



Guide to the Markets[®]

Latin America | 1Q 2024
As of December 31, 2023





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GTM LATAM 4

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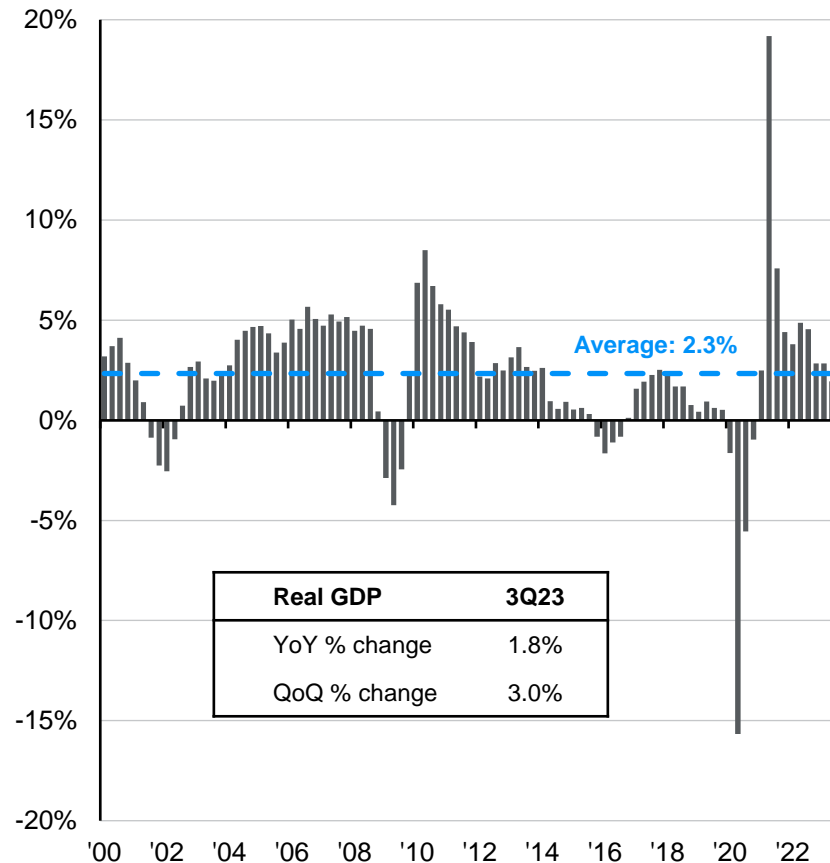


Latin America: Economic growth, inflation and real rates

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Real GDP

Year-over-year % change



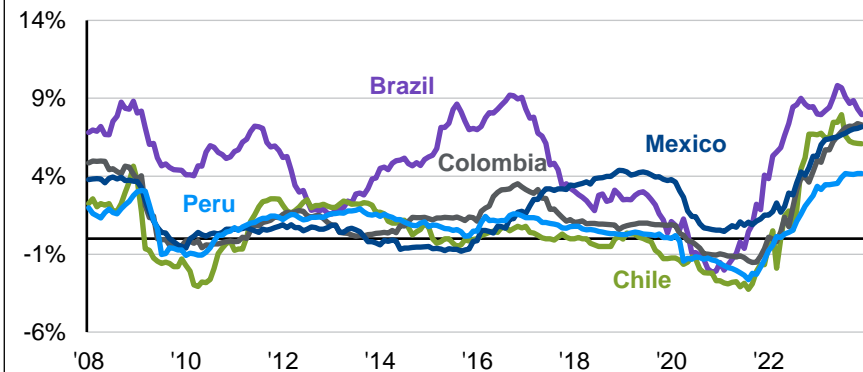
Inflation

Year-over-year % change



Real policy rates by country

Nominal policy rate deflated by 12-month inflation expectations



Source: J.P. Morgan Global Economic Research, J.P. Morgan Asset Management; (Bottom right) Central Bank of Brazil, Central Bank of Chile, Central Bank of Colombia, Central Bank of Peru, Central Bank of Mexico. Latin America aggregate GDP growth includes Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Peru and Uruguay. Inflation does not include Argentina, Ecuador or Venezuela. Inflation expectations are based on surveys conducted by each central bank.

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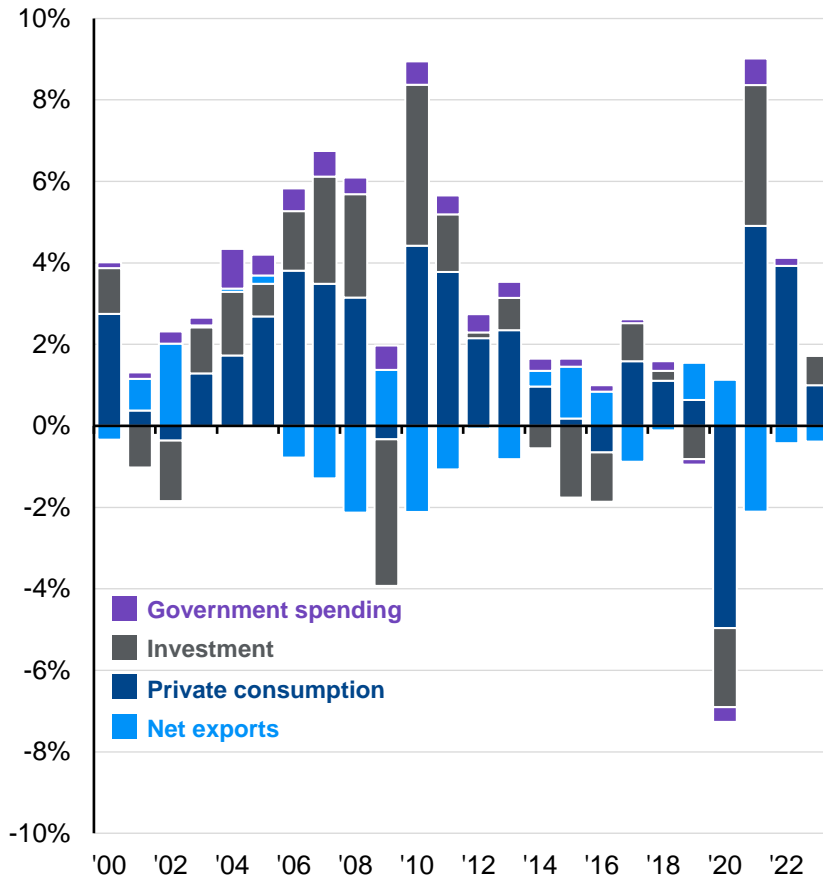


Latin America: Composition of economic growth

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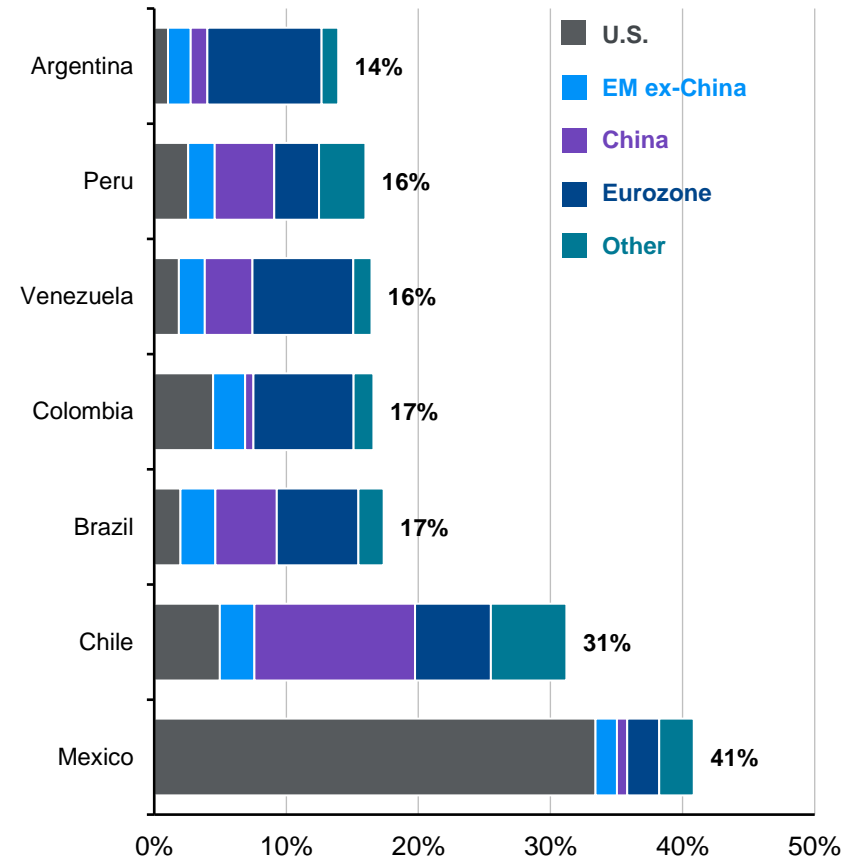
Real GDP growth

Contribution to growth, year-over-year % change



Exports

% of nominal GDP, USD terms, goods, 2022



Source: IMF World Economic Outlook, J.P. Morgan Asset Management; (Left) Argentina Economy Ministry, BCE, BCRP, BCU, CBC, DANE, IBGE, INEGI. Latin America aggregate GDP includes Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Peru and Uruguay. Missing Ecuador GDP data for 2023. Uruguay is excluded from 2000 to 2005 due to data availability. Figures for 2023 are forecasts by J.P. Morgan Economic Research. Forecasts are not a reliable indicator of future performance. Forecasts, projections and other forward-looking statements are based upon current beliefs and expectations. They are for illustrative purposes only and serve as an indication of what may occur. Given the inherent uncertainties and risks associated with forecasts, projections or other forward-looking statements, actual events, results or performance may differ materially from those reflected or contemplated. (Right) IMF Direction of Trade Statistics.

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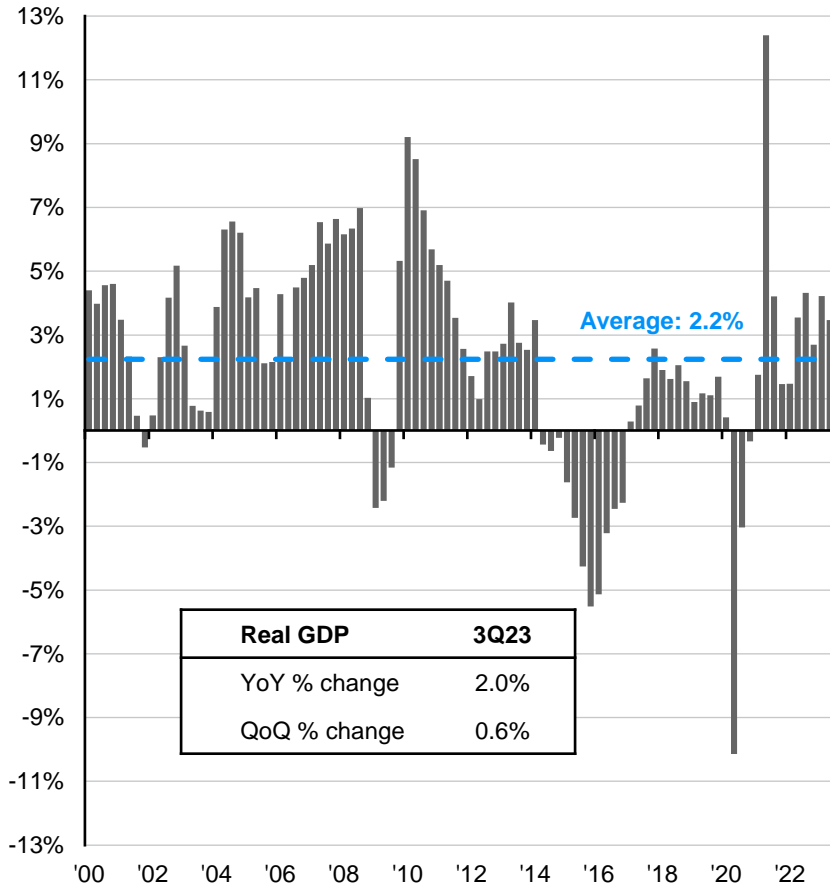


Brazil: Economic snapshot

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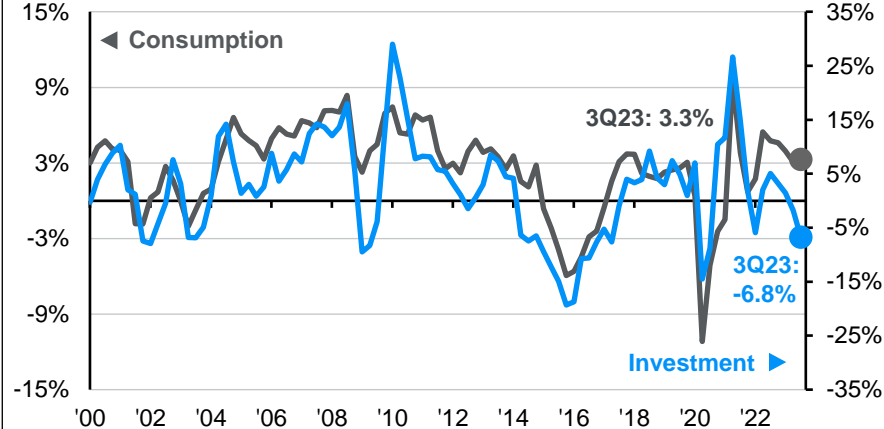
Real GDP

Year-over-year % change



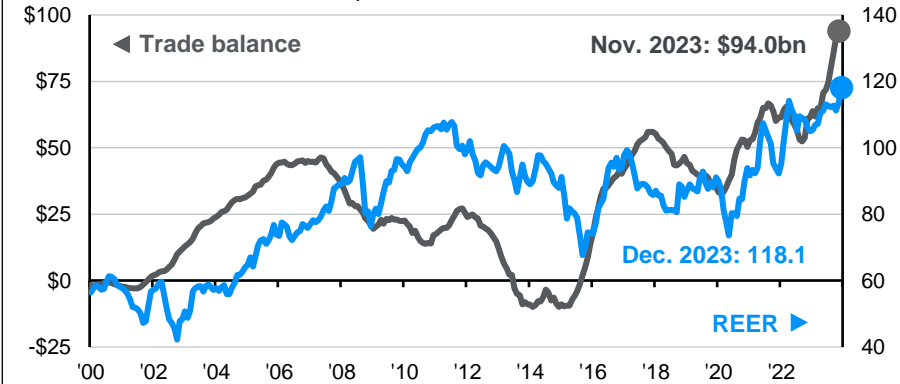
Real consumption and investment

Year-over-year % change



Trade balance and exchange rate

USD billions, accumulated past 12 months, real effective FX*



Source: IBGE (Brazilian Statistics and Geography Institute), J.P. Morgan Asset Management; (Bottom right) Central Bank of Brazil, MDIC (Ministry of Development, Industry and External Commerce), J.P. Morgan Global Economic Research. (Left) Year-over-year GDP excludes seasonal adjustments, and quarter-over-quarter GDP is the seasonally adjusted annualized rate. *Real effective exchange rates (REERs) compare the value of a currency to a weighted basket of several foreign currencies. They are deflated using a producer price index.

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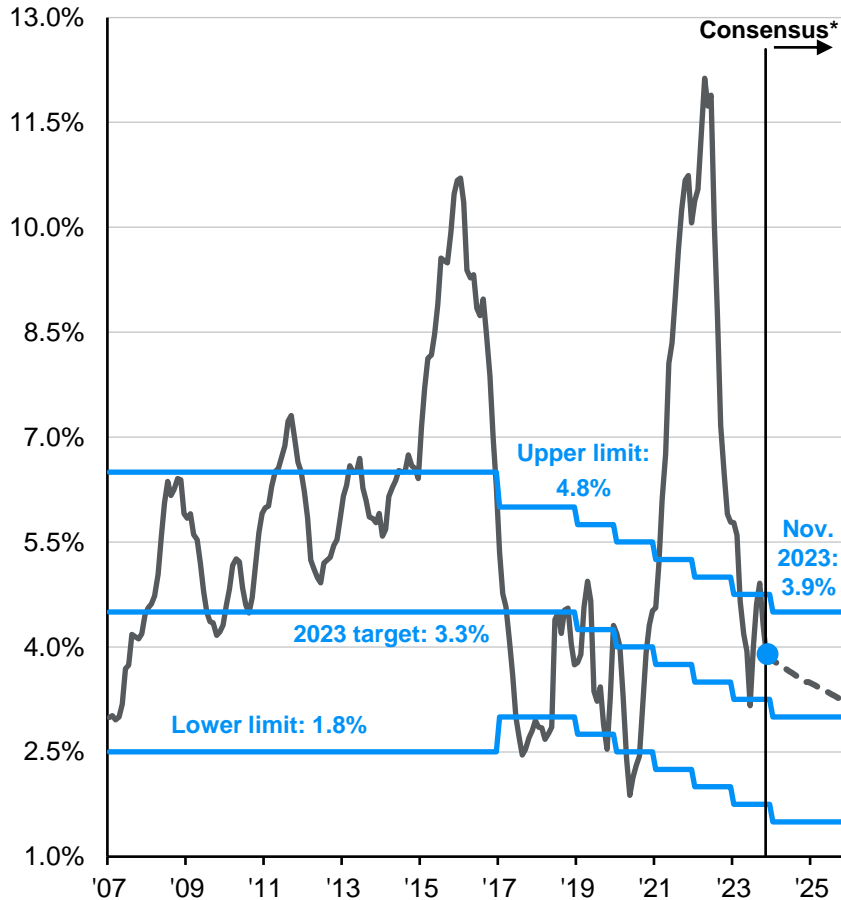


Brazil: Inflation and monetary policy

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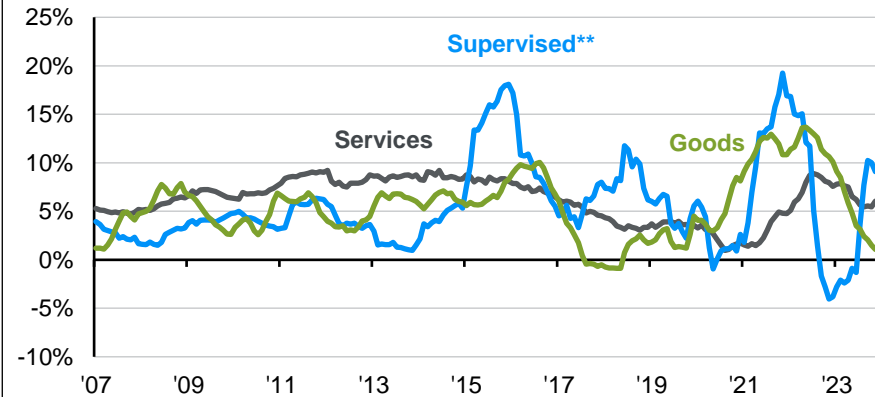
Inflation targeting and inflation

IPCA, 12-month accumulated % change



Inflation breakdown

IPCA, 12-month accumulated % change



Target policy rate and expectations

BCB Selic target rate and consensus expectations



Source: Central Bank of Brazil, IBGE (Brazilian Statistics and Geography Institute), J.P. Morgan Asset Management.

Target inflation bands set by Central Bank of Brazil. *Surveys conducted by the Central Bank of Brazil. **Includes prices set at federal level (telephone services, petroleum derivatives, electricity, health plans) and state/municipal level (water and sewage taxes, value-added and real estate taxes, public transport costs).

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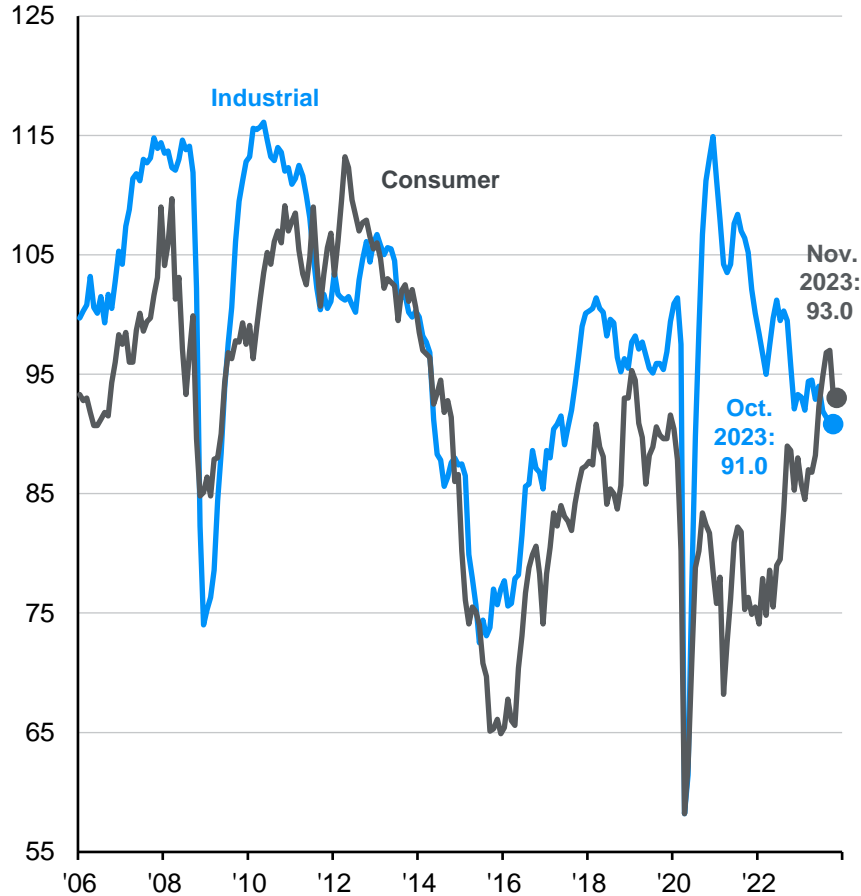


Brazil: Consumer and business dynamics

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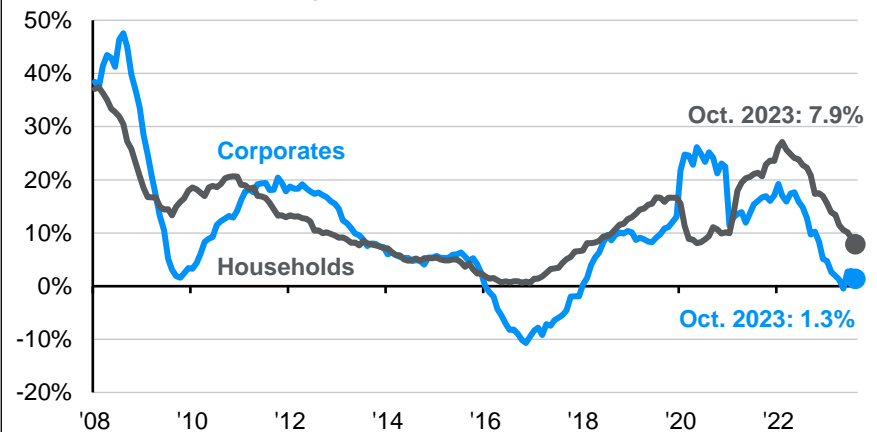
Consumer and industrial confidence

Seasonally adjusted



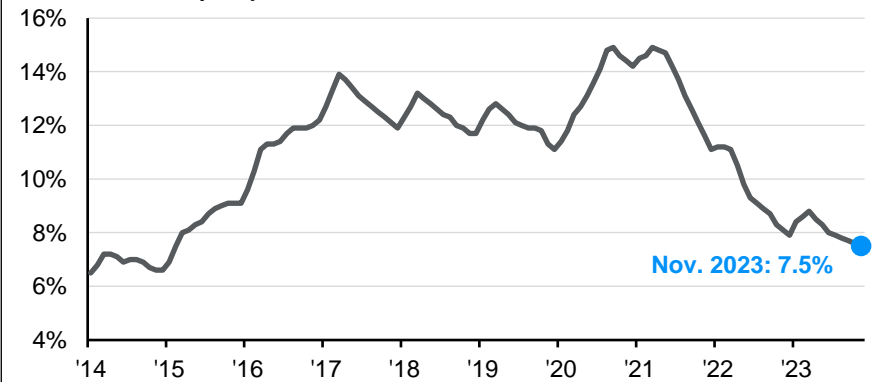
Credit growth

Year-over-year % change, non-earmarked credit*



Unemployment rate

Non-seasonally adjusted



Source: J.P. Morgan Asset Management; (Left) FGV/IBRE (Brazilian Institute of Economics of the Getulio Vargas Foundation); (Top right) Central Bank of Brazil; (Bottom right) IBGE (Brazilian Statistics and Geography Institute). *Non-earmarked funds are those where interest rates are determined by market conditions.

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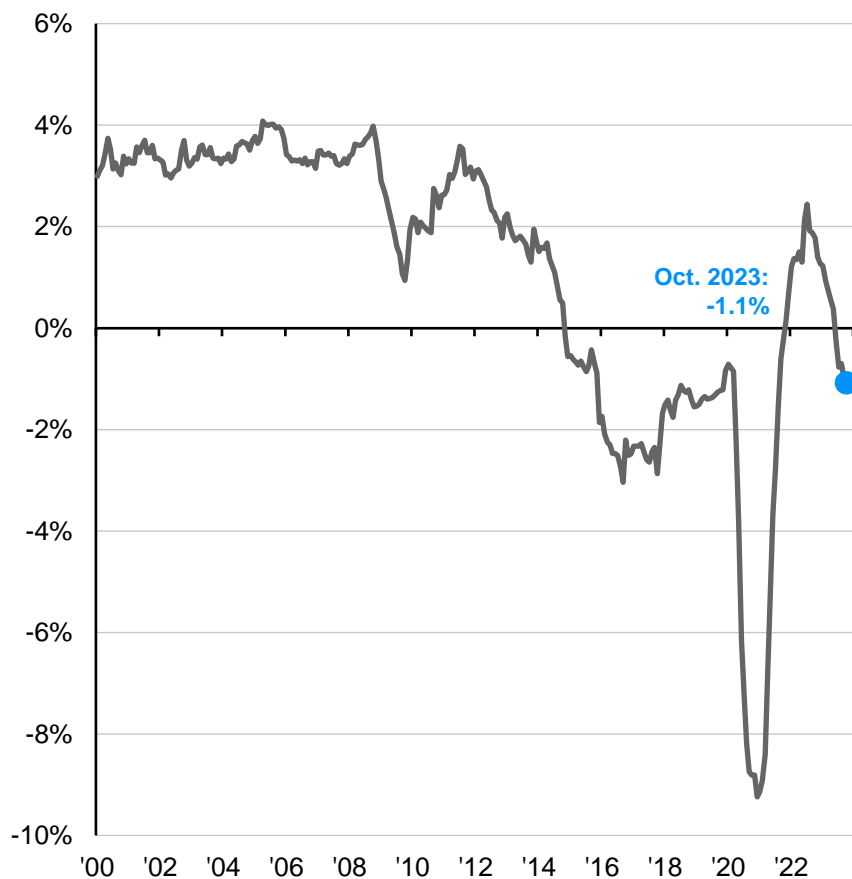


Brazil: Fiscal policy

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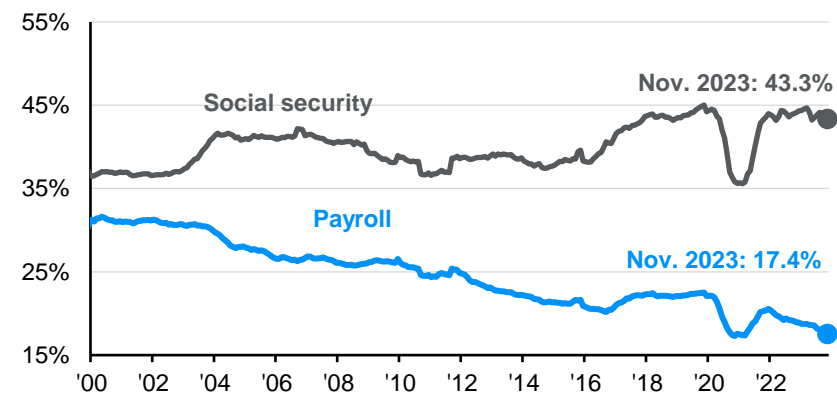
Public sector primary balance

% of GDP, 12-month sum, not seasonally adjusted



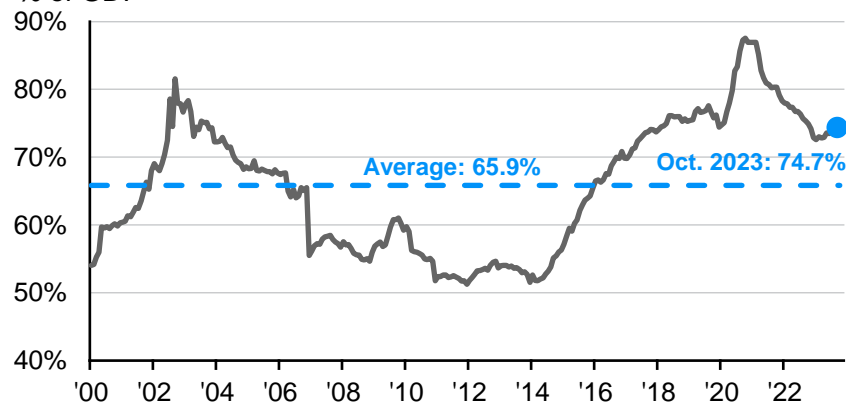
Social security and payroll expenditures

% of total expenses, 12-month moving average



Gross debt

% of GDP



Source: J.P. Morgan Global Economic Research, J.P. Morgan Asset Management; (Left and bottom right) Central Bank of Brazil; (Top right) National Treasury of Brazil. Public sector includes central government, local governments and selected state-owned companies.
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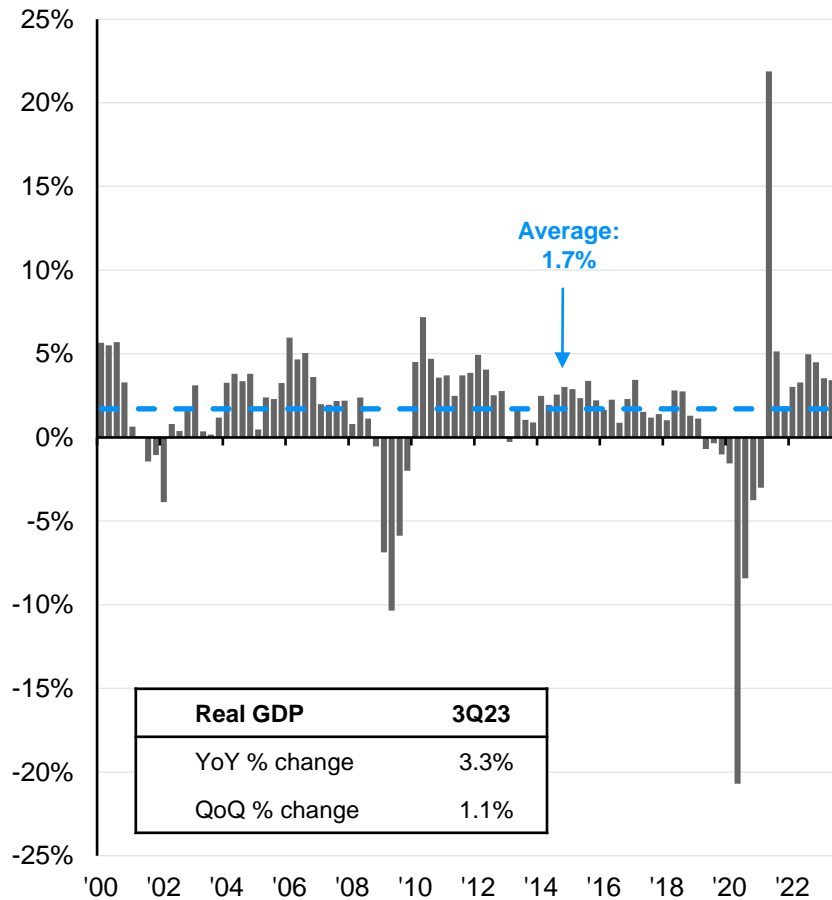


Mexico: Economic snapshot

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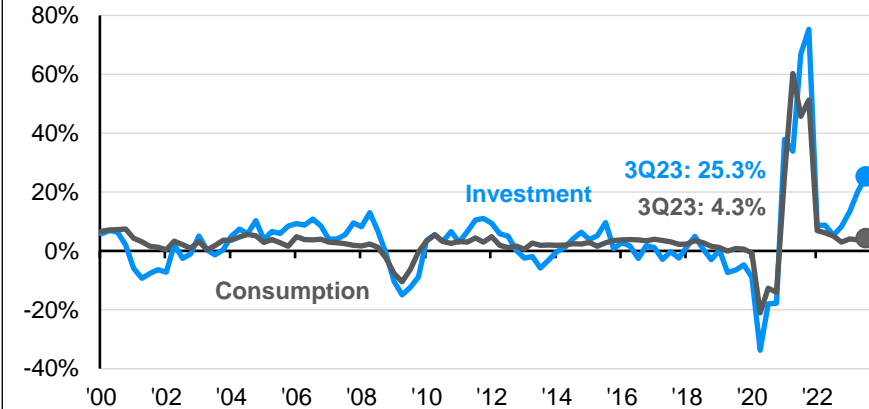
Real GDP

Year-over-year % change



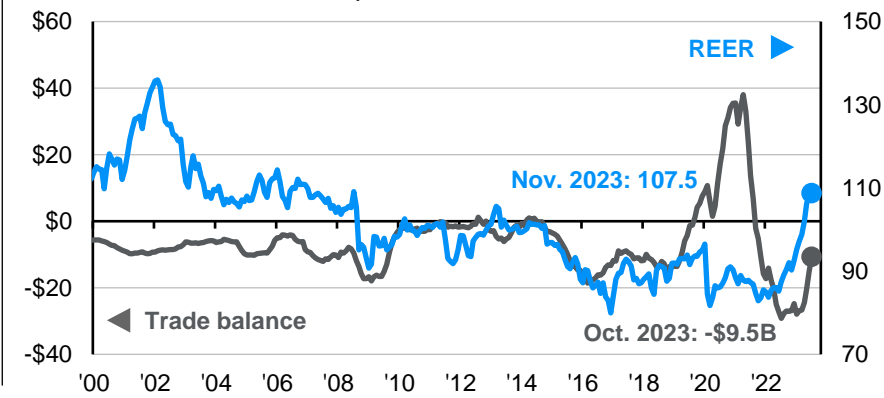
Real consumption and investment

Year-over-year % change



Trade balance and exchange rate

USD billions, accumulated past 12 months, real effective FX*



Source: INEGI (National Institute of Statistics and Geography of Mexico), J.P. Morgan Global Economic Research, J.P. Morgan Asset Management. (Left) Year-over-year GDP excludes seasonal adjustments, and quarter-over-quarter GDP is the seasonally adjusted annualized rate. *Real effective exchange rates (REERs) compare the value of a currency to a weighted basket of several foreign currencies. They are deflated using a producer price index.
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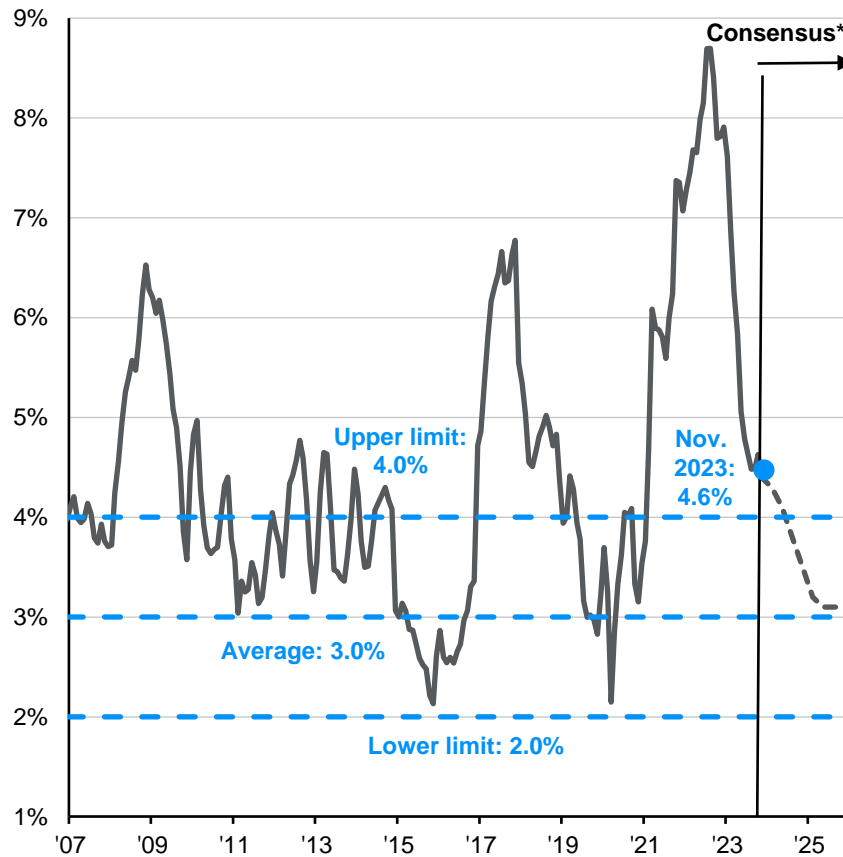


Mexico: Inflation and monetary policy

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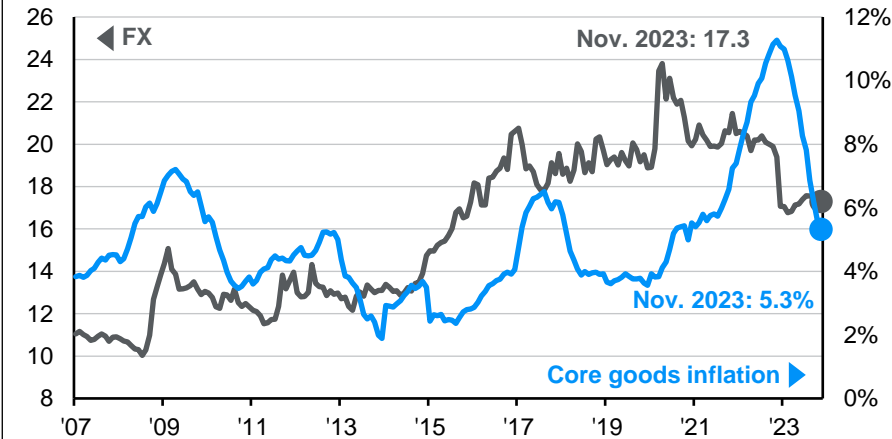
Inflation targeting and inflation

IPCA, 12-month accumulated % change



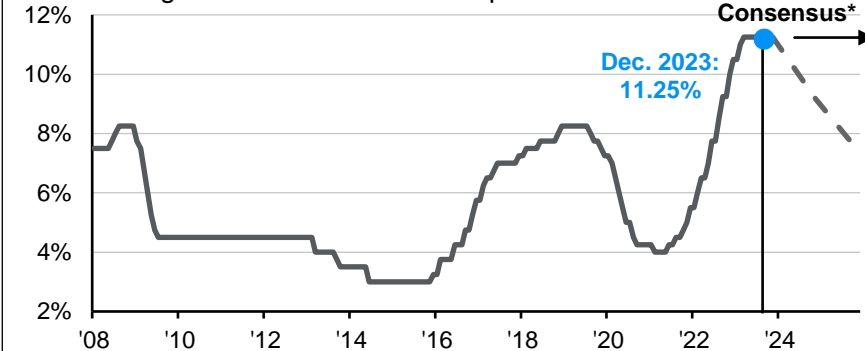
FX and core goods inflation

Peso per USD spot rate, monthly average, year-over-year % chg.



Target policy rate and expectations

Banxico target rate and consensus expectations



Source: Central Bank of Mexico, J.P. Morgan Global Economic Research, J.P. Morgan Asset Management. *Surveys conducted by the Central Bank of Mexico.
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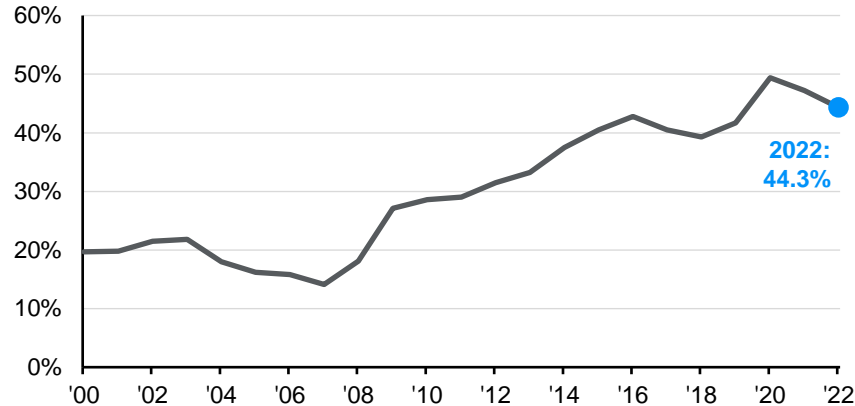


Mexico: Public finances and private sector

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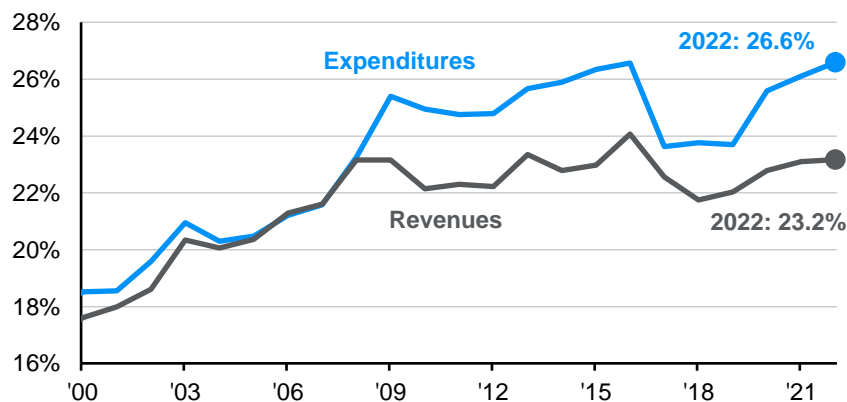
Gross debt

% of GDP



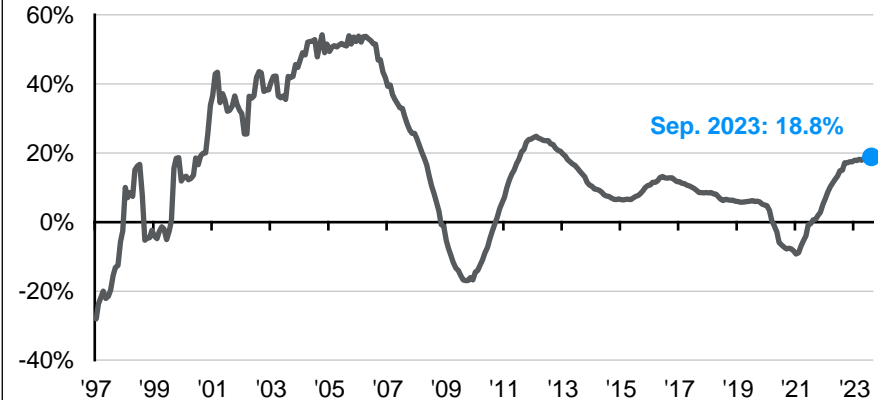
Public sector revenues and expenditures

% of GDP, annual



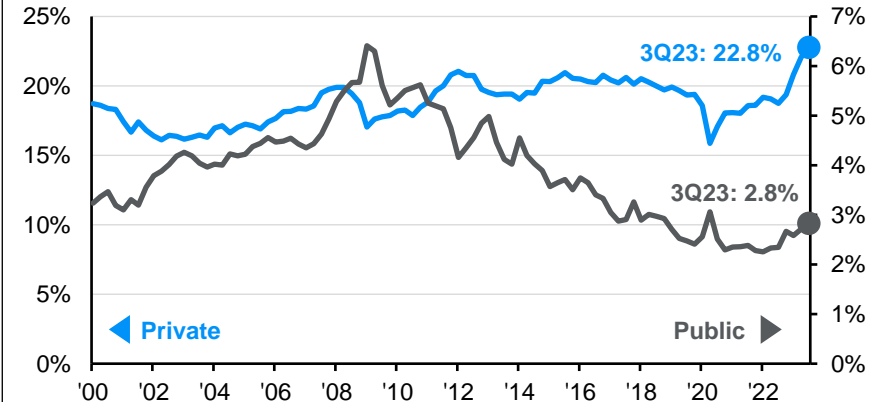
Private sector credit growth

Households, year-over-year % change, net of bad debts



Gross fixed investment

% of GDP, quarterly, seasonally adjusted



Source: J.P. Morgan Asset Management; (Top Left) Bank of Mexico. Shows public sector borrowing requirements (PSBR), the broader measure of fiscal balance. (Top right) Mexican National Institute of Geography and Statistics. (Bottom right) Bank of Mexico. (Bottom left) INEGI. Guide to the Markets – Latin America. Data are as of December 31, 2023.

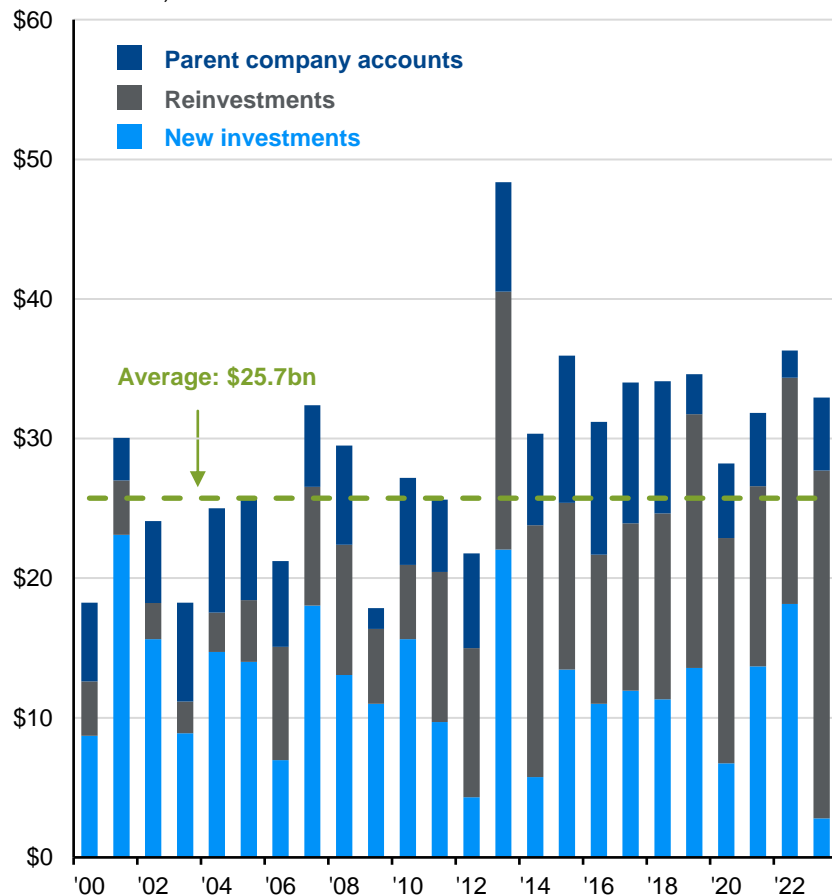


Mexico: Foreign transfers

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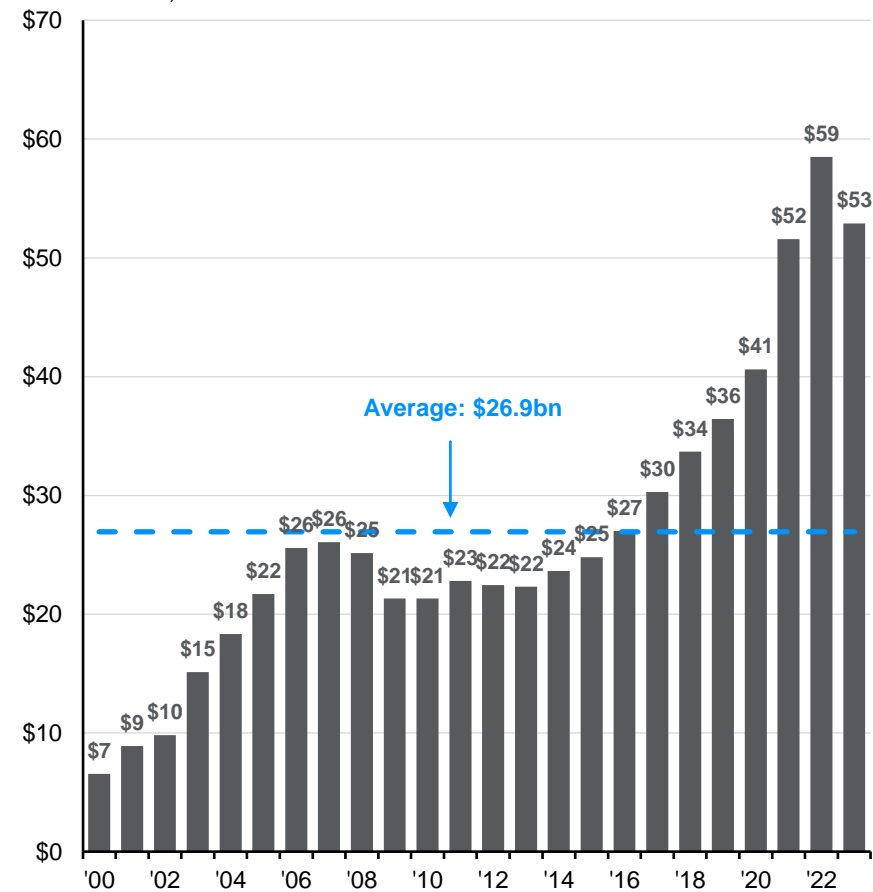
Foreign direct investment into Mexico

USD billions, annual and YTD 2023



Overseas remittances

USD billions, annual and YTD 2023



Source: Bank of Mexico, FactSet, Ministry of Economy, J.P. Morgan Asset Management. Guide to the Markets – Latin America. Data are as of December 31, 2023.

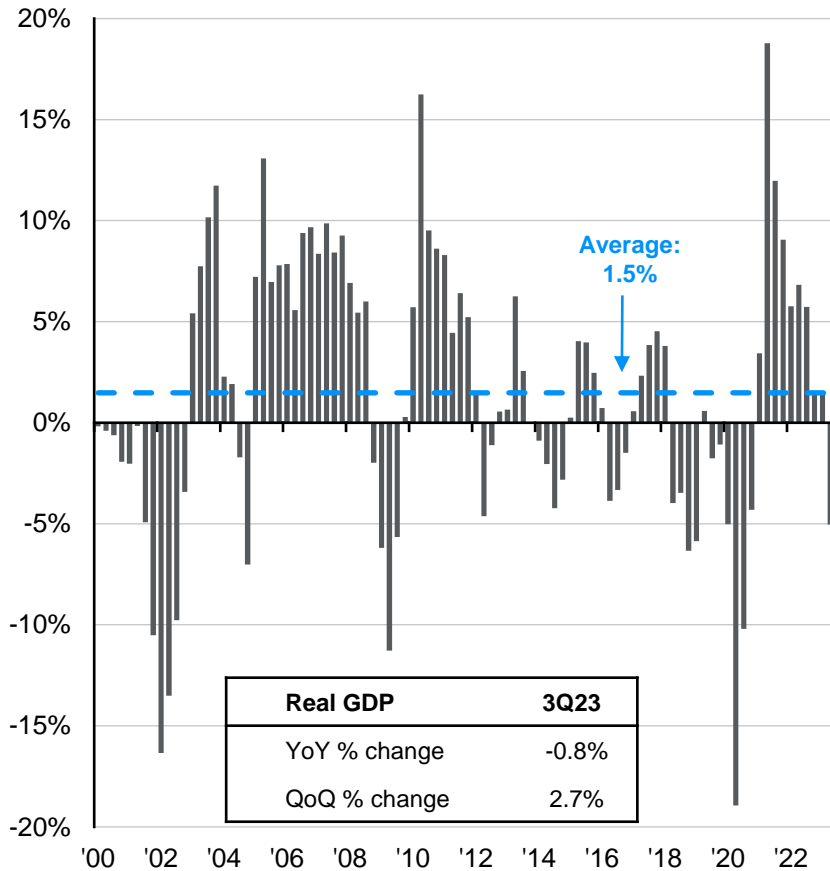


Argentina: Economic snapshot

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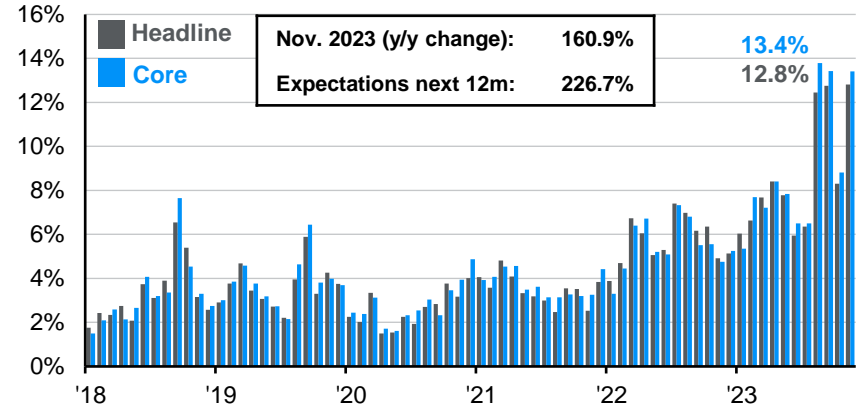
Real GDP

Year-over-year % change



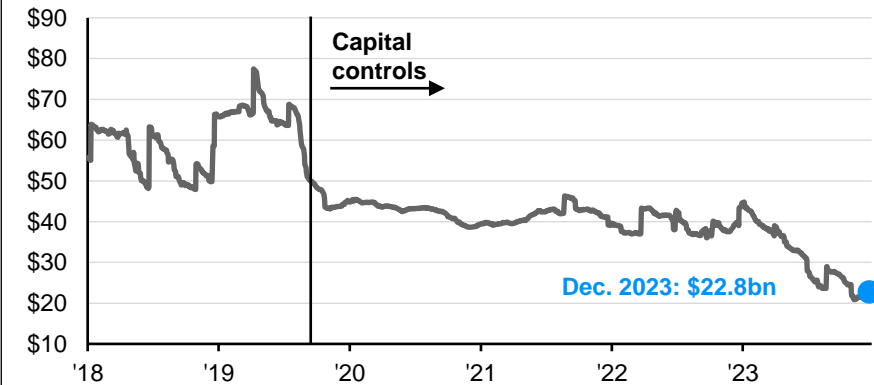
Inflation

% change month-over-month, national IPC



International reserves

USD billions



Source: Central Bank of Argentina, FactSet, Economic Ministry, INDEC (National Institute of Statistics and Census of Argentina, J.P. Morgan Asset Management. (Left) Year-over-year GDP excludes seasonal adjustments, and quarter-over-quarter GDP is the seasonally adjusted annualized rate.

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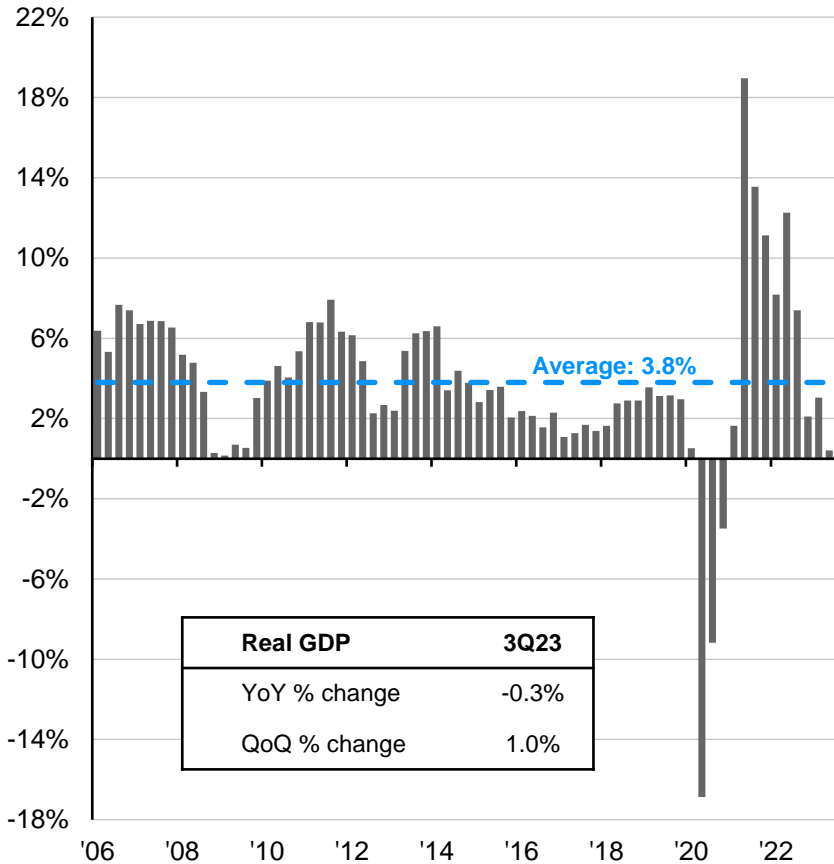


Colombia: Economic snapshot

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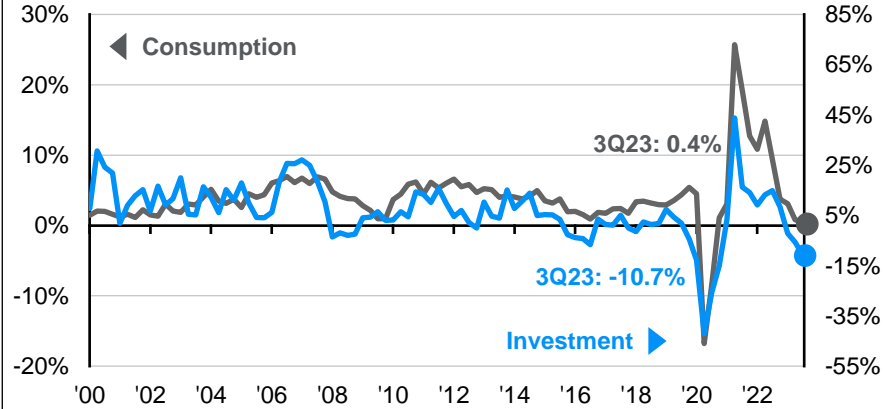
Real GDP

Year-over-year % change



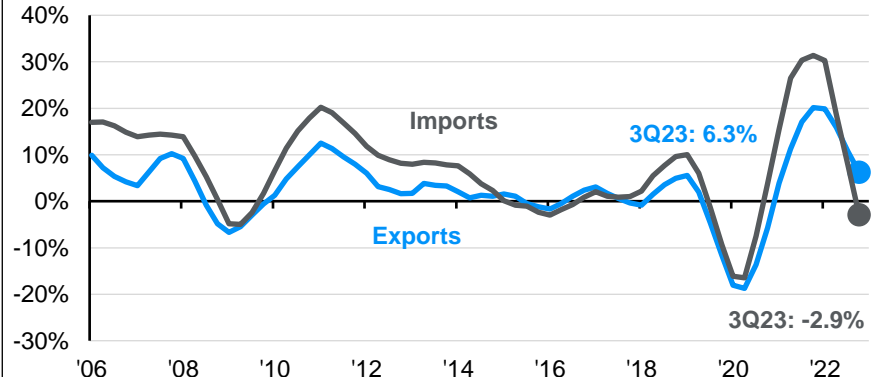
Real consumption and investment

Year-over-year % change



International trade

Year-over-year % change, 4-quarter moving average



Source: DANE (National Administration of Statistics), J.P. Morgan Asset Management. (Left) Year-over-year GDP excludes seasonal adjustments, and quarter-over-quarter GDP is the seasonally adjusted annualized rate. *Guide to the Markets – Latin America*. Data are as of December 31, 2023.

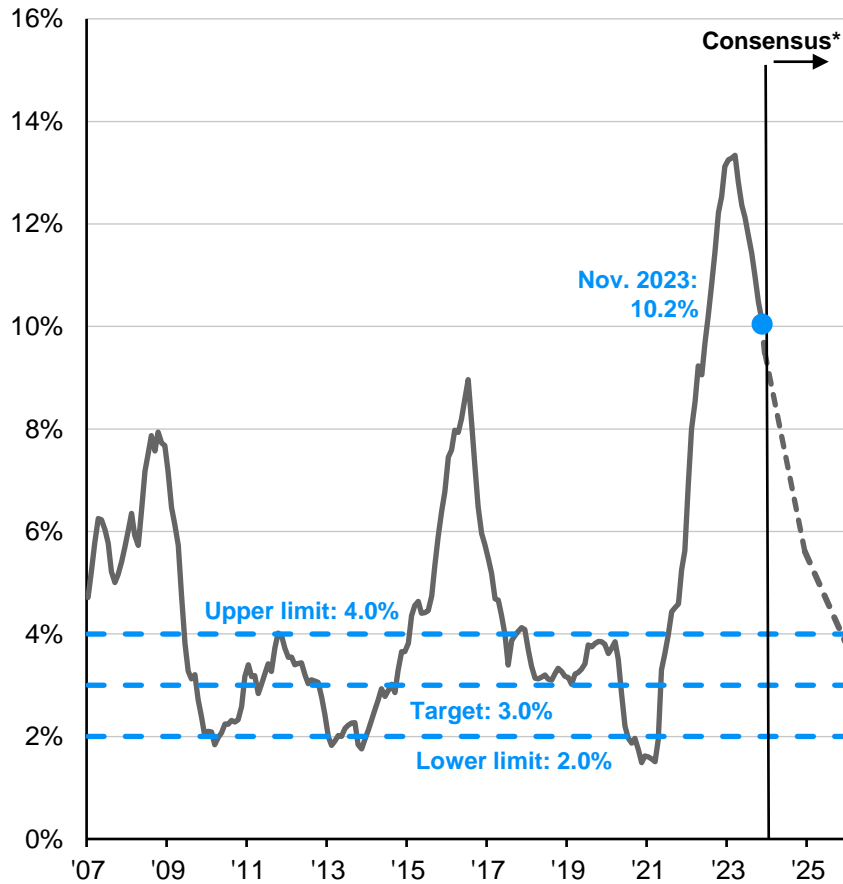


Colombia: Inflation and monetary policy

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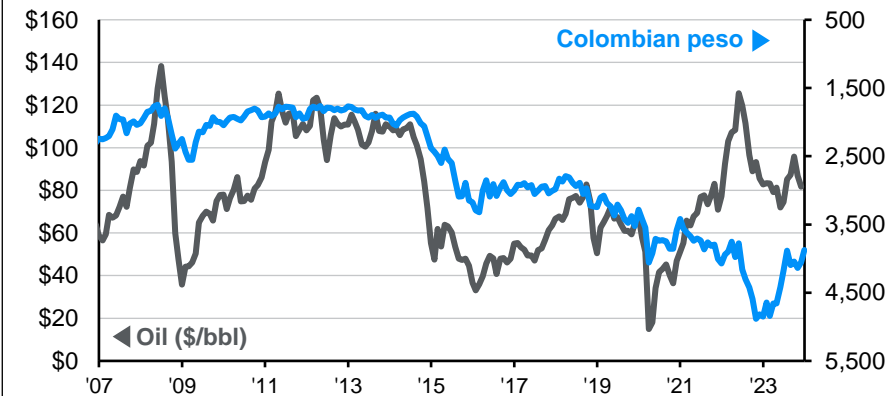
Inflation targeting and inflation

Headline inflation, 12-month accumulated % change



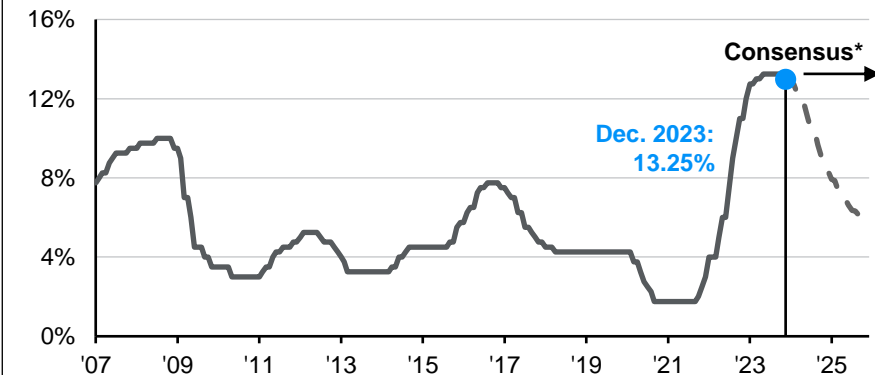
Oil prices and the Colombian peso

COP per USD (inverted), Brent US\$ per barrel



Target policy rates and expectations

BanRep repo rate and consensus expectations



Source: J.P. Morgan Asset Management. (Left and bottom right) Central Bank of Colombia, DANE (National Administration of Statistics). (Top right) Commodity Research Bureau, FactSet, Reuters. *Surveys conducted by the Central Bank of Colombia. Guide to the Markets – Latin America. Data are as of December 31, 2023.

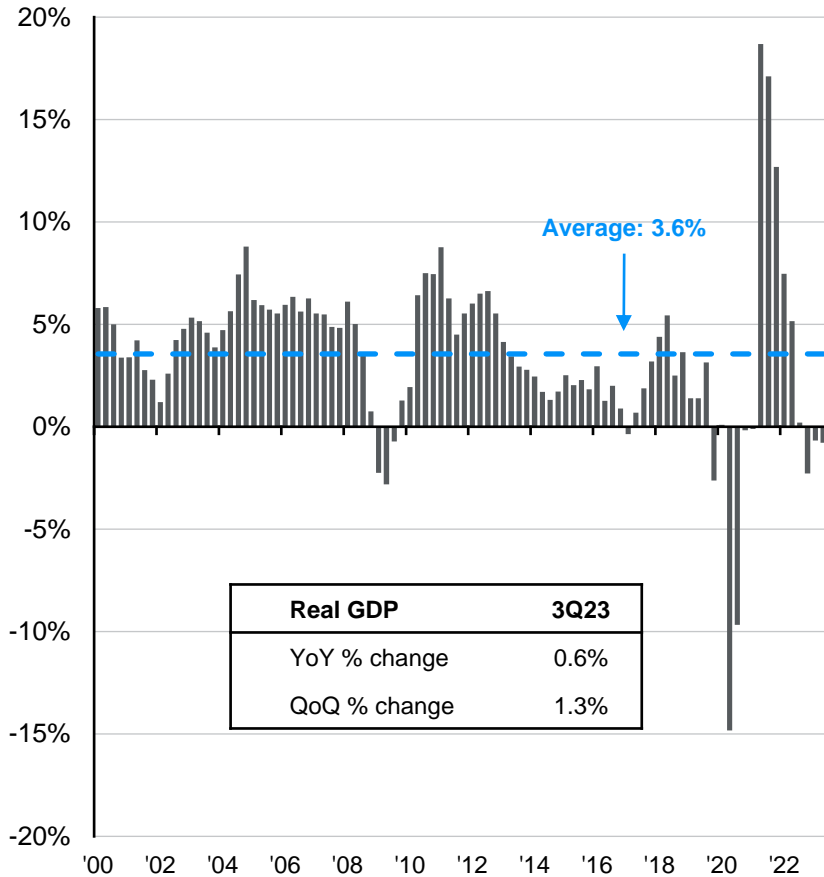


Chile: Economic snapshot

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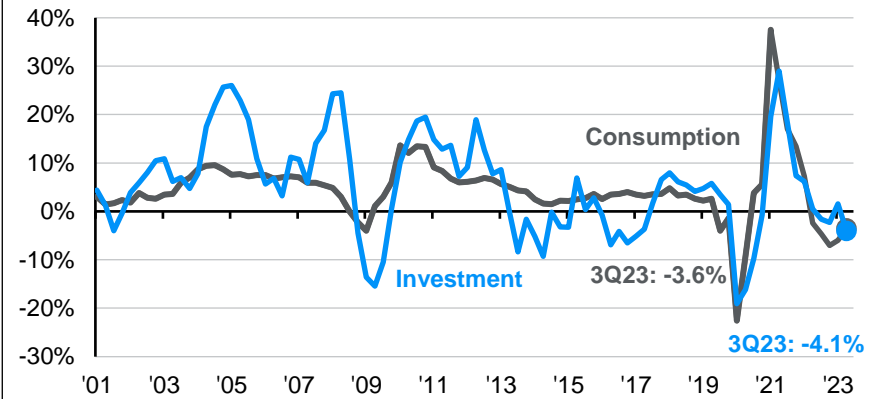
Real GDP

Year-over-year % change



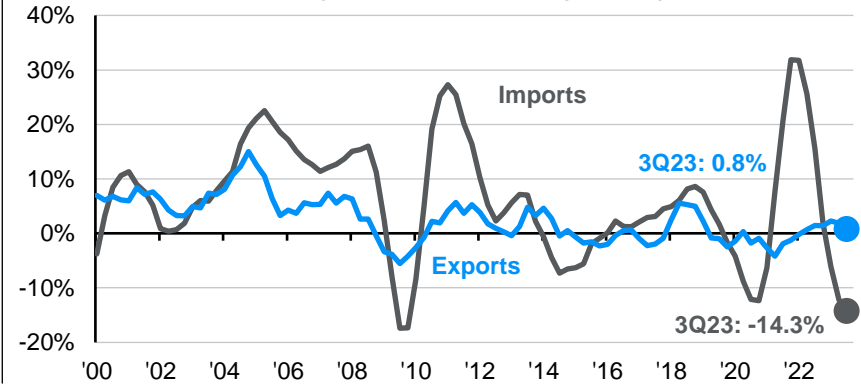
Real consumption and investment

Year-over-year % change



International trade

Year-over-year % change, 4-quarter moving average



Source: Central Bank of Chile, J.P. Morgan Asset Management. (Left) Year-over-year GDP excludes seasonal adjustments, and quarter-over-quarter GDP is the seasonally adjusted annualized rate.

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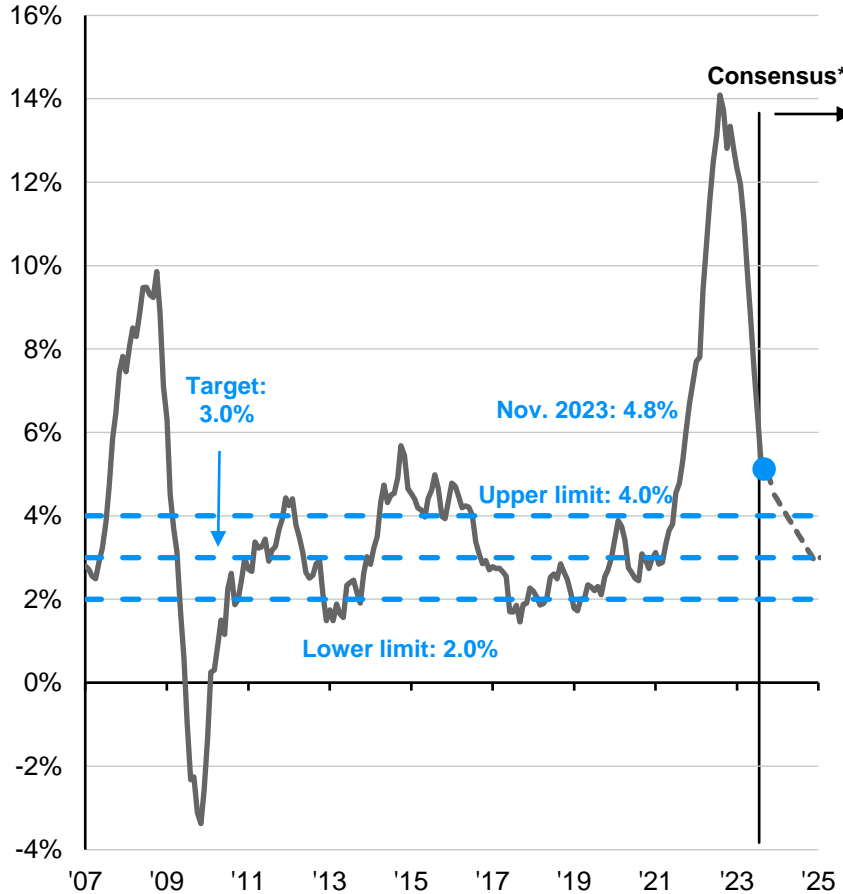


Chile: Inflation and monetary policy

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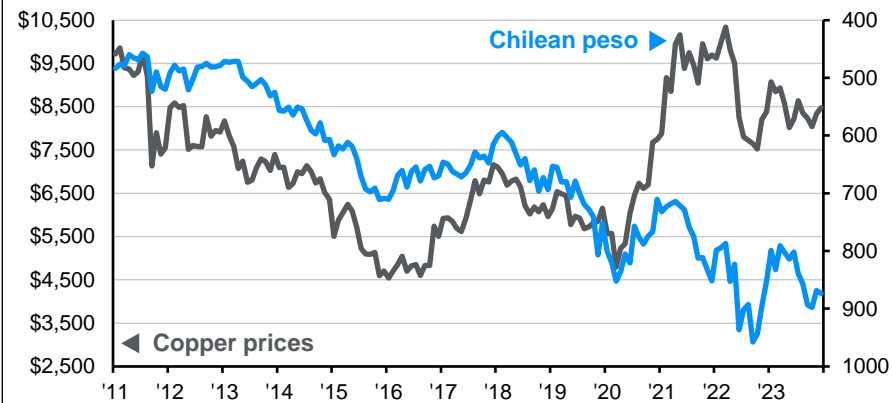
Inflation targeting and inflation

Headline inflation, 12-month accumulated % change



Copper prices and the Chilean peso

CLP per USD (inverted); \$/mt



Target policy rates and expectations

Central Bank of Chile rate and consensus expectations



Source: .P. Morgan Asset Management; (Left and top right) INE (National Statistics Institute of Chile); (Top right) Reuters; (Bottom right) Central Bank of Chile. *Surveys conducted by the Central Bank of Chile.

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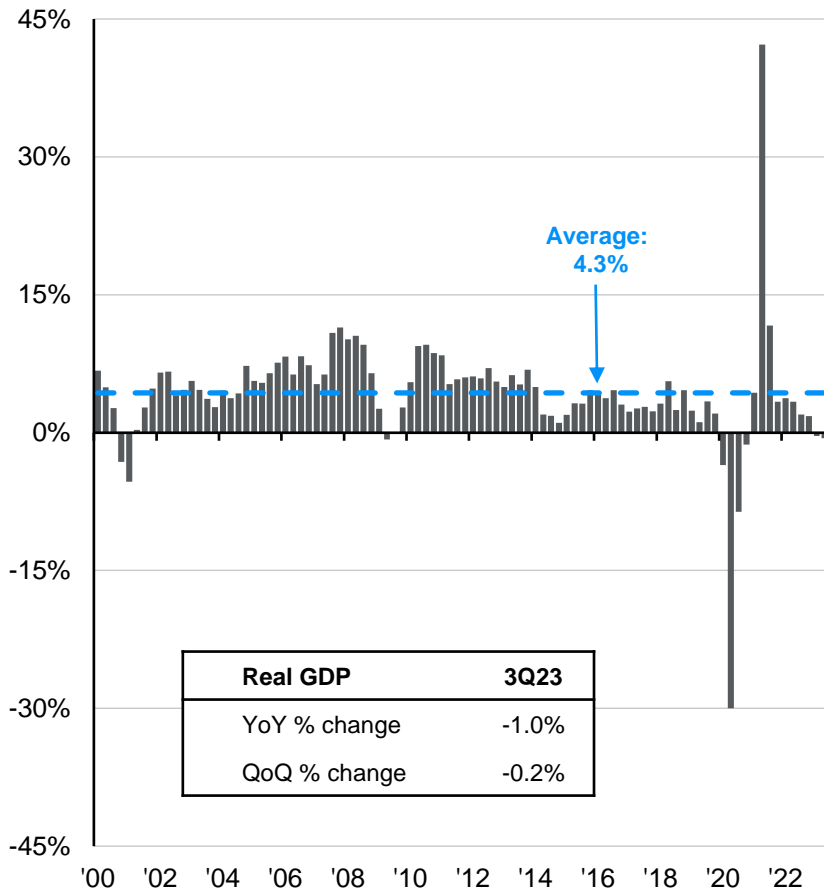


Peru: Economic snapshot

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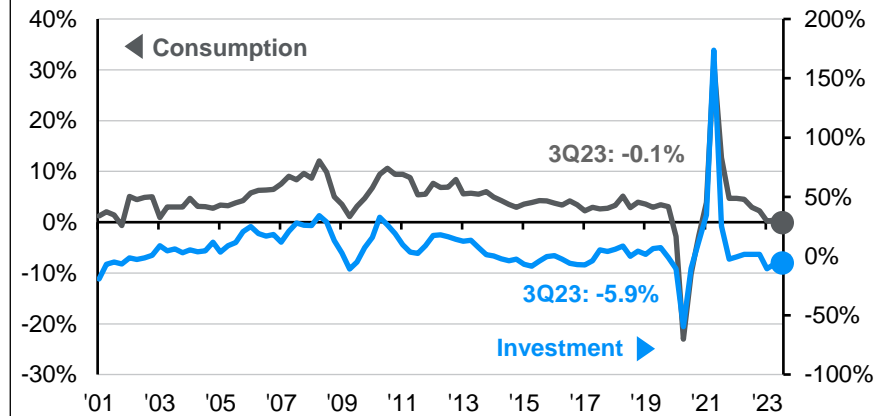
Real GDP

Year-over-year % change



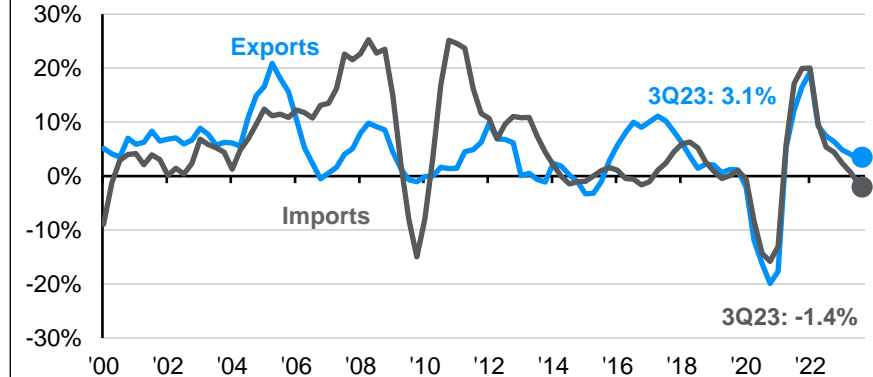
Real consumption and investment

Year-over-year % change



International trade

Year-over-year % change, 4-quarter moving average



Source: Central Reserve Bank of Peru, INEI (National Statistics Institute of Peru), J.P. Morgan Asset Management. (Left) Year-over-year GDP excludes seasonal adjustments, and quarter-over-quarter GDP includes seasonal adjustments. *Guide to the Markets – Latin America*. Data are as of December 31, 2023.

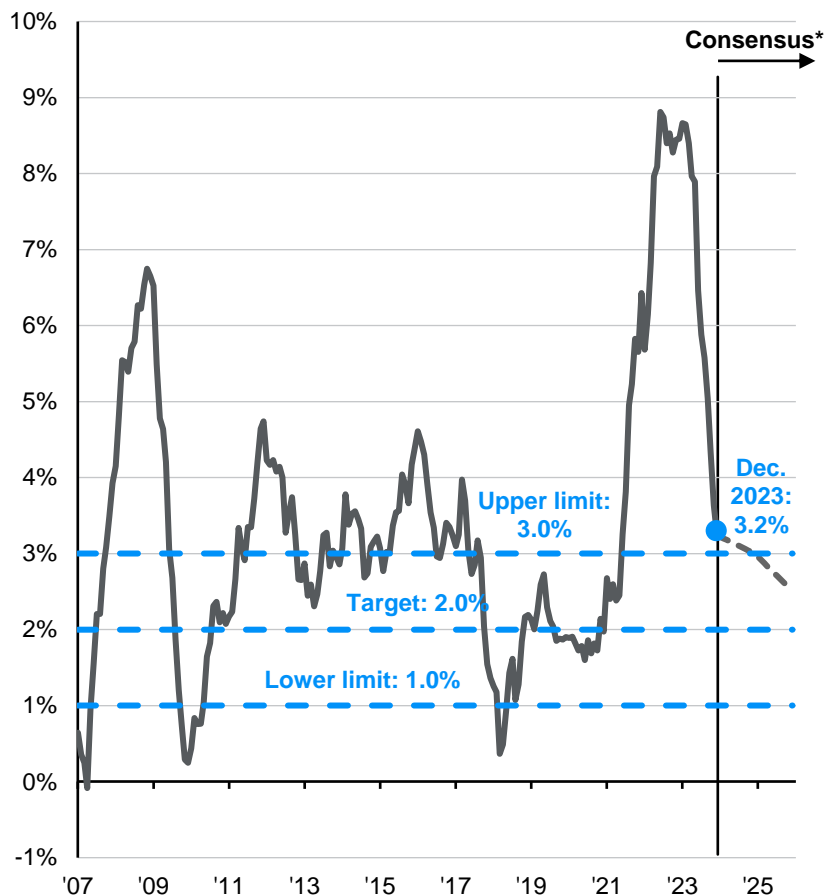


Peru: Inflation and monetary policy

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Inflation targeting and inflation

Headline inflation, Lima, year-over-year % change



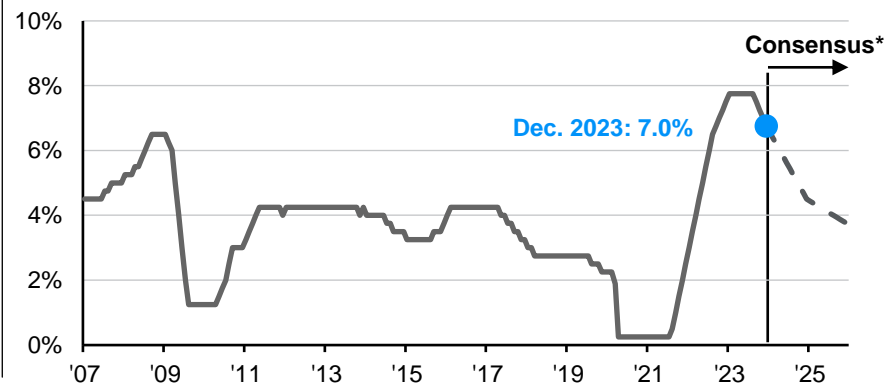
Reserve requirements

Reserve requirements as % of total deposits



Target policy rate and expectations

BCRP official reference rate and consensus expectations



Source: J.P. Morgan Asset Management; (Left) INEI; (Top and bottom right) Central Reserve Bank of Peru. *Surveys conducted by the Central Bank of Peru.

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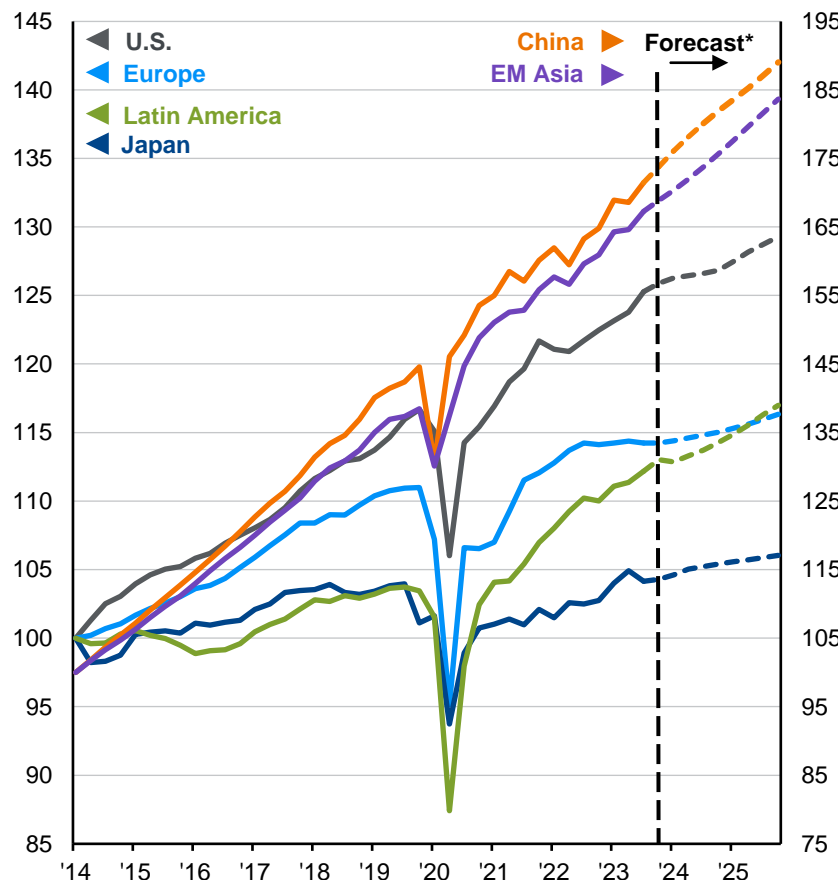
Regional economic growth and revenue exposure

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Global Economy

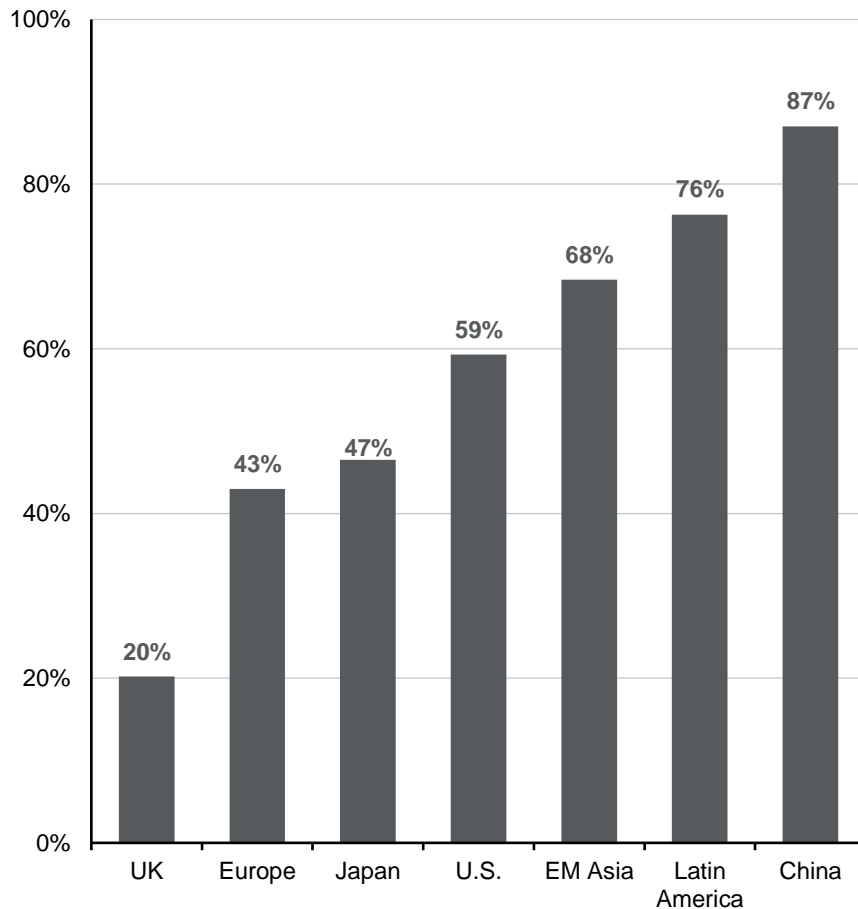
Real GDP growth

1Q14 = 100



Revenue exposure vs. country of listing

% of total revenue from home countries



Source: J.P. Morgan Asset Management; (Left) Cabinet Office Economic and Social Research Institute (ESRI), Eurostat, J.P. Morgan Global Economic Research, National Bureau of Statistics of China, U.S. Bureau of Economic Analysis; (Right) FactSet. *Forecasts begin in 4Q23. Revenue exposure vs. country of listing is as of 12/31/2023. *Guide to the Markets – Latin America*. Data are as of December 31, 2023.

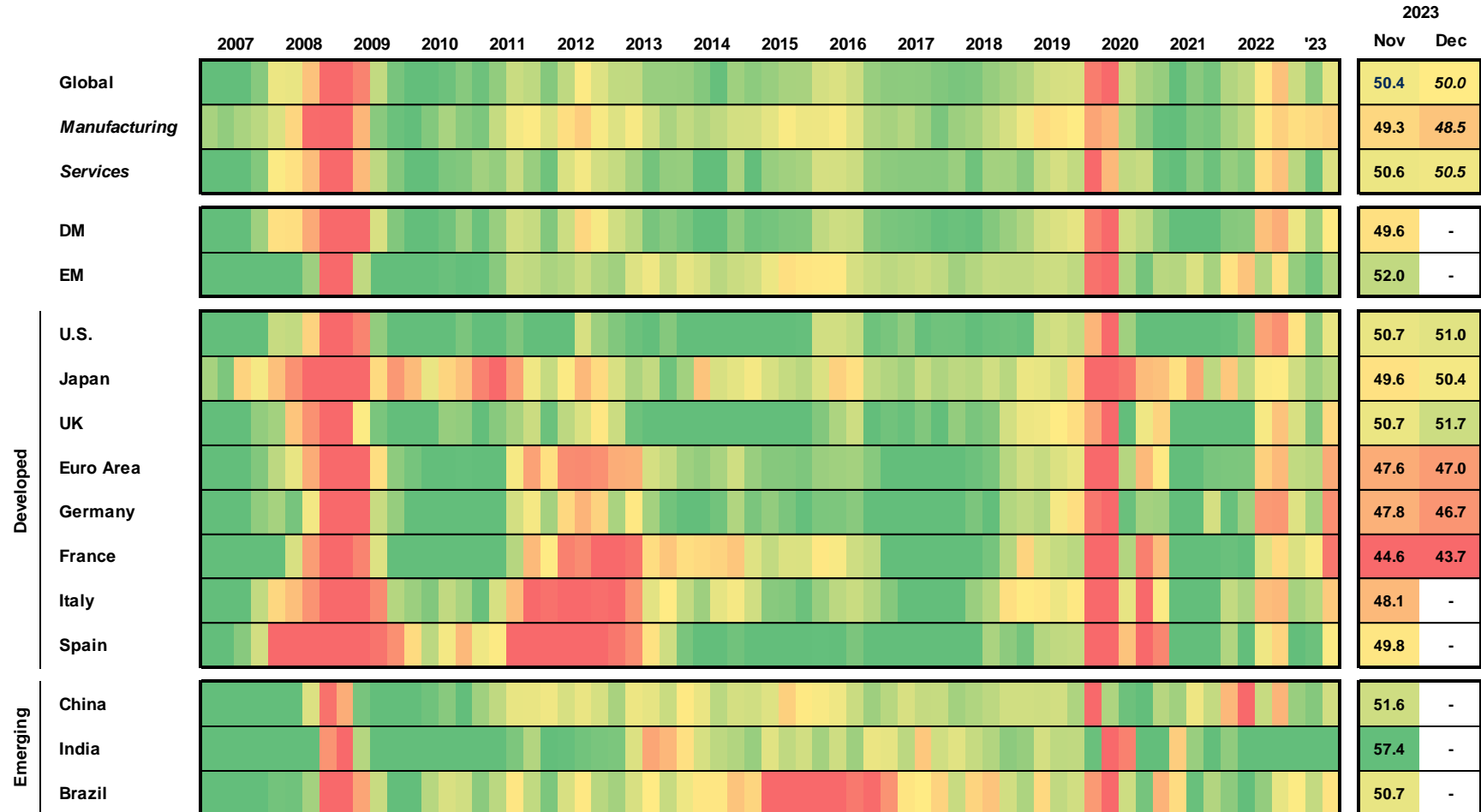
J.P.Morgan
ASSET MANAGEMENT



Global economic activity momentum

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Global Composite (manufacturing & services combined) Purchasing Managers' Index, quarterly



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

The Composite PMI includes both manufacturing and services sub-indices. The global, services and manufacturing figures for December are estimates by J.P. Morgan Asset Management. Heatmap colors 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, except for the two most recent figures, which are single month readings. Data for the U.S. are back-tested and filled in for 2007-2009. Data for Japan are back-tested and filled in for the first two quarters of 2007. DM and EM represent developed markets and emerging markets, respectively.

Guide to the Markets – Latin America. Data are as of December 31, 2023.

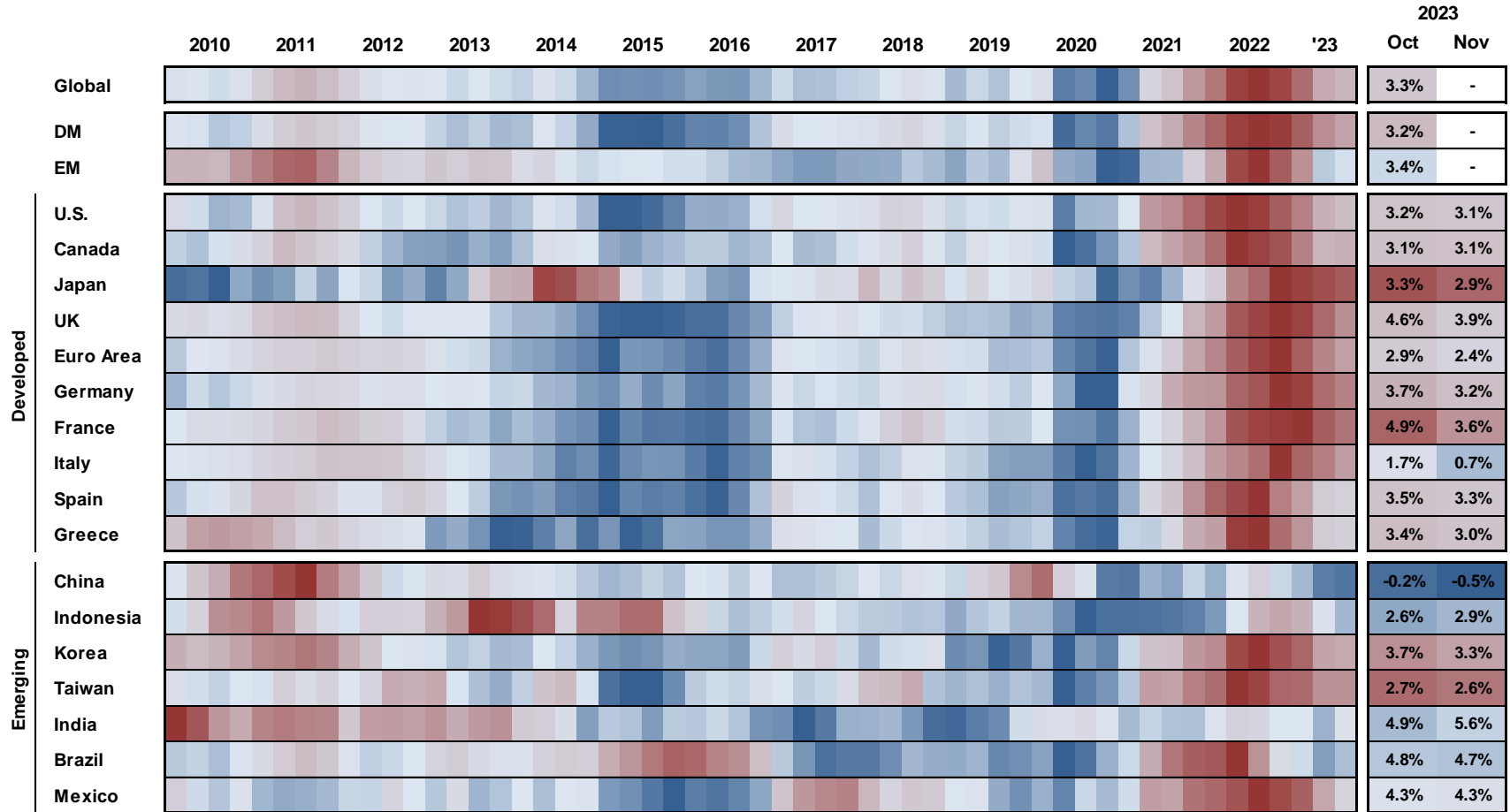


Global inflation

GTM LATAM 23

Global Economy

Year-over-year headline inflation by country and region, quarterly



Source: Bank of Mexico, Central Bank of Brazil, DGBAS, Eurostat, FactSet, Federal Reserve, IBGE, India Ministry of Statistics & Programme Implementation, Japan Ministry of Internal Affairs & Communications, J.P. Morgan Economic Research, Korean National Statistical Office, National Bureau of Statistics China, Statistics Canada, Statistics Indonesia, UK Office for National Statistics (ONS), J.P. Morgan Asset Management. Heatmap is based on quarterly averages, with the exception of the two most recent figures, which are single month readings. Colors determined by percentiles of inflation values over the time period shown. Deep blue = lowest value, light blue = median, deep red = highest value. DM and EM represent developed markets and emerging markets, respectively.
Guide to the Markets – Latin America. Data are as of December 31, 2023.

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ASSET MANAGEMENT

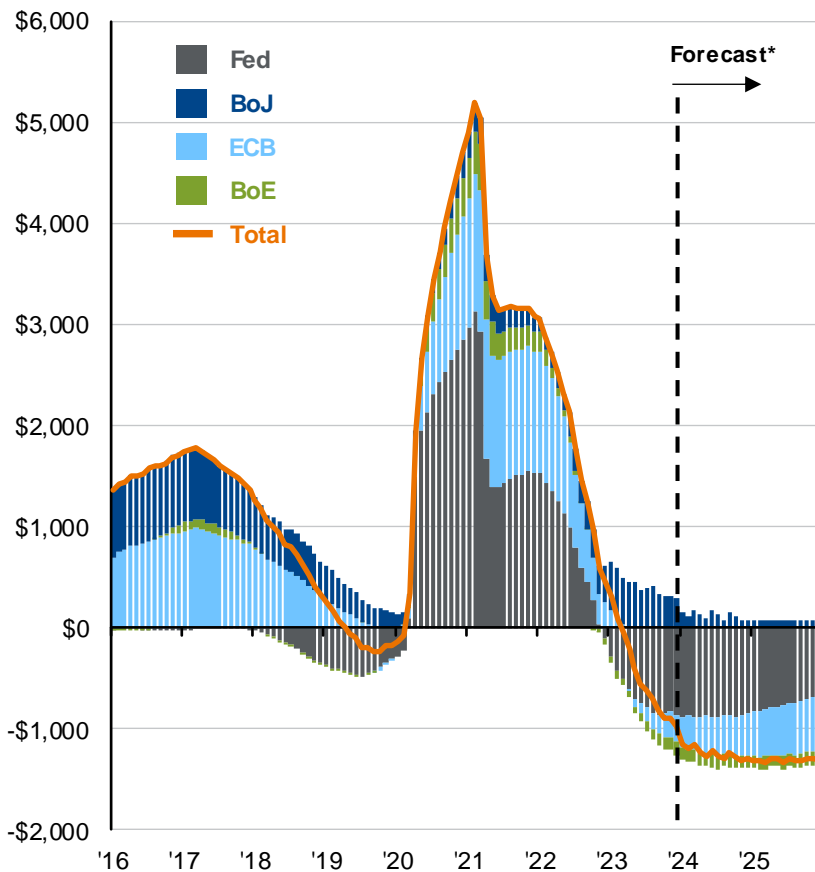


Global monetary policy

GTM LATAM 24

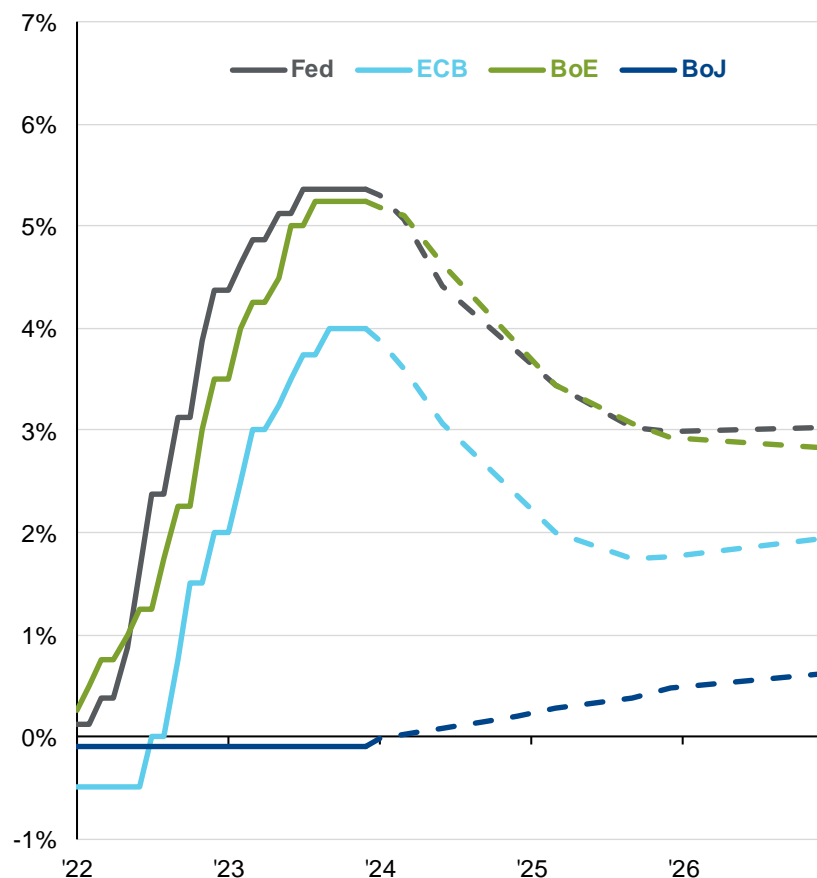
Developed market central bank bond purchases

USD billions, 12-month rolling flow



Historical policy rates and forward curves

Target policy rates and market implied forward rates



Source: BIS, Bloomberg, FactSet, J.P. Morgan Asset Management; (Left) Bank of England (BoE), Bank of Japan (BoJ), European Central Bank (ECB), Federal Reserve System (Fed), J.P. Morgan Global Economic Research. *DM bond purchase forecasts are internal assumptions based on government bond purchases as outlined in the most recent monetary policy announcements from the BoE, BoJ, ECB and Federal Reserve through December 2025. Implied policy rates are sourced from Bloomberg and are derived from Overnight Index Swaps. Forecasts, projections and other forward-looking statements are based upon current beliefs and expectations. They are for illustrative purposes only and are not a reliable indicator of future performance. Given the inherent uncertainties and risks associated with forecasts, projections or other forward-looking statements, actual events, results or performance may differ materially from those reflected or contemplated.

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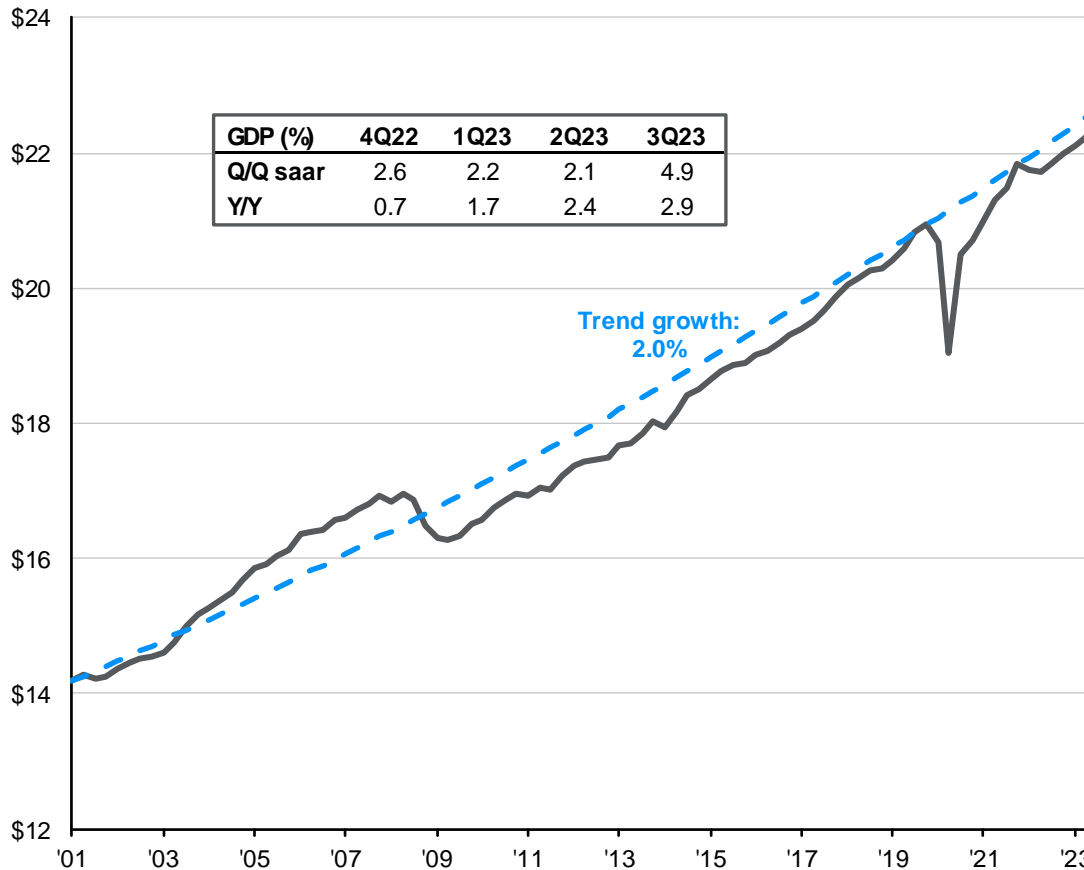


U.S.: Economic growth and the composition of GDP

GTM LATAM 25

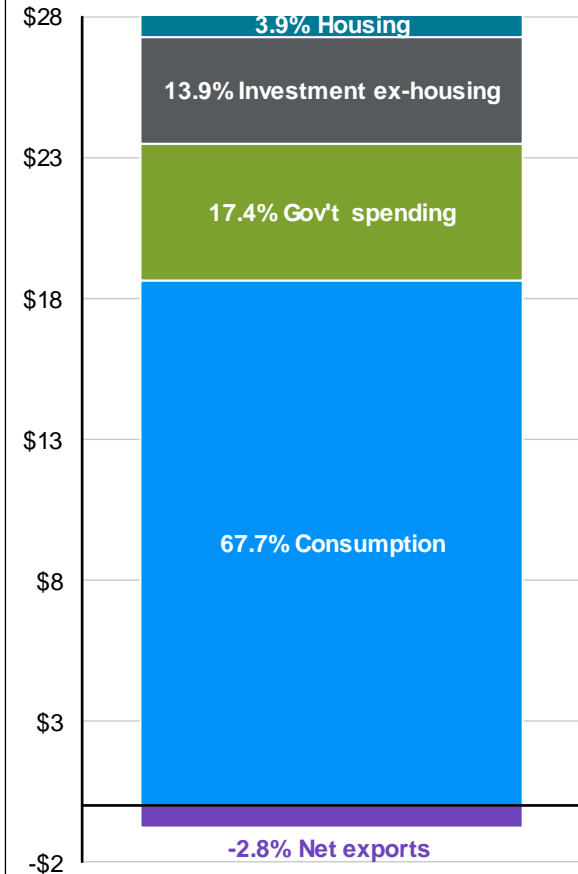
Real GDP

Trillions of chained (2017) dollars, seasonally adjusted at annual rates



Components of GDP

3Q23 nominal GDP, USD trillions



Source: BEA, FactSet, J.P. Morgan Asset Management. Values may not sum to 100% due to rounding. Trend growth is measured as the average annual growth rate from business cycle peak 1Q01 to business cycle peak 4Q19.
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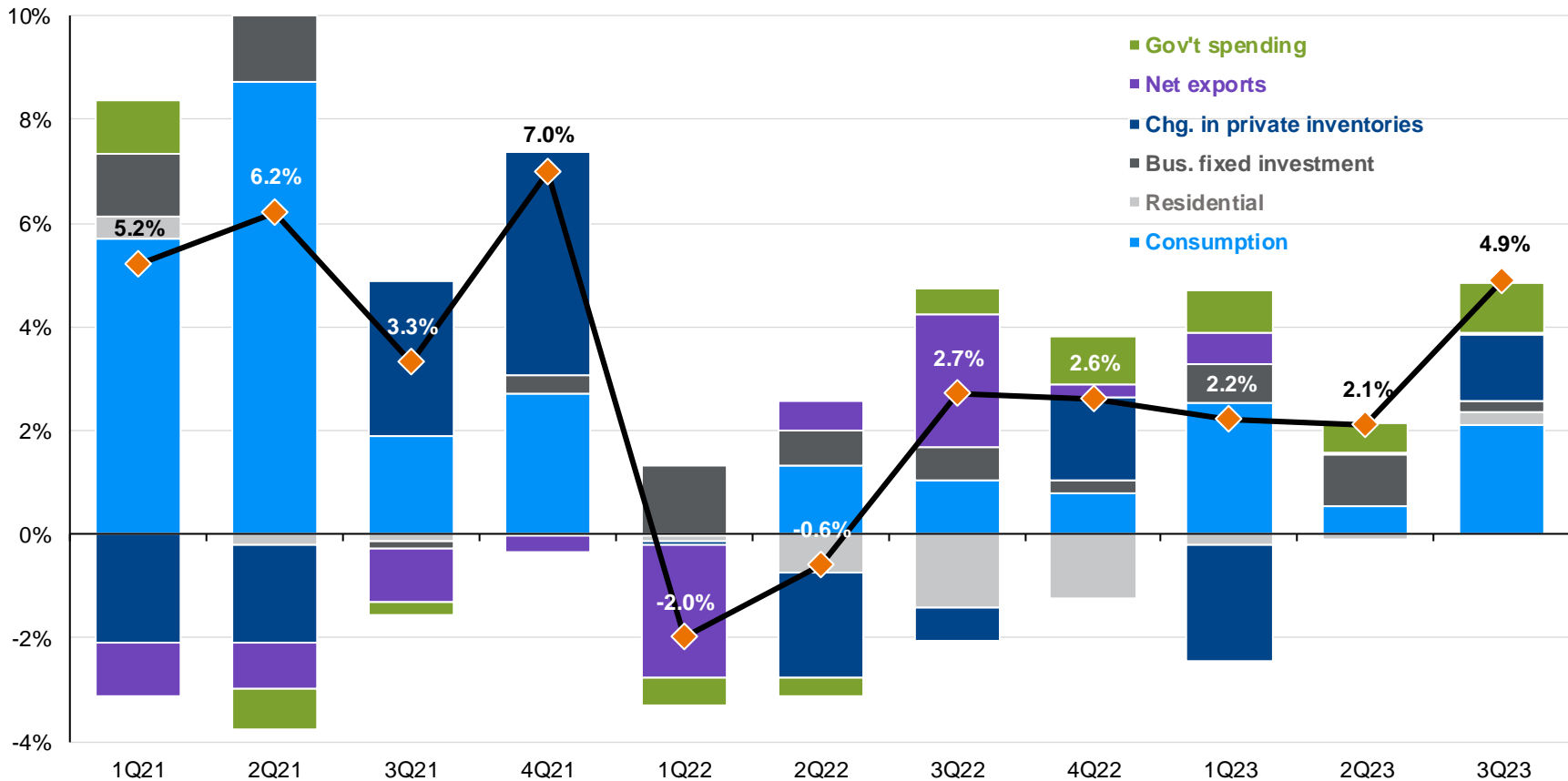


U.S.: Components of GDP growth

GTM LATAM 26

Contributors to real GDP growth

q/q % change, annualized rate



Source: BEA, FactSet, J.P. Morgan Asset Management.
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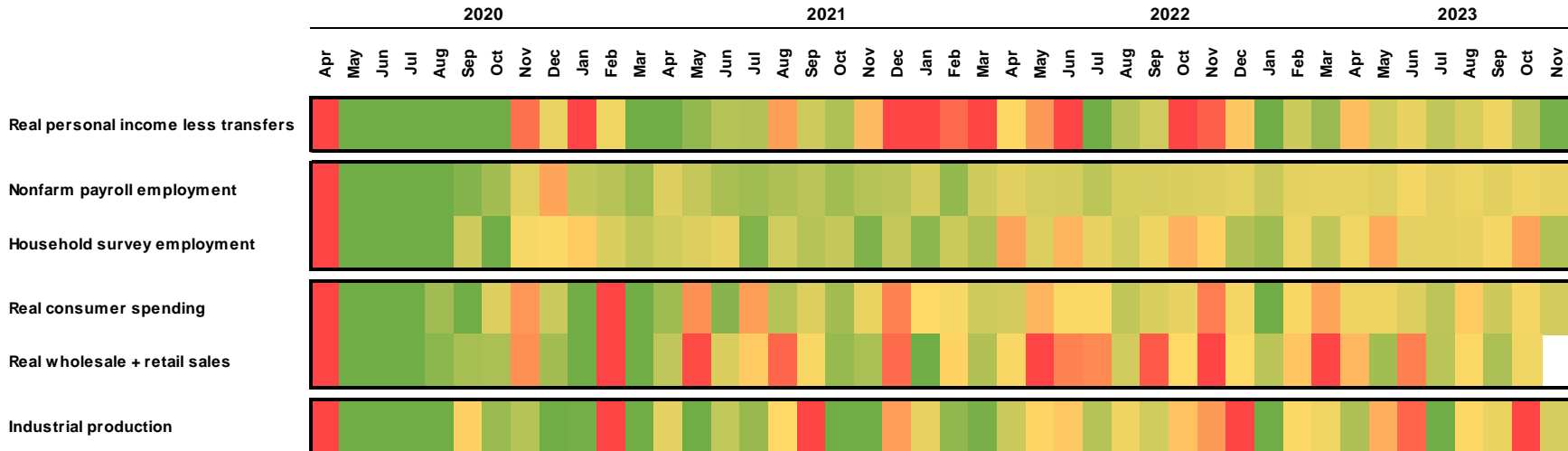


U.S.: Recession determinants

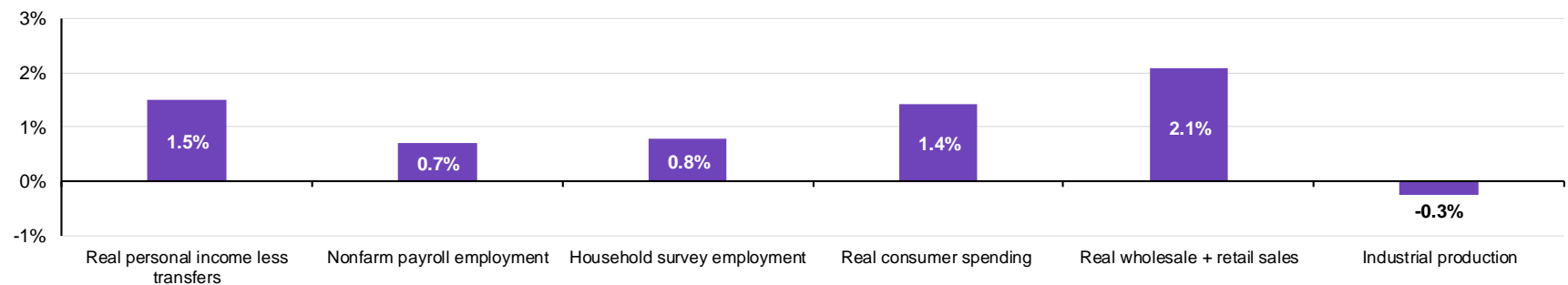
GTM LATAM 27

Variables used by the NBER in making recession determination*

% change month-over-month



% change, last six months



Source: Bureau of Economic Analysis, Bureau of Labor Statistics, Census Bureau, NBER, J.P. Morgan Asset Management. Heatmap shading reflects 10 years of data, with green and red reflecting a range of +/- 0.5 standard deviations from a baseline of 0% monthly growth. *The NBER's definition of a recession involves a significant decline in economic activity that is spread across the economy and lasts more than a few months. Specifically, they consider real personal income less transfers, nonfarm payroll employment, employment as measured by the household survey, real personal consumption expenditures, wholesale-retail sales adjusted for price changes and industrial production. There is no fixed rule about which measures contribute to the process or how they are weighted, but the committee notes that "in recent decades, the two measures we have put the most weight on are real personal income less transfers and nonfarm payroll employment." Guide to the Markets – Latin America. Data are as of December 31, 2023.

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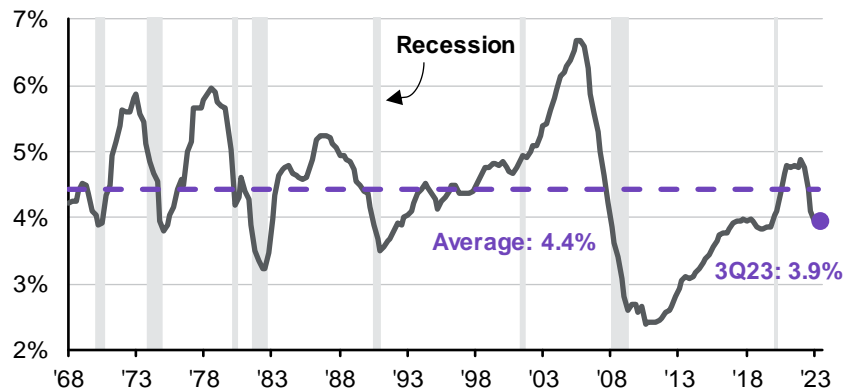


U.S.: Cyclical sectors

GTM LATAM 28

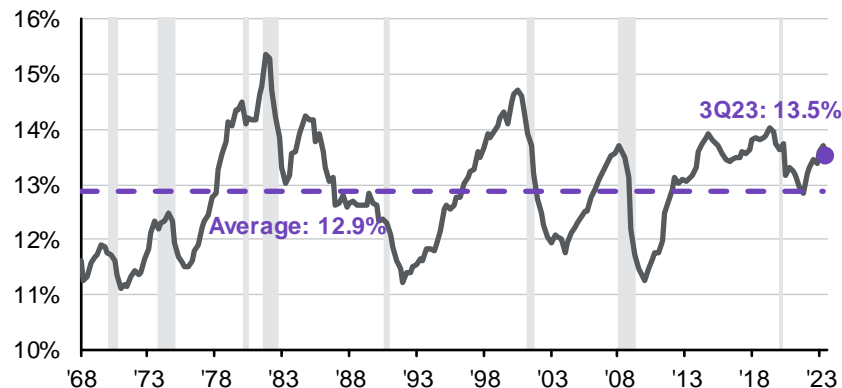
Residential investment as a % of GDP

Quarterly, seasonally adjusted



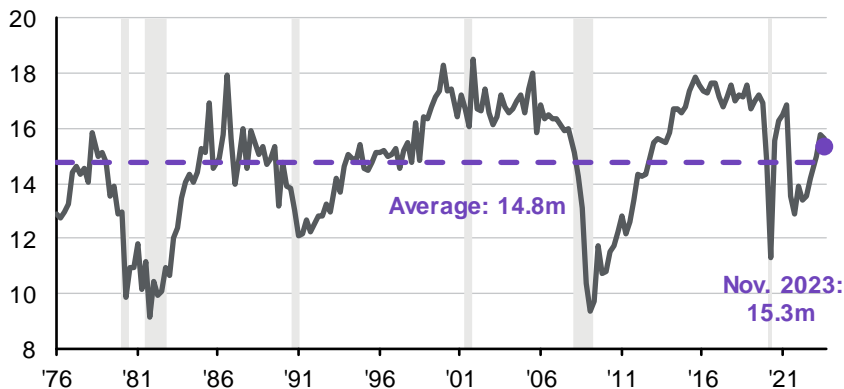
Business fixed investment as a % of GDP

Quarterly, seasonally adjusted



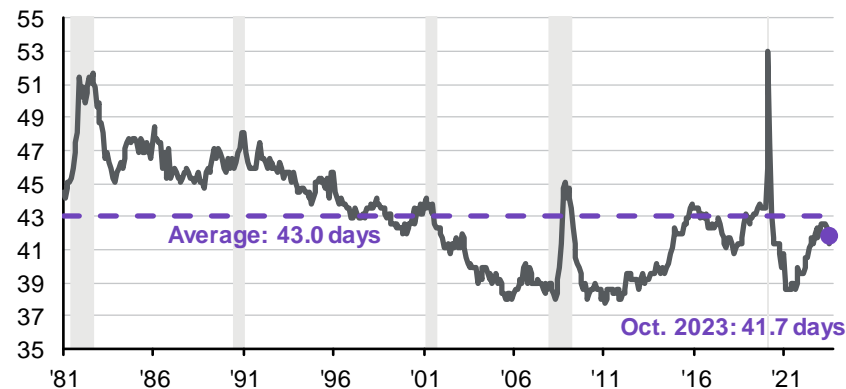
Light vehicle sales

Mil vehicles, seasonally adjusted ann. rate



Total business inventory/sales ratio

Days of sales, monthly, seasonally adjusted



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

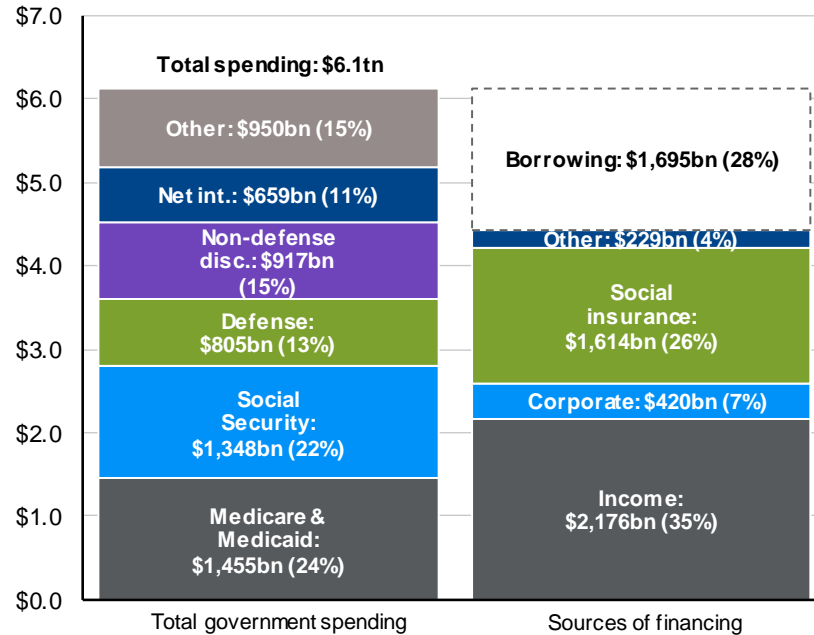
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U.S.: Federal finances

The 2023 federal budget

USD trillions

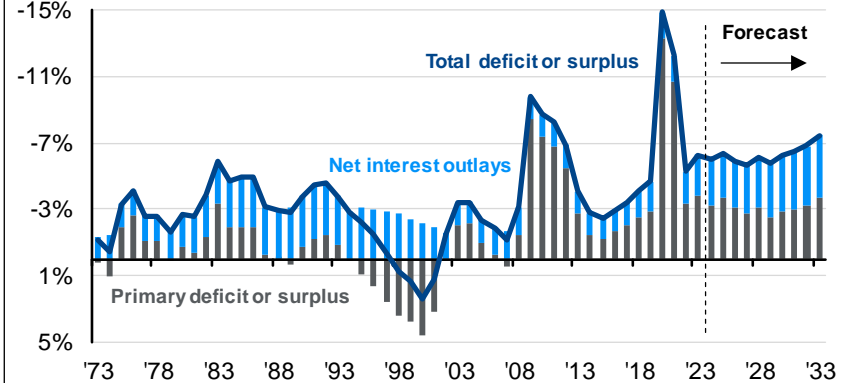


CBO's Baseline economic assumptions

	2023	'24-'25	'26-'27	'28-'33
Real GDP growth	0.9%	2.0%	2.4%	1.9%
10-year Treasury	4.0%	3.8%	3.8%	3.8%
Headline inflation (CPI)	3.3%	2.5%	2.1%	2.2%
Unemployment	4.1%	4.6%	4.5%	4.5%

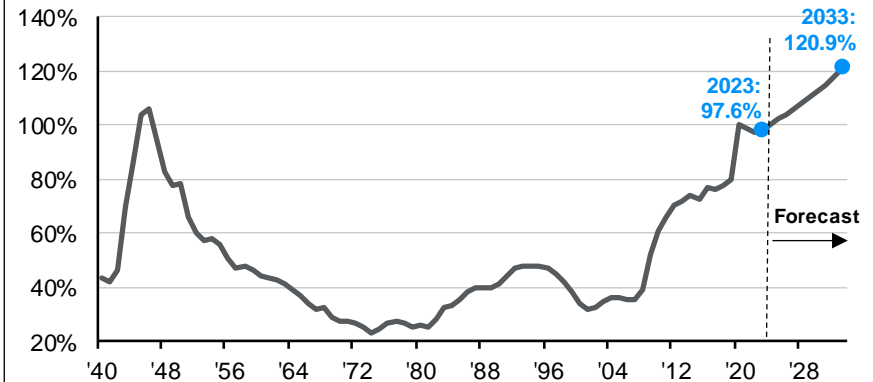
Federal deficit and net interest outlays

% of GDP, 1973-2033, Adj. CBO Baseline Forecast*



Federal net debt (accumulated deficits)

% of GDP, 1940 – 2033, Adj. CBO Baseline Forecast*, end of fiscal year



Source: CBO, J.P. Morgan Asset Management; (Top and bottom right) BEA, Treasury Department.

*Estimates are based on the Congressional Budget Office (CBO) May 2023 An Update to the Budget Outlook: 2023 to 2033, adjusted by JPMAM for FY 2023 forecast errors. Other spending includes, but is not limited to, health insurance subsidies, income security and federal civilian and military retirement. Note: Years shown are fiscal years. Forecasts are not a reliable indicator of future performance. Forecasts, projections and other forward-looking statements are based upon current beliefs and expectations. They are for illustrative purposes only and serve as an indication of what may occur. Given the inherent uncertainties and risks associated with forecasts, projections or other forward-looking statements, actual events, results or performance may differ materially from those reflected or contemplated.

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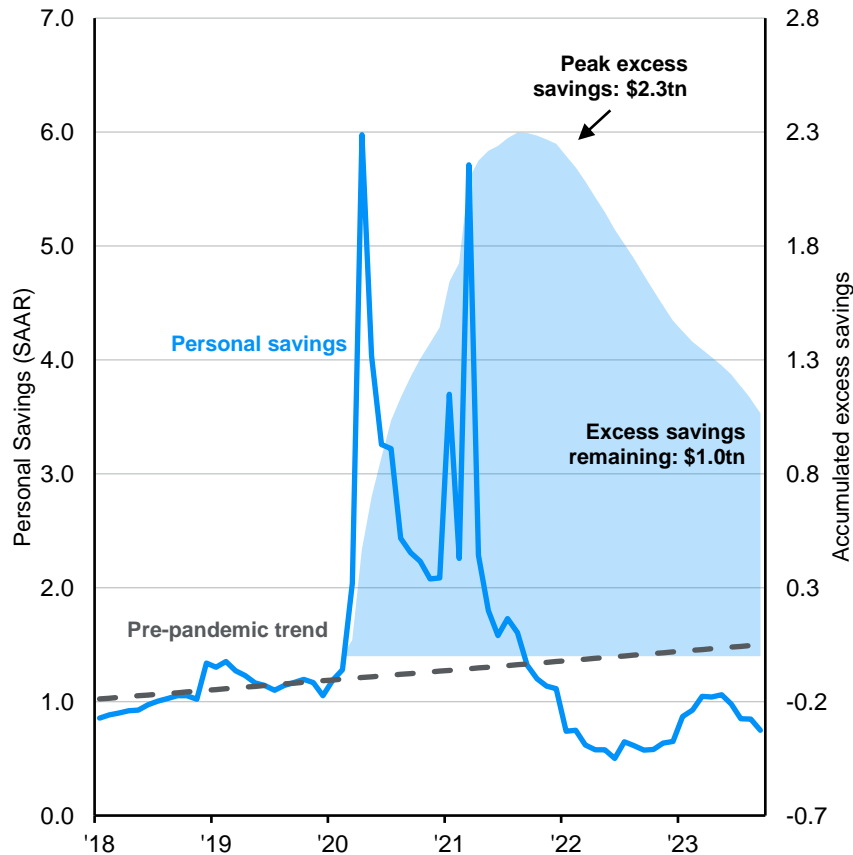


U.S.: Consumer saving and borrowing

GTM LATAM 30

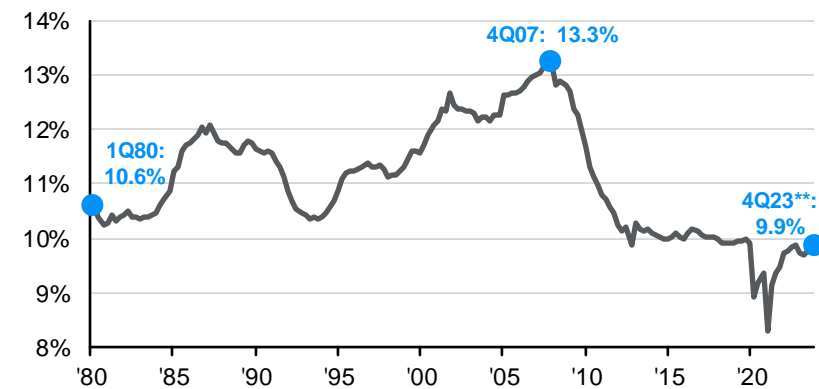
Household excess savings

Trillions of USD



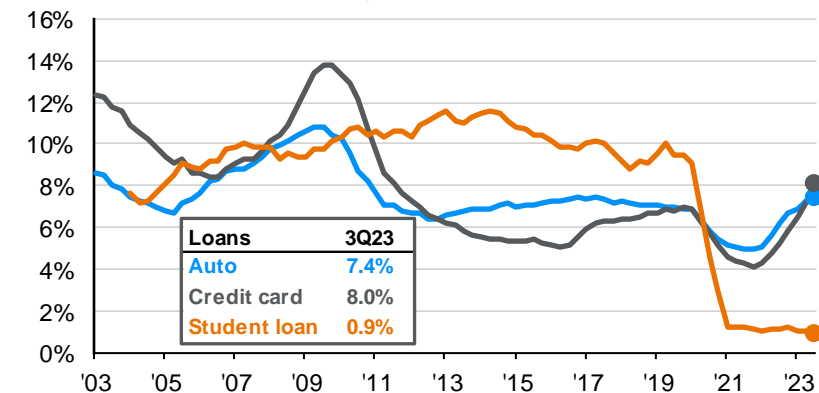
Household debt service ratio

Debt payments as % of disposable personal income, SA



Flows into early delinquencies

% of balance delinquent 30+ days



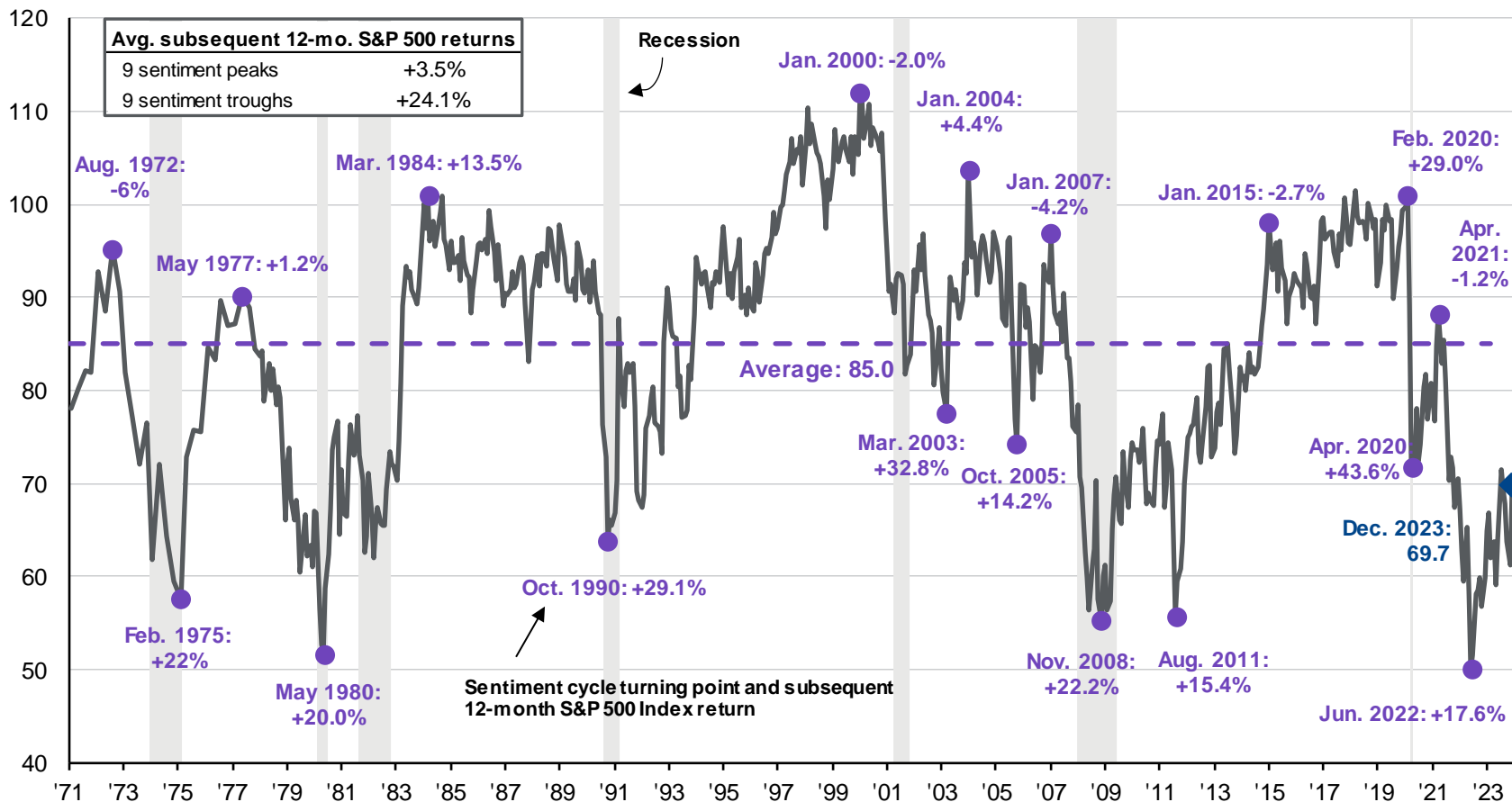
Source: Bureau of Economic Analysis, FactSet, Federal Reserve, J.P. Morgan Asset Management. (Left) From March 2020 to August 2021, consumers amassed a peak \$2.1 trillion in excess savings relative to the pre-pandemic trend. Since August 2021, consumers have drawn down on those excess savings, with the remaining reflected in the chart annotation. (Top and bottom right) Data include households and nonprofit organizations. SA – seasonally adjusted. **4Q23 figures for debt service ratio are J.P. Morgan Asset Management estimates. *Guide to the Markets – Latin America*. Data are as of December 31, 2023.



U.S.: Consumer confidence and the stock market

GTM LATAM 31

Consumer Sentiment Index and subsequent 12-month S&P 500 returns



Source: FactSet, Standard & Poor's, University of Michigan, J.P. Morgan Asset Management. Peak is defined as the highest index value before a series of lower lows, while a trough is defined as the lowest index value before a series of higher highs. Subsequent 12-month S&P 500 returns are price returns only starting from the end of the month and excluding dividends. Past performance is not a reliable indicator of current and future results. *Guide to the Markets – Latin America*. Data are as of December 31, 2023.

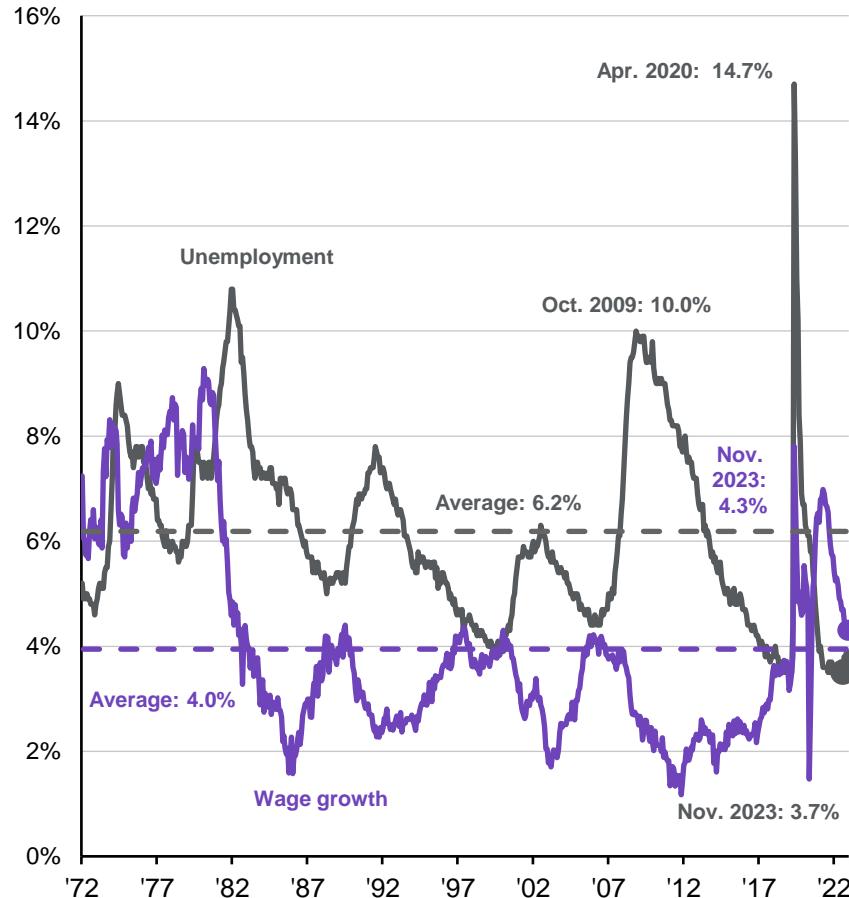


U.S.: Unemployment and inflation

GTM LATAM 32

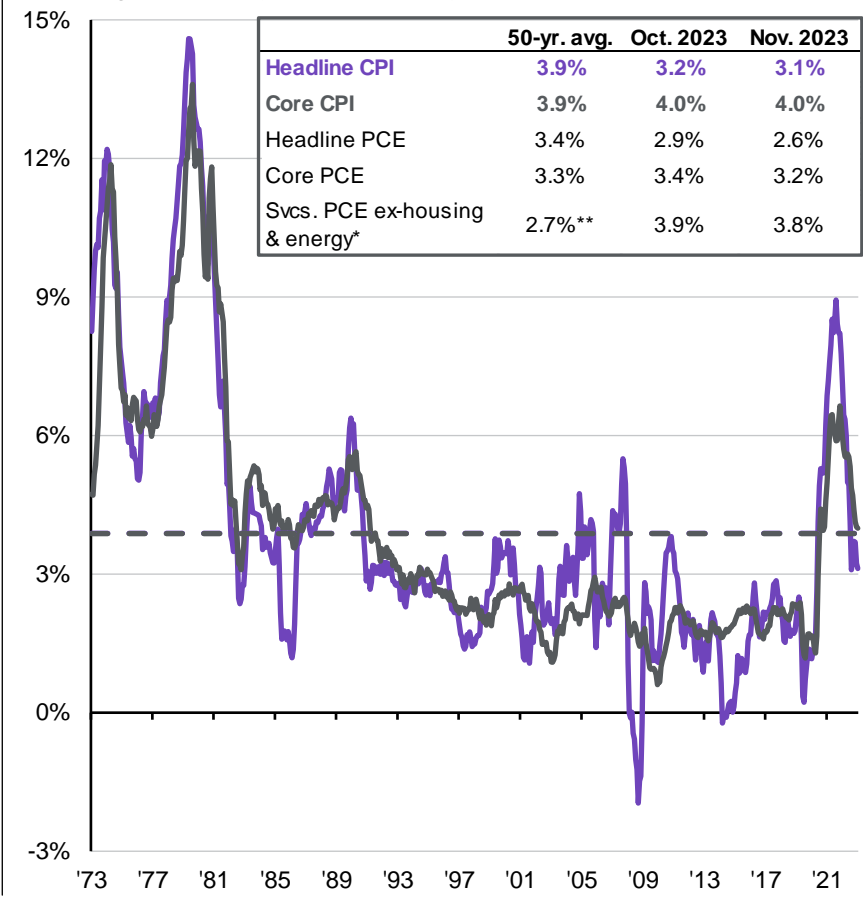
Civilian unemployment rate and wage growth

%, seasonally adjusted



CPI and core CPI

% change vs. prior year, seasonally adjusted



Source: BEA, BLS, J.P. Morgan Asset Management.

CPI used is CPI-U and values shown are % change vs. one year ago. Core CPI is defined as CPI excluding food and energy prices. The Personal Consumption Expenditure (PCE) deflator employs an evolving chain-weighted basket of consumer expenditures instead of the fixed-weight basket used in CPI calculations. *This is the PCE index of services excluding energy and housing referenced in the U.S. Federal Reserve's Monetary Policy Report. It is provided by the BEA and is distinct from the CPI data provided by the BLS. "Housing" is a PCE component that is measured separately from the CPI "shelter" component. **Shows the 10-yr. avg. as the 50-yr. avg. is not available for this measure.

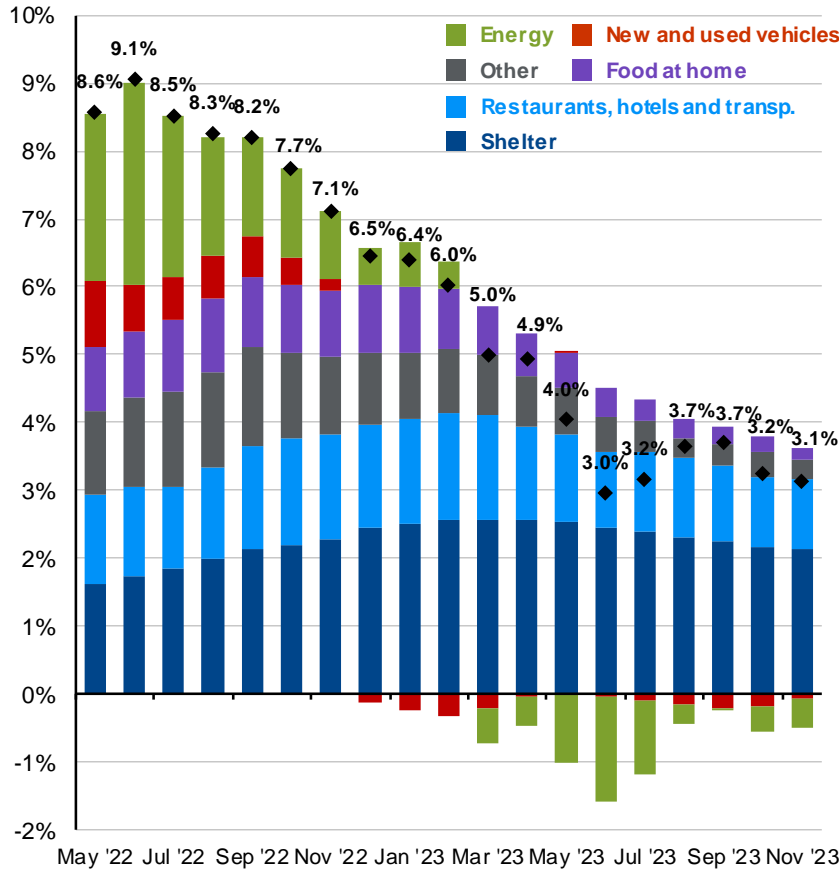
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U.S.: Inflation components

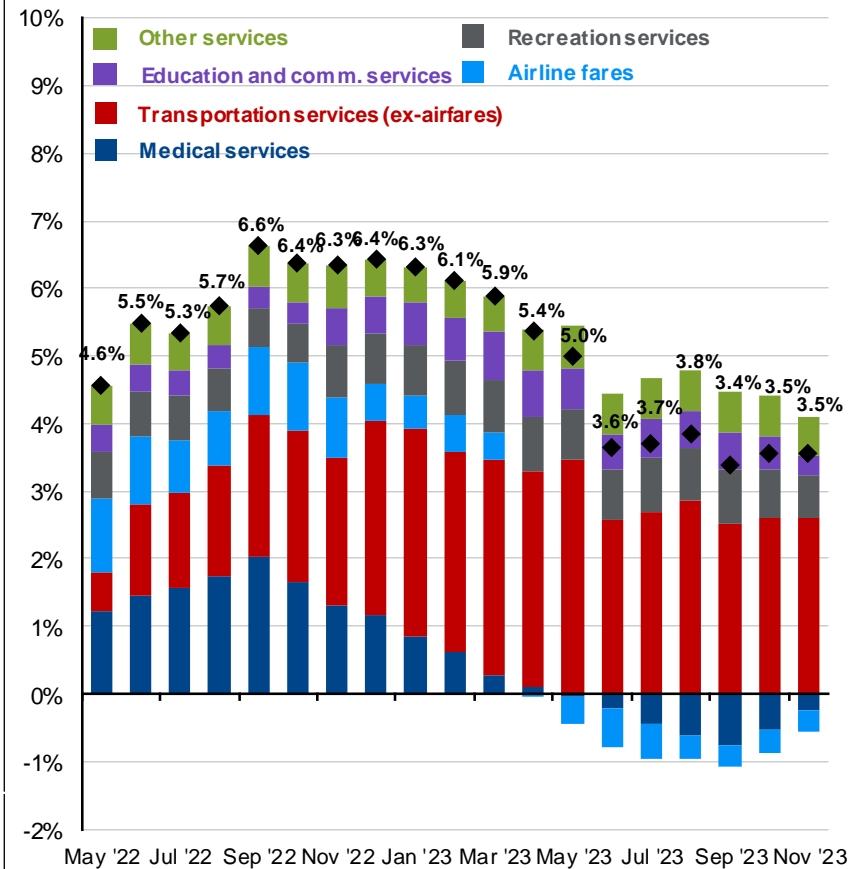
Contributors to headline CPI inflation

Contribution to y/y % change in CPI, non-seasonally adjusted



Contributors to core services ex-shelter CPI inflation*

Contribution to y/y % change in custom CPI index, non-seasonally adj.



Source: BLS, FactSet, J.P. Morgan Asset Management. Contributions mirror the BLS methodology on Table 7 of the CPI report. Values may not sum to headline CPI figures due to rounding and underlying calculations. *Core services ex-shelter CPI is a custom index using CPI components created by J.P. Morgan Asset Management. (Left) "Shelter" includes owners' equivalent rent and rent of primary residence; "Other" primarily reflects household furnishings, apparel, education and communication services, medical care services and other personal services. (Right) "Transportation services" primarily includes leased cars and trucks, motor vehicle insurance and motor vehicle maintenance and repair. Airline fares are broken out from transportation services.

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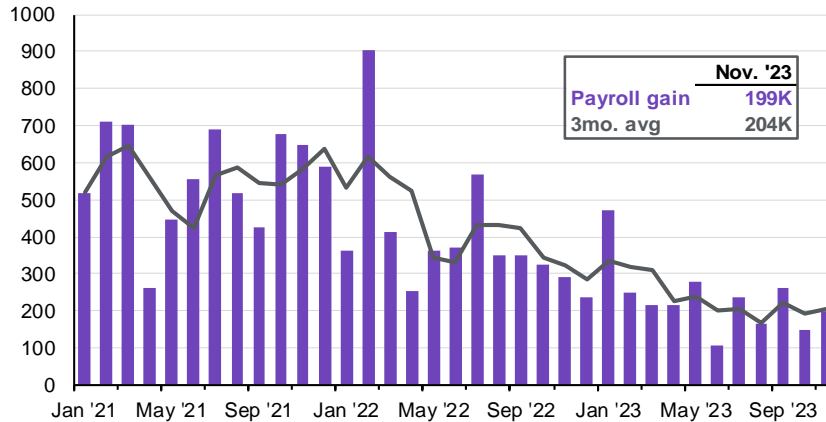


U.S.: Labor market dashboard

GTM LATAM 34

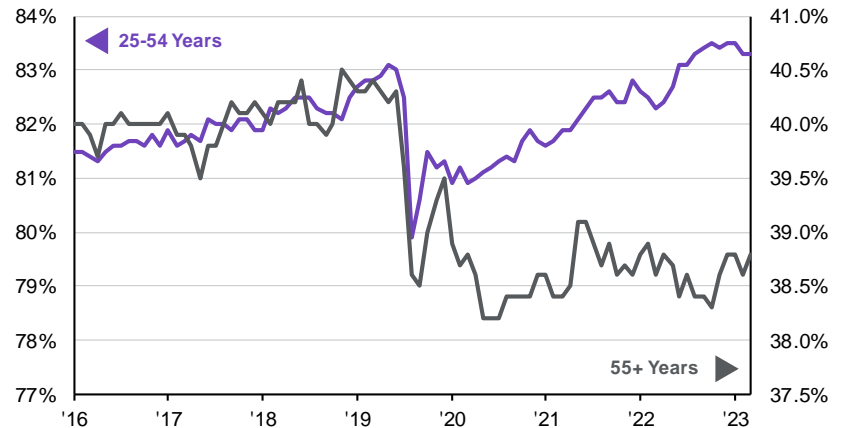
Nonfarm payroll gains

Month-over-month change and 3mo. moving average, SA

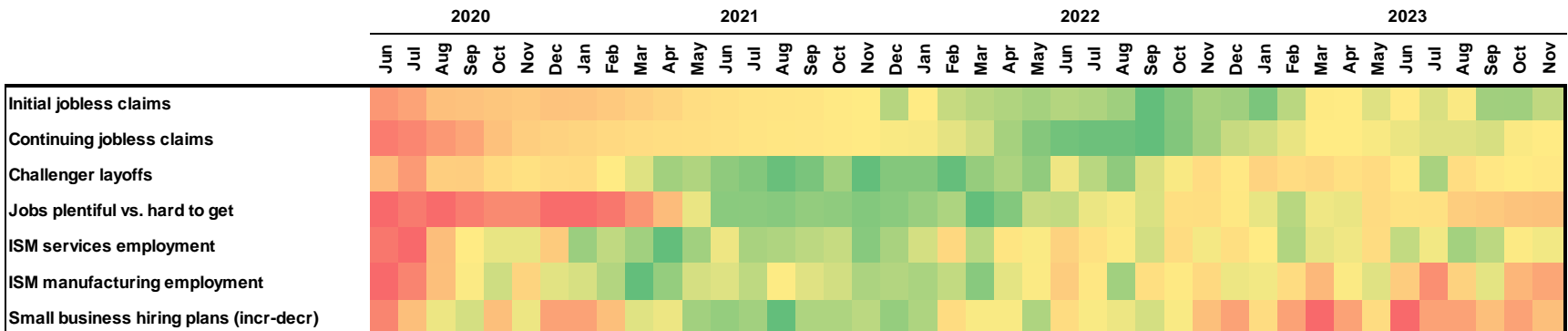


Labor force participation

% of civilian noninstitutional population, SA



Key labor market indicators



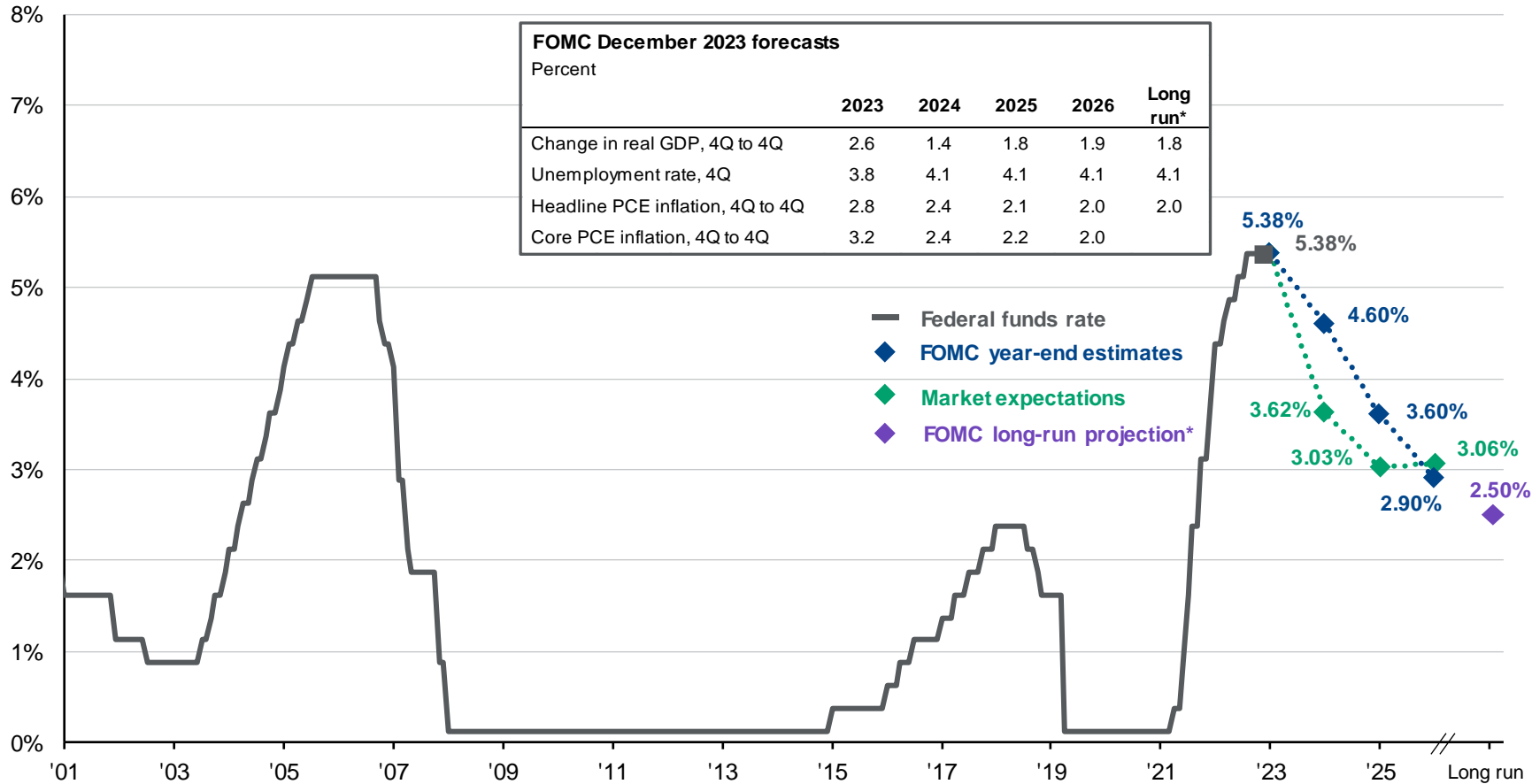
Source: BLS, Conference Board, FactSet, ISM, NFIB, J.P. Morgan Asset Management. Heatmap shading is relative to the time period shown. For jobless claims and layoffs, red reflects higher values and green reflects lower values. For ISM employment PMIs, shading is centered at a 50 level, with values above 50 indicating acceleration (shaded green) and below 50 indicating deceleration (shaded red) of employment. For jobs plentiful vs. hard to get and small business hiring plans, red reflects low survey values and green reflects high values.
Guide to the Markets – Latin America. Data are as of December 31, 2023.



U.S.: The Fed and interest rates

Federal funds rate expectations

FOMC and market expectations for the federal funds rate



Source: Bloomberg, FactSet, Federal Reserve, J.P. Morgan Asset Management.

Market expectations are based off of USD Overnight Index Swaps. *Long-run projections are the rates of growth, unemployment and inflation to which a policymaker expects the economy to converge over the next five to six years in absence of further shocks and under appropriate monetary policy. Forecasts are not a reliable indicator of future performance. Forecasts, projections and other forward-looking statements are based upon current beliefs and expectations. They are for illustrative purposes only and serve as an indication of what may occur. Given the inherent uncertainties and risks associated with forecasts, projections or other forward-looking statements, actual events, results or performance may differ materially from those reflected or contemplated. *Guide to the Markets – Latin America*. Data are as of December 31, 2023.

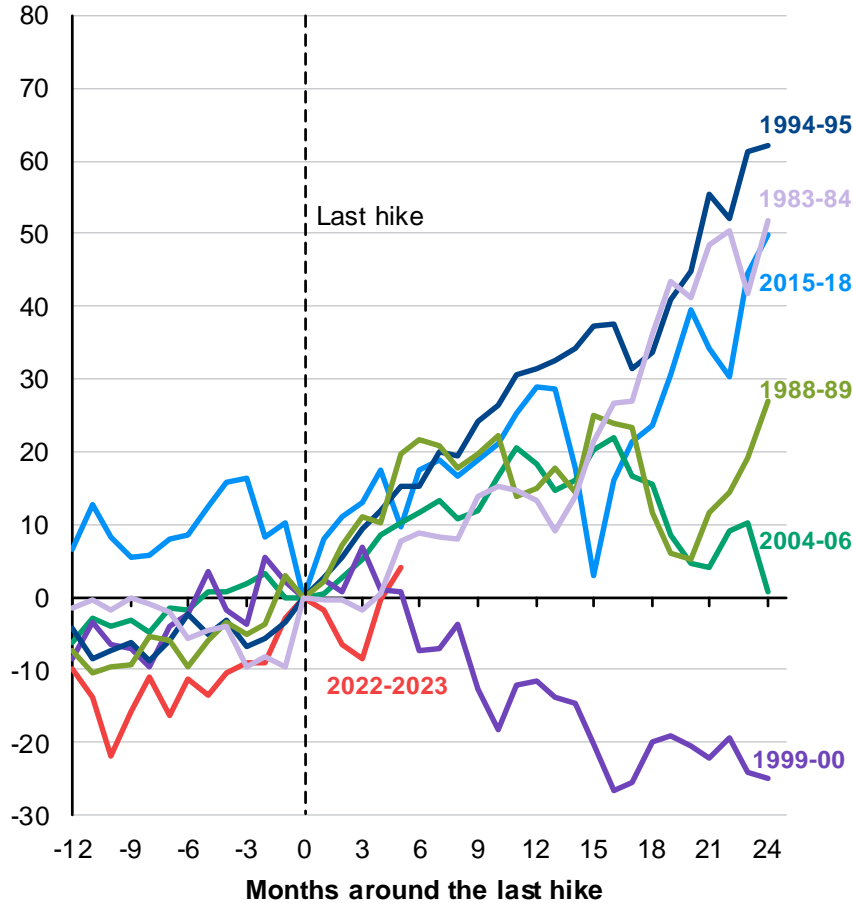


U.S.: Market returns around the end of a Fed hiking cycle

GTM LATAM 36

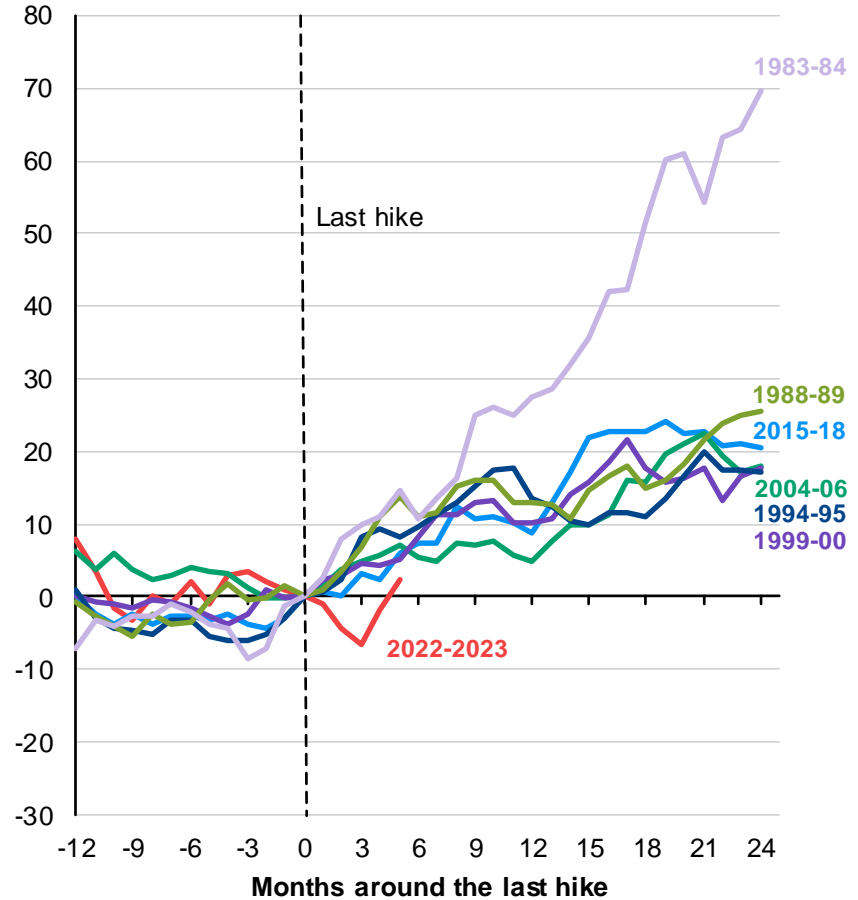
S&P 500 returns around the end of a Fed hiking cycle

%, price return, indexed to zero at the last hike



U.S. 10-yr returns around the end of a Fed hiking cycle

%, total return, indexed to zero at the last hike



Source: FactSet, Federal Reserve, LSEG Datastream, S&P Global, J.P. Morgan Asset Management. The 2022-2023 cycle assumes that the last hike of the cycle was in July 2023. Past performance is not a reliable indicator of current and future results.
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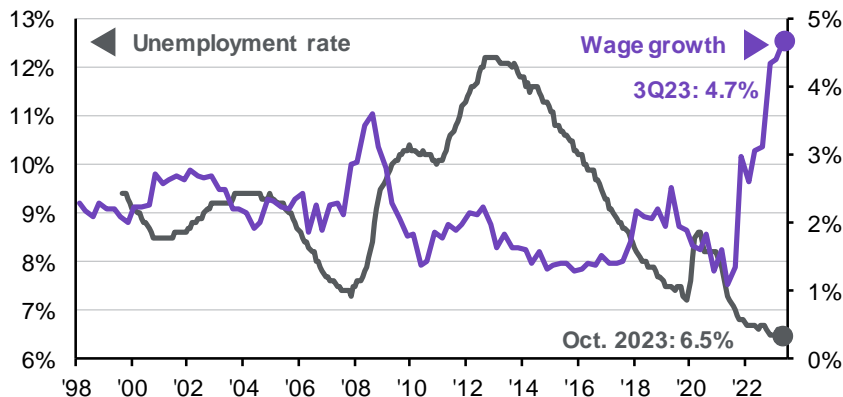


Eurozone: Economy

GTM LATAM 37

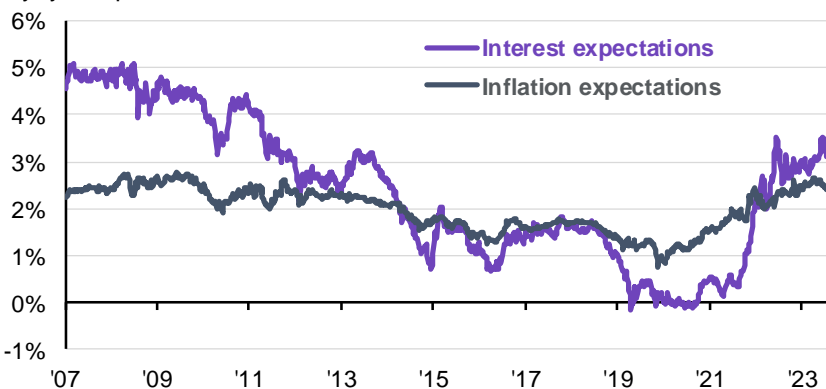
Eurozone unemployment rate and wage growth

Year-over-year



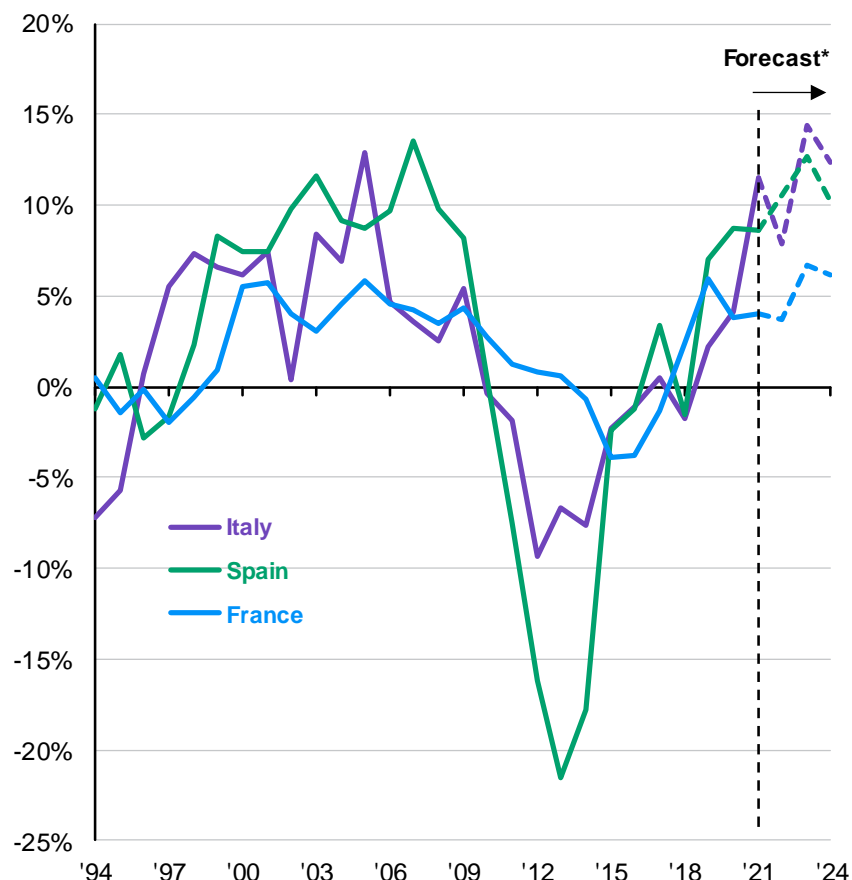
Eurozone interest rate and inflation expectations

5y5y swaps



Government capital spending

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



Source: J.P. Morgan Asset Management. (Top left) ECB, European Commission, FactSet. Wage growth is based on negotiated wages. (Bottom left) Bloomberg. These series represent measures of expected inflation and interest rates (on average) over the five-year period that begins five years from today. (Right) Organization for Economic Co-operation and Development (OECD). *Forecast comes from the OECD.
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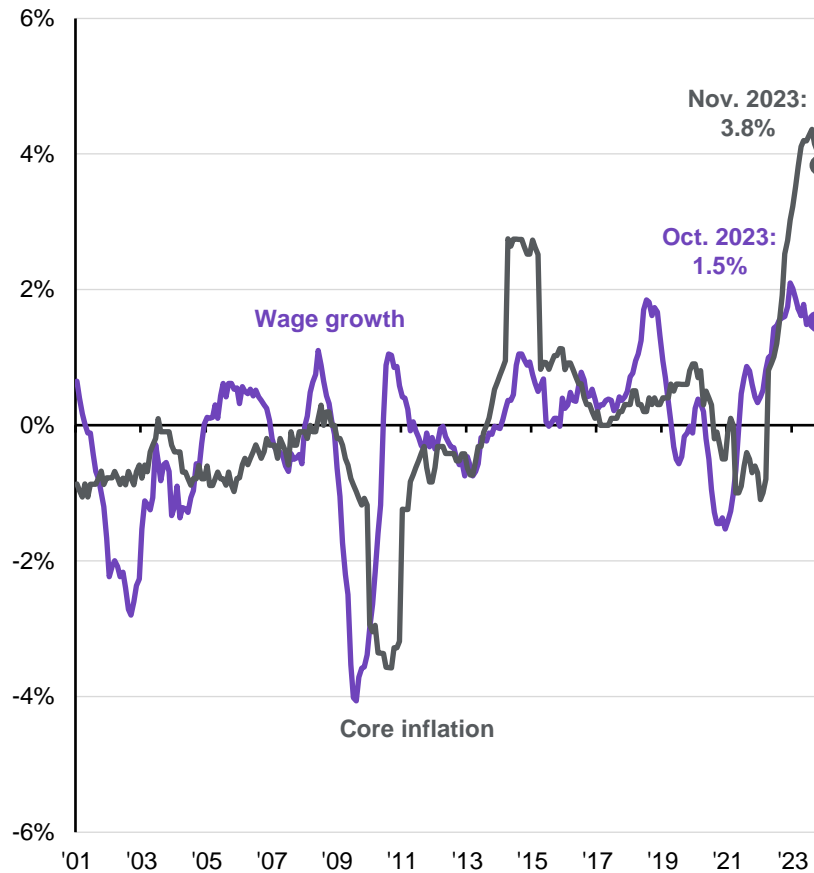


Japan: Economy and markets

GTM LATAM 38

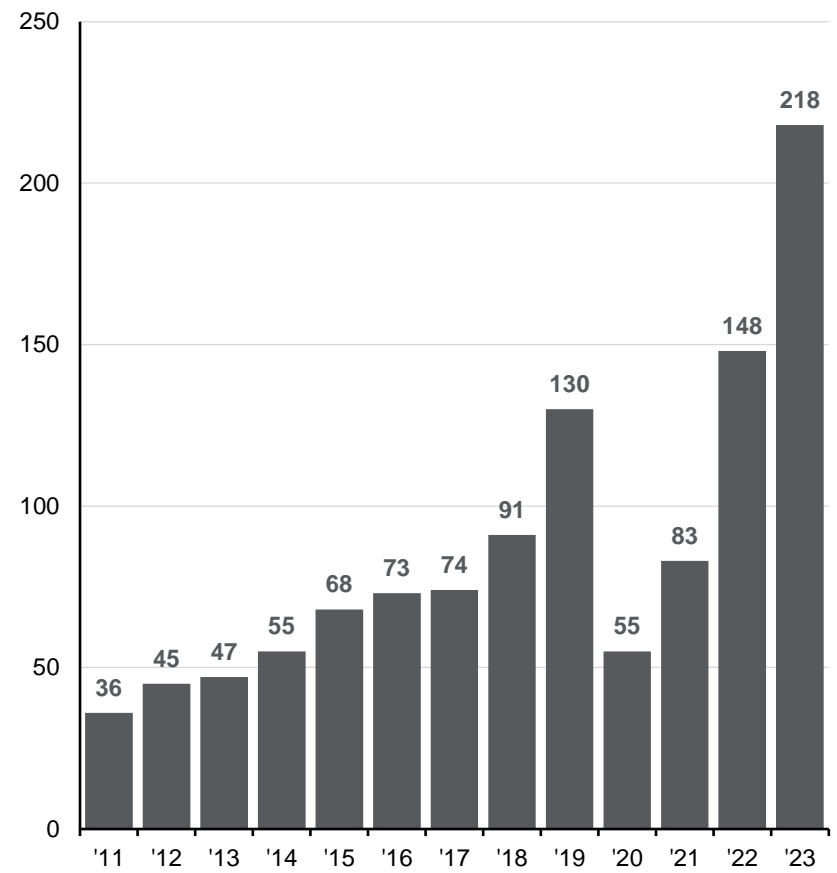
Core inflation and wage growth

Year-over-year, seasonally adjusted



Buyback announcements in Japan

TOPIX Index, number of share buyback announcements, fiscal year



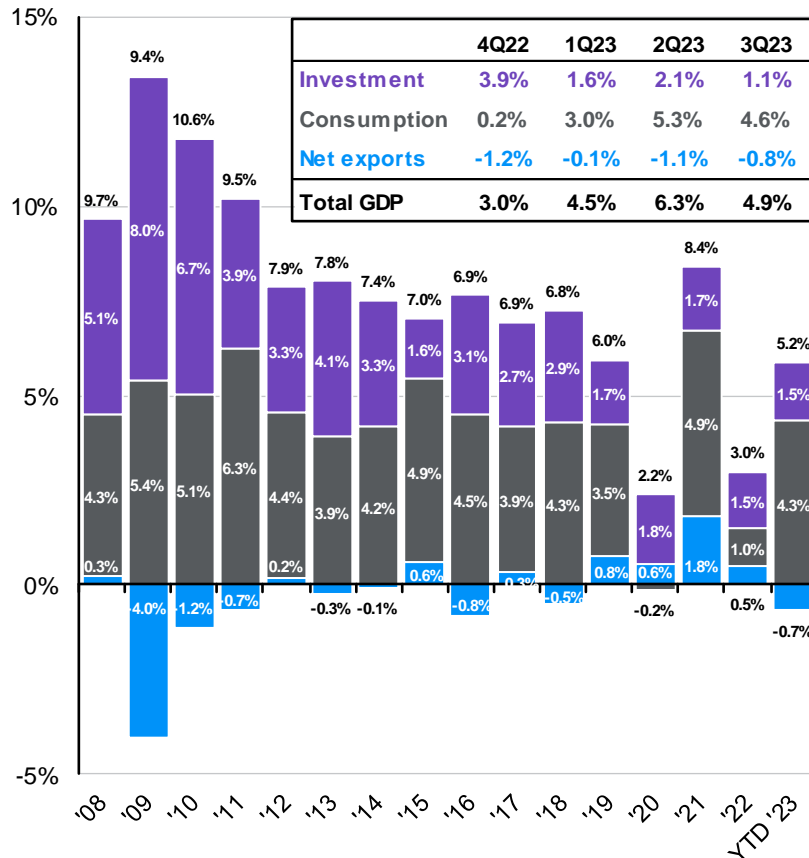
Source: J.P. Morgan Asset Management. (Left) FactSet, Japan Ministry of Internal Affairs and Communication. Core inflation includes all items except fresh food and energy. Wage growth is shown as a 6-month rolling average. (Right) Bank of America Global Research, QUICK. Based on companies in the TOPIX Index with fiscal year ending in May. Share buybacks aggregated from April 1 to May 18 for each year. *Guide to the Markets – Latin America*. Data are as of December 31, 2023.



China: Economy

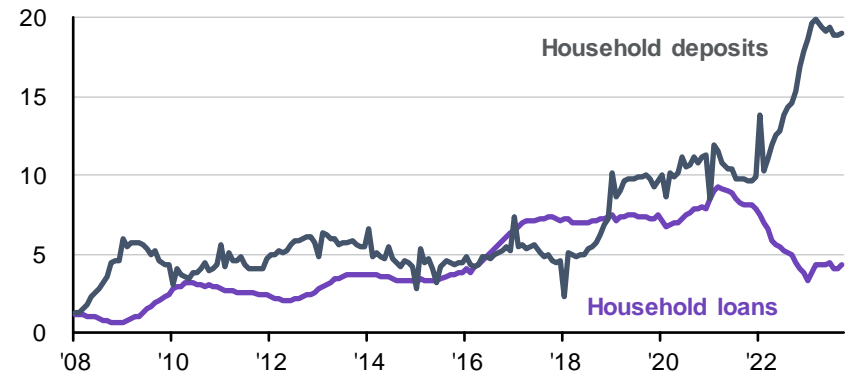
China real GDP contribution

Year-over-year % change, contribution by component



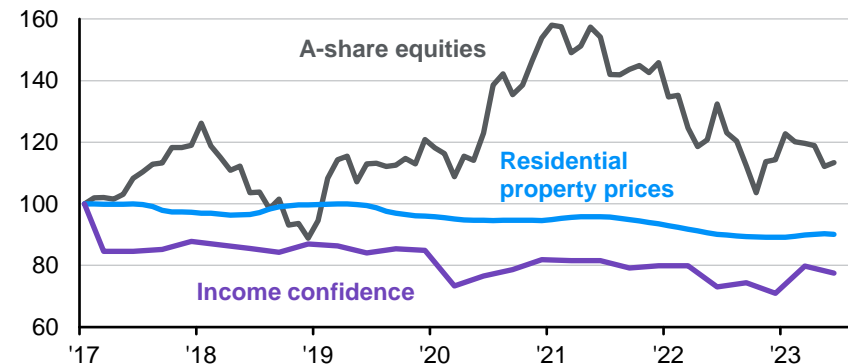
Household deposits and loans

CNY trillion, rolling 12 months



Consumer income and wealth effect

Jan. 2017 = 100



Source: J.P. Morgan Asset Management; (Left and bottom right) CEIC; (Top right) People's Bank of China, Wind; (Bottom right) National Bureau Statistics of China, People's Bank of China. "A-share equities" are represented by the CSI 300 Index. "Residential property prices" are represented by an index that tracks secondary market residential property prices. "Income confidence" is represented by a diffusion index reflecting respondents' confidence in future income. The two right graphs come from our [Guide to China](#).
 Guide to the Markets – Latin America. Data are as of December 31, 2023.

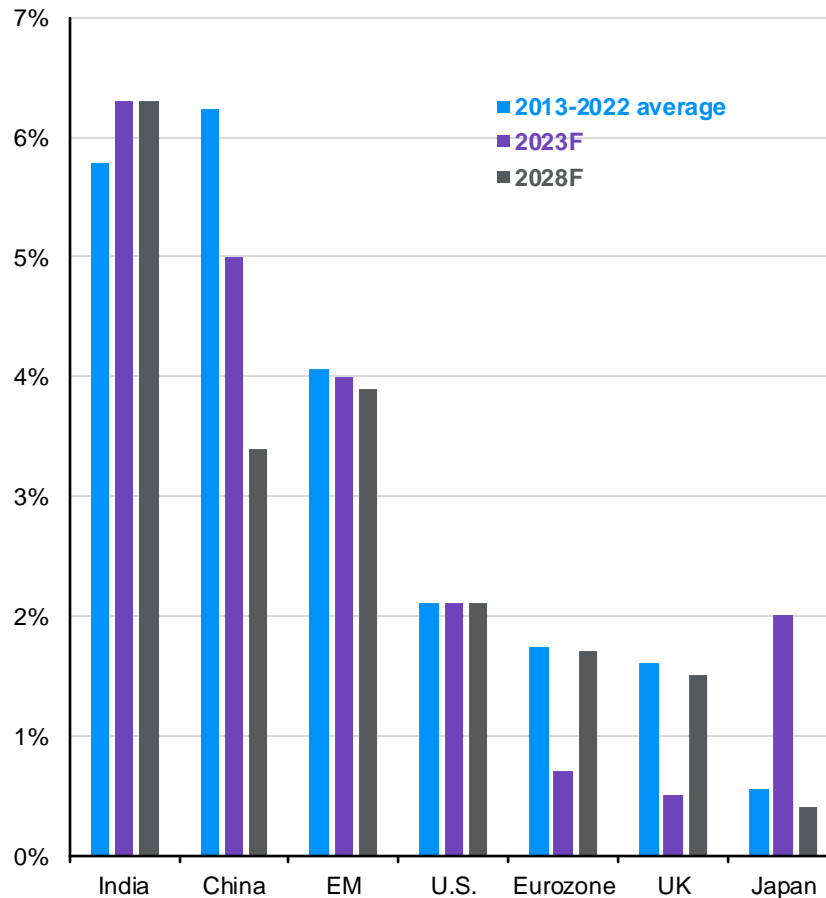


India: Economy

GTM LATAM 40

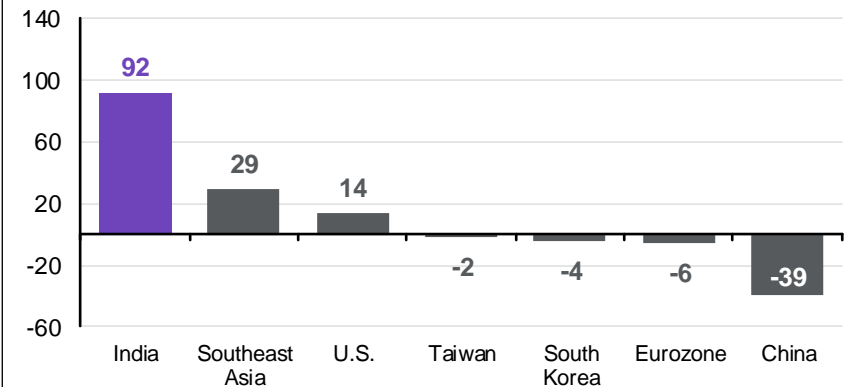
Real GDP growth by country

Year-over-year



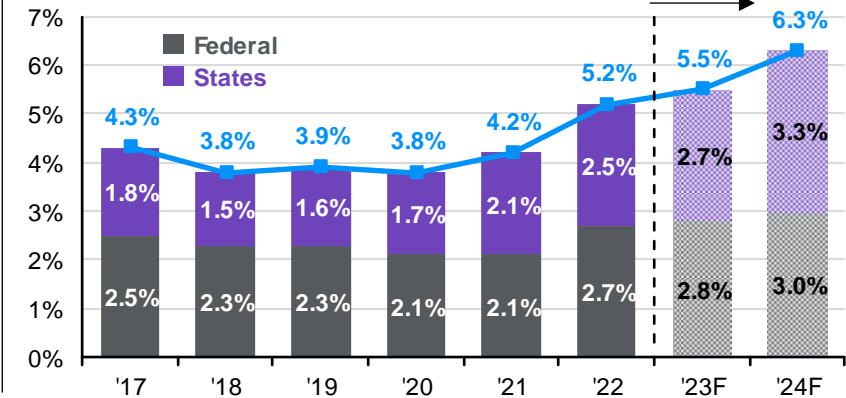
Working age population growth

Estimated change between 2023 and 2033*, millions of people



Government capital spending

% of GDP, current prices



Source: J.P. Morgan Asset Management. (Left) International Monetary Fund (IMF), World Economic Outlook (WEO) – October 2023. Forecasts are provided by the IMF. (Top right) *Estimates are provided by Oxford Economics. Working age population is defined as those aged 15-64. Southeast Asia includes Indonesia, Vietnam, Thailand, Philippines, Cambodia, Singapore and Malaysia. (Bottom right) Ministry of Finance India. Shows capital spending by fiscal year. The fiscal year in India runs from April to March. **Forecast is by the Ministry of Finance for FY 2023 and FY 2024. Guide to the Markets – Latin America. Data are as of December 31, 2023.

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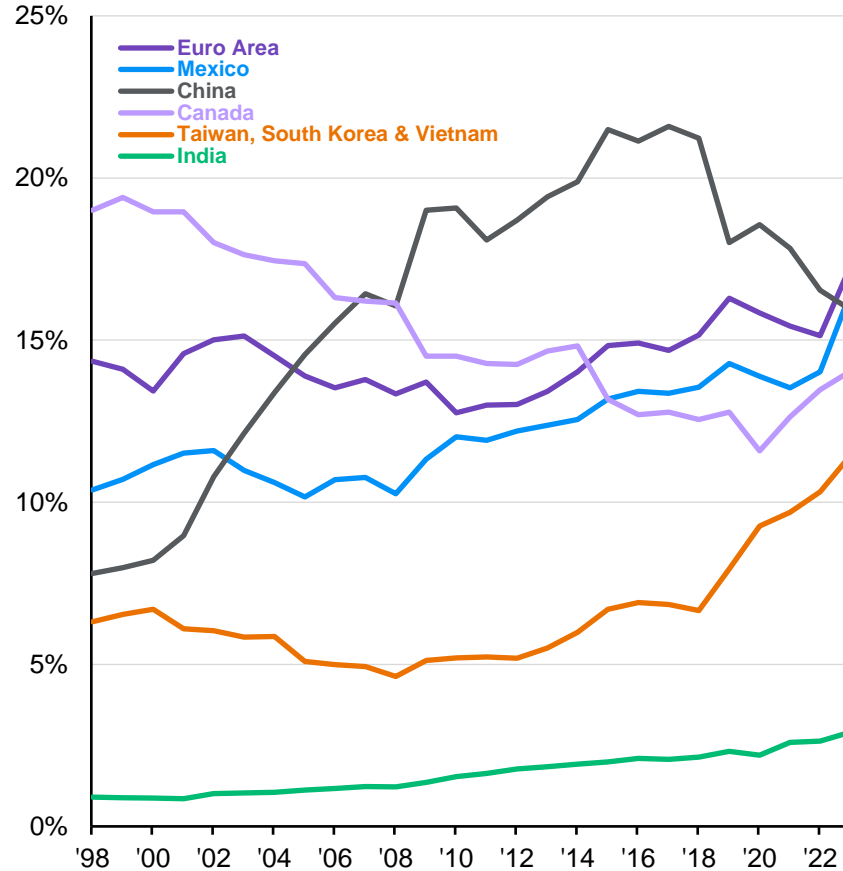
Global supply chain reorganization

GTM LATAM 41

Global Economy

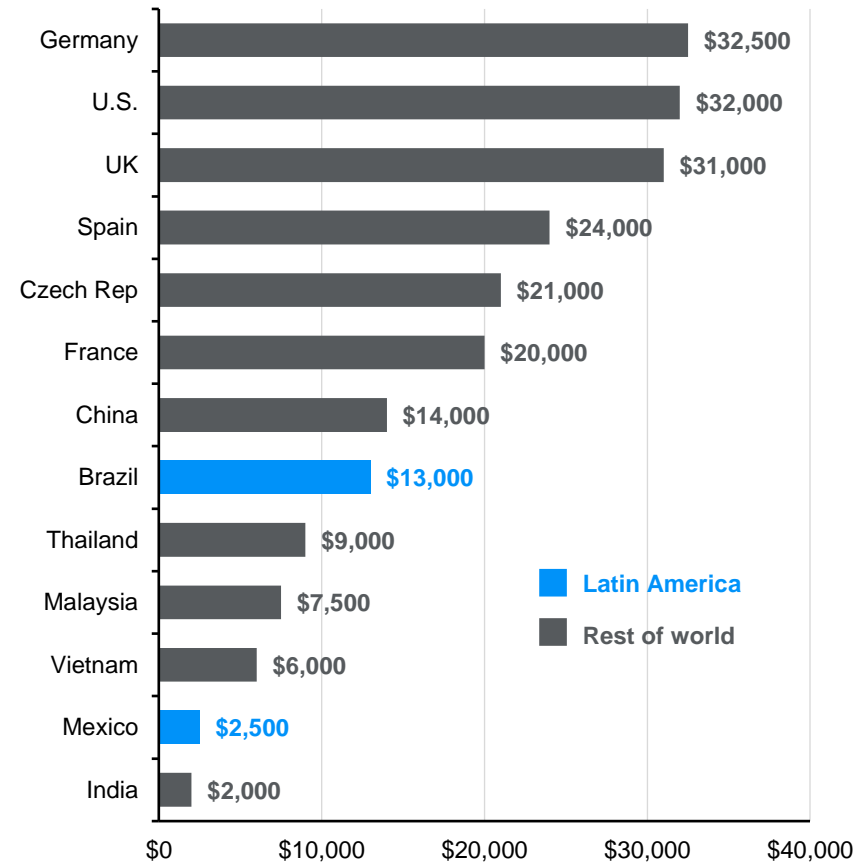
U.S. imports by country

% of total imports by year, annual and YTD 2023



Global manufacturing wages

Annual salaries of production workers in USD



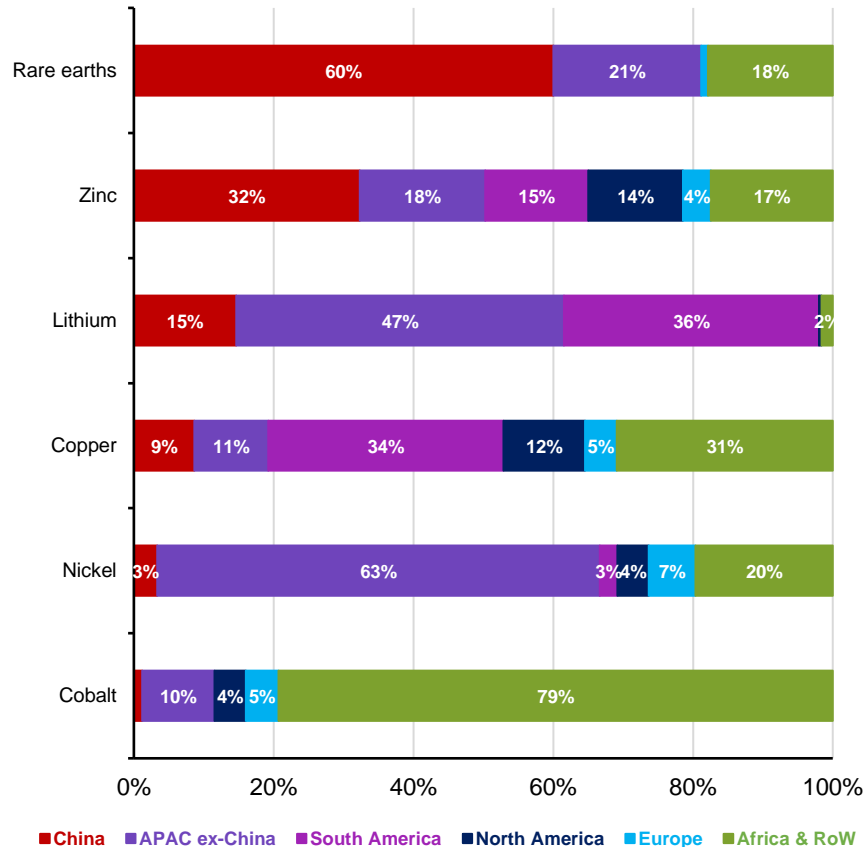
Source: J.P. Morgan Asset Management; (Left) FactSet, U.S. Census Bureau; (Right) Glassdoor.com, Indeed.com, J.P. Morgan Economic Research, Payscale.com, Salary.com, Salaryexplorer.com.
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Global share of key resources

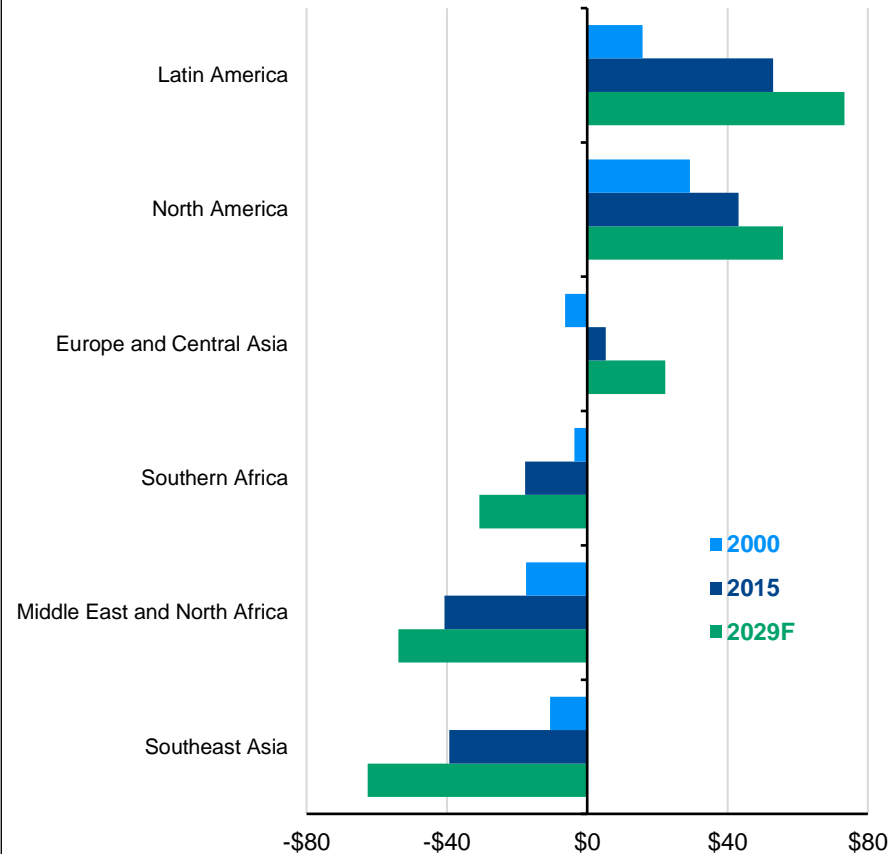
Mining production by location

% global share, 2022



Agricultural trade balances by region

2004-06 prices, USD billions



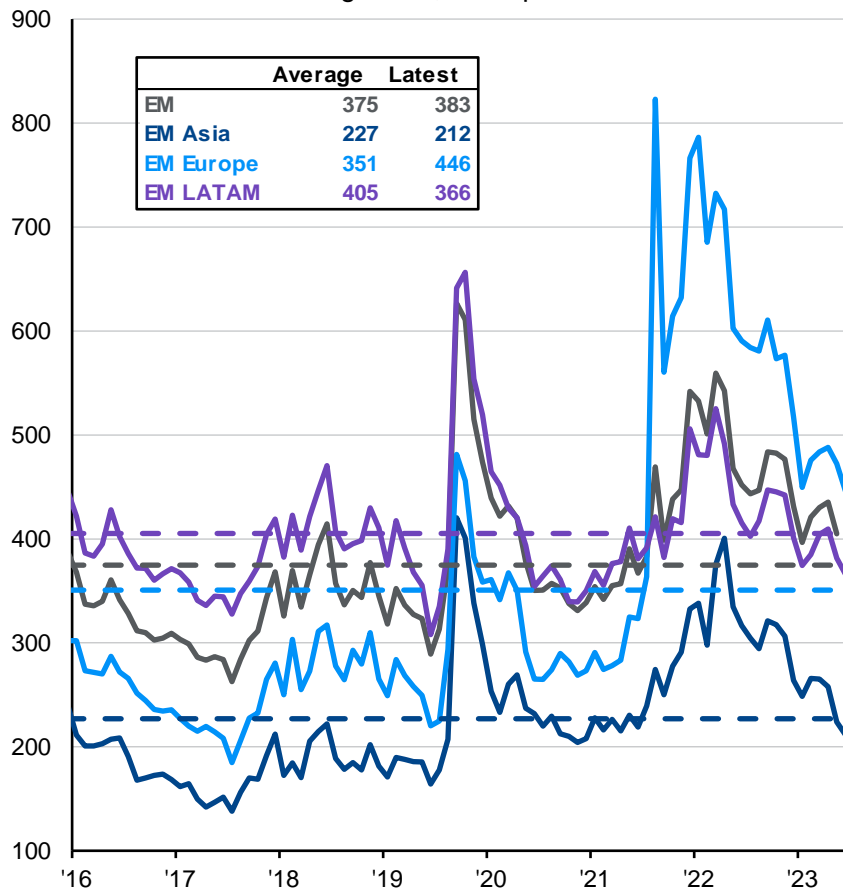
Source: J.P. Morgan Asset Management; (Left) U.S. Geological Survey, Mineral Commodity Summaries 2023; (Right) FAO, OECD. Net trade (exports minus imports) of commodities covered in the Agricultural Outlook 2020-2029. OECD Agricultural statistics (database). Forecast is by the OECD.
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Emerging market debt

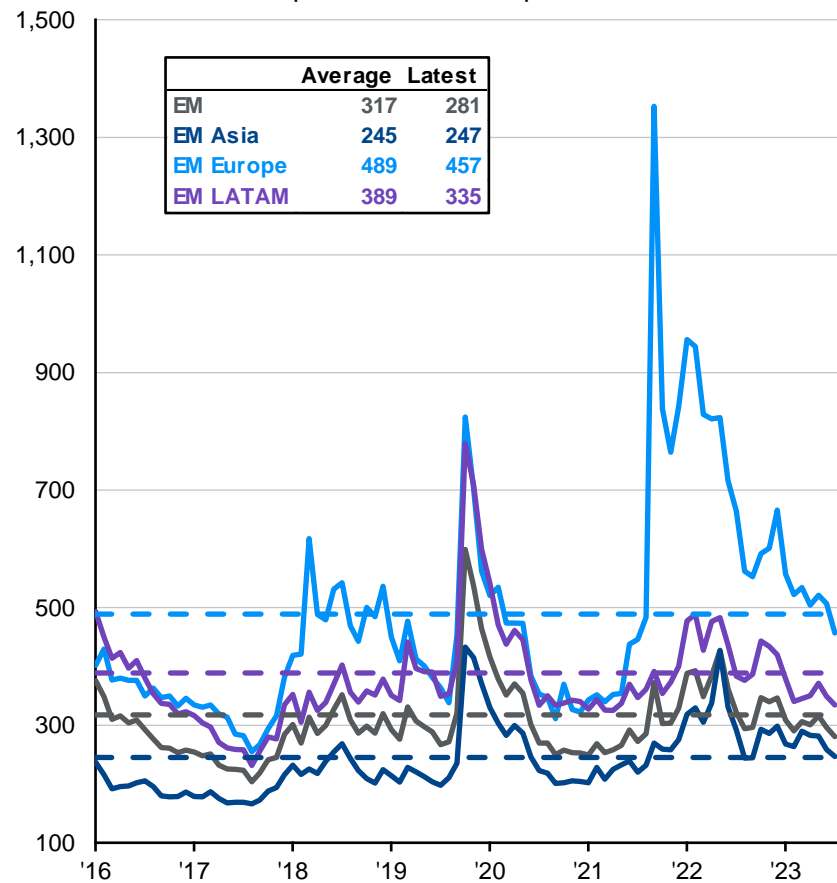
Regional EMD spreads: Sovereigns

USD-denominated sovereign debt, basis points over Treasuries



Regional EMD spreads: Corporates

USD-denominated corporate debt, basis points over Treasuries



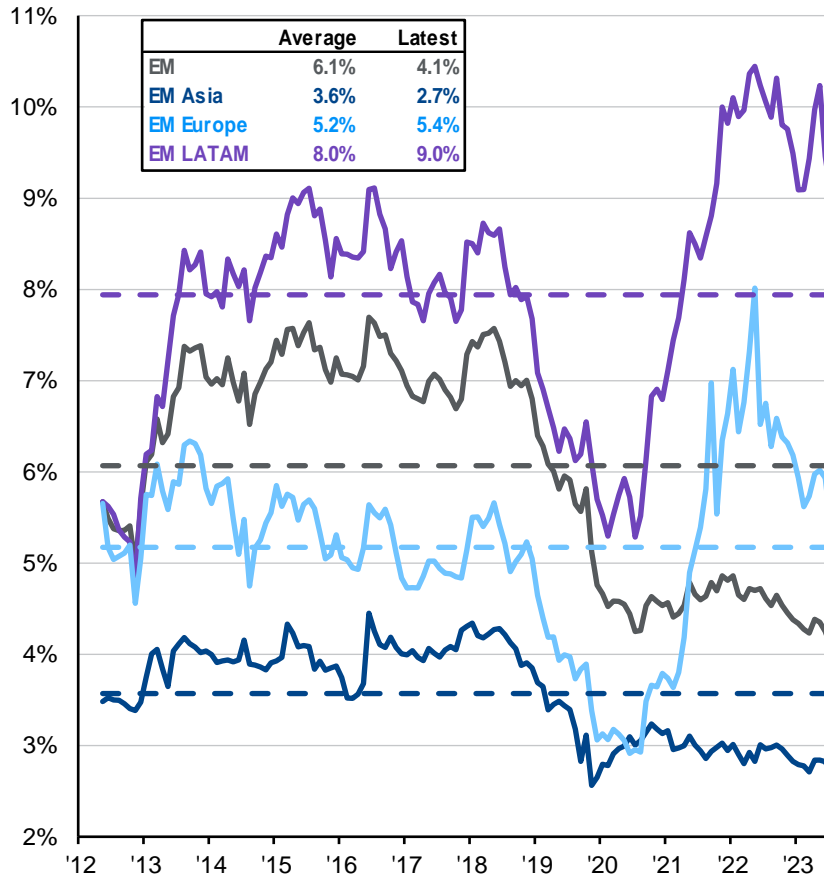
Source: J.P. Morgan Global Economic Research, J.P. Morgan Asset Management.
EM sovereigns represent the Emerging Market Bond Index Global Diversified (EMBI Global Diversified) Index and subindices and EM corporates represent the Corporate Emerging Market Bond (CEMBI Broad Diversified) Index and subindices.
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Attractiveness of Latin American local rates

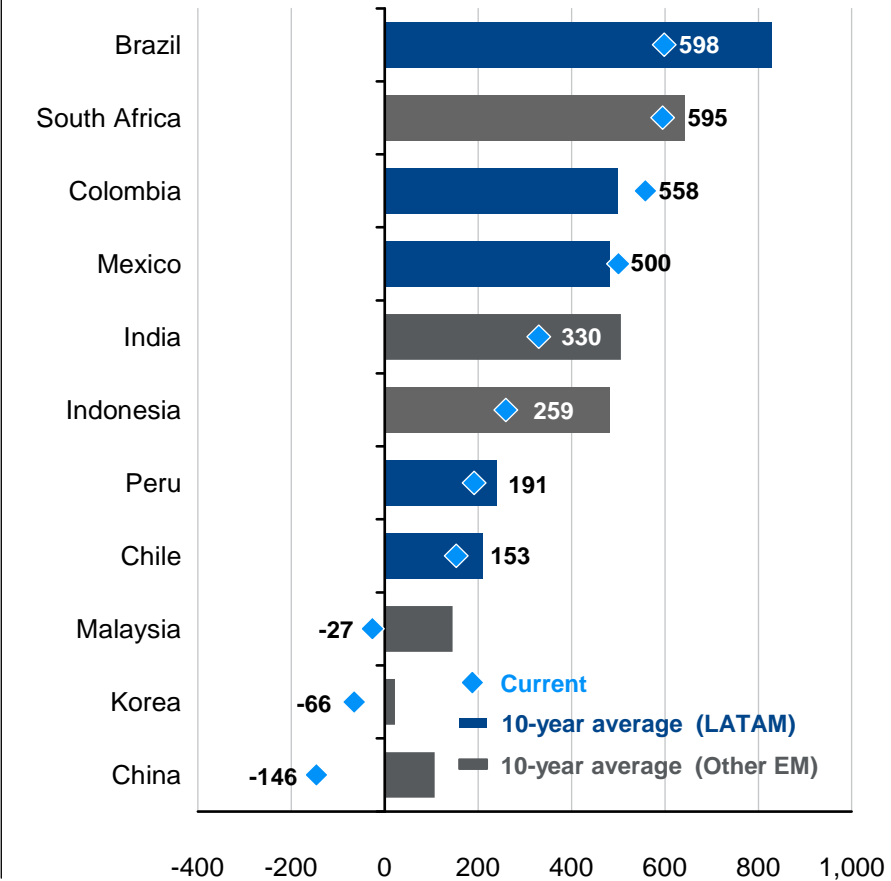
Regional EMD yields

Local currency sovereign debt



Global – U.S. Treasuries 5-year spread

Basis points, local currency debt, as of December 2023



Source: J.P. Morgan Asset Management; (Left) J.P. Morgan Global Economic Research; (Right) Bloomberg Finance L.P. EM local currency debt is represented by the GBI-EM Global Diversified Index and regional subindices. Global spreads are calculated from the mid-yield to maturity for the generic 5-year government bond, as provided by Bloomberg, except for Brazil, South Africa, Mexico, and Indonesia, which are the spot yield-to-maturity provided by FactSet.
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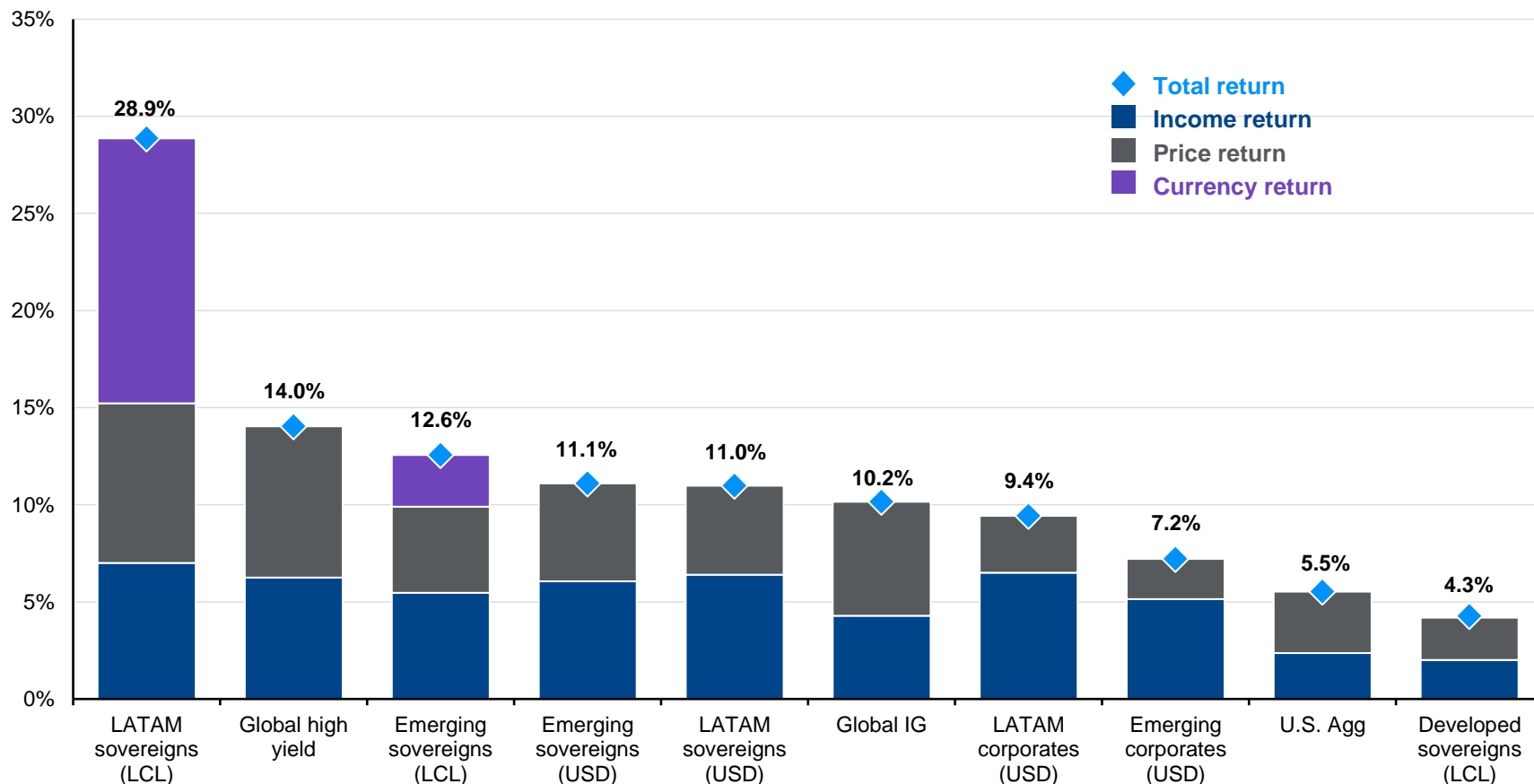


Global fixed income: Return composition

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Fixed income return composition

2023, total return, USD



Source: J.P. Morgan Economic Research, J.P. Morgan Asset Management.

Based on J.P. Morgan CEMBI Broad Index (USD EMD corporates), J.P. Morgan EMBIG Broad Diversified Index (USD EMD), J.P. Morgan GBI-EM Global Diversified Index (Local EMD), J.P. Morgan GBI-DM Diversified Index (Local DM sovereigns), J.P. Morgan CEMBI Broad Diversified Latin America Index (Latin America corporates), J.P. Morgan EMBIG Diversified Latin America Index (USD Latin America sovereigns), J.P. Morgan GBI-EM Global Diversified Latin Region Index (Local Latin America sovereigns), Bloomberg Global High Yield (Global high yield), Bloomberg U.S. Aggregate (U.S. Agg) and Bloomberg Global Credit – Corporate – Investment Grade (Global IG). Past performance is not indicative of future returns.

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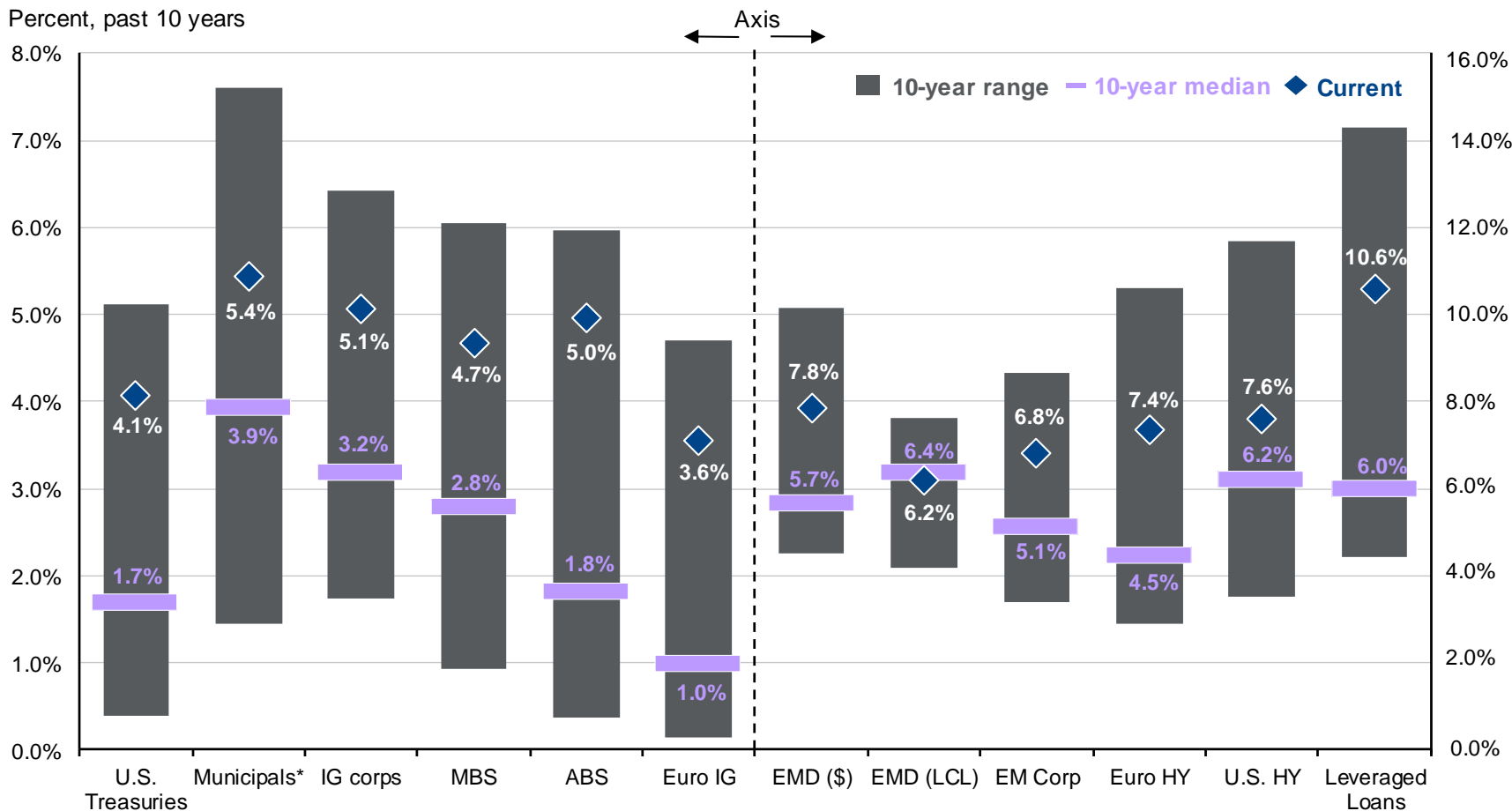
Global fixed income: Valuations

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Fixed Income

Yield-to-worst across fixed income sectors

Percent, past 10 years



Source: Bloomberg, FactSet, J.P. Morgan Credit Research, J.P. Morgan Asset Management.

Indices used are Bloomberg except for emerging market debt and leveraged loans: EMD (USD): J.P. Morgan EMIGLOBAL Diversified Index; EMD (LCL): J.P. Morgan GBI-EM Global Diversified Index; EM Corp.: J.P. Morgan CEMBI Broad Diversified; Leveraged Loans: JPM Leveraged Loan Index; Euro IG: Bloomberg Euro Aggregate Corporate Index; Euro HY: Bloomberg Pan-European High Yield Index. Yield-to-worst is the lowest possible yield that can be received on a bond apart from the company defaulting and considers factors like call provisions, prepayments and other features that may affect the bond's cash flows. *All sectors shown are yield-to-worst except for Municipals, which is based on the tax-equivalent yield-to-worst assuming a top-income tax bracket rate of 37% plus a Medicare tax rate of 3.8%.

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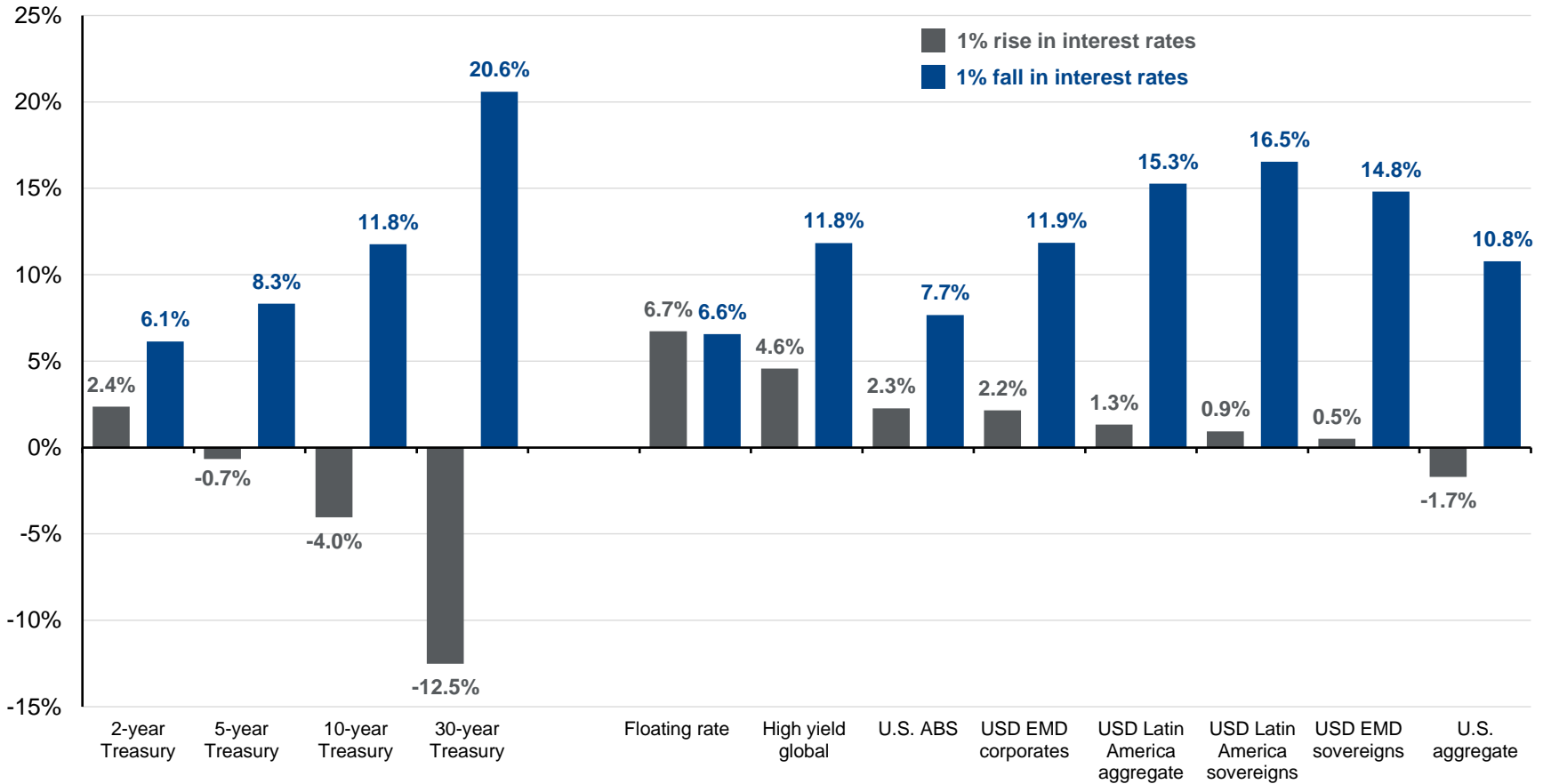
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Global fixed income: Interest rate risk

Impact of a 1% rise or fall in interest rates

Total return, assumes a parallel shift in the yield curve and spreads are maintained



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

Returns shown are total returns. 2-30 year Treasury, Global high yield, Floating rate (BBB), USD EMD corporates, USD Latin America aggregate, USD Latin America sovereigns, USD EMD sovereigns and U.S. aggregate are based on Bloomberg U.S. Treasury indices, Bloomberg Global High Yield, Bloomberg U.S. Floating Rate Notes (BBB), Bloomberg Emerging Markets USD Aggregate – Corporate, Bloomberg Emerging Markets USD Aggregate – Latin America, Bloomberg Emerging Markets USD Sovereigns – Latin America, Bloomberg U.S. Aggregate Securitized – ABS, Bloomberg Emerging Markets USD Aggregate – Sovereign and Bloomberg U.S. Aggregate, respectively. For illustrative purposes only. Change in bond price is calculated using both duration and convexity.

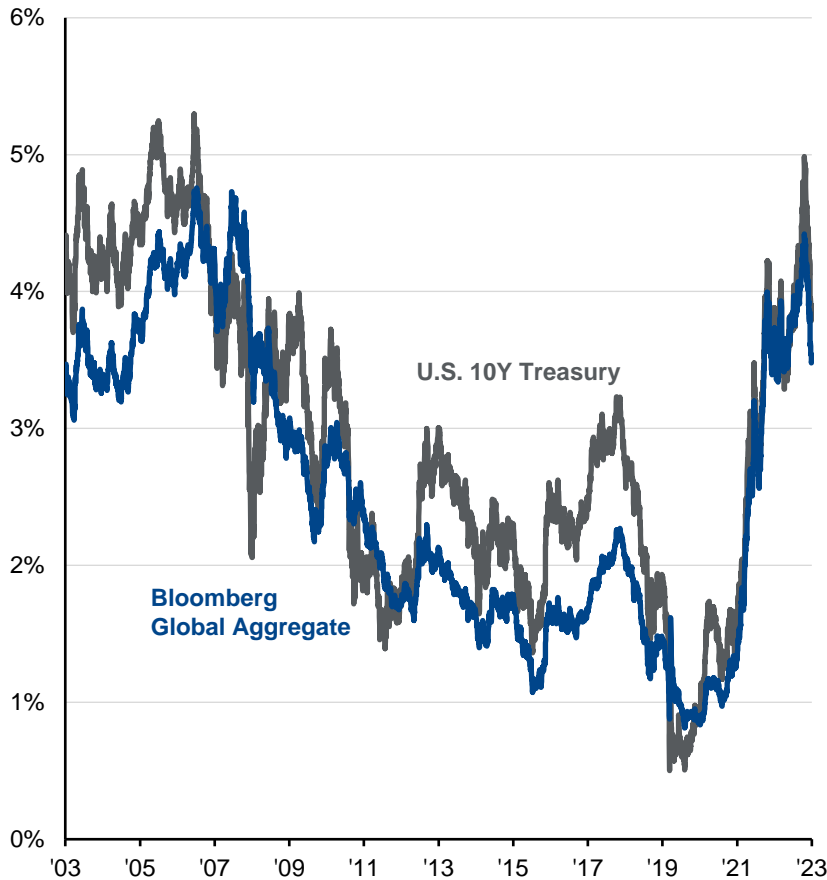
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Global interest rates

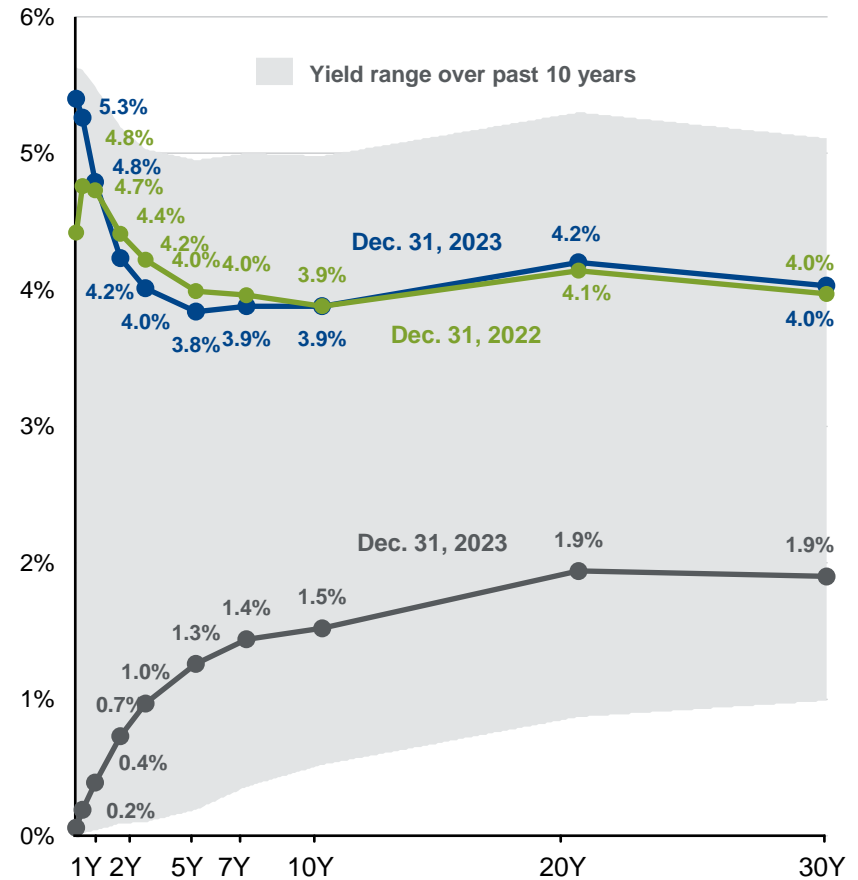
U.S. and global bond yields

Yield to maturity



U.S. Treasury yield curve

Yield to maturity



Source: FactSet, Federal Reserve, J.P. Morgan Asset Management.
Guide to the Markets – Latin America. Data are as of December 31, 2023.



U.S.: High yield bonds

Default rate and spread-to-worst

Percent



Source: J.P. Morgan Global Economic Research, J.P. Morgan Asset Management.

Long-run average is based on monthly historical data beginning in January 1990. 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. The default rate is a LTM figure (last 12 months) and tracks the % of defaults over the period. Recovery rates are based on the price of the defaulted bonds or loans 30 days post the default date. Default and recovery rates are as of most recent month-end. Spread-to-worst indicated are the difference between the yield-to-worst of a bond and yield-to-worst of a U.S. Treasury security with a similar duration. High yield is represented by the J.P. Morgan Domestic High Yield Index.

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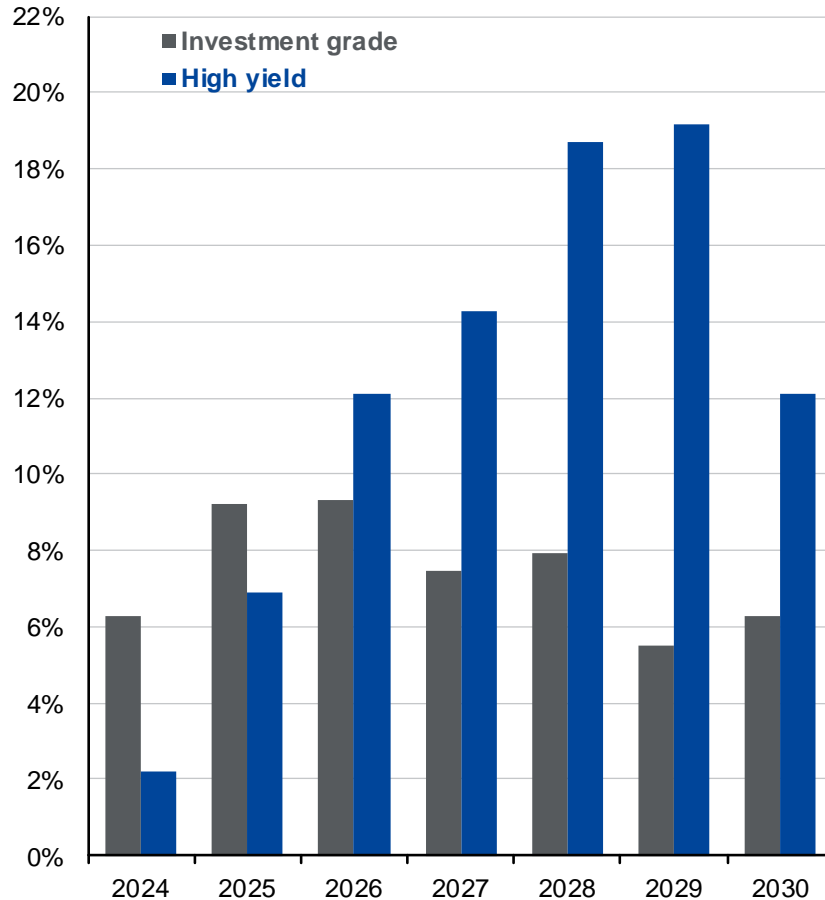
U.S.: Credit maturity and default risks

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Fixed Income

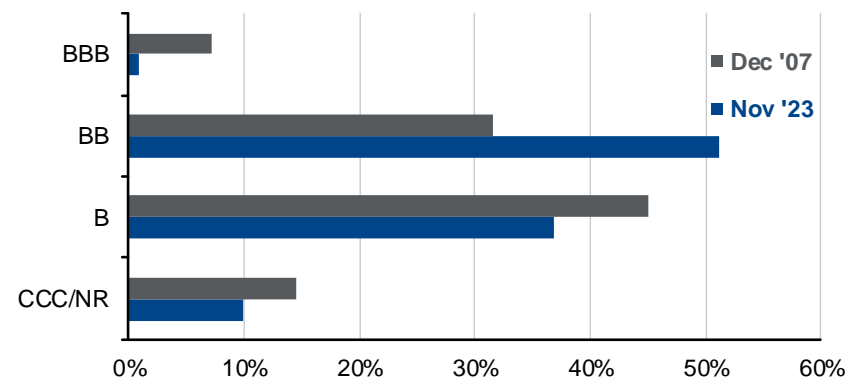
U.S. credit maturity schedule

% of bond index maturing in each year



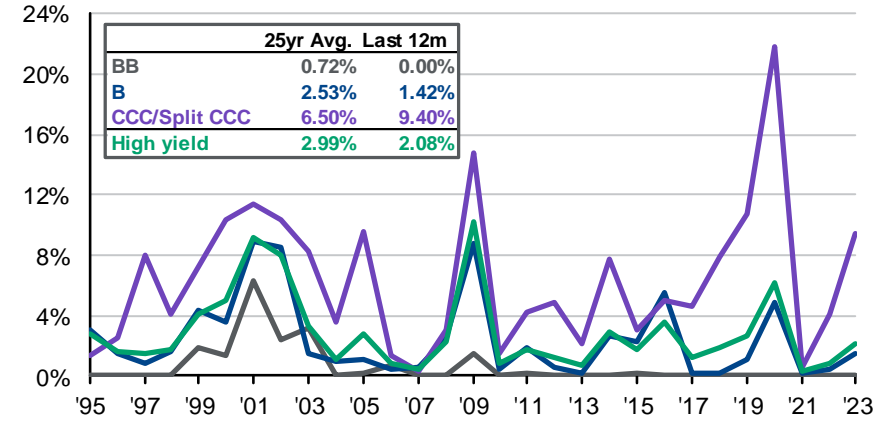
Index weighting by credit rating

%, J.P. Morgan Domestic High Yield Index



U.S. high yield default rates

By credit rating



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

U.S. Investment Grade: Bloomberg U.S. Corporate Bond Index, Bloomberg U.S. Corporate Bond 0-1 Year Index; U.S. High Yield: Bloomberg U.S. High Yield Bond Index, Bloomberg U.S. Corporate High Yield Bond 0-1 Year Index. The Bloomberg U.S. Corporate and High Yield Bond 0-1 Year Bond Indices are used to capture bonds that mature in less than one year and are not captured in the broader index due to maturity guidelines. Past performance is not a reliable indicator of current and future results. Last 12-month default rates are as of most recent month for which data are available. Default rates shown do not include distressed exchanges and are grouped by rating 12 months prior to default. Bond ratings include split ratings. "NR" stands for not rated.

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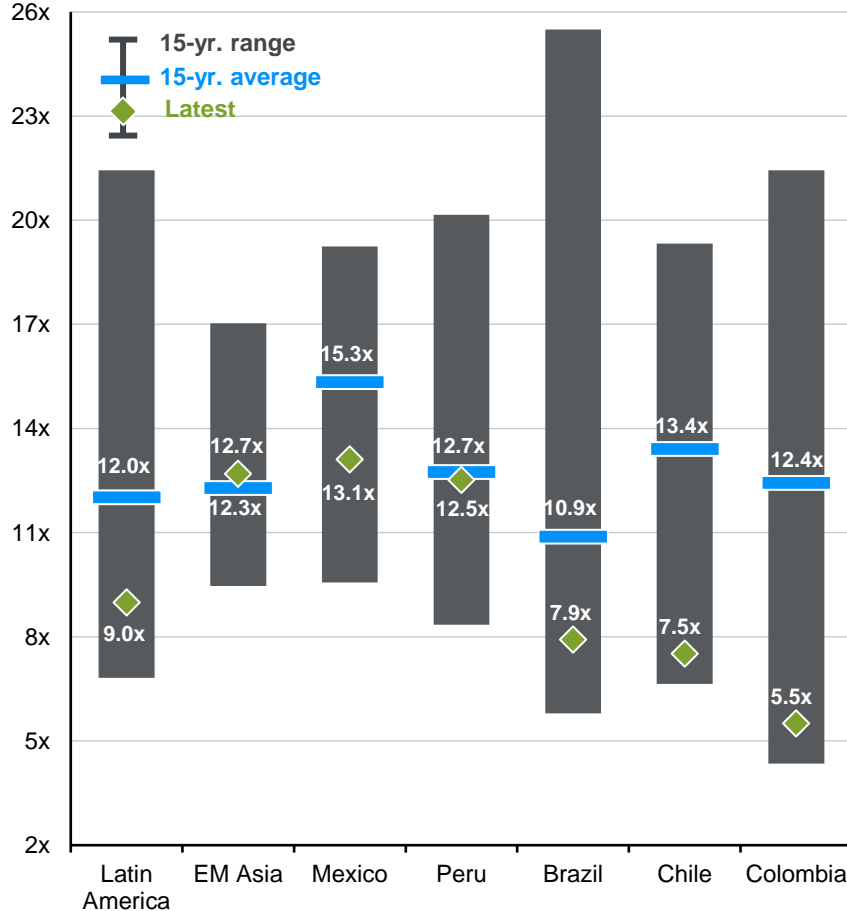
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Latin America valuations and earnings by country

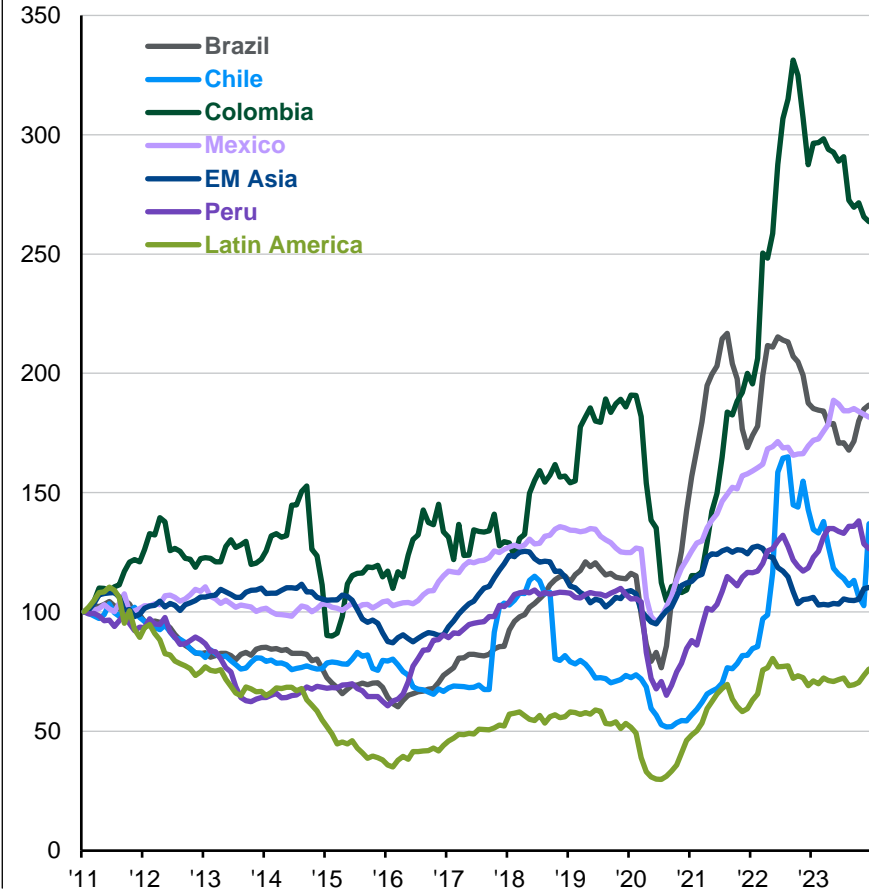
Latin America valuations

Price-to-earnings ratio, NTMA



Latin America earnings

EPS, local currency, NTMA, Jan. 2011 = 100



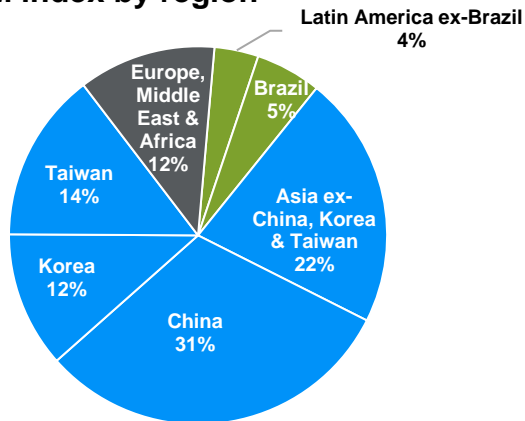
Source: FactSet, MSCI, J.P. Morgan Asset Management. (Left) The data for Colombia are 13-year ranges/averages due to lack of data availability. Guide to the Markets – Latin America. Data are as of December 31, 2023.



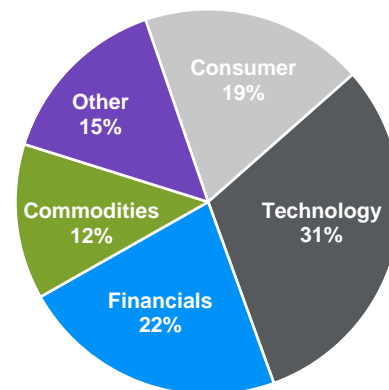
Emerging market equity indices

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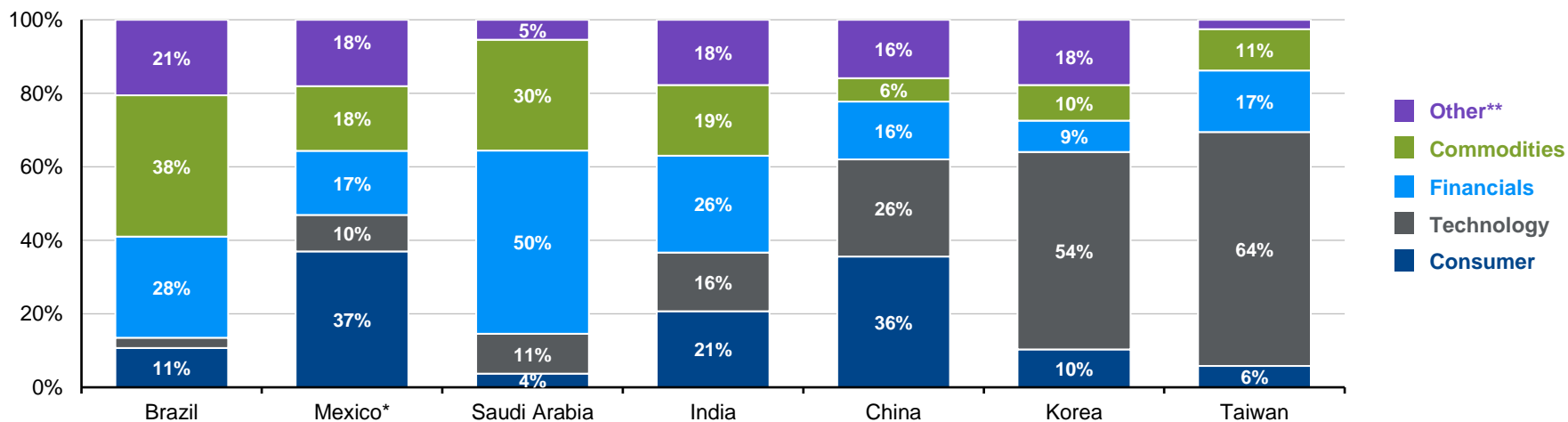
MSCI EM index by region



MSCI EM index by sector



MSCI EM country index by sector



Source: FactSet, MSCI, J.P. Morgan Asset Management. MSCI EM index region and sector components are market value percentages. *Mexico Communication Services sector accounts for 24% of the country's market capitalization. **Other is comprised of Health Care, Industrials, Real Estate and Utilities sectors. Values may not sum to 100% due to rounding.
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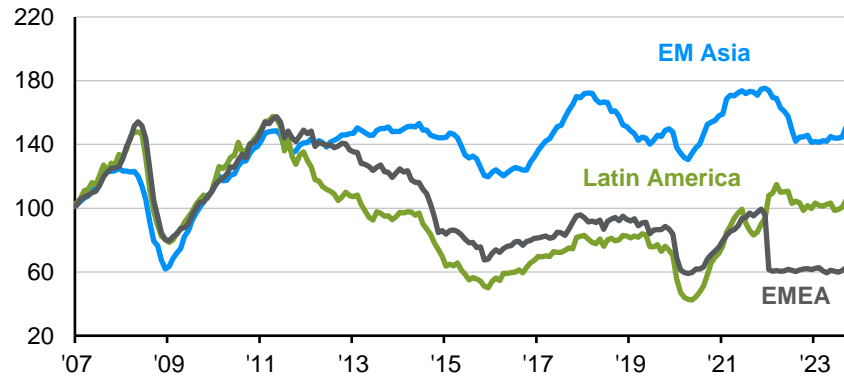


Emerging market equities

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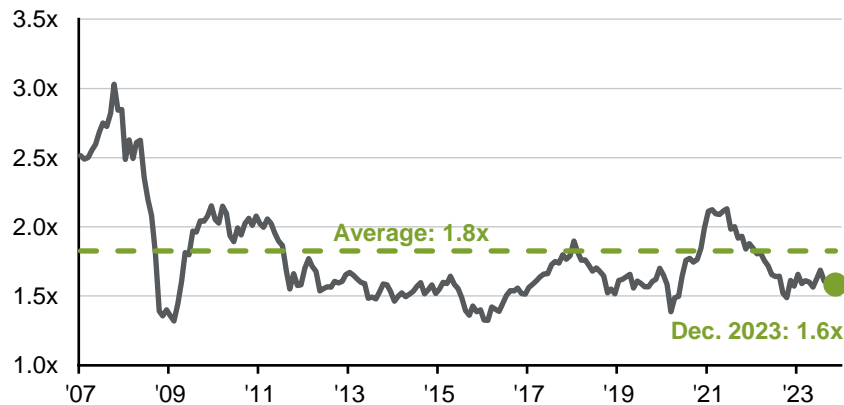
EM earnings by region

EPS for next 12-month consensus, local currency, Jan. 2007 = 100



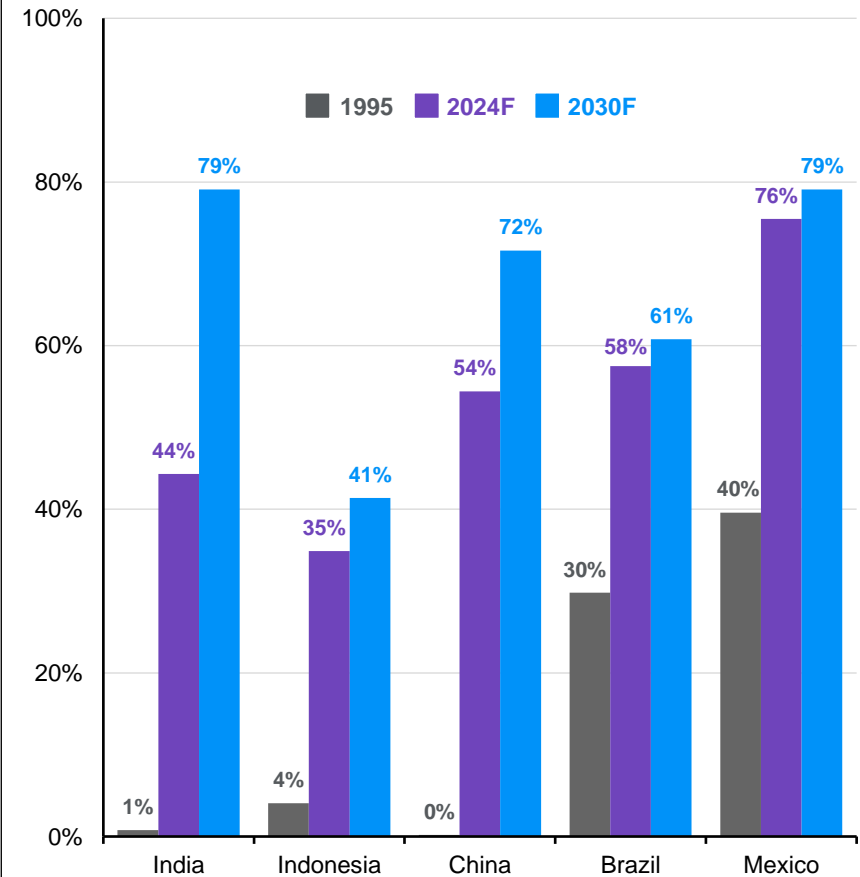
EM price-to-book ratio

Last 12 months actual



Growth of the middle class

Percent of total population



Source: J.P. Morgan Asset Management; (Top and bottom left) FactSet, MSCI; (Right) Brookings Institute. Middle class is defined as households with per capita incomes between USD11 and USD110 per person per day in 2011 PPP terms. Historical and forecast figures come from the Brookings Development, Aid and Governance Indicators. Forecasts, projections and other forward-looking statements are based upon current beliefs and expectations. They are for illustrative purposes only and serve as an indication of what may occur. Given the inherent uncertainties and risks associated with forecasts, projections or other forward-looking statements, actual events, results or performance may differ materially from those reflected or contemplated.

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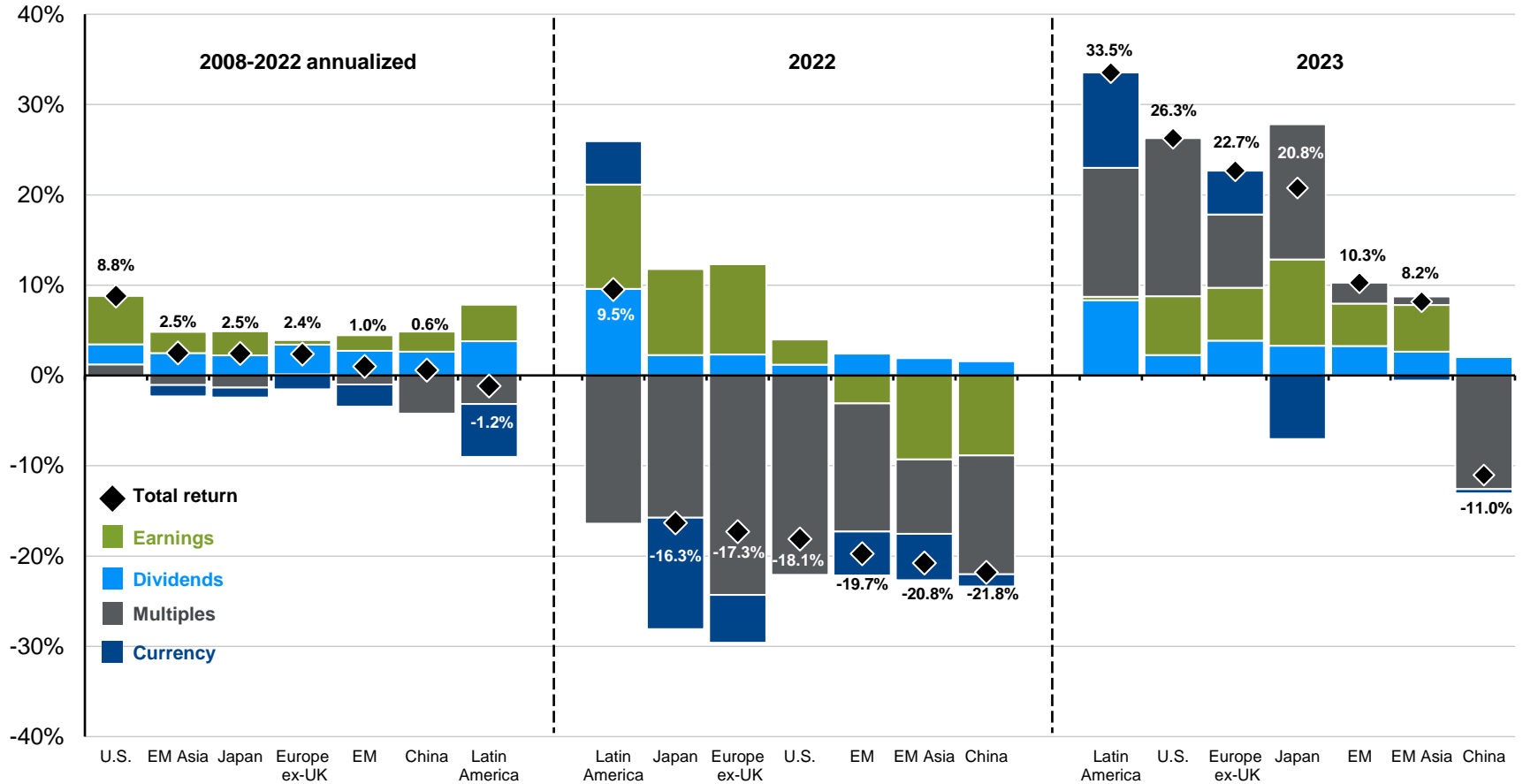
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Global equity markets

Sources of global equity returns*

Total return, USD



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

All return values are MSCI Gross Index (official) data, except the U.S., which is the S&P 500. *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.

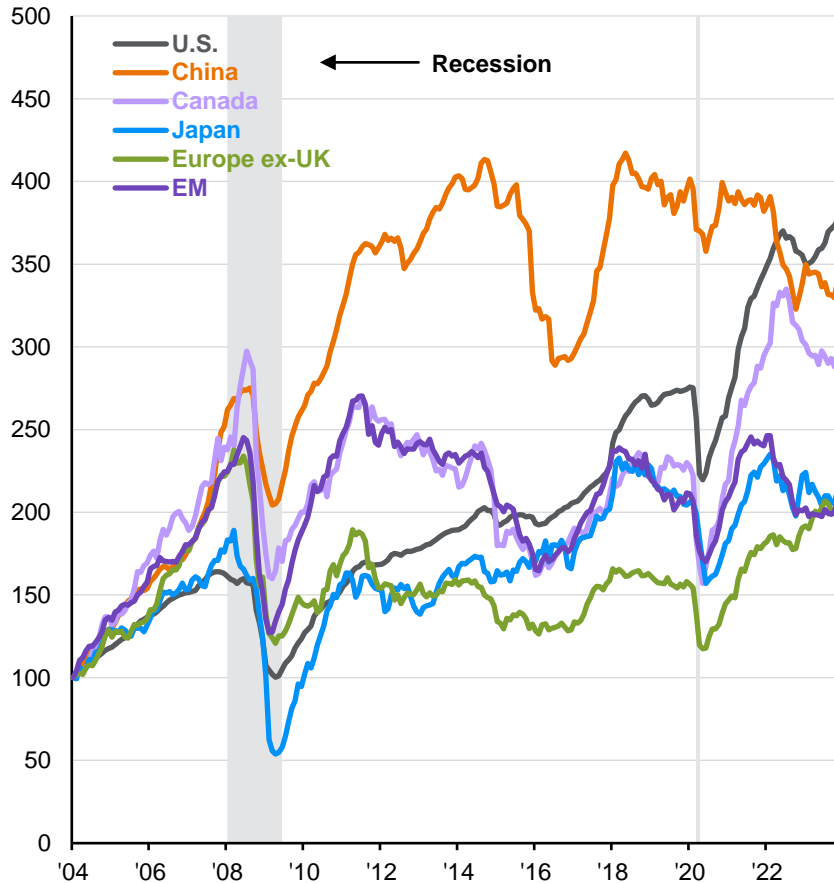
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International equity earnings and valuations

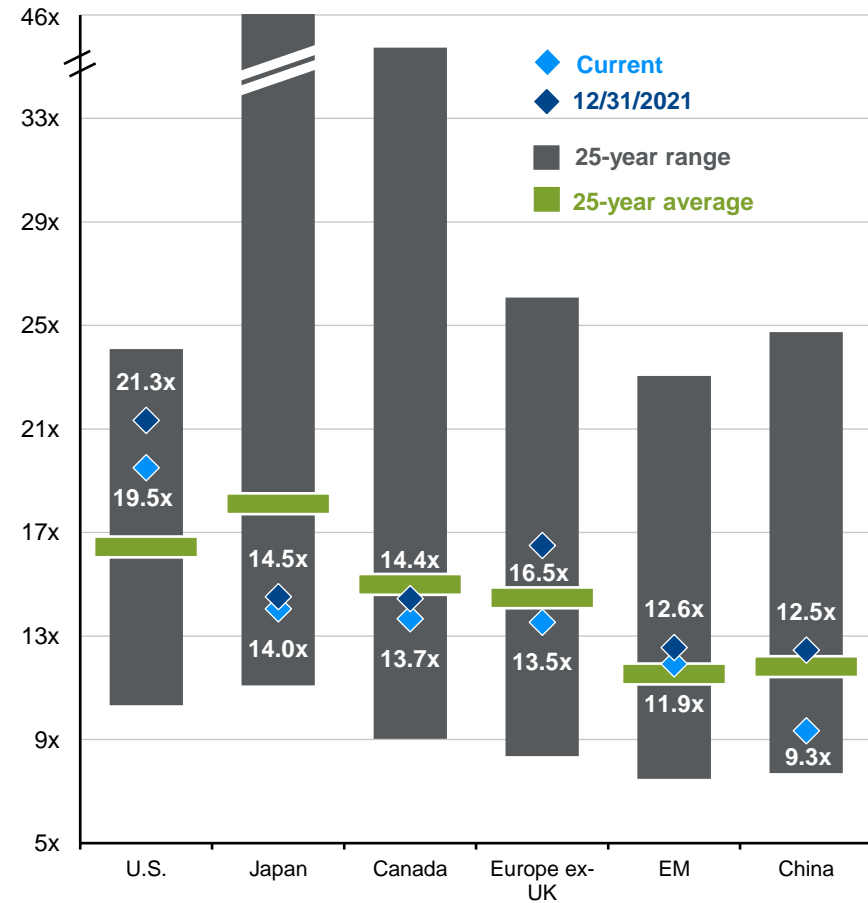
Global earnings estimates

Jan. 2004 = 100, next 12 months consensus estimates, USD



Global valuations

Price-to-earnings ratios, next 12 months



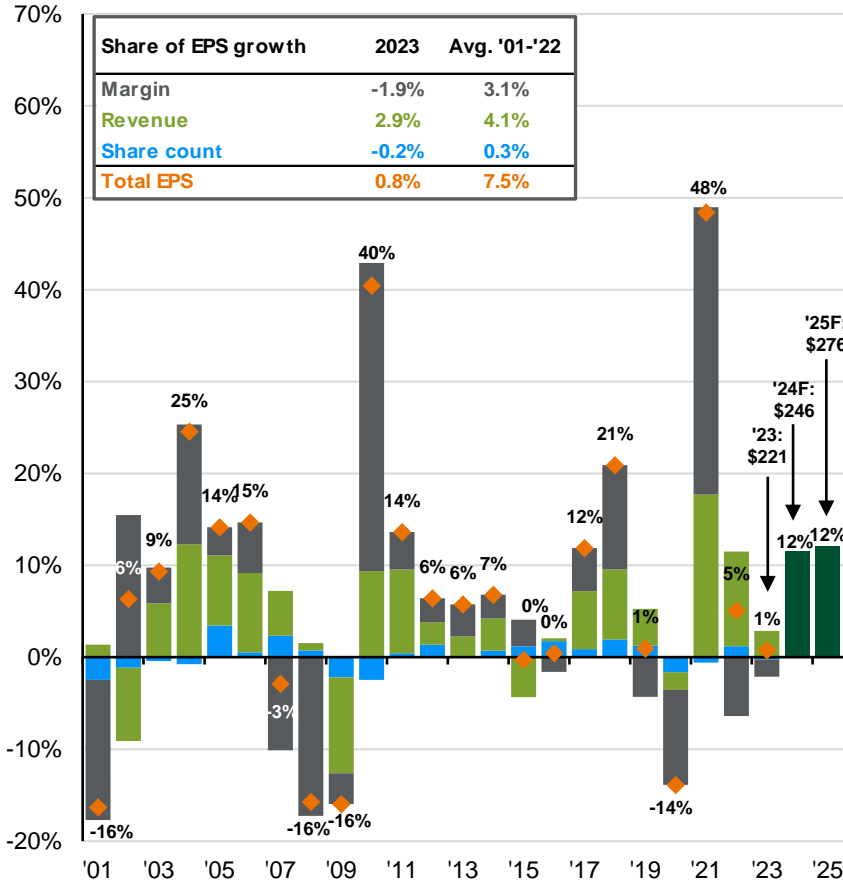
Source: FactSet, MSCI, Standard & Poor's, Thomson Reuters, J.P. Morgan Asset Management. Next 12 months consensus estimates are based on pro-forma earnings and are in U.S. dollars. Past performance is not a reliable indicator of current and future results.
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U.S.: Earnings and quality

S&P 500 year-over-year pro-forma EPS growth

Annual growth broken into changes in revenue, profit margin and share count



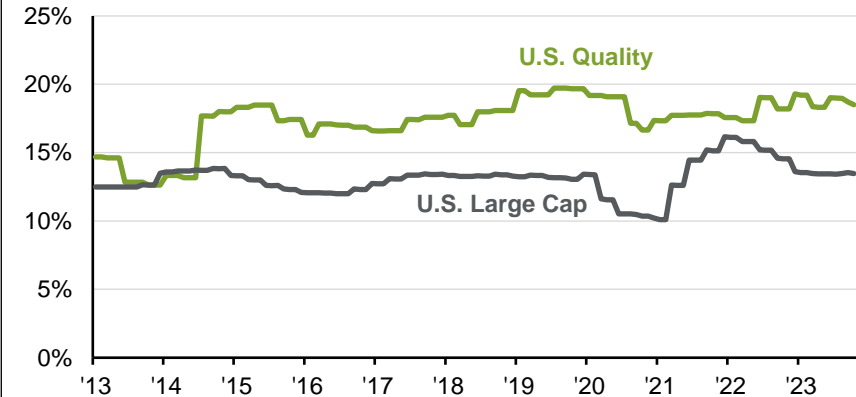
Return on equity

Net income divided by shareholder's equity



Operating margins

Operating income divided by revenue, trailing 12 months



Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management. (Left) Compustat. Historical EPS levels are based on annual operating earnings per share. 2023 EPS growth is based on actual results and consensus analyst expectations for 4Q23. 2024 and 2025 EPS growth are based on consensus analyst estimates for each calendar year. *Current quarter estimates are based on consensus analysts estimates and reported results. Past performance is not indicative of future returns. (Right top and bottom) MSCI. U.S. Quality: MSCI USA Quality Index, U.S. Large Cap: S&P 500 Index.

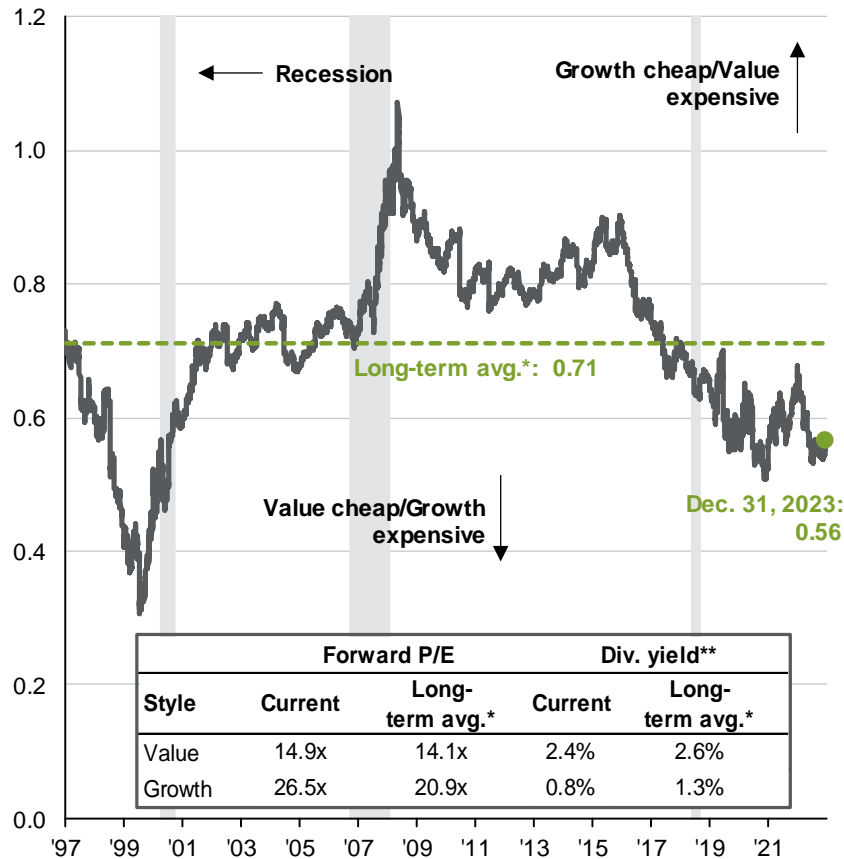
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U.S. Value vs. Growth: Valuations and interest rates

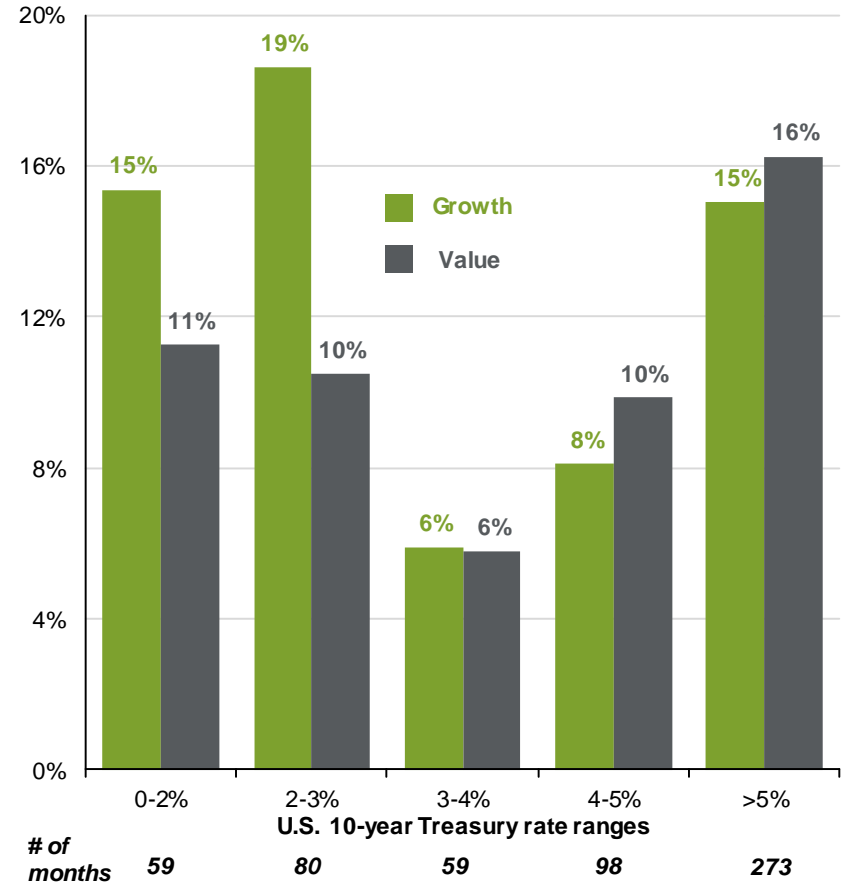
Value vs. Growth relative valuations

Rel. fwd. P/E ratio of Value vs. Growth, 1997 - present



Value vs. Growth in different interest rate environments

Annualized total return by 10-year Treasury rate ranges, 1979 - present



Source: FactSet, FTSE Russell, NBER, J.P. Morgan Asset Management.
Growth is represented by the Russell 1000 Growth Index and Value is represented by the Russell 1000 Value Index. (Left) *Long-term averages are calculated monthly since December 1997. **Dividend yield is calculated as the next 12-month consensus dividend divided by most recent price. (Right) Returns are calculated by annualizing the average monthly performance during each interest rate range.
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U.S.: Returns and valuations by sector

	Energy	Materials	Financials	Industrials	Cons. Disc.	Tech.	Comm. Services*	Real Estate	Health Care	Cons. Staples	Utilities	S&P 500 Index	Weight
S&P weight	3.9%	2.4%	13.0%	8.8%	10.9%	28.9%	8.6%	2.5%	12.6%	6.2%	2.3%	100.0%	
4Q23	-6.9	9.7	14.0	13.1	12.4	17.2	11.0	18.8	6.4	5.5	8.6	11.7	Return (%)
2023	-1.3	12.5	12.1	18.1	42.4	57.8	55.8	12.3	2.1	0.5	-7.1	26.3	
Since market peak (February 2020)	84.1	54.0	31.7	45.5	39.8	95.8	32.1	11.3	40.2	28.0	2.8	50.0	
Since market low (March 2020)	317.8	141.0	130.7	149.5	104.8	184.3	85.0	78.6	94.5	68.4	59.7	126.5	
Beta to S&P 500	1.2	1.1	1.1	1.1	1.2	1.1	1.0*	0.8	0.7	0.6	0.5	1.0	β
Correl. to Treas. yields	-0.1	-0.5	-0.5	-0.5	-0.6	-0.7	-0.8	-0.6	-0.4	-0.4	-0.5	-0.7	ρ
Foreign % of sales	37.4	52.4	28.6	31.6	33.8	58.7	45.3	17.9	33.6	40.8	1.4	41.0	%
NTM earnings growth	2.1%	2.8%	7.1%	11.9%	11.7%	16.9%	15.8%	2.6%	17.7%	5.6%	8.1%	11.4%	EPS
20-yr avg.	100.2%	14.3%	20.6%	14.1%	17.0%	12.5%	11.1%*	6.9%	7.9%	7.7%	4.6%	11.0%	
Forward P/E ratio	10.8x	19.5x	14.6x	19.9x	25.4x	26.7x	17.3x	17.6x	17.9x	19.2x	15.8x	19.5x	P/E
20-yr avg.	13.6x	14.8x	12.5x	16.3x	19.5x	17.9x	18.6x*	17.0x	15.0x	17.4x	15.6x	15.6x	
Buyback yield	4.5%	1.6%	2.8%	2.5%	1.5%	1.5%	3.8%	-1.0%	1.3%	0.8%	-1.0%	2.2%	Bbk
20-yr avg.	1.7%	1.0%	0.4%	2.3%	2.5%	3.0%	1.7%	-1.4%	2.0%	1.8%	-0.8%	1.8%	
Dividend yield	3.5%	2.0%	1.9%	1.6%	0.8%	0.8%	0.8%	3.7%	1.7%	3.0%	3.7%	1.5%	Div
20-yr avg.	2.8%	2.4%	2.3%	2.2%	1.4%	1.2%	1.2%	3.8%	1.9%	2.8%	3.8%	2.1%	

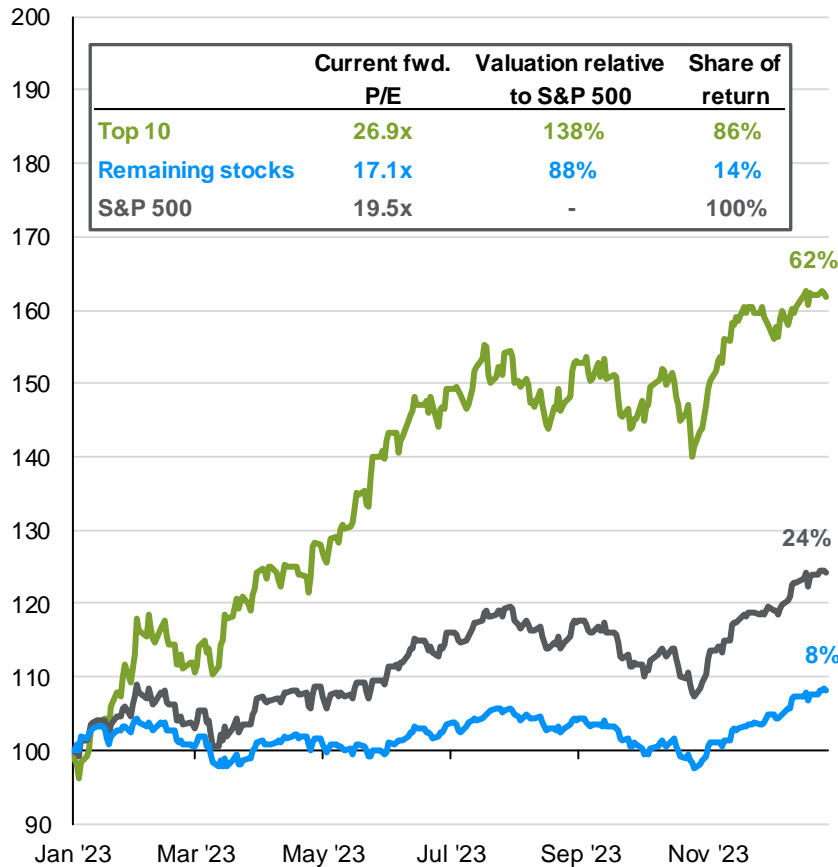
Source: FactSet, Refinitiv Datastream, Standard & Poor's, J.P. Morgan Asset Management. All calculations are cumulative total return, not annualized, including dividends for the stated period. Since market peak represents period from 2/19/2020 to 12/31/2023. Since market low represents period from 3/23/2020 to 12/31/2023. Correlation to Treasury yields are trailing 2-year monthly correlations between S&P 500 sector price returns and 10-year Treasury yield movements. Next 12 months (NTM) earnings growth is the percent change in next 12-months earnings estimates compared to last 12-months earnings provided by brokers. Forward P/E ratio is a bottom-up calculation based on the most recent S&P 500 Index price, divided by consensus estimates for earnings in the next 12 months (NTM), and is provided by FactSet Market Aggregates and J.P. Morgan Asset Management. Buyback yield is net of share issuance and is calculated as last 12-months net buybacks divided by market cap. Dividend yield is calculated as the next 12-months consensus dividend divided by most recent price. Beta calculations are based on 10-years of monthly price returns for the S&P 500 and its sub-indices. *Communication Services (formerly Telecom) averages and beta are based on 5-years of backtested data by JPMAM. Past performance is not indicative of future returns. Guide to the Markets – Latin America. Data are as of December 31, 2023.



U.S.: Index concentration

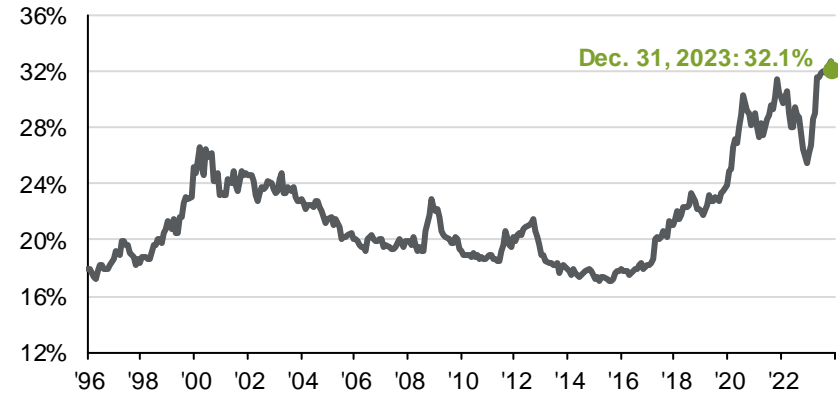
Performance of the top 10 stocks in the S&P 500

Indexed to 100 on 1/1/2023, price return, top 10 held constant



Weight of the top 10 stocks in the S&P 500

% of market capitalization of the S&P 500



Earnings contribution of the top 10 in the S&P 500

Based on last 12 months' earnings



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

(Left) The top 10 companies used for this analysis are held constant and represent the S&P 500's 10 largest index constituents at the start of 2023. The top 10 stocks are: AAPL, MSFT, AMZN, NVDA, GOOGL, BRK.B, GOOG, META, XOM, UNH, and TSLA. The remaining stocks represent the rest of the 494 companies in the S&P 500. (Right) The top 10 companies used for these two analyses are updated monthly and are based on the 10 largest index constituents at the beginning of each month. As of 12/31/2023, the top 10 companies in the index were AAPL (7.0%), MSFT (6.9%), AMZN (3.5%), NVDA (3.0%), GOOGL (2.1%), META (2.0%), GOOG (1.8%), TSLA (1.8%), BRK.B (1.6%), AVGO (1.2%) and JPM (1.2%).

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U.S.: Factor performance

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Equities

															2009-2023	
2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Annual	Vol.
Value 38.8%	Small Cap 26.9%	High Div. 14.3%	Cyclical 20.1%	Value 43.2%	Value 17.7%	Momen. 9.3%	Small Cap 21.3%	Momen. 37.8%	Min. Vol. 1.5%	Cyclical 36.3%	Momen. 29.6%	Value 29.2%	Defens. 5.3%	Cyclical 39.1%	Cyclical 15.9%	Cyclical 18.9%
Cyclical 36.9%	Multi-Factor 18.3%	Min. Vol. 12.9%	Value 16.8%	Small Cap 38.8%	Min. Vol. 16.5%	Min. Vol. 5.6%	High Div. 16.3%	Cyclical 27.3%	Momen. -1.6%	Quality 34.4%	Cyclical 27.8%	Cyclical 27.6%	High Div. -3.8%	Quality 31.1%	Quality 14.0%	Value 17.5%
Multi-Factor 29.8%	Momen. 18.2%	Defens. 10.1%	Small Cap 16.3%	Multi-Factor 37.4%	High Div. 14.9%	Quality 4.6%	Value 15.9%	Quality 22.5%	High Div. -2.3%	Momen. 28.1%	Small Cap 20.0%	Quality 27.2%	Min. Vol. -9.2%	Multi-Factor 17.7%	Momen. 13.8%	Small Cap 16.3%
Small Cap 27.2%	Cyclical 17.9%	Quality 7.5%	Multi-Factor 15.7%	Cyclical 35.0%	Multi-Factor 14.8%	Cyclical 2.6%	Cyclical 14.0%	Value 22.2%	Defens. -2.9%	Min. Vol. 28.0%	Quality 17.1%	Multi-Factor 25.1%	Value -14.0%	Small Cap 16.9%	Multi-Factor 13.4%	Quality 15.1%
Quality 24.9%	High Div. 15.9%	Multi-Factor 7.3%	Momen. 15.1%	Momen. 34.8%	Momen. 14.7%	High Div. 0.7%	Multi-Factor 13.7%	Multi-Factor 21.5%	Cyclical -5.3%	Value 27.7%	Multi-Factor 11.4%	Defens. 25.0%	Multi-Factor -15.5%	Value 14.4%	Min. Vol. 12.4%	Momen. 14.3%
High Div. 18.4%	Min. Vol. 14.7%	Momen. 6.1%	Quality 12.8%	Quality 34.3%	Cyclical 13.6%	Multi-Factor 0.4%	Min. Vol. 10.7%	High Div. 19.5%	Quality -5.6%	Multi-Factor 26.6%	Min. Vol. 5.8%	High Div. 21.9%	Momen. -17.4%	Min. Vol. 9.8%	Value 12.3%	Multi-Factor 14.2%
Min. Vol. 18.4%	Quality 14.2%	Value -2.7%	Min. Vol. 11.2%	High Div. 28.9%	Defens. 13.0%	Defens. -0.9%	Quality 9.4%	Min. Vol. 19.2%	Multi-Factor -9.7%	Small Cap 25.5%	Defens. 5.2%	Min. Vol. 21.0%	Quality -20.3%	Momen. 9.5%	High Div. 12.0%	High Div. 9.8%
Momen. 17.6%	Value 12.7%	Cyclical -3.4%	Defens. 10.7%	Defens. 28.9%	Quality 10.7%	Small Cap -4.4%	Defens. 7.7%	Small Cap 14.6%	Small Cap -11.0%	High Div. 22.5%	High Div. 1.7%	Small Cap 14.8%	Small Cap -20.4%	High Div. 6.8%	Small Cap 11.3%	Min. Vol. 9.5%
Defens. 16.5%	Defens. 12.0%	Small Cap -4.2%	High Div. 10.6%	Min. Vol. 25.3%	Small Cap 4.9%	Value -6.4%	Momen. 5.1%	Defens. 12.3%	Value -11.1%	Defens. 21.4%	Value -0.2%	Momen. 12.9%	Cyclical -27.2%	Defens. 0.4%	Defens. 10.6%	Defens. 9.2%

Source: FactSet, MSCI, Russell, Standard & Poor's, J.P. Morgan Asset Management. The MSCI High Dividend Yield Index aims to offer a higher than average dividend yield relative to the parent index that passes dividend sustainability and persistence screens. The MSCI Minimum Volatility Index optimizes the MSCI USA Index using an estimated security co-variance matrix to produce low absolute volatility for a given set of constraints. The MSCI Defensive Sectors Index includes: Consumer Staples, Energy, Health Care and Utilities. The MSCI Cyclical Sectors Index contains: Consumer Discretionary, Communication Services, Financials, Industrials, Information Technology and Materials. Securities in the MSCI Momentum Index are selected based on a momentum value of 12-month and 6-month price performance. Constituents of the MSCI Sector Neutral Quality Index are selected based on stronger quality characteristics to their peers within the same GICS sector by using three main variables: high return-on-equity, low leverage and low earnings variability. Constituents of the MSCI Enhanced Value Index are based on three variables: price-to-book value, price-to-forward earnings and enterprise value-to-cash flow from operations. The Russell 2000 is used for small cap. The MSCI USA Diversified Multiple Factor Index aims to maximize exposure to four factors – Value, Momentum, Quality and Size. Annualized volatility is calculated as the standard deviation of quarterly returns multiplied by the square root of 4.

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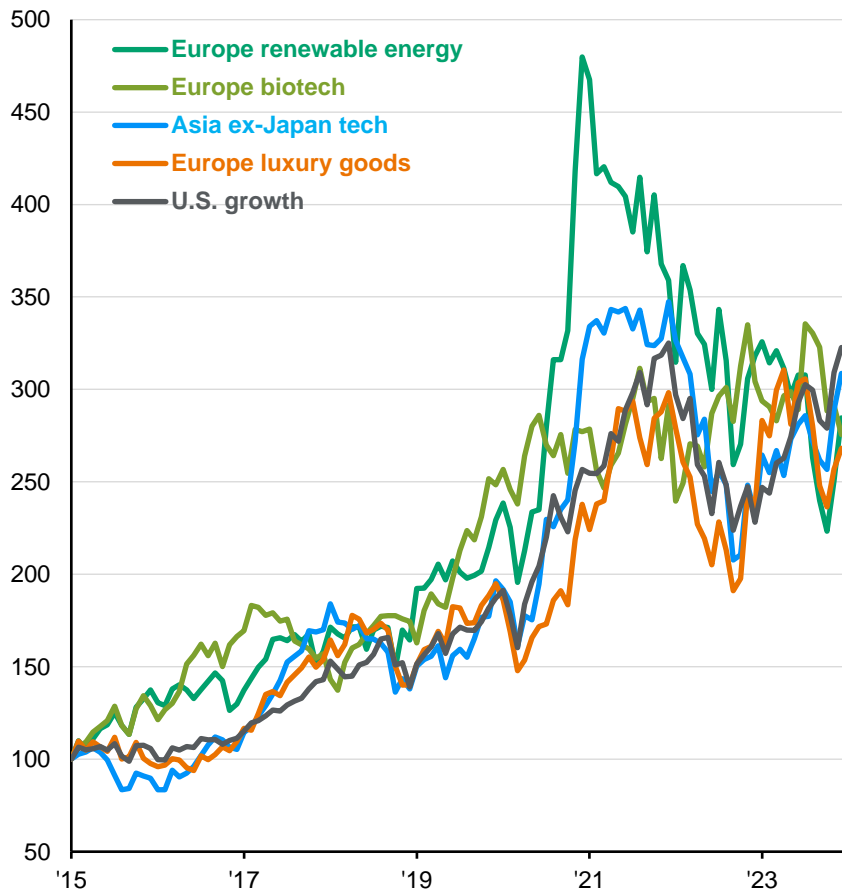


Global growth sectors

GTM LATAM 61

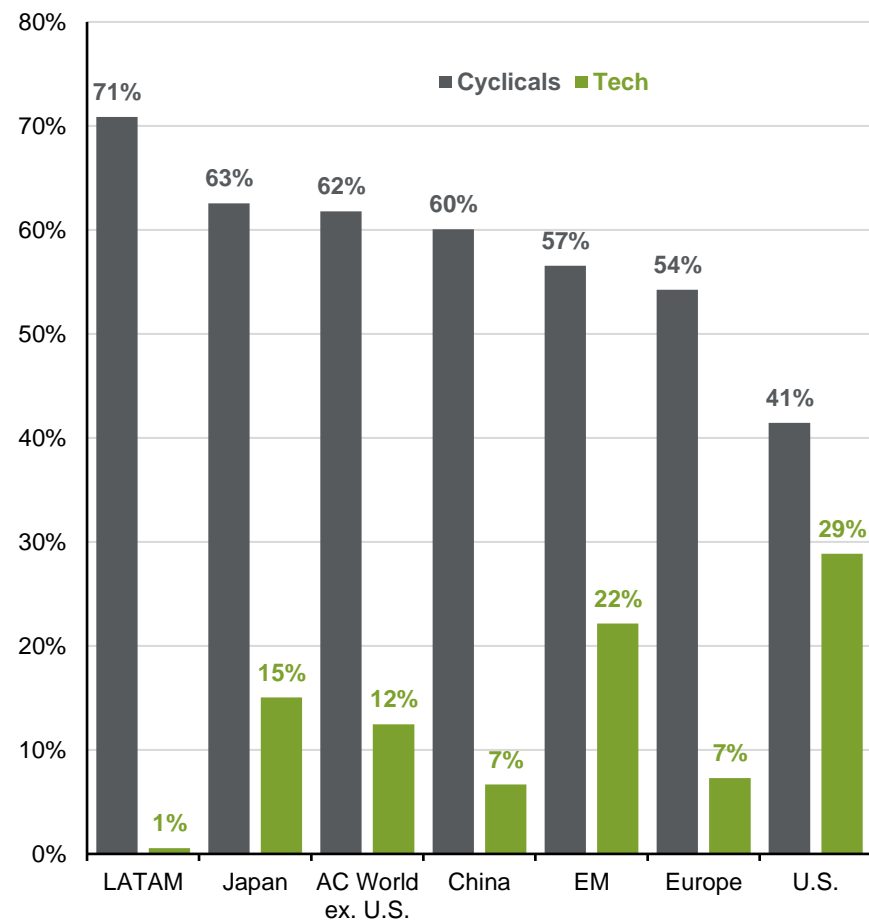
Global growth sectors

Total return, USD, Jan. 2015 = 100



Representation of cyclical and technology sectors

% of index market capitalization



Source: FactSet, MSCI, J.P. Morgan Asset Management. (Left) Bloomberg, Russell, Societe Generale. Asia ex-Japan Tech: MSCI AC Asia ex-Japan Information Technology, European Luxury Goods: MSCI Europe Textiles, Apparel and Luxury Goods, U.S. Growth: Russell 1000 Growth, European Renewable Energy: Societe Generale European Renewable Energy, Europe Biotech: MSCI Europe Biotechnology. (Right) Standard & Poor's. "Cyclicals" include Materials, Industrials, Financials, Energy, Real Estate, and Consumer Discretionary. Markets are represented by their respective MSCI Index except the U.S., which is represented by the S&P 500 Index.

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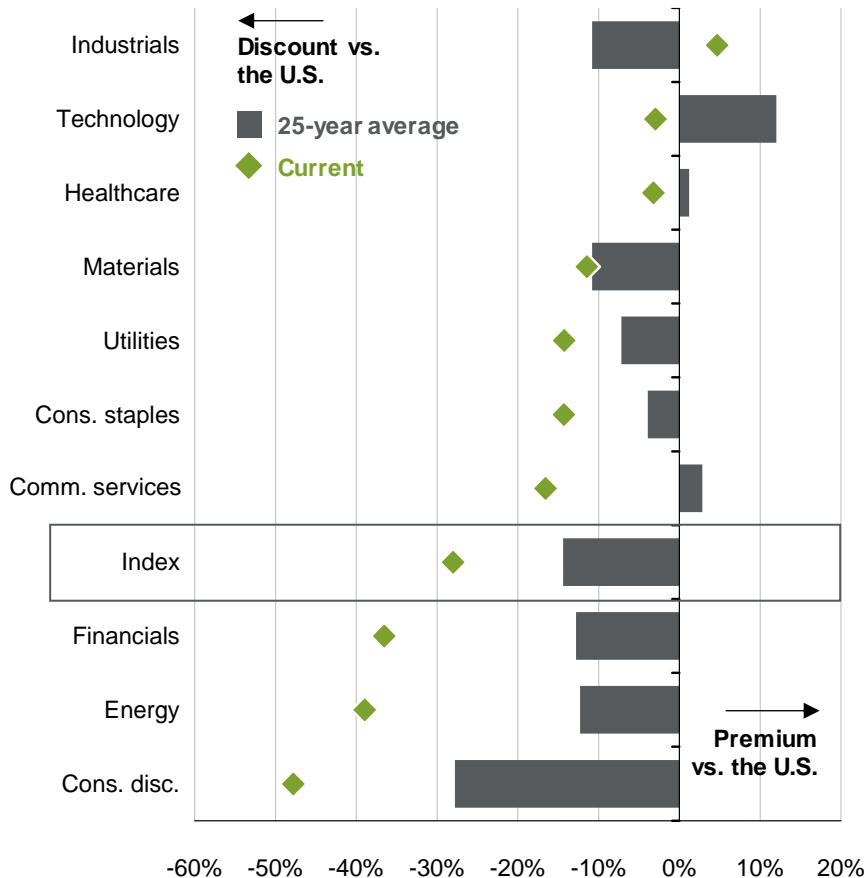


Europe: Markets

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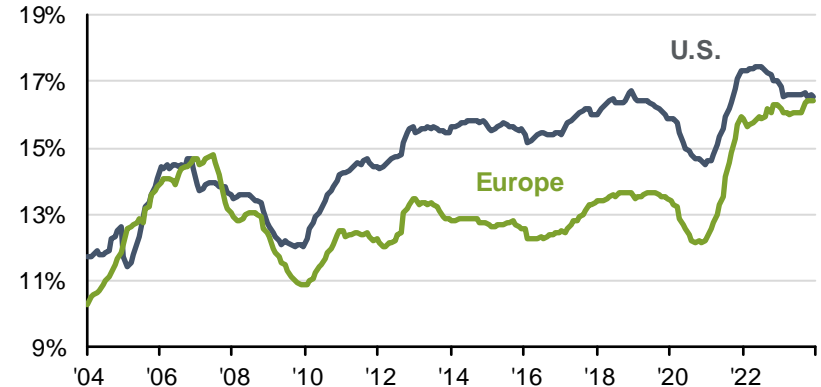
Europe relative valuation vs. the U.S. by sector

Forward P/E ratio, premium or discount vs. the U.S.



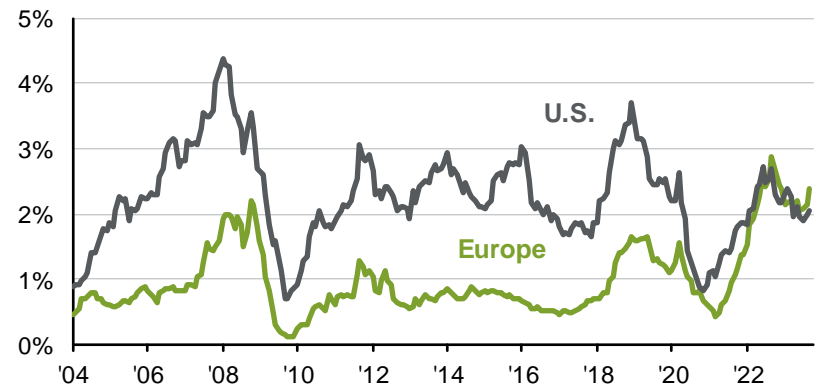
Operating margins

12-month trailing earnings relative to sales



Buyback yields

Net buybacks divided by market capitalization



Source: J.P. Morgan Asset Management. (Left) FactSet, MSCI. Europe: MSCI Europe Index, U.S.: S&P 500 Index. Chart shows the current percentage discount of the index or sector 12-month forward P/E ratio versus the equivalent S&P 500 sector, and the 25-year average. (Top right) FactSet, MSCI. U.S.: S&P 500 Index, Europe: MSCI Europe Index. (Bottom right) Bernstein. Buyback yields are the value of total stock buyback announcements over the previous 12 months as a percentage of regional index market cap. Past performance is not a reliable indicator of current and future results.

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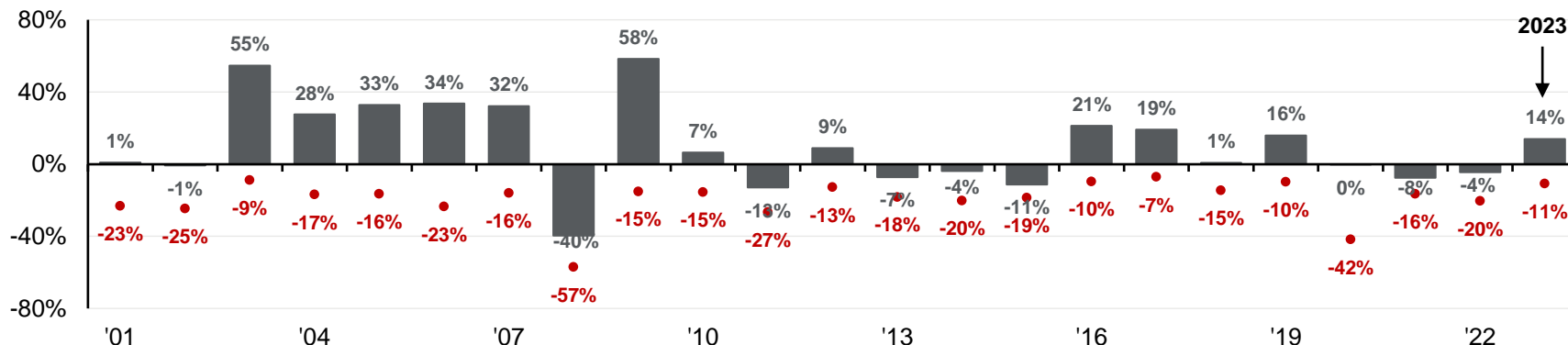


Annual returns and intra-year declines

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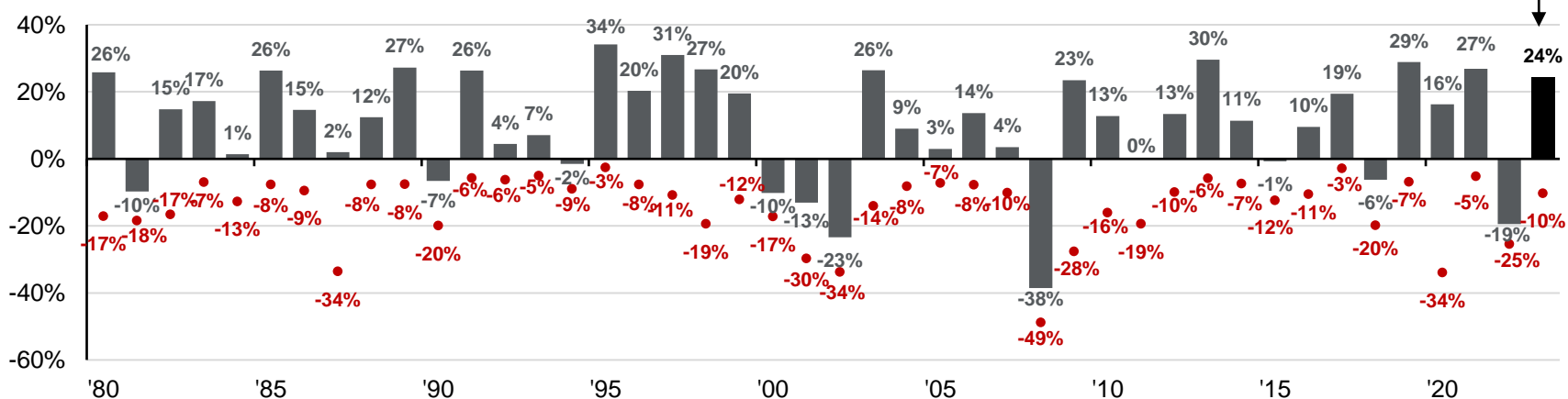
MSCI EM Latin America intra-year declines vs. calendar year returns

Local currency, average intra-year drops of 19.3% (median -16.4%) and annual returns positive in 14 of 23 years



S&P 500 intra-year declines vs. calendar year returns

Local currency, average intra-year drops of 14.2% (median -10.4%) and annual returns positive in 33 of 44 years



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

Returns are based on price index only and do not include dividends. Intra-year drops refers to the largest market drops from a peak to a trough during the year. For illustrative purposes only. Returns are calendar year returns from 1980 to 2023 for the S&P 500 and 2001 to 2023 for the MSCI EM Latin America.

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Global commodities

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Bloomberg Commodity Index

Since index inception, total returns



Commodity prices

Bloomberg Commodity Index constituents

Constituents	Current price level	Change since 12/31/2022	Change since 6/9/2022*
Energy (Index level)			
WTI crude oil	\$71.65	-10.7%	-41.0%
Natural gas	\$2.51	-43.82%	-72.0%
Brent crude	\$77.04	-10.32%	-37.4%
Low sulphur gas oil	\$750.75	-18.49%	-46.0%
RBOB gasoline	\$210.26	-14.51%	-50.8%
Grains (Index level)			
Corn	\$471.25	-30.55%	-39.0%
Soybeans	\$1,293.50	-14.86%	-26.9%
Soybean meal	\$386.00	-19.33%	-9.7%
Wheat	\$628.00	-20.71%	-41.4%
Soybean oil	\$47.84	-25.03%	-42.1%
HRW w heat	\$642.00	-27.70%	-44.4%
Industrial metals (Index level)			
Copper	\$389.05	2.10%	-11.2%
Aluminum	\$2,351.50	0.08%	-14.0%
Zinc	\$2,643.00	-11.61%	-29.9%
Nickel	\$16,435.00	-45.04%	-41.2%
Precious metals (Index level)			
Gold	\$2,062.98	13.10%	11.6%
Silver	\$23.80	-0.66%	9.70%
Softs (Index level)			
Sugar	\$20.58	2.69%	6.7%
Coffee	\$188.30	12.55%	-19.8%
Cotton	\$81.00	-2.84%	-44.7%
Livestock (Index level)			
Live cattle	\$173.68	12.18%	26.7%
Lean hogs	\$67.98	-22.49%	-36.5%

Source: Bloomberg, FactSet, J.P. Morgan Asset Management. Excludes ULS Diesel. *The Bloomberg Commodity Index peaked on June 9, 2022. Guide to the Markets – Latin America. Data are as of December 31, 2023.

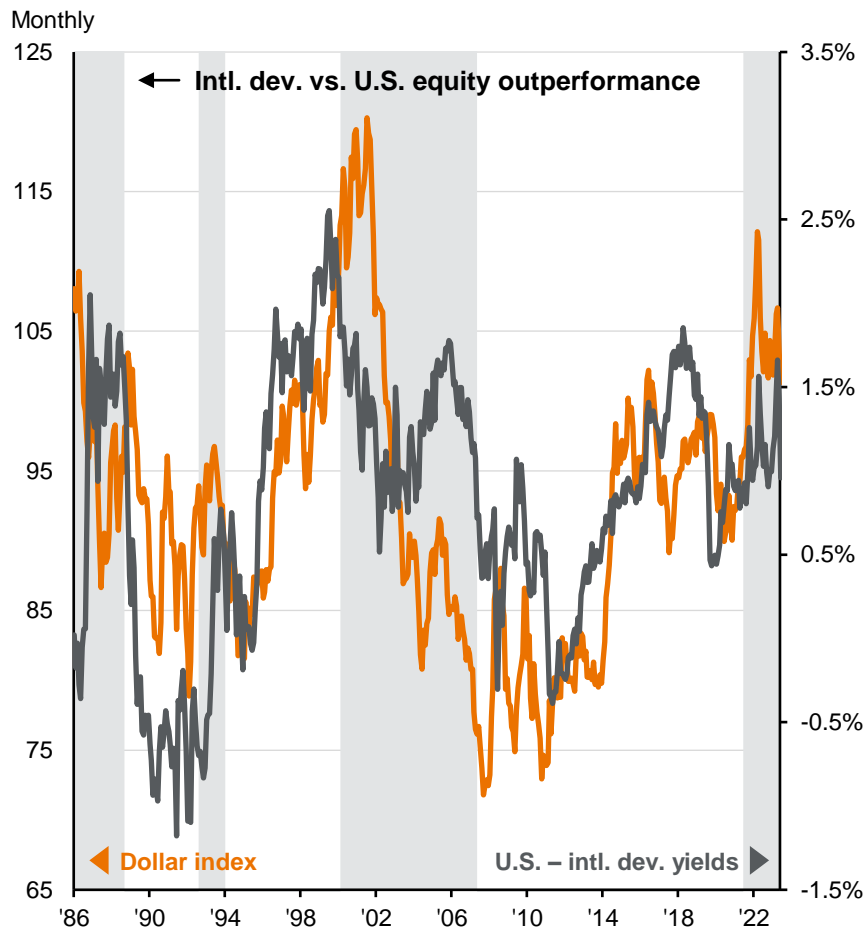
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Global currencies

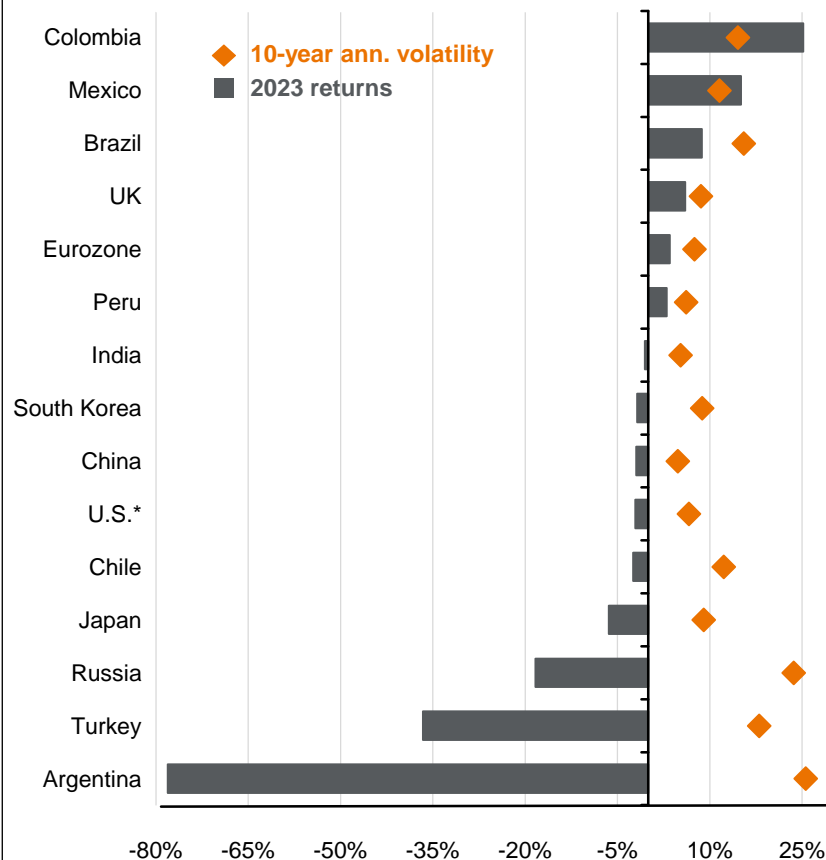
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U.S. dollar and interest rate differentials



Global currency returns

FX spot rate per USD



Source: FactSet, J.P. Morgan Asset Management; (Left) Bank of Canada, Federal Reserve Economic Data (FRED), Ministry of Finance of Japan, MSCI, OECD, Standard & Poor's. The dollar index (DXY Index) is a nominal trade-weighted index of major trading partners' currencies. Major currencies are the British pound, Canadian dollar, euro, Japanese yen, Swedish kroner and Swiss franc. DM is developed markets, and the yield is calculated as a GDP-weighted average of the 10-year government bond yields of Australia, Canada, France, Germany, Italy, Japan, Switzerland and the UK. Intl. dev. = MSCI EAFE Index, U.S. = S&P 500 Index. Past performance is not a reliable indicator of current and future results. (Right) *Returns for the U.S. (USD) are represented by the DXY Index.

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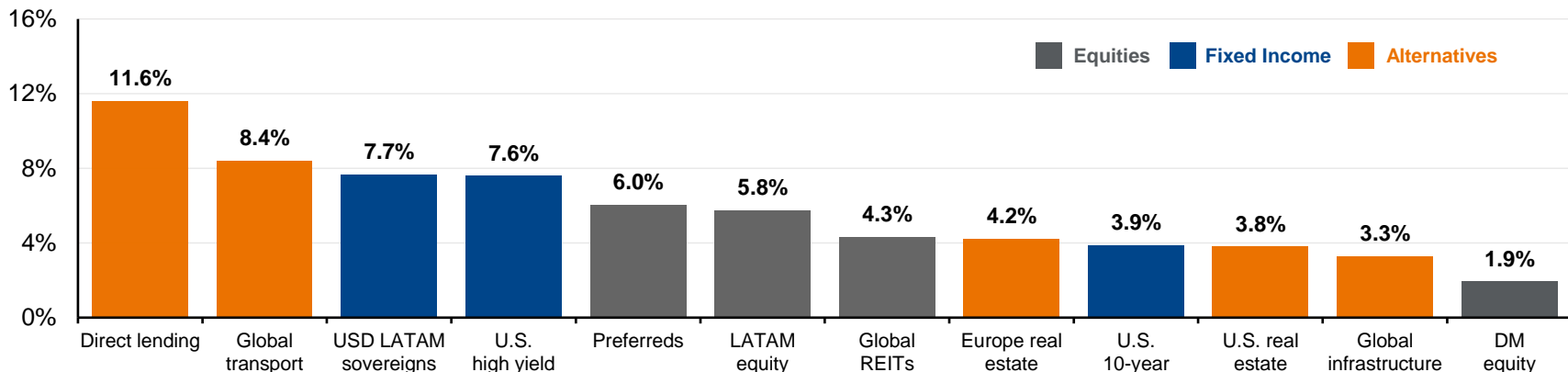
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Global alternatives

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Asset class yields



Public and private market correlations

2008 – 2Q23		Global Bonds	Global Equities	U.S. Core RE	Europe Core RE*	APAC Core RE	Global Core Infra	Transport	Timber	Direct Lending	Venture Capital	Private Equity	Equity Long/Short	Relative Value	Macro	Bitcoin
Finc. assets	Global Bonds	1.0														
	Global Equities	0.4	1.0													
	U.S. Core RE	-0.2	0.0	1.0												
	Europe Core RE*	-0.2	0.1	0.7	1.0											
Global RE	APAC Core RE	-0.1	0.0	0.8	0.7	1.0										
	Global Core Infra	-0.1	0.0	0.4	0.3	0.5	1.0									
	Transport	-0.2	0.0	0.4	0.0	0.3	-0.1	1.0								
	Timber	-0.2	-0.1	0.2	0.0	0.1	0.2	0.2	1.0							
Real Assets	Direct Lending	0.0	0.7	0.2	0.3	0.3	0.3	0.1	-0.1	1.0						
	Venture Capital	0.1	0.6	0.3	0.5	0.3	0.2	0.0	-0.1	0.5	1.0					
	Private Equity	0.3	0.8	0.3	0.4	0.3	0.2	0.0	-0.1	0.8	0.8	1.0				
	Equity Long/Short	0.3	0.9	-0.1	0.1	0.0	0.1	0.0	-0.1	0.7	0.7	0.9	1.0			
Private Mkts.	Relative Value	0.2	0.9	-0.1	0.1	0.0	0.1	-0.1	-0.2	0.9	0.5	0.8	0.9	1.0		
	Macro	0.0	0.3	0.0	0.1	0.0	0.0	-0.2	0.0	0.1	0.2	0.2	0.3	0.3	1.0	
	Bitcoin	0.1	0.1	0.1	0.0	0.1	0.2	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.0	1.0

Source: Bloomberg, Burgiss, Cliffwater, HFRI, MSCI, NCREIF, J.P. Morgan Asset Management. *Europe Core RE includes continental Europe. Private Equity and Venture Capital are time-weighted returns from Burgiss. RE – real estate. Global equities: MSCI AC World Index. Global Bonds: Bloomberg Global Aggregate Index. U.S. Core Real Estate: NCREIF Property Index – Open End Diversified Core Equity component. Europe Core Real Estate: MSCI Global Property Fund Index – Continental Europe. Asia Pacific (APAC) Core Real Estate: MSCI Global Property Fund Index – Asia-Pacific. Global infrastructure (Infra.): MSCI Global Quarterly Infrastructure Asset Index. U.S. Direct Lending: Cliffwater Direct Lending Index. Timber: NCREIF Timberland Property Index (U.S.). Hedge fund indices include equity long/short, relative value and global macro and are all from HFRI. Transport: Returns are derived from a J.P. Morgan Asset Management index. All correlation coefficients are calculated based on quarterly total return data for the period 6/30/2008 – 6/30/2023, except correlations with Bitcoin, which are calculated over the period 12/31/2010 – 6/30/2023. Returns are denominated in USD.

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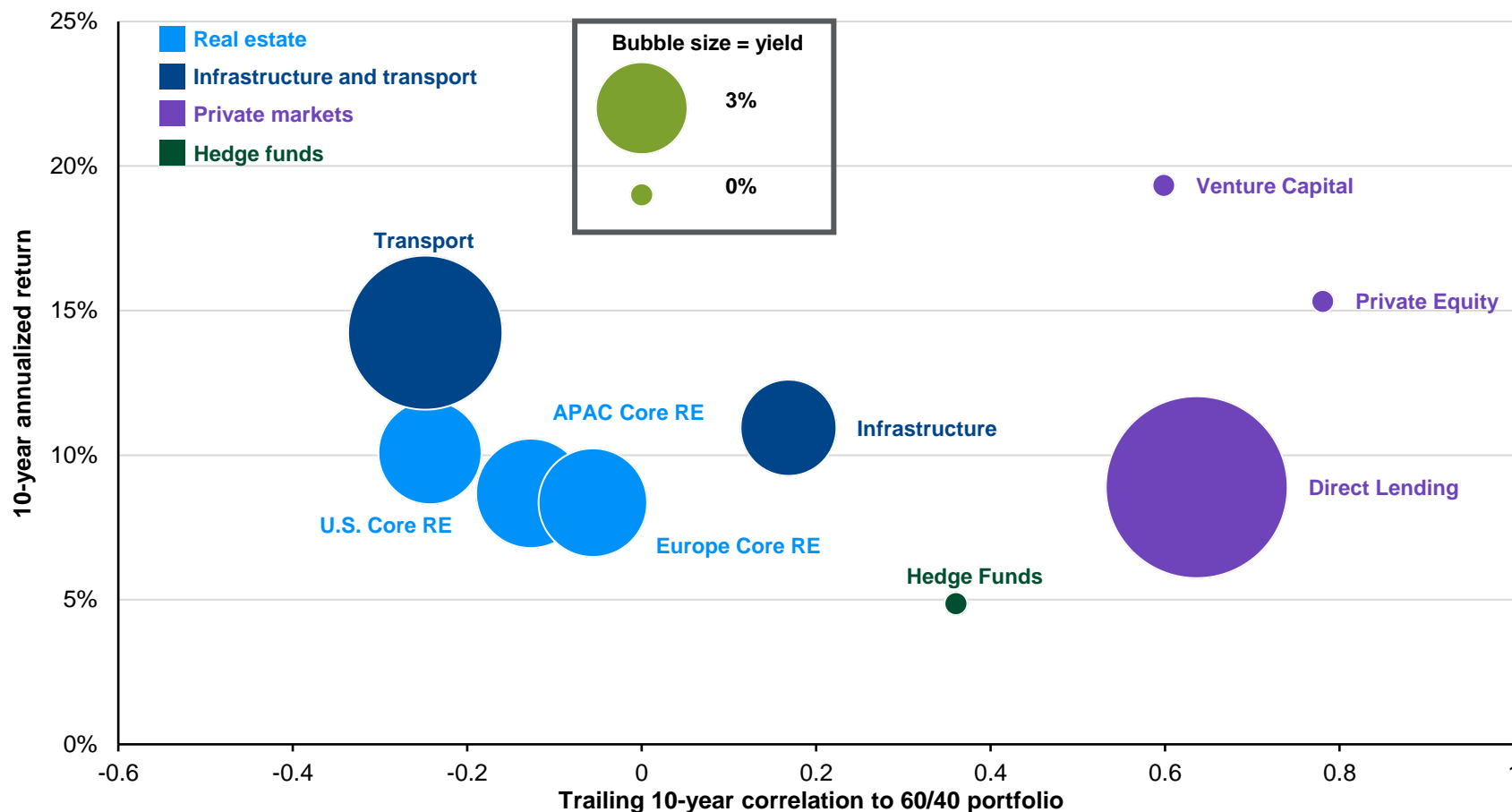
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Alternative asset correlations, returns and yields

Correlations, returns, and yields

10-year correlations and 10-year annualized total returns, quarterly, 2013 - 2022



Source: Burgiss, Cliffwater, FactSet, Gilberto-Levy, HFRI, MSCI, NCREIF, J.P. Morgan Asset Management. Correlations are based on quarterly returns over the past 10 years through 2022. A 60/40 portfolio is comprised of 60% stocks and 40% bonds. Stocks are represented by the S&P 500 Total Return Index. Bonds are represented by the Bloomberg U.S. Aggregate Total Return Index. 10-year annualized returns are calculated from 2013 – 2022. This slide comes from our [Guide to Alternatives](#). *Guide to the Markets – Latin America*. Data are as of December 31, 2023.

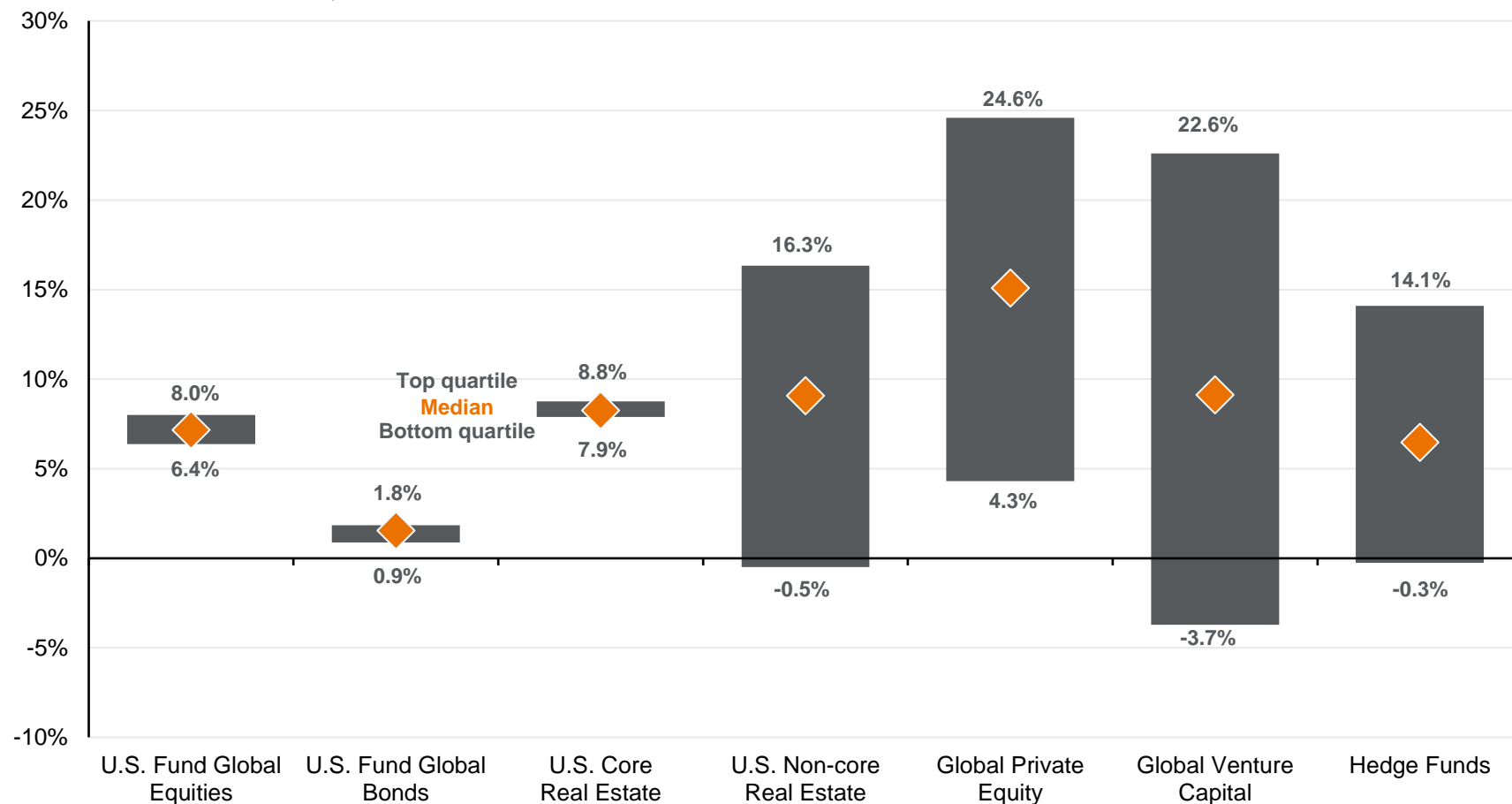


Alternatives and manager selection

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Public and private manager dispersion

Based on returns over a 10-year window*



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

Global equities (large cap) and global bonds dispersion are based on the world large stock and world bond categories, respectively. *Manager dispersion is based on the annual returns for U.S. Fund Global Equities, U.S. Fund Global Bonds, Hedge Funds and U.S. Core Real Estate and are over a 10-year period ending 3Q23. Non-core Real Estate, Global Private Equity and Global Venture Capital are represented by the 10-year horizon internal rate of return (IRR) ending 2Q23. U.S. Fund Global Equities and Bonds are comprised of U.S.-domiciled mutual funds and ETFs.

This slide comes from our [Guide to Alternatives](#).

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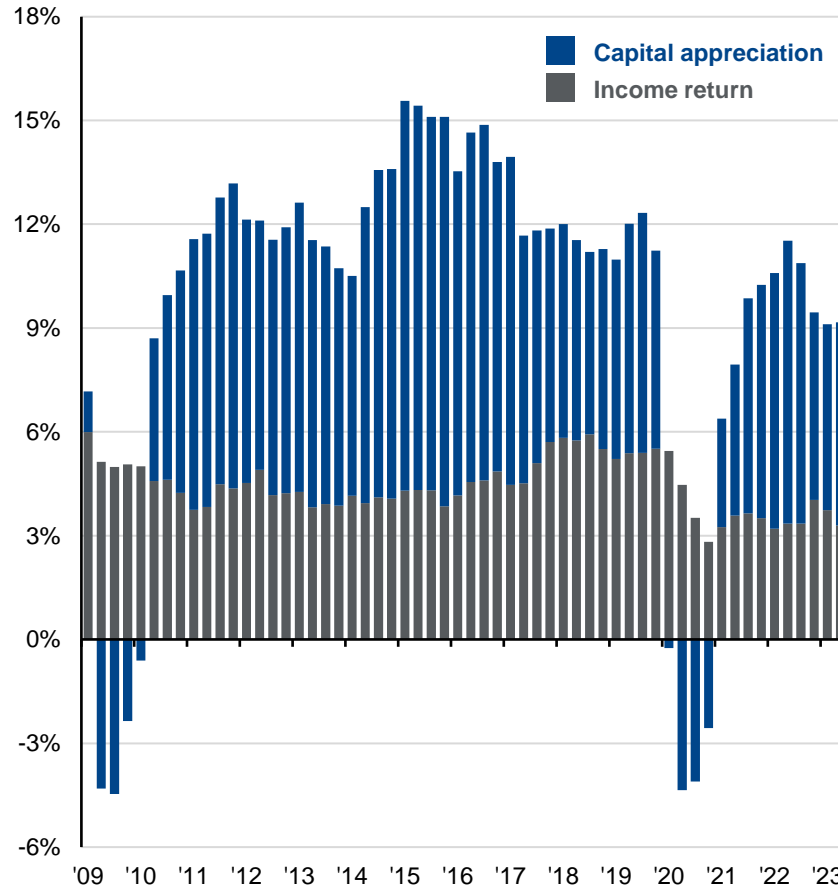


Real assets: Infrastructure and real estate

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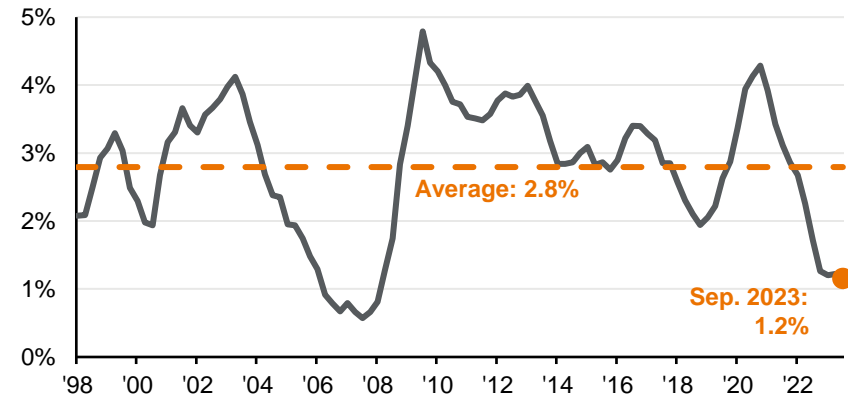
Global core infrastructure returns

Rolling 4-quarter returns from income and capital appreciation



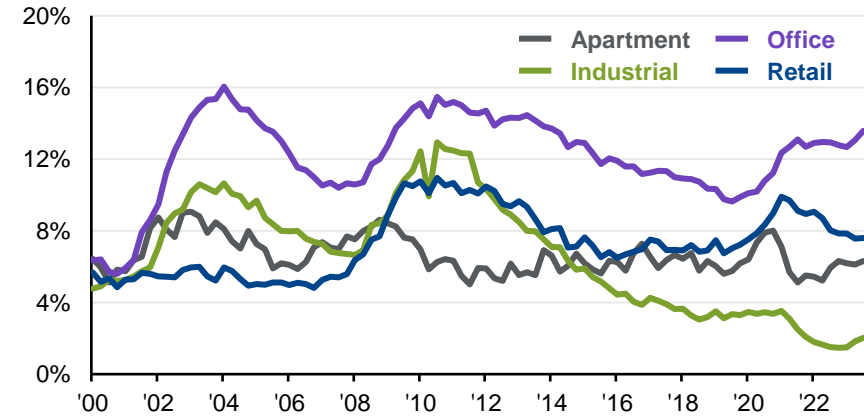
U.S. real estate cap rate spreads

Transaction based, spread to 10y UST, 4-quarter rolling average



U.S. vacancy rates by property type

Percent



Source: J.P. Morgan Asset Management. (Left) Infrastructure returns represented by the MSCI Global Quarterly Infrastructure Asset Index. Data show rolling one-year returns from income and capital growth. The chart shows the full index history, beginning in 1Q09, and ending in 1Q23. *Weights are based on enterprise value. Past performance is not indicative of future results. Alternative investments carry more risk than traditional investments and are recommended only for long-term investment. Some alternative investments may be highly leveraged and rely on speculative investments that can magnify the potential for loss or gain. Diversification does not guarantee investment returns or eliminate the risk of loss. (Top and bottom right) NAREIT, NCREIF, Statista. The cap rate, which is computed as the net operating income over sales price, is the rate of return on a real estate investment property. All data are as of September 30, 2023. These graphs comes from our [Guide to Alternatives](#). *Guide to the Markets – Latin America*. Data are as of December 31, 2023.

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Asset class returns

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															2009-2023	
2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Cum.	Ann.
LATAM equity 104.2%	EM Asia equity 19.4%	USD LATAM sov. 12.3%	EM Asia equity 21.2%	DM equity 27.4%	USD LATAM sov. 8.1%	USD EMD sov. 1.2%	LATAM equity 31.5%	EM Asia equity 43.3%	Cash 1.8%	DM equity 28.4%	EM Asia equity 28.8%	DM equity 22.3%	LATAM equity 9.5%	LATAM equity 33.5%	DM equity 398.6%	DM equity 11.3%
EM Asia equity 74.2%	LCL LATAM sov. 18.7%	USD EMD sov. 7.3%	Global high yield 19.6%	Global high yield 7.3%	USD EMD sov. 7.4%	Cash 0.0%	LCL LATAM sov. 17.1%	LATAM equity 24.2%	LCL LATAM sov. -2.9%	EM Asia equity 19.7%	DM equity 16.5%	Global high yield 1.0%	LCL LATAM sov. 2.6%	LCL LATAM sov. 28.9%	Global high yield 245.6%	Global high yield 8.6%
Global high yield 59.4%	Asset alloc. 15.0%	Global IG 4.0%	USD EMD sov. 17.4%	EM Asia equity 2.3%	DM equity 5.5%	DM equity -0.3%	Asset alloc. 15.0%	DM equity 23.1%	Global IG -3.5%	LATAM equity 17.9%	Global IG 10.1%	Cash 0.0%	Cash 1.5%	DM equity 24.4%	EM Asia equity 231.5%	EM Asia equity 8.3%
Asset alloc. 41.9%	LATAM equity 14.9%	Global high yield 3.1%	LCL LATAM sov. 17.3%	Global IG 1.8%	EM Asia equity 5.3%	USD LATAM sov. -2.0%	Global high yield 14.3%	Asset alloc. 14.8%	Global high yield -4.1%	USD EMD sov. 15.0%	Global high yield 7.0%	USD EMD sov. -1.8%	Asset alloc. -5.0%	Asset alloc. 20.9%	Asset alloc. 152.0%	Asset alloc. 6.4%
LCL LATAM sov. 34.3%	Global high yield 14.8%	LCL LATAM sov. 1.6%	DM equity 16.5%	Cash 0.0%	Global IG 2.5%	Global high yield -2.7%	USD LATAM sov. 13.5%	LCL LATAM sov. 13.2%	USD EMD sov. -4.3%	USD LATAM sov. 14.1%	USD EMD sov. 5.3%	Global IG -2.1%	Global high yield 12.7%	Global high yield 14.0%	USD EMD sov. 138.9%	USD EMD sov. 6.0%
DM equity 30.8%	USD LATAM sov. 13.3%	Asset alloc. 0.4%	USD LATAM sov. 16.0%	Asset alloc. -3.7%	Cash 0.0%	Global IG -3.8%	USD EMD sov. 10.2%	USD LATAM sov. 11.4%	Asset alloc. -4.5%	Asset alloc. 14.1%	USD LATAM sov. 3.3%	USD LATAM sov. -3.5%	USD LATAM sov. -14.6%	USD EMD sov. 11.1%	USD LATAM sov. 133.1%	USD LATAM sov. 5.8%
USD EMD sov. 29.8%	DM equity 12.3%	Cash 0.1%	Asset alloc. 15.6%	USD EMD sov. -5.3%	Global high yield 0.0%	EM Asia equity -9.5%	DM equity 8.2%	Global high yield 10.4%	USD LATAM sov. -5.8%	LCL LATAM sov. 12.7%	Asset alloc. 3.0%	EM Asia equity -4.8%	Global IG -16.1%	USD LATAM sov. 11.0%	LATAM equity 129.8%	LATAM equity 5.7%
USD LATAM sov. 25.8%	USD EMD sov. 12.2%	DM equity -5.0%	Global IG 12.5%	USD LATAM sov. -7.7%	Asset alloc. -0.6%	Asset alloc. -12.9%	EM Asia equity 6.5%	USD EMD sov. 10.3%	LATAM equity -6.2%	Global high yield 12.6%	Cash 0.5%	Asset alloc. -6.1%	DM equity -17.7%	Global IG 10.2%	LCL LATAM sov. 117.1%	LCL LATAM sov. 5.3%
Global IG 23.7%	Global IG 7.0%	EM Asia equity -17.2%	LATAM equity 8.9%	LCL LATAM sov. -8.2%	LCL LATAM sov. -4.2%	LCL LATAM sov. -21.7%	Global IG 6.0%	Global IG 9.3%	DM equity -8.2%	Global IG 11.8%	LCL LATAM sov. 0.3%	LATAM equity -7.7%	USD EMD sov. -17.8%	EM Asia equity 8.2%	Global IG 93.5%	Global IG 4.5%
Cash 0.1%	Cash 0.1%	LATAM equity -19.1%	Cash 0.1%	LATAM equity -13.2%	LATAM equity -12.0%	LATAM equity -30.8%	Cash 0.3%	Cash 0.8%	EM Asia equity -15.2%	Cash 2.2%	LATAM equity -13.5%	LCL LATAM sov. -13.8%	EM Asia equity -20.8%	Cash 5.1%	Cash 13.5%	Cash 0.8%

Source: Bloomberg, FactSet, J.P. Morgan Global Economic Research, MSCI, J.P. Morgan Asset Management.

LATAM equity, EM Asia equity, DM equity, Global high yield, Global IG (investment grade), LCL LATAM sov. (sovereigns), USD LATAM sov., USD EMD sov. and cash are MSCI Latin America, MSCI EM Asia, MSCI The World, Bloomberg Global High Yield, Bloomberg Global Credit – Corporate – Investment Grade, GBI-EM Global Diversified Latin Region subindex (USD), EMBIG Diversified Latin Region subindex, EMBIG Diversified index and Bloomberg 1-3m Treasury, respectively. The "Asset Allocation" portfolio assumes the following weights: 10% in LATAM equity, 5% in EM Asia equity, 5% in DM equity, 10% in global high yield, 5% in global investment grade, 40% in LCL LATAM sovereigns, 15% in USD LATAM sovereigns, 5% in USD EMD sovereigns and 5% cash. All asset class returns are unhedged and shown in USD.

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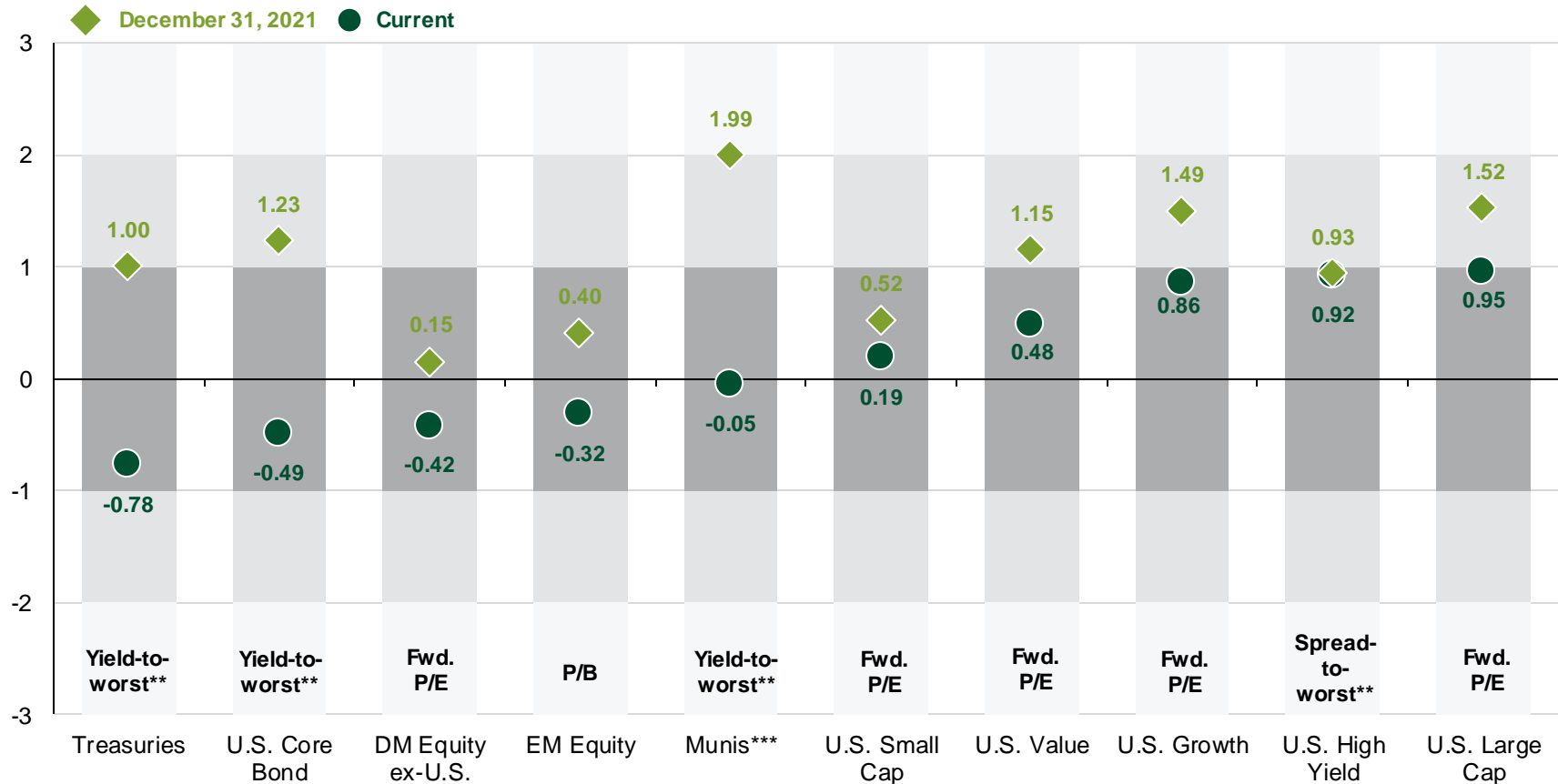


Valuations monitor

GTM LATAM 71

Asset class valuations

Z-scores based on 25-year average valuation measures*



Source: Bloomberg, BLS, CME, FactSet, MSCI, Russell, Standard & Poor's, J.P. Morgan Asset Management.
 U.S. Large Cap: S&P 500, U.S. Small Cap: Russell 2000, EM Equity: MSCI EME, DM Equity: MSCI EAFE, U.S. Value: Russell 1000 Value, U.S. Growth: Russell 1000 Growth, U.S. High Yield: J.P. Morgan Domestic High Yield Index, U.S. Core Bond: Bloomberg US Aggregate, Treasuries: Bloomberg U.S. Aggregate Government – Treasury, Munis: Bloomberg Municipal Bond. *Averages for U.S. High Yield and U.S. Small Cap are since January 1999 and November 1998, respectively, due to limited data availability. **Yield-to-worst and spread-to-worst are inversely related to fixed income prices. ***Munis yield-to-worst is based on the tax-equivalent yield-to-worst assuming a top-income tax bracket rate of 37% plus a Medicare tax rate of 3.8%.

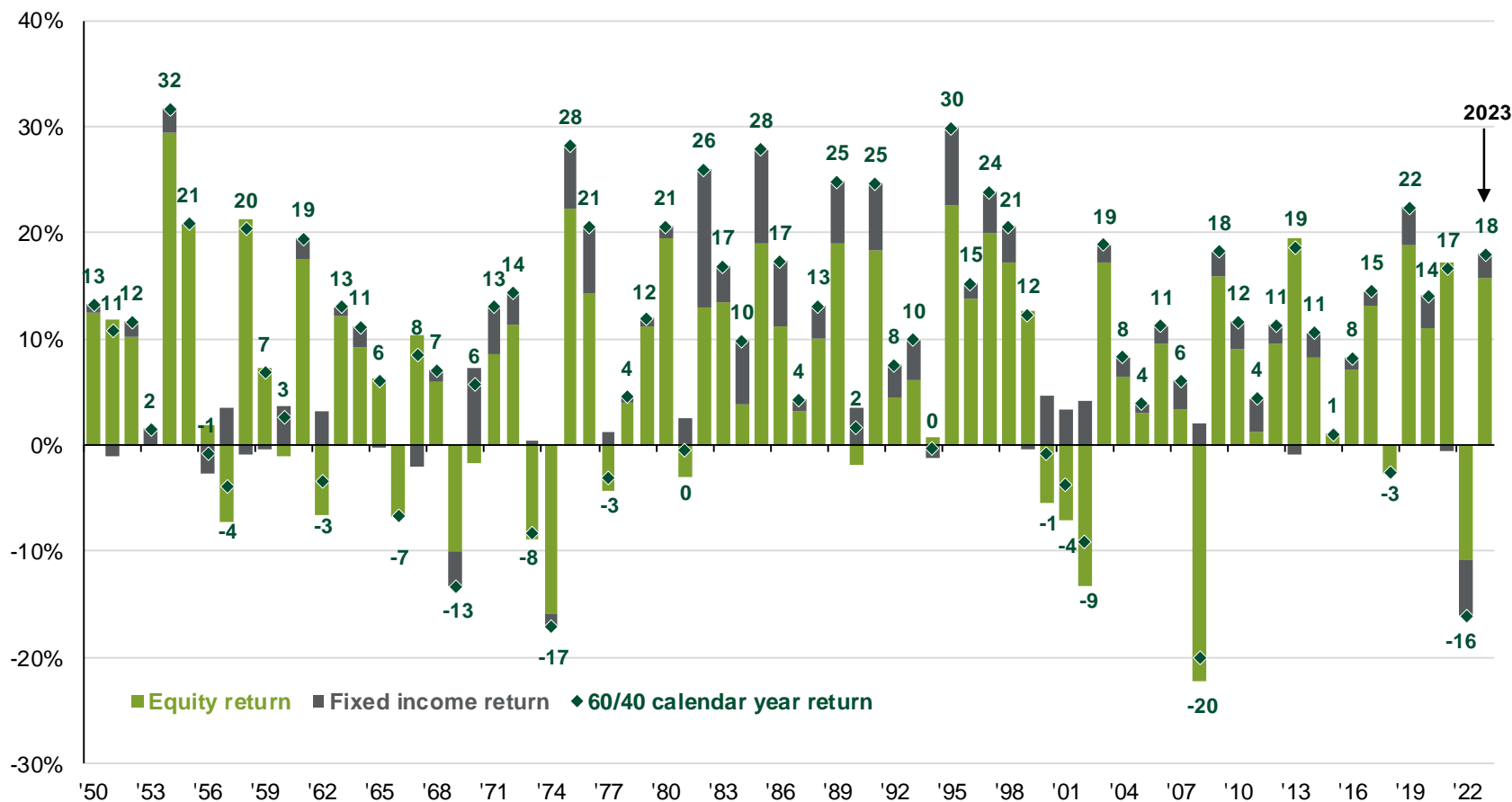
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60/40 annual returns

60/40 annual return decomposition

Total returns, 1950 – 2023



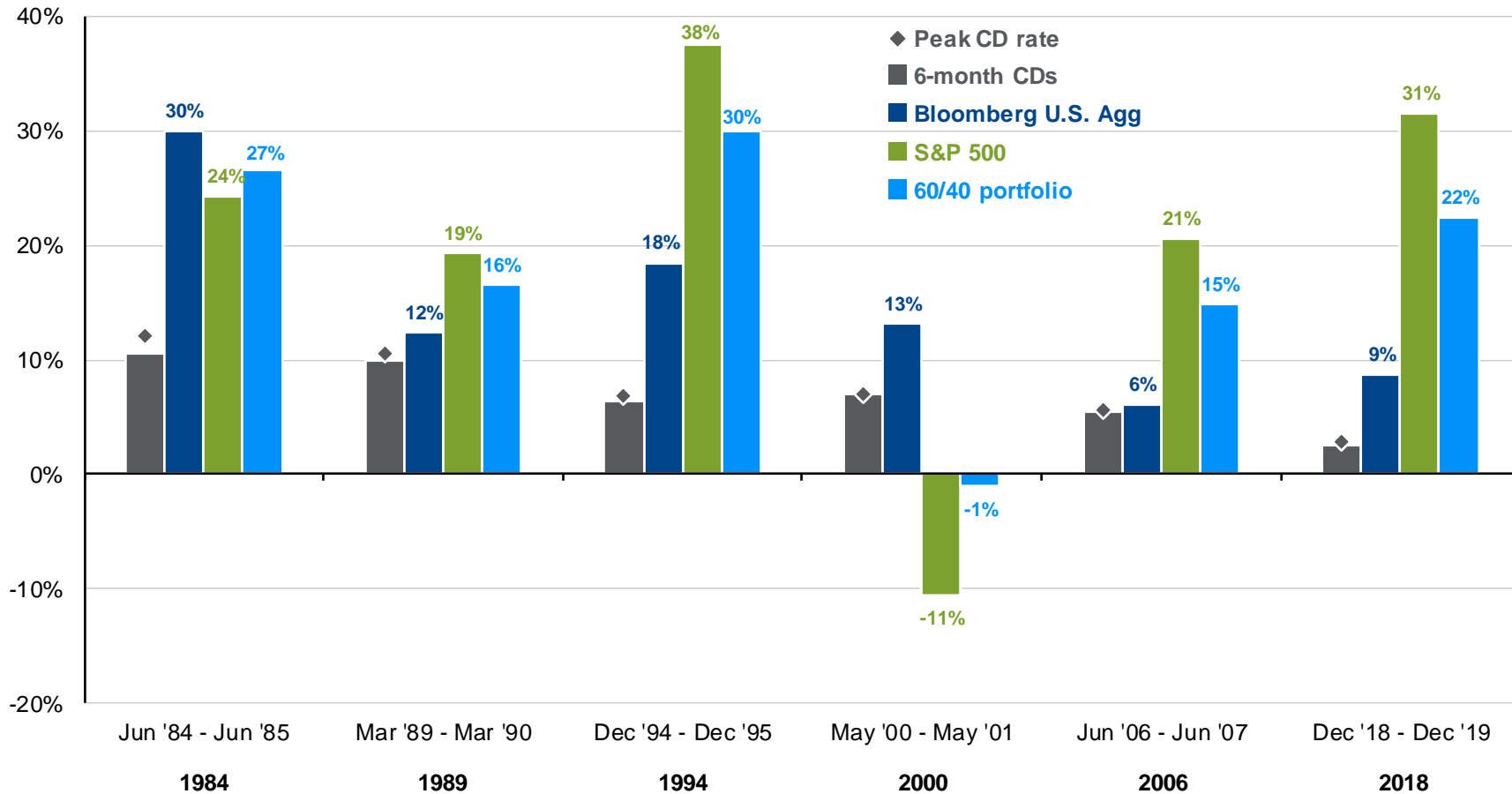
Source: Bloomberg, FactSet, Ibbotson/Strategas, Robert Shiller, Standard & Poor's, Yale University, J.P. Morgan Asset Management. The 60/40 portfolio is 60% invested in S&P 500 Total Return Index and 40% invested in Bloomberg U.S. Aggregate Total Return Index. S&P 500 returns from 1950 to 1970 are estimated using the Shiller S&P Composite. U.S. fixed income total returns from 1950 to 1975 are estimated using data from Strategas/Ibbotson. The portfolio is rebalanced annually.
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CD rates and other investment opportunities

Investment opportunities outside of CDs

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



Source: Bloomberg, FactSet, Federal Reserve, Robert Shiller, J.P. Morgan Asset Management.

The 60/40 portfolio is 60% invested in S&P 500 Total Return Index and 40% invested in Bloomberg U.S. Aggregate Total Return Index. The S&P 500 total return figure from the 1984 period was calculated using data from Robert Shiller. The analysis references the month in which the month-end 6-month CD rate peaked during previous rate hiking cycles. CD rate data prior to 2013 are sourced from the Federal Reserve, whereas data from 2013 to 2023 are sourced from Bloomberg. CD subsequent 12-month return calculation assumes reinvestment at the prevailing 6-month rate when the initial CD matures.

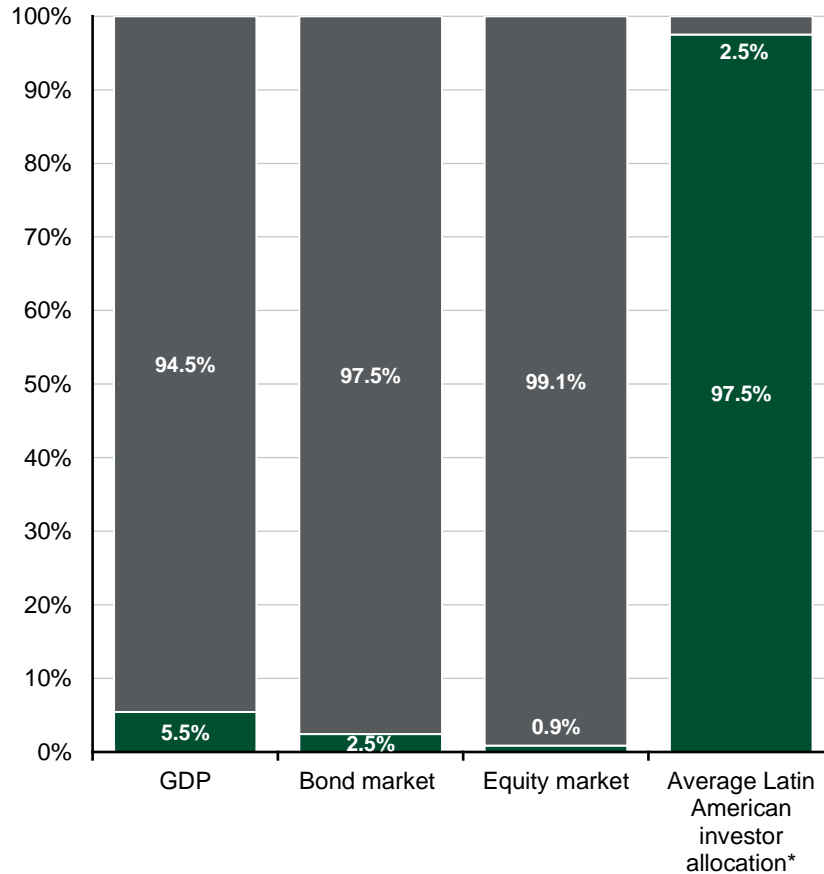
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Local investing and global opportunities

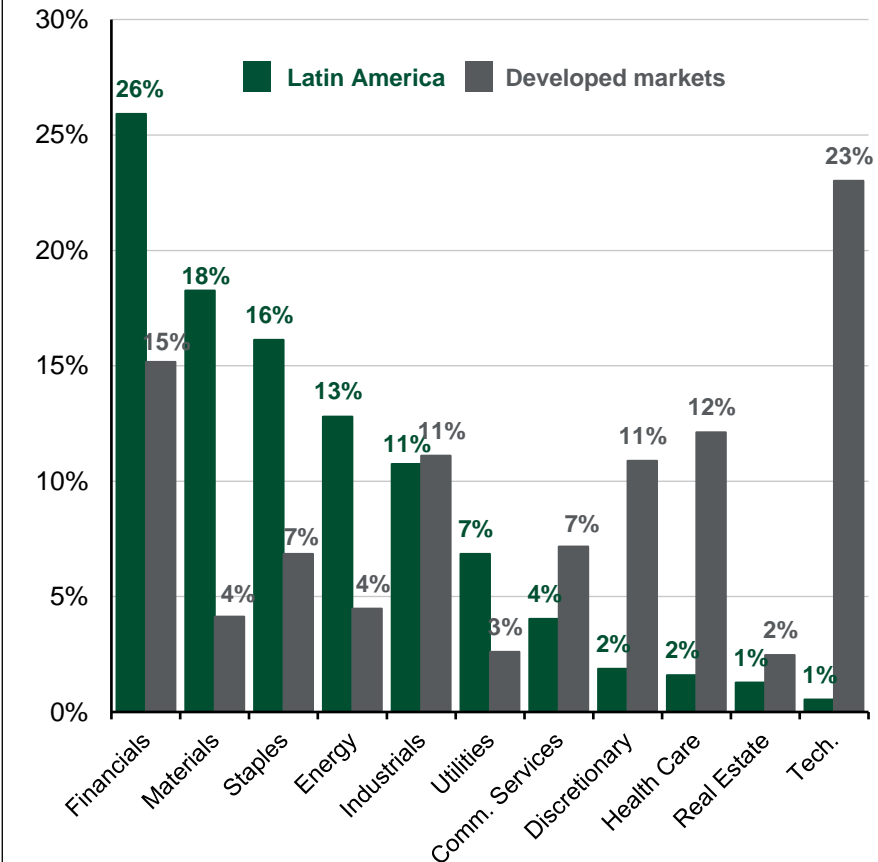
Investment universe & Latin American investors

Percentage of total net assets



Sector exposure

% of MSCI The World Index and MSCI Latin America



Source: MSCI, J.P. Morgan Asset Management; (Left) BIS, Cerulli Associates, IMF. Latin American figures include Brazil, Chile, Colombia, Mexico and Peru. Share of global GDP is based on purchasing power parity (PPP) as calculated by the IMF for 2022. Share of global market capitalization is based on float-adjusted MSCI data in U.S. dollar terms. Share of global bond market is based on BIS individual country total debt outstanding in U.S. dollar terms and is as of 1Q22. *Average investor allocation is an AUM weighted average of mutual fund international exposure in each country found in Cerulli Associate's 2014 report "Latin American Distribution Dynamics 2014: Entry Points to Emergent Economies." Percentages may not sum to 100% due to rounding.

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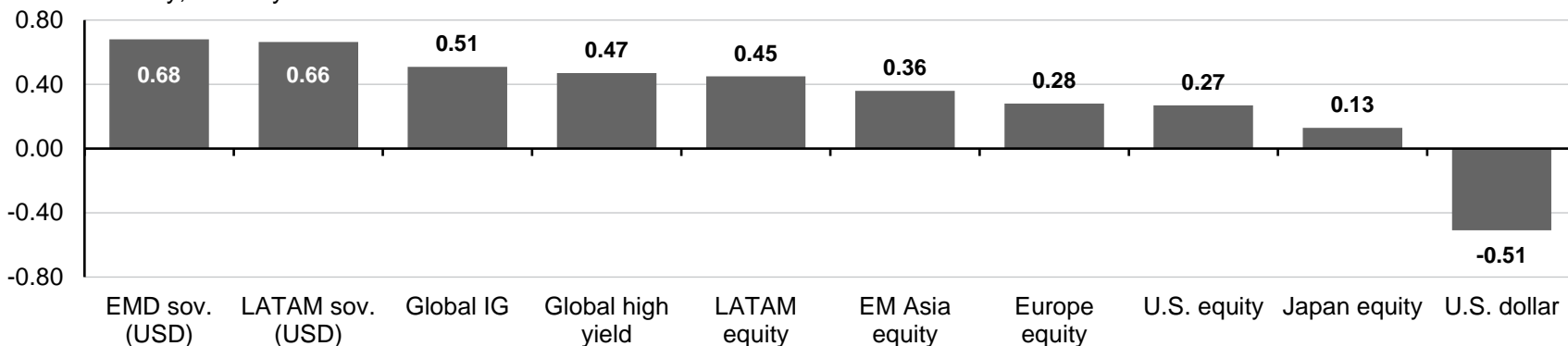


Correlations and beta

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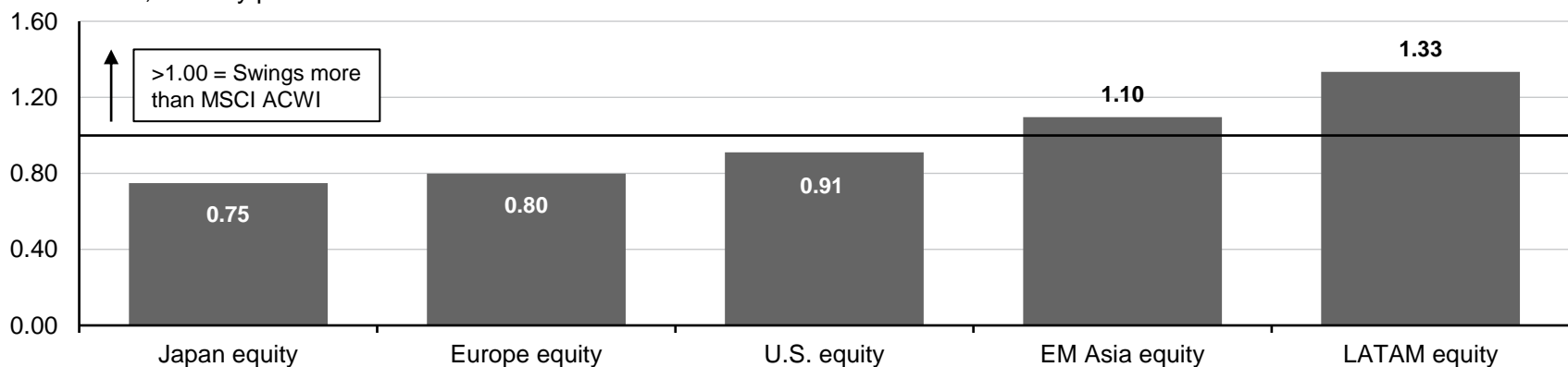
Correlation between Latin America local sovereign bonds vs. other asset classes

Local currency, monthly total returns



Beta of regional equities to global equities (MSCI ACWI)

U.S. dollars, monthly price returns



Source: Bloomberg, FactSet, J.P. Morgan Global Economic Research, MSCI, Standard & Poor's, J.P. Morgan Asset Management. LCL LATAM sov. (sovereigns), USD LATAM sov., USD EMD sov., LATAM equity, EM Asia equity, U.S. equity, Europe equity, Japan equity, Global high yield, Global IG (investment grade) and U.S. dollar are: GBI-EM Global Diversified Latin Region subindex, EMBIG Diversified Latin Region subindex, EMBIG Diversified index, MSCI Latin America, MSCI EM Asia, S&P 500, MSCI Europe, MSCI Japan, Bloomberg Global High Yield, Bloomberg Global Credit – Corporate – Investment Grade and J.P. Morgan Emerging Market Currency index, respectively. Correlations are based on monthly total return data in local currency terms for the period 7/31/2008 – 12/31/2023. Beta calculations are based on monthly price returns in U.S. dollars for the period 02/28/2003 – 12/31/2022. Guide to the Markets – Latin America. Data are as of December 31, 2023.

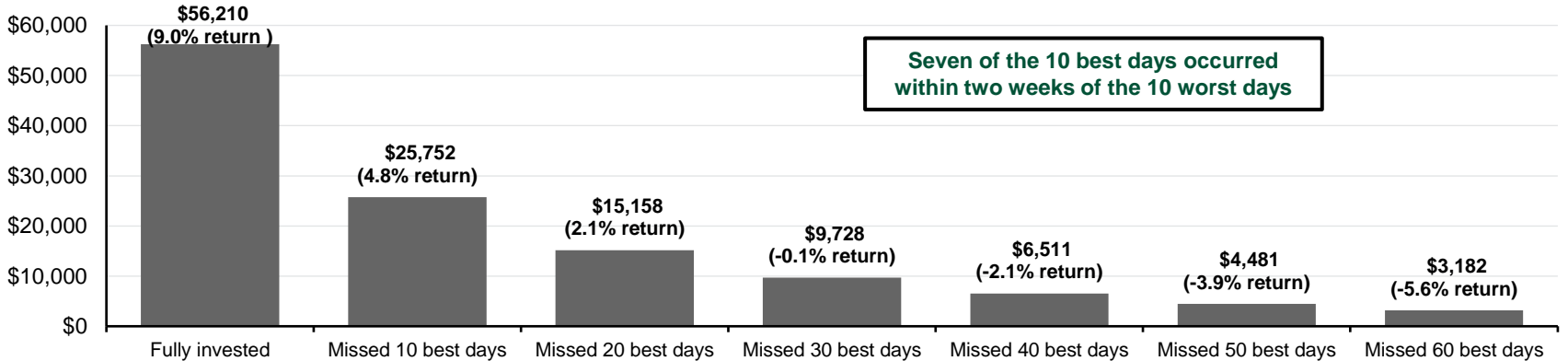
J.P.Morgan
ASSET MANAGEMENT



Market timing and diversification

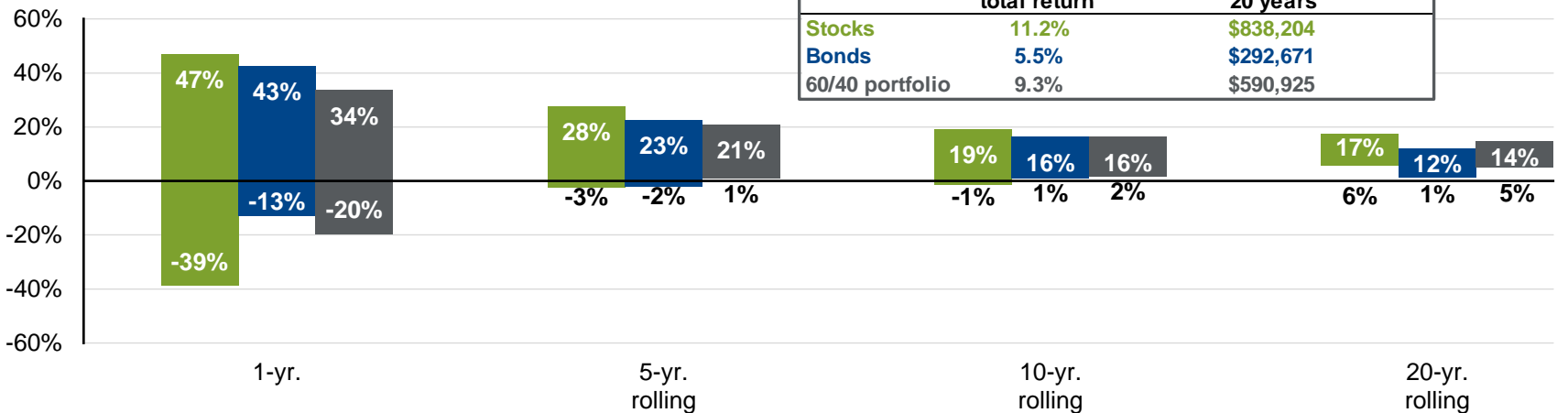
Returns of S&P 500

Performance of \$10,000 between January 1, 2002 and December 31, 2023, annualized total return



Range of stock, bond and blended total returns

Annual total returns, 1950-2023



Source: Bloomberg, FactSet, Standard & Poor's, J.P. Morgan Asset Management; (Bottom) Federal Reserve, Robert Shiller, Strategas/Ibbotson. Returns shown are based on calendar year returns from 1950 to 2022. Stocks represent the S&P 500 Shiller Composite and Bonds represent Strategas/Ibbotson for periods from 1950 to 2010 and Bloomberg Aggregate thereafter. Growth of \$100,000 is based on annual average total returns from 1950 to 2023.

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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.

Equities:

The **Dow Jones Industrial Average** is a price-weighted average of 30 actively traded blue-chip U.S. stocks.

The **MSCI ACWI (All Country World Index)** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets.

The **MSCI EAFE Index(Europe, Australasia, Far East)** is a free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the US & Canada.

The **MSCI Emerging Markets Index** is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets.

The **MSCI Europe Index** is a free float-adjusted market capitalization index that is designed to measure developed market equity performance in Europe.

The **MSCI Pacific Index** is a free float-adjusted market capitalization index that is designed to measure equity market performance in the Pacific region.

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

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 **S&P 500 Index** is widely regarded as the best single gauge of the U.S. equities market. The index includes a representative sample of 500 leading companies in leading industries of the U.S. economy. The **S&P 500 Index** focuses on the large-cap segment of the market; however, since it includes a significant portion of the total value of the market, it also represents the market.

Fixed income:

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

The **Bloomberg Global High Yield Index** is a multi-currency flagship measure of the global high yield debt market. The index represents the union of the US High Yield, the Pan-European High Yield, and Emerging Markets (EM) Hard Currency High Yield Indices. The high yield and emerging markets sub-components are mutually exclusive. Until January 1, 2011, the index also included CMBS high yield securities.

The **Bloomberg Municipal Index** consists of a broad selection of investment-grade general obligation and revenue bonds of maturities ranging from one year to 30 years. It is an unmanaged index representative of the tax-exempt bond market.

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

The **Bloomberg US Corporate Investment Grade Index** is an unmanaged index consisting of publicly issued US Corporate and specified foreign debentures and secured notes that are rated investment grade (Baa3/BBB or higher) by at least two ratings agencies, have at least one year to final maturity and have at least \$250 million par amount outstanding. To qualify, bonds must be SEC-registered.

The **Bloomberg US High Yield Index** covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB+/BBB+ and below using the middle of Moody's, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included.

The **Bloomberg US Mortgage Backed Securities Index** is an unmanaged index that measures the performance of investment grade fixed-rate mortgage backed pass-through securities of GNMA, FNMA and FHLMC.

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

The **J.P. Morgan Emerging Market Bond Global Index(EMBI)** 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 **J.P. Morgan Corporate Emerging Markets Bond Index Broad Diversified (CEMBI Broad Diversified)** is an expansion of the **J.P. Morgan Corporate Emerging Markets Bond Index (CEMBI)**. The CEMBI is a market capitalization weighted index consisting of U.S. dollar denominated emerging market corporate bonds.

The **J.P. Morgan Emerging Markets Bond Index Global Diversified (EMBI Global Diversified)** tracks total returns for U.S. dollar-denominated debt instruments issued by emerging market sovereign and quasi-sovereign entities: Brady bonds, loans, Eurobonds. The index limits the exposure of some of the larger countries.

The **J.P. Morgan GBI EM Global Diversified** tracks the performance of local currency debt issued by emerging market governments, whose debt is accessible by most of the international investor base.

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



J.P. Morgan Asset Management – Definitions

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Other asset classes:

The **Alerian MLP Index** is a composite of the 50 most prominent energy Master Limited Partnerships (MLPs) that provides investors with an unbiased, comprehensive benchmark for the asset class.

The **Bloomberg Commodity Index** and related sub-indices are 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

The **Cambridge Associates U.S. Global Buyout and Growth Index®** is based on data compiled from 1,768 global (U.S. & ex -U.S.) buyout and growth equity funds, including fully liquidated partnerships, formed between 1986 and 2013.

The **CS/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 **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 sub strategies. 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.

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 **NFI-ODCE**, short for NCREIF 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.

Definitions:

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.

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

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

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

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.

Investments in **emerging markets** can be more volatile. 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.

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.

Equity market neutral strategies employ sophisticated quantitative techniques of analyzing price data to ascertain information about future price movement and relationships between securities, select securities for purchase and sale. Equity Market Neutral Strategies typically maintain characteristic net equity market exposure no greater than 10% long or short.

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.

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. Some overseas markets may not be as politically and economically stable as the United States and other nations.

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.

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.

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.

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.

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.

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

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.



J.P. Morgan Asset Management – Risks & disclosures

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Unless otherwise stated, all data are as of December 31, 2023 or most recently available.

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