

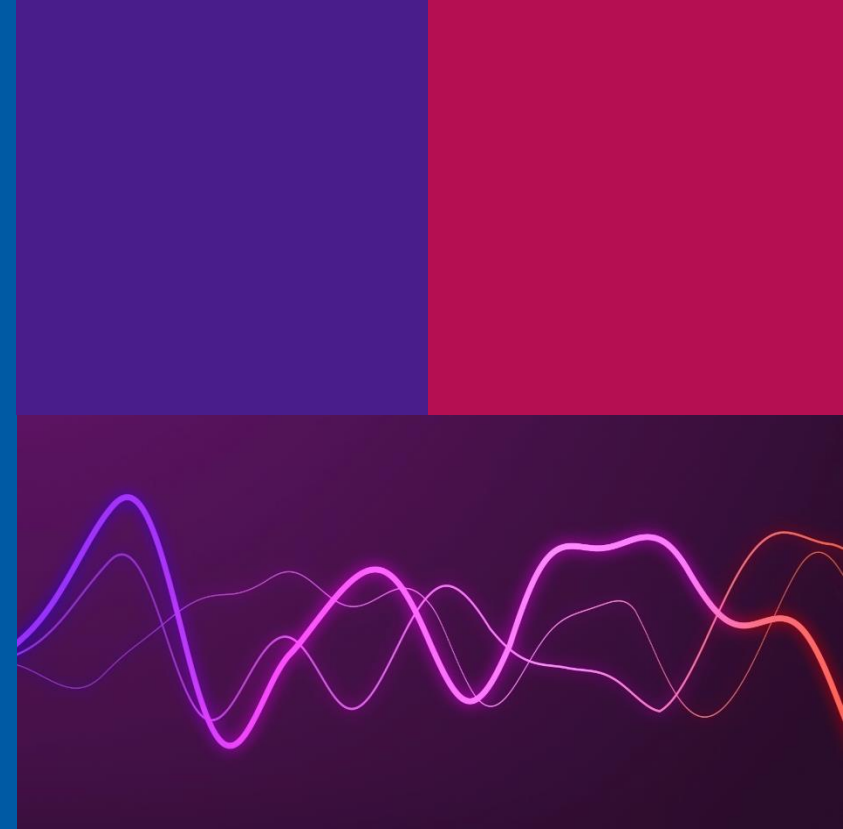
Morgan Stanley

INVESTMENT MANAGEMENT

# The BEAT

BONDS | EQUITIES | ALTERNATIVES | TRANSITION

May 2024



Previously known as the Monthly Market Monitor.

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The **BEAT**, previously known as the Monthly Market Monitor, provides connectivity between changing market events and implications for investor portfolios.

Spanning **B**onds, **E**quities, **A**lternatives and **T**ransition\*, this monthly review provides timely information across a broad array of markets and investment topics.

Each edition explores investment ideas, identifies areas of focus and provides a comprehensive outlook on asset allocation — all supported by a concise review of economic and asset class data through clear and impactful charts.

We believe The **BEAT** is a critical desk reference that enables more informed discussion and understanding of financial markets.



If you are viewing this book on your computer or tablet, **click or tap on the section box to jump to the beginning of each section.**

Data provided is for informational use only. See end of report for important additional information.

\*Transition is an asset allocation view, which refers to cash, cash equivalents or liquid short-duration assets, such as short-dated Treasuries, that can be used to “transition” to other asset classes.

## TOP IDEAS

# The Capital Markets Group – Our Top 4 Ideas

## A Rates Reset?

**A good entry point for bonds?:** Yields have risen to reflect fewer expected Fed rate cuts this year, which we think creates a good entry point to add fixed income exposure. Our base case remains for a soft landing, which implies that default risks may remain contained. As a result, we look at all-in yield when considering fixed income and maintain our barbell approach of mixing both high-quality and low-quality bonds. We add yield but remain Underweight index duration levels through this barbell.

## Shifting Positioning in Leveraged Credit

**Downgrading High Yield relative to Bank Loans:** If our base case of a soft landing plays out, default rates within leveraged credit should fall, supporting both HY and Bank Loans. However, with HY spreads recently reaching the 10th percentile, based on data going back to 1996, we believe that a benign view is priced into the asset class and prospective returns at these spreads are not as attractive as what is being offered in Bank Loans. As such, we downgrade High Yield to Neutral while maintaining a slight Overweight to Bank Loans.

## Banks: Extended Tailwinds in a New Environment

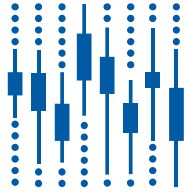
**Profitability to benefit from a “higher-for-longer” rate environment:** As a global recession is priced out based on global economic resilience, led by the U.S. and stickier inflation, the expected number of Fed and ECB rate cuts by end of 2024 fell from a peak of 6-7 to just 2-3 today. On the other hand, the BoJ is expected to deliver more hikes after exiting NIRP (Negative Interest Rate Policy) last month. The combination of higher rates and an absence of a recession is supportive for banks’ profitability and ROE.

## A Momentum Dip Is an Opportunity To Buy Quality

**Momentum is currently correlated to Quality.** Momentum outperformance has been tied to outperformance in Quality, Large-cap and Tech. While Momentum had started to look extended, outperformance has been well supported by fundamentals, where positive estimate revisions have otherwise been scarce. Paired with selective cyclical exposure (i.e., banks), we see any reset in Momentum as an opportunity to buy Quality.

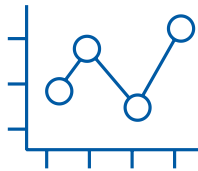
## TOP IDEAS

## Key Themes for May



### Entering a Long-form Correction, Expect a Range-bound Market

We may be at the beginning of a long-form correction in which markets fall into a range, both equity prices and bond yields. We do not have evidence that this is the start of a bear market, and as a result, look to market dips to find value and earn carry. We moved our Overweight equity allocation to Neutral at the end of March, but we maintain a view to hold credit spread, as we expect a soft landing and a tame default cycle.



### A Market Dip Could Offer Reasonable Prices for Quality Stocks

The Momentum factor has performed extremely well, and is likely most vulnerable to a repricing in a correction. But the Momentum and Quality factors are highly correlated these days, as both reflect attributes common to Large-cap companies and Tech. A decline in Momentum may dominate the initial stages of a correction, lowering prices but creating an opportunity to buy Quality at a more reasonable price. Be patient and wait for the opportunity to buy on the dip.



### Stronger Demand, but Stable Goods Inflation?

Inflation poses one of the biggest risks across broad financial asset prices. Inflation is falling, yes, but at a disappointing pace. However, the decline is largely a result of goods prices remaining stable as service sector prices cool slowly. PMIs are now on the rise globally, which creates the risk that goods prices may also start to rise. If this happens, it increases both inflation and policy risks. Goods prices are something we will be watching closely as an early risk indicator for financial asset prices.



### How Best To Manage Geopolitical Risk

Geopolitical risk is a form of systemic risk and therefore difficult to hedge. However, the risk can be managed by increasing liquidity in portfolios. The reason is that geopolitical risks tend to manifest themselves by creating shock-events in markets that create a pervasive liquidity risk across financial markets. Owning high-quality, liquid and short-duration assets can be beneficial. We will be closely watching financing markets and cross-currency basis spreads, et. al. as signposts of possible liquidity risks.

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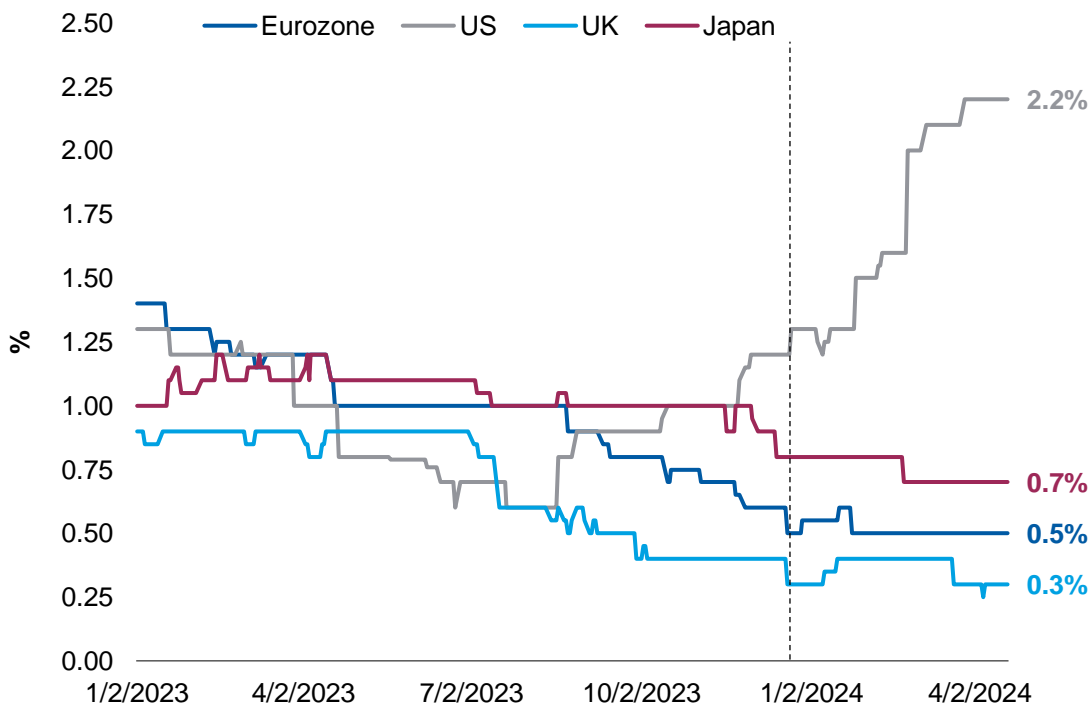
TOP IDEAS

# Reasons To Store Dry Powder

A risk to the global growth outlook is that global financial conditions continue to tighten amid a hawkish Fed and a stronger USD. At the same time, positive market and macro surprises may have been exhausted in the near term. With risk-asset valuations still stretched and a potential dearth of positive surprises, we ultimately remain Neutral on equities.

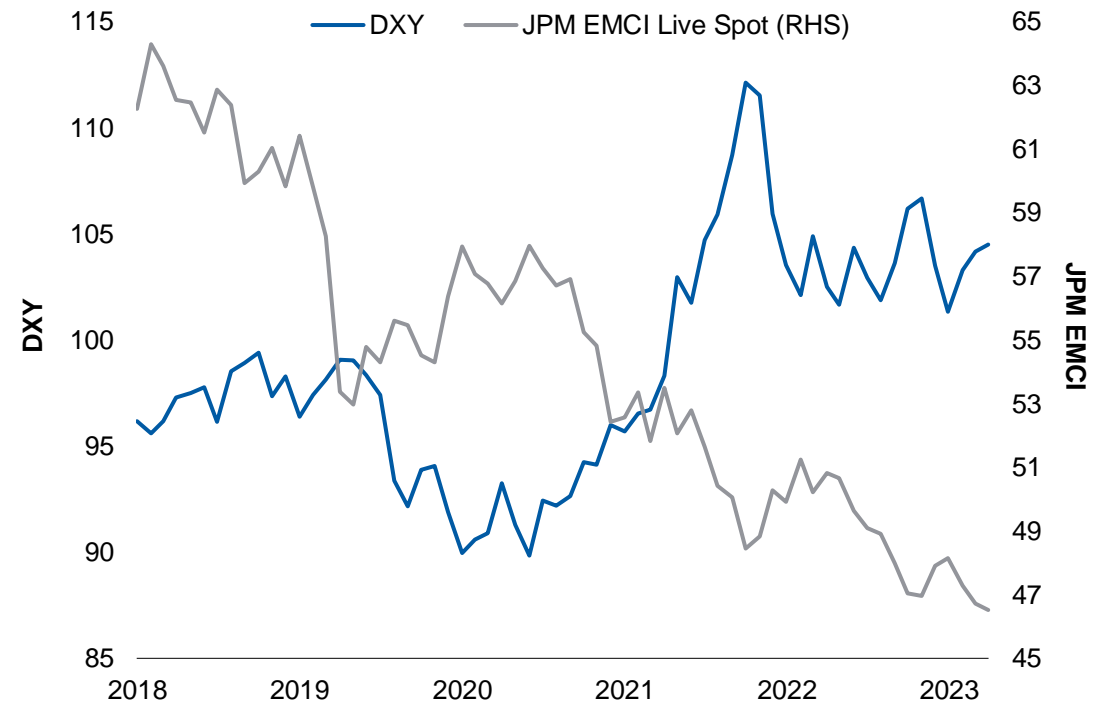
## Have Positive Economic Surprises Been Exhausted for 2024?

Bloomberg Consensus 2024 GDP Forecasts



## EM FX Has Fallen to a New All-time Low vs the USD

DXY vs JPM EM Currency Index



Source: Bloomberg, MSIM. Data as of 17 April 2024. The views and opinions expressed are those of the Capital Markets Group at the time of writing/of this presentation and are subject to change at any time due to market, economic, or other conditions, and may not necessarily come to pass. Forecasts/estimates are based on current market conditions, subject to change, and may not necessarily come to pass. The index performance is provided for illustrative purposes only and is not meant to depict the performance of a specific investment. **Past performance is no guarantee of future results.**

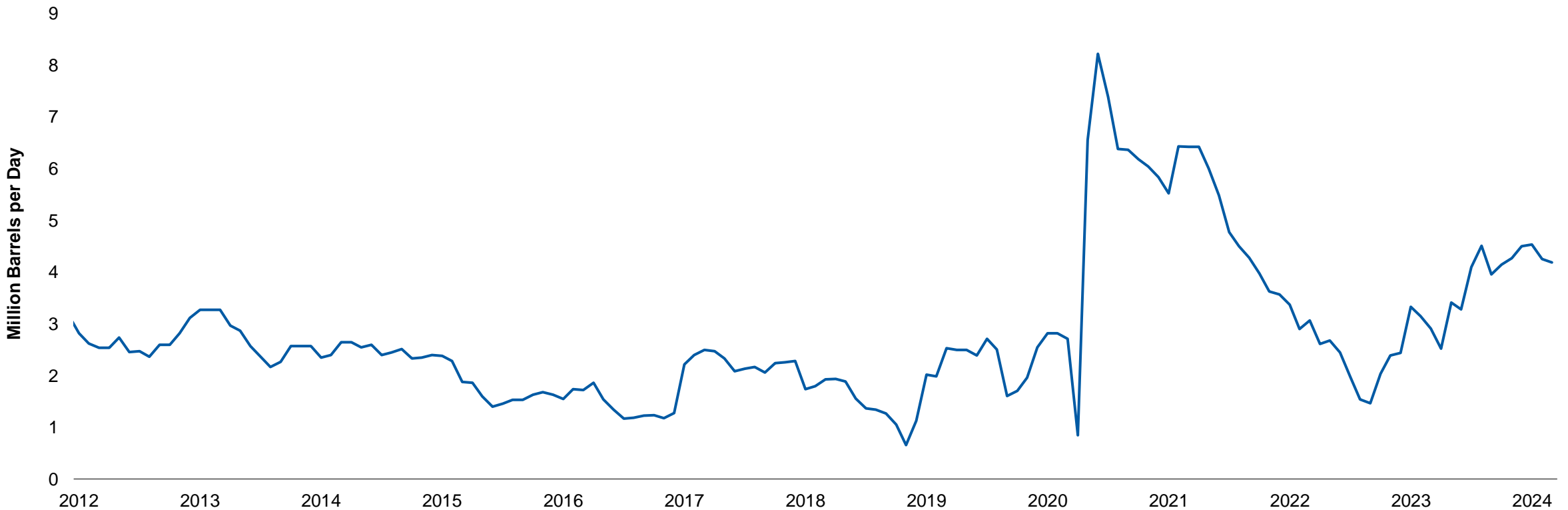
TOP IDEAS

# The Geopolitical Risk Premium Is Rising

On the back of flaring tensions in the Middle East, oil prices have spiked, benefiting from an increase in a geopolitical risk premium. However, given the elevated levels of OPEC spare capacity, further upticks in price should remain limited unless we have material disruptions in the physical flow of oil.

## OPEC Supply Cuts Have Led to High Spare Capacity, Which Could Be Redeployed if the Market Becomes Undersupplied

*OPEC unutilized Crude Oil Production Capacity*



Source: Macrobond, MSIM. Data as of 17 April 2024. The views and opinions expressed are those of the Capital Markets Group at the time of writing/of this presentation and are subject to change at any time due to market, economic, or other conditions, and may not necessarily come to pass. Forecasts/estimates are based on current market conditions, subject to change, and may not necessarily come to pass.

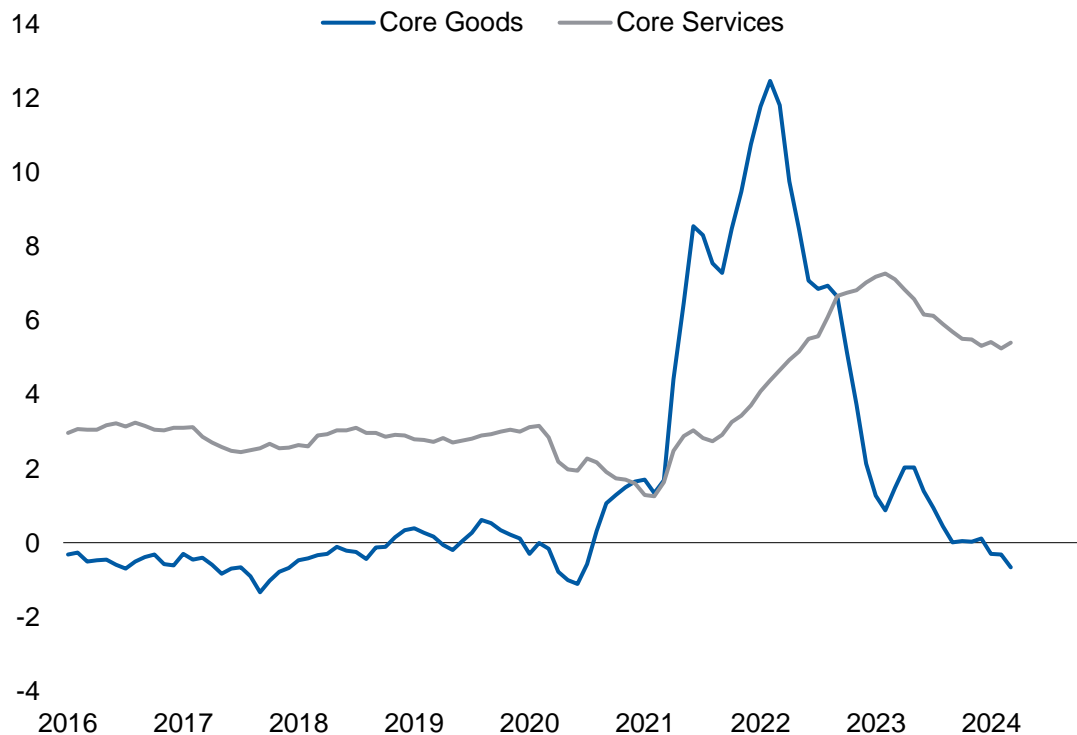
TOP IDEAS

# Stronger Demand, but Stable Goods Inflation?

Longer-term inflation expectations have remained anchored as inflation continues to fall, albeit at a disappointing pace. However, with PMIs rebounding worldwide, there is an increased risk of goods prices rising and pushing headline CPI up again. An un-anchoring of longer-term inflation expectations on top of this would put pressure on risk assets.

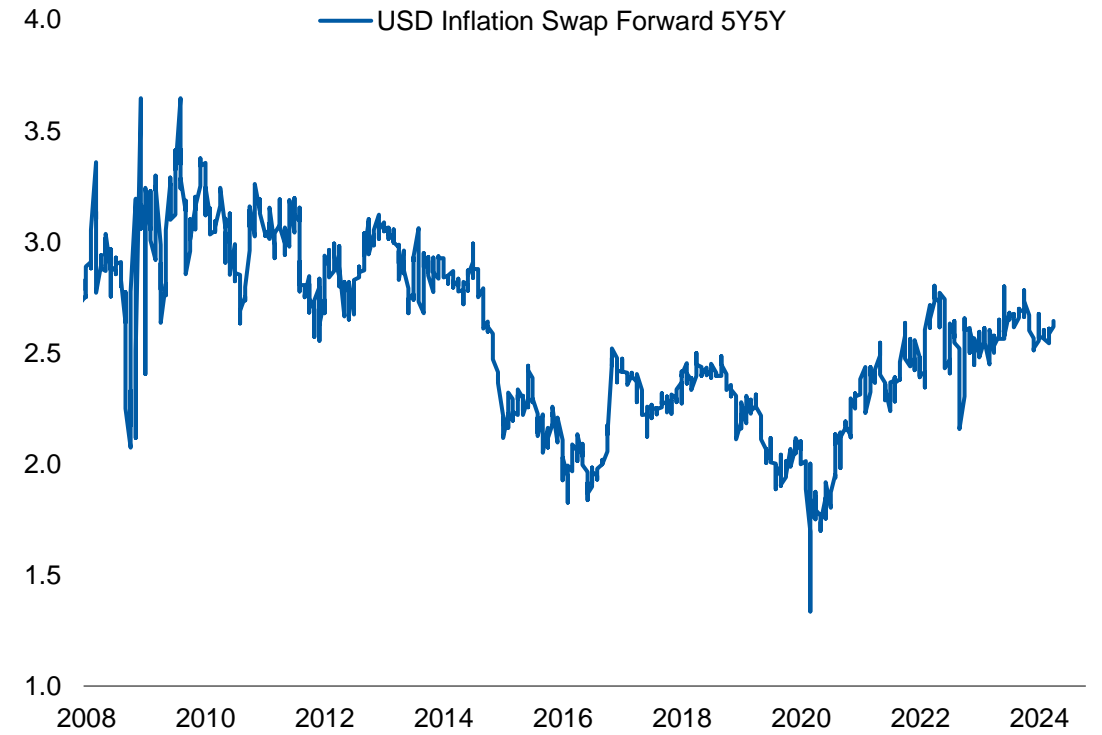
## The Decline in CPI Is Mostly Due to Goods Prices

Core CPI by type Year on Year % Change



## Longer-term Inflation Expectations Remain Anchored

USD 5y5y Inflation Swap



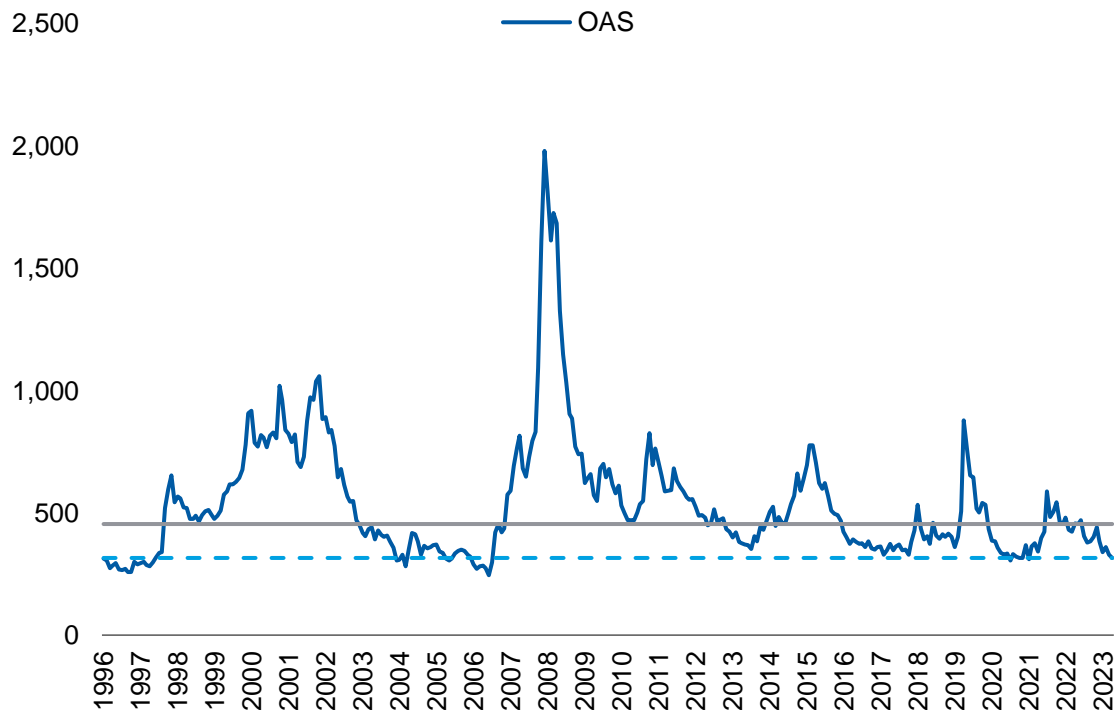
Source: Bloomberg, Macrobond, MSIM. Data as of 17 April 2024. The views and opinions expressed are those of the Capital Markets Group at the time of writing/of this presentation and are subject to change at any time due to market, economic, or other conditions, and may not necessarily come to pass. Forecasts/estimates are based on current market conditions, subject to change, and may not necessarily come to pass.

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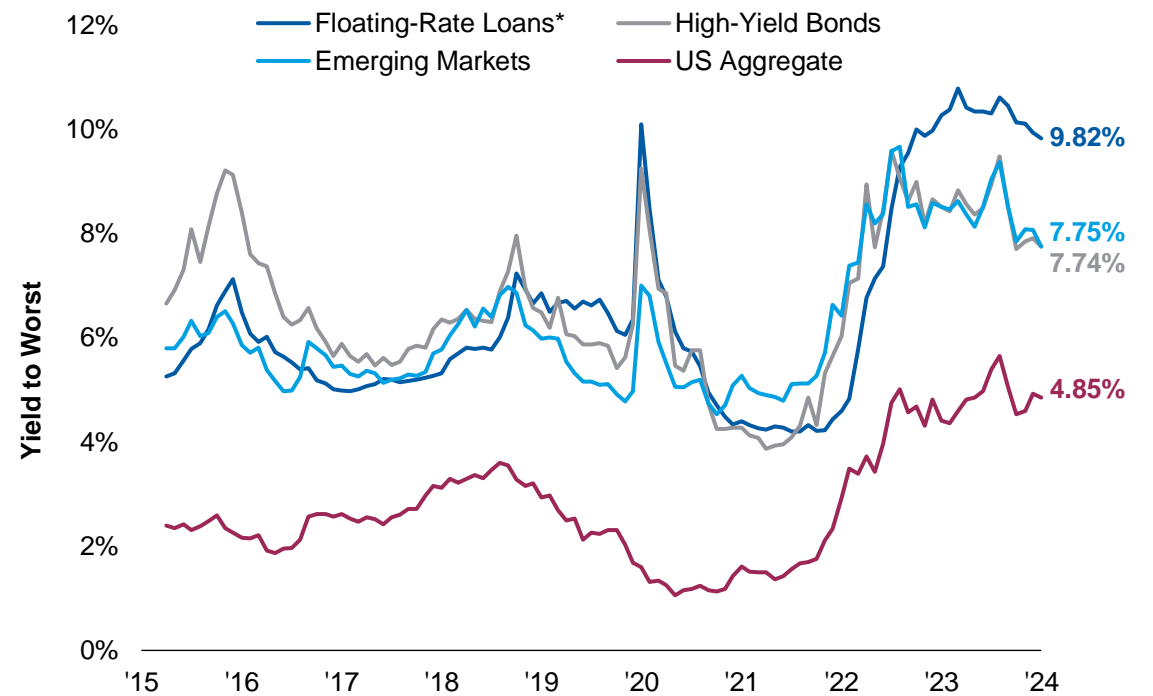
# Downgrading High Yield: Tight Spreads Offer Less Value

Our Overweight in High Yield has worked to date, as spreads have continued to rally, particularly in the BB and B-rated parts of the market. Given this spread tightening, we see less upside in the asset class and now prefer to shift some of our leveraged credit exposure to Bank Loans, which have rallied less and offer better spread and yield pickup.

**The HY OAS (Option-Adjusted Spread) Is at the 10th Percentile, Even After Adjusting for the Higher Index Quality in HY Today**  
*High Yield OAS vs long term median (ratings quality adjusted)*



**Starting Yields: Building Blocks of Future Returns**  
*High Yield OAS vs long term median (ratings quality adjusted)*



Source: ICE BofA, MSIM, Leveraged Commentary & Data (LCD), Bloomberg, ICE Data Indices, LLC, J.P. Morgan. Data as of 31 March 2024. The views and opinions expressed are those of the Capital Markets Group at the time of writing/of this presentation and are subject to change at any time due to market, economic, or other conditions, and may not necessarily come to pass. Forecasts/estimates are based on current market conditions, subject to change, and may not necessarily come to pass. Data provided is for informational use only. Loans represents the Morningstar LSTA US Leveraged Loan Index. High-Yield Bonds presents the ICE BofA US High Yield Index. Emerging Markets represents the J.P. Morgan EMBI Global Diversified. US Aggregate represents the Bloomberg US Aggregate Bond Index. \*Yield to maturity is shown for loans. It is not possible to invest directly in an index.

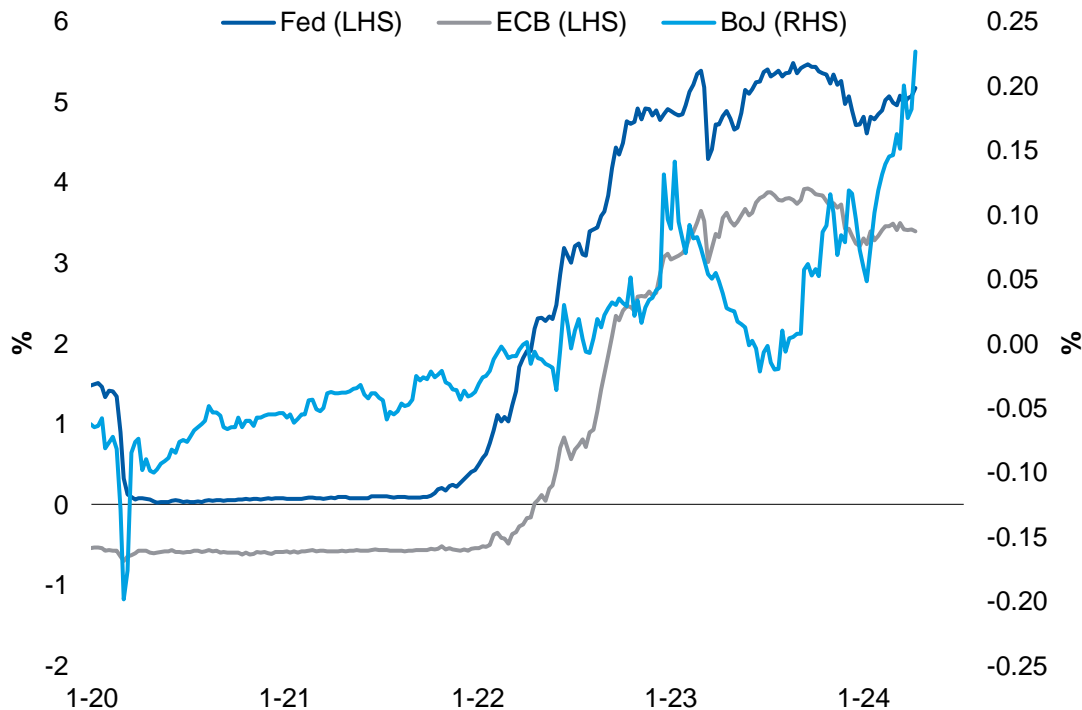


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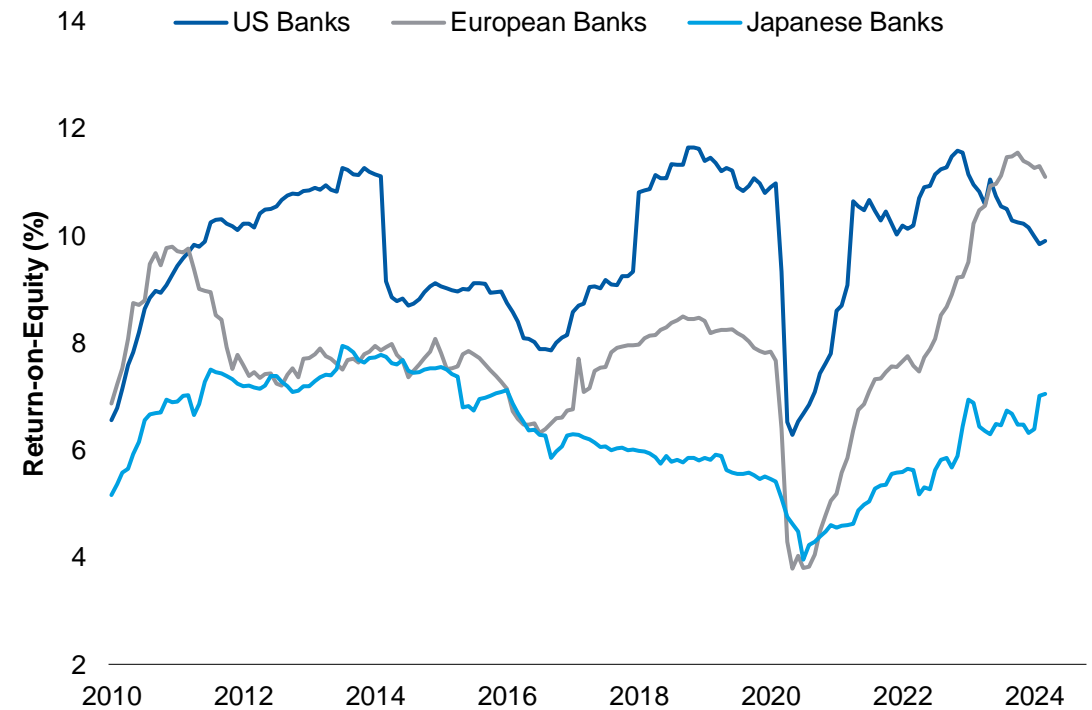
# Banks: Extended Tailwind from “Higher-for-Longer” Rates

As a result of global economic resilience and stickier inflation, market expectations for the Fed and ECB rate cuts were notably tempered compared to the beginning of 2024, while more hikes are expected from the BoJ after exiting from NIRP. Banks’ profitability is poised to benefit from a higher-rate environment and absence of recession.

**Fewer Cuts from the Fed, ECB; More Hikes From BoJ**  
*G3 Central Banks 1-Year Forward Policy Rate implied by overnight index swaps (OIS)*



**Bank Returns in Europe/Japan May Settle Structurally Higher Than in the Previous Decade**  
*12m forward Bloomberg Consensus Return-on-Equity (ROE)*



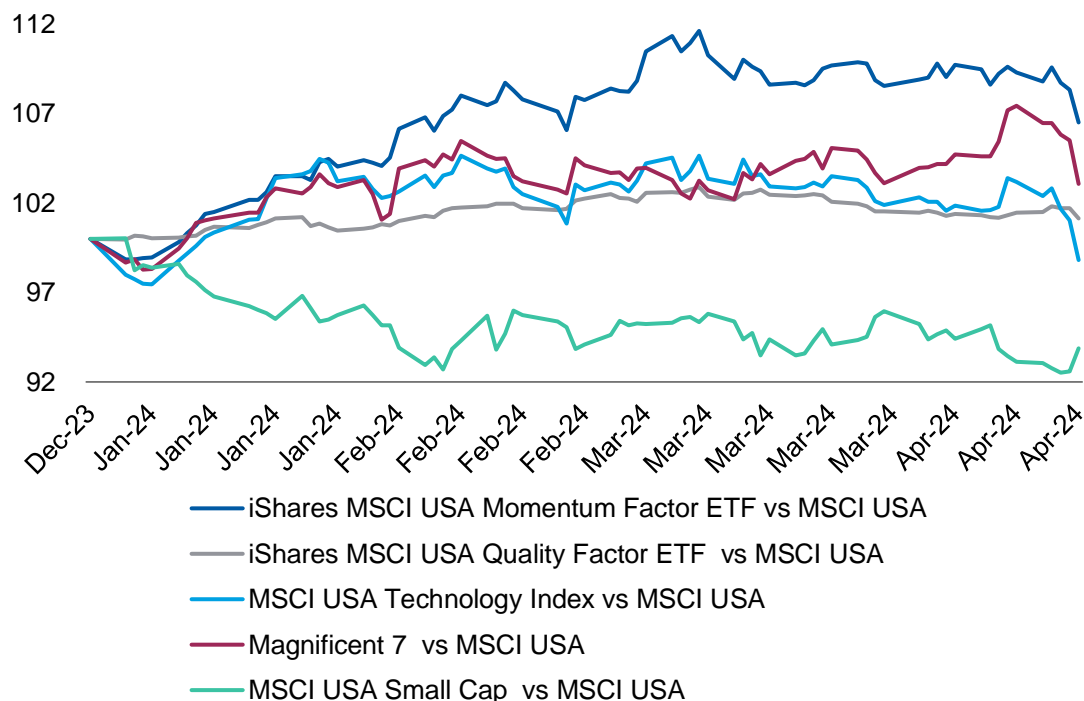
Source: Bloomberg, MSIM. Data as of 18 April 2024. The views and opinions expressed are those of the Capital Markets Group at the time of writing/of this presentation and are subject to change at any time due to market, economic, or other conditions, and may not necessarily come to pass. Forecasts/estimates are based on current market conditions, subject to change, and may not necessarily come to pass.

TOP IDEAS

# A Dip in the Momentum Factor Is an Opportunity To Buy Quality

Momentum outperformance has been tied to the outperformance of Quality, Large-cap and Tech. While Momentum had started to look extended, outperformance has been well supported by fundamentals, seeing positive estimate revisions that have otherwise been scarce. Paired with selective cyclical exposure (i.e. banks), we would look to any reset in Momentum as an opportunity to buy Quality.

## Momentum Outperformance Is Tied to Quality Outperformance YTD returns relative to the MSCI USA



## Momentum/Quality Factors Are Supported by Fundamentals 3M % change in FY1 revenue estimate, mkt cap weighted

Name	MSCI USA Index	MSCI USA Small Cap Index	Momentum (via MTUM ETF)	Quality (via QUAL ETF)
<b>Index</b>	<b>0.6</b>	<b>-0.3</b>	<b>2.7</b>	<b>1.9</b>
Information Technology	2.0	-0.3	4.5	3.2
Communication Services	1.6	-0.7	3.9	1.9
Health Care	1.1	-2.2	3.0	1.6
Financials	0.8	1.4	1.9	0.3
Consumer Discretionary	-0.9	-0.5	0.7	0.8
Consumer Staples	-0.5	-0.2	-0.2	-1.4
Real Estate	-0.4	-0.1	n.a.	-3.2
Energy	-1.5	-0.5	-1.5	0.6
Utilities	-1.4	-1.5	-1.6	-0.5
Industrials	-2.0	-0.1	-4.4	-1.0
Materials	-1.2	-0.7	-3.2	-1.8

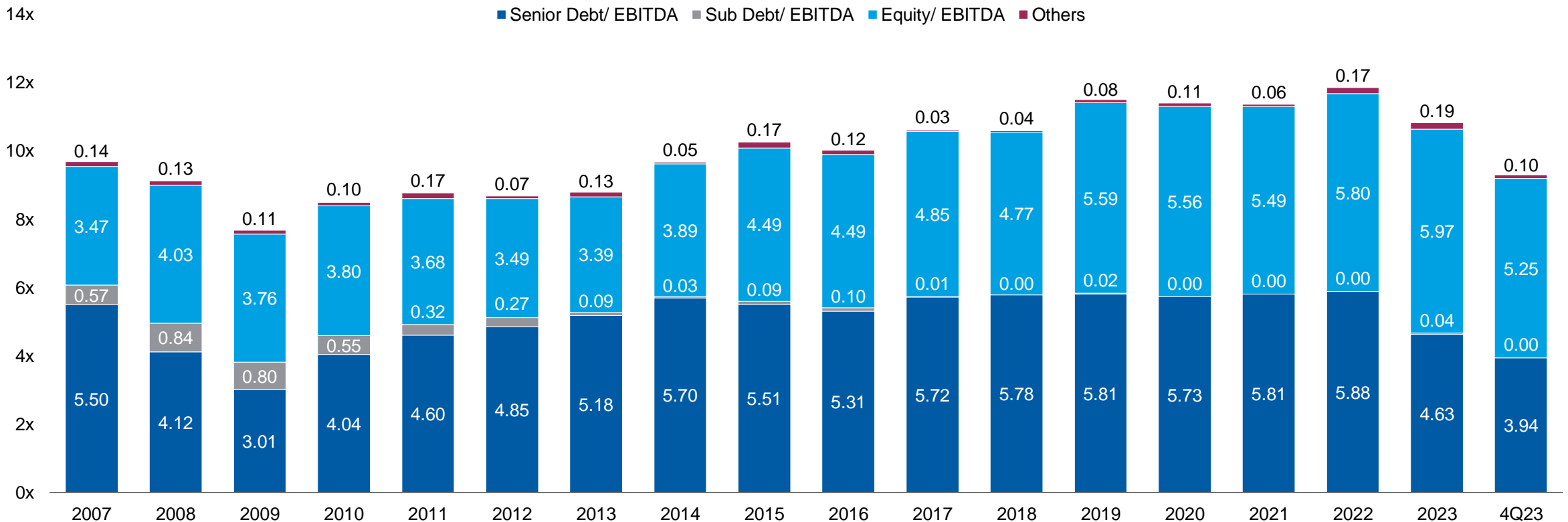
Source: Bloomberg, MSIM. Data as of 22 April 2024. The views and opinions expressed are those of the Capital Markets Group at the time of writing/of this presentation and are subject to change at any time due to market, economic, or other conditions, and may not necessarily come to pass. Forecasts/estimates are based on current market conditions, subject to change, and may not necessarily come to pass. The index performance is provided for illustrative purposes only and is not meant to depict the performance of a specific investment. **Past performance is no guarantee of future results.**

TOP IDEAS

# Private Equity Shows Signs of Improved Entry Valuations

Private markets transaction activity is thin, but a visible decline in valuations has emerged in response to higher interest rates. When transaction volumes recover more broadly, we expect to see further evidence of price correction and attractive entry valuations.

## Purchase Price Multiples — All Leveraged Buyouts



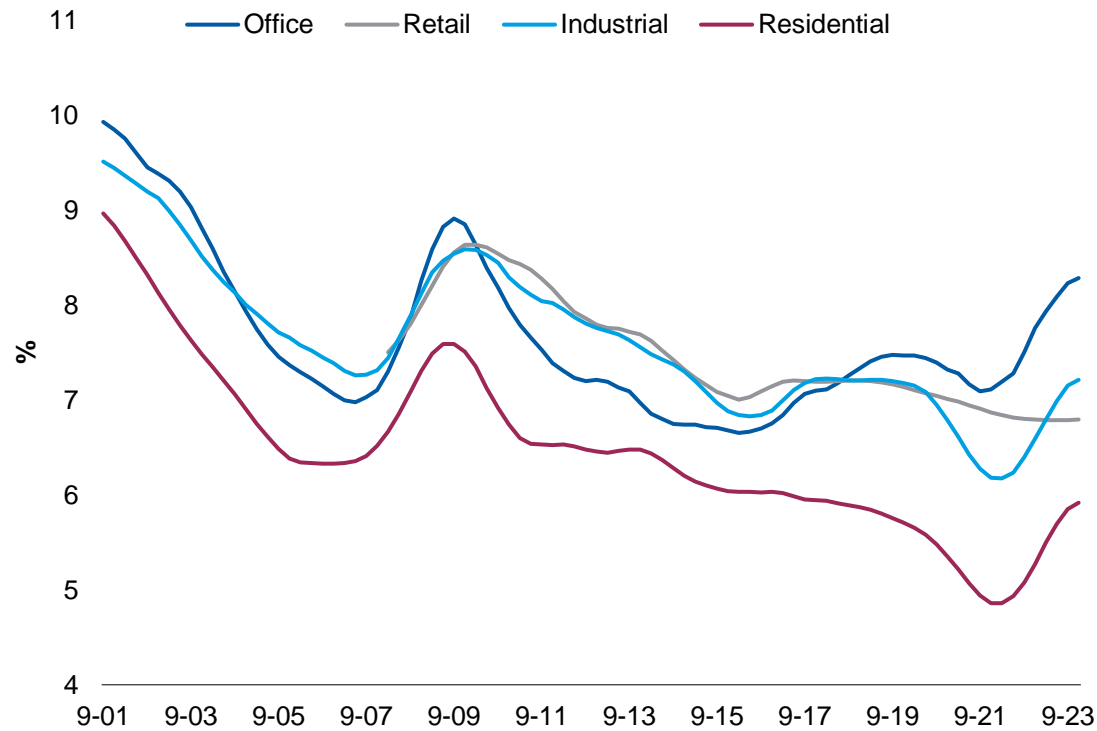
Sources: Pitchbook, Preqin. As of December 2023. This information reflects the views of the Capital Markets Group as of the date hereof and not of any future date and are subject to change without notice in response to changing circumstances and market conditions. Forecasts/estimates are based on current market conditions, subject to change, and may not necessarily come to pass. Senior Debt are loans secured by collateral that must be paid off before other debts when a company goes into default. Subordinated Debt are loans which rank after other debts (e.g. Senior Debt) if a company falls into default, and therefore carries more risk for the lender. EBITDA stands for Earnings Before Interest, Taxes, Depreciation and Amortization, a reflection a firm's short-term operational efficiency. A lower debt/EBITDA ratio generally reflects a healthier company from a financial standpoint, representing a higher level of cash from earnings to cover debt payments, viewed as less risky for an investor.

TOP IDEAS

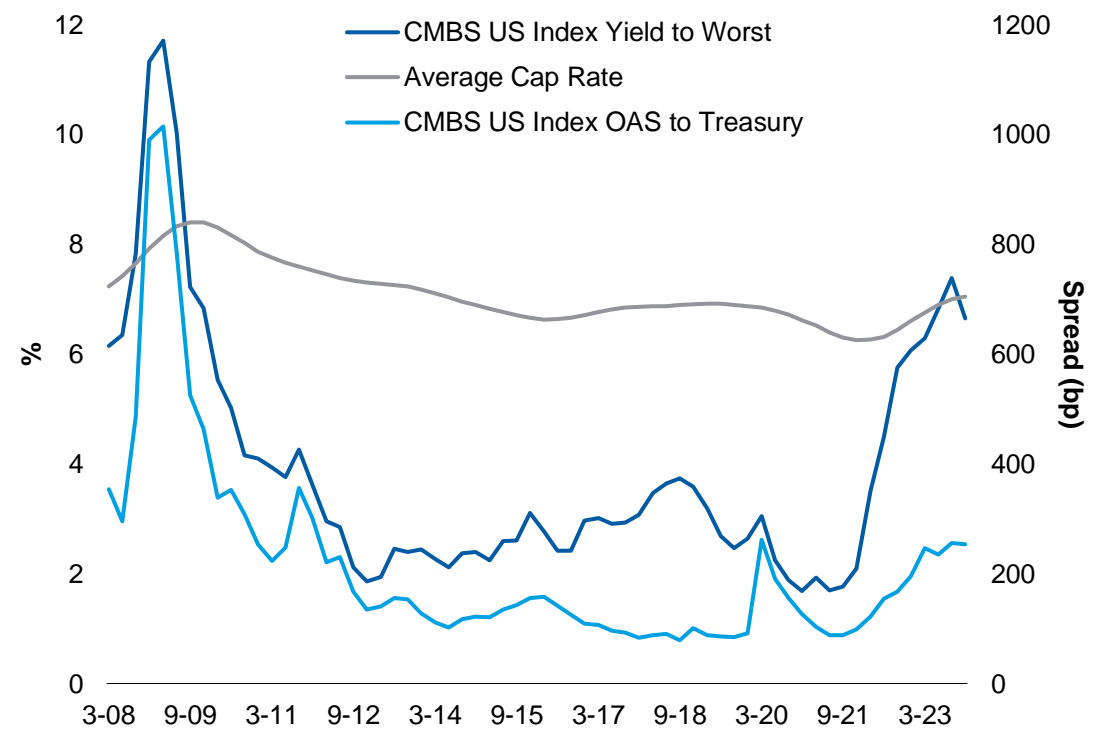
# The Emerging Opportunity Set in Commercial Real Estate Equity

Commercial real estate valuations have become more attractive in the face of higher interest rates and elevated supply. We expect volumes to pick up this year due to upcoming debt maturities, reinforcing these lower entry points.

## Cap Rates



## Cap Rates vs. Cost of Debt

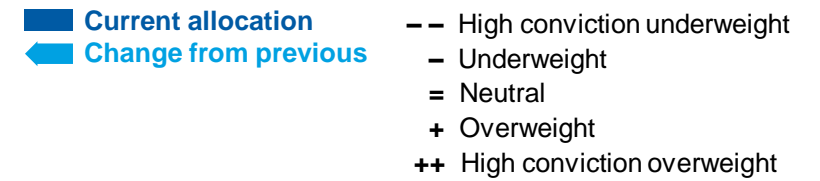


Sources: CoStar, Bloomberg. This information reflects the views of the Capital Markets Group as of the date hereof and not of any future date and are subject to change without notice in response to changing circumstances and market conditions. Not to be construed as an investment or research recommendation. Forecasts/estimates are based on current market conditions, subject to change, and may not necessarily come to pass. **Past performance is no guarantee of future results.**

TOP IDEAS

# Capital Markets Investment Framework

## Representative Allocations from the Portfolio Solutions Group



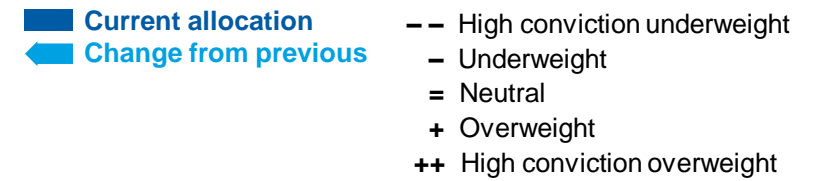
Asset Allocation	Our View					Commentary
	--	-	=	+	++	
<b>Bonds</b>						
Duration						While the recent rise in yields offers an opportunity to add duration to portfolios, we still see risks to owning high duration in fixed income exposures. The reason is that we expect a softer-landing scenario and believe that inflation may be sticky and fall slowly. This means that bond duration risks face a potentially slow and shallow Fed rate cut cycle. IG credit has the same challenge, as longer duration exposures are not offset with materially higher yields than cash, and tight spreads create vulnerability in a risk-off event.
Credit						
<b>Equities</b>						
Risk Level						After the strong market rally since Q4 2023 and the materialization of quite a few positive developments, we feel now it is a good time to take some profits and downgrade equities to Neutral. To be clear, we are not turning negative on global equities, but do see risk and reward more balanced at this juncture.
<b>Alternatives</b>						
Private Markets						While the repricing of private assets in response to higher financing costs continues, substantial progress is now evident, and we have increased confidence in entry prices for private equity and real estate. We expect fundraising and deployment to recover from lows as M&A rebounds, leading to a broader opportunity to deploy capital. In private credit, interest levels on new loans are trending down to long-term averages, but special situations strategies with flexibility have been able to maintain attractive relative pricing. Hedge funds have started strong in 2024. Their current positioning suggests confidence in the opportunities for skill-based returns. We are neutral on key commodity markets. Geopolitical upside risks are balanced by high spare capacity in markets such as crude, which limit upside absent physical disruptions.
Hedge Funds						
Commodities						
<b>Transition</b>						
Cash/Short Duration						We are holding cash at neutral levels. It has the benefit of higher front-end yields as policy rates remain sticky. As importantly, it is also an effective means of storing dry powder as we await an opportunity to transition to risk assets.

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TOP IDEAS

# Global Fixed Income

## Representative Positioning from Portfolio Solutions Group



Fixed Income	Our View					Commentary
	--	-	=	+	++	
<b>Bonds</b>						
U.S.-Treasury			■			We remain U/W benchmark duration, which we think of broadly as Neutral. The once expected excessive 2024 rate cuts have been priced out, which leads to a more balanced outlook for duration.
Inflation Linked Bonds			■			Real yields have climbed higher following the March CPI release. With inflation proving stickier than expected, 10-year inflation breakevens are likely to remain above 2.2%.
Eurozone Govt. Bonds			■			Lingering wage growth makes the risk/reward on eurozone duration balanced, although on a relative basis we see more risk of deeper-than-expected cuts by the ECB due to structural concerns on growth.
EM Hard Currency Govt. Bonds				■		Following the latest widening in EMBI spreads coupled with the rates selloff, EM HC debt looks well placed on a tactical basis. However, the Fed's more hawkish stance will likely dampen the global recovery and could weigh on investor sentiment in riskier asset classes such as EM.
EM Local Currency Govt. Bonds			■			Depressed EM local yields vs U.S. credit will limit inflows. EM FX has come under pressure amid a hawkish Fed. The key risk for the asset class is of more hawkish Fed surprises.
<b>Public Credit</b>						
Municipal Bonds			■			Current yields for high-quality Munis equate to minimal/zero pickup versus U.S. Treasuries on an after-tax basis. On the other hand, there is a bit more value in the lower-rated parts of the market.
Investment Grade	■					We U/W investment grade corporate bonds, as spreads are at historic tights. Excess return over USTs (U.S. Treasuries) should be minimal and IG remains sensitive to left-tail outcomes leading to a highly asymmetrical return profile.
MBS/ABS					■	High conviction in asset-backed securities and yield per unit of credit quality remains attractive. Consumer cash flows are strong due to tight labor markets.
High Yield			■	←		HY spreads are now very tight, particularly in the BB and B-rated segments of the market, offering less value. All-in yields remain somewhat attractive amid a reasonably strong economic environment.
Bank Loans				■		Yields remain attractive as more rate cuts are priced out of the market. Spreads offer reasonable value, even if looking a bit rich versus history. Default rates should continue to fall.

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TOP IDEAS

# Global Equity

## Representative Positioning from Portfolio Solutions Group

■ Current allocation  
← Change from previous  
 -- High conviction underweight  
 - Underweight  
 = Neutral  
 + Overweight  
 ++ High conviction overweight

Equity	Our View					Commentary
	--	-	=	+	++	
<b>Regional</b>						
<i>Developed Markets</i>			■	←		While U.S. growth should remain resilient, we see signs of a stabilization of growth outside the country. Valuation headwinds for U.S. equities will lead us to use them as a funding source.
U.S.			■			A rebound in global manufacturing and stabilization of the Chinese economy should be supportive of eurozone equities in the short term, despite lingering structural headwinds.
Eurozone			■			Japan's path to sustainable inflation and corporate governance reforms are key pillars for the improvement of profit margins and shareholder returns. Valuations have re-rated, but are not stretched, while positioning is not crowded. The absence of meaningful Yen appreciation continues to be supportive.
Japan				■		The absence of a DM hard landing and easing financial conditions are supportive for EM in general. Structural concerns persist for China, but a lot of bad news could be in the price after the selloff. Government support could temporarily lift equities given depressed sentiment and light positioning.
<i>Emerging Markets</i>			■			
<b>Style</b>						
Growth vs. Value				■		Earnings revision momentum and structural growth themes (e.g., AI) continue to support Growth. However, this support is being offset by stretched valuations (i.e., the good news is in the price).
Quality				■		Quality factors (profitability, ROE, etc.) tend to work both mid- and late-cycle. Note that Quality does not denote defensive sector exposure.
Large Cap vs. Small Cap				■		The cost of capital remains high, and we see Large Cap stocks as better insulated from leverage-related pressures than more fragile Small Caps.
Dividend			■			We see balanced risk for Dividend yield exposures. Note that high-dividend yield as an independent style factor does not imply Quality, though many Dividend-focused funds also seek Quality factors.

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TOP IDEAS

# Alternatives

## Representative Positioning from Portfolio Solutions Group

- Current allocation
- ◀ Change from previous
- Highly selective new investments
- Selective new investments
- = Neutral
- + Priority new investments
- ++ High priority new investments

Alternative Assets	New Investments View					Commentary
	--	-	=	+	++	
<b>Private Markets</b>						
Real Estate			■			<p><b>Commercial Real Estate</b> has continued to reprice meaningfully given higher debt costs and elevated supply; our view is unchanged from the recent upgrade to Neutral. A significant amount of debt maturities this year should drive higher transaction volumes and put additional downward pressure on pricing, leading to attractive entry valuations. Long-term demand tailwinds in key sectors remain in place. Our view on <b>Infrastructure</b> is unchanged; entry valuations are largely defensible, and the asset class should benefit from the growth opportunities associated with the energy transition and digitization. Select markets within <b>Natural Resources</b> continue to benefit from strong long-term fundamentals, such as increasing food demand and decreasing arable land in the case of agriculture.</p> <p>We maintain a Neutral weighting for <b>Private Equity</b>. However, we have observed a compelling trend in lower transaction valuations and anticipate that this will be reinforced during 2024 as M&amp;A expands. An increase in market activity and deployment could justify an upgrade. We continue to emphasize the advantage of middle-market <b>Private Equity</b> where leverage and valuation sensitivities are typically lower.</p> <p>In <b>Private Credit</b>, loan pricing, terms and defaults are generally now inline with long term averages. This resulted in a recent revision of our view to Neutral. However, as corporates continue to adjust to higher interest rate expense, the supply of opportunities for special situations lenders is growing and offers attractive pricing.</p>
Infrastructure				■		
Natural Resources				■		
Private Equity			■			
Private Credit			■			
<b>Liquid Alternatives</b>						
Hedge Funds				■		<p>In long-short <b>Hedge Funds</b>, bottom-up fundamental security selection and trend following are both benefiting from higher return dispersion and lower cross correlations in asset performance, as well as benefitting from higher cash returns. Portfolio positioning shows hedge funds have relatively high conviction in the current opportunities for skill-based returns.</p> <p>We are neutral on key <b>Commodity Markets</b>: while a rebound in manufacturing activity is supportive of commodity demand, high OPEC spare capacity and generally healthy supply from non-OPEC countries should keep oil prices capped for the time being.</p>
Commodities			■			

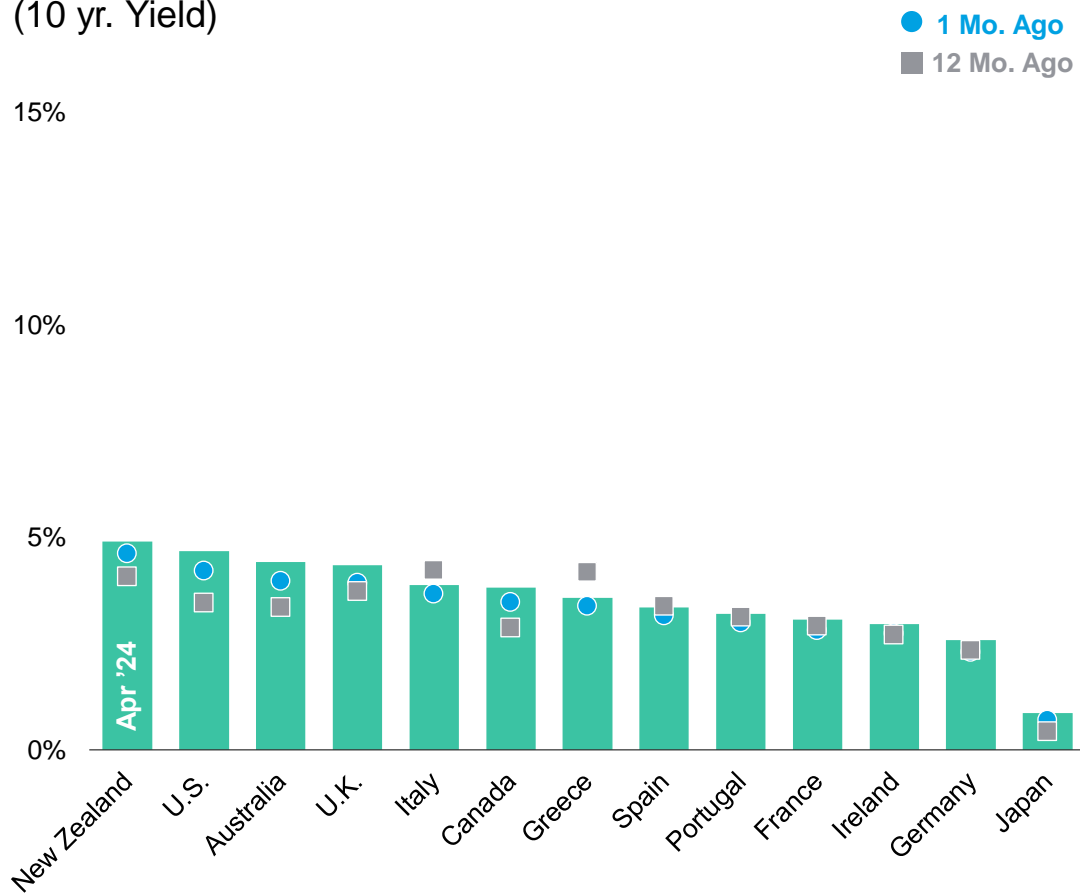
For informational purposes and does not constitute an offer or a recommendation to buy or sell any particular security or to adopt any specific investment strategy. The tactical views expressed above are a broad reflection of our team's views and implementations, expressed for client communication purposes. Individual team allocations may differ. The information herein does not contend to address the financial objectives, situation or specific needs of any individual investor. The signals represent the Portfolio Solutions Group view on each asset class. Note: Over/underweight in private markets refers to decisions regarding the flow of new investments, not the stock of existing investments.



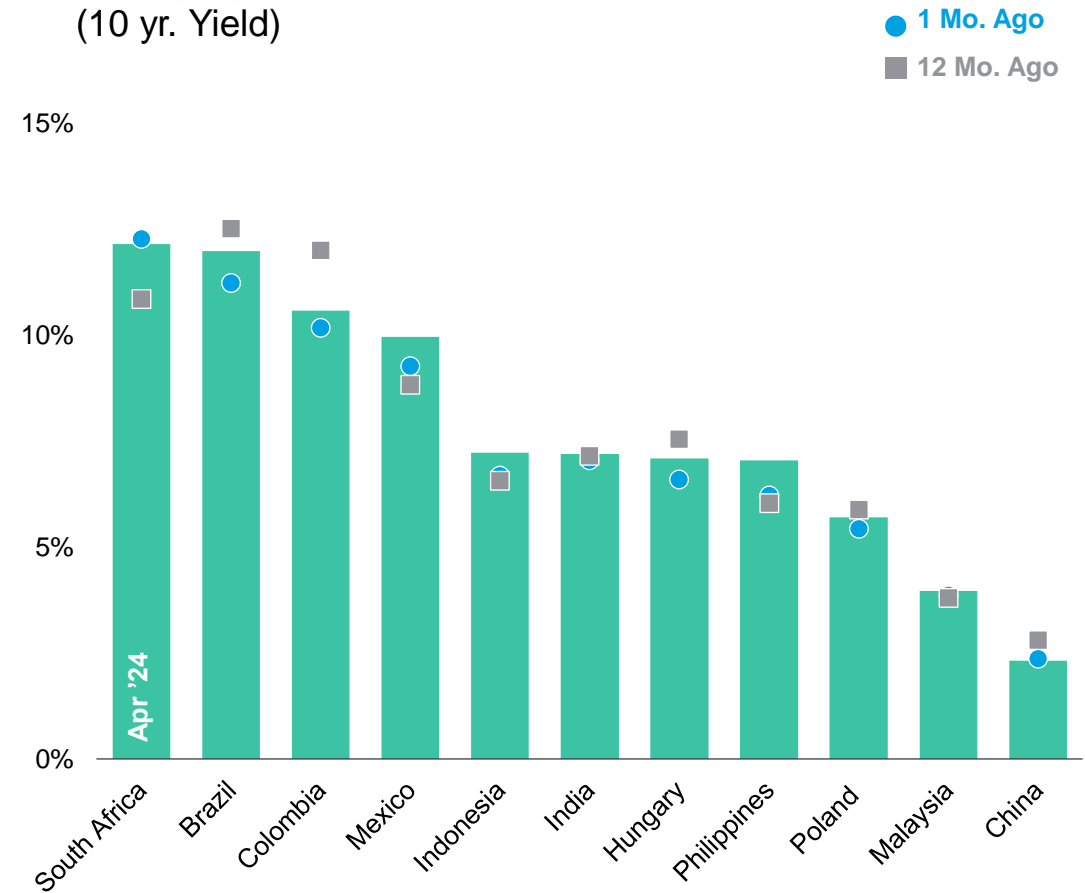
BONDS

# Sovereign Bond Yields

## Developed Markets (10 yr. Yield)



## Emerging Markets (10 yr. Yield)



Past performance is no guarantee of future results.

It is not possible to invest directly in an index. Source: Factset as of 4/30/24. Data provided is for informational use only. See end of report for important additional information.

## BONDS

## Key Rates (%)

Security	Current	12-Mo. Ago	Average	Minimum	Maximum
1-Week SIFMA	3.77	3.86	3.50	1.90	4.55
Secured Overnight Financing Rate	5.34	4.81	5.25	4.81	5.40
1-Mo LIBOR	5.43	5.06	5.39	5.08	5.48
3-Mo LIBOR	5.59	5.30	5.59	5.32	5.69
2-Yr Treasury	5.03	4.06	4.71	3.74	5.21
5-Yr Treasury	4.71	3.54	4.23	3.28	4.96
10-Yr Treasury	4.68	3.45	4.18	3.35	4.99
30-Yr Treasury	4.79	3.67	4.32	3.72	5.11
2-Yr Japan	0.27	-0.04	0.06	-0.09	0.30
10-Yr Japan	0.87	0.43	0.65	0.36	0.96
2-Yr German Bund	3.10	2.72	2.91	2.38	3.31
10-Yr German Bund	2.58	2.35	2.46	1.91	2.98
2-Yr UK Gilt	4.49	3.79	4.57	3.66	5.52
10-Yr UK Gilt	4.34	3.73	4.19	3.46	4.74
Bloomberg US Agg	5.31	4.35	4.96	4.24	5.74
Bloomberg Global Agg	4.06	3.52	3.88	3.44	4.42
Bloomberg US Corporate	5.73	5.10	5.56	5.02	6.43
Bloomberg US Long Corporate	5.90	5.27	5.69	5.16	6.60
Bloomberg US Municipal	3.77	3.39	3.66	3.21	4.50
Bloomberg US Long Municipal	4.40	4.23	4.39	4.01	5.18
US High Yield	8.20	8.37	8.40	7.62	9.53
US Loans	9.82	10.37	10.27	9.81	10.80

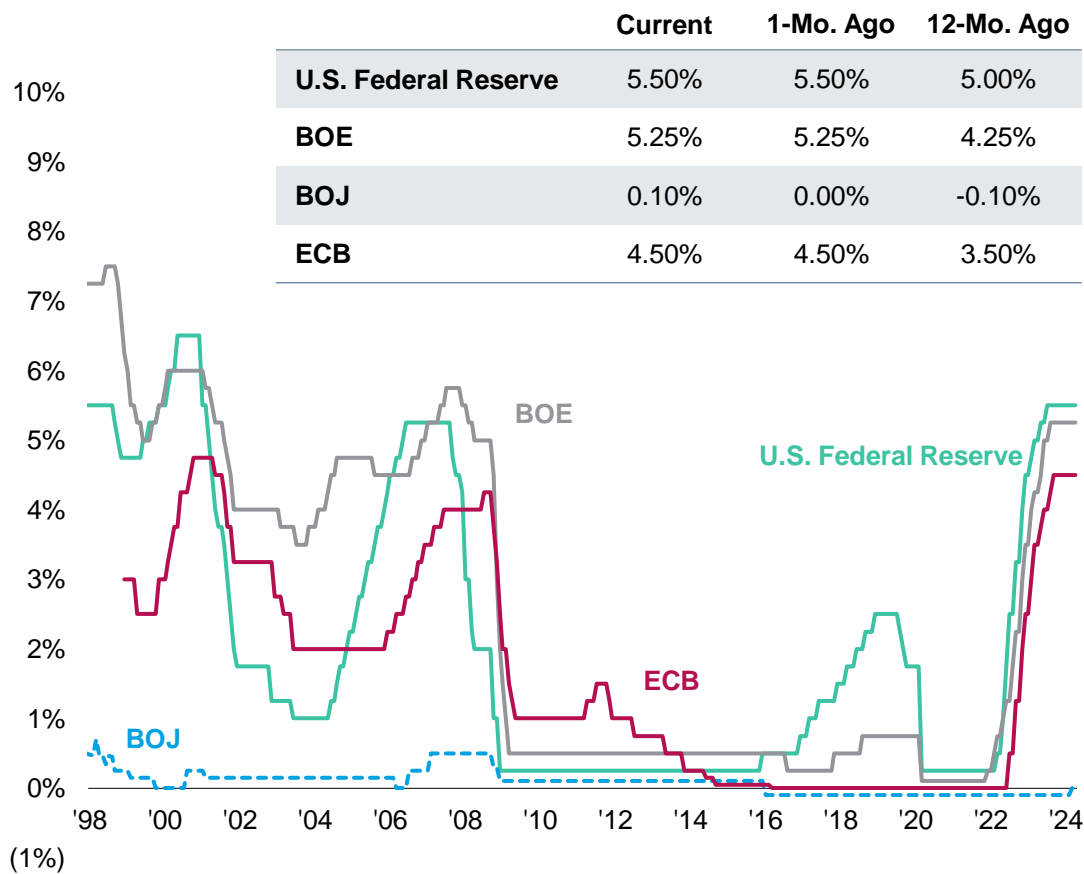
**Past performance is no guarantee of future results.**

It is not possible to invest directly in an index. Source: Bloomberg, Leveraged Commentary & Data (LCD), and Factset as of 4/30/24. Current represents most recent month. Average, minimum, and maximum measure a 12-month period ending most recent month. Data provided is for informational use only. US High Yield is represented by ICE BofA US High Yield Index. US Loans is represented by Morningstar LSTA U.S. Leveraged Loan Index. Bloomberg indices and ICE BofA US HY index using yield to worst. Morningstar LSTA U.S. Leveraged Loan Index using yield to maturity. See end of report for important additional information.

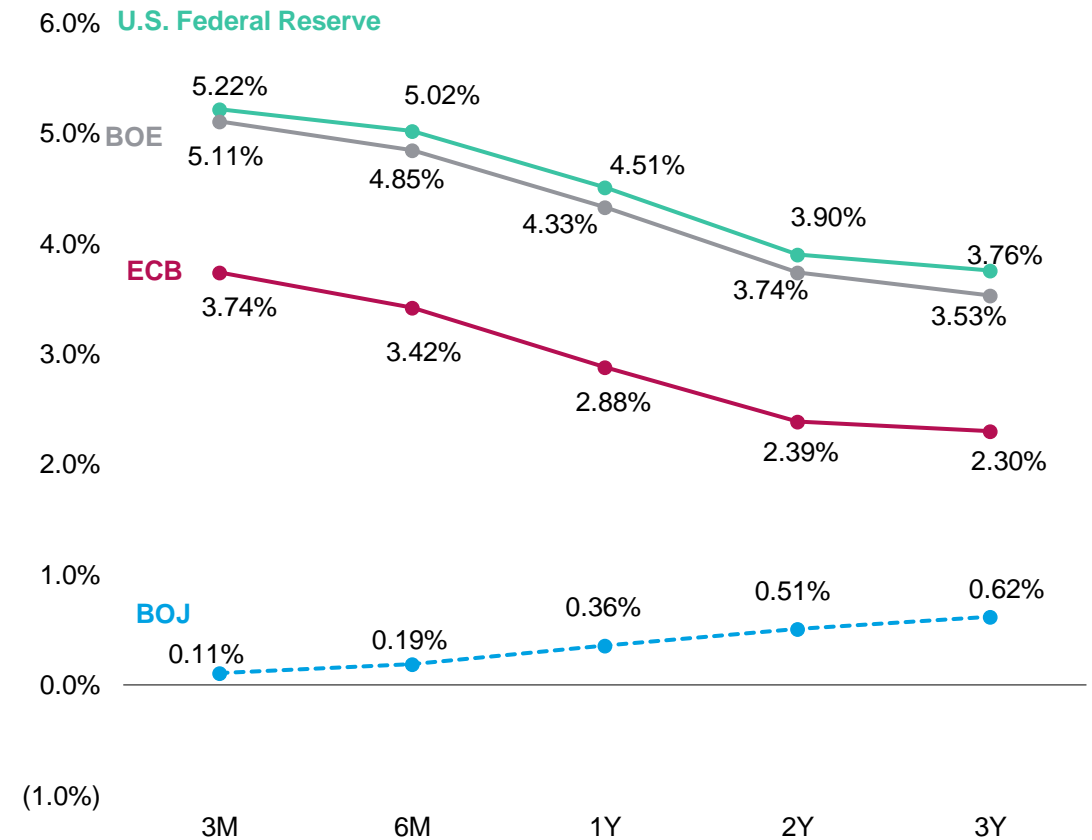
BONDS

# Monetary Policy

## Central Bank Policy Rates



## Market Expectations for Future Central Bank Rates

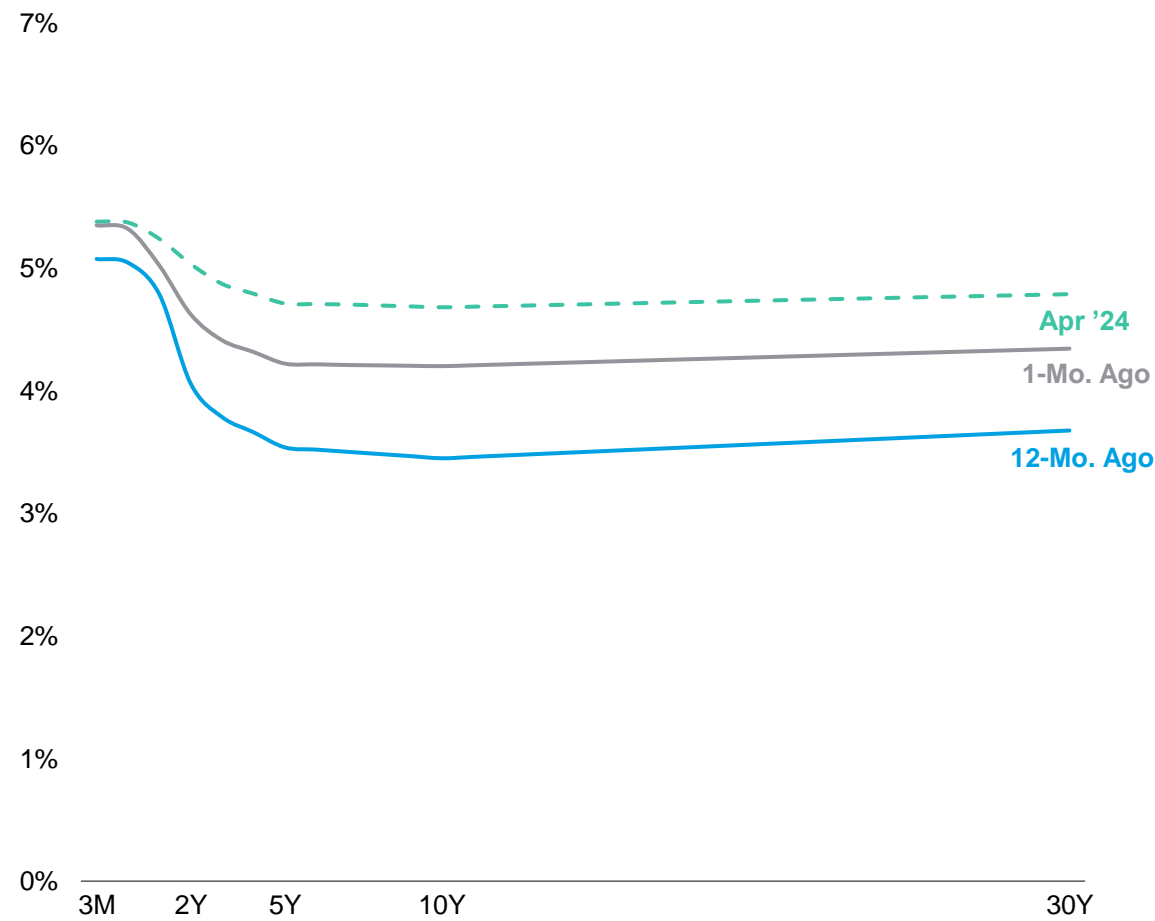


Source: Bloomberg, Factset as of 4/30/24 (Market expectations as of 3/31/24). Data provided is for informational use only. See end of report for important additional information. Forecasts/estimates are based on current market conditions, subject to change, and may not necessarily come to pass.

BONDS

# U.S. Treasury Yields

## U.S. Treasury Yield Curves



Security	Yields & Performance				
	Yield (%)			Total Return (%)	
	Current	1-Mo. Ago	12-Mo. Ago	1-Mo.	12-Mo.
3-mo. Treasury	5.38	5.35	5.07	0.43	5.36
6-mo. Treasury	5.37	5.32	5.04	0.40	5.28
2-yr. Treasury	5.03	4.62	4.06	-0.39	1.64
3-yr. Treasury	4.87	4.41	3.78	-0.90	0.44
5-yr. Treasury	4.71	4.22	3.54	-1.82	-1.87
10-yr. Treasury	4.68	4.20	3.45	-3.37	-6.40
30-yr. Treasury	4.79	4.34	3.67	-6.52	-14.33

Source: Factset, Morningstar as of 4/30/24. Data provided is for informational use only. Past Performance is not a reliable indicator of future results. See end of report for important additional information.

## BONDS

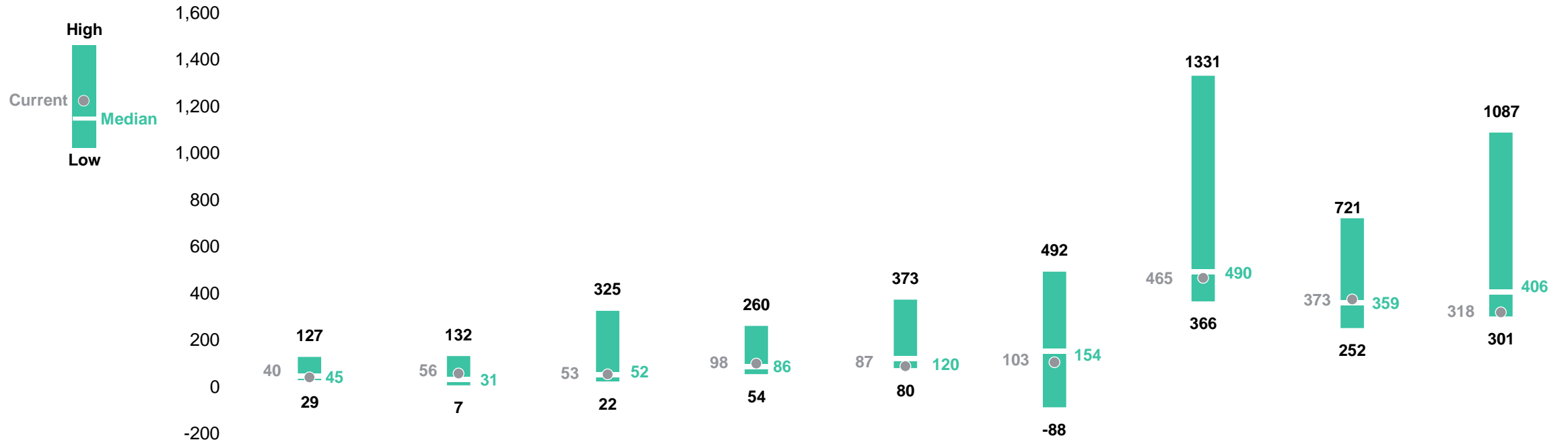
## Characteristics and Performance Analysis

Index	Averages						Total Returns (%)						
	Coupon (%)	Price (\$)	Yield to Worst (%)	Spread (bps)	Maturity (yrs.)	Duration (yrs.)	1-Mo.	3-Mo.	YTD	1Y	3Y	5Y	10Y
<b>U.S. High Grade</b>													
<b>Bloomberg U.S. Aggregate Index</b>	3.23	88.0	5.31	40	8.5	6.1	-2.53	-3.02	-3.28	-1.47	-3.54	-0.16	1.20
U.S. Treasury	2.72	88.1	4.88	-	7.7	5.8	-2.33	-2.99	-3.26	-2.80	-3.73	-0.50	0.74
U.S. Mortgage Backed Securities	3.14	85.3	5.57	56	8.0	6.3	-3.03	-3.59	-4.04	-2.19	-4.00	-0.98	0.72
U.S. Asset Backed Securities	4.55	97.6	5.58	53	3.5	2.6	-0.61	-0.41	0.06	3.16	0.25	1.58	1.72
U.S. Commercial Mortgage Backed Securities	3.20	89.4	5.84	98	4.8	4.3	-1.78	-1.65	-0.95	1.69	-2.30	0.80	1.79
U.S. Corp. Investment Grade	4.16	89.7	5.73	87	10.6	6.8	-2.54	-2.77	-2.93	1.00	-3.07	0.89	2.23
<b>Bloomberg Municipal Bond Index</b>	4.55	100.8	3.77	-	13.3	6.2	-1.24	-1.11	-1.62	2.08	-1.10	1.26	2.41
<b>Bloomberg Taxable Municipal Bond Index</b>	4.30	89.9	5.41	-	14.2	7.8	-2.91	-2.75	-2.80	-0.67	-3.73	0.68	2.89
<b>ICE BofA US Inflation-Linked Treasury Index</b>	0.93	90.4	2.34	-	7.63	5.2	-1.60	-1.95	-1.58	-1.57	-1.74	2.02	1.94
<b>ICE BofA Preferred Index (Fixed Rate)</b>	5.24	90.1	6.48	103	-	5.6	-2.63	-1.00	1.76	6.76	-0.79	2.32	4.21
<b>U.S. High Yield</b>													
<b>ICE BofA US High Yield Index</b>	6.21	91.9	8.20	318	4.8	3.4	-1.00	0.48	0.49	8.88	1.50	3.53	4.19
<b>Morningstar LSTA U.S. Leveraged Loan Index</b>	S+3.62	96.6	9.82	465	4.4	-	0.60	2.38	3.07	11.97	6.02	5.26	4.60
<b>Emerging Markets</b>													
<b>J.P. Morgan EM Bond Index (EMBI) Global Diversified</b>	5.41	82.8	8.52	373	-	6.4	-2.08	0.95	-0.08	8.39	-2.79	0.24	2.71
<b>J.P. Morgan Corp. EM Bond Index (CEMBI) Broad Diversified</b>	5.00	91.6	7.01	221	-	4.2	-0.88	0.82	1.41	7.26	-0.62	2.29	3.55
<b>J.P. Morgan Govt. Bond Index-EM (GBI-EM) Global Diversified</b>	5.40	-	6.63	-	-	4.9	-2.14	-2.73	-4.21	1.79	-3.03	-0.27	-0.62
<b>Global Developed Markets</b>													
<b>Bloomberg Global Aggregate Ex-U.S. Index</b>	2.21	94.5	2.99	33	8.6	7.0	-2.59	-3.51	-5.72	-3.56	-7.84	-2.89	-1.77
<b>FTSE World Government Bond Index</b>	2.33	-	3.44	-	-	7.3	-2.60	-3.45	-4.95	-3.81	-7.29	-2.62	-1.19
<b>ICE BofA European Union Government Bond Index</b>	2.03	92.4	3.18	45	8.9	7.3	-2.39	-3.10	-5.24	-0.76	-8.81	-2.85	-1.85
<b>ICE BofA Developed Mkts HY Ex-Sub Fincl Index (USD Hedged)</b>	5.93	92.0	7.88	347	3.7	3.2	-0.75	0.60	0.84	9.66	1.79	3.66	4.35
<b>Bloomberg Euro-Aggregate Corporates (EUR)</b>	2.27	93.5	3.92	112	5.1	4.4	-0.85	-0.52	-0.39	5.18	-2.47	-0.64	1.07
<b>Bloomberg Pan-European High Yield Euro (EUR)</b>	4.45	93.4	6.95	363	3.7	3.1	-0.08	0.71	1.46	10.23	0.93	2.34	3.27

**Past performance is no guarantee of future results.** It is not possible to invest directly in an index. Source: Bloomberg, J.P. Morgan, ICE BofA Data Indices, LLC, Factset, and Leveraged Commentary & Data (LCD), as of 4/30/24. Data provided is for informational use only. See end of report for important additional information. Yield to maturity is shown for the Morningstar LSTA U.S. Leveraged Loan Index and the FTSE World Government Bond Index. S+ refers to SOFR (Secured Overnight Financing Rate) as the base rate. Loan Index spread represents the three-year discounted spread over SOFR. Returns of the ICE BofA Developed Mkts HY Ex-Sub Financial Index are USD Hedged. The averages for the index are unhedged. Returns and averages for the Bloomberg Euro-Agg Corps and Bloomberg Pan-Euro HY indices are in EUR (unhedged).

BONDS

# Spread Analysis (bps)



	Aggregate	MBS	ABS	CMBS	Corporate	Preferred	Floating-Rate Loans	Emerging Markets (USD)	High Yield
<b>Max Spread Date</b>	3/20/2020	3/19/2020	3/26/2020	3/25/2020	3/23/2020	3/23/2020	3/20/2020	3/23/2020	3/23/2020
<b>Min Spread Date</b>	4/14/2021	4/14/2021	6/21/2021	6/21/2021	6/30/2021	12/6/2017	4/20/2018	6/9/2014	12/28/2021
<b>Spread on 12/31/23</b>	42	47	68	126	99	148	490	384	339
<b>Spread on 12/31/22</b>	51	51	76	120	130	227	645	452	479
<b>Spread on 12/31/21</b>	36	31	38	68	92	113	428	369	310

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## BONDS

## Corporate Bond Market Update

	Averages						Total Returns (%)						
	Coupon (%)	Price (\$)	Yield to Worst (%)	Spread (bps)	Maturity (yrs.)	Duration (yrs.)	1-Mo.	3-Mo.	YTD	1Y	3Y	5Y	10Y
<b>U.S. High Grade</b>													
<b>Bloomberg U.S. Corp. Investment Grade Index</b>	<b>4.16</b>	<b>89.7</b>	<b>5.73</b>	<b>87</b>	<b>10.6</b>	<b>6.8</b>	<b>-2.54</b>	<b>-2.77</b>	<b>-2.93</b>	<b>1.00</b>	<b>-3.07</b>	<b>0.89</b>	<b>2.23</b>
AAA Index	3.18	80.1	5.17	33	17.9	10.2	-4.24	-4.77	-5.81	-4.82	-5.81	-0.67	1.55
AA Index	3.50	86.2	5.32	43	12.7	7.8	-3.04	-3.39	-3.99	-1.82	-4.39	-0.54	1.25
A Index	4.03	89.9	5.59	74	10.5	6.8	-2.55	-2.88	-3.09	0.27	-3.28	0.62	1.99
BBB Index	4.41	90.3	5.93	107	10.3	6.6	-2.43	-2.53	-2.56	2.25	-2.60	1.40	2.59
<b>U.S. High Yield</b>													
<b>ICE BofA U.S. High Yield Index</b>	<b>6.21</b>	<b>91.9</b>	<b>8.20</b>	<b>318</b>	<b>4.8</b>	<b>3.4</b>	<b>-1.00</b>	<b>0.48</b>	<b>0.49</b>	<b>8.88</b>	<b>1.50</b>	<b>3.53</b>	<b>4.19</b>
BB Index	5.60	94.3	6.90	189	5.2	3.7	-0.97	0.04	0.11	7.18	1.11	3.85	4.51
B Index	6.64	94.1	8.05	299	4.6	3.1	-0.86	0.55	0.61	9.33	1.72	3.20	3.85
CCC Index	7.30	77.9	14.11	916	4.3	2.9	-1.60	1.97	1.57	14.33	1.95	2.81	3.88
<b>Morningstar LSTA U.S. Leveraged Loan Index</b>	<b>S+3.62</b>	<b>96.6</b>	<b>9.82</b>	<b>465</b>	<b>4.4</b>	<b>-</b>	<b>0.60</b>	<b>2.38</b>	<b>3.07</b>	<b>11.97</b>	<b>6.02</b>	<b>5.26</b>	<b>4.60</b>
BBB Index	S+2.07	100.1	7.36	204	4.7	-	0.71	2.11	2.51	8.29	5.26	4.30	3.93
BB Index	S+2.86	99.5	8.31	303	4.7	-	0.65	2.13	2.66	9.86	5.88	4.51	4.19
B Index	S+3.89	98.3	9.77	454	4.4	-	0.75	2.54	3.23	12.88	6.45	5.66	4.90
CCC Index	S+4.85	81.4	18.82	1359	3.6	-	-0.68	2.67	4.46	16.44	3.98	4.44	5.85
D Index	-	23.1	-	-	-	-	-7.72	-10.68	-11.35	-12.69	-26.55	-26.52	-18.58

**Past performance is no guarantee of future results.**

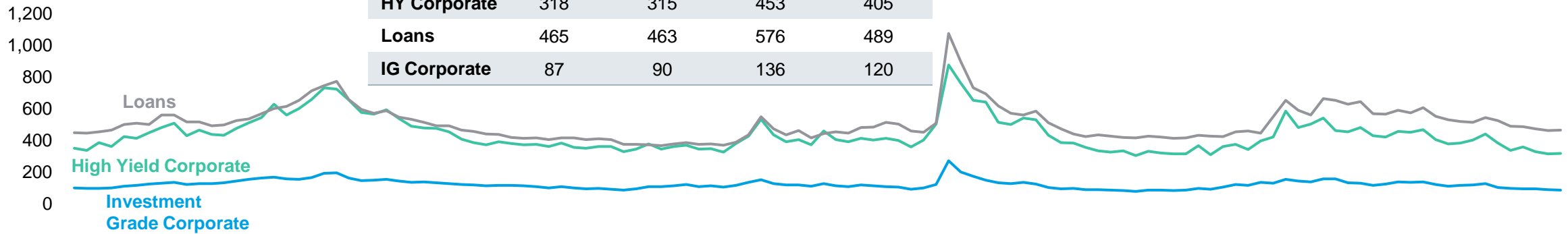
It is not possible to invest directly in an index. Source: Bloomberg, J.P. Morgan, ICE BofA Data Indices, LLC, Factset, and Leveraged Commentary & Data (LCD), as of 4/30/24. Data provided is for informational use only. See end of report for important additional information. Yield to maturity is shown for the Morningstar LSTA U.S. Leveraged Loan Index. S+ refers to SOFR (Secured Overnight Financing Rate) as the base rate. Loan Index spread represents the three-year discounted spread over SOFR.

BONDS

# Corporate Bond Market Update

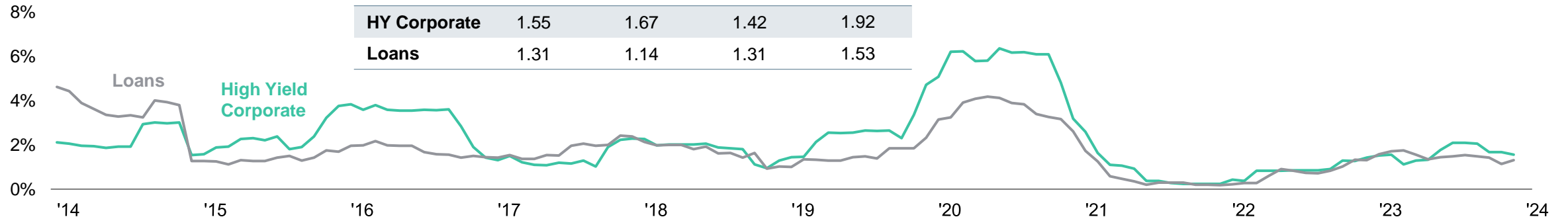
## Average Spread (bps)

	Current	1-Mo. Ago	12-Mo. Ago	Median
<b>HY Corporate</b>	318	315	453	405
<b>Loans</b>	465	463	576	489
<b>IG Corporate</b>	87	90	136	120



## Annual Default Rate

	Current	1-Mo. Ago	12-Mo. Ago	Median
<b>HY Corporate</b>	1.55	1.67	1.42	1.92
<b>Loans</b>	1.31	1.14	1.31	1.53



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## BONDS

## Municipal Bond Market Update

	Averages					Total Returns (%)						
	Coupon (%)	Price (\$)	Yield To Worst (%)	Maturity (yrs.)	Duration (yrs.)	1-Mo.	3-Mo.	YTD	1Y	3Y	5Y	10Y
<b>Bloomberg Municipal Bond Index</b>	<b>4.55</b>	<b>100.8</b>	<b>3.77</b>	<b>13.3</b>	<b>6.2</b>	<b>-1.24</b>	<b>-1.11</b>	<b>-1.62</b>	<b>2.08</b>	<b>-1.10</b>	<b>1.26</b>	<b>2.41</b>
AAA Index	4.47	101.7	3.61	12.8	6.4	-1.36	-1.52	-2.16	1.37	-1.38	0.93	1.86
AA Index	4.58	102.0	3.64	12.8	6.0	-1.22	-1.26	-1.77	1.62	-1.16	1.11	2.18
A Index	4.54	98.9	4.02	13.7	6.0	-1.17	-0.67	-1.07	3.18	-0.75	1.64	2.88
BBB Index	4.51	95.0	4.54	17.2	7.3	-1.40	-0.30	-0.80	4.30	-0.79	2.02	3.61
5-Year Index	4.70	104.6	3.36	4.9	3.6	-0.82	-0.87	-1.19	1.58	-0.72	1.08	1.60
10-Year Index	4.56	104.9	3.37	9.9	5.4	-1.34	-1.39	-1.88	1.24	-0.77	1.49	2.56
22+ Year Index	4.53	95.4	4.40	26.5	10.2	-1.69	-1.54	-2.42	2.53	-2.71	0.79	2.95
<b>Bloomberg High Yield Municipal Bond Index</b>	<b>4.70</b>	<b>65.7</b>	<b>5.66</b>	<b>19.4</b>	<b>6.9</b>	<b>-0.61</b>	<b>1.36</b>	<b>0.89</b>	<b>6.63</b>	<b>-0.14</b>	<b>2.78</b>	<b>4.37</b>
Hospital	5.29	85.2	6.44	20.4	6.7	-0.31	2.41	1.70	6.17	-1.36	0.73	3.66
IDR/PCR	4.29	39.2	5.76	19.4	7.1	-0.65	1.20	0.75	5.96	-0.37	3.22	5.66
Tobacco	2.36	18.6	6.26	28.5	10.8	-1.83	-1.28	-2.84	4.52	-1.72	3.84	7.07
Puerto Rico	3.66	56.2	4.73	19.1	7.2	-0.89	1.08	1.26	9.95	1.56	5.49	4.44

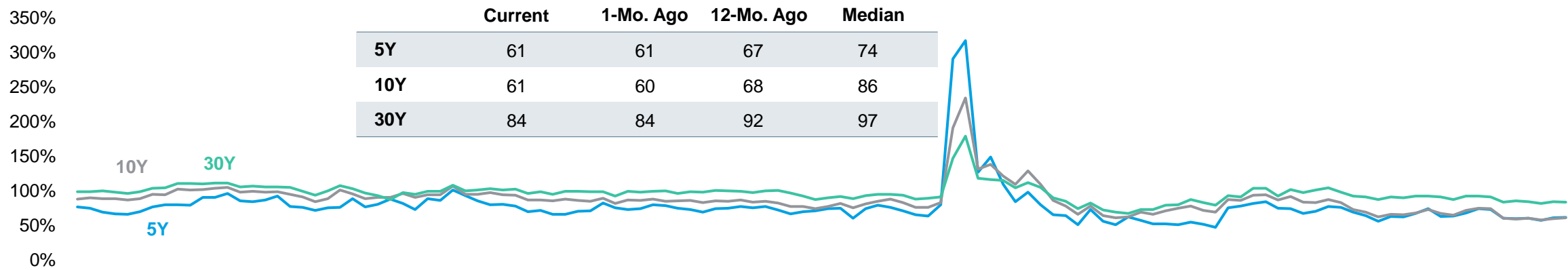
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It is not possible to invest directly in an index. Source: Bloomberg, Morningstar as of 4/30/24. Coupon and Yield To Worst figures are based on average market prices while Price is based on an average of par value. Data provided is for informational use only. See end of report for important additional information.

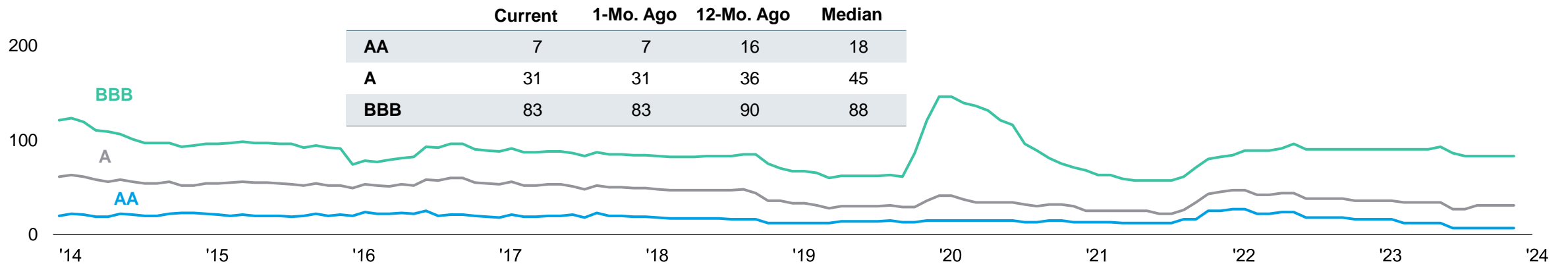
BONDS

# Municipal Bond Market Update

## AAA Muni-to-Treasury Yield Ratios



## Credit Quality Spreads vs. AAA (bps)



Past performance is no guarantee of future results.

It is not possible to invest directly in an index. Source: Bloomberg as of 4/30/24. Data provided is for informational use only. See end of report for important additional information. All spreads are in basis points and measure option-adjusted yield spread relative to comparable maturity U.S. Treasuries.

BONDS

# Emerging Markets Bond Market Update

## Sovereign EMD Spreads (USD)

bps



	Avg. Spread (bps)
<b>Current</b>	373
<b>1-Mo. Ago</b>	341
<b>12-Mo. Ago</b>	483
<b>Median</b>	363

## Corporate EMD Spreads (USD)

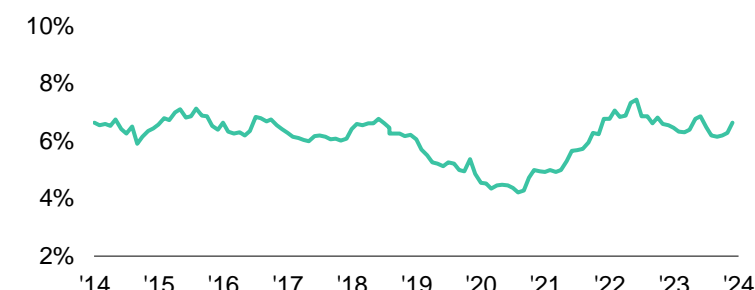
bps



	Avg. Spread (bps)
<b>Current</b>	221
<b>1-Mo. Ago</b>	231
<b>12-Mo. Ago</b>	340
<b>Median</b>	301

## Local EMD Yields (%)

bps



	Avg. Yield (%)
<b>Current</b>	6.63
<b>1-Mo. Ago</b>	6.27
<b>12-Mo. Ago</b>	6.53
<b>Median</b>	6.29

### Averages

	Coupon (%)	Price (\$)	Yield (%)	Duration
<b>JPMorgan Emerging Markets Bond Index (EMBI) Global Diversified</b>	5.41	82.8	8.52	6.4
<b>JPMorgan Corporate Emerging Markets Bond Index (CEMBI) Broad Diversified</b>	5.00	91.6	7.01	4.2
<b>JPMorgan Government Bond Index-Emerging Markets (GBI-EM) Global Diversified</b>	5.40	-	6.63	4.9

### Total Returns (%)

	1-Mo.	3-Mo.	YTD	1Y	3Y	5Y	10Y
<b>JPMorgan Emerging Markets Bond Index (EMBI) Global Diversified</b>	-2.08	0.95	-0.08	8.39	-2.79	0.24	2.71
<b>JPMorgan Corporate Emerging Markets Bond Index (CEMBI) Broad Diversified</b>	-0.88	0.82	1.41	7.26	-0.62	2.29	3.55
<b>JPMorgan Government Bond Index-Emerging Markets (GBI-EM) Global Diversified</b>	-2.14	-2.73	-4.21	1.79	-3.03	-0.27	-0.62

Past performance is no guarantee of future results.

It is not possible to invest directly in an index. Source: J.P. Morgan, Morningstar as of 4/30/24. Data provided is for informational use only. See end of report for important additional information. All spreads are in basis points and measure option-adjusted yield spread relative to comparable maturity U.S. Treasuries.

BONDS

# Asset Class Return Analysis (%)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	YTD 2024
Higher	Municipal 9.05	Municipal 3.30	High Yield 17.49	EMD (Local Currency) 15.21	Municipal 1.28	Investment Grade 14.54	Global Agg Ex-U.S. 10.11	High Yield 5.36	Bank Loan -0.77	High Yield 13.46	Bank Loan 3.07
	Investment Grade 7.46	MBS 1.51	EMD (Hard Currency) 10.19	Global Agg Ex-U.S. 10.51	MBS 0.99	EMD (Hard Currency) 14.42	Investment Grade 9.89	Bank Loan 5.20	Municipal -8.53	Bank Loan 13.32	EMD (Corp. Bonds) 1.41
	MBS 6.08	EMD (Corp. Bonds) 1.30	Bank Loan 10.16	EMD (Hard Currency) 9.32	Treasury 0.86	High Yield 14.41	Treasury 8.00	Municipal 1.52	High Yield -11.22	EMD (Local Currency) 12.70	High Yield 0.49
	EMD (Hard Currency) 5.53	EMD (Hard Currency) 1.23	EMD (Local Currency) 9.94	EMD (Corp. Bonds) 7.96	Bank Loan 0.44	EMD (Local Currency) 13.47	EMD (Corp. Bonds) 7.13	EMD (Corp. Bonds) 0.91	EMD (Local Currency) -11.69	EMD (Hard Currency) 10.45	EMD (Hard Currency) -0.64
	Treasury 5.05	Treasury 0.84	EMD (Corp. Bonds) 9.65	High Yield 7.48	EMD (Corp. Bonds) -1.65	EMD (Corp. Bonds) 13.09	High Yield 6.17	Investment Grade -1.04	MBS -11.81	EMD (Corp. Bonds) 9.08	Municipal -1.62
	EMD (Corp. Bonds) 4.96	Investment Grade -0.68	Investment Grade 6.11	Investment Grade 6.42	Global Agg Ex-U.S. -2.15	Bank Loan 8.64	EMD (Hard Currency) 5.88	MBS -1.04	EMD (Corp. Bonds) -12.26	Investment Grade 8.52	Investment Grade -2.93
	High Yield 2.50	Bank Loan -0.69	MBS 1.67	Municipal 5.45	High Yield -2.26	Municipal 7.54	Municipal 5.21	EMD (Hard Currency) -1.51	Treasury -12.46	Municipal 6.40	Treasury -3.26
	Bank Loan 1.60	High Yield -4.64	Global Agg Ex-U.S. 1.49	Bank Loan 4.12	Investment Grade -2.51	Treasury 6.86	MBS 3.87	Treasury -2.32	Investment Grade -15.76	Global Agg Ex-U.S. 5.72	MBS -4.04
	Global Agg Ex-U.S. -3.08	Global Agg Ex-U.S. -6.02	Treasury 1.04	MBS 2.47	EMD (Hard Currency) -4.61	MBS 6.35	Bank Loan 3.12	Global Agg Ex-U.S. -7.05	EMD (Hard Currency) -16.45	MBS 5.05	EMD (Local Currency) -4.21
Lower	EMD (Local Currency) -5.72	EMD (Local Currency) -14.92	Municipal 0.25	Treasury 2.31	EMD (Local Currency) -6.21	Global Agg Ex-U.S. 5.09	EMD (Local Currency) 2.69	EMD (Local Currency) -8.75	Global Agg Ex-U.S. -18.70	Treasury 4.05	Global Agg Ex-U.S. -5.72

**Past performance is no guarantee of future results.** It is not possible to invest directly in an index. In general, fixed income investments are subject to credit and interest rate risks. High yield investments may have a higher degree of credit and liquidity risk. Foreign securities are subject to currency, political, economic and market risks. Investors should carefully review the risks of each asset class prior to investing. Source: Morningstar as of 4/30/24. Data provided is for informational use only. See end of report for important additional information. Investment Grade represented by Bloomberg U.S. Corporate Index. MBS represented by Bloomberg U.S. Mortgage Backed Securities (MBS) Index. Treasury represented by Bloomberg U.S. Treasury Index. High Yield represented by ICE BofA US High Yield Index. Municipal represented by Bloomberg Municipal Bond Index. Bank Loan represented by Morningstar LSTA U.S. Leveraged Loan Index. Global Agg Ex-U.S. represented by Bloomberg Global Aggregate Ex-USD Index. EMD (Local Currency) represented by J.P. Morgan Government Bond Index-Emerging Markets (GBI-EM) Global Diversified. EMD (Hard Currency) represented by J.P. Morgan Emerging Markets Bond Index (EMBI) Global Diversified. EMD (Corp. Bonds) represented by J.P. Morgan Corporate Emerging Market Bond Index (CEMBI) Broad Diversified.

**EQUITIES**

# Performance: Market Barometer (%)

## 1-Month Returns

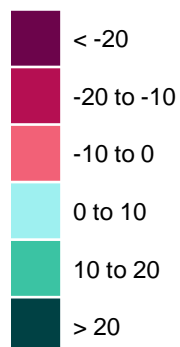
	Value	Core	Growth
<b>Large Cap</b>	-4.27	-4.26	-4.24
<b>Mid Cap</b>	-5.23	-5.40	-5.81
<b>Small Cap</b>	-6.37	-7.04	-7.70

## 1-Year Returns

	Value	Core	Growth
	13.42	22.82	31.80
	14.09	16.35	20.70
	14.03	13.32	12.39

## 3-Year Returns

	Value	Core	Growth
	5.17	6.98	8.48
	3.26	2.41	0.70
	-0.67	-3.18	-5.92



<b>Global</b> -3.30	<b>U.S.</b> -4.08
<b>International</b> -2.56	<b>Emerging Markets</b> 0.45

<b>Global</b> 17.46	<b>U.S.</b> 22.66
<b>International</b> 9.28	<b>Emerging Markets</b> 9.88

<b>Global</b> 4.27	<b>U.S.</b> 8.06
<b>International</b> 2.86	<b>Emerging Markets</b> -5.69

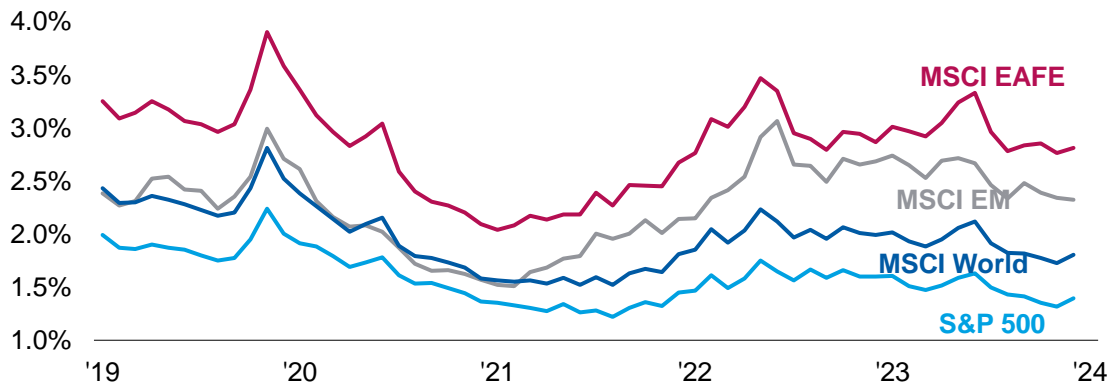
**Past performance is no guarantee of future results.**

It is not possible to invest directly in an index. Source: Morningstar as of 4/30/24. Data provided is for informational use only. See end of report for important additional information. Returns over 1 year are annualized. Large Cap Value represented by Russell 1000 Value Index. Large Cap Core represented by Russell 1000 Index. Large Cap Growth represented by Russell 1000 Growth Index. Mid Cap Value represented by Russell Mid Cap Value Index. Mid Cap Core represented by Russell Mid Cap Index. Mid Cap Growth represented by Russell Mid Cap Growth Index. Small Cap Value represented by Russell 2000 Value Index. Small Cap Core represented by Russell 2000 Index. Small Cap Growth represented by Russell 2000 Growth Index. Global represented by MSCI ACWI Index. US represented by S&P 500 Index. International represented by MSCI EAFE Index. Emerging Markets represented by MSCI Emerging Markets Index.

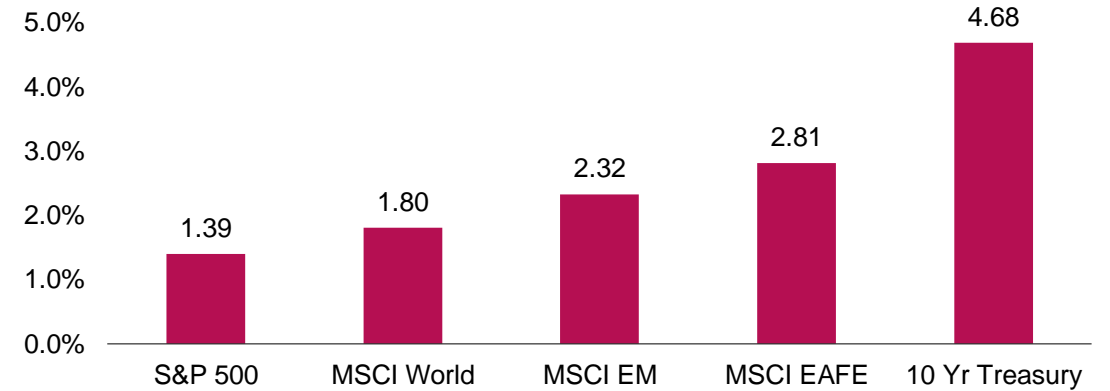
**EQUITIES**

# Dividend Yields and Volatility Analysis

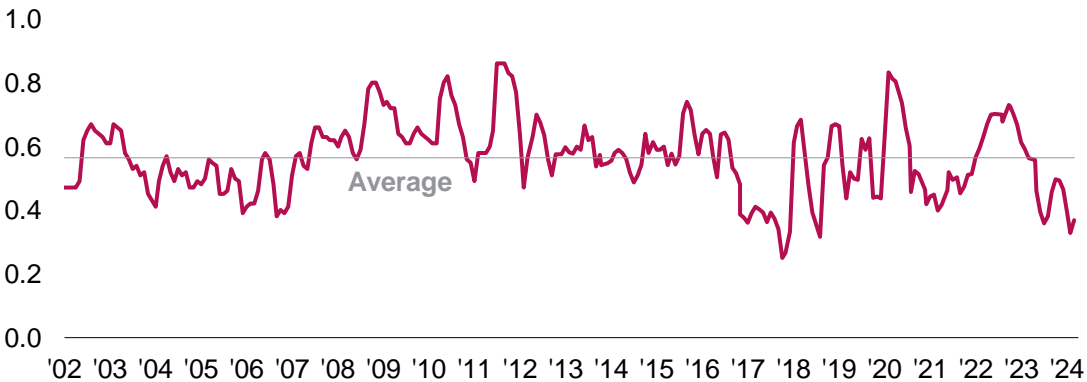
## Historical Yields



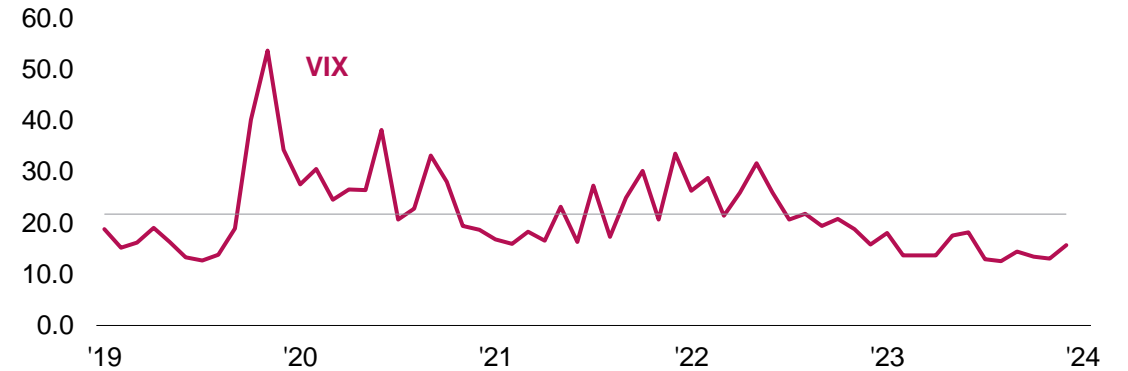
## Current Yields



## Correlation of S&P 500 Stocks



## CBOE Market Volatility Index (VIX)



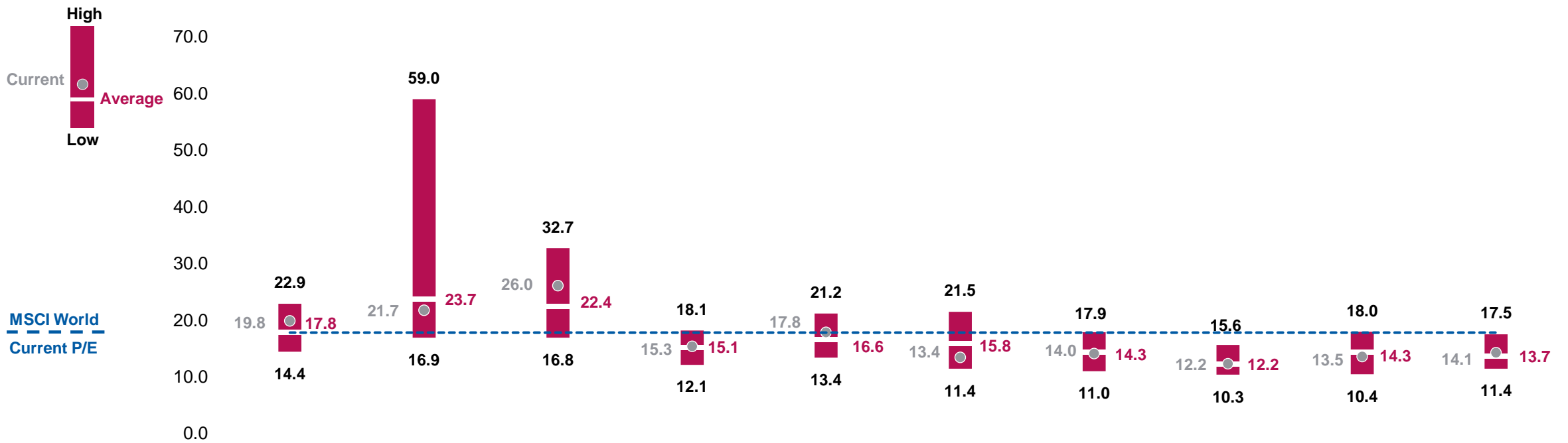
**Past performance is no guarantee of future results.**

It is not possible to invest directly in an index. Source: FactSet and Ned Davis Research as of 4/30/24. Correlation of S&P 500 Stocks is measured by the median 63-day rolling correlation of one day returns data provided is for informational use only. See end of report for important additional information.

EQUITIES

# Valuation Analysis

## Regions/Styles: Current NTM P/E vs. 10-Year High, Low, Average



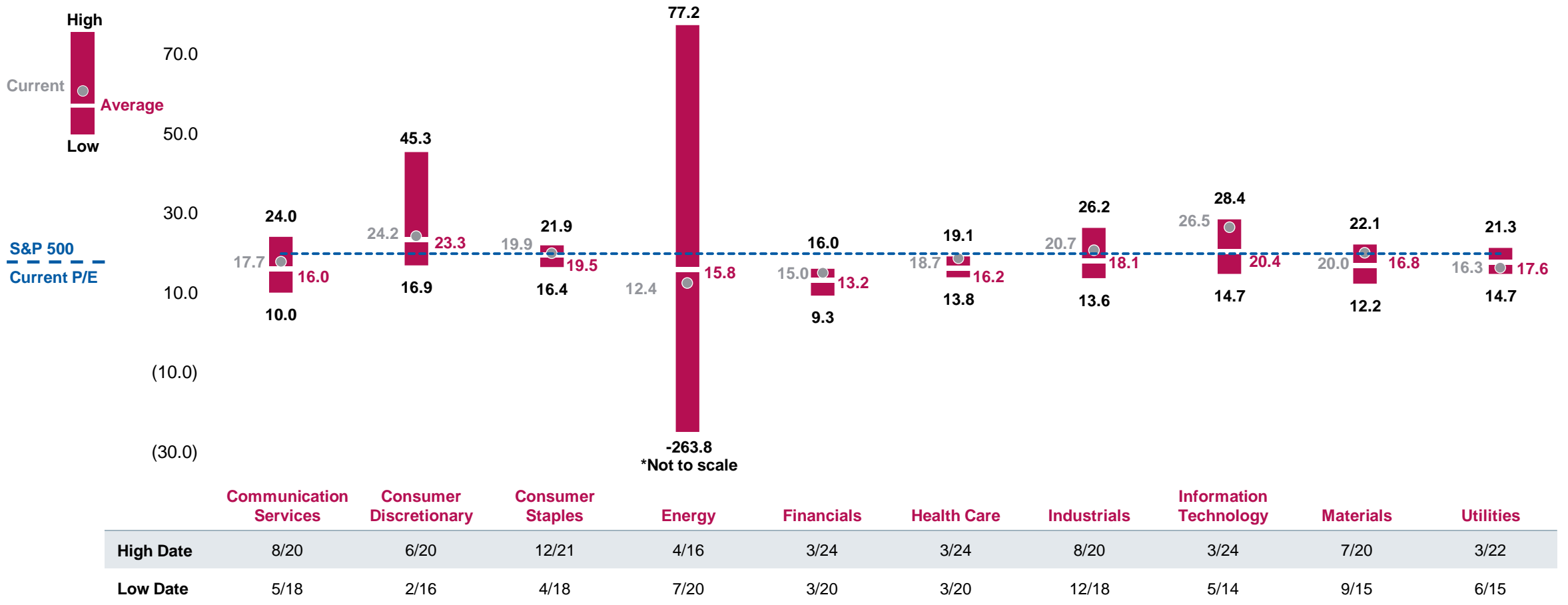
	S&P 500	Russell 2000	Russell 1000 Growth	Russell 1000 Value	MSCI World	MSCI World ex USA Small Cap	MSCI EAFE	MSCI EM	MSCI Europe	MSCI AC Asia Pac
<b>High Date</b>	8/20	6/20	8/20	3/21	8/20	8/20	8/20	1/21	6/20	1/21
<b>Low Date</b>	12/18	9/22	2/16	9/22	12/18	9/22	9/22	10/18	9/22	12/18

Source: FactSet as of 4/30/24. NTM P/E is market price per share divided by expected earnings per share over the next twelve months. Data provided is for informational use only. See end of report for important additional information. Forecasts/estimates are based on current market conditions, subject to change, and may not necessarily come to pass.

EQUITIES

# Valuation Analysis

## S&P 500 Sectors: Current NTM P/E vs. 10-Year High, Low, Average



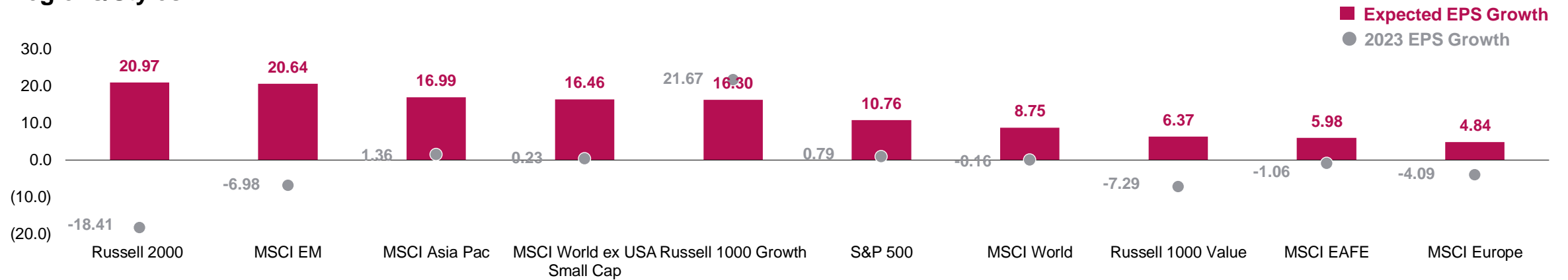
Source: FactSet as of 4/30/24. NTM P/E is market price per share divided by expected earnings per share over the next twelve months. The Real Estate sector is excluded from this 10-year chart since the sector was created on August 31, 2016. Data provided is for informational use only. See end of report for important additional information. Forecasts/estimates are based on current market conditions, subject to change, and may not necessarily come to pass.



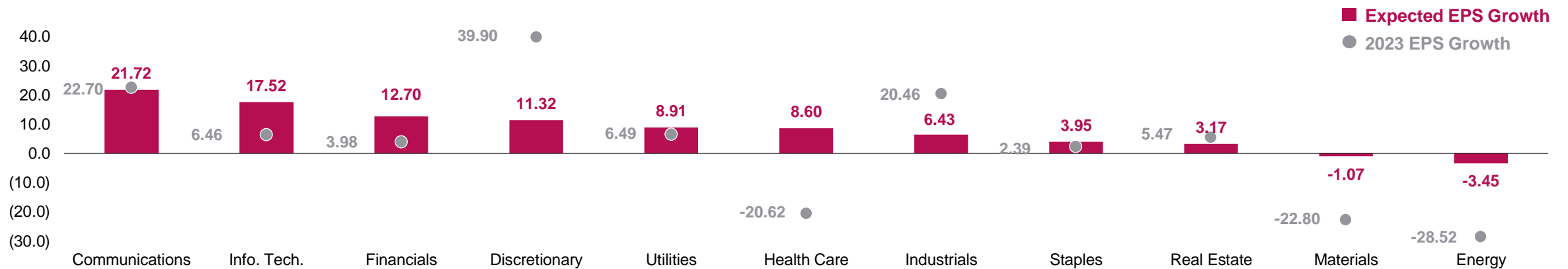
EQUITIES

# Corporate Earnings Growth

## Regions/Styles



## S&P 500 Sectors

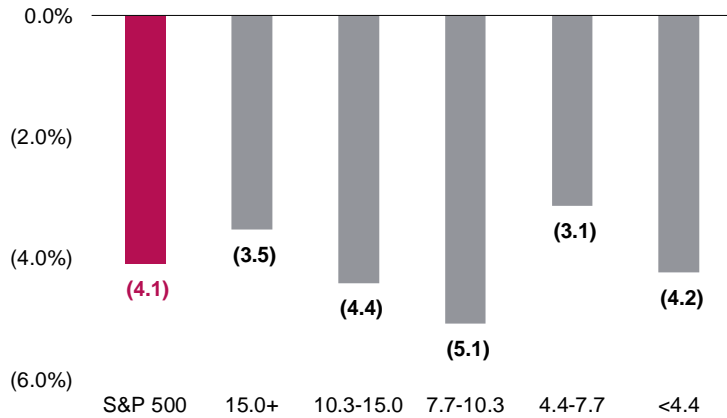


Source: FactSet as of 4/30/24. Expected EPS Growth is defined as the expected % change in the EPS growth from the beginning of the current calendar year through the end of the calendar year. 2023 EPS Growth is defined as the % change in EPS from the beginning of the year through the end of the year. Data provided is for informational use only. See end of report for important additional information. Forecasts/estimates are based on current market conditions, subject to change, and may not necessarily come to pass.

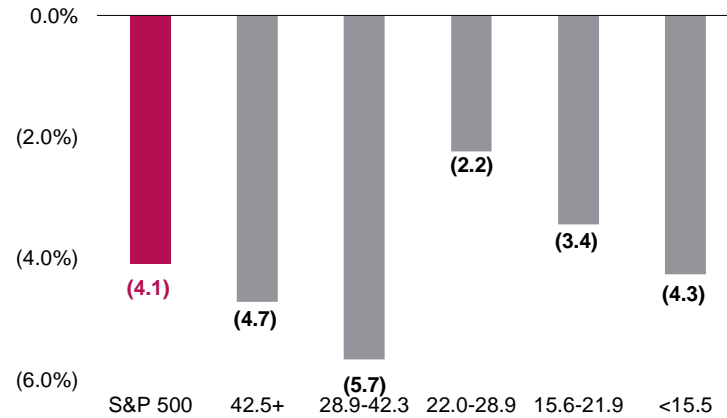
**EQUITIES**

# S&P 500 Index: 1-Month Return Analysis

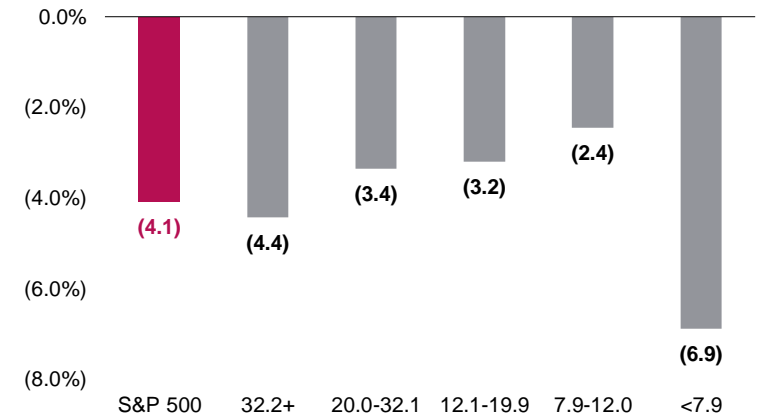
**3-5 Year Earnings Growth**



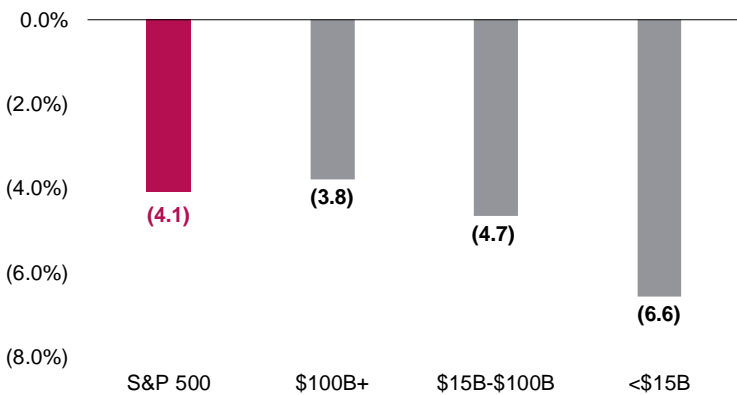
**Trailing 12 Month P/E**



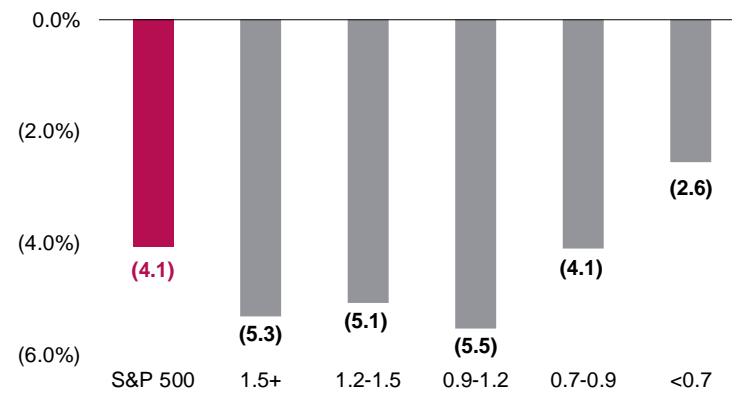
**Return On Equity**



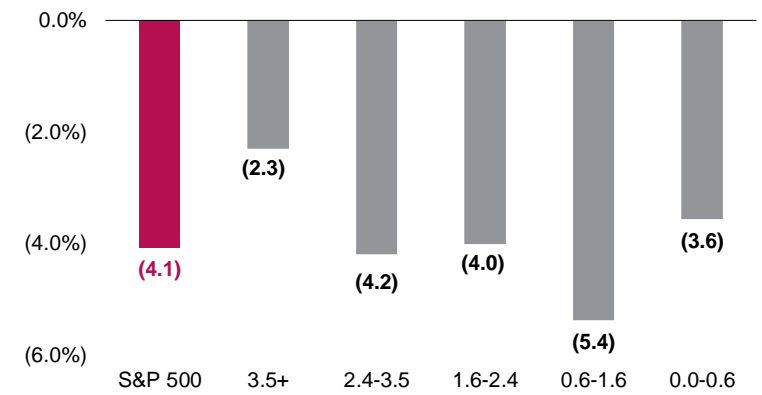
**Market Cap**



**Beta**



**Dividend Yield**



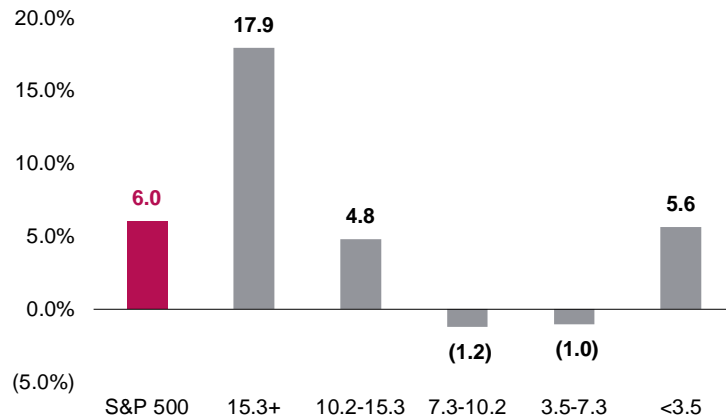
**Past performance is no guarantee of future results.**

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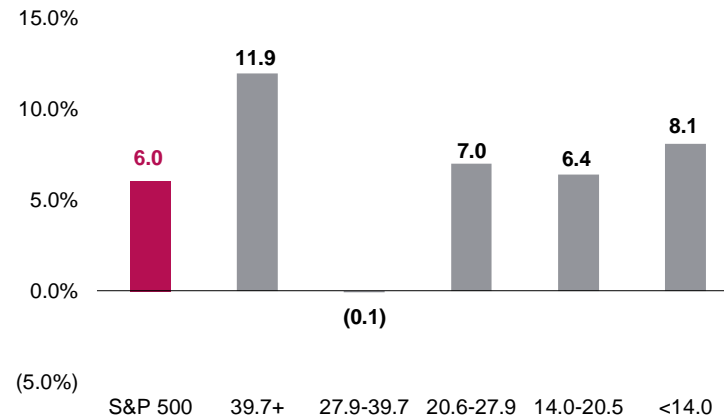
**EQUITIES**

# S&P 500 Index: YTD Analysis

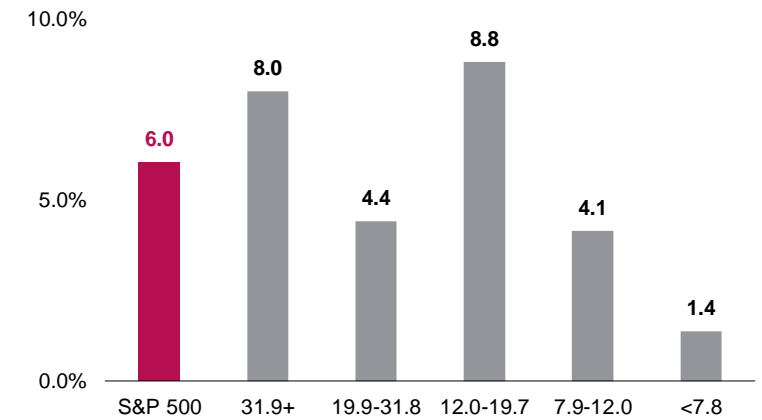
**3-5 Year Earnings Growth**



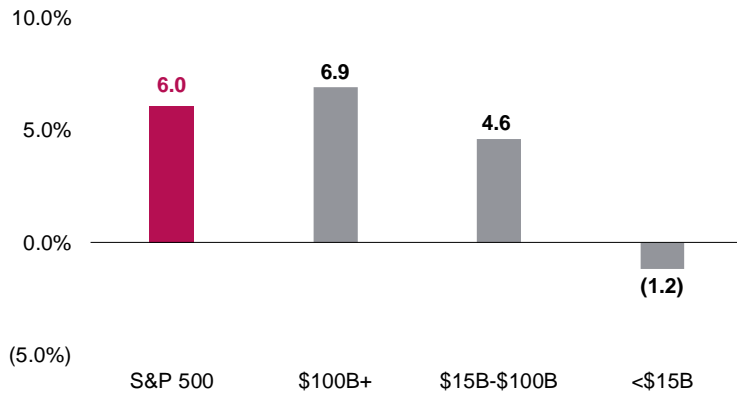
**Trailing 12 Month P/E**



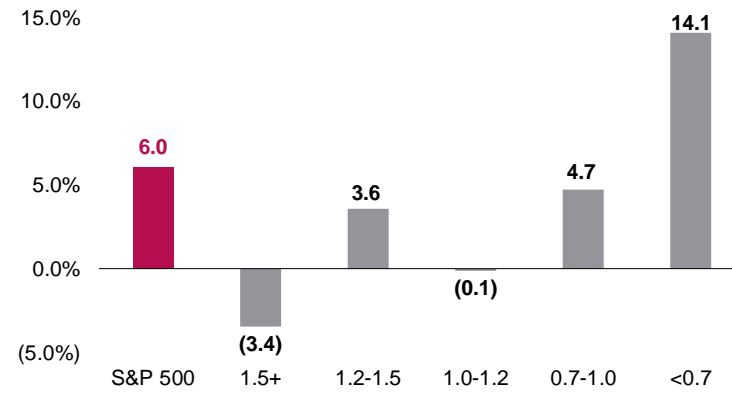
**Return On Equity**



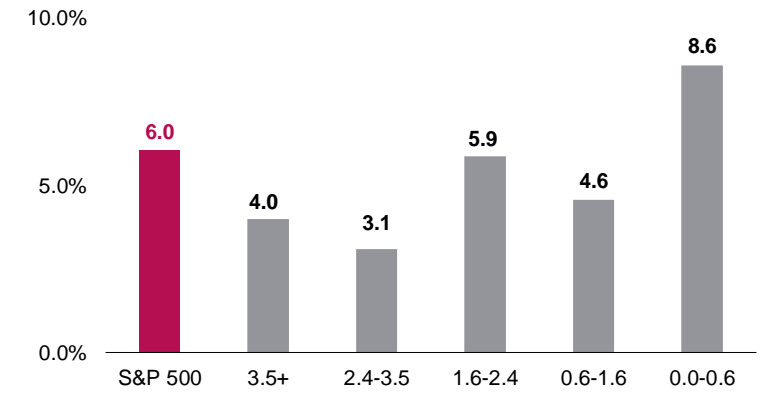
**Market Cap**



**Beta**



**Dividend Yield**



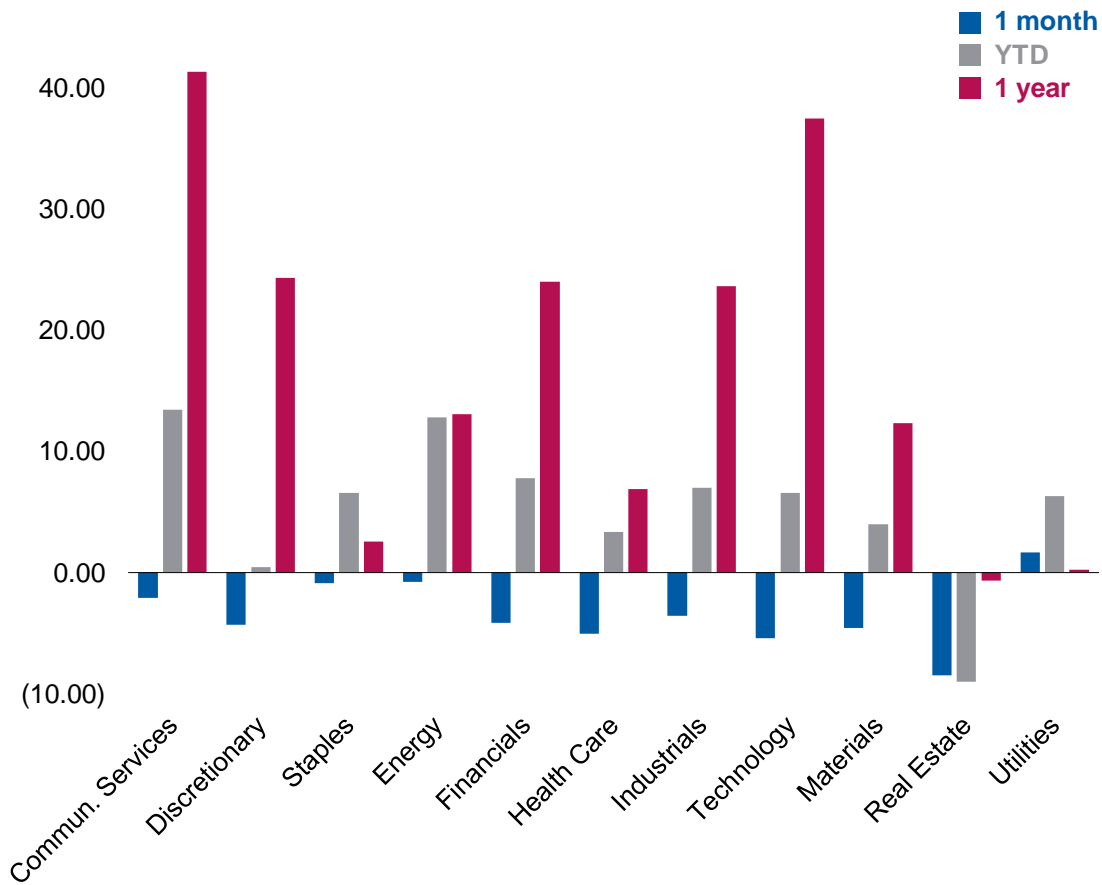
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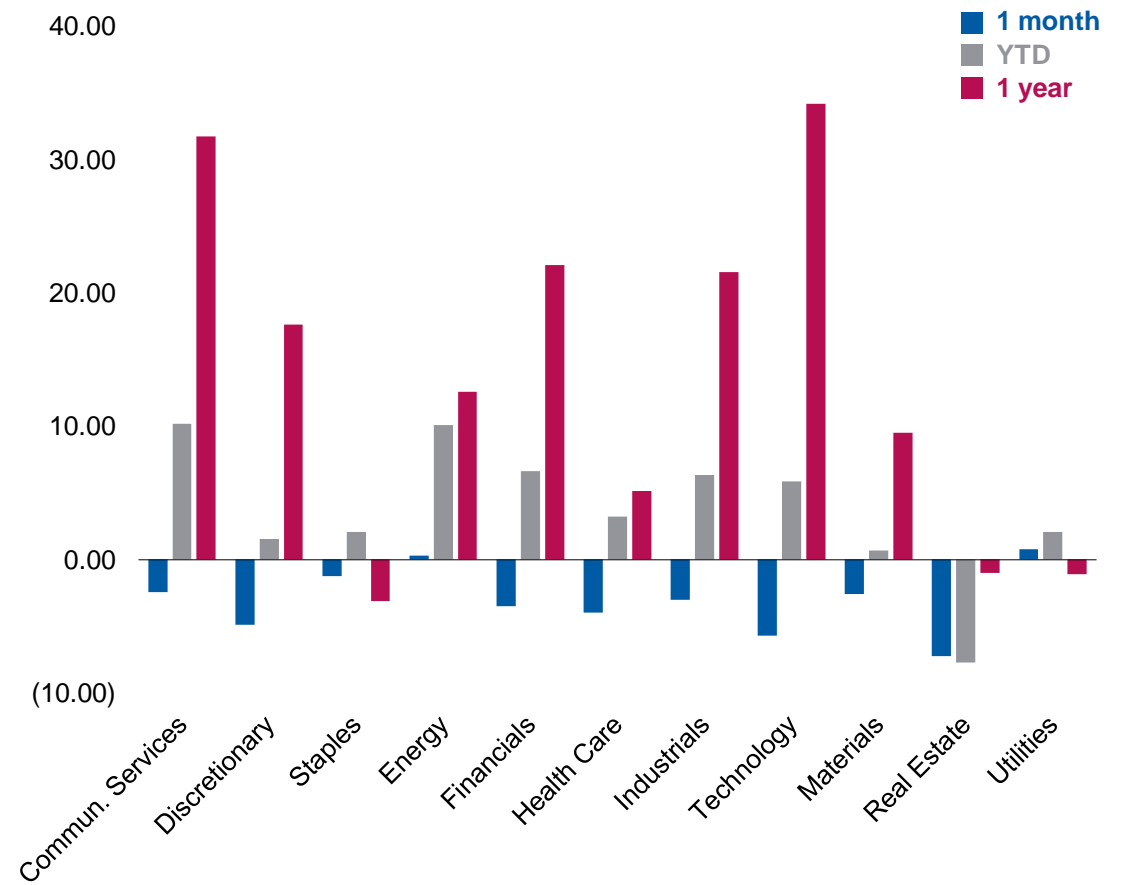
EQUITIES

# Index Sectors: Return Analysis

**S&P 500**  
Return %



**MSCI World**  
Return %



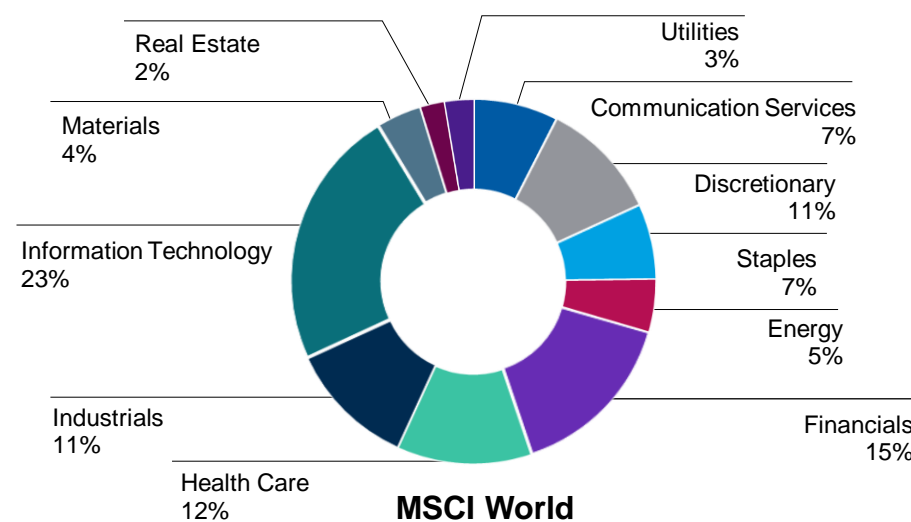
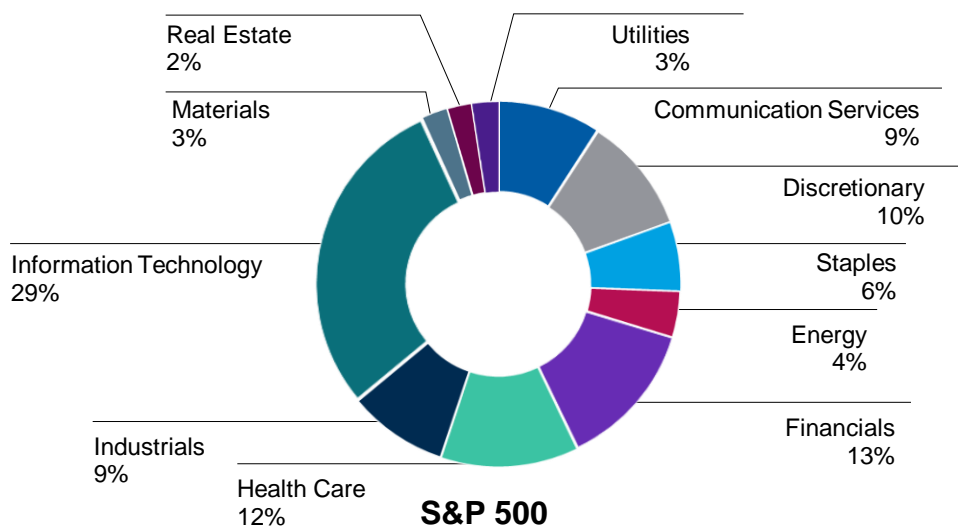
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**EQUITIES**

# Current Characteristics and Sector Weights

	S&P 500	R2000	R1000G	R1000V	MSCI World	MSCI World ex USA Small Cap	MSCI EAFE	MSCI EM	MSCI Europe	MSCI Asia Pac
<b>Number of Holdings</b>	503	1937	440	847	1465	2365	766	1375	420	1462
<b>Maximum Market Cap</b>	\$2,893.62B	\$50.28B	\$2,893.62B	\$858.04B	\$2,748.92B	\$10.45B	\$422.28B	\$597.69B	\$422.28B	\$597.69B
<b>Minimum Market Cap</b>	\$6.37B	\$0.01B	\$0.56B	\$0.34B	\$1.37B	\$0.00B	\$1.37B	\$0.12B	\$2.17B	\$0.12B
<b>Dividend Yield</b>	1.39	1.38	0.70	2.18	1.80	2.79	2.81	2.32	2.91	2.28
<b>NTM PE</b>	19.83	21.70	26.05	15.29	17.80	13.36	14.03	12.20	13.48	14.14
<b>Price to Book</b>	4.50	2.00	11.82	2.43	3.21	1.37	1.89	1.75	2.08	1.69
<b>Price to Cash Flow</b>	15.21	12.05	23.65	10.48	12.87	9.69	9.38	8.19	8.17	10.75
<b>Price to Sales</b>	2.69	1.21	4.50	1.68	2.09	0.87	1.33	1.35	1.33	1.36
<b>Est 3-5 Yr EPS Growth</b>	14.27	13.74	17.50	9.77	12.95	11.65	9.70	20.79	10.32	15.20
<b>5Yr. Div Growth Rate</b>	4.44	6.25	5.40	1.16	2.71	4.90	0.64	2.71	-0.25	0.96



Source: FactSet as of 4/30/24. Data provided is for informational use only. See end of report for important additional information. Forecasts/estimates are based on current market conditions, subject to change, and may not necessarily come to pass.

## EQUITIES

## Asset Class Return Analysis (%)

	1-Mo.	3-Mo.	YTD	1Y	3Y	5Y	10Y	2023	2022	2021	2020	2019	
<b>U.S. Equities</b>	S&P 500	-4.08	4.29	6.04	22.66	8.06	13.19	12.41	26.29	-18.11	28.71	18.40	31.49
	Russell 1000 Defensive	-3.51	1.79	3.84	15.49	6.43	10.90	11.41	20.23	-16.43	26.93	13.93	30.47
	Russell 1000 Dynamic	-4.97	6.55	7.37	30.73	7.46	14.60	12.67	33.34	-21.94	25.57	27.69	32.35
	Russell 2500	-6.70	2.44	-0.24	14.79	-0.69	7.64	8.34	17.42	-18.37	18.18	19.99	27.77
	Russell 1000 Growth	-4.24	4.09	6.69	31.80	8.48	16.46	15.48	42.68	-29.14	27.60	38.49	36.39
	Russell 1000 Value	-4.27	4.22	4.33	13.42	5.17	8.60	8.43	11.46	-7.54	25.16	2.80	26.54
	Russell Mid Cap	-5.40	4.22	2.73	16.35	2.41	9.06	9.40	17.23	-17.32	22.58	17.10	30.54
	Russell 2000	-7.04	1.73	-2.22	13.32	-3.18	5.83	7.22	16.93	-20.44	14.82	19.96	25.52
CBOE S&P 500 Buywrite BXM	-1.36	2.76	4.58	9.12	5.42	5.31	5.69	11.82	-11.37	20.47	-2.75	15.68	
<b>Global Equities</b>	MSCI World	-3.71	3.59	4.84	18.39	5.63	10.46	8.87	23.79	-18.14	21.82	15.90	27.67
	MSCI EAFE	-2.56	2.49	3.08	9.28	2.86	6.18	4.38	18.24	-14.45	11.26	7.82	22.01
	MSCI EM	0.45	7.83	2.83	9.88	-5.69	1.89	2.96	9.83	-20.09	-2.54	18.31	18.44
	MSCI AC Asia Pac	-1.42	5.31	3.54	11.30	-3.20	3.83	4.87	11.45	-17.22	-1.46	19.71	19.36
	MSCI ACWI	-3.30	4.02	4.63	17.46	4.27	9.44	8.19	22.20	-18.36	18.54	16.25	26.60
	MSCI Europe	-1.89	3.36	3.24	7.48	3.96	6.79	3.99	19.89	-15.06	16.30	5.38	23.77
	MSCI World Small Cap	-5.16	1.82	-1.00	10.00	-1.76	6.11	6.56	15.76	-18.76	15.75	15.96	26.19
	MSCI World Ex USA Small Cap	-2.89	1.35	-0.38	5.01	-3.21	4.21	4.26	12.62	-20.59	11.14	12.78	25.41
	FTSE 100	1.82	6.38	4.92	7.25	5.77	4.93	2.71	14.38	-7.01	17.36	-8.73	22.03
	FTSE All Small	1.66	2.83	0.94	7.79	-3.01	5.22	3.88	12.57	-23.06	22.15	10.77	22.63
	STOXX Europe 600	-1.95	3.43	3.19	7.68	3.44	6.86	4.12	19.87	-16.14	16.09	6.83	24.53
	Nikkei 225 Average	-8.50	-1.10	3.43	16.87	-0.95	5.73	7.34	22.05	-19.49	-4.69	23.99	21.35
<b>Sectors</b>	S&P 500 Comm. Services	-2.08	8.00	13.42	41.32	3.47	11.77	8.96	55.80	-39.89	21.57	23.61	32.69
	S&P 500 Cons Disc	-4.33	4.11	0.43	24.33	0.49	9.33	12.21	42.41	-37.03	24.43	33.30	27.94
	S&P 500 Cons Staples	-0.89	4.95	6.56	2.55	6.90	9.22	8.86	0.52	-0.62	18.63	10.75	27.61
	S&P 500 Energy	-0.76	13.24	12.82	13.04	29.41	12.67	4.13	-1.33	65.72	54.64	-33.68	11.81
	S&P 500 Financials	-4.18	4.57	7.76	24.02	5.70	9.89	10.76	12.15	-10.53	35.04	-1.69	32.13
	S&P 500 Health Care	-5.08	0.30	3.32	6.90	6.73	11.48	11.14	2.06	-1.95	26.13	13.45	20.82
	S&P 500 Industrials	-3.58	7.96	7.01	23.63	7.83	11.25	10.56	18.13	-5.48	21.12	11.06	29.37
	S&P 500 Info Tech	-5.43	2.52	6.57	37.46	14.82	22.46	21.25	57.84	-28.19	34.53	43.89	50.29
	S&P 500 Materials	-4.59	8.18	3.95	12.33	4.37	11.44	8.63	12.55	-12.27	27.28	20.73	24.58
	S&P 500 Real Estate	-8.50	-4.47	-9.00	-0.67	-2.20	3.56	6.67	12.36	-26.13	46.19	-2.17	29.01
	S&P 500 Utilities	1.65	9.59	6.29	0.20	3.26	6.02	8.08	-7.08	1.57	17.67	0.48	26.35

Past performance is no guarantee of future results. It is not possible to invest directly in an index. Source: Morningstar as of 4/30/24. Data provided is for informational use only. Results in US Dollar. See end of report for additional information.

EQUITIES

# Asset Class Return Analysis (%)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	YTD 2024
Higher	S&P 500 13.69	Growth 5.67	Small-Cap 21.31	Emerging Markets 37.28	Growth -1.51	Growth 36.39	Growth 38.49	S&P 500 28.71	Value -7.54	Growth 42.68	Growth 6.69
	Value 13.45	International Small-Cap 5.46	Value 17.34	International Small-Cap 31.04	S&P 500 -4.38	S&P 500 31.49	Small-Cap 19.96	Growth 27.60	International -14.45	S&P 500 26.29	S&P 500 6.04
	Mid-Cap 13.22	S&P 500 1.38	Mid-Cap 13.80	Growth 30.21	Value -8.27	Mid-Cap 30.54	S&P 500 18.40	Value 25.16	Mid-Cap -17.32	Global 22.20	Global 4.63
	Growth 13.05	International -0.81	S&P 500 11.96	International 25.03	Mid-Cap -9.06	Global 26.60	Emerging Markets 18.31	Mid-Cap 22.58	S&P 500 -18.11	International 18.24	Value 4.33
	Small-Cap 4.89	Global -2.36	Emerging Markets 11.19	Global 23.97	Global -9.42	Value 26.54	Mid-Cap 17.10	Global 18.54	Global -18.36	Mid-Cap 17.23	International 3.08
	Global 4.16	Mid-Cap -2.44	Global 7.86	S&P 500 21.83	Small-Cap -11.01	Small-Cap 25.52	Global 16.25	Small-Cap 14.82	Emerging Markets -20.09	Small-Cap 16.93	Emerging Markets 2.83
	Emerging Markets -2.19	Value -3.83	Growth 7.08	Mid-Cap 18.52	International -13.79	International Small-Cap 25.41	International Small-Cap 12.78	International 11.26	Small-Cap -20.44	International Small-Cap 12.62	Mid-Cap 2.73
	International -4.90	Small-Cap -4.41	International Small-Cap 4.32	Small-Cap 14.65	Emerging Markets -14.58	International 22.01	International 7.82	International Small-Cap 11.14	International Small-Cap -20.59	Value 11.46	International Small-Cap -0.38
Lower	International Small-Cap -5.34	Emerging Markets -14.92	International 1.00	Value 13.66	International Small-Cap -18.07	Emerging Markets 18.42	Value 2.80	Emerging Markets -2.54	Growth -29.14	Emerging Markets 9.83	Small-Cap -2.22

**Past performance is no guarantee of future results.**

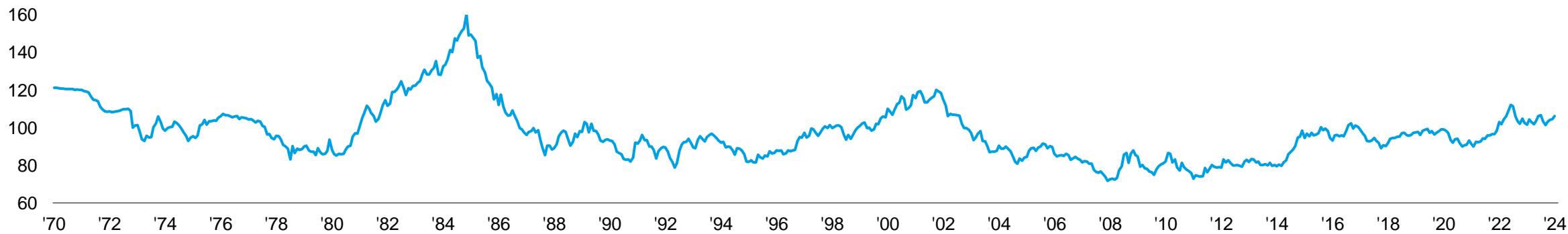
It is not possible to invest directly in an index. In general, Foreign securities are subject to currency, political, economic and market risks. The risks of investing in emerging market countries are greater than investments in foreign developed countries. Investors should carefully review the risks of each asset class prior to investing. Source: Morningstar as of 4/30/24. Data provided is for informational use only. See end of report for important additional information. Small-Cap represented by Russell 2000 Index. Emerging Markets represented by MSCI Emerging Markets Index. Value represented by Russell 1000 Value Index. Mid-Cap represented by Russell Midcap Index. Global represented by MSCI ACWI Index. Growth represented by Russell 1000 Growth Index. International represented by MSCI EAFE Index. International Small-Cap represented by MSCI World Ex USA Small Cap Index.

ALTERNATIVES

# Developed Market Currency Performance and Yields

Currency	Spot Returns vs. USD (%)					Spot Returns vs. EUR (%)					Local Interest Rates (%)
	1-Mo.	YTD	1Y	3Y	5Y	1-Mo.	YTD	1Y	3Y	5Y	1Y
U.S. Dollar (USD)	-	-	-	-	-	1.01	3.31	3.25	4.03	0.94	5.06
Euro (EUR) *	-1.00	-3.20	-3.15	-3.87	-0.94	-	-	-	-	-	3.12
British Pound (GBP)	-0.88	-1.78	-0.38	-3.29	-0.80	0.12	1.48	2.86	0.60	0.13	4.23
Japanese Yen (JPY)	-3.83	-10.41	-13.47	-11.44	-6.68	-2.86	-7.45	-10.66	-7.87	-5.80	0.18
Australian Dollar (AUD)	-0.47	-4.84	-1.74	-5.62	-1.60	0.53	-1.69	1.45	-1.82	-0.67	4.03
Canadian Dollar (CAD)	-1.50	-4.02	-1.28	-3.61	-0.42	-0.51	-0.84	1.93	0.27	0.52	4.72
New Zealand Dollar (NZD)	-1.07	-6.54	-4.19	-6.22	-2.36	-0.07	-3.44	-1.08	-2.44	-1.44	4.92
Norwegian Krone (NOK)	-2.04	-8.29	-3.46	-9.13	-4.83	-1.05	-5.26	-0.32	-5.47	-3.93	4.27
Swedish Krona (SEK)	-2.58	-8.18	-6.55	-8.33	-2.83	-1.60	-5.14	-3.51	-4.63	-1.92	3.42
Danish Krone (DKK)	-0.99	-3.25	-3.21	-3.97	-0.92	0.01	-0.05	-0.07	-0.10	0.02	3.23
Swiss Franc (CHF)	-1.79	-8.23	-2.95	-0.19	2.13	-0.80	-5.19	0.20	3.84	3.09	0.94

## U.S. Dollar Index



Past performance is no guarantee of future results.

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## ALTERNATIVES

## Emerging Market Currency Performance and Yields

Currency	Spot Returns vs. USD (%)					Spot Returns vs. EUR (%)					Local Interest Rates (%)
	1-Mo.	YTD	1Y	3Y	5Y	1-Mo.	YTD	1Y	3Y	5Y	1Y
<b>Asia, excluding Japan</b>											
Chinese Renminbi (CNY)	-0.19	-2.06	-4.33	-3.68	-1.43	0.81	1.18	-1.22	0.20	-0.50	1.67
Malaysian Ringgit (MYR)	-0.83	-3.72	-6.54	-4.96	-2.83	0.17	-0.53	-3.50	-1.13	-1.91	3.27
Indian Rupee (INR)	-0.04	-0.27	-1.92	-3.89	-3.57	0.97	3.04	1.27	-0.02	-2.66	7.01
Indonesian Rupiah (IDR)	-2.49	-5.31	-9.78	-3.87	-2.60	-1.51	-2.17	-6.85	0.01	-1.68	6.28
Philippine Peso (PHP)	-2.69	-4.14	-4.13	-5.89	-2.04	-1.71	-0.97	-1.01	-2.10	-1.11	5.96
Singapore Dollar (SGD)	-1.04	-3.27	-2.17	-0.82	-0.04	-0.04	-0.07	1.01	3.17	0.91	3.41
South Korean Won (KRW)	-2.59	-6.82	-3.16	-6.98	-3.31	-1.61	-3.73	-0.01	-3.23	-2.39	3.40
Taiwanese Dollar (TWD)	-1.72	-5.75	-5.59	-4.98	-1.04	-0.72	-2.63	-2.52	-1.15	-0.11	1.23
Thai Baht (THB)	-1.54	-7.90	-7.86	-5.64	-2.94	-0.55	-4.85	-4.86	-1.84	-2.02	2.11
<b>Latin America</b>											
Brazilian Real (BRL)	-3.42	-6.28	-3.48	1.53	-5.29	-2.45	-3.18	-0.34	5.63	-4.39	9.89
Chilean Peso (CLP)	2.59	-8.66	-16.09	-9.26	-6.60	3.62	-5.64	-13.37	-5.61	-5.72	5.75
Colombian Peso (COP)	-0.69	-0.46	19.76	-1.31	-3.63	0.31	2.83	23.65	2.67	-2.72	8.29
Mexican Peso (MXN)	-2.45	-0.61	5.87	5.79	2.23	-1.46	2.68	9.31	10.06	3.19	10.99
Peruvian New Sol (PEN)	-0.72	-1.20	-1.05	0.38	-2.45	0.28	2.07	2.17	4.42	-1.53	5.48

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## ALTERNATIVES

## Emerging Market Currency Performance and Yields

Currency	Spot Returns vs. USD (%)					Spot Returns vs. EUR (%)					Local Interest Rates (%)
	1-Mo.	YTD	1Y	3Y	5Y	1-Mo.	YTD	1Y	3Y	5Y	1Y
<b>Europe</b>											
Czech Koruna (CZK)	-0.56	-5.08	-9.67	-3.00	-0.57	0.44	-1.93	-6.73	0.91	0.37	3.70
Hungarian Forint (HUF)	-0.19	-5.35	-7.55	-6.46	-4.59	0.81	-2.22	-4.54	-2.69	-3.69	6.57
Polish Zloty (PLN)	-1.45	-2.82	2.55	-2.17	-1.10	-0.45	0.40	5.88	1.78	-0.17	5.07
Romanian Leu (RON)	-1.12	-3.23	-4.06	-4.18	-1.81	-0.12	-0.03	-0.94	-0.32	-0.88	5.81
Russian Ruble (RUB)	-0.96	-4.36	-14.20	-7.05	-7.13	0.04	-1.19	-11.41	-3.30	-6.25	--
Turkish New Lira (TRY)	-0.08	-8.78	-39.93	-36.49	-28.69	0.93	-5.76	-37.98	-33.94	-28.02	42.49
<b>Middle East and Africa</b>											
Ghanaian Cedi (GHS)	-3.07	-12.84	-13.68	-25.01	-17.74	-2.10	-9.95	-10.87	-21.99	-16.97	17.90
Israeli Shekel (ILS)	-1.84	-3.52	-2.57	-4.57	-0.71	-0.85	-0.33	0.59	-0.73	0.22	3.94
Kenyan Shilling (KES)	-2.41	16.30	0.74	-7.21	-5.63	-1.42	20.15	4.01	-3.47	-4.74	16.68
Moroccan Dirham (MAD)	0.12	-2.35	-0.58	-4.01	-0.91	1.12	0.89	2.65	-0.14	0.02	2.98
Nigerian Naira (NGN)	-4.40	-34.25	-66.19	-33.10	-23.42	-3.43	-32.07	-65.09	-30.40	-22.70	11.54
South African Rand (ZAR)	0.53	-2.91	-2.93	-8.33	-5.31	1.55	0.30	0.22	-4.64	-4.42	9.21
Ugandan Shilling (UGX)	2.18	-0.71	-1.89	-2.07	-0.25	3.21	2.58	1.30	1.87	0.69	13.25
Zambian Kwacha (ZMK)	-6.97	-3.98	-33.77	-5.91	-13.82	-6.03	-0.80	-31.62	-2.12	-13.01	15.45

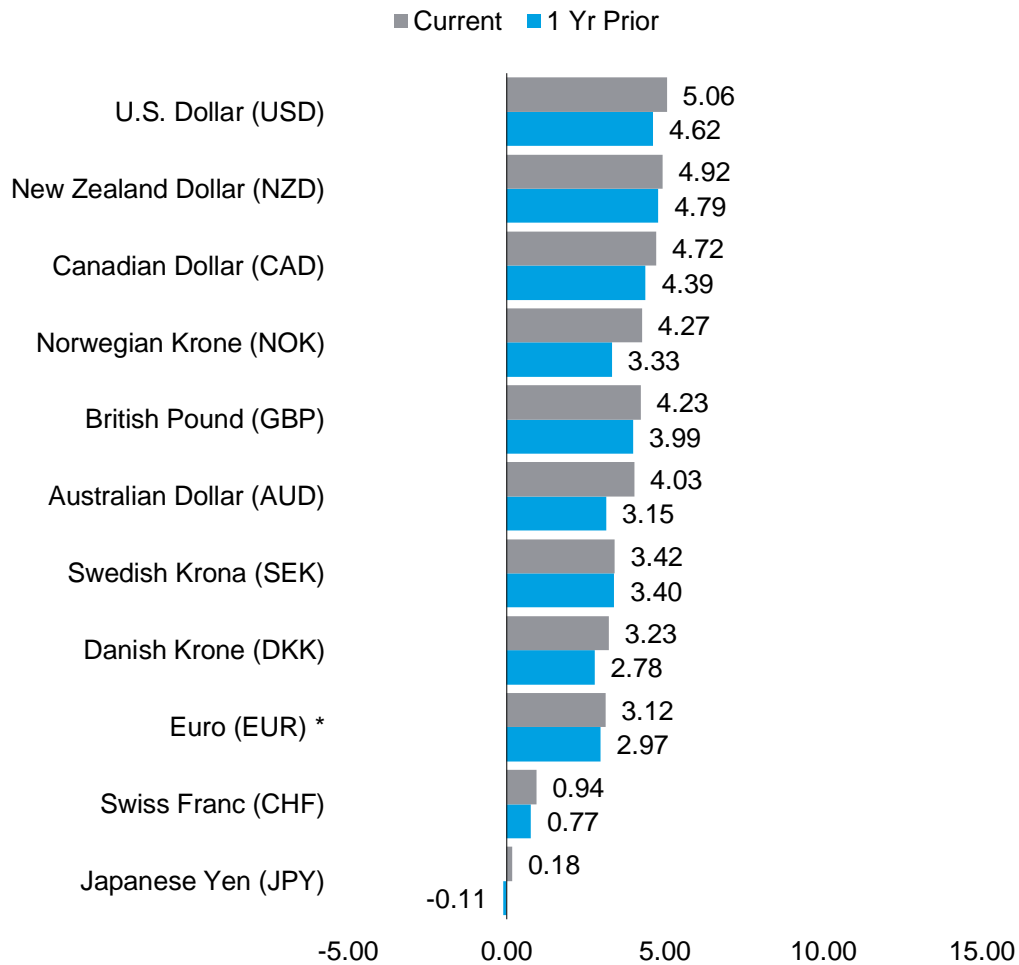
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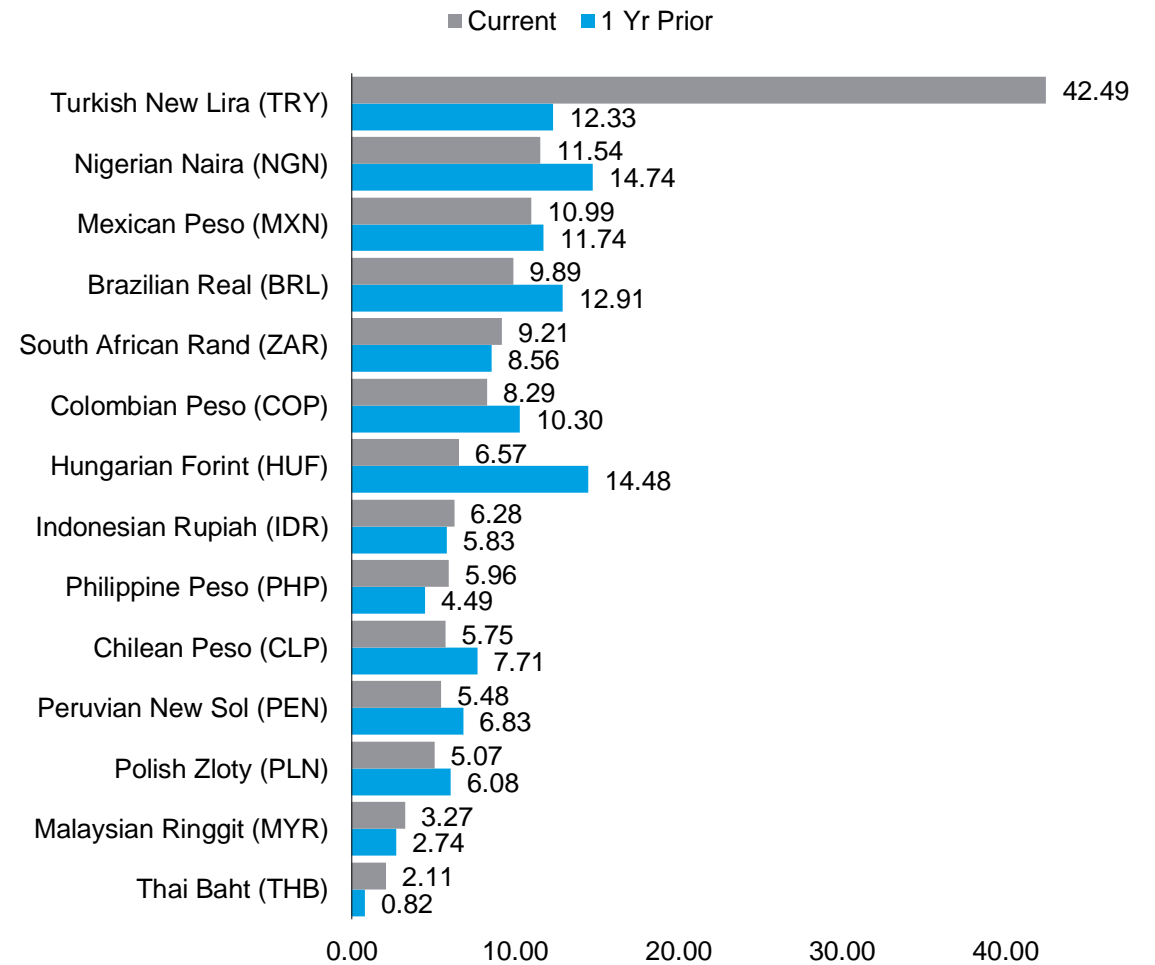
ALTERNATIVES

# Local Sovereign Currency Yields

Developed Market Local Interest Rates % (1 Year)



Emerging Market Local Interest Rates % (1 Year)



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It is not possible to invest directly in an index. \*German Rate. Source: Bloomberg as 3/31/24 (yields lagging 1 month). Data provided is for informational use only. See end of report for important additional information.

## ALTERNATIVES

## Commodities Return Analysis (%)

Index	1-Mo.	3-Mo.	YTD	1Y	3Y	5Y
<b>Bloomberg Commodity Index</b>	<b>2.69</b>	<b>4.53</b>	<b>4.94</b>	<b>2.89</b>	<b>7.19</b>	<b>7.04</b>
<b>Bloomberg Sub Agriculture</b>	<b>-1.01</b>	<b>-2.93</b>	<b>-3.93</b>	<b>-6.68</b>	<b>3.32</b>	<b>11.21</b>
Coffee	16.34	16.59	20.73	32.48	21.81	17.63
Corn	-1.15	-4.42	-8.64	-17.76	-4.55	7.41
Cotton	-15.48	-9.20	-4.06	-0.52	5.76	4.90
Soybean	-2.98	-5.13	-10.23	-5.49	2.79	12.45
Soybean Oil	-10.86	-7.24	-10.97	-9.27	-2.37	15.23
Sugar	-11.95	-14.57	0.65	-18.17	12.98	12.53
Wheat	5.45	-0.43	-5.16	-11.79	-11.94	1.96
<b>Bloomberg Sub Energy</b>	<b>0.37</b>	<b>2.37</b>	<b>5.23</b>	<b>1.90</b>	<b>10.80</b>	<b>-1.98</b>
Brent Crude	0.70	10.50	16.44	20.28	27.04	13.31
Heating Oil	-2.47	-1.68	10.27	33.51	36.39	15.10
Natural Gas	2.41	-19.49	-26.99	-47.75	-29.51	-30.57
Unleaded Gas	0.22	12.83	18.99	29.27	33.22	18.04
WTI Crude Oil	0.03	10.97	17.74	19.21	21.01	2.17

Index	1-Mo.	3-Mo.	YTD	1Y	3Y	5Y
<b>Bloomberg Sub Industrial Metals</b>	<b>13.91</b>	<b>15.27</b>	<b>13.08</b>	<b>8.66</b>	<b>3.77</b>	<b>8.34</b>
Aluminum	10.74	13.25	8.25	8.54	1.81	5.54
Copper	13.81	17.04	18.07	19.70	2.32	10.16
Nickel	15.08	18.50	15.91	-20.49	3.70	9.89
Zinc	20.74	16.02	10.27	13.94	3.96	3.38
<b>Bloomberg Sub Precious Metals</b>	<b>4.09</b>	<b>12.38</b>	<b>10.93</b>	<b>12.52</b>	<b>6.75</b>	<b>11.13</b>
Gold	3.38	11.78	11.00	14.65	8.59	11.15
Platinum	3.44	2.00	-5.28	-10.97	-6.30	1.58
Silver	6.44	14.34	10.52	5.23	0.51	10.88
<b>Bloomberg Sub Livestock</b>	<b>-0.82</b>	<b>1.19</b>	<b>10.06</b>	<b>10.86</b>	<b>5.01</b>	<b>-2.37</b>
Lean Hogs	1.50	1.79	16.69	12.81	-1.02	-7.74
Live Cattle	-2.46	0.36	6.36	9.28	8.21	0.72

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ALTERNATIVES

# Asset Class Return Analysis (%)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	YTD 2024
Higher	Managed Futures 18.37	Multi-Strategy 3.84	MLP 18.31	Long/Short Equity 13.41	Fixed Income Arbitrage 1.10	Long/Short Equity 12.17	Convertible Arbitrage 10.25	MLP 40.17	MLP 30.92	MLP 26.56	MLP 13.89
	Multi-Strategy 6.09	Long/Short Equity 3.55	Commodity 11.77	Currency 11.54	Global Macro -0.11	Global Macro 10.38	Long/Short Equity 7.86	Commodity 27.11	Managed Futures 19.12	Long/Short Equity 10.93	Managed Futures 10.12
	Long/Short Equity 5.55	Equity Market Neutral 1.69	Convertible Arbitrage 6.60	Equity Market Neutral 8.45	Multi-Strategy -1.05	Managed Futures 9.01	Event Driven 6.95	Event Driven 12.92	Commodity 16.09	Event Driven 9.30	Long/Short Equity 6.72
	MLP 4.80	Convertible Arbitrage 0.81	Multi-Strategy 4.41	Multi-Strategy 6.83	Convertible Arbitrage -2.26	Event Driven 8.22	Global Macro 6.53	Global Macro 9.60	Global Macro 15.89	Currency 8.44	Global Macro 6.45
	Fixed Income Arbitrage 4.37	Fixed Income Arbitrage 0.59	Fixed Income Arbitrage 4.29	Fixed Income Arbitrage 6.52	Currency -3.33	Convertible Arbitrage 8.15	Multi-Strategy 5.60	Long/Short Equity 8.35	Equity Market Neutral 1.71	Multi-Strategy 8.04	Multi-Strategy 4.28
	Global Macro 3.11	Global Macro 0.18	Global Macro 3.58	Event Driven 6.30	Event Driven -3.95	Commodity 7.69	Fixed Income Arbitrage 3.64	Managed Futures 8.19	Multi-Strategy 1.27	Fixed Income Arbitrage 7.71	Event Driven 4.19
	Event Driven 1.57	Managed Futures -0.93	Currency 3.54	Convertible Arbitrage 5.01	Long/Short Equity -4.62	Multi-Strategy 7.25	Managed Futures 1.86	Multi-Strategy 6.97	Fixed Income Arbitrage -0.97	Equity Market Neutral 6.73	Equity Market Neutral 3.14
	Equity Market Neutral -1.19	Event Driven -6.29	Event Driven 2.68	Managed Futures 3.29	Equity Market Neutral -5.00	MLP 6.56	Currency 1.73	Convertible Arbitrage 6.33	Convertible Arbitrage -3.32	Convertible Arbitrage 4.04	Fixed Income Arbitrage 2.64
	Convertible Arbitrage -1.68	Currency -7.61	Long/Short Equity -3.43	Global Macro 2.14	Managed Futures -6.67	Fixed Income Arbitrage 6.10	Equity Market Neutral 1.69	Equity Market Neutral 6.16	Long/Short Equity -5.77	Managed Futures -2.78	Commodity 2.19
	Currency -7.03	Commodity -24.66	Equity Market Neutral -4.58	Commodity 1.70	Commodity -11.25	Currency 5.20	Commodity -3.12	Fixed Income Arbitrage 5.22	Event Driven -6.80	Global Macro -5.19	Convertible Arbitrage 1.24
Lower	Commodity -17.01	MLP -32.59	Managed Futures -6.84	MLP -6.52	MLP -12.42	Equity Market Neutral 1.58	MLP -28.69	Currency -3.09	Currency -7.14	Commodity -7.91	Currency -1.12

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TRANSITION

# Major Asset Classes Correlation Table

	S&P 500	International	Emerging Markets	Small Cap	U.S. Aggregate	Municipal	High Yield	Bank Loan	Commodities
S&P 500	1.00	0.87	0.69	0.87	0.37	0.38	0.80	0.60	0.41
International	0.90	1.00	0.80	0.78	0.39	0.45	0.81	0.62	0.46
Emerging Markets	0.73	0.82	1.00	0.64	0.39	0.43	0.71	0.58	0.49
Small Cap	0.88	0.86	0.75	1.00	0.27	0.31	0.77	0.64	0.40
U.S. Aggregate	0.49	0.52	0.47	0.40	1.00	0.86	0.48	0.15	-0.07
Municipal	0.52	0.60	0.56	0.48	0.86	1.00	0.54	0.28	0.02
High Yield	0.83	0.83	0.72	0.84	0.57	0.67	1.00	0.80	0.51
Bank Loan	0.61	0.61	0.61	0.68	0.20	0.37	0.81	1.00	0.50
Commodities	0.44	0.50	0.50	0.45	-0.05	0.08	0.50	0.50	1.00

5 Years ended April 30, 2024
  10 Years ended April 30, 2024

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It is not possible to invest directly in an index. Source: Morningstar as of 4/30/24. The table above shows the return correlation between various asset classes (represented by market indices as defined in this disclosure) over the past five and ten years. Data provided is for informational use only. See end of report for important additional information. S&P 500 is represented by the S&P 500 Index. International is represented by MSCI EAFE Index. Emerging Markets is represented by MSCI Emerging Markets Index. Small-Cap is represented by Russell 2000 Index. US Aggregate is represented by the Bloomberg Barclays Capital US Aggregate Bond Index. Municipal is represented by Bloomberg Barclays Municipal Bond Index. High Yield is represented by ICE BofA US High Yield Index. Bank Loan is represented by Morningstar LSTA U.S. Leveraged Loan Index. Commodities is represented by Bloomberg Commodity Index.

## TRANSITION

## Fund and ETF Flows by Category

## Top 10 Open-End Mutual Fund Categories by Monthly Flows (\$MM)

	1 Mo.	3 Mo.	12 Mo.
Intermediate Core Bond	13,484	37,562	90,441
Intermediate Core-Plus Bond	4,827	17,575	37,880
Multisector Bond	3,327	12,288	23,202
Global Bond-USD Hedged	2,613	7,914	14,038
Muni National Interim	1,351	4,417	2,916
High Yield Muni	1,053	4,547	2,340
High Yield Bond	935	8,185	7,129
Corporate Bond	886	1,306	1,700
Long Government	832	-1,052	6,505
Nontraditional Bond	772	2,933	-716

## Bottom 10 Open-End Mutual Fund Categories by Monthly Flows (\$MM)

	1 Mo.	3 Mo.	12 Mo.
Mid-Cap Value	-1,591	-6,209	-21,096
Mid-Cap Growth	-1,660	-7,159	-22,339
Diversified Emerging Mkts	-1,706	3,433	-6,269
Global Allocation	-1,909	-6,058	-17,381
Moderate Allocation	-2,033	-6,671	-31,877
Large Blend	-2,410	-4,669	-60,859
Foreign Large Blend	-2,463	1,797	10,950
Foreign Large Growth	-2,505	-5,891	-22,867
Large Value	-4,828	-13,795	-73,860
Large Growth	-9,327	-30,773	-97,985

## Top 10 Exchange-Traded Fund Categories by Monthly Flows (\$MM)

	1 Mo.	3 Mo.	12 Mo.
Large Blend	32,431	52,364	262,442
Large Growth	10,464	24,741	59,973
Foreign Large Blend	8,632	14,386	47,902
Digital Assets	6,241	13,152	14,409
Intermediate Government	4,778	10,926	23,799
Technology	4,591	10,922	18,603
Intermediate Core Bond	3,537	10,765	51,356
Large Value	3,173	3,523	5,065
Small Blend	2,845	2,163	23,191
Mid-Cap Blend	2,494	5,011	14,481

## Bottom 10 Exchange-Traded Fund Categories by Monthly Flows (\$MM)

	1 Mo.	3 Mo.	12 Mo.
Foreign Small/Mid Blend	-296	-713	-1,695
Consumer Cyclical	-297	709	3,330
China Region	-526	-1,007	-3,748
Financial	-580	-2,038	-2,590
Utilities	-681	-2,351	-3,721
Health	-723	-73	-7,262
Short-Term Inflation Protected Bd	-926	-2,066	-9,960
Emerging Markets Bond	-999	-2,207	-492
Foreign Large Value	-1,062	-734	3,688
Short Government	-1,135	-4,405	-5,295

Source: Morningstar as of 3/31/24. Flow data is on a one month lag. Data provided is for informational use only. See end of report for important additional information.

TRANSITION

# Major Asset Class Return Analysis (%)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	YTD 2024
Higher	S&P 500 13.69	Municipal 3.30	Small-Cap 21.31	Emerging Markets 37.28	Municipal 1.28	S&P 500 31.49	Small-Cap 19.96	S&P 500 28.71	Commodities 16.09	S&P 500 26.29	S&P 500 6.04
	Municipal 9.05	S&P 500 1.38	High Yield 17.49	International 25.03	Bank Loan 0.44	Small-Cap 25.52	S&P 500 18.40	Commodities 27.11	Bank Loan -0.77	International 18.24	Commodities 4.94
	US Agg 5.97	US Agg 0.55	S&P 500 11.96	S&P 500 21.83	US Agg 0.01	International 22.01	Emerging Markets 18.31	Small-Cap 14.82	Municipal -8.53	Small-Cap 16.93	International 3.08
	Small-Cap 4.89	Bank Loan -0.69	Commodities 11.77	Small-Cap 14.65	High Yield -2.26	Asset Allocation 18.70	Asset Allocation 11.95	Asset Allocation 11.43	High Yield -11.22	Asset Allocation 14.09	Bank Loan 3.07
	Asset Allocation 4.28	International -0.81	Emerging Markets 11.19	Asset Allocation 14.02	S&P 500 -4.38	Emerging Markets 18.42	International 7.82	International 11.26	US Agg -13.01	High Yield 13.46	Emerging Markets 2.83
	High Yield 2.50	Asset Allocation -2.03	Bank Loan 10.16	High Yield 7.48	Asset Allocation -5.40	High Yield 14.41	US Agg 7.51	High Yield 5.36	Asset Allocation -13.04	Bank Loan 13.32	Asset Allocation 1.44
	Bank Loan 1.60	Small-Cap -4.41	Asset Allocation 8.61	Municipal 5.45	Small-Cap -11.01	US Agg 8.72	High Yield 6.17	Bank Loan 5.20	International -14.45	Emerging Markets 9.83	High Yield 0.49
	Emerging Markets -2.19	High Yield -4.64	US Agg 2.65	Bank Loan 4.12	Commodities -11.25	Bank Loan 8.64	Municipal 5.21	Municipal 1.52	S&P 500 -18.11	Municipal 6.40	Municipal -1.62
	International -4.90	Emerging Markets -14.92	International 1.00	US Agg 3.54	International -13.79	Commodities 7.69	Bank Loan 3.12	US Agg -1.54	Emerging Markets -20.09	US Agg 5.53	Small-Cap -2.22
Lower	Commodities -17.01	Commodities -24.66	Municipal 0.25	Commodities 1.70	Emerging Markets -14.57	Municipal 7.54	Commodities -3.12	Emerging Markets -2.54	Small-Cap -20.44	Commodities -7.91	US Agg -3.28

**Past performance is no guarantee of future results.** It is not possible to invest directly in an index. Source: Morningstar as of 4/30/24. Data provided is for informational use only. Investing involves risks including the possible loss of principal. Investors should carefully review the risks of each asset class prior to investing. See end of report for important additional information. S&P 500 represented by the S&P 500 Index. International represented by MSCI EAFE Index. Emerging Markets represented by MSCI Emerging Markets Index. Small-Cap represented by Russell 2000 Index. US Aggregate represented by the Bloomberg Capital US Aggregate Bond Index. Municipal represented by Bloomberg Municipal Bond Index. High Yield represented by ICE BofA US High Yield Index. Bank Loan represented by Morningstar LSTA U.S. Leveraged Loan Index. Commodity represented by Bloomberg Commodity Index. The Asset Allocation portfolio assumes the following weights: 25% in the S&P 500 Index, 15% in the MSCI EAFE Index, 5% in the MSCI Emerging Markets Index, 10% in the Russell 2000 Index, 25% in the Bloomberg Capital US Aggregate Bond Index, 5% in the Bloomberg Municipal Bond Index, 5% in the Bloomberg US Corporate High Yield Index, 5% in the Morningstar LSTA U.S. Leveraged Loan Index, and 5% in the Bloomberg Commodity Index.



## Capital Markets Group

The Capital Markets Group provides top-down, macro analysis of equity, fixed income and alternative assets, designed to help clients capitalize on evolving economic dynamics and market dislocations globally. The Capital Markets Group supports the MSIM Portfolio Solutions Group, which builds custom multi-asset investment solutions across a range of broadly-diversified to hyper-focused portfolios.



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*Chief Investment  
Officer  
Managing Director*



**EWA TUREK  
SEMELROTH**  
*Executive Director*



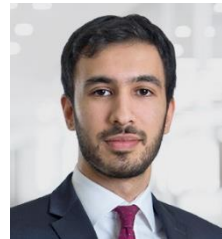
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*Senior Portfolio Manager, Global Multi-Asset team*

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**CRAIG BRANDON**

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**ANDREW SLIMMON**

*Senior Portfolio Manager and Head of Applied Equity Advisors*

**STEVEN TURNER**

*Head of Investment Selection, Portfolio Solutions Group*

# Glossary of Terms

## Index Definitions

**Bloomberg Commodity Index** is a broadly diversified index tracking futures contracts on physical commodities.

**Bloomberg Euro-Aggregate Corporates Index** consists of bonds issued in the euro or the legacy currencies of the 16 sovereign countries participating in the European Monetary Union (EMU)

**Bloomberg Global Aggregate Ex-USD Index** is a broad-based measure of global Investment Grade fixed-rate debt investments, excluding USD-denominated debt.

**Bloomberg High Yield Municipal Bond Index** is an unmanaged index of non-Investment Grade Municipal bonds traded in the U.S.

**Bloomberg Municipal Bond Index** is an unmanaged index of Municipal bonds traded in the U.S.

**Bloomberg Pan-European High Yield Index** covers the universe of fixed-rate, sub-investment-grade debt denominated in euros or other European currencies (except Swiss francs).

**Bloomberg Taxable Municipal Bond Index** is an unmanaged index of Taxable Municipal bonds traded in the U.S.

**Bloomberg U.S. Agency Index** measures agency securities issued by U.S. government agencies, quasi-federal corporations, and corporate or foreign debt guaranteed by the U.S. government.

**Bloomberg U.S. Aggregate Index** is an unmanaged index of domestic investment-grade bonds, including corporate, government and mortgage-backed securities.

**Bloomberg U.S. Asset Backed Securities (ABS) Index** measures ABS with the following collateral type: credit and charge card, auto, and utility loans.

**Bloomberg U.S. CMBS Index** measures the market of conduit and fusion CMBS deals with a minimum current deal size of \$300mn.

**Bloomberg U.S. Corporate Investment Grade Index** is an unmanaged index that measures the performance of investment-grade corporate securities within the Barclays U.S. Aggregate Index.

**Bloomberg U.S. Mortgage Backed Securities (MBS) Index** measures agency mortgage-backed pass-through securities issued by GNMA, FNMA, and FHLMC.

**Bloomberg U.S. Treasury Index** measures public debt instruments issued by the U.S. Treasury.

**CBOE Volatility Index (VIX)** tracks the implied volatilities of a wide range of S&P 500 Index options.

**CBOE S&P 500 BuyWrite Index** measures the performance of a hypothetical buy-write strategy on the S&P 500 Index.

**ICE BofA US Inflation-Linked Treasury Index** tracks the performance of USD denominated inflation linked sovereign debt publicly issued by the US government.

**ICE BofA Fixed Rate Preferred Securities Index** is an unmanaged index of fixed-rate, preferred securities issued in the U.S.

**ICE BofA European Union Government Bond Index** tracks the performance of sovereign debt publicly issued by countries that are members of the European Union.

**ICE BofA U.S. High Yield Index** is an unmanaged index of below-investment grade U.S. corporate bonds.

**ICE BofA Developed Markets High Yield Ex-Subordinated Financial Index (Hedged)** is an unmanaged index of global developed market below investment grade corporate bonds, USD hedged.

**FTSE 100 Index** is an unmanaged market-capitalization weighted index representing the performance of the 100 largest UK listed blue chip companies, which pass screening for size and liquidity.

**FTSE All Small Index** consists of all the companies in the FTSE SmallCap and FTSE Fledgling indices.

**FTSE World Government Bond Index (WGBI)** measures the performance of fixed-rate, local currency, investment-grade sovereign bonds.

**J.P. Morgan Corporate Emerging Markets Bond Index (CEMBI) Broad Diversified** is an unmanaged index of USD-denominated emerging market corporate bonds.

**J.P. Morgan Emerging Markets Bond Index (EMBI) Global Diversified** is an unmanaged index of USD-denominated bonds with maturities of more than one year issued by emerging markets governments.

**J.P. Morgan Government Bond Index-Emerging Markets (GBI-EM) Global Diversified** is an unmanaged index of local-currency bonds with maturities of more than one year issued by emerging market governments.

**Morgan Stanley Capital International (MSCI) Emerging Markets Index** is an unmanaged index of emerging markets common stocks

**MSCI EMU Index (European Economic and Monetary Union)** captures large and mid cap representation across the 10 Developed Markets countries in the EMU. With 229 constituents, the index covers approximately 85% of the free float-adjusted market capitalization of the EMU.

**Morgan Stanley Capital International All Country Asia Pacific Index (MSCI AC Asia Pac)** is an unmanaged total return, capitalization-weighted index that measures the performance of stock markets in 15 Pacific region countries, including Australia, China, Hong Kong, India, Indonesia, Japan, Korea, Malaysia, New Zealand, Pakistan, the Philippines, Singapore, Sri Lanka, Taiwan and Thailand.

**Morgan Stanley Capital International (MSCI) Japan Index** is an unmanaged index designed to measure the performance of the large and mid cap segments of the Japan market.

**Morgan Stanley Capital International (MSCI) World Index** is an unmanaged index of equity securities in the developed markets.

**Morgan Stanley Capital International (MSCI) World ex USA Small Cap Index** is an unmanaged index of small-cap equity securities in the developed markets, excluding the United States.

**Morgan Stanley Capital International All Country World (MSCI AC World) Index** is an unmanaged free float-adjusted market-capitalization-weighted index designed to measure the equity market performance of developed and emerging markets.

**Morgan Stanley Capital International Europe (MSCI Europe) Index** is an unmanaged free float-adjusted market-capitalization-weighted index designed to measure the equity market performance of the developed markets in Europe.

## ADDITIONAL INFORMATION

## Glossary of Terms and About Risk

## Index Definitions (cont.)

**Morgan Stanley Capital International Europe, Australasia, Far East (MSCI EAFE) Index** is an unmanaged index of equities in the developed markets, excluding the U.S. and Canada.

**MSCI USA Index** is designed to measure the performance of the large and mid cap segments of the US market. With 625 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in the US.

**Morningstar LSTA U.S. Leveraged Loan Index** is an unmanaged index of the institutional leveraged loan market. Prior to August 29, 2022 the index name was S&P/LSTA Leveraged Loan Index.

**Nikkei 225 Stock Average Index** is unmanaged price-weighted index of 225 top-rated Japanese companies listed in the First Section of the Tokyo Stock Exchange.

**Russell 1000 Index** is an unmanaged index of 1,000 U.S. large-cap stocks.

**Russell 1000 Growth Index** is an unmanaged index of 1,000 U.S. large-cap growth stocks.

**Russell 1000 Value Index** is an unmanaged index of 1,000 U.S. large-cap value stocks.

**Russell 2000 Index** is an unmanaged index of 2,000 U.S. small-cap stocks.

**Russell 2500 Index** is an unmanaged index of approximately 2,500 U.S. small- and mid-cap U.S. stocks.

**Russell Midcap Index** is an unmanaged index of U.S. mid-cap stocks.

**Standard & Poor's 500 Index** is an unmanaged index of large-cap stocks commonly used as a measure of U.S. stock market performance.

**STOXX Europe 600 Index** is a fixed component number index designed to provide a broad yet liquid representation of large, mid and small capitalization companies in Europe.

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## Terms

**Municipal-to-Treasury Yield Ratios** are relative value indicators that measure the richness or cheapness of Municipal bond yields to comparable maturity Treasury bond yields.

**Yield to Worst** is a measure which reflects the lowest potential yield earned on a bond without the issuer defaulting. The yield to worst is calculated by making worst-case scenario assumptions by calculating the returns that would be received if provisions, including prepayment, call or sinking fund, are used by the issuer.

## About Risk

**Bank Loans** – There can be no assurance that the liquidation of collateral securing an investment will satisfy the issuer's obligation in the event of non-payment or that collateral can be readily liquidated. The ability to realize the benefits of any collateral may be delayed or limited. **Commodities** – The value of commodities investments will generally be affected by overall market movements and factors specific to a particular industry or commodity including weather, embargoes, tariffs, or health, political, international and regulatory developments. **Credit** – Investments in income securities may be affected by changes in the creditworthiness of the issuer and are subject to the risk of non-payment of principal and interest. The value of income securities also may decline because of real or perceived concerns about the issuer's ability to make principal and interest payments. **Duration** – Securities with longer durations tend to be more sensitive to interest rate changes than securities with shorter durations. Equity – Equity investment values are sensitive to stock market volatility. **Foreign** – Investments in foreign instruments or currencies can involve greater risk and volatility than U.S. investments because of adverse market, economic, political, regulatory, geopolitical, or other conditions. In emerging countries, these risks may be more significant. **Gov't Agency** – While certain U.S. Government-sponsored agencies may be chartered or sponsored by acts of Congress, their securities are neither issued nor guaranteed by the U.S. Treasury. **Income Market** – An imbalance in supply and demand in the income market may result in valuation uncertainties and greater volatility, less liquidity, widening credit spreads and a lack of price transparency in the market. There generally is limited public information about Municipal issuers. **Inflation-Linked** – Interest payments on inflation-linked securities may vary widely and will fluctuate as principal and interest are adjusted for inflation. Investments in inflation-linked securities may lose value in the event that the actual rate of inflation is different than the rate of the inflation index. **Interest Rate** – As interest rates rise, the value of certain income investments is likely to decline. The London Interbank Offered Rate or LIBOR, is used throughout global banking and financial industries to determine interest rates for a variety of financial instruments (such as debt instruments and derivatives) and borrowing arrangements. The ICE Benchmark Administration Limited, the administrator of LIBOR, is expected to cease publishing certain LIBOR settings on December 31, 2021, and the remaining LIBOR settings on June 30, 2023. The transition process may involve, among other things, increased volatility or illiquidity in markets for instruments that currently rely on LIBOR, such as floating-rate debt obligations. **Lower-Rated** – Investments rated below Investment Grade (typically referred to as "junk") are generally subject to greater price volatility and illiquidity than higher rated investments. **Maturity** – Longer-term bonds typically are more sensitive to interest rate changes than shorter-term bonds. **Preferred Stocks** – When interest rates rise, the value of preferred stocks will generally decline. **Prepayment - MBS** – Mortgage-backed securities are subject to prepayment risk. **Prepayment - Bank Loan** – Bank Loans are subject to prepayment risk. **Real Estate** – Changes in real estate values or economic downturns can have a significant negative effect on issuers in the real estate industry, including REITs.

## ADDITIONAL INFORMATION

### Risk Considerations

Diversification does not eliminate the risk of loss.

In general, equity securities' values also fluctuate in response to activities specific to a company. Investments in foreign markets entail special risks such as currency, political, economic, and market risks. The risks of investing in emerging market countries are greater than risks associated with investments in foreign developed countries. Fixed income securities are subject to the ability of an issuer to make timely principal and interest payments (credit risk), changes in interest rates (interest-rate risk), the creditworthiness of the issuer and general market liquidity (market risk). In a rising interest-rate environment, bond prices may fall and may result in periods of volatility and increased portfolio redemptions. In a declining interest-rate environment, the portfolio may generate less income. Longer-term securities may be more sensitive to interest rate changes. Alternative investments are speculative, involve a high degree of risk, are highly illiquid, typically have higher fees than other investments, and may engage in the use of leverage, short sales, and derivatives, which may increase the risk of investment loss. These investments are designed for investors who understand and are willing to accept these risks. Performance may be volatile, and an investor could lose all or a substantial portion of its investment.

There is no guarantee that any investment strategy will work under all market conditions, and each investor should evaluate their ability to invest for the long-term, especially during periods of downturn in the market.

**A separately managed account may not be appropriate for all investors. Separate accounts managed according to the Strategy include a number of securities and will not necessarily track the performance of any index. Please consider the investment objectives, risks and fees of the Strategy carefully before investing. A minimum asset level is required.**

**For important information about the investment managers, please refer to Form ADV Part 2.**

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