Finding Clarity Amid Complexity

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After three consecutive calendar years of above average performance, global risk assets finally stumbled in the first half of 2022. Tightening monetary policy, fading fiscal stimulus, China's zero-COVID strategy and the Russia-Ukraine conflict, combined with rapidly rising interest rates and surging inflation, roiled markets and rattled investor sentiment. The growing threat of a global recession has raised serious concerns about the future sustainability of corporate profits.

60/40 Portfolios Disappoint

The expected diversification benefits from combining stocks and bonds in portfolios has failed investors miserably throughout the first five months of the year. According to Strategas Research Partners, US stocks are off to their fourth-worst start to a year (January 1–May 15) in the past 90 years.[1] And, more specifically, the S&P 500 Index is off to its worst midterm election year start in history.[2] Meanwhile, 98% of all fixed income funds are trading at a year-to-date loss, with an average return of -8%.[3]

For investors desperately searching for silver linings, stocks typically recover soundly for the remainder of the year (May 16–December 31) after suffering such a poor start.[4] And the Bloomberg U.S. Aggregate Bond Index has never produced back-to-back calendar years of negative returns.[5]

Fed Focuses on Taming Inflation

Perhaps the single biggest question in the second half of 2022 is whether the Federal Reserve (Fed) can successfully engineer a softish landing. Continued global shocks from the pandemic, the Russia-Ukraine conflict and China's zero-COVID strategy have made balancing supply and demand very difficult this year. The result has been rampant global inflation. Despite economic data indicating a potential cyclical slowdown, the Fed and other global central banks are likely to keep raising interest rates until they are confident that longer-term inflation expectations are stable.

Monetary policy tightening is seeking to cool economic growth just enough to address supply-demand imbalances and tame inflation. But the risks remain skewed to the downside. The US economy recorded a surprise negative GDP in the first quarter of 2022. Inflation has remained high for so long that it risks becoming entrenched. The Fed may need to tighten further and faster than expected as inflation data remains red hot. If the Fed wants to aggressively defeat inflation, short-term interest rates have to move above the inflation rate. Given today's lofty inflation figures, that's a scary proposition for investors and suggests that the Fed has a long way to go in raising rates.

In addition, global supply shocks show little signs of abating. Regrettably, if supply cannot rise to meet demand, then demand has to fall. As a result, corporate profits are likely to come under additional downward pressure.

Three Strategies for Current Challenges

Today's investment environment is more complex than it has been in recent years. But despite the challenges, all is not lost for investors. A lot of bad news is already reflected in the first half performance of global risks assets. Unexpected good news from the Fed, China or the Russia-Ukraine conflict — or data that suggests inflation has peaked — could spark a relief rally in risk assets later in the year.

Consider these three strategies when constructing portfolios for the second half of 2022:

1 Emphasize High-Quality Value in the Core

2 Limit Duration in Pursuit of Real Income

3 Consider Inflation-Sensitive Alternatives

Theme 1

Emphasize High-Quality Value in the Core

Elevated cross-asset volatility and shifting macro forces have created a more complex market environment in 2022. Sentiment has been impaired and risk-on attitudes have faded, following three consecutive years of gains and limited outsized moves in 2021.

As a result of the multiple dimensions of risks converging on top of one another, equities are down significantly this year — evidenced by 70% of global stocks trading in a bear market.[6] But the equity drawdown has not greatly improved overall valuations. Broad-based valuations are now near long-term averages based on price-to-earnings ratios, but still well above historical averages based on price-to-sales and price-to-book metrics.[7]

The complexity of this current environment can also be quantified by comparing current implied volatility levels; the CBOE VIX Index has averaged 25.7 in 2022, versus its long-term average of 19.5.[8] And the average percentile rank for measures of implied equity, as well as bond, currency, and oil volatility, are all above the 80th percentile — reinforcing how widespread risks have become.[9]

But with earnings sentiment waning, as evidenced by upgrade/downgrade trends, fundamental volatility has picked up — making firms' cash flow strength extremely important for performance.

Adding fundamental risk to multiple macro risks, requires placing greater emphasis on attractively valued firms that exhibit lower *relative fundamental volatility*. These quality firms that offer more durable balance sheets with little leverage and low earnings growth *variability* may be well positioned for more consistent growth.

Adjust to a Complex New Volatility Regime

Realized volatility metrics further illustrate this complex risk regime. For example, the S&P 500 Index has posted a daily gain or loss of more than +/-1% 49 times so far this year.[10] That averages at least nine moves a month — more than twice that of last year and the historical monthly average of four.

In another deviation from historical norms, 57% of these outsized moves were negative when typically there are more upside 1% moves in a year. And notably, the current 57% is greater than what we saw in 2020 at the start of the pandemic (41%), in 2018 when the S&P 500 Index last posted a yearly loss (50%), and during the Great Financial Crisis (56%). It also exceeds the historic yearly average of 47%.[11]

Moreover, the last time there was a higher percentage of downside 1% moves was 20 years ago in 2002 — a year when the market, reeling from the pop of the dot-com bubble and increased geopolitical risk from the 9/11 attacks, fell by 23%.[12] While this does not forecast a dot-com 2.0, the performance of certain segments is similar, underscoring how the market is now trading more on fundamentals than narratives.

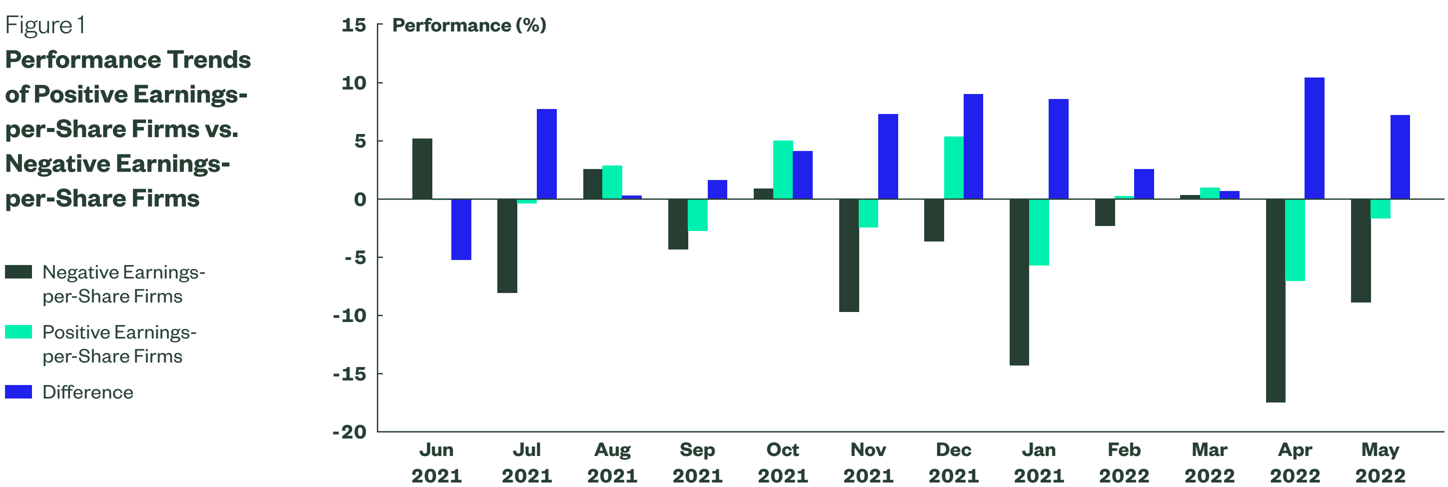
Target Quality as Narratives Change

The handover from the narrative market where "stock stories" featuring grandiose proclamations of revolutionary growth took precedent over actual sales coincides with a reduction in liquidity[13] and higher hurdle rates (e.g., increasing real rates). This is most apparent within unprofitable high tech.

Non-profitable high-tech growth stocks are down 40% on average this year.[14] Meanwhile, profitable high tech is down 17%, in line with the return of the S&P 500 Index. The same trend emerges when analyzing the market, beyond high tech.

Overall, non-positive earnings-per-share firms are down 35% in 2022. Meanwhile, positive earnings firms are down just 14% — better than the overall market. In fact, positive earnings firms have now outperformed negative earnings firms every month since June 2021, as shown in the following chart. This trend is a strong sign of increasing fundamental volatility, as high cash flow firms are more in favor than high cash burn-rate firms.

Figure 1
Performance Trends of Positive Earnings-per-Share Firms vs. Negative Earnings-per-Share Firms

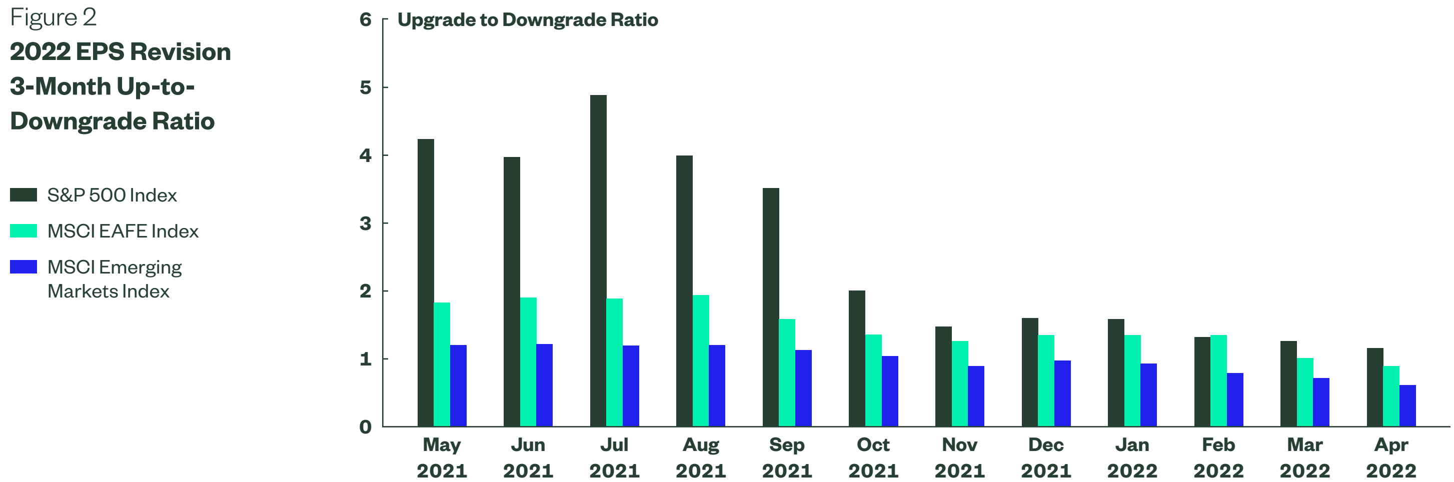


Source: Bloomberg Finance L.P., as of May 16, 2022, based on equal weighted portfolios formed from constituents within the Russell 3000 Index partitioned by their trailing 12-month earnings-per-share. **Past performance is not reliable indicator of future performance.** Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income as applicable.

This emphasis on the quality of growth, and not just profitability, is reinforced by a concentrated basket of quantitatively screened high quality firms outpacing low quality by nearly 5% this year.[15] Similar to the prior analysis on profitability, concentrated long quality has outperformed concentrated short quality in nine out of the past 12 months.[16]

Performance, of course, is a byproduct of the fundamental backdrop. And the trends in analyst upgrades-to-downgrades provide another example of the market entering a more uneven fundamental environment. As shown in the following chart, the number of analysts upgrading 2022 earnings-per-share (EPS) estimates is essentially equivalent to the number of downgrades for US firms. And this ratio has been declining monotonically over the past five months. The US, however, is a beacon of strength compared to the rest of the world, as its ratio is the only major region above 1 — where it has been for some time.

Figure 2
2022 EPS Revision 3-Month Up-to-Downgrade Ratio



Source: FactSet as of April 29, 2022. Characteristics are as of the date indicated, are subject to change, and should not be relied upon as current thereafter. EPS growth estimates are based on Consensus Analyst Estimates compiled by FactSet. **Past performance is not reliable indicator of future performance.** Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income as applicable.

Lower than expected growth in those regions — +6% for developed ex-US stocks and +1.5% for emerging markets (EM) — compared to US firms' +10% earnings-per-share growth[17] make the US our favored market, followed by developed ex-US.

The case for EM is quite challenged right now, outside of it representing a value play. But sometimes things are cheap for a reason, and sluggish growth and weak sentiment, combined with heightened geopolitical risk, make EM a difficult overweight at the moment.

For those tempted to catch this falling knife, keep in mind that EM has been in bear market (a 20% decline) on 22% of the days over the past 10 years[18] — leaving those who tempted fate empty-handed. And over the past decade, EM has underperformed developed markets in 85% of the rolling five-year periods.[19]

Analysts are not the only ones downgrading expectations. Firm guidance has been weaker as well. Following the most recent quarter results, more than 70% of S&P 500 firms have issued negative guidance.[20] This is above the 60% historic average.[21] As a result, earnings expectations for the second quarter have declined from 5.9% to 4.6%.[22] Earnings surprises have also been lackluster, as firms have beat Q1 estimates by just 4.9%.[23] This is below the historical 5- and 10-year averages of 8.9% and 6.5%, respectively.[24]

Revenue trends are better, with surprise rates above long-term averages. The same is true for growth.[25] Yet, as a result of margin compression, earnings are being hit harder. Net margins have declined for three subsequent quarters and in the most recent quarter, 50% of firms in the S&P 500 had margins decline from one year ago.[26] This margin weakness stems from higher input costs, reinforced by the fact that 85% of firms reporting in Q1 mention inflation — the most ever.[27] This risk was most crystalized by severely weak earnings reports from consumer goods and large retail firms in late May.[28]

With weaker sentiment, firms that are unable to beat lowered estimates have been punished more than usual — falling 5.1% the day after releasing results compared to a five-year average one-day decline of 2.3%.[29] This trend further reinforces the rise of more fundamental-led volatility and the need to mitigate this non-macro related risk moving markets.

Place Value Alongside Quality in the Core

With waning sentiment, having a bias toward firms with more fundamental durability may be additive. However, while valuations for quality stocks have re-rated amid the recent broader market turmoil, the premium for quality balance sheets still exists.

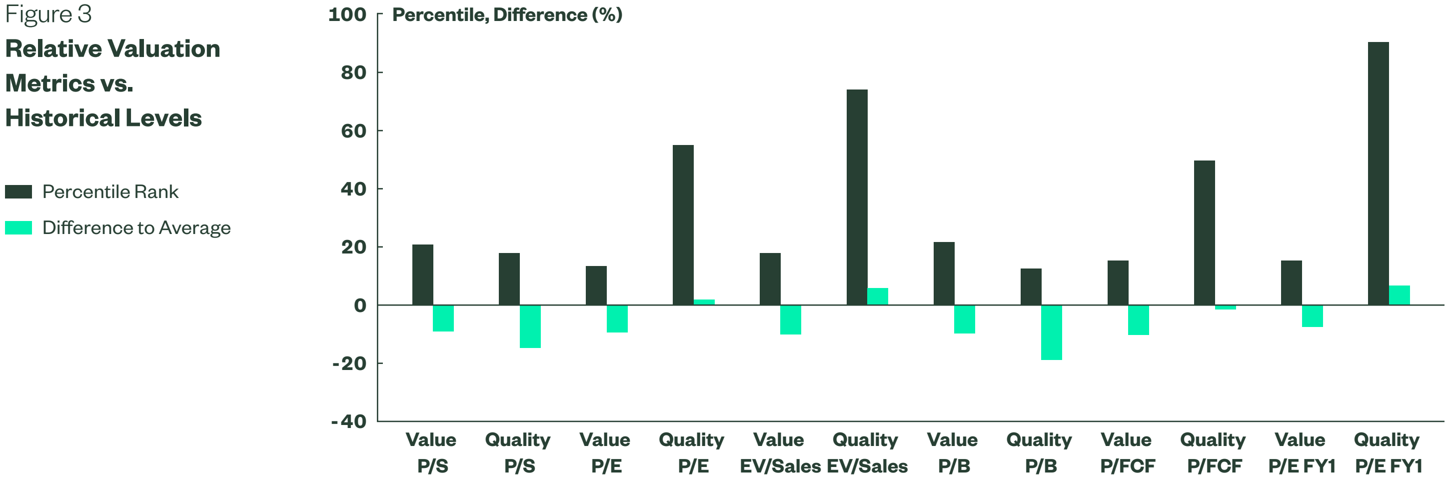
Based on a six-factor composite valuation metric, pure quality strategies have a current valuation that sits in their own historical 67th percentile.[30] The premium for quality based on this composite metric is also five percentage points above its historical average. However, on a relative basis to the market, the average percentile rank of quality's premium to the market is right at the median of 50%.[31] As a result, across each of the metrics, the average relative premium to the market currently is actually four percentage points lower than the historical average premium for quality (23% versus 27%).[32]

With these results, it is clear that valuations for quality are neither supremely rich or cheap. Value, however, still screens as attractive — even after outperforming the market by more than 7% and growth stocks by 23% so far this year.[33]

If we use the same six-factor composite valuation metric, value stocks trade in the historical 18th percentile relative to their own history and 9% lower than their average rate.[34] On a relative basis, value is equally as attractive. It sits in the 37th percentile with a discount to the market of -31%, greater than the historical average discount of -21%.[35] In fact, four out of the six metrics are all trading at a discount relative to their own history. And on a relative basis, as shown in the following chart, every metric is in the bottom quartile.

Figure 3

Relative Valuation Metrics vs. Historical Levels



Source: Bloomberg Finance L.P., per SPDR Americas Research Calculations. Based on a composite of six metrics for the MSCI USA Value Weighted Index, the MSCI USA Quality Index versus the S&P 500 Index using price-to-book, price-to-earnings, price-to-next-twelve-months earnings, price-to-cash-flow, enterprise value-to-sales, and price-to-sales ratios from 2013 to 2022. **Past performance is not reliable indicator of future performance.** Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income as applicable.

The case for value can be expanded beyond the current relative fundamental ratios. There is also a macro case to be made. Over the past 30 years, growth stocks' monthly excess returns to the broader market have had a negative correlation to changes in interest rates (-17%), whereas value excess returns have been positively correlated (+18%).[36]

With the prospect for higher rates resulting from tighter monetary policy, longer-duration growth exposures (cash payments further out in maturity like a long-duration bonds) could be further challenged on a total return basis.

Given these dynamics, blending these two exposures together could be additive from an earnings durability perspective (the quality side) while also tempering overall valuations (the value component). And as of right now, for a US blend, the combined current relative valuation level is a -4% discount to the market, a nine percentage point improvement compared to the historical average relative valuation premium of +5%.[37]

Implementation Ideas

For high-quality value stock exposures, consider:

A multi-factor blend that includes quality and value	**QUS** **SPDR® MSCI USA StrategicFactors℠ ETF**
	QEFA **SPDR® MSCI EAFE StrategicFactors℠ ETF**
A dividend strategy that includes a rigorous screen on fundamental sustainability	**SDY** **SPDR® S&P® Dividend ETF**
A pure value exposure that holds only positive earnings-per-share firms	**SPYV** **SPDR® Portfolio S&P 500® Value ETF**

Theme 2

Limit Duration in Pursuit of Real Income

Bond markets have never recorded back-to-back calendar years of negative total returns. But if bonds do not rally by more than 10% through the end of the year, we will make history.

This potentially historic year will be marked by the most aggressive monetary policy tightening since 1994, as the Federal Reserve and other global central banks seek to quell record levels of inflation. For perspective, when the Fed Funds rate increased by 250 basis points (bps) in 1994, the Bloomberg U.S. Aggregate Bond Index (Agg) fell by 3%, but 9.5% on a price return basis.[38]

Today, market forecasts call for eight more rate hikes this year, with an implied policy rate greater than 2.8% by yearend.[39] And with recent hawkish Fed rhetoric indicating a low margin of error for these prognostications — it's clear that higher rates are ahead.

Therefore, it's important to reevaluate your bond allocation to mitigate the negative impact of rising rates. This means limiting duration in pursuit of real income by targeting floating rate exposures and ultra-short active strategies.

Hawks Talk the Talk, Now Ready to Walk the Walk

In May, Chairman Jay Powell delivered a harsh message to investors that "until inflation comes down in a clear and convincing way, we [the Fed] will keep pushing, and if that means moving past understood levels of "neutral," we won't hesitate to do that."[40] Currently, a 50 bps hike is projected in both the June and July meetings.[41]

That means a high probability for higher rates, and, therefore, lower bond returns for the rest of the year. From a rates perspective, there is historically a 34 bps difference between the Fed Funds rate and the US 2-year yield (the portion of the yield curve that is highly sensitive to Fed policy).[42]

Extrapolating this historical premium to the Fed Funds rate and the forecasted implied rate mentioned above, the US 2-year yield could be 3.14% by yearend, compared to 2.68% today.[43] If that were the yield at the end of the year, short duration bonds, as measured by the Bloomberg US 1–5 Year Government/Credit Float Adjusted Index, could potentially fall another 1%, based on the change in yield (+0.40%) and the current duration of that exposure (2.7 years).[44]

Rate hikes are not the only policy actions pressuring rates. The market will soon have to contend with quantitative tightening (QT). The Fed has foreshadowed a $95 billion a month QT pace that could be gradually phased in ($60 billion in Treasuries)[45] and total $1 trillion a year. And once QT starts, it will likely put upward pressure on long-term rates — a potential trend already reflected in rising term premiums.[46] While this should mitigate any curve inversions, it doesn't mean we will see a steepening trend. In fact, the spread difference is likely to remain tight and the curve flat — with both short- and long-term rates moving higher, but at different speeds.

Notably, today's higher rates for broad core bonds are still below inflation expectations (3.55% versus 4.02% for the US 2-year breakeven rate),[47] signaling negative expected returns for both core bonds and their real yields.

Bottom line: expect higher rates and continued weak core bond returns. After all, forward guidance is the third tool monetary policymakers can use to impact the rates market, in addition to rate hikes/cuts and balance sheet management. And right now, the Fed's forward guidance is crystal clear — higher rates are on the horizon until inflation is under control. That's a message bond investors cannot afford to miss.

Float with Investment-Grade Bonds

Duration on core fixed income has increased significantly over the years. At its current level of 6.5 years, it has 50% greater rate risk than the last time the Fed tightened policy in a similarly severe manner in 1994.[48]

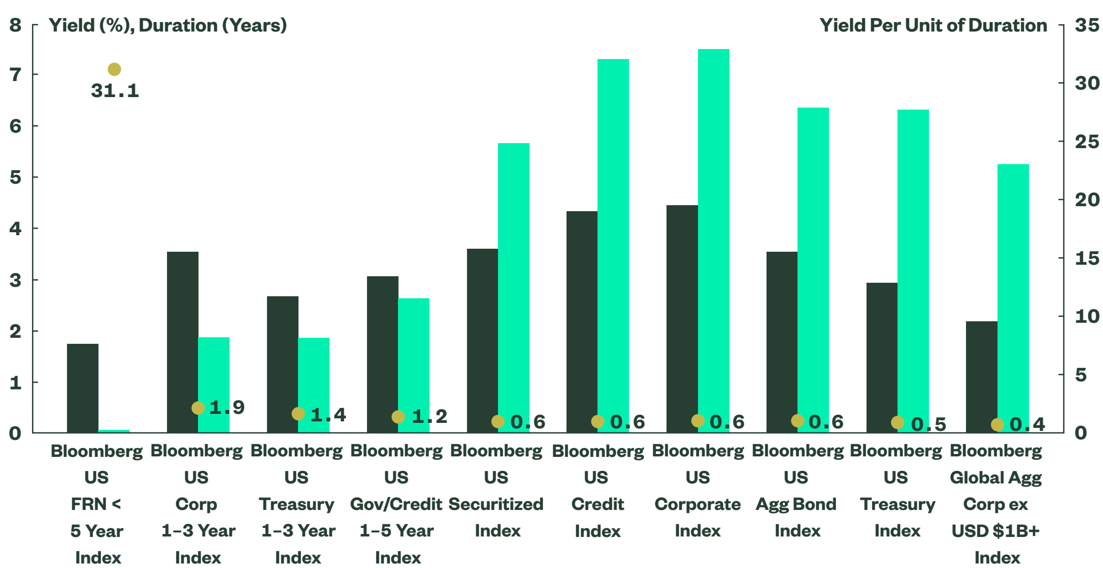
Core bonds' extended level of duration presents significant challenges as rates rise. To put this in perspective, if the yield on the Agg were to increase by 60 bps over the next two quarters, essentially a third of what it has increased in the first two quarters,[49] the Agg could fall an additional 4% based on its current duration level and add to its already double-digit 2022 decline.

Given this backdrop, duration management within the core takes on paramount importance. Yet, just trimming duration by focusing on short-term bonds is a blunt approach. Rather, using different fixed income strategies, both active and indexed, in the core investment-grade market may allow you to trim duration while still retaining some yield upside.

Investment-grade floating rate notes could offer an indexed-based, macro sector solution. Unlike fixed rate bonds, floating rate bonds are less sensitive to an increases in rates, given that they pay a variable (i.e., floating) coupon rate, based on prevailing short-term market rates, plus a fixed spread.

As a result of the quarterly coupon resets, floating rate bonds' duration profile is structurally low. It currently sits at 0.06 years,[50] which is in stark contrast to the broader Agg's 6.5 years or the 2.7 years for a fixed-rate exposure of the same maturity band.[51] This floating rate profile leads to a significantly more attractive yield-per-unit-of-duration profile (31.0) versus other short-term exposures that could be considered in order to trim duration (e.g., 1–3 year Treasuries are 1.4), as shown in the following chart.

Figure 4
Yield per Unit of Duration: Investment-Grade Bond Markets



Source: Bloomberg Finance, L.P., as of May 17, 2022. Characteristics are as of the date indicated and are subject to change. **Past performance is not reliable indicator of future performance.** Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income as applicable.

Past rising rate periods illustrate how floating rate securities may behave during this new rate regime. For example, in the last rising rate environment from late 2015 through the end of 2018, when the Fed Funds rate rose from 25 to 250 bps, investment-grade floating rate notes had positive monthly performance in 33 of the 37 months (90%), and the yield increased from 91 to 361 bps.[52] A fixed rate exposure of the same maturity had positive returns in just 23 of 37 months.[53]

In fact, since 2003 investment-grade floating rate notes (+0.23%), on average, have outperformed short duration government (-0.13%) and corporate bonds (0.01%) as well as the Bloomberg US Aggregate Bond Index (-26%) during months when the 2-year Treasury yield increased. And in 86% of those months, returns were positive — more than double the percentage of positive returns for the Agg.[54]

Based on their structure, floating rate notes are a pure play, but investors seeking to mitigate the effects of a new rate regime can also consider the ultra-short duration market. For further yield enhancement and depth of sector coverage in the ultra-short category, an actively managed ultra-short strategy, can also allocate to high yield corporates and securitized credits (asset-backed securities, mortgage-backed securities, and commercial mortgage-backed securities) in addition to investment-grade debt. Beyond the expanded sector reach, the credit selection and risk management process also could add to total return and yield.

Add Structurally Low Duration High Income

Even though rates have risen, the yield on core aggregate bonds is still structurally low following years of coordinated low interest rate global monetary policies. For perspective, the Agg's current 3.5% yield is nearly half of its 6.31% long-term average.[55]

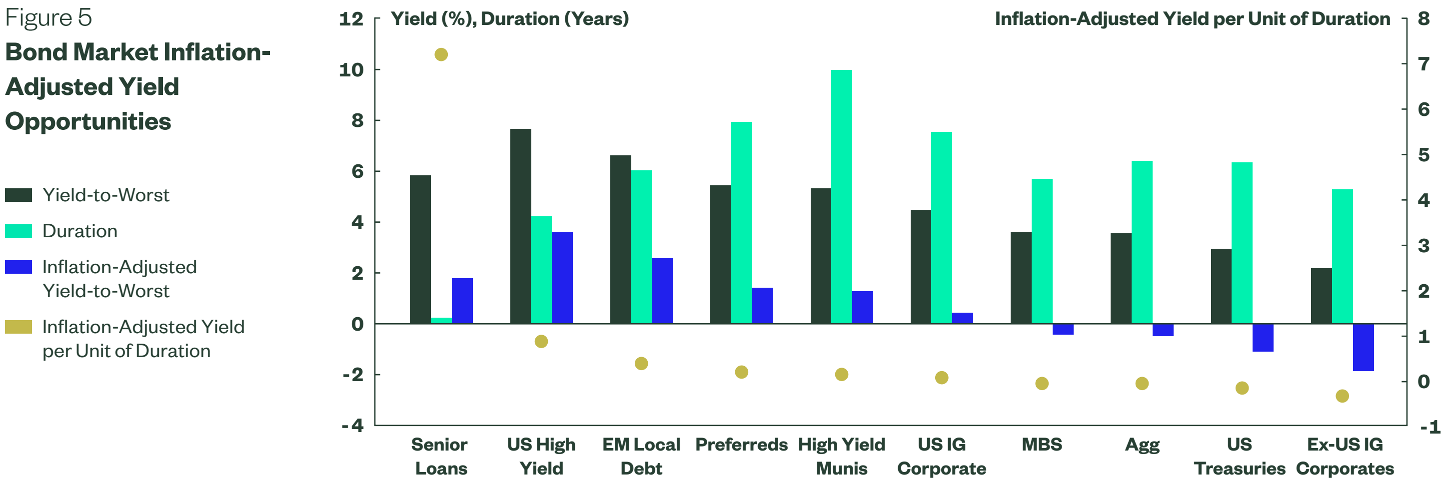
The larger challenge, however, is that the core bond yields are not only structurally nominally low, but low and negative on a real basis. Examining the current rate on the Agg less year-over-year CPI, as well as compared to inflation expectations, provides both a look at real yields with inflation in arrears and on a forward-looking basis.

With this analysis, it is clear that right now the potential income earned from traditional core bonds is unable to keep up with historic elevated levels of inflation. As a result, even if bond price returns were flat for the rest of the year (a zero return), the expected real return, driven by income, would still be negative.

Given these dynamics, investors must target credit instruments that have a yield above inflation expectations. As shown in the following chart, this doesn't leave many options. The inflation-adjusted yield, as illustrated, uses the current nominal yield and subtracts the expected inflation rate over the next two years, as a proxy for the impact of the current inflationary regime.

Figure 5

Bond Market Inflation-Adjusted Yield Opportunities



Source: Bloomberg Finance, L.P., as of May 17, 2022 based on SPDR Americas Research Calculations. Senior Loans: S&P/LSTA Leverage Loan Index; US Treasuries: Bloomberg U.S. Treasury Index, MBS: Bloomberg U.S. MBS Index, Ex-US IG Corporates: Bloomberg Global Corporate Ex USD Index, Agg: Bloomberg U.S. Aggregate Bond Index, High Yield Munis: Bloomberg Municipal Yield Index, IG Corp: Bloomberg U.S. Corporate Bond Index, High Yield: ICE BofA U.S. High Yield Index, EM Local Debt: Bloomberg EM Local Currency Government Diversified Index, Preferreds: ICE Exchange-Listed Fixed & Adjustable Rate Preferred Securities: Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income as applicable. As of the date indicated, the 2-year Inflation expectation was 4.0248%. **Past performance is not reliable indicator of future performance.** Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income as applicable.

Based on this analysis, senior loans, preferreds, emerging market local debt (EMD), and US high yield are the only segments with a positive inflation-adjusted yield, as well as a positive inflation-adjusted yield per unit of duration, a calculation used to measure a breakeven rate of return versus rate risk.

Given this data, and a less than sanguine view of EM prospects as a result of the elevated geopolitical and currency risk, high yield and senior loans are stronger options. And even with the broader drawdown in risk assets this year, credit sentiment remains conducive.

Ratings continue to be decisively skewed toward upgrades and not downgrades, as evidenced by upgrades surpassing downgrades for six consecutive quarters now.[56] Overall corporate default rates are also expected to be well below historical averages over the next 12 months (1.5% versus 4.1%).[57] High yield corporate bond spreads are also above the long-term median (448 bps versus 453 bps),[58] and can no longer be considered stretched — mitigating the fundamental concerns earlier in the year around tight valuations.

Senior loans' floating rate structure may also prove to be even more valuable should rate hikes impact the short end of the curve. This has been on display already this year, as loans are outperforming the Agg by 7.4% year to date.[59]

In addition to mitigating any potential duration-induced return headwinds, loans' floating rate component increases the potential yield as the securities' underlying coupons adjust to the prevailing short-term market rate they are tied to.

Overall, loans' potential to generate high income and their floating rate structure can possibly reduce the negative impact of higher rates, making loans an integral part of a diversified credit portfolio in this environment. Either a pure senior loan strategy or a multi-credit high income strategy that uses floating rate loans, floating rate collateralized loan obligations (CLOs), along with high yield, may benefit investors searching for real income without adding significant duration risks.

Implementation Ideas

For strategies that help limit duration risks in the pursuit of real income, consider:

Ultra-short duration investment-grade strategies, including one that's actively managed	**FLRN** **SPDR® Bloomberg Investment Grade Floating Rate ETF** **ULST** **SPDR® SSGA Ultra Short Term Bond ETF**
Low duration, high income active mandates	**SRLN** **SPDR® Blackstone Senior Loan ETF** **HYBL** **SPDR® Blackstone High Income ETF**

Theme 3

Consider Inflation-Sensitive Alternatives

US consumer inflation hit a 40-year high of 8.5% in March,[60] home prices have jumped 19.8%,[61] and the ongoing pandemic and Russian sanctions continue to add pressure to rising commodity prices and global supply chain disruptions. All this points to inflation persisting for longer than expected.

Meanwhile, rising prices have weighed on household reserves. The US savings rate as a percentage of disposable income dropped to 6.2% in March from 26.6% a year ago,[62] exacerbating concerns of an economic and corporate earnings slowdown. Mitigating these dual headwinds requires looking beyond traditional markets and including inflation-sensitive assets such as real estate investment trusts (REITs), natural resource equities, infrastructure equities, inflation bonds, broad commodities and gold in portfolios.

These alternative exposures may be beneficial over the near term and have the potential to create a more robust risk-aware strategic asset allocation for the long term.

Incorporating Inflation-Sensitive Assets

Whether through their underlying company operations, direct exposure to tangible assets like property or commodities, or promissory notes obligated to pay returns based on the rate of inflation, inflation-sensitive assets tend to benefit from rising and elevated inflationary environments. And given the sensitivity of these assets to monthly changes in US consumer prices, they can be used as substitutes for both equities and bonds.

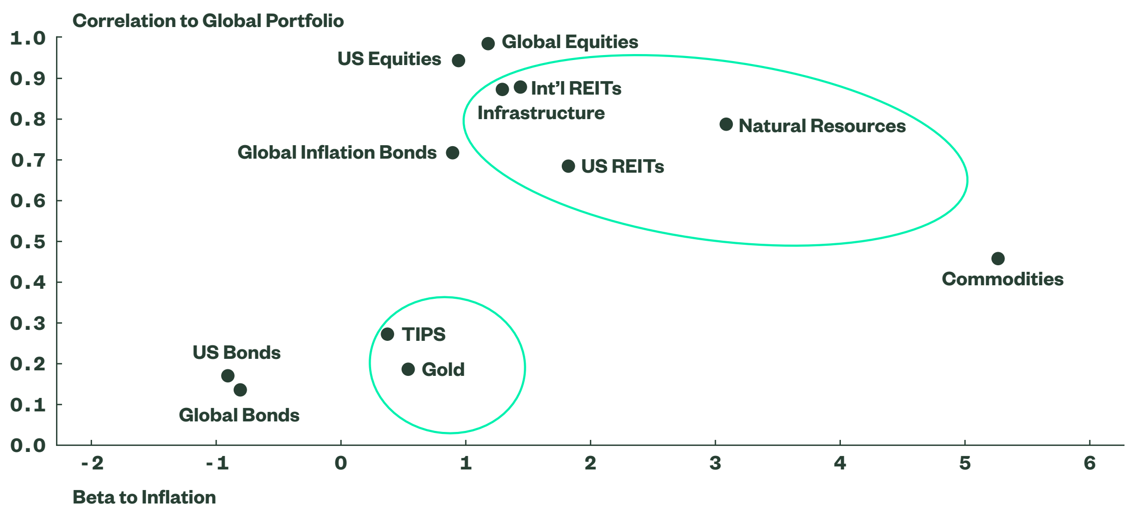
The "equity real assets" of global infrastructure, REITs and natural resources all carry higher beta to US Consumer Price Index (CPI) compared to both US and global equity indices. Additionally, they offer correlations to a global 60/40 stock-bond mix ranging from 0.70 to 0.89 over the prior 20 years, as shown in the following chart. Therefore, adding these assets to help shield portfolios from inflation delivers the additional benefit of increased diversification.

Given that specific sectors may be more volatile than a broad traditional beta exposure, investing in a diversified basket of these inflation-sensitive equity themes and industries may be a reasonable approach.

Inflation-sensitive assets also can complement traditional bond allocations. Global core bonds, while providing a low correlation to equity segments of portfolios, are likely to remain under pressure from both inflation eroding the value of coupons and rising interest rates leading to duration-induced price declines. Bonds' negative beta to inflation, as shown in the following chart, illustrates the trouble bonds have during periods of increasing inflation.

Treasury inflation-protected securities (TIPS) and gold are alternatives to traditional bonds and may help combat inflation and increase diversification. Both exhibit low correlations to the global portfolio, but carry a higher sensitivity to changes in consumer price levels.

Figure 6
Inflation Sensitivity vs. Correlation to Traditional Assets



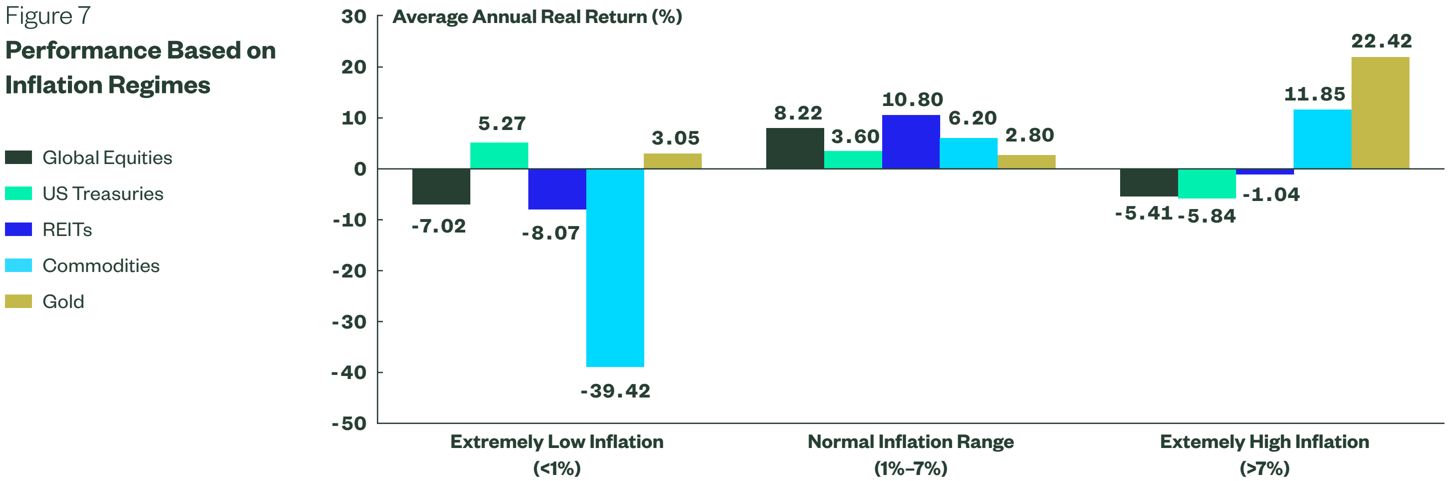
Source: Bloomberg Finance, L.P., State Street Global Advisors. Data from May 1, 2002–April 30, 2022. Global Portfolio = 60% MSCI ACWI Net Total Return USD Index, 40% Bloomberg Global-Aggregate Total Return Index Value Hedged USD. Inflation is measured using US Consumer Price Index (CPI) percent monthly changes. Gold: gold Spot Price (US$/oz), Commodities: Bloomberg Commodity Index Total Return, Natural Resources: S&P Global Natural Resources Net Total Return Index, Infrastructure: S&P Global Infrastructure Net Total Return Index, TIPS: Bloomberg US Govt Inflation-Linked 1–10Yrs Total Return Index, Global Inflation Bonds: FTSE International Inflation-Linked Securities Select Index, US REITs: Dow Jones U.S. Select REIT Total Return Index, International (Int'l REITs): Dow Jones Global ex-US Select Real Estate Securities Total Return Net Index, US Equities: S&P 500 Total Return Index, US Bonds: Bloomberg U.S. Aggregate Total Return Value Unhedged USD, Global Equities: MSCI ACWI Net Total Return USD Index, Global Bonds: Bloomberg Global-Aggregate Total Return Index Value Hedged USD. Data for Global Inflation Bonds starts at February 1, 2011 and data for Natural Resources starts at December 1, 2002. **Past performance is not reliable indicator of future performance.** Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income as applicable.

Among the inflation-sensitive alternatives evaluated, broad commodities exhibited the highest sensitivity to changes in inflation, as shown in the preceding chart. This is not surprising as two of the largest contributors to consumer price indices — energy and food costs — are based on commodities. Yet, while broad commodities have showcased high inflation beta over the past 20 years, today's inflationary environment is more extreme. Taking a longer view showcases the differences between broad commodities and gold.

Using Gold to Defend Against Inflation and Macro Risk

As shown in the following chart, if we go back and include the period of stagflation during the 1970s, gold also has a track record of protecting against periods of extremely high inflation (periods with greater than one standard deviation above the average CPI level). During these limited inflationary shocks, the real return for both gold and commodities was better than that of stocks, bonds, and REITs. And compared with commodities, gold offers the additional benefit of maintaining real returns during periods of extreme disinflation or even deflation.

Figure 7
Performance Based on Inflation Regimes



Source: Bloomberg Finance L.P., State Street Global Advisors. Data from August 1, 1971–April 30, 2022. Gold: LBMA Gold Price PM USD, Global Equities: MSCI World Net Total Return USD Index, Commodities: S&P GSCI Total Return Index, REITs: FTSE NAREIT All Equity REITS Total Return Index, US Treasuries: Bloomberg U.S. Treasury Total Return Unhedged USD. REITs data starts on January 1, 1972 and US Treasuries data starts on January 1, 1973. Average US CPI during this period is 4% with one standard deviation of 3%. **Past performance is not reliable indicator of future performance.** Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income as applicable.

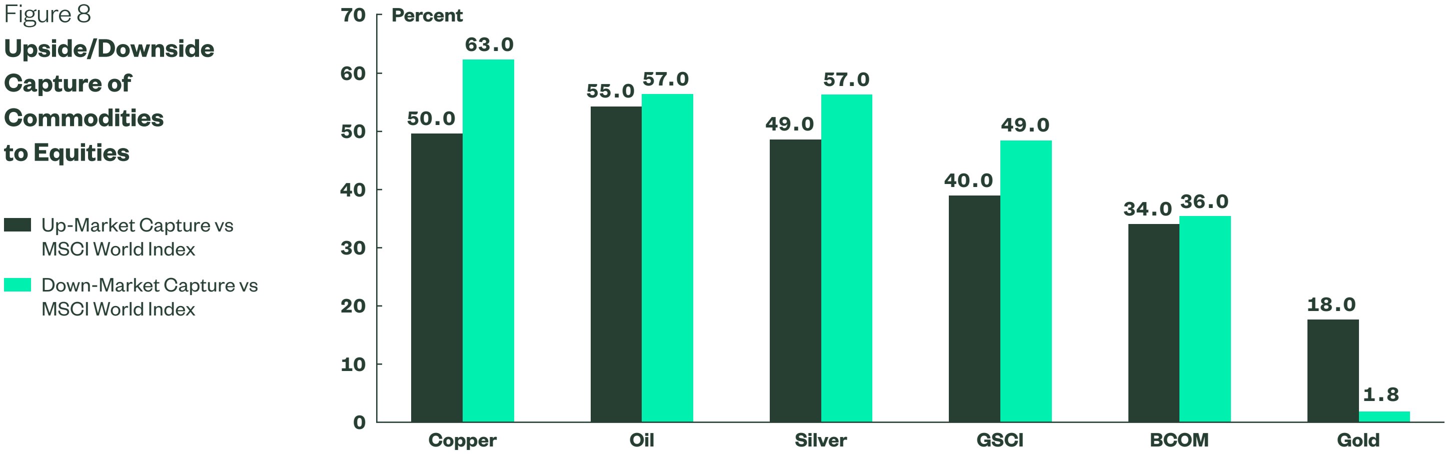
While inflation remains critical to monitor, the confluence of complex macro risks make volatility a material risk to traditional portfolios. Year to date, gold has outperformed the S&P 500 Index by 14.17%,[63] showcasing its ability to protect against equity market pullbacks. Meanwhile gold's track record of providing diversification to financial assets is well documented with a long-term correlation to stocks and bonds of 0.00 and 0.07,[64] respectively.

Exposure to a broad commodity index may offer portfolio diversification benefits, but not to the same extent or as efficiently as gold does in terms of downside risk mitigation. For instance, broad commodities are up 30% year to date but the average 30-day volatility of returns has been 22.57%. Comparatively, the gold price is flat year to date[65] and its volatility has been just 13.72%,[66] 40% lower than broad commodities. Gold's volatility is also in line with its historical average while commodities is 70% greater than its own average.[67]

The power of gold in this capacity can be further demonstrated, beyond our brief sample size above, when comparing its up-market and down-market of equity returns to individual commodities and broad commodity indices historically. Commodities such as oil, copper, and even silver are inherently more cyclical than gold and tend to have a higher correlation to market and economic cycles because their demand depends more on pro-cyclical consumption.[68]

Figure 8

Upside/Downside Capture of Commodities to Equities



Source: Bloomberg, State Street Global Advisors. Data from January 1, 1989 to April 30, 2022. Copper: COMEX Copper front month futures contract, Oil: COMEX WTI Crude front month futures contract, Silver: silver spot price in US$/oz, Gold: gold spot price in US$/oz, BCOM: Bloomberg Commodity Total Return Index, GSCI: S&P GSCI Total Return Index. **Past performance is not reliable indicator of future performance.** Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income as applicable.

As a result, commodities historically capture more of the upside movements in global equities compared to gold. But they also experience more of the downside when equities fall. The end result is that commodities' upside/downside capture ratio of equity returns is less than 1.0 on average, making the asset class a less effective portfolio diversifier.[69] Gold, on the other hand, may not outpace commodities when equities rise, but it provides protection by averaging only a slight negative capture of 1.8% during periods of negative global equity returns.[70]

Particularly in an environment of elevated volatility due to economic and geopolitical uncertainty, increasing exposure to assets with low correlations and an attractive downside capture ratio is key to creating truly diversified portfolio allocations that result in an asymmetric total portfolio return experience over time.

Implementation Ideas

Adding inflation-sensitive alternatives may help mitigate the impact of elevated inflation and volatility driven by economic and geopolitical uncertainty. Consider:

Gold exposure for inflation and volatility management	**GLD®** **SPDR® Gold Shares®** **GLDM℠** **SPDR® Gold MiniShares℠ Trust**
An actively managed diversified real asset strategy for risk-managed exposure	**RLY** **SPDR® SSGA Multi-Asset Real Return ETF**
A real asset equity position with high inflation sensitivity for differentiated beta	**GNR** **SPDR® S&P Global Natural Resources ETF**

Glossary

Basis Point (bps) A unit of measure for interest rates, investment performance, pricing of investment services and other percentages in finance. One basis point is equal to one-hundredth of 1 percent, or 0.01%.

Beta Measures the volatility of a security or portfolio in relation to the market, with the broad market usually measured by the S&P 500 Index. A beta of 1 indicates the security will move with the market. A beta of 1.3 means the security is expected to be 30% more volatile than the market, while a beta of 0.8 means the security is expected to be 20% less volatile than the market.

Bloomberg Commodity Total Return Index The index is composed of futures contracts and reflects the returns on a fully collateralized investment in the BCOM.

Bloomberg Global Aggregate Corporate Index This index is a measure of global investment grade, fixed-rate corporate debt and includes bonds from developed and emerging markets issuers within the industrial, utility and financial sectors.

The Bloomberg Global Aggregate ex-USD >$1B Corporate Bond Index The index is designed to be a broad based measure of the global investment-grade, fixed rate, fixed income corporate markets outside the United States.

Bloomberg U.S. Aggregate Bond Index A benchmark that provides a measure of the performance of the U.S. dollar denominated investment grade bond market. The “Agg” includes investment-grade government bonds, investment-grade corporate bonds, mortgage pass through securities, commercial mortgage backed securities and asset backed securities that are publicly for sale in the US.

Bloomberg U.S. Credit Bond Index A benchmark that represents the performance of investment-grade corporate debt and agency bonds that are dollar denominated and have a remaining maturity of greater than one year.

Bloomberg US Dollar Floating Rate Note < 5 Years Index A fixed-income benchmark consisting of debt instruments that pay a variable coupon rate, a majority of which are based on 3-month LIBOR, with a fixed spread. The Index may include US registered, dollar-denominated bonds issued by non-US corporations, governments and supranational entities. Excluded from the Index are fixed-rate bullet bonds, fixed-rate puttable and fixed-rate callable bonds, fixed rate and fixed to floating capital securities, bonds with equity-linked features, inflation linked bonds and securitized bonds.

Bloomberg U.S. Securitized Index The index is a composite of asset-backed securities, collateralized mortgage-backed securities (ERISA-eligible) and fixed rate mortgage-backed securities. It is not possible to invest in an unmanaged index.

Bloomberg U.S. Treasury Bond Index A benchmark of US dollar-denominated, fixed-rate, nominal debt issued by the US Treasury. Treasury bills are excluded by the maturity constraint, but are part of a separate Short Treasury Index.

Bloomberg U.S. Treasury 1–3 Year Index The index measures US dollar-denominated, fixed-rate, nominal debt issued by the US Treasury. To be included in the index, securities must have at least one and up to, but not including, three years to maturity.

Bloomberg U.S. 1–3 Year Corporate Bond Index A benchmark designed to measure the performance of the short-term U.S. corporate bond market. It includes publicly issued U.S. dollar-denominated and investment-grade corporate issues that have a remaining maturity of greater than or equal to one year and less than three years.

Bloomberg U.S. 1–5 year Government/Credit Float Adjusted Index The index includes U.S. Treasury and agency obligations, as well as investment-grade (rated Baa3 or above by Moody’s) corporate and international dollar-denominated bonds, all having maturities of 1 to 5 years.

Glossary

Breakeven Rates The difference in yield between inflation-protected and nominal debt of the same maturity. If the breakeven rate is negative it suggests traders are betting the economy may face deflation in the near future.

CBOE Volatility Index (VIX) The index is a measure of the market's expectation of 30-day volatility. It is constructed using the implied volatilities of a wide range of S&P 500 index options.

Collateralized Loan Obligations (CLOs) Securities that are backed by a pool of debt, typically business loans, that are grouped by credit quality into tranches.

Commodities A basic good used in commerce that is interchangeable, or "fungible," with other commodities of the same type. Commodities are most often used as inputs in the production of other goods or services For example, crude oil is a commodity that is used to make motor fuels, and heating oil and lubricants.

Consumer Price Index (CPI) A widely used measure of inflation at the consumer level that helps evaluate changes in cost of living. The CPI is composed of a basket of consumer goods and services across the economy and is calculated by the US Department of Labor by assessing price changes in the basket of goods and services and averaging them. Core CPI is the same series, but excluding food and energy prices, which are considered to be volatile enough to distort the meaning and usefulness of so-called headline CPI. The absence of food and energy, means the core series reflects long-term inflation trends more accurately.

Diversification A strategy of combining a broad mix of investments and asset class to potentially limit risk, although diversification does not guarantee protecting against a loss in falling markets.

Dot-Com Bubble The speculative stock-market run-up of the late 1990s that grew out of excitement about the potential of the Internet. While companies such as eBay and Amazon were born in this period, countless other start-ups with vague business plans and no profits were funded by investors dreaming of winning big. The fervor peaked on March 10, 2000, and a nearly three-year bear market followed.

Drawdown A specific decline in the stock market during a specific time period that is measured in percentage terms as a peak-to-trough move.

Down-Market Capture Ratio The down-market capture ratio is the statistical measure of an investment manager's overall performance in up-markets. It is used to evaluate how well an investment manager performed relative to an index during periods when that index has dropped.

Duration A commonly used measure, expressed in years, that measures the sensitivity of the price of a bond or a fixed-income portfolio to changes in interest rates or interest-rate expectations. The greater the duration, the greater the sensitivity to interest rates changes, and vice versa. Specifically, the specific duration figure indicates, on a percentage basis, by how much a portfolio of bonds will rise or fall when interest rates shift by 1 percentage point.

Earnings per Share (EPS) A company's profit divided by the outstanding shares of its common stock. The resulting number serves as an indicator of a company's profitability. It is common for a company to report EPS that is adjusted for extraordinary items and potential share dilution.

Emerging Markets (EM) The economy of a developing nation that is becoming more engaged with global markets as it grows. Countries classified as emerging market economies are those with some, but not all, of the characteristics of a developed market. As an emerging market economy progresses it typically becomes more integrated with the global economy, as shown by increased liquidity in local debt and equity markets, increased trade volume and foreign direct investment, and the domestic development of modern financial and regulatory institutions.

Glossary

Emerging Market Local Debt (EMD) Bonds issued by less developed countries.

Equities An instrument that signifies an ownership position, or equity, in a corporation, and which represents a claim on its proportionate share in the corporation's assets and profits.

Excess Returns Returns achieved above and beyond the return of a proxy. Excess returns will depend on a designated investment return comparison for analysis.

Expected Return Expected return is the amount of profit or loss an investor anticipates on an investment that has various known or expected rates of return. It is based on historical data and is not guaranteed. It is calculated by multiplying potential outcomes by the chances of them occurring, and summing these results. For example, if an investment has a 50% chance of gaining 20% and a 50% change of losing 10%, the expected return is (50% x 20% + 50% x -10%), or 5%.

Growth A strategy that focuses on companies that have the potential to grow their earnings at a high rate.

Hawk or Inflation Hawk A monetary policymaker who favors relatively high interest rates aimed at keeping inflationary pressure under tight control. Hawks would rather keep recessionary pressures in check through higher interest rates instead of embrace lower-rate monetary policies that lead to inflationary economic growth.

Inflation The decline of purchasing power of a given currency over time. A quantitative estimate of the rate at which the decline in purchasing power occurs can be reflected in the increase of an average price level of a basket of selected goods and services in an economy over some period of time. The rise in the general level of prices, often expressed as a percentage, means that a unit of currency effectively buys less than it did in prior periods.

Inflation An overall increase in the price of an economy's goods and services during a given period, translating to a loss in purchasing power per unit of currency. Inflation generally occurs when growth of the money supply outpaces growth of the economy. Central banks attempt to limit inflation, and avoid deflation, in order to keep the economy running smoothly.

Inflation-Adjusted Return The measure of return that takes into account the time period's inflation rate. The purpose of the inflation-adjusted return metric is to reveal the return on an investment after removing the effects of inflation.

Interest Rate The amount charged, expressed as a percentage of principal, by a lender to a borrower for the use of assets.

Liquidity The ability to quickly buy or sell an investment in the market without impacting its price. Trading volume is a primary determinant of liquidity.

MSCI EAFE Index An equities benchmark that captures large- and mid-cap representation across 22 developed market countries around the world, excluding the US and Canada.

MSCI Emerging Markets Index The MSCI Emerging Markets Index captures large and mid-cap representation across 23 emerging markets countries. With 834 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

MSCI USA Index An index 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.

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

MSCI World Index The MSCI World Index is a free-float weighted equity index. It includes about 1,600 stocks from developed world markets, and does not include emerging markets.

Price-to-Book Ratio (P/B Ratio) A valuation metric that compares a company's current share price against its book value, or the value of all its assets minus intangible assets and liabilities. The P/B is a ratio of investor sentiment on the value of a stock to its actual value according to the Generally Accepted Accounting Principles (GAAP). A high P/B means either that investors have overvalued the company, or that its accountants have undervalued it.

Price-to-Earnings Ratio (P/E Ratio) A valuation metric that uses the ratio of the company's current stock price versus its earnings per share.

Quality Characterized by firms with strong balance sheets and high profitablity.

Real Estate Investment Trusts (REITs) Companies that own or finance income-producing real estate across a range of property sectors. These real estate companies have to meet a number of requirements to qualify as REITs. Most REITs trade on major stock exchanges, and they offer a number of benefits to investors.

Return Return is anything a business or an investor reaps above principal amount of investment. Return is received in many different forms besides rising principal, such as interest and dividends. Return can also be linked to currencies, such as when a business holds foreign-currency savings accounts, In such cases, return includes the interest received and the benefit from the fluctuation of foreign currency rates.

S&P 500 Index A stock market index tracking the performance of 500 large companies listed on stock exchanges in the United States. It is one of the most commonly followed equity indices.

S&P GSCI Total Return Index A production-weighted index that tracks the performance of 24 commodity futures contracts. The index tilts to commodities that are more heavily produced globally.

Senior Loans Floating-rate debt issued by corporations and backed by collateral such as real estate or other assets.

Sticky Consumer Price Index A subset of goods and services included in the CPI that change price relatively infrequently. Because these goods and services change price relatively infrequently, they are thought to incorporate expectations about future inflation to a greater degree than prices that change on a more frequent basis. One possible explanation for sticky prices could be the costs firms incur when changing price.

Treasury Inflation-Protected Securities (TIPS) A type of Treasury security issued by the U.S. government. TIPS are indexed to inflation in order to protect investors from a decline in the purchasing power of their money. As inflation rises, TIPS adjust in price to maintain its real value.

Up-Market Capture Ratio The up-market capture ratio is the statistical measure of an investment manager's overall performance in up-markets. It is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen.

Glossary

Value Characterized by lower price levels relative to fundamentals, such as earnings.

Volatility The tendency of a market index or security to jump around in price. Volatility is typically expressed as the annualized standard deviation of returns. In modern portfolio theory, securities with higher volatility are generally seen as riskier due to higher potential losses.

Yield The income produced by an investment, typically calculated as the interest received annually divided by the price of the investment. Yield comes from interest-bearing securities, such as bonds and dividend-paying stocks.

Yield-to-Worst The lowest potential yield that investors can expect when investing in a callable bond without the issuer defaulting.

Endnotes

1 Strategas Research Partners, May 20, 2022.

2 Strategas Research Partners, May 20, 2022.

3 Bloomberg Finance, L.P., as of May 27, 2022.

4 Strategas Research Partners, May 20, 2022.

5 Bloomberg Finance, L.P., as of May 27, 2022.

6 Bloomberg Finance, L.P., as of May 18, 2022 based on the MSCI ACWI IMI Index.

7 Bloomberg Finance, L.P., as of May 18, 2022 based on the S&P 500 Index for data from 1990 to 2022.

8 Bloomberg Finance, L.P., as of May 16, 2022.

9 Bloomberg Finance L.P., as of May 16, 2022 based on SPDR Americas Research calculations where Currency-implied volatility is measured by the J.P. Morgan Global FX Volatility Index. Rates-implied volatility is measured by the MOVE Index. Oil-implied volatility is derived from oil future contracts over the last three years.

10 Bloomberg Finance, L.P., as of May 18, 2022 based on SPDR Americas Research calculations of the daily returns for the S&P 500 Index.

11 Bloomberg Finance, L.P., as of May 18, 2022 based on SPDR Americas Research calculations based on SPDR Americas Research calculations of the daily returns for the S&P 500 Index.

12 Bloomberg Finance L.P., as of May 18, 2022 based on SPDR Americas Research calculations of the daily returns for the S&P 500 Index.

13 "Wall Steet Warns Stock-Bond Liquidity Is Getting as Bad as 2020", Bloomberg May 17, 2022.

14 Based on the underlying holdings of funds classified by SPDR Americas Research as Broad Innovation funds within the thematic ETF marketplace as of May 18, 2022 per Bloomberg Finance L.P., data and SPDR Americas Research calculations.

15 Based on the Nomura US Quality Long and Short Basket Indexes as of May 18, 2022 per Bloomberg Finance L.P., data.

16 Based on the Nomura US Quality Long and Short Basket Indexes as of May 18, 2022 per Bloomberg Finance L.P., data.

17 Based on the earnings estimate for the S&P 500 Index, MSCI EAFE Index, and MSCI EM Index per FactSet data, as of May 16, 2022.

18 Based on the performance of the MSCI EM Index per Bloomberg Finance L.P., data as of May 16, 2022.

19 Based on the performance of the MSCI EM Index relative to the MSCI World Index per Bloomberg Finance L.P., data as of May 16, 2022.

20 FactSet, as of May 16, 2022.

21 FactSet, as of May 16, 2022.

22 FactSet, as of May 16, 2022.

23 FactSet, as of May 16, 2022.

24 FactSet, as of May 16, 2022.

25 FactSet, as of May 16, 2022.

26 FactSet, as of May 16, 2022.

27 FactSet, as of May 16, 2022.

28 "Target Pummeled in Worst Rout Since Black Monday as Margins Sag", Bloomberg May 18, 2022; "Dollar Tree, Costco, Dollar General Shares Decline After Retail Giants Reported Higher Costs in Earnings", Bloomberg May 18, 2022.

29 FactSet, as of May 16, 2022.

30 Based on a composite of six metrics for the MSCI USA Quality Index using price-to-book, price-to-earnings, price-to-next-twelve-months earnings, price-to-cash-flow, enterprise value-to-sales, and price-to-sales ratios from 2013 to 2022.

31 Based on a composite of six metrics for the MSCI USA Quality Index and the S&P 500 Index using price-to-book, price-to-earnings, price-to-next-twelve-months earnings, price-to-cash-flow, enterprise value-to-sales, and price-to-sales ratios from 2013 to 2022.

32 Based on a composite of six metrics for the MSCI USA Quality Index and the S&P 500 Index using price-to-book, price-to-earnings, price-to-next-twelve-months earnings, price-to-cash-flow, enterprise value-to-sales, and price-to-sales ratios from 2013 to 2022.

Endnotes

33 Based on the return of the MSCI USA Value Weighted Index, the S&P 500 Growth Index, and the S&P 500 Index as of May 16, 2022 per Bloomberg Finance L.P., data.

34 Based on a composite of six metrics for the MSCI USA Value Weighted Index using price-to-book, price-to-earnings, price-to-next-twelve-months earnings, price-to-cash-flow, enterprise value-to-sales, and price-to-sales ratios from 2013 to 2022.

35 Based on a composite of six metrics for the MSCI USA Value Weighted Index and the S&P 500 Index using price-to-book, price-to-earnings, price-to-next-twelve-months earnings, price-to-cash-flow, enterprise value-to-sales, and price-to-sales ratios from 2013 to 2022.

36 Bloomberg Finance, L.P., as of May 16, 2022, based on the correlation of the monthly excess returns of the S&P 500 Growth Index to the S&P 500 Index to the changes in the US 10-year yield as well as the monthly excess returns of the S&P 500 Value Index to the S&P 500 Index to the changes in the US 10-year yield from 1991 to 2022 based on SPDR Americas Research calculations.

37 Based on a composite of six metrics for the MSCI USA Quality Index and the MSCI USA Value Weighted Index using price-to-book, price-to-earnings, price-to-next-twelve-months earnings, price-to-cash-flow, enterprise value-to-sales, and price-to-sales ratios from 2013 to 2022.

38 Bloomberg Finance, L.P., as of May 17, 2022.

39 Bloomberg Finance, L.P., as of May 17, 2022 based on consensus economist estimates.

40 "Powell Vows Hikes Until 'Clear and Convincing' Cooling in Price," Bloomberg May 17, 2022.

41 Bloomberg Finance, L.P., as of May 17, 2022.

42 Bloomberg Finance, L.P., as of May 17, 2022 based on the difference between the US 2-year yield and the Fed Funds Target Rate from 1976-2022 using monthly intervals.

43 Bloomberg Finance, L.P., as of May 17, 2022 based on SPDR Americas Research calculations.

44 Bloomberg Finance L.P., as of May 17, 2022 based on SPDR Americas Research calculations.

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46 "Term Premia Roar Back as Inflation Pressures Persist", Bloomberg May 18, 2022.

47 Bloomberg Finance L.P., as of May 17, 2022 based on the yield on the Bloomberg U.S. Aggregate Index yield-to-worst and the US 2-year breakeven rate.

48 Bloomberg Finance L.P., based on the average option adjusted duration of the Bloomberg U.S. Aggregate Index in 1994 versus today per calculations by SPDR Americas Research as of May 17, 2022.

49 Bloomberg Finance, L.P., as of May 17, 2022 based on the Bloomberg U.S. Aggregate Bond Index.

50 Bloomberg Finance L.P., as of May 17, 2022 based on the Bloomberg U.S. FRN < 5 Years Index.

51 Bloomberg Finance L.P., as of May 17, 2022 based on the Bloomberg U.S. 1–5 year Government/Credit Float-Adjusted Bond Index.

52 Bloomberg Finance L.P., as of May 17, 2022 based on the Bloomberg U.S. FRN < 5 Years Index.

53 Bloomberg Finance L.P., as of May 17, 2022 based on the Bloomberg U.S. 1–5 year Government/Credit Float-Adjusted Bond Index.

54 Bloomberg Finance, L.P., as of May 17, 2022 based on monthly returns from 2003 to 2022 screened for when the US 2-year yield rose month-over-month for Bloomberg U.S. FRN < 5 Years Index, Bloomberg U.S. 1–5 Year Government/Credit Float-Adjusted Bond Index, Bloomberg U.S. 1–5 year Corporate Bond Index, and the Bloomberg U.S. Aggregate Bond Index.

55 Bloomberg Finance, L.P., as of May 17, 2022 based on yield data for the Bloomberg U.S. Aggregate Bond Index since 1976 to 2022.

56 Bloomberg Finance, L.P., as of May 17, 2022 based on rating actions for investment grade and high yield issuers.

57 Fitch Ratings, May, 2022.

58 Bloomberg Finance, L.P., as of May 17, 2022 based on the option-adjusted-spread for the Bloomberg U.S. Corporate High Yield Index from 1993 to 2022.

59 Based on the return of the S&P/LSTA Leveraged Loan Index and Bloomberg U.S. Aggregate Bond Index as of May 17, 2022.

60 Bloomberg Finance, L.P., State Street Global Advisors. Based on headline US Consumer Price Inflation (CPI) Index based on year over year percent change as of March 31, 2022.

61 Bloomberg Finance, L.P., State Street Global Advisors. Based on S&P CoreLogic Case-Shiller U.S. National Home Price NSA Index year-over-year percentage change as of February 28, 2022.

62 Bloomberg Finance, L.P., State Street Global Advisors. Based on US Personal Saving as a % of Disposable Personal Income as of March 31, 2022.

63 Bloomberg Finance L.P., as of May 13, 2022 measuring S&P 500 total return index and gold spot price (US$/oz).

64 Bloomberg Finance L.P., & State Street Global Advisors; S&P 500 monthly correlation is from 08/31/1971 to 04/30/2022 and Bloomberg Barclays U.S. Aggregate Bond Index monthly correlation is from 3/31/1976 to 04/30/2022. Correlation measures the degree to which the deviations of one variable from its mean are related to those of a different variable from its respective mean. Stocks represented by S&P 500 Index; Bonds represented by the Bloomberg Barclays U.S. Aggregate Index. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income.

65 Gold spot price (US$/oz) year to date is -0.28% as of May 16, 2022.

Endnotes

66 Bloomberg Finance L.P., as of May 16, 2022 based on the 30-day volatility of the spot price of gold and the Bloomberg Commodity Index.

67 Bloomberg Finance L.P., as of May 16, 2022 based on the 30-day volatility of the spot price of gold and the Bloomberg Commodity Index from 2017–2022.

68 World Gold Council, "Gold, commodities and reflation" March 2021.

69 Bloomberg Finance L.P., State Street Global Advisors. Data from January 1, 1989 to April 30, 2022.

70 Bloomberg Finance L.P., State Street Global Advisors. Data from January 1, 1989 to April 30, 2022.

Marketing communication.

The views expressed in this material are the views of Michael Arone, Matthew Bartolini and Maxwell Gold through the period ended May 27, 2022 and are subject to change based on market and other conditions. This document contains certain statements that may be deemed forward-looking statements. Please note that any such statements are not guarantees of any future performance and actual results or developments may differ materially from those projected.

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Prior to 10/31/2021, the SPDR® Bloomberg Investment Grade Floating Rate ETF was known as the SPDR® Bloomberg Barclays Investment Grade Floating Rate ETF.

Diversification does not ensure a profit or guarantee against loss.

Investing involves risk including the risk of loss of principal.

Equity securities may fluctuate in value and can decline significantly in response to the activities of individual companies and general market and economic conditions.

Derivative investments may involve risks such as potential illiquidity of the markets and additional risk of loss of principal.

Companies with large market capitalizations go in and out of favor based on market and economic conditions. Larger companies tend to be less volatile than companies with smaller market capitalizations. In exchange for this potentially lower risk, the value of the security may not rise as much as companies with smaller market capitalizations.

Frequent trading of ETFs could significantly increase commissions and other costs such that they may offset any savings from low fees or costs.

Non-diversified funds that focus on a relatively small number of stocks or issuers tend to be more volatile than diversified funds and the market as a whole.

Investments in asset backed and mortgage backed securities are subject to prepayment risk which can limit the potential for gain during a declining interest rate environment and increases the potential for loss in a rising interest rate environment.

Derivative investments may involve risks such as potential illiquidity of the markets and additional risk of loss of principal.

The value of the debt securities may increase or decrease as a result of the following: market fluctuations, increases in interest rates, inability of issuers to repay principal and interest or illiquidity in the debt securities markets; the risk of low rates of return due to reinvestment of securities during periods of falling interest rates or repayment by issuers with higher coupon or interest rates; and/or the risk of low income due to falling interest rates. To the extent that interest rates rise, certain underlying obligations may be paid off substantially slower than originally anticipated and the value of those securities may fall sharply. This may result in a reduction in income from debt securities income.

Investments in **small-sized companies** may involve greater risks than in those of larger, better known companies. Returns on investments in stocks of small companies could trail the returns on investments in stocks of larger companies.

Passively managed funds hold a range of securities that, in the aggregate, approximates the full Index in terms of key risk factors and other characteristics. This may cause the fund to experience tracking errors relative to performance of the index.

The **value style** of investing that emphasizes undervalued companies with characteristics for improved valuations, which may never improve and may actually have lower returns than other styles of investing or the overall stock market.

Low volatility funds can exhibit relative low volatility and excess returns compared to the Index over the long term; both portfolio investments and returns may differ from those of the Index. The fund may not experience lower volatility or provide returns in excess of the Index and may provide lower returns in periods of a rapidly rising market. Active stock selection may lead to added risk in exchange for the potential outperformance relative to the Index.

Volatility management techniques may result in periods of loss and underperformance may limit the Fund's ability to participate in rising markets and may increase transaction costs.

A **"quality" style** of investing emphasizes companies with high returns, stable earnings, and low financial leverage. This style of investing is subject to the risk that the past performance of these companies does not continue or that the returns on "quality" equity securities are less than returns on other styles of investing or the overall stock market.

While the shares of ETFs are tradable on secondary markets, they may not readily trade in all market conditions and may trade at significant discounts in periods of **market stress.**

Foreign (non-U.S.) securities may be subject to greater political, economic, environmental, credit and information risks. Foreign securities may be subject to higher volatility than U.S. securities, due to varying degrees of regulation and limited liquidity. These risks are magnified in **emerging markets.**

Investing in REITs involves certain distinct risks in addition to those risks associated with investing in the real estate industry in general. Equity REITs may be affected by changes in the value of the underlying property owned by the REITs, while mortgage REITs may be affected by the quality of credit extended. REITs are subject to heavy cash flow dependency, default by borrowers and self-liquidation. REITs, especially mortgage REITs, are also subject to interest rate risk (i.e., as interest rates rise, the value of the REIT may decline).

The major risks associated with investing in the natural resources sector, including large price volatility due to non-diversification and concentration in natural resources companies.

There are risks associated with investing in Real Assets and the Real Assets sector, including real estate, precious metals and natural resources. Investments can be significantly affected by events relating to these industries.

Increase in real interest rates can cause the price of inflation-protected debt securities to decrease. Interest payments on inflation-protected debt securities can be unpredictable.

Commodities and commodity-index linked securities may be affected by changes in overall market movements, changes in interest rates, and other factors such as weather, disease, embargoes, or political and regulatory developments, as well as trading activity of speculators and arbitrageurs in the underlying commodities.

Commodities investing entails significant risk as commodity prices can be extremely volatile due to wide range of factors. A few such factors include overall market movements, real or perceived inflationary trends, commodity index volatility, international, economic and political changes, change in interest and currency exchange rates.

Actively managed ETFs do not seek to replicate the performance of a specified index. These investments may have difficulty in liquidating an investment position without taking a significant discount from current market value, which can be a significant problem with certain lightly traded securities. The fund is actively managed and may underperform its benchmarks. An investment in the fund is not appropriate for all investors and is not intended to be a complete investment program. Investing in the fund involves risks, including the risk that investors may receive little or no return on the investment or that investors may lose part or even all of the investment.

The fund is actively managed. The sub-adviser's judgments about the attractiveness, relative value, or potential appreciation of a particular sector, security, commodity or investment strategy may prove to be incorrect, and may cause the fund to incur losses. There can be no assurance that the sub-adviser's investment techniques and decisions will produce the desired results.

Investments in asset backed and mortgage backed securities are subject to prepayment risk which can limit the potential for gain during a declining interest rate environment and increases the potential for loss in a rising interest rate environment.

Generally, among asset classes, stocks are more volatile than bonds or short-term instruments. Government bonds and corporate bonds generally have more moderate short-term price fluctuations than stocks, but provide lower potential long-term returns. U.S. Treasury Bills maintain a stable value if held to maturity, but returns are generally only slightly above the inflation rate.

Because of their narrow focus, financial sector funds tend to be more volatile. Preferred Securities are subordinated to bonds and other debt instruments, and will be subject to greater credit risk. The municipal market can be affected by adverse tax, legislative or political changes and the financial condition of the issuers of municipal securities. The fund may contain interest rate risk (as interest rates rise bond prices usually fall); the risk of issuer default; inflation risk; and issuer call risk. The Fund may invest in U.S. dollar-denominated securities of foreign issuers traded in the United States.

High-yield municipal bonds are subject to greater credit risk and are likely to be more sensitive to adverse economic changes or subject to greater risk of loss of income and principal than higher-rated securities.

Investments in **senior loans** are subject to credit risk and general investment risk. Credit risk refers to the possibility that the borrower of a Senior Loan will be unable and/or unwilling to make timely interest payments and/or repay the principal on its obligation. Default in the payment of interest or principal on a Senior Loan will result in a reduction in the value of the Senior Loan and consequently a reduction in the value of the Portfolio's investments and a potential decrease in the net asset value ("NAV") of the Portfolio.

Bonds generally present less short-term risk and volatility than stocks, but contain interest rate risk (as interest rates rise, bond prices usually fall); issuer default risk; issuer credit risk; liquidity risk; and inflation risk. These effects are usually pronounced for longer-term securities. Any fixed income security sold or redeemed prior to maturity may be subject to a substantial gain or loss.

Investing in high yield fixed income securities, otherwise known as **"junk bonds"**, is considered speculative and involves greater risk of loss of principal and interest than investing in investment grade fixed income securities. These Lower-quality debt securities involve greater risk of default or price changes due to potential changes in the credit quality of the issuer.

Increase in real interest rates can cause the price of inflation-protected debt securities to decrease. Interest payments on **inflation-protected debt securities** can be unpredictable.

Investing involves risk, and you could lose money on an investment in each of SPDR® Gold Shares Trust ("GLD®" or "GLD") and SPDR® Gold MiniShares℠ Trust ("GLDM℠" or "GLDM"), a series of the World Gold Trust (together, the "Funds").

Investing in commodities entails significant risk and is not appropriate for all investors. Important Information Relating to GLD and GLDM:
GLD and the World Gold Trust have each filed a registration statement (including a prospectus) with the Securities and Exchange Commission ("SEC") for GLD and GLDM, respectively. Before you invest, you should read the prospectus in the registration statement and other documents each Fund has filed with the SEC for more complete information about each Fund and these offerings. Please see each Fund's prospectus for a detailed discussion of the risks of investing in each Fund's shares. The GLD prospectus is available by clicking here, and the GLDM prospectus is available by clicking here. You may get these documents for free by visiting EDGAR on the SEC website at sec.gov or by visiting spdrgoldshares.com. Alternatively, the Funds or any authorized participant will arrange to send you the prospectus if you request it by calling 866.320.4053.

None of the Funds is an investment company registered under the Investment Company Act of 1940 (the "1940 Act"). As a result, shareholders of each Fund do not have the protections associated with ownership of shares in an investment company registered under the 1940 Act. GLD and GLDM are not subject to regulation under the Commodity Exchange Act of 1936 (the "CEA"). As a result, shareholders of each of GLD and GLDM do not have the protections afforded by the CEA.

Shares of each Fund trade like stocks, are subject to investment risk and will fluctuate in market value.

The values of GLD shares and GLDM shares relate directly to the value of the gold held by each Fund (less its expenses), respectively. Fluctuations in the price of gold could materially and adversely affect an investment in the shares. The price received upon the sale of the shares, which trade at market price, may be more or less than the value of the gold represented by them.

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