

Principal Morley



# Economic and market review

Principal Asset Allocation Viewpoints

As of March 31, 2023

## Key themes for Q2 2023

- **Global economic growth has surprised to the upside, but U.S. recession risk is rising.**  
Although U.S. growth has remained strong, even accelerating in early 1Q, leading indicators continue to signal recession. Tighter lending standards, as a result of the recent banking crisis, only increase the risk of a hard landing.
- **Price pressures remain too elevated; in most economies, inflation will end the year above target.**  
Part of the inflation basket will soften rapidly in response to normalizing supply chains and energy prices, but other key segments still require considerable weakening such as in labor markets if there is any hope of approaching target.
- **Central banks are nearing the end of their tightening cycles as financial stability risks increase.**  
Each additional interest rate hike increases the risk of further market turmoil. Central bank policy rates will likely peak soon, but rate cuts are unlikely unless there is a severe and dangerous spike in financial system stress.
- **Although credit markets have been resilient, earnings weakness will threaten further drawdown.**  
While 2022 dynamics were driven by inflation and rates scares, 2023 is likely to be dominated by earnings and economic growth scares. Margin pressures will weigh on company profitability, leading equities lower.
- **High-quality fixed income offers stability and income in this challenging economic backdrop.**  
Central banks are likely nearing the completion of their tightening cycle, implying that bonds will be able to support portfolios both as recession approaches and during forthcoming periods of volatility and risk.

## Q1 2023, reversal from 2022

For the quarter, stock and bond indexes delivered positive returns while commodity and the dollar indexes were negative

	YTD	1-year	3-year	5-year	10-year
<b>Fixed Income</b>					
ICE BofA U.S. Treasury Bill 3-month Index	1.07%	2.50%	0.89%	1.41%	0.87%
Bloomberg Aggregate Bond Index	2.96%	-4.78%	-2.77%	0.91%	1.36%
Bloomberg U.S. Corp High Yld 2% Issuer Capped Index	3.57%	-3.35%	5.88%	3.19%	4.09%
Bloomberg Long-Term Govt/Credit Index	5.76%	-13.40%	-6.33%	0.63%	2.35%
<b>U.S. Equities</b>					
Russell 1000 Value Index	1.01%	-5.91%	17.93%	7.50%	9.13%
S&P 500 Index	7.50%	-7.73%	18.60%	11.19%	12.24%
Russell 1000 Growth Index	14.37%	-10.90%	18.58%	13.66%	14.59%
Russell Midcap Index	4.06%	-8.78%	19.20%	8.05%	10.05%
Russell 2000 Index	2.74%	-11.61%	17.51%	4.71%	8.04%
<b>Non-U.S. Equities</b>					
MSCI EAFE NTR Index	8.47%	-1.38%	12.99%	3.52%	5.00%
MSCI ACWI ex-USA Index	6.87%	-5.07%	11.80%	2.47%	4.17%
MSCI Emerging Markets Index	3.96%	-10.70%	7.83%	-0.91%	2.00%
<b>Other</b>					
MSCI U.S. REIT Index	2.39%	-20.17%	10.76%	4.79%	4.66%
S&P GSCI® Index	-4.94%	-10.04%	30.53%	4.93%	-3.84%
U.S. Dollar Index	-1.31%	3.23%	-0.45%	1.81%	1.89%

As of 03/31/2023.

Source: FactSet Global. Benchmark Review-Ned Davis Research 4Q2022, Jan. 3, 2023. Returns are annualized. **Past performance does not guarantee future results.**

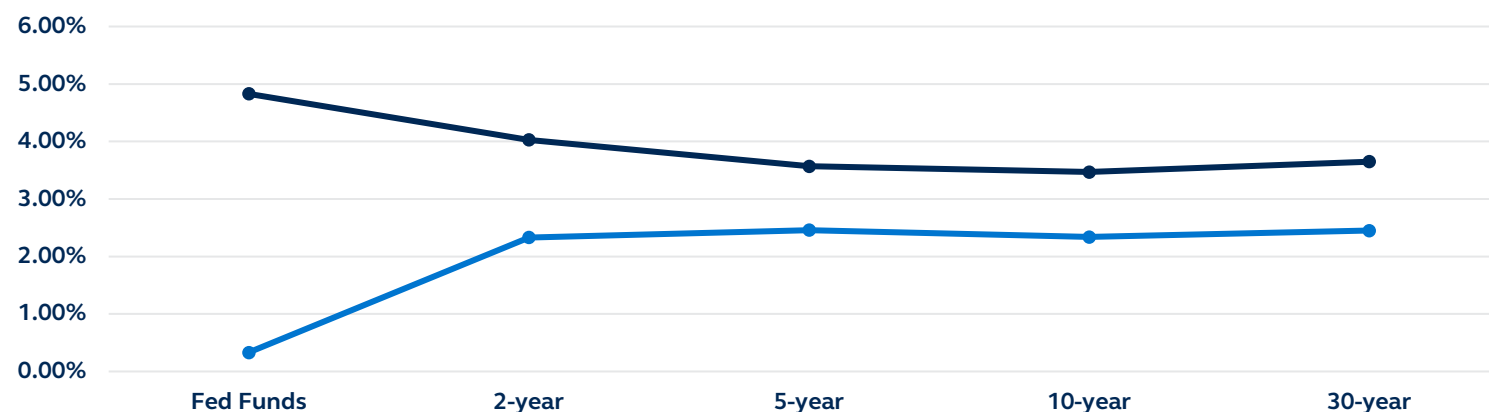
Index performance information reflects no deduction for fees, expenses, or taxes. Indices are unmanaged and individuals cannot invest directly in an index. See Important Information for index descriptions.

# The history of interest rates

How have interest rates changed in recent years?

## ECONOMIC AND MARKET REVIEW

	March 31, 2020	March 31, 2021	March 31, 2022	March 31, 2023
Fed Funds	0.01	0.00	0.33	4.83
2-year	0.25	0.16	2.33	4.03
5-year	0.38	0.94	2.46	3.57
10-year	0.67	1.74	2.34	3.47
2- to 10-year spread	0.42	1.58	0.00	-0.56
30-year	1.32	2.41	2.45	3.65



March 31, 2023	4.83%	4.03%	3.57%	3.47%	3.65%
March 31, 2022	0.33%	2.33%	2.46%	2.34%	2.45%

Source: FactSet. Past performance does not guarantee future results.

## ECONOMIC AND MARKET REVIEW

## ASSET CLASS RETURNS AS OF MARCH 31, 2023

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	YTD
Best ↑	Emerging Markets 18.23%	Small Cap 38.82%	Real Estate 31.78%	Real Estate 4.23%	Small Cap 21.31%	Emerging Markets 37.28%	Cash 1.86%	Large Cap 31.49%	Small Cap 19.96%	Real Estate 46.18%	Commodities 16.09%	Intl Stocks 8.47%
	Mid Cap 17.88%	Mid Cap 33.50%	Government Treasury 25.07%	Large Cap 1.38%	Mid Cap 20.74%	Intl Stocks 25.03%	Intermediate Bond 0.01%	Mid Cap 26.20%	Large Cap 18.40%	Large Cap 28.71%	Cash 1.50%	Large Cap 7.50%
	Real Estate 17.59%	Large Cap 32.39%	Large Cap 13.69%	Asset Allocation 1.28%	High Yield 17.34%	Large Cap 21.83%	Intl Bonds -1.66%	Real Estate 25.76%	Emerging Markets 18.31%	Commodities 27.11%	High Yield -11.11%	Government Treasury 6.17%
	Intl Stocks 17.32%	Intl Stocks 22.78%	Asset Allocation 10.62%	Intermediate Bond 0.55%	Large Cap 11.96%	Mid Cap 16.24%	Government Treasury -1.84%	Small Cap 25.53%	Government Treasury 17.70%	Mid Cap 24.76%	Intermediate Bond -13.01%	Asset Allocation 5.67%
	Small Cap 16.35%	Asset Allocation 17.56%	Mid Cap 9.77%	Cash 0.03%	Commodities 11.77%	Small Cap 14.65%	High Yield -2.26%	Asset Allocation 22.18%	Asset Allocation 14.73%	Asset Allocation 15.86%	Mid Cap -13.06%	Emerging Markets 3.96%
	Large Cap 16.00%	High Yield 7.38%	Intermediate Bond 5.97%	Intl Stocks -0.81%	Emerging Markets 11.19%	Asset Allocation 14.21%	Asset Allocation -2.35%	Intl Stocks 22.01%	Mid Cap 13.66%	Small Cap 14.82%	Intl Stocks -14.45%	Mid Cap 3.81%
	High Yield 15.44%	Real Estate 1.86%	Small Cap 4.89%	Government Treasury -1.21%	Asset Allocation 8.31%	Intl Bonds 9.92%	Large Cap -4.38%	Emerging Markets 18.44%	Intl Bonds 10.52%	Intl Stocks 11.26%	Asset Allocation -15.79%	High Yield 3.68%
	Asset Allocation 11.31%	Cash 0.06%	High Yield 2.44%	Mid Cap -2.18%	Real Estate 7.24%	Government Treasury 8.53%	Real Estate -4.84%	Government Treasury 14.83%	Intl Stocks 7.82%	High Yield 5.29%	Large Cap -18.11%	Real Estate 3.25%
	Intermediate Bond 4.21%	Intermediate Bond -2.02%	Cash 0.02%	Small Cap -4.41%	Intermediate Bond 2.65%	High Yield 7.48%	Small Cap -11.01%	High Yield 14.40%	Intermediate Bond 7.51%	Cash 0.05%	Emerging Markets -20.09%	Intl Bonds 3.24%
	Government Treasury 3.56%	Emerging Markets -2.60%	Emerging Markets -2.19%	High Yield -4.55%	Intl Bonds 1.86%	Real Estate 4.18%	Mid Cap -11.08%	Intermediate Bond 8.72%	High Yield 6.20%	Intermediate Bond -1.54%	Small Cap -20.44%	Intermediate Bond 2.96%
	Intl Bonds 0.85%	Intl Bonds -5.06%	Intl Bonds -2.53%	Intl Bonds -4.84%	Government Treasury 1.33%	Intermediate Bond 3.54%	Commodities -11.25%	Commodities 7.69%	Cash 0.58%	Emerging Markets -2.54%	Intl Bonds -21.87%	Small Cap 2.74%
	Cash 0.09%	Commodities -9.52%	Intl Stocks -4.90%	Emerging Markets -14.92%	Intl Stocks 1.00%	Commodities 1.70%	Intl Stocks -13.79%	Intl Bonds 5.23%	Commodities -3.12%	Government Treasury -4.65%	Real Estate -26.81%	Cash 1.12%
Worst ↓	Commodities -1.06%	Government Treasury -12.66%	Commodities -17.01%	Commodities -24.66%	Cash 0.27%	Cash 0.84%	Emerging Markets -14.58%	Cash 2.25%	Real Estate -7.90%	Intl Bonds -9.51%	Government Treasury -29.26%	Commodities -5.36%

The returns reflect performance of certain indexes as defined below. This information is general in nature and is not intended to be reflective of any specific plan.

Cash- FTSE 3-month T-bill ,Government Treasury-Bloomberg Long Treasury, Commodities-Bloomberg Commodity Idx, Intermediate Bond-Bloomberg US Agg Bond Idx, High Yield Bond-ICE BofAML High Yield Idx, Intl Bonds-JPMorgan GBI Global ex U.S., Asset Allocation-portfolio assumes the following weights: 60% S&P 500 and 40% Bloomberg US Agg, Large Cap-S&P 500, Mid Cap - S&P Midcap 400, Small Cap-Russell 2000, Intl Stocks- MSCI EAFE (net), Emerging Markets- MSCI EM (net), Real Estate-Wilshire U.S. REIT.

**Past performance does not guarantee future results.**

# Global growth: Here today, gone tomorrow?

Global economic activity has continued to defy policy tightening and the multiple geopolitical shocks. Softness in economic data in late-2022 proved to be seasonal noise and, in fact, since the start of 2023, activity data has only emphasized the continued resilience of the global economy.

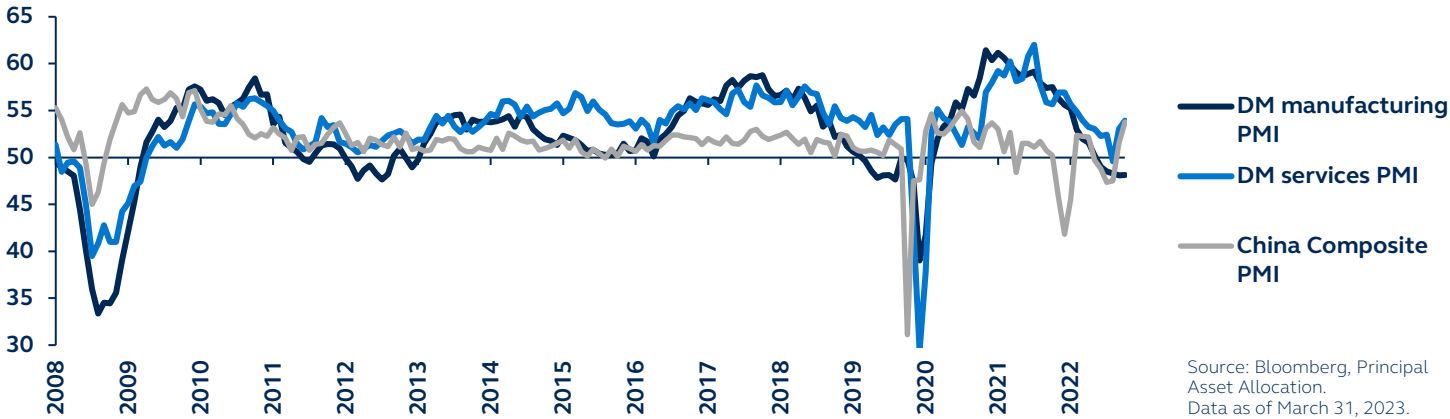
The stabilization in global manufacturing activity can be at least partially traced back to the reopening bounce in China, while the sharp drop in energy prices has given global consumers a boost. Historically tight labor markets are also contributing significantly to the broad economic strength across global regions.

And yet, even as the global economy looks strong, leading indicators emphatically signal recession. The New York Fed's own recession model suggests that the probability of recession within the next 12 months is the highest since the early 1980s. The Treasury yield curve remains deeply inverted—a historically reliable recession indicator. Not only is the 2s10s curve inversion material and sustained, but other segments of the yield curve are also inverted, including the 3-month1-year curve which is typically consistent with recession risk within a 12-month period.

*While current economic conditions are supportive of above-trend growth, leading indicators are signalling elevated risks of recession later this year.*

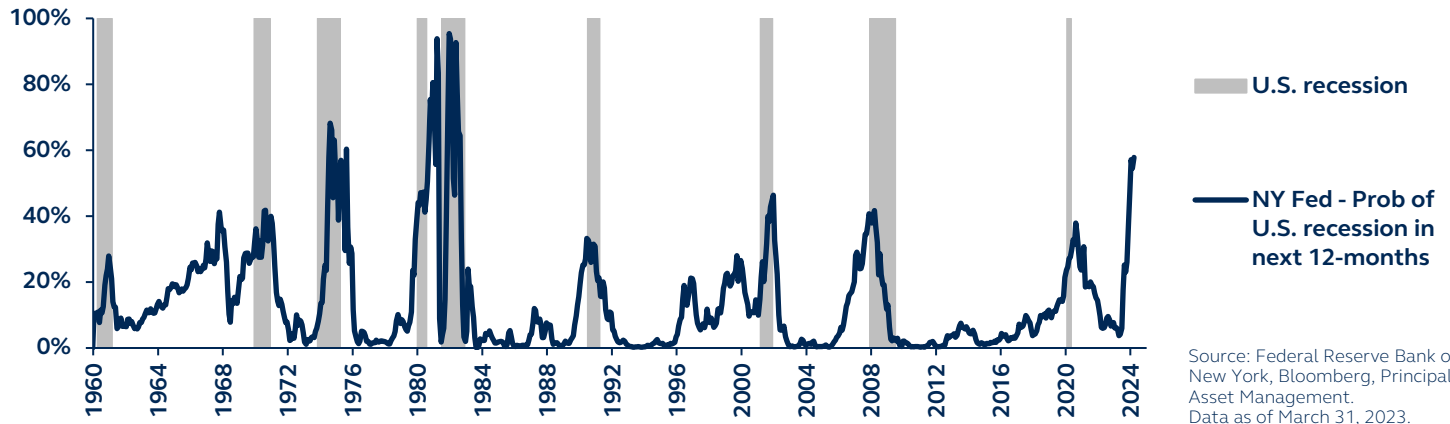
## Developed market and China Purchasing Managers' Index (PMI)

May 2008–February 2023



## U.S. recession probability in next 12 months

Federal Reserve Bank of New York, 1960–present



# Strength at the top, problems at the bottom

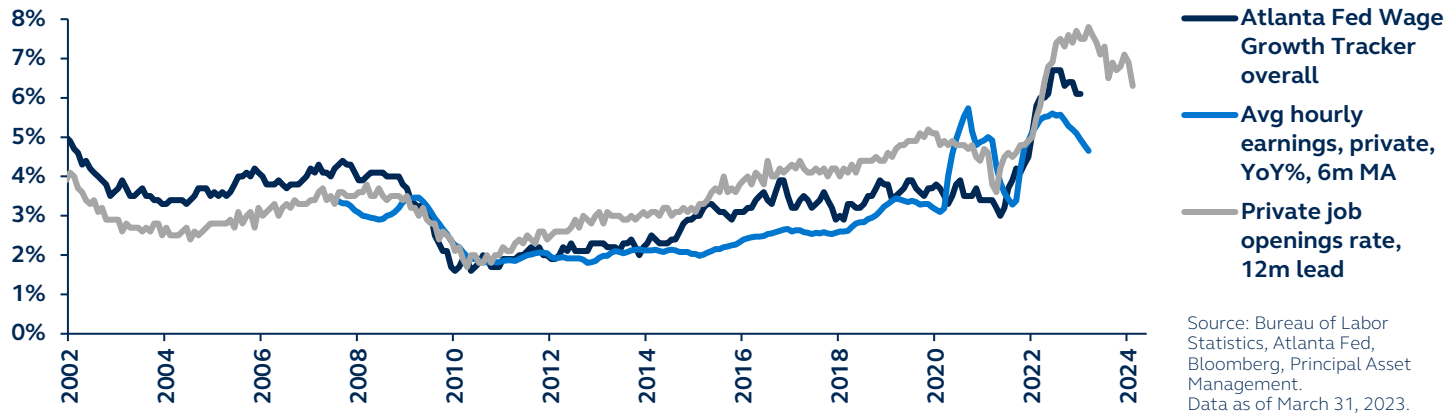
Leading indicators are picking up on concerning developments in the underlying economic data. The cushion of excess savings that has been supporting consumer activity is steadily being depleted. Credit could support consumption, but banks have been trimming their lines of credit to households. At the same time, consumers themselves are pulling back—with demand for consumer loans weakening.

Labor markets remain very strong, and the U.S. unemployment rate sits close to 50-year lows. With nearly two job vacancies per unemployed worker, employers report considerable difficulties in filling available positions, maintaining upward pressure on wage growth. Robust jobs and wage growth have been key tailwinds for consumers.

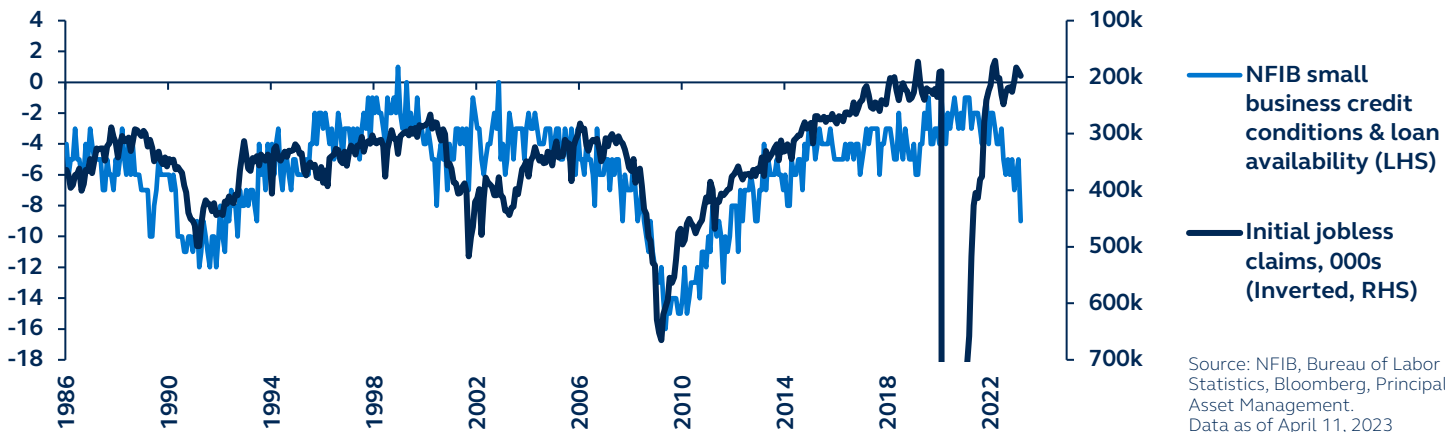
However, recent turmoil in the banking sector suggests the labor market strength will prove short-lived. Small banks account for 30% of all loans in the U.S. economy. They will likely spend several quarters repairing their balance sheets, implying tighter lending standards for both firms and households. This will lead to greater job losses, fading wage growth, weaker consumer spending, and ultimately a higher likelihood of recession.

*As small and medium sized banks respond to recent stress by reducing lending activity, consumers will be under pressure and job losses will likely increase.*

Wage inflation and job openings  
January 2002–February 2023



Small business credit conditions and initial jobless claims  
Level, 1986–present





## An incomplete disinflationary trend

Global inflation is moderating, but so far this deceleration has been largely driven by last year's energy price spike unwind. Core inflation remains uncomfortably high and, in some economies, continues to rise. The broad inflation takeaway from 1Q is that global central banks have made less progress towards disinflation than they had hoped.

In the U.S, inflation is expected to decelerate further through the year, but only very slowly.

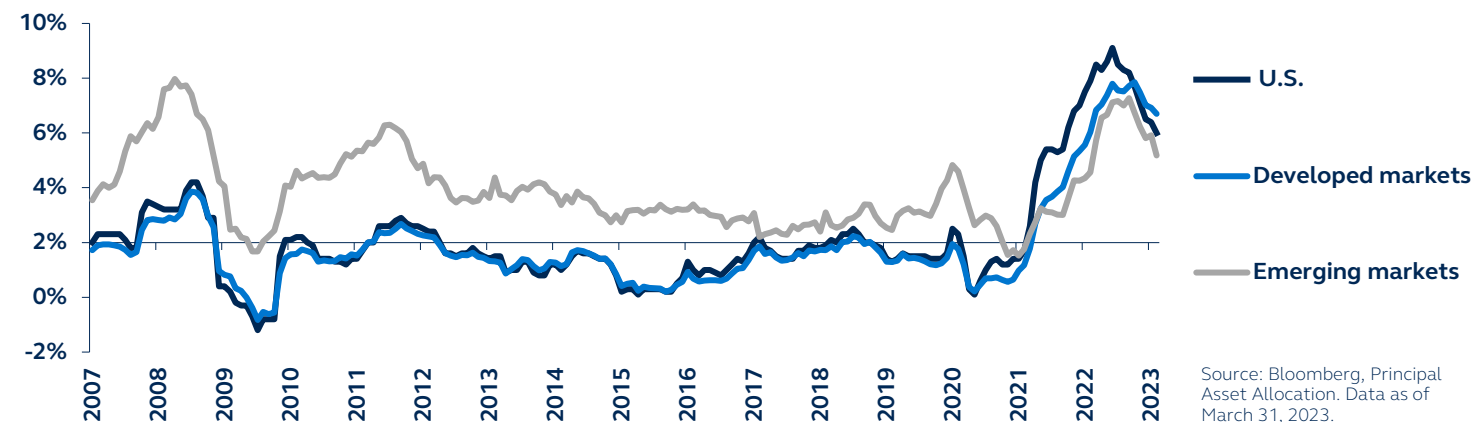
- Core goods inflation should decline as supply chains fully normalize, but is hitting some road bumps recently.
- Shelter inflation will slow, but this deceleration may take longer to materialize if the economy remains resilient.
- Core services ex-housing, which Fed Chair Jerome Powell has drawn clear attention to, is closely related to wage growth. Slower economic activity and a looser labor market will be necessary to fade these pressures.

Assuming recession only starting in late-2023, inflation will slow but remain above central bank targets, complicating policy decisions. Indeed, while the focus on price stability may argue for additional monetary tightening, it could also result in further financial instability.

*Central banks have made less progress towards disinflation than they had hoped. Inflation is likely to remain sticky and will still sit above central bank targets at year-end.*

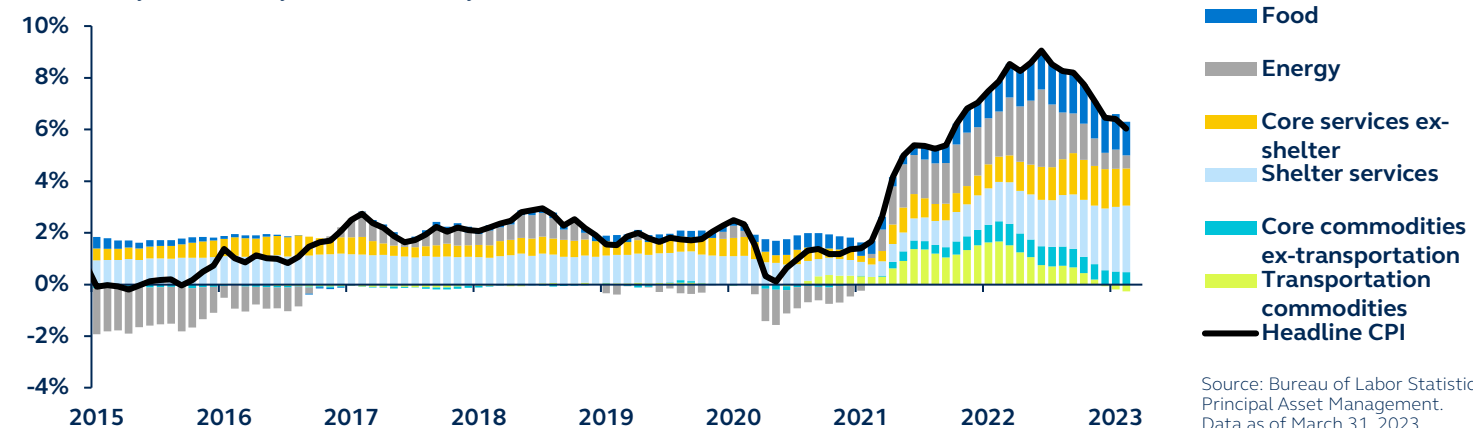
### Principal Asset Allocation GDP-weighted inflation

January 2007–February 2023



### Contribution to headline U.S. inflation

Year-over-year, January 2015–February 2023





# Central bank dilemma: Price stability vs financial stability

Despite significant rate hikes to date, central bank tightening is yet to have its desired impact on inflation. In recognition of this, market expectations for Fed funds rates in early March were edging towards a 6% terminal rate for the Fed and no rate cuts through 2023. The European Central Bank (ECB) was expected to hike a further 100 bps through this year.

However, with recent bank failures sending the financial sector into disarray, emphasizing the need for central banks to put extra focus on the financial stability side of its mandate, rate expectations have fallen back significantly. Markets now expect no further Fed or ECB hikes, plus three Fed rate cuts this year.

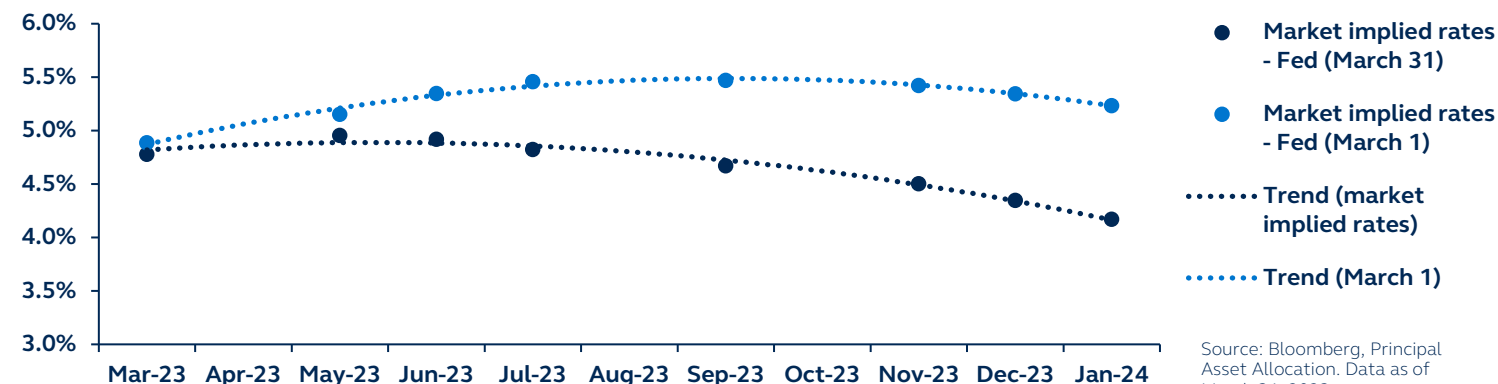
Our own Fed forecasts see a peak rate of 5.25%- 5.50% as the central bank continues to use its policy rate to target inflation, while using its balance sheet liquidity to target financial stability.

However, both the timing and rate path to reach these outcomes are unclear. Not only is it difficult to estimate how much further banking stresses will extend, the extent of tightening in bank lending standards that will result from recent banking sector stress is also uncertain. These factors will be very important for determining the policy rate path.

*Although central banks need to stay focused on fighting inflation, financial instability concerns could result in a lower policy rate path.*

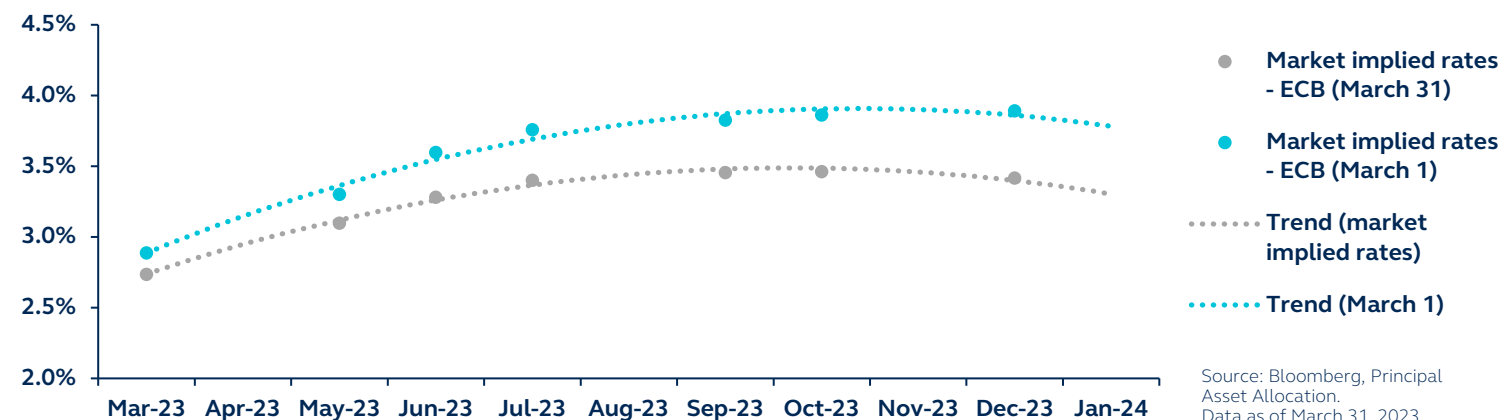
## Federal Reserve rates path

Future market priced fed funds rates path as of March 1 vs. March 31



## European Central Bank rates path

Future market priced ECB rates path as of March 1 vs. March 31



# Fed tightening cycles: Something always breaks

In the space of 12 months, the Federal Reserve (Fed) has raised policy rates by 475 basis points, taking the Fed Funds rate up to 4.75%-5.00%. Not only has this been the most aggressive pace of Fed tightening since 1980, policy rates are now the highest since 2007, just before the Great Financial Crisis. Historically, whenever the Fed has raised rates significantly, it has resulted in some type of crisis.

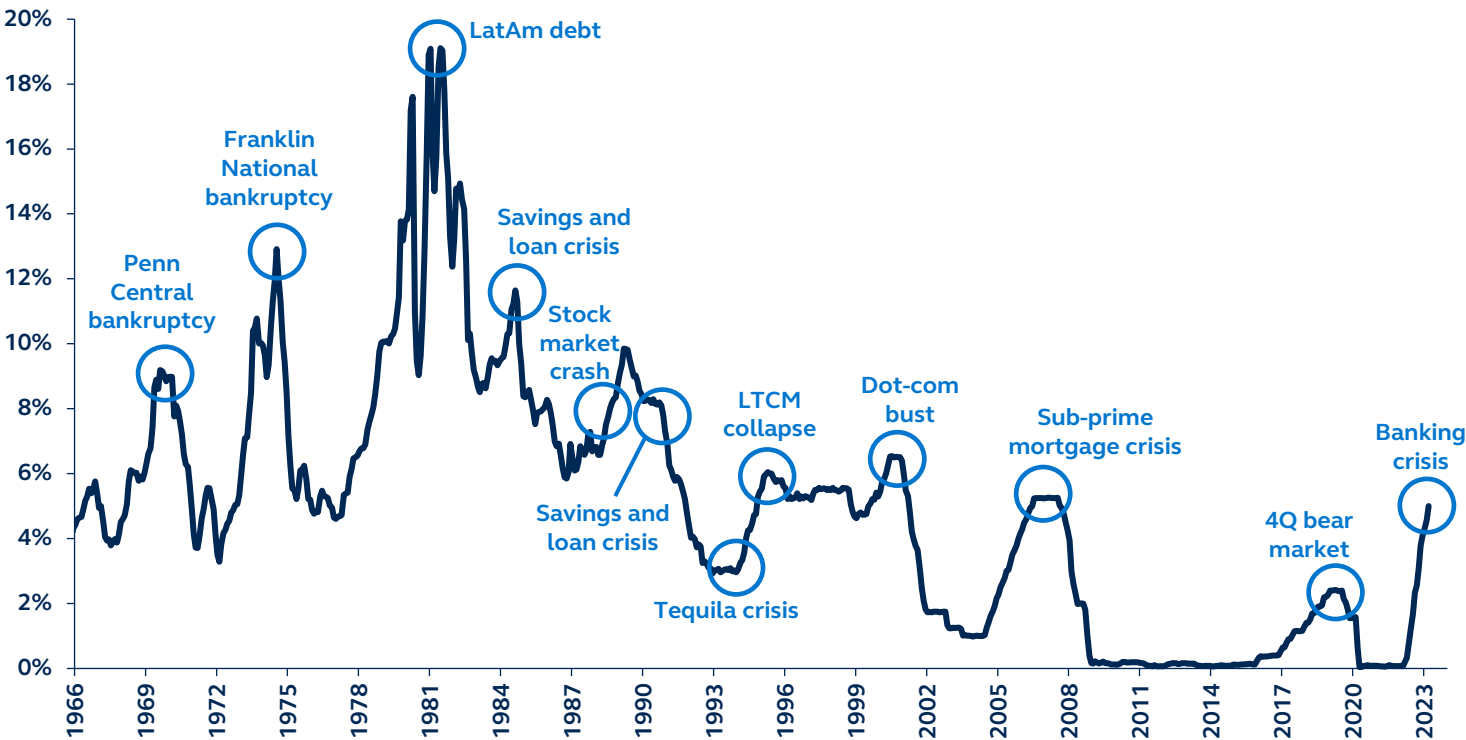
In the current cycle, there have been several mini-crises including the UK LDI crisis last October which threatened the UK pension system and, more recently, the collapse of two U.S. banks. Both events triggered sharp market turmoil but were rapidly contained by policymaker liquidity intervention, enabling central banks to continue raising policy rates. Unfortunately, each additional rate hike increases economic and financial pressures, raising the chances of further crises.

The Fed could respond to additional financial stress by cutting policy rates. Even then, by the time the Fed pivots, historically, the economic damage is usually done, and risk assets continue to struggle even as rates fall. What's more, with inflation still elevated, an aggressive Fed response may be delayed this time.

*Historically, whenever the Fed has raised rates significantly, something breaks. While the recent banking crisis appears contained, the risk of further turmoil increases with each subsequent rate hike.*

## Fed funds rate and crisis events

1966–present



Source: Federal Reserve, Bloomberg, Principal Asset Management. Data as of March 31, 2023.

# Financial conditions set the stage for another tough year

Financial conditions describe the way in which policy influences the economy through the intermediation of a wide range of market rates, risk premia, and spreads, as well as the exchange rate. Unsurprisingly, given the breadth of financial market stress, the first quarter of this year has seen a sharp tightening in developed market financial conditions. Some measures suggest that the tightening in lending standards through March is equivalent to a 150 bps increase in the Fed funds rate.

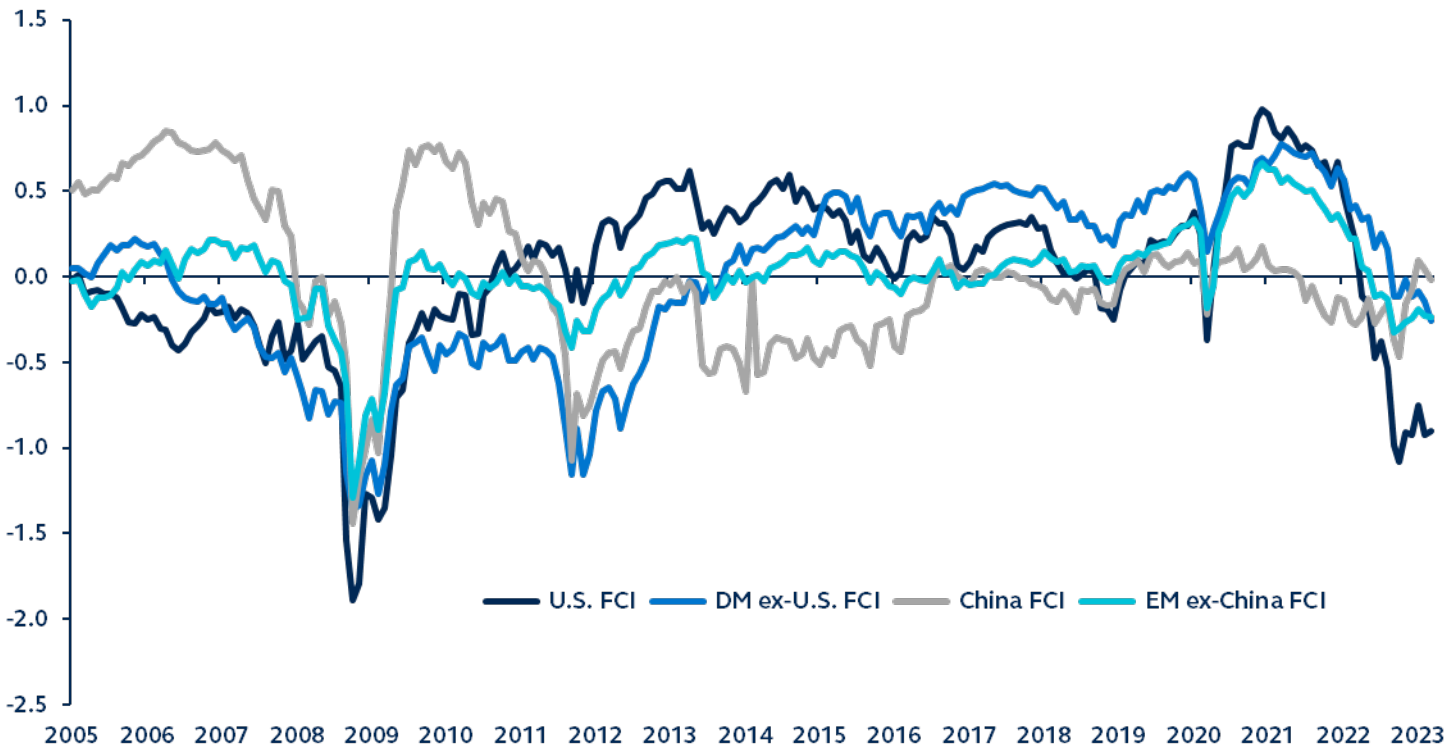
Conditions are set to worsen. Currently, bond markets are pricing in cuts in Fed funds by the July meeting, suggesting that there will be a rapid further deterioration in financial conditions through 2Q which forces the Fed's hand. Against this backdrop, recession risk is elevated and risk assets will likely struggle further.

By contrast, China's financial conditions picture looks very different. China's policymakers are maintaining easy monetary policy, adding modest stimulus as they encourage a robust economic recovery. However, if systemic risks re-escalate, China and the broader EM space will not be immune and financial conditions there would also tighten.

*Tightening financial conditions have created a hostile backdrop for risk assets, which threatens to worsen over the coming quarters.*

## Developing market and emerging market financial conditions

Principal Asset Allocation Financial Conditions Index (FCI), Z-score, January 2005–present



Source: Bloomberg, Principal Asset Allocation. Data as of March 31, 2023.

# Fixed income: Still in fashion

After suffering one of the deepest drawdowns in U.S. history in 2022, U.S. bonds started the year strongly, even ending 1Q with modest gains, despite a rather eventful quarter. Fears of aggressive hikes due to persistent inflation initially sent bond yields soaring, with 2-year Treasury yields hitting a post-2007 high of 5.1% in early March. However, inflation fears swiftly gave way to growth and financial stability concerns as U.S. regional banks came under significant stress, with yields plummeting. The result was a net decline of Treasury yields in 1Q which offset credit spread widening for U.S. investment grade and high yield bonds.

Both the U.S. and Global Aggregate Bond Index earned modest gains in 1Q23, albeit through a fickle journey. Bond diversification benefits were clear, especially as bank liquidity concerns drove U.S. spreads wider, driven mostly by lower sovereign yields. Global Agg spreads also widened, but less so, as European banks also came under pressure. Hard currency EM debt showed resilience, exempted from DM banking risks, to also end up with modest gains.

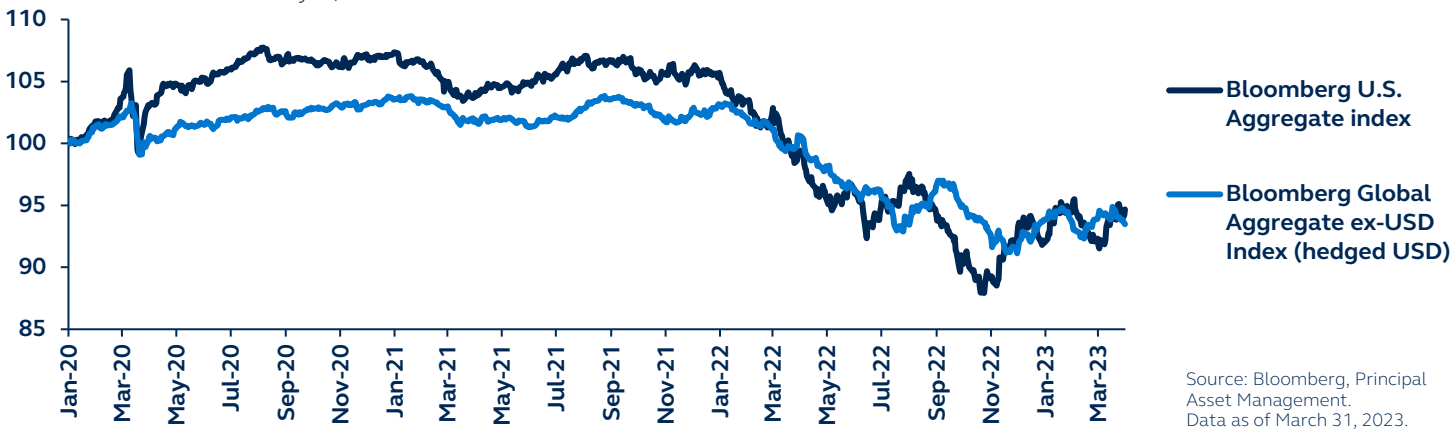
Despite the recent rally, bonds remain favorable. 10-year U.S. Treasuries yield more than twice the estimated dividend yield of the S&P 500, presenting investors an opportunity to lock-in income with a generally less volatile asset.

*With growth and financial stability concerns outweighing inflation fears, and valuations remaining attractive, the investment thesis for fixed income is getting stronger.*

## FIXED INCOME

### U.S. and global bond performance

Rebased to 100 at January 1, 2020



### U.S. 10-year Treasury yield minus S&P 500 estimated dividend yield

Spread percentage, 2009–present



# U.S. Treasurys: Playing an important role in portfolios

The most pristine collateral in the global financial system is U.S. Treasurys, and their liquidity and quality was recently demonstrated amid U.S. regional bank concerns. Investor fears precipitated a flight-to-quality, liquidity-seeking episode of historic market volatility.

This episode has proven the important diversification benefits of holding fixed income securities in a portfolio, as a hedge against both volatility and market illiquidity. While the abysmal 2022 performance questioned fixed income's ability to provide diversification, 1Q 2023 restored that characteristic.

Not only does fixed income pay a historically high coupon rate, but its cashflows are more certain. As the economy slows, and corporate earnings are likely to come under pressure, the reliability of fixed income coupons should become more highly valued.

Indeed, as economic weakness permeates over the coming quarters, market interest rates will likely recede to recessionary levels. This will also provide for capital appreciation of bond holdings.

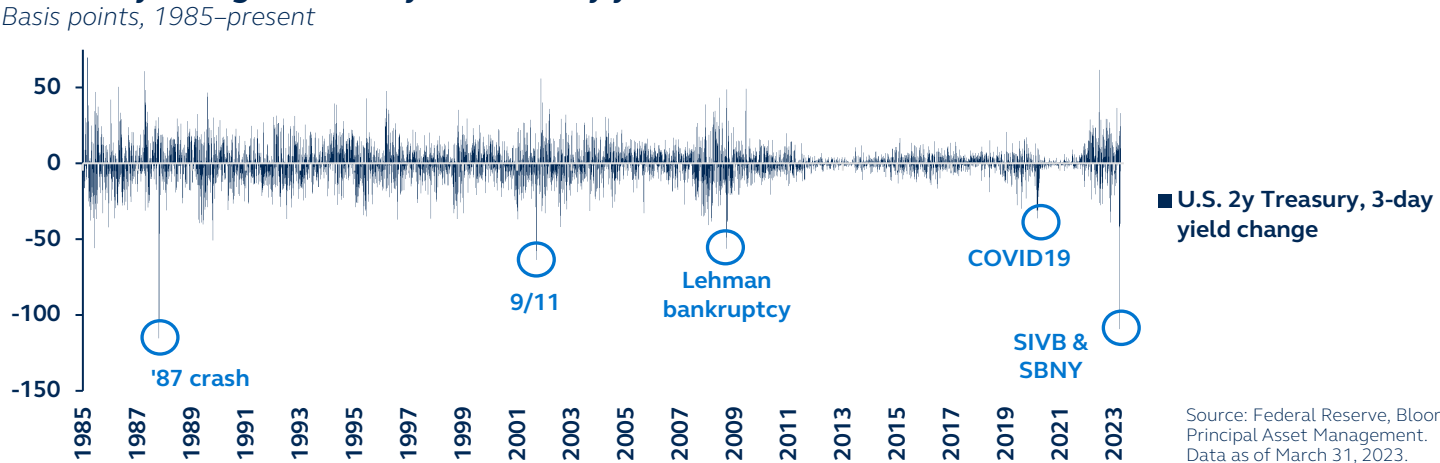
*Security, diversification, riskless cashflows and upside potential make a compelling case for holding U.S. Treasurys.*

## FIXED INCOME

10-year Treasury yield and the ISM Manufacturing Index



Three-day change in U.S. 2-year Treasury yield



# Navigate credit headwinds with high quality assets

With the assumption of an approaching recession, high-quality credit could become a more attractive investment proposition. A growing premium will likely be placed on solid earnings performance, and this will be reflected in disparate performance of high- versus low-quality credits.

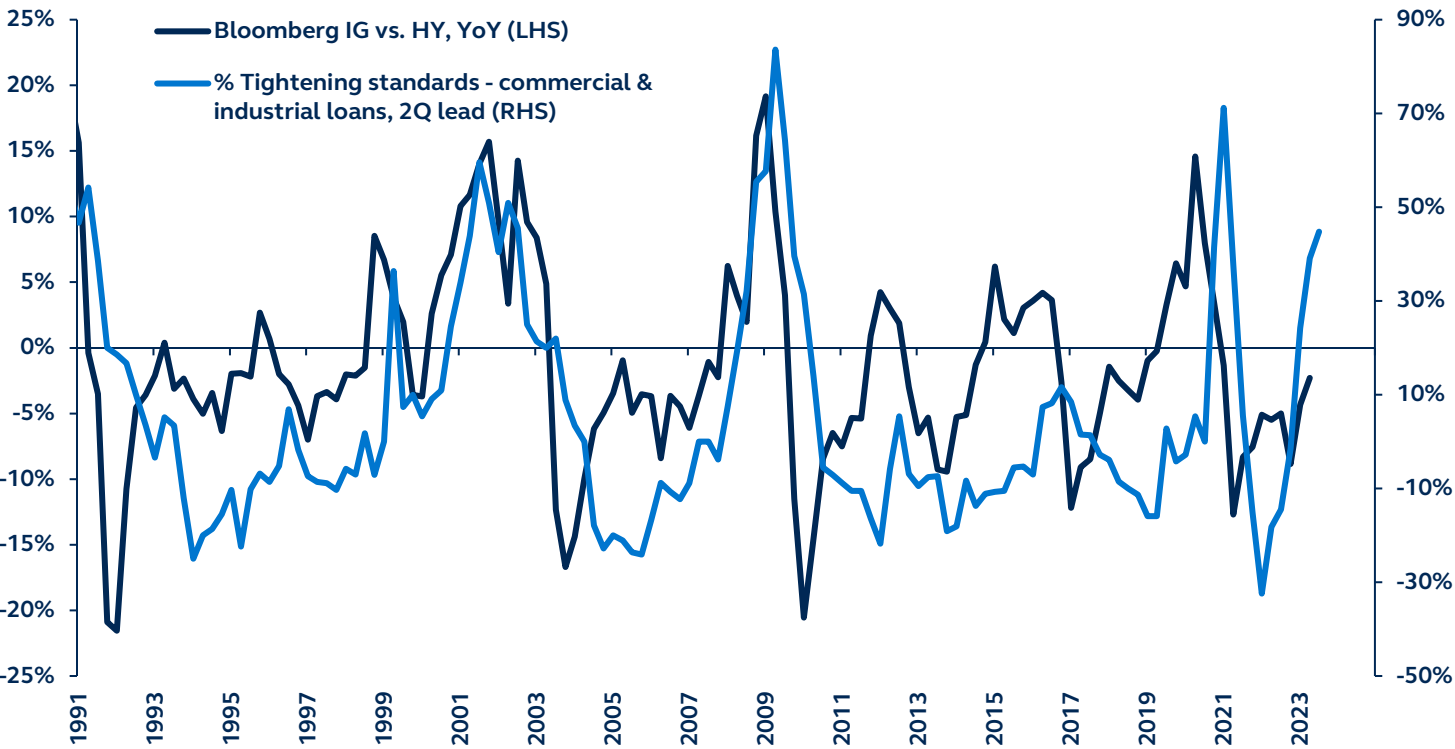
Historically, the risk-adjusted returns of agency MBS are some of the most attractive, with lower volatility compared to similar high-quality U.S. fixed income sectors. They are also backed by guarantees from U.S. government sponsored enterprises.

Corporate credit spreads to U.S. Treasuries have remained tight, however recent volatility stemming from U.S. regional banking concerns have led to some spread widening. These could be expected to widen further as macro and liquidity conditions deteriorate and lending standards tighten further.

Investors have been comforted by the so-called funding wall, which postpones the need for corporates to refinance maturing bonds, insulating credit from market stress. However, the refinancing requirements are set to gradually rise over coming quarters, and less-than-favorable coupon resets could deliver illiquid market conditions. Consequently, we believe investors should tilt toward liquidity as well as quality when selecting credit asset classes.

*Higher-quality fixed income assets, such as Agency MBS and investment grade credit, should outperform as lending standards tighten and the economy slows.*

Investment grade versus high yield relative performance and loan officers' credit standards  
1991-present



Note: IG represented by the Bloomberg U.S. Corporate Total Return Index. High yield represented by the Bloomberg U.S. Corporate High Yield Total Return Index. Source: Federal Reserve, Bloomberg, Principal Asset Management. Data as of March 31, 2023.

## INDEX DESCRIPTIONS

Bloomberg Commodity Spot Index measures the price movements of commodities included in the Bloomberg CI and select subindexes. It does not account for the effects of rolling futures contracts or the costs associated with holding physical commodities and is quoted in USD.

Bloomberg Global Aggregate Bond Index comprises global investment grade debt including treasuries, government-related, corporate, and securitized fixed-rate bonds from developed and emerging market issuers. There are four regional aggregate benchmarks that largely comprise the Global Aggregate Index: the US Aggregate, the Pan-European Aggregate, the Asian-Pacific Aggregate, and the Canadian Aggregate Indices. The Index also includes Eurodollar, Euro-Yen, and 144A Index-eligible securities and debt from other local currency markets not tracked by regional aggregate benchmarks

Bloomberg U.S. Aggregate Bond Index is the most widely followed broad market U.S. bond index. It measures the investment grade, US dollar-denominated, fixed-rate taxable bond market.

Bloomberg U.S. High-Yield Corporate Bond Index is a rules-based, market-value-weighted index engineered to measure publicly issued non-investment grade USD fixed-rate, taxable and corporate bonds.

Bloomberg U.S. Corp High Yield 2% Issuer Capped Index is an unmanaged index comprised of fixed rate, non-investment grade debt securities that are dollar denominated. The index limits the maximum exposure to any one issuer to 2%.

Bloomberg U.S. Corporate Investment Grade Index includes publicly issued U.S. corporate and specified foreign debentures and secured notes that meet the specified maturity, liquidity and quality requirements. To qualify, bonds must be SEC-registered. The corporate sectors are industrial, utility and finance, which include both U.S. and non-U.S. corporations.

Bloomberg Barclays U.S. Treasury Index measures U.S. dollar-denominated, fixed-rate, nominal debt issued by the U.S. Treasury. Treasury bills are excluded by the maturity constraint. STRIPS are excluded from the index because their inclusion would result in double-counting.

FTSE Global Core Infrastructure 50/50 Total Return Index comprises securities in developed countries which provide exposure to core infrastructure businesses, namely transportation, energy and telecommunications, as defined by FTSE's International Benchmark Classification.

HFR1 500 Fund Weighted Composite Index is a global, equal-weighted index of the largest hedge funds that report to the HFR Database which are open to new investments and offer quarterly liquidity or better.

ICE BofA Emerging Markets Corporate Plus Index, which tracks the performance of US dollar (USD) and Euro denominated emerging markets non-sovereign debt publicly issued within the major domestic and Eurobond markets.

ICE BofA U.S. Investment Grade Institutional Capital Securities Index tracks the performance of US dollar denominated investment grade hybrid capital corporate and preferred securities publicly issued in the US domestic market.

ICE BofA U.S. Corporate Index consists of investment-grade corporate bonds that have a remaining maturity of greater than or equal to one year and have \$250 million or more of outstanding face value.

ISM manufacturing index is a leading economic indicator that measures the growth in the manufacturing sector in the United States.

MSCI ACWI Index includes large and mid cap stocks across developed and emerging market countries.

MSCI Brazil Index is designed to measure the performance of the large and mid cap segments of the Brazilian market.

MSCI China Index captures large and mid cap representation across China A shares, H shares, B shares, Red chips, P chips and foreign listings (e.g. ADRs).

MSCI EAFE Index is listed for foreign stock funds (EAFE refers to Europe, Australasia, and Far East). Widely accepted as a benchmark for international stock performance, the EAFE Index is an aggregate of 21 individual country indexes.

MSCI Emerging Markets Index consists of large and mid cap companies across 24 countries and represents 10% of the world market capitalization. The index covers approximately 85% of the free float-adjusted market capitalization in each country in each of the 24 countries.

MSCI Europe Index captures large and mid cap representation across 15 Developed Markets (DM) countries in Europe.

MSCI Europe Banks Index is composed of large and mid cap stocks across 15 Developed Markets countries in Europe. All securities in the index are classified in the Banks industry group (within the Financials sector) according to the Global Industry Classification Standard (GICS®).

MSCI Germany Index is designed to measure the performance of the large and mid cap segments of the German market.



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## INDEX DESCRIPTIONS

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MSCI India Index is designed to measure the performance of the large and mid cap segments of the Indian market.

MSCI Japan Index is designed to measure the performance of the large and mid cap segments of the Japanese market.

MSCI United Kingdom Index is designed to measure the performance of the large and mid cap segments of the UK market.

MSCI USA Growth Index captures large and mid cap securities exhibiting overall growth style characteristics in the U.S. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend.

MSCI USA Index is a market capitalization weighted index designed to measure the performance of equity securities in the top 85% by market capitalization of equity securities listed on stock exchanges in the United States.

MSCI USA Large Cap Index is designed to measure the performance of the large cap segments of the U.S. market.

MSCI USA Mid Cap Index is designed to measure the performance of the mid cap segments of the U.S. market.

MSCI USA Quality Index aims to capture the performance of quality growth stocks by identifying stocks with high quality scores based on three main fundamental variables: high return on equity (ROE), stable year-over-year earnings growth and low financial leverage. The MSCI Quality Indexes complement existing MSCI Factor Indexes and can provide an effective diversification role in a portfolio of factor strategies.

MSCI USA Small Cap Index is designed to measure the performance of the small cap segment of the U.S. equity market.

MSCI USA Value Index captures large and mid cap U.S. securities exhibiting overall value style characteristics. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.

Standard & Poor's 500 Index is a market capitalization-weighted index of 500 widely held stocks often used as a proxy for the stock market.

U.S. dollar index (USDIX) is a measure of the value of the U.S. dollar relative to a basket of foreign currencies.

VIX is the ticker symbol and the popular name for the Chicago Board Options Exchange's CBOE Volatility Index, a popular measure of the stock market's expectation of volatility based on S&P 500 index options.

**Market indices have been provided for comparison purposes only. They are unmanaged and do not reflect any fees or expenses. Individuals cannot invest directly in an index.**

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**Investing involves risk, including possible loss of principal. Past performance is no guarantee of future results. Asset allocation and diversification do not ensure a profit or protect against a loss.** Equity investments involve greater risk, including higher volatility, than fixed-income investments. **Fixed-income investments** are subject to interest rate risk; as interest rates rise their value will decline. International and global investing involves greater risks such as currency fluctuations, political/social instability and differing accounting standards. Potential investors should be aware of the risks inherent to **owning and investing in real estate**, including value fluctuations, capital market pricing volatility, liquidity risks, leverage, credit risk, occupancy risk and legal risk. **Non-investment grade securities** offer a potentially higher yield but carry a greater degree of risk. Risks of **preferred securities** differ from risks inherent in other investments. In particular, in a bankruptcy preferred securities are senior to common stock but subordinate to other corporate debt. Emerging market debt may be subject to heightened default and liquidity risk. Risk is magnified in **emerging markets**, which may lack established legal, political, business, or social structures to support securities markets. **Small and mid-cap** stocks may have additional risks including greater price volatility. **Treasury inflation-protected securities (TIPS)** are a type of Treasury security issued by the U.S. government. TIPS are indexed to inflation in order to help investors from a decline in the purchasing power of their money. As inflation rises, rather than their yield increasing, TIPS instead adjust in price (principal amount) in order to maintain their real value. Inflation and other economic cycles and conditions are difficult to predict and there is no guarantee that any inflation mitigation/protection strategy will be successful. Contingent Capitals Securities may have substantially greater risk than other securities in times of financial stress. An issuer or regulator's decision to write down, write off or convert a CoCo may result in complete loss on an investment.

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