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May | 2023

Capital Perspectives

Monthly investment analysis and insights from Wilmington Trust Investment Advisors

ON THE RECORD

Clouds Abound Amid the Silver Linings

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Tony Roth
Chief Investment Officer

The last few weeks have proven critical to the narrative for the economy and financial markets, and we believe we could be at or approaching an inflection point. In the rearview mirror, things look pretty good—outside of the banking sector, which I will discuss more below. First-quarter GDP came in at a respectable 1.1%, with consumer spending growing 3.7%. Companies are also delivering better-than-expected earnings for the first quarter, with nearly 80% of companies beating Wall Street analyst expectations.

However, looking ahead we're seeing clouds building. The regional banking sector's challenges are proving more pervasive than many assumed after the fall of Silicon Valley Bank (SVB) in March. Early indications show the credit environment tightening, and leading economic indicators look bleak. There is still a path to the coveted soft landing, particularly if the Federal Reserve (Fed) is done raising rates, but that runway continues to shorten. We expect a mild recession to begin in the second half of this year, and are positioning portfolios conservatively with an underweight to equities and overweight to defensive assets.

The positive news

On the bright side, inflation continues to decelerate, tracking remarkably close to our forecast (Figure 1). The headline Consumer Price Index (CPI) has now fallen to a 3-month annualized pace of 3.2%. We expect it to continue to decelerate to below 3.5% in the next three months and approximately 3% by year's end. Core inflation—either as measured by stripping out food and energy or the Fed's new favorite metric, the "super core," that isolates core services excluding housing—is still sticky

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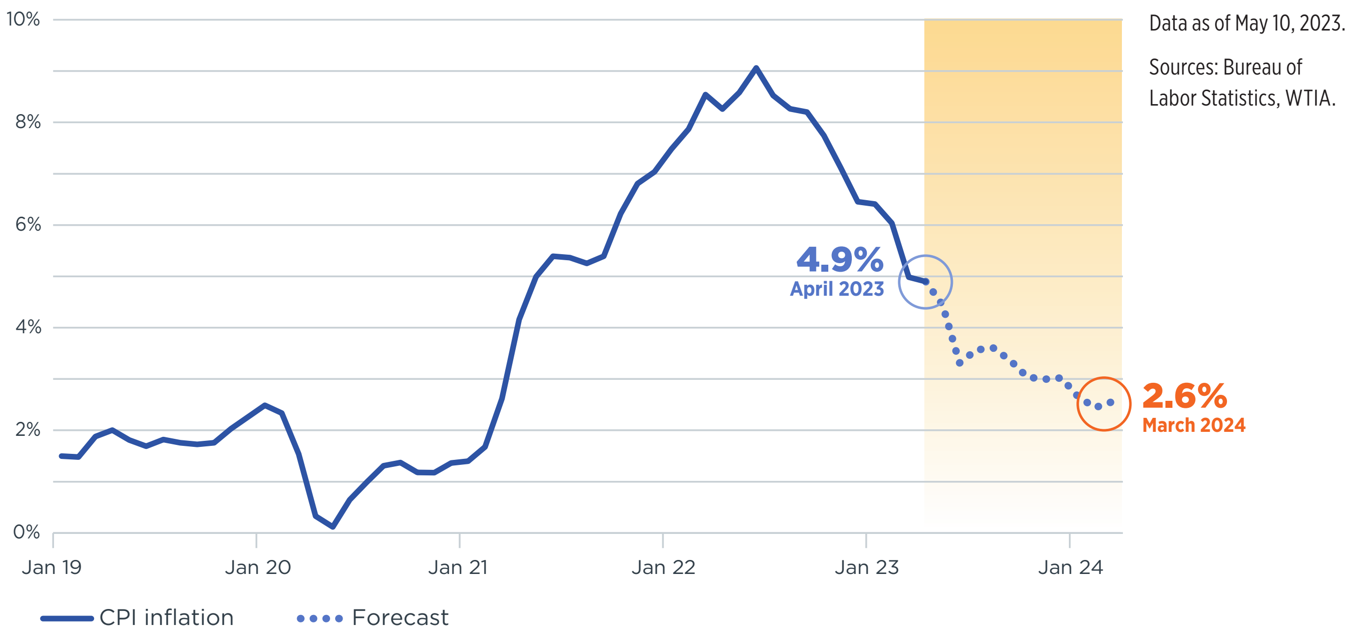
Figure 1

Consumer Price Index (CPI) inflation

% change, year over year



Data as of May 10, 2023.

Sources: Bureau of Labor Statistics, WTIA.

On May 3, the Fed gave its first convincing indication that it could be ready to pause its relentless rate-hike assault on inflation.

but expected to decelerate in line with indications from purchasing managers, the Producer Price Index, and a broader slowdown of the economy.

The labor market is also cooling. This is encouraging given the risk that a tight labor market could result in higher wages that companies ultimately pass through into the prices of goods and services. The unemployment rate is still very low at 3.5%, but job openings fell sharply in March, to a ratio consistent with 1.6 jobs per unemployed person—down from a level of 2 to start the year. The four-week moving average of initial jobless claims has also ticked up. Some air is being let out of the balloon.

On May 3, the Fed gave its first convincing indication that it could be ready to pause its relentless rate-hike assault on inflation. While inflation is clearly not yet back to the Fed's target, the "real" fed funds rate (the level of the fed funds rate less either the observed or expected rate of inflation) is now positive. This indicates the Fed's policy is restrictive and will become increasingly so as inflation and the economy continue to slow, perhaps motivating the Fed to reduce rates this year. The market is currently pricing almost a full percent of rate cuts before the end of the year. This seems aggressive absent a clear recession, possibly including meaningful job losses that are not easy to discern at the moment. (See our recent Wilmington Wire post for thoughts on the recent Fed meeting.)

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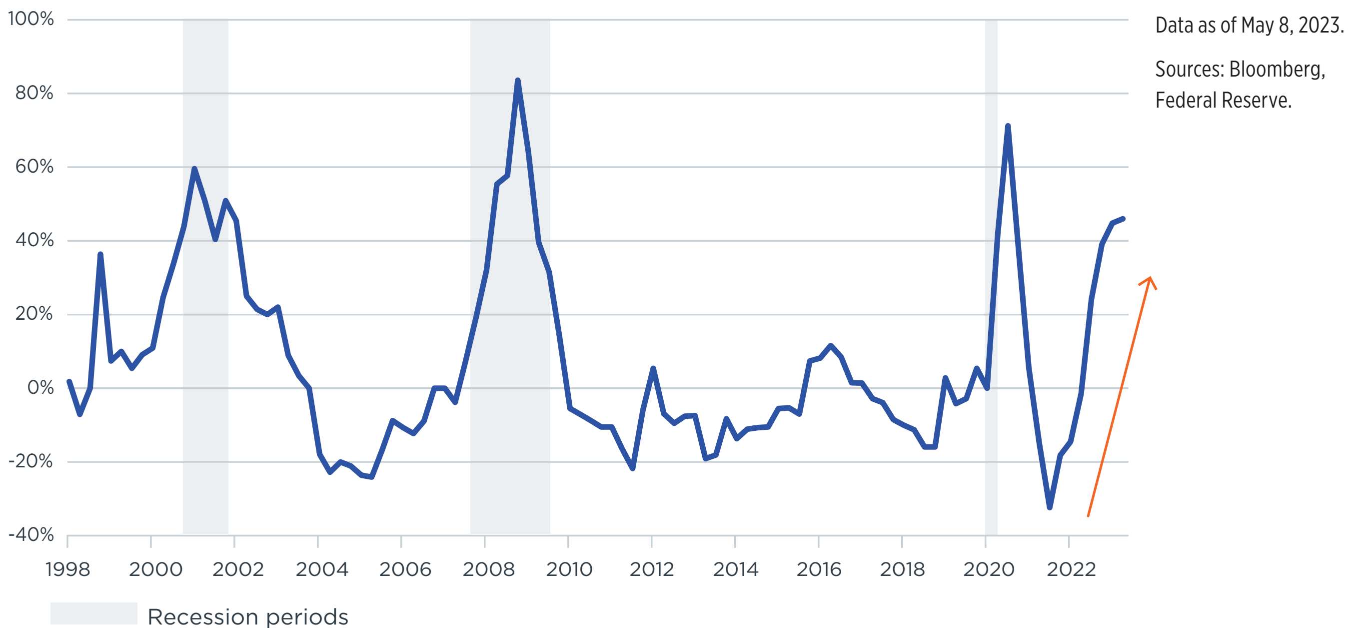
Figure 2

Net % of domestic respondents tightening standards

Commercial and industrial loans for large/medium firms



Data as of May 8, 2023.

Sources: Bloomberg, Federal Reserve.

We do expect risk of deposit flight and an overall increase in the cost of funding for small-and-mid-sized banks to result in less lending activity, something that would likely increase the risk of recession.

Darker clouds ahead

Since the March 10 failure of SVB, the Fed has raised its policy rate by half a percent. However, this likely understates the magnitude of tightening that has occurred in the financial system since that time. One of the most important transmission mechanisms for the Fed's policy is through access to credit. Super regional and smaller banks are incredibly important to the lending ecosystem for private companies, commercial and industrial businesses, and commercial real estate. Before March, many banks were already tightening credit standards and pulling back on lending activity at a pace by then consistent with prior recessions. The latest read on lenders' appetite for extending credit (according to the Fed's Senior Loan Officer Opinion Survey, Figure 2) is that lending standards tightened further in the quarter that included SVB's failure, and demand for loans declined significantly. In recent weeks, it's become clear that many of the banks grabbing headlines have their own stories and idiosyncratic issues, but the common thread is the rapid increase in rates induced by the Fed.

The banking episode is not, in our view, a systemic problem in the industry since we expect the long-term earnings power of small, mid-sized, and regional banks to return as rates drop over the next year or so. However, we also cannot say with confidence that we have seen the last of the industry's short-term stresses. We do expect risk of deposit flight and an overall increase in the cost of funding for small-and-mid-sized banks to result in less lending activity, something that would not only impair the earnings of these banks but also likely weigh on business capital expenditures and increase the risk of recession.

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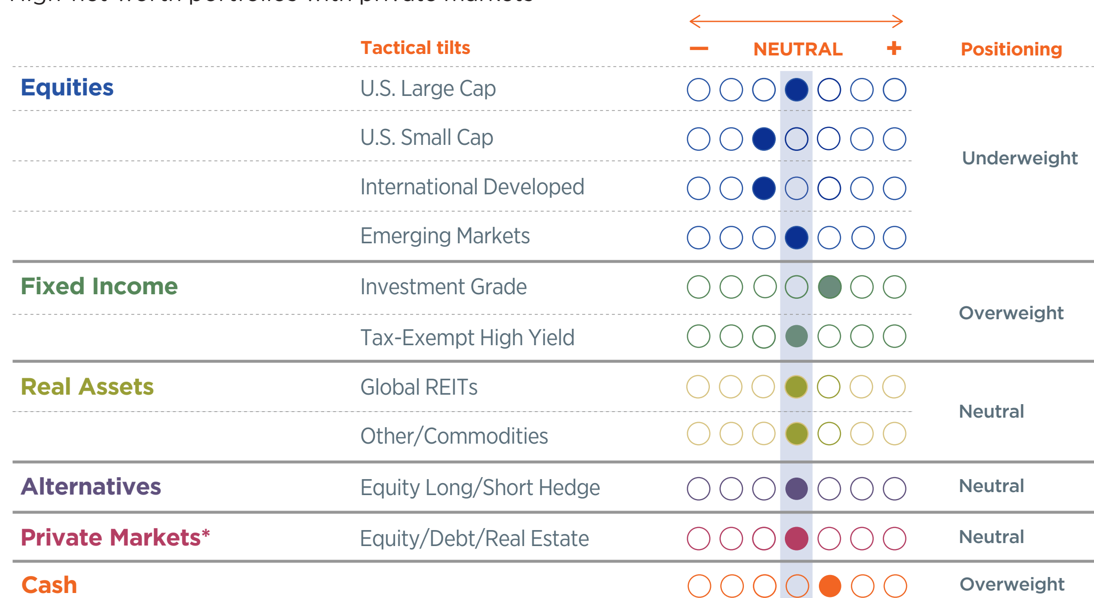
Figure 3

Current positioning

High-net-worth portfolios with private markets*



Data as of May 1, 2023.

Positioning reflects our monthly tactical asset allocation (TAA) versus the long-term strategic asset allocation (SAA) benchmark. For an overview of our asset allocation strategies, please see the disclosures.

* Private markets are only available to investors that meet Securities and Exchange Commission standards and are qualified and accredited. We recommend a strategic allocation to private markets we do not tactically adjust this asset class.

While a recession in the second half of 2023 is our base case, it is worth noting that we expect the equivalent of a thunderstorm, not a tornado. We have not seen a “typical” mild recession in quite some time. The closest to what we may expect would be the 2001 recession, when GDP contracted for two quarters, but consumer expenditures did not turn negative (2001 was itself a unique cycle as it involved both the tech bubble and the 9/11 attacks, which weighed significantly more on the stock market than the economic story alone would suggest).

The near-term risk most menacing for asset allocators is the debt ceiling. We expect a resolution before the Treasury runs out of cash to pay its bills, likely sometime in early June. However, the odds of Washington failing to reach a resolution are material—we estimate around 10%–20%. While it is possible that a prioritization of interest and social security payments may allow the U.S. to avoid a technical default on its debt, the ramifications for the economy and financial markets could be catastrophic. At this time, we are monitoring the discussions in Washington carefully but not moving to a more defensive posture, as we place good odds on a short-term relief rally when a resolution or extension is likely struck.

Play defense

Our expectation of a mild recession leads to portfolios more conservatively positioned than our long-term strategic benchmarks. While the S&P 500 experienced a 25% drawdown in 2022, it would be highly unusual to see the market bottom more than six months before the start of a recession. We are currently underweight to both international developed equities and U.S. small cap (Figure 3).

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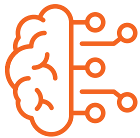
The former is a call on a cooling of economic activity and geopolitical risks. The latter is the result of an expectation that higher rates would weigh more on smaller companies that tend to carry higher debt levels, be more reliant on access to credit, and are more linked to the health of the U.S. economy—as opposed to the more globally oriented large-cap asset class. We focus our selection of equities and equity strategies on those that are higher in quality (when screening for profitability, low leverage, and earnings stability). We are also finding attractive opportunities in investment-grade municipal bonds—an asset class that provides a lot of opportunity for active management during turbulent times—and hold a slight overweight to cash.

Last, while go-forward risks seem to be mounting, in our view it would be unwise to underweight portfolio risk too greatly. While we expect more downside in the equity market, a retest of the October lows is not a given. It is certainly possible that equity investors, having had plenty of time to anticipate the recession and now price in lower interest rates, will look through a couple of quarters to an earnings recovery in 2024. What has proven true time and time again is that the market will sniff out improvement in the outlook well before it is adopted as the mainstream narrative, often rallying sharply during the darkest days. For this reason, it is important to stay largely invested in equities and other risk assets to participate in the powerful compounding effect of the rally that is sure to come when the market enters its next cycle.

Best,



Listen to our Capital Considerations podcast episode,
"Artificial Intelligence: Definitions, Possibilities, and Limits,"
where Tony and AI expert Neil Sahota discuss one of the most important technologies of our time—in particular, the enablers of its technology and platforms, and the recent open letter signed by tech leaders who are demanding a pause in AI research.

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ASSET CLASS OVERVIEW

Real Assets

Jordan Strauss, CFA, Senior Portfolio Manager
Jessica Blitz, CFA, Senior Research Analyst

	AS OF APRIL 30, 2023		
	Month	YTD	1 year
S&P Developed Property TR USD	1.94	2.66	-14.69
Bloomberg Barclays US Treasury US TIPS TR USD	0.11	3.45	-4.00
Bloomberg Commodity TR USD	-0.75	-6.07	-16.6

Source: Morningstar. Investing involves risks and you may incur a profit or a loss. Past performance cannot guarantee future results. Indices are not available for direct investment.

What we are seeing now

Real assets continued their mixed performance through year-end 2022 and into 2023. While markets were positive through the beginning of the year, asset prices traced significantly volatile paths to returns. Stronger-than-expected economic data drove fears that central banks would have to continue aggressively hiking rates, but fears were allayed somewhat after significant disruption in the U.S. and European banking sectors required quick support and suggested a shift toward easier policy.

Real estate advanced at the end of 2022 and was slightly positive in the first quarter of 2023, though the asset class continued to lag equity markets. While fourth-quarter real estate investment trusts' (REITs) earnings were generally solid, 2023 outlooks disappointed, with lower top-line estimates as companies reported higher expenses and remained conservative in future rent growth. Sector performance was varied, with data centers and single-family homes rising on supply/demand imbalances while towers fell with lower go-forward earnings growth expected from wireless carriers. Some of the most economically sensitive sectors like retail and office continue to struggle on macroeconomic uncertainties.

Inflation-linked bonds (ILBs) regained ground over the last six months, outperforming the nominal bond market. While near-term core inflation remains sticky and intermediate breakeven rates increased slightly during the first quarter, longer-term inflation expectations remain relatively steady. Stabilization in the market and a softening of tone from the Federal Reserve caused nominal and real yields to fall significantly during the quarter as bond prices rose again.

Commodities had a challenging start to the year, with major index constituents down to flat. Natural gas and diesel led the race to the bottom, falling on warmer-than-expected winter weather in the U.S. and Europe. Precious metals were the only sub-sector to see positive returns through the end of March. As the U.S. dollar deceased in value amid banking sector turmoil, investors fled to alternative stores of wealth, pushing gold prices upward.

What's changing

After a volatile first quarter, oil prices jumped sharply at the end of March and into April, leading up to and in the aftermath of a surprise OPEC+ (OPEC nations and energy-producing allies, like Russia) announcement of further output reductions through year-end. This follows a previously announced production cut in October 2022. Additionally, U.S. crude inventories fell through April, further reducing potential supply. Despite these traditionally bullish indicators, oil prices appear to be continuing their long retreat after reaching highs last summer. Recessionary fears seem to be overwhelming potential supply/demand imbalances in pressuring prices to retreat entirely from the highs seen at Russia's invasion of Ukraine.

What we expect

Our longer-term outlook for real assets remains constructive. Real assets have historically acted as portfolio diversifiers and inflation hedges, especially important during economic uncertainty and consistently sticky CPI readings. Certain segments of real assets also benefit from macroeconomic tailwinds, including industrial and multifamily real estate and rare earth minerals. Moving forward, it is anticipated that energy will continue to bear the brunt of geopolitics-induced price moves, which are traditionally hard to predict or time meaningfully. As long-term investors, we aim to maintain our discipline in challenging and volatile market environments like these.

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Alternative assets, such as strategies that invest in hedge funds, can present greater risk and are not suitable for all investors.

Any positioning information provided does not include all positions that were taken in client accounts and may not be representative of current positioning. It should not be assumed that the positions described are or will be profitable or that positions taken in the future will be profitable or will equal the performance of those described.

Indices are not available for direct investment. Investment in a security or strategy designed to replicate the performance of an index will incur expenses, such as management fees and transaction costs that will reduce returns.

An overview of our asset allocation strategies:
Wilmington Trust offers seven asset allocation models for taxable (high-net-worth) and tax-exempt (institutional) investors across five strategies reflecting a range of investment objectives and risk tolerances: Aggressive, Growth, Growth & Income, Income & Growth, and Conservative. The seven models are High-Net-Worth (HNW), HNW with Liquid Alternatives, HNW with Private Markets, HNW Tax Advantaged, Institutional, Institutional with Hedge LP, and Institutional with Private Markets. As the names imply, the strategies vary with the type and degree of exposure to hedge strategies and private market exposure, as well as with the focus on taxable or tax-exempt income.

Model Strategies may include exposure to the following asset classes: U.S. large-capitalization stocks, U.S. small-cap stocks, developed international stocks, emerging market stocks, U.S. and international real asset securities (including inflation-linked bonds and commodity-related and real estate-related securities), U.S. and international investment-grade bonds (corporate for Institutional or Tax Advantaged, municipal for other HNW), U.S. and international speculative grade (high-yield) corporate bonds and floating-rate notes, emerging markets debt, and cash equivalents. Model Strategies employing nontraditional hedge and private market investments will, naturally, carry those exposures as well. **Each asset class carries a distinct set of risks, which should be reviewed and understood prior to investing.**

Allocations:
Each strategy group is constructed with target policy weights for each asset class. Wilmington Trust periodically adjusts the policy weights' target allocations and may shift from the target allocations within certain ranges. Such tactical allocation adjustments are generally considered on a monthly basis in response to market conditions.

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Disclosures Continued

The asset classes and their current proxies are:

- Large–cap U.S. stocks: Russell 1000® Index
- Small–cap U.S. stocks: Russell 2000® Index
- Developed international stocks: MSCI EAFE® (Net) Index
- Emerging market stocks: MSCI Emerging Markets Index
- U.S. inflation-linked bonds: Bloomberg US Treasury Inflation Notes TR Index Value Unhedged*
- International inflation-linked bonds: Bloomberg World ex US ILB (Hedged) Index
- Commodity-related securities: Bloomberg Commodity Index
- U.S. REITs: S&P US REIT Index
- International REITs: Dow Jones Global ex US Select RESI Index
- Private markets: S&P Listed Private Equity Index
- Hedge funds: HFRX Global Hedge Fund Index
- U.S. taxable, investment-grade bonds: Bloomberg U.S. Aggregate Index
- U.S. high-yield corporate bonds: Bloomberg U.S. Corporate High Yield Index
- U.S. municipal, investment-grade bonds: S&P Municipal Bond Index
- U.S. municipal high-yield bonds: 60% Bloomberg High Yield Municipal Bond Index / 40% Municipal Bond Index
- International taxable, investment-grade bonds: Bloomberg Global Aggregate ex US
- Emerging bond markets: Bloomberg EM USD Aggregate
- Cash equivalent: 30-day U.S. Treasury bill rate

All investments carry some degree of risk. Return volatility, as measured by standard deviation, of asset classes is often used as a proxy for illustrating risk. Volatility serves as a collective, quantitative estimate of risks present to varying degrees in the respective asset classes (e.g., liquidity, credit, and default risks). Certain types of risk may be underrepresented by this measure. **Investors should develop a thorough understanding of the risks of any investment prior to committing funds.**

Quality ratings are used to evaluate the likelihood of default by a bond issuer. Independent rating agencies, such as Moody's Investors Service and Standard & Poors, analyze the financial strength of each bond's issuer. Ratings range from Aaa or AAA (highest quality) to C or D (lowest quality). Bonds rated Baa3 or BBB and better are considered **Investment Grade.** Bonds rated Ba1 or BB and below are **Speculative Grade** (also **High Yield**.)

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Glossary

30-day U.S. Treasury bill rate Bank of America Merrill Lynch U.S. 3-Month Treasury Bill Index measures the performance of a single U.S. Treasury bill added to the index at the beginning of the month and held for a full month; the issue is replaced with a newly selected issue at each month-end and the index will often hold the Treasury bill issued at the most recent three-month auction, it is also possible for a seasoned six-month bill to be selected.

Basis points refers to a common unit of measure for interest rates and other percentages in finance. One basis point is equal to 1/100th of 1%, or 0.01%, or 0.0001, and is used to denote the percentage change in a financial instrument.

Beta is a measure of how an individual asset moves when the overall stock market increases or decreases. Thus, beta is a useful measure of the contribution of an individual asset to the risk of the market portfolio when it is added in small quantity.

The Bloomberg Agriculture Subindex Total Return (BCOMAGTR), formerly known as Dow Jones-UBS Agriculture Subindex Total Return (DJUBAGTR), is a commodity group subindex of the Bloomberg CITR composed of futures contracts on coffee, corn, cotton, soybeans, soybean oil, soybean meal, sugar and wheat and reflects the return on fully collateralized futures positions and is quoted in USD.

The Bloomberg Commodity Index is composed of futures contracts and reflects the returns on a fully collateralized investment in the BCOM; it combines the returns of the BCOM with the returns on cash collateral invested in 13 week (3 Month) U.S. Treasury Bills.

The Bloomberg Commodity Total Return index (BCOMTR) is composed of futures contracts and reflects the returns on a fully collateralized investment in the BCOM and combines the returns of BCOM with the returns on cash collateral invested in 13 week (3 Month) U.S. Treasury Bills.

The Bloomberg Dollar Spot Index tracks the performance of a basket of 10 leading global currencies versus the U.S. Dollar. It has a dynamically updated composition and represents a diverse set of currencies that are important from trade and liquidity perspectives.

The Bloomberg Energy Subindex Total Return (BCOMENTR), formerly known as Dow Jones-UBS Energy Subindex Total Return (DJUBENTR), is a commodity group subindex of the Bloomberg CITR composed of futures contracts on crude oil, heating oil, unleaded gasoline and natural gas and reflects the return on fully collateralized futures positions and is quoted in USD

The Bloomberg Global Aggregate Bond Index measures the performance of global investment-grade fixed-rate debt markets, including the U.S., Pan-European, Asian-Pacific, Global Treasury, Eurodollar, Euro-Yen, Canadian, and investment-Grade 144A index-eligible securities.

The Bloomberg Industrial Metals Subindex Total Return Index (BCOMTNT), formerly known as Dow Jones-UBS Industrial Metals Subindex Total Return (DJUBINTR), is a commodity group subindex of the Bloomberg CITR composed of longer-dated futures contracts on aluminum, copper, nickel and zinc and reflects the return on fully collateralized futures positions and is quoted in USD.

Bloomberg Municipal Bond Index covers the four main sectors of the USD-denominated long-term tax-exempt bond market: state, and local, general obligation bonds, revenue bonds, insured bonds, and pre-refunded bonds.

The Bloomberg Precious Metals Subindex Total Return (BCOMPRTR), formerly known as Dow Jones-UBS Precious Metals Subindex Total Return (DJUBPRTR), is a commodity group subindex of the Bloomberg CITR composed of futures contracts on gold and silver. It reflects the return on fully collateralized futures positions and is quoted in USD.

The Bloomberg U.S. Aggregate Index measures the performance of the entire U.S. market of taxable, fixed-rate, investment-grade bonds. Each issue in the index has at least one year left until maturity and an outstanding par value of at least $250 million.

The Bloomberg US Credit Index measures the investment grade, US dollar-denominated, fixed-rate, taxable corporate and government related bond markets. It is composed of the US Corporate Index and a non-corporate component that includes foreign agencies, sovereigns, supranationals and local authorities.

The Bloomberg U.S. High Yield Corporate Index, formerly Lehman Brothers U.S. High Yield Corporate Index, measures the performance of taxable, fixed-rate bonds issued by industrial, utility, and financial companies and rated below investment grade. Each issue in the index has at least one year left until maturity and an outstanding par value of at least $150 million.

The Bloomberg U.S. Mortgage Backed Securities Index measures the performance of investment grade fixed-rate mortgage-backed pass-through securities of GNMA, FNMA, and FHLMC.

The Bloomberg US Treasury US TIPS TR USD index measures the performance of rules-based, market value-weighted inflation-protected securities issued by the U.S. Treasury. It is a subset of the Bloomberg US Treasury Inflation-Linked Bond Index (Series-L), which measures the performance of the US Treasury Inflation Protected Securities (TIPS) market. Federal Reserve holdings of US TIPS are not index eligible and are excluded from the face amount outstanding of each bond in the index.

Cambridge Global Private Equity Index is a horizon calculation based on data compiled from 2,354 private equity funds, including fully liquidated partnerships, formed between 1986 and 2019. All returns are net of fees, expenses, and carried interest.

Consumer price index measures the price of consumer goods and how they're trending and is a tool for measuring how the economy as a whole is faring when it comes to inflation or deflation.

Coupon, coupon rate, or coupon payment is the annual interest rate paid on a bond, expressed as a percentage of the face value and paid from issue date until maturity.

Dow Jones Global ex. US Select RESI Index tracks the performance of equity real estate investment trusts (REITs) and real estate operating companies (REOCs) traded globally, excluding the U.S.

Drawdown is a peak-trough decline during a specific period for an investment, trading account, or fund and is usually quoted as the percentage between the peak and the subsequent trough.

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Glossary Continued

Drift occurs when an asset or investment diverges significantly from its objective or investment style, such as market capitalization. It can result naturally from capital appreciation in one asset relative to others in a portfolio, a change in a fund's management, or a manager who begins to diverge from the portfolio's mandate. It can be corrected by rebalancing the fund to optimal weights.

Duration risk is the risk associated with the sensitivity of a bond's price to a one percent change in interest rates. The higher a bond's duration, the greater its sensitivity to interest rates changes.

Equity risk premium is the extra return that's available to equity investors above the return they could get by investing in a riskless investment like T-Bills or T-Bonds or cash.

ESG is a strategy that integrates environmental, social, and governance (ESG) factors into the investment process may avoid or sell investments that do not meet criteria set forth by the investment manager. Such investments may perform better than investments selected utilizing ESG factors.

Event-driven hedge fund strategies attempt to take advantage of temporary stock mispricing before or after a corporate event takes place. An event-driven strategy exploits the tendency of a company's stock price to suffer during a period of change.

Federal funds rate is the interest rate at which depository institutions lend reserve balances to other depository institutions overnight on an uncollateralized basis.

Global intangible low-taxed income (GILTI) is a category of income that is earned abroad by U.S.-controlled foreign corporations (CFCs) and is subject to special treatment under the U.S. tax code.

Gold can be significantly affected by international monetary and political developments as well as supply and demand for gold and operational costs associated with mining.

Headline inflation is a measure of the total inflation within an economy, including commodities such as food and energy prices, which tend to be much more volatile and prone to inflationary spikes.

HFR® (HedgeFundResearch) Indices are the established global leader in the indexation, analysis and research of the hedge fund industry. They are broadly constructed indices designed to capture the breadth of hedge fund performance trends across all strategies and regions.

HFRX Absolute Return Index and the HFRX Global Hedge Fund Index represent the overall composition of the hedge fund universe and comprise all eligible hedge fund strategies and selects constituents that characteristically exhibit lower volatilities and lower correlations to standard directional benchmarks of equity market and hedge fund industry performance.

HFRX Global Hedge Fund Index is designed to be representative of the overall composition of the hedge fund universe and are asset weighted based on the distribution of assets in the hedge fund industry.

Inflation-linked bonds are a specific type of index-linked securities that are tied to the costs of consumer goods as measured by the Consumer Price Index (CPI) or another index. Their values increase during inflationary periods, which reduces the risk of uncertainty.

The ISM manufacturing index, also known as the purchasing managers' index (PMI), is a monthly indicator of U.S. economic activity based on a survey of purchasing managers at more than 300 manufacturing firms and is considered to be a key indicator of the state of the U.S. economy.

ISM Non-Manufacturing Index is an economic index based on surveys of more than 400 non-manufacturing (or services) firms' purchasing and supply executives and is part of the ISM Report On Business—Manufacturing (PMI) and Services (PMI).

ISM Services Prices Paid Index is a diffusion index calculated by adding the percent of responses indicating they paid more for inputs plus one-half of those responding who paid the same; resulting in a single number that is seasonally adjusted.

LIBOR is the average interbank interest rate at which a selection of banks on the London money market are prepared to lend to one another.

Long, or a long position, describes an investor's expectation of a holding's future value. A position that the investor expects will rise in value and plans to hold for a long period of time is often described as "held long." It is the opposite of short, or a short position.

M2 money supply is a measure of the money supply that includes cash, checking deposits, and other types of deposits that are readily convertible to cash such as CDs.

Macro hedge fund strategies generally focus on financial instruments that are broad in scope and move based on systemic or market risk (not security specific). In general, portfolio managers who trade within the context of macro strategies focus on currency strategies, interest rates strategies, and stock index strategies.

MSCI AC Asia ex Japan Index captures large- and mid-cap representation across two of three developed markets countries (excluding Japan) and nine emerging markets countries in Asia. The index covers approximately 85% of the free float-adjusted market capitalization in each country.

MSCI All Country World Index (ACWI) is a stock index designed to track broad global equity-market performance. Maintained by Morgan Stanley Capital International (MSCI), the index comprises the stocks of about 3,000 companies from 23 developed countries and 26 emerging markets.

MSCI China Index captures large- and mid-cap representation across China A shares, H shares, B shares, Red chips, P chips and foreign listings (e.g. ADRs). The index covers about 85% of this China equity universe. Currently, the index includes large-cap A and mid-cap A shares represented at 20% of their free float adjusted market capitalization.

MSCI EAFE Growth Index captures large- and mid-cap securities exhibiting overall growth style characteristics across developed markets countries around the world, excluding the U.S. and Canada.

MSCI EAFE Index is an equity index which captures large and mid-cap representation across 21 Developed Markets countries around the world, excluding the U.S. and Canada. With 902 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

MSCI EAFE® (net) Index measures the performance of approximately 20 developed equity markets, excluding those of the United States and Canada; total returns of the index are net of the maximum tax withholding rates that apply in many countries to dividends paid to non-resident investors.

Continued

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Glossary Continued

MSCI Emerging Markets (net) Index captures large- and mid-cap representation across 27 emerging markets countries. With 1,407 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

MSCI EAFE Value Index captures large- and mid-cap securities exhibiting overall value style characteristics across developed markets countries around the world, excluding the U.S. and Canada.

MSCI Emerging Markets Index captures large- and mid-cap representation across 26 emerging markets countries. The index covers approximately 85% of the free float-adjusted market capitalization in each country.

MSCI Europe Index captures large- and mid-cap representation across 15 developed markets (DM) countries in Europe. The index covers approximately 85% of the free float-adjusted market capitalization across the European DM equity universe.

MSCI Japan Index is designed to measure the performance of the large- and mid-cap segments of the Japanese market. The index covers approximately 85% of the free float-adjusted market capitalization in Japan.

MSCI United Kingdom Index is designed to measure the performance of the large- and mid-cap segments of the UK market. The index covers approximately 85% of the free float-adjusted market capitalization in the UK.

Personal consumption expenditures is the primary measure of consumer spending on goods and services in the U.S. economy and is the primary engine that drives future economic growth.

Price-to-earnings (P/E) ratio measures a company's current share price relative to its earnings per share (EPS).

Producer Price Index (PPI) is a family of indexes measuring the average change in selling prices received by domestic producers of goods and services.

Real estate investment trusts, or REITs, are companies that own, operate, or finance income-generating real estate. Similar to mutual funds, REITs pool the capital of numerous investors, allowing them to earn dividends from real estate investments without having to buy, manage, or finance properties themselves.

Relative value hedge fund strategies cover a variety of low-volatility trading strategies with the consistent theme of attempting to reduce market risk, i.e., the manager seeks to generate a profit regardless of which direction the markets are moving. All relative value strategies minimize market risk by taking offsetting long and short positions in related stocks, bonds, and other types of securities.

Reverse optimization uses risk estimates and optimal portfolio weights (asset allocations) to derive the forward-looking returns that generate the highest expected risk-adjusted return for the portfolio; in contrast, traditional optimization uses risk estimates and forward-looking return assumptions to derive the portfolio weights (asset allocations) that generate the highest expected risk-adjusted return for the portfolio. Reverse optimization can be used to test or validate market outcomes in addition to (not as a replacement for) other methods of analysis.

Risk assets refers to assets that are not risk-free, such as currencies, equities, and other financial instruments. Treasuries are not included.

Russell 1000® Index measures the performance of the 1,000 largest companies in the Russell 3000 Index, representing approximately 92% of the total market capitalization of the Russell 3000 Index.

Russell 1000 Growth is a market capitalization-weighted index that measures the performance of the large-cap growth segment of U.S. equity securities; it includes the Russell 1000 index companies with higher price-to-book ratios and higher forecasted growth values.

Russell 1000 Value is a market capitalization-weighted index that measures the performance of the large-cap value segment of U.S. equity securities; it includes the Russell 1000 index companies with lower price-to-book ratios and lower expected growth values.

Russell 2000® Index measures the performance of the 2,000 smallest companies in the Russell 3000 Index, which represents approximately 8% of the total market capitalization of the Russell 3000 Index.

S&P 500 index measures the stock performance of 500 large companies listed on stock exchanges in the U.S. and is one of the most commonly followed equity indices.

The S&P Developed Property index defines and measures the investable universe of publicly traded property companies domiciled in developed markets. The companies in the index are engaged in real estate related activities, such as property ownership, management, development, rental and investment.

S&P Listed Private Equity Index comprises the leading listed private equity companies that meet specific size, liquidity, exposure, and activity requirements. The index is designed to provide tradable exposure to the leading publicly-listed companies that are active in the private equity space.

The S&P Municipal Bond Index is a broad, market value-weighted index that seeks to measure the performance of the U.S. municipal bond marke

S&P US REIT Index measures the investable U.S. real estate investment trust market and maintains a constituency that reflects the market's overall composition.

Short-duration Treasury securities are backed by the full faith and credit of the U.S. government. They typically mature in one year or less.

Short, or short position, refers to a trading technique in which an investor sells a security with plans to buy it later; it is used when an investor expects the price of a security to fall in the short term.

Stagflation is persistent high inflation combined with high unemployment and stagnant demand in a country's economy.

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Glossary Continued

Tail risk is the probability that the asset performs far below or far above its average past performance. Investors are most concerned with "left" tail risk, or the likelihood that observations fall three standard deviations below the average expected return.

Value sectors or stocks, generally refer to those trading at levels perceived to be below their fundamentals.

Yield curve plots yields (interest rates) of bonds having equal credit quality but differing maturity dates. The slope of the yield curve gives an idea of future interest rate changes and economic activity.

Yield to maturity is the estimated total return on a bond if the bond is held until it matures.

Yield to worst measures the lowest possible yield that can be received on a bond with an early retirement provision and must always be less than yield to maturity because it represents a return for a shortened investment period.

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