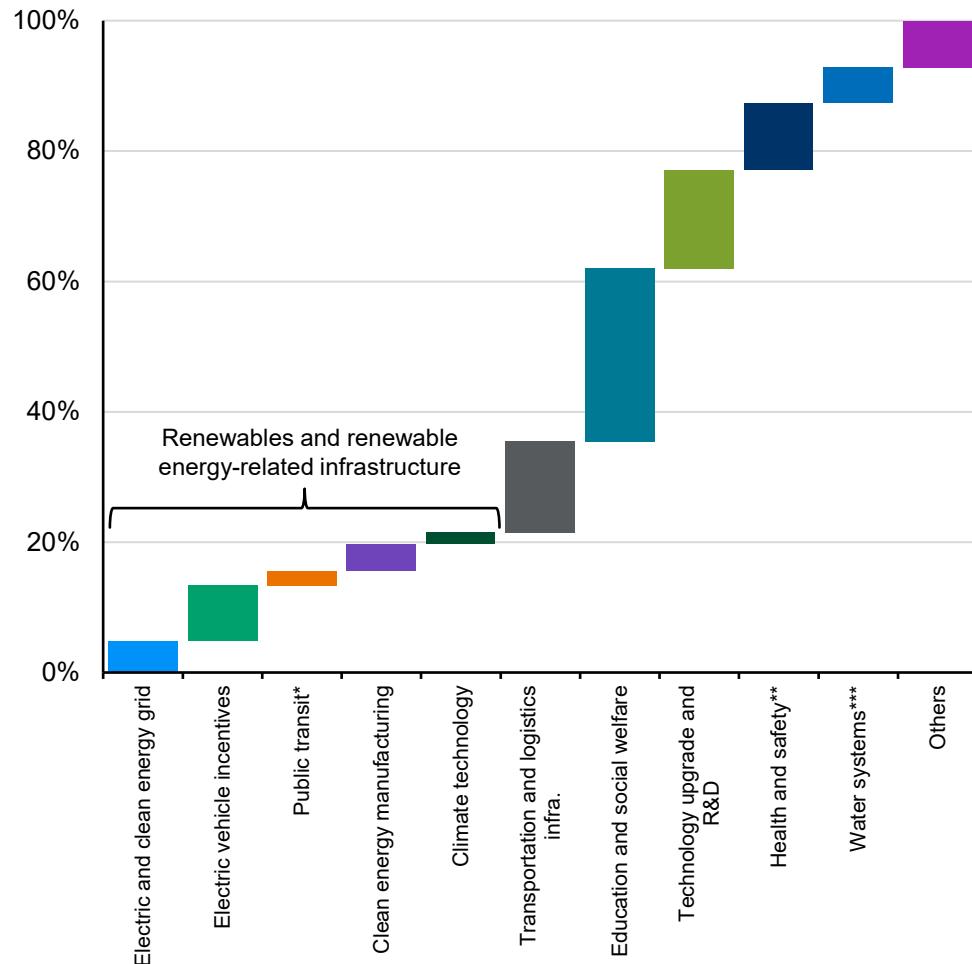
Source: J.P. Morgan Asset Management; (Left) Bloomberg LP; (Right) International Energy Agency. Based on report "The role of critical minerals in clean energy transitions." Past performance is not a reliable indicator of current and future results.
Guide to the Markets – Australia. Data as of 30 September 2022.

Green infrastructure spending

Investing principles

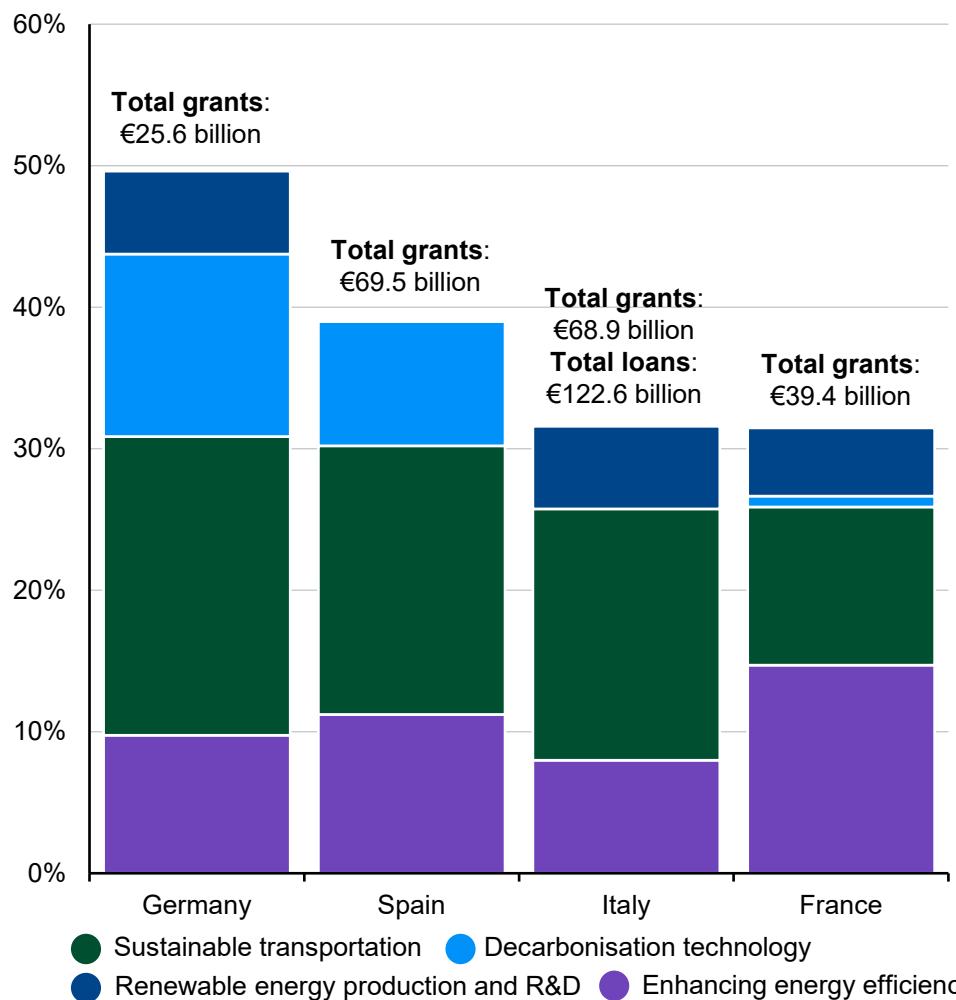
U.S. proposed spending

Share of USD 2 trillion infrastructure package



Eurozone proposed spending

Percentage of MMF**** and NextGenerationEU***** spending package



Source: J.P. Morgan Asset Management; (Left) The White House; (Right) European Commission. *Public transit spending includes the modernisation of existing public transport infrastructure and electrification of bus fleets. **Health and safety spending includes enhancing natural disaster resilience, improving road safety and improving pandemic preparedness. ***Water systems spending on drinking water and wastewater infrastructure and replacing lead pipes. ****MMF stands for the Multiannual Financial Framework, the European Union's long-term budget plan running from 2021 to 2027. *****NextGenerationEU is a fiscal recovery package established to help repair economic and social damage brought by the COVID-19 pandemic.

J.P. Morgan Asset Management – Index Definitions

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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 S&P 400 Mid Cap Index is representative of 400 stocks in the mid-range sector of the domestic stock market, representing all major industries.

The Russell 3000 Index® measures the performance of the 3,000 largest U.S. companies based on total market capitalization.

The Russell 1000 Index ® measures the performance of the 1,000 largest companies in the Russell 3000.

The Russell 1000 Growth Index ® measures the performance of those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values.

The Russell 1000 Value Index ® measures the performance of those Russell 1000 companies with lower price-to-book ratios and lower forecasted growth values.

The Russell Midcap Index ® measures the performance of the 800 smallest companies in the Russell 1000 Index.

The Russell Midcap Growth Index ® measures the performance of those Russell Midcap companies with higher price-to-book ratios and higher forecasted growth values. The stocks are also members of the Russell 1000 Growth index.

The Russell Midcap Value Index ® measures the performance of those Russell Midcap companies with lower price-to-book ratios and lower forecasted growth values. The stocks are also members of the Russell 1000 Value index.

The Russell 2000 Index ® measures the performance of the 2,000 smallest companies in the Russell 3000 Index.

The Russell 2000 Growth Index ® measures the performance of those Russell 2000 companies with higher price-to-book ratios and higher forecasted growth values.

The Russell 2000 Value Index ® measures the performance of those Russell 2000 companies with lower price-to-book ratios and lower forecasted growth values.

The Russell Top 200 Index ® measures the performance of the largest cap segment of the U.S. equity universe. It includes approximately 200 of the largest securities based on a combination of their market cap and current index membership and represents approximately 68% of the U.S. market.

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 market country 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 MSCI Small Cap IndicesSM target 40% of the eligible Small Cap universe within each industry group, within each country. MSCI defines the Small Cap universe as all listed securities that have a market capitalization in the range of USD200-1,500 million.

The MSCI Value and Growth IndicesSM cover the full range of developed, emerging and All Country MSCI Equity indexes. As of the close of May 30, 2003, MSCI implemented an enhanced methodology for the MSCI Global Value and Growth Indices, adopting a two dimensional framework for style segmentation in which value and growth securities are categorized using different attributes - three for value and five for growth including forward-looking variables. The objective of the index design is to divide constituents of an underlying MSCI Standard Country Index into a value index and a growth index, each targeting 50% of the free-float adjusted market capitalization of the underlying country index. Country Value/Growth indices are then aggregated into regional Value/Growth indices. Prior to May 30, 2003, the indices used Price/Book Value (P/BV) ratios to divide the standard MSCI country indices into value and growth indices. All securities were classified as either "value" securities (low P/BV securities) or "growth" securities (high P/BV securities), relative to each MSCI country index.

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 countries: Australia, Hong Kong, Japan, New Zealand, and Singapore.

Credit Suisse/Tremont Hedge Fund Index is compiled by Credit Suisse Tremont Index, LLC. It is an asset-weighted hedge fund index and includes only funds, as opposed to separate accounts. The Index uses the Credit Suisse/Tremont database, which tracks over 4500 funds, and consists only of funds with a minimum of US\$50 million under management, a 12-month track record, and audited financial statements. It is calculated and rebalanced on a monthly basis, and shown net of all performance fees and expenses. It is the exclusive property of Credit Suisse Tremont Index, LLC.

The NFI-ODCE, short for NCREF Fund Index - Open End Diversified Core Equity, is an index of investment returns reporting on both a historical and current basis the results of 33 open-end commingled funds pursuing a core investment strategy, some of which have performance histories dating back to the 1970s. The NFI-ODCE Index is capitalization-weighted and is reported gross of fees. Measurement is time-weighted.

The NAREIT EQUITY REIT Index is designed to provide the most comprehensive assessment of overall industry performance, and includes all tax-qualified real estate investment trusts (REITs) that are listed on the NYSE, the American Stock Exchange or the NASDAQ National Market List.

The Dow Jones Industrial Average measures the stock performance of 30 leading blue-chip U.S. companies.

The Bloomberg Commodity Index is composed of futures contracts on physical commodities and represents twenty two separate commodities traded on U.S. exchanges, with the exception of aluminum, nickel, and zinc.

J.P. Morgan Asset Management – Index Definitions

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

The S&P GSCI Index is a composite index of commodity sector returns representing an unleveraged, long-only investment in commodity futures that is broadly diversified across the spectrum of commodities. The returns are calculated on a fully collateralized basis with full reinvestment. Individual components qualify for inclusion in the index on the basis of liquidity and are weighted by their respective world production quantities.

The Barclays Capital U.S. Aggregate Index represents securities that are SEC-registered, taxable, and dollar denominated. The index covers the U.S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and asset-backed securities. These major sectors are subdivided into more specific indexes that are calculated and reported on a regular basis.

This U.S. Treasury Index is a component of the U.S. Government index.

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

The Barclays Capital 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-A's are also included.

The Barclays Capital 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 Barclays Capital General Obligation Bond Index is a component of the Barclays Capital Municipal Bond Index. To be included in the index, bonds must be general obligation bonds rated investment-grade (Baa3/BBB- or higher) by at least two of the following ratings agencies: Moody's, S&P, Fitch. If only two of the three agencies rate the security, the lower rating is used to determine index eligibility. If only one of the three agencies rates a security, the rating must be investment-grade. They must have an outstanding par value of at least \$7 million and be issued as part of a transaction of at least \$75 million. The bonds must be fixed rate, have a dated-date after December 31, 1990, and must be at least one year from their maturity date. Remarketed issues, taxable municipal bonds, bonds with floating rates, and derivatives, are excluded from the benchmark.

The Barclays Capital Revenue Bond Index is a component of the Barclays Capital Municipal Bond Index. To be included in the index, bonds must be revenue bonds rated investment-grade (Baa3/BBB- or higher) by at least two of the following ratings agencies: Moody's, S&P, Fitch. If only two of the three agencies rate the security, the lower rating is used to determine index eligibility. If only one of the three agencies rates a security, the rating must be investment-grade. They must have an outstanding par value of at least \$7 million and be issued as part of a transaction of at least \$75 million. The bonds must be fixed rate, have a dated-date after December 31, 1990, and must be at least one year from their maturity date. Remarketed issues, taxable municipal bonds, bonds with floating rates, and derivatives, are excluded from the benchmark.

The Barclays High Yield Municipal Index includes bonds rated Ba1 or lower or non-rated bonds using the middle rating of Moody's, S&P and Fitch.

The Barclays Capital Taxable Municipal Bond Index is a rules-based, market-value weighted index engineered for the long-term taxable bond market. To be included in the index, bonds must be rated investment-grade (Baa3/BBB- or higher) by at least two of the following ratings agencies if all three rate the bond: Moody's, S&P, Fitch. If only two of the three agencies rate the security, the lower rating is used to determine index eligibility. If only one of the three agencies rates a security, the rating must be investment-grade. They must have an outstanding par value of at least \$7 million and be issued as part of a transaction of at least \$75 million. The bonds must be fixed rate and must be at least one year from their maturity date. Remarketed issues (unless converted to fixed rate), bonds with floating rates, and derivatives, are excluded from the benchmark.

Municipal Bond Index: To be included in the index, bonds must be rated investment-grade (Baa3/BBB- or higher) by at least two of the following ratings agencies: Moody's, S&P, Fitch. If only two of the three agencies rate the security, the lower rating is used to determine index eligibility. If only one of the three agencies rates a security, the rating must be investment-grade. They must have an outstanding par value of at least \$7 million and be issued as part of a transaction of at least \$75 million. The bonds must be fixed rate, have a dated-date after December 31, 1990, and must be at least one year from their maturity date. Remarketed issues, taxable municipal bonds, bonds with floating rates, and derivatives are excluded from the benchmark.

The Barclays Capital Emerging Markets Index includes USD-denominated debt from emerging markets in the following regions: Americas, Europe, Middle East, Africa, and Asia. As with other fixed income benchmarks provided by Barclays Capital, the index is rules-based, which allows for an unbiased view of the marketplace and easy replicability.

The Barclays Capital MBS Index covers the mortgage-backed pass-through securities of Ginnie Mae, Fannie Mae, and Freddie Mac. Aggregate components must have a weighted average maturity of at least one year, must have \$250 million par amount outstanding, and must be fixed rate mortgages.

The Barclays Capital Corporate Bond Index is the Corporate component of the U.S. Credit index.

The Barclays Capital 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 Domestic High Yield Index is designed to mirror the investable universe of the U.S. dollar domestic high yield corporate debt market.

The CS/Tremont Equity Market Neutral Index takes both long and short positions in stocks with the aim of minimizing exposure to the systematic risk of the market (i.e., a beta of zero).

The CS/Tremont Multi-Strategy Index consists of funds that allocate capital based on perceived opportunities among several hedge fund strategies. Strategies adopted in a multi-strategy fund may include, but are not limited to, convertible bond arbitrage, equity long/short, statistical arbitrage and merger arbitrage.

The Barclays U.S. Dollar Floating Rate Note (FRN) Index provides a measure of the U.S. dollar denominated floating rate note market.

*Market Neutral returns for November 2008 are estimates by J.P. Morgan Funds Market Strategy, and are based on a December 8, 2008 published estimate for November returns by CS/Tremont in which the Market Neutral returns were estimated to be +0.85% (with 69% of all CS/Tremont constituents having reported return data). Presumed to be excluded from the November return are three funds, which were later marked to \$0 by CS/Tremont in connection with the Bernard Madoff scandal. J.P. Morgan Funds believes this distortion is not an accurate representation of returns in the category. CS/Tremont later published a finalized November return of -40.56% for the month, reflecting this mark-down. CS/Tremont assumes no responsibility for these estimates.

J.P. Morgan Asset Management – Definitions, Risks & Disclosures

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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 outside the U.S. can raise or lower returns. Also, some overseas markets may not be as politically and economically stable as the United States and other nations.

Investments in emerging markets can be more volatile. As mentioned above, the normal risks of investing in foreign countries 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.

Investing in alternative assets involves higher risks than traditional investments and is suitable only for sophisticated investors. Alternative investments involve greater risks than traditional investments and should not be deemed a complete investment program. They are not tax efficient and an investor should consult with his/her tax advisor prior to investing. Alternative investments have higher fees than traditional investments and they may also be highly leveraged and engage in speculative investment techniques, which can magnify the potential for investment loss or gain. The value of the investment may fall as well as rise and investors may get back less than they invested.

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.

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.

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. 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.

The HFRI Monthly Indices (HFRI) are equally weighted performance indexes, utilized by numerous hedge fund managers as a benchmark for their own hedge funds. The HFRI are broken down into 4 main strategies, each with multiple substrategies. All single-manager HFRI Index constituents are included in the HFRI Fund Weighted Composite, which accounts for over 2200 funds listed on the internal HFR Database.

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Distressed Restructuring Strategies employ an investment process focused on corporate fixed income instruments, primarily on corporate credit instruments of companies trading at significant discounts to their value at issuance or obliged (par value) at maturity as a result of either formal bankruptcy proceeding or financial market perception of near term proceedings.

Merger Arbitrage Strategies which employ an investment process primarily focused on opportunities in equity and equity related instruments of companies which are currently engaged in a corporate transaction.

Global Macro Strategies trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency and commodity markets.

Relative Value Strategies maintain positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities.

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Unless otherwise stated, all data are as of 30 September 2022 or most recently available.

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