Janus Henderson INVESTORS

MARKET GPS

INVESTMENT OUTLOOK 2024:

CHAIN REACTIONS

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Janus Henderson **Market GPS** is our semi-annual outlook that **blends the thinking of our investment and Portfolio Construction and Strategy** (PCS) teams. We apply **research-driven analysis** across all major asset classes globally, resulting in **differentiated insights.** Through **thousands of consultations,** the PCS team identifies trends, themes, and opportunities in portfolio construction. The combination of these perspectives can **help clients position** for the route ahead.

CHAIN REACTIONS

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GLOBAL MARKETS IN 2024: CHAIN REACTIONS

ADAM HETTS, GLOBAL HEAD OF MULTI-ASSET

After a surprisingly robust equities market in 2023, we believe the global economy is entering the new year in a worryingly fragile state, and it is our view that defensive positioning is merited. Alongside this immediate concern is the need to capitalize on opportunities derived from what we see as a paradigm shift driven by three secular forces: Geopolitical realignment, transitioning demographics, and the return of the 'cost of capital' thanks to higher interest rates.

Fortunately, current market dynamics create sufficient opportunities to remain defensively positioned while also maintaining exposure to long-term compounding opportunities in the secular themes reshaping the global economy. We see risk in keeping cash on the sidelines as history tells us that 1) even at today's enticing rates, cash significantly underperforms a balanced portfolio from the start of economic weakness through initial recovery, and 2) increasing interest rate risk after central banks begin easing policy tends to be too late.

A likely series of forthcoming stop-and-go economic readings suggests that quality should be prioritized across multi-asset portfolios and informs our current defensive positioning. For stocks, that means exposure to companies capable of consistently growing earnings across the cycle. Within fixed income, investors can again lean into investment-grade bonds for income generation and diversification against equities. Cross-asset diversification takes on elevated importance under such conditions, with alternative strategies uncorrelated to equities and bonds also playing a role.

Chain reactions

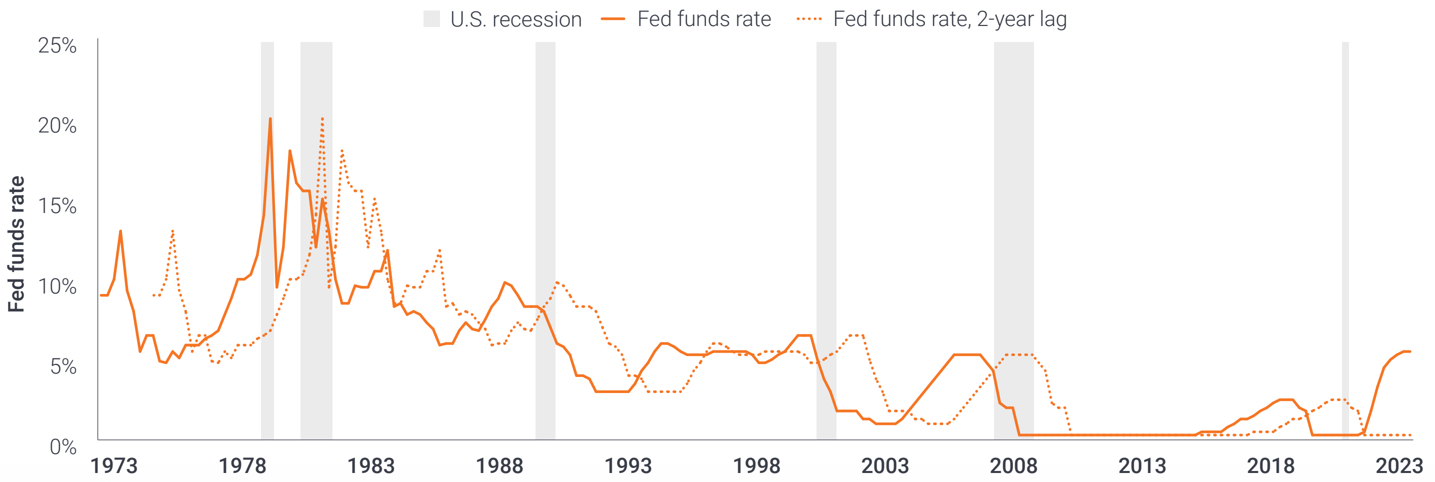
When seeking to explain 2023's buoyant economy, the long and variable lags of monetary tightening are often referenced. So far in this cycle, these lags are proving to be longer and more variable than ever. An explanation partly lies in the resilience of the U.S. consumer – long a growth engine for the global economy. We fear this won't last, especially with pandemic-era stimulus exhausted and recent consumption increasingly fueled by debt. We expect 2024 to be a year of chain reactions as higher rates and a weakening consumer converge with changes in inflation, employment, growth, and geopolitics.

In most cycles around the world, recessions typically lag peak policy rates by a few quarters or even years. **Figure 1,** for example, demonstrates the link between the fed funds rate and prior recessions. Further clouding the current outlook are the ongoing withdrawal of central bank liquidity, the late-year surge in real interest rates, and a persistently strong U.S. dollar, all of which are augmenting the restrictive effects of rate hikes.

Equities: Quality companies offer both offense and defense

A unique feature of pandemic-era equity markets is the growth-oriented mega-cap Internet and tech stocks that have led equities higher while simultaneously exhibiting characteristics typically associated with more defensive stocks: steady earnings, stable margins, and strong balance sheets. Exposure to such traits at this stage of the cycle potentially insulates portfolios from earnings downgrades while also positioning them to benefit from the onward march of themes like artificial intelligence (AI) and cloud computing.

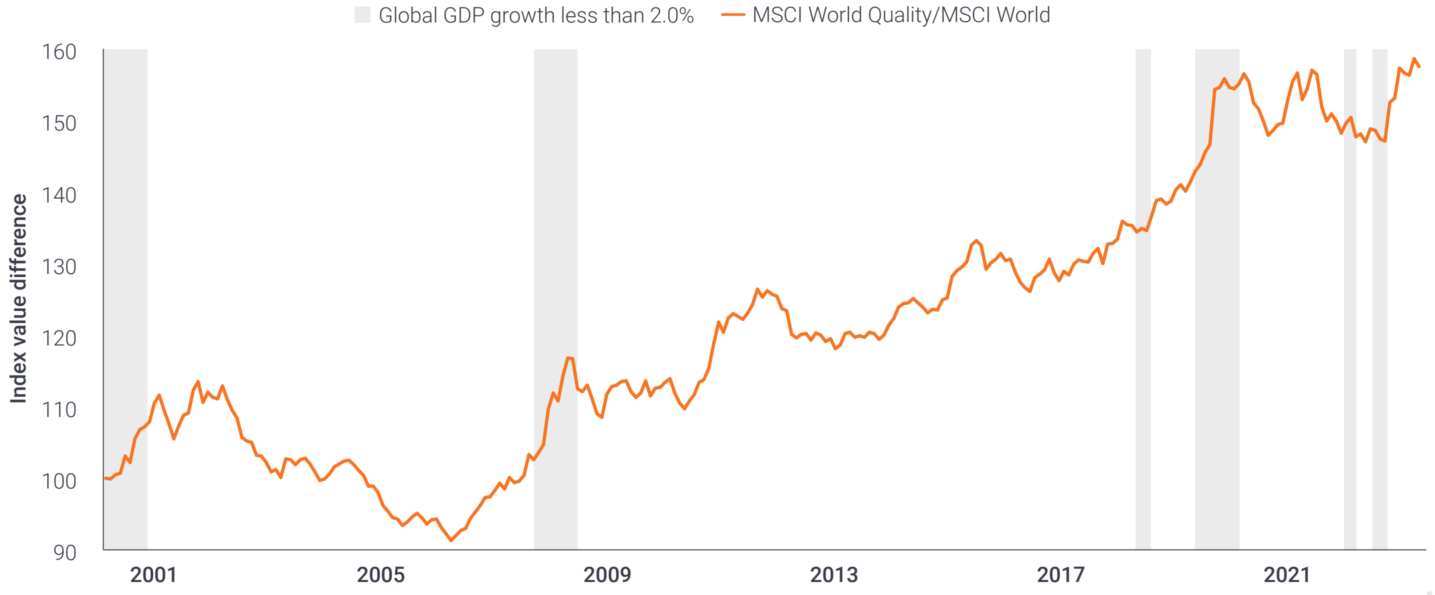
Figure 1: Peak rates approach, but the lagged impact is a big concern



Source: Bloomberg as of 31 October 2023. In previous cycles a U.S. recession typically followed a peak in the federal funds rate.

GLOBAL MARKETS IN 2024: CHAIN REACTIONS (continued)

Figure 2: Quality has outperformed the broader global market in recessionary environments



Source: Bloomberg as of 31 October 2023. The chart shows the relative performance of the MSCI World Quality Index versus the broader MSCI World Index. The grey bars indicate periods when global GDP growth was less than 2%. **Past performance does not predict future returns.**

Importantly, as the power and efficiencies of innovative technologies are harnessed across sectors, the earnings growth attributable to them will likely become more dispersed throughout the equities universe. Facing a slowing economy in 2024, we anticipate that companies will aggressively adopt these productivity-enhancing innovations in an effort to defend, and in some cases grow, margins.

While restrictive monetary policy will undoubtedly continue to weigh on the economy, equities proved resilient in 2023 as companies adapted to defend margins. We expect this to continue. Furthermore, geopolitics, demographics, and a higher-for-longer rate environment create both risks and opportunities for equities. It is not too early for active investors to identify which companies will be on the right side of these trends. As **figure 2** shows, 'quality' global companies typically outperform the broader market in periods of recession in most countries.

Taking what bonds have to offer

The abrupt ascent of bond yields and commensurate falling prices were far from optimal, but the result is that fixed income can once again serve its traditional role in a balanced portfolio. With policy rates having risen by hundreds of basis points, central banks globally finally have the room to reduce rates should the economy contract.

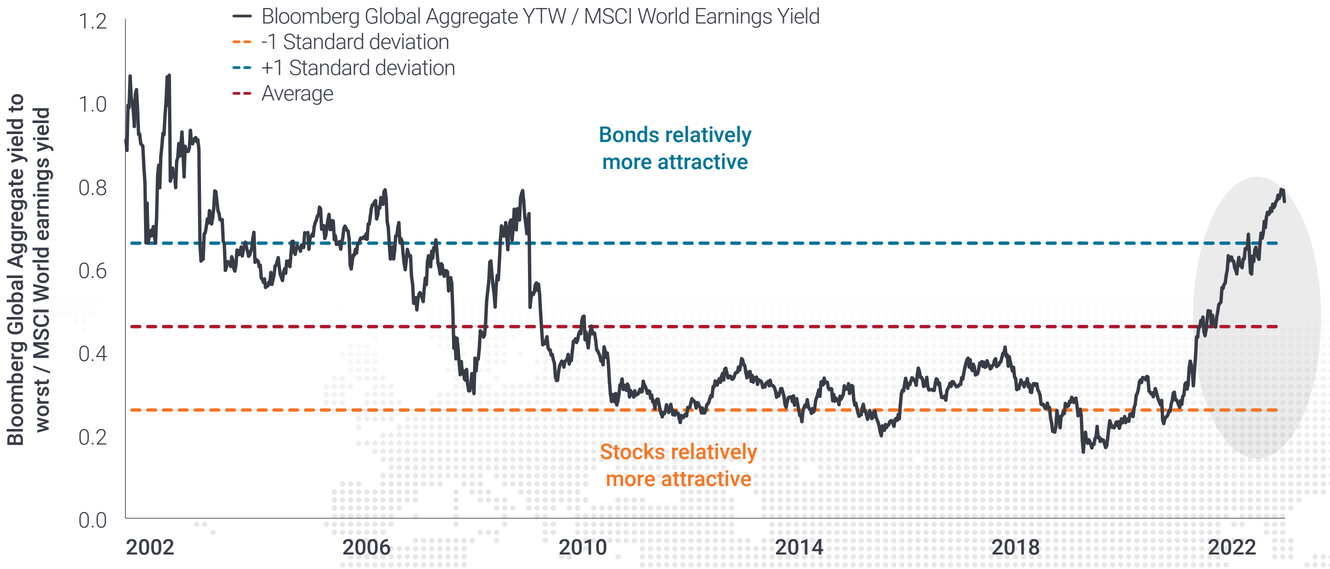
Similarly, with the yield on the 10-year U.S. Treasury well above 4%, bonds could generate capital appreciation to offset a portion of equities' drawdown in a risk-off scenario (see **figure 3**). Higher yields in risk-free securities have reduced the incentive to move out of investment-grade sovereign, corporate, and securitized bonds. However, the potential for attractive risk-adjusted returns in less cyclically exposed high-yield segments of the market means that these should also be actively implemented in investors' portfolios.

The long game

The cycle matters and should factor into decision making. But we believe the key to investment success is maintaining a five- to ten-year horizon. Through that lens we remain bullish on financial markets. We are finding opportunities across asset classes and believe in the benefits of a diversified portfolio, including alternatives, specifically private assets, as covered later in "A framework for private asset investing."

However, navigating the expected and unexpected chain reactions of 2024 will require deep research capabilities to truly understand their economic impact, identify resulting market dislocations, and help clients move towards a brighter investment future.

Figure 3: Rapidly rising rates have narrowed the gap between bond and equities earnings' yields



Source: Bloomberg as of 31 October 2023. **Past performance does not predict future returns.**

U.S. EQUITIES

The stars align for quality

With the U.S. economy likely late in the cycle as a historic succession of rate hikes makes its way through the system, equities investors in 2024 may fret over how to balance long-term objectives with more immediate needs. In our view, such consternation is not necessary this time around as the optimal positioning required for both time horizons can be addressed by focusing on earnings quality.

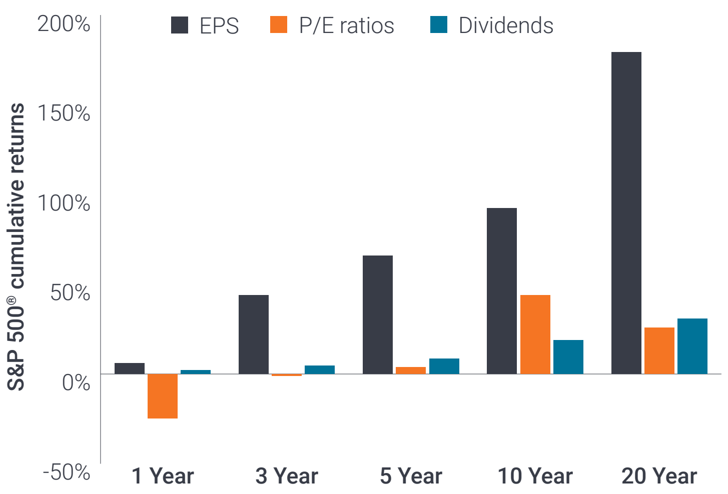
Quality earnings are exemplified by companies capable of consistently generating – and growing – income across the cycle. As the global economy slows, a focus on earnings quality is synonymous with a defensive stance. Current market dynamics have evolved to make the argument for quality even more compelling. Marc Pinto, Head of Americas Equities, notes: **"The global economy is being transformed by innovative technologies like artificial intelligence. The impact of such secular forces will be measured in years, and the winners will be capable of compounding earnings growth across this period."**

Many of the companies exposed to these themes already bear the marks of quality: consistent earnings growth and a conservative capital structure. It is no coincidence that some of the technology-focused mega-cap names that currently dominate markets possess these attributes. And while these growth companies' valuations can occasionally appear stretched, it is worth noting that the market often overestimates the near-term earnings potential of transformative trends but underestimates them over longer horizons. A disciplined assessment of valuations also plays an important role in optimizing one's exposure to quality earnings growth.

Given the potential for compounded earnings, investors would be well served to abide by the phrase, "it's time in the market, not timing the market." Accordingly, history indicates that waiting for a pivot in policy rates – which may not be forthcoming any time soon – lessens the likelihood of fully participating in a market recovery as investors begin to look through the worst of the cycle. Instead, a focus on companies generating strong earnings per share should prove beneficial for investors.

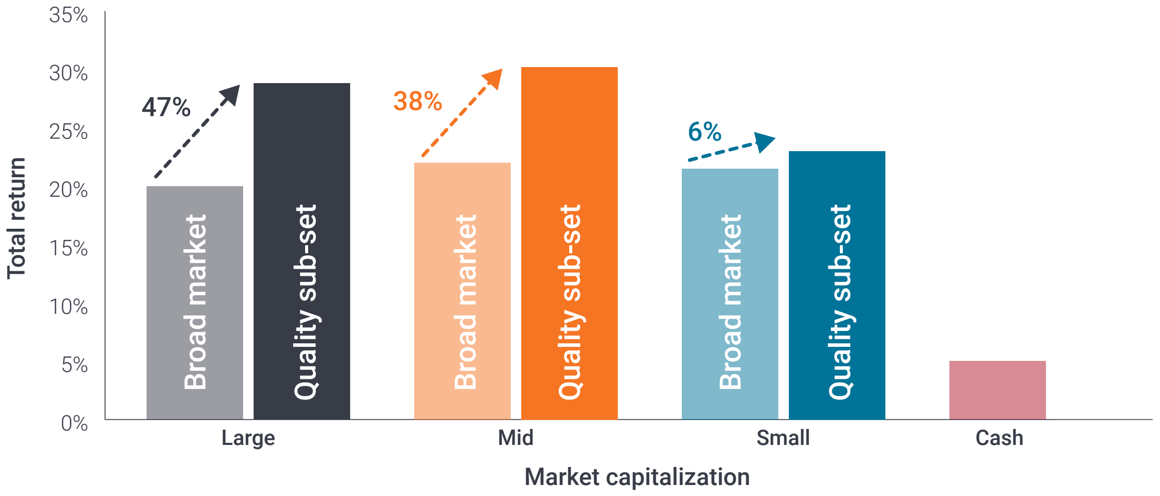
As illustrated in **figure 1,** in all but the shortest time horizons – which can be influenced by ephemeral cyclical factors – earnings growth has easily been the main driver of total equity returns.

Figure 1: Earnings are the key source of equity returns over nearly all time horizons



Source: Bloomberg, Janus Henderson Investors, as of 31 October 2023. Over each time period referenced, earnings per share (EPS) growth accounts for the largest share of cumulative total returns of the S&P 500 Index relative to changes in price-to-earnings valuation multiples (P/E ratio) and dividends. **Past performance does not predict future returns.**

Figure 2: Quality prevails in the 12 months following rate peaks



Source: Janus Henderson PCS Team, Morningstar Direct and Bloomberg. First bar indicates the broader market, the second the 'quality' subset. Large = S&P 500 Index, S&P 500 Quality. Mid = S&P Mid Cap 400, S&P Mid Cap 400 Quality. Small = S&P Small Cap 600 and S&P Small Cap 600 Quality. Based on past four peak federal fund rate dates (28 February 1995, 31 May 2000, 30 June 2006, 31 December 2018) and returns over the next 12 months. **Past performance does not predict future returns.**

PCS PERSPECTIVE

- A potential retracement in equities dominated by a few names amid a challenging economic environment underscores the importance of prioritizing earnings growth and attractive valuations.
- History suggests that once the Federal Reserve (Fed) signals a pause, U.S. equities tend to outperform cash in the subsequent 12 months, as shown in **figure 2.**
- Long-term investors should prioritize companies with a proven track record of quality earnings growth. This should be complemented with valuation discipline as potential volatile markets adjust to a new rate regime. In a rapidly evolving global economy, both components will be key to a successful investment strategy.

Prioritizing earnings growth and valuation discipline will be critical components of a successful investment strategy as the global economy evolves.

EUROPEAN EQUITIES

Powerful global brands, attractive valuations

A tough macroeconomic backdrop for Europe will likely remain in the year ahead, with elevated inflation and higher interest rates expected to persist and leading economic indicators suggesting a bumpy ride for the continent. Yet despite this gloomy exterior, there is much to be excited about in Europe.

The real economy certainly presents opportunities for stock pickers. Tom O'Hara, European Equities Portfolio Manager, explains: **"The enablers of deglobalization – industrial automation, digitalization, and construction materials – could thrive. At the same time, large incumbents such as brewing, food catering, and enterprise software may see their dominant positions enhanced as the end of 'free money' tempers the threat of disruption by unprofitable start-ups."**

While some sort of recession may be in the cards, Europe has not yet been dealt the "hard landing" that the market intermittently panics about. In fact, if Europe follows the lavish fiscal spending seen in the U.S. (i.e., Bidenomics), there is a chance that Europe's fate holds little more than a shallow technical recession. In the meantime, the €1 trillion European Green Deal leaves plenty of opportunities for European companies associated with strengthening the continent's energy independence and rebuilding and reshoring manufacturing.

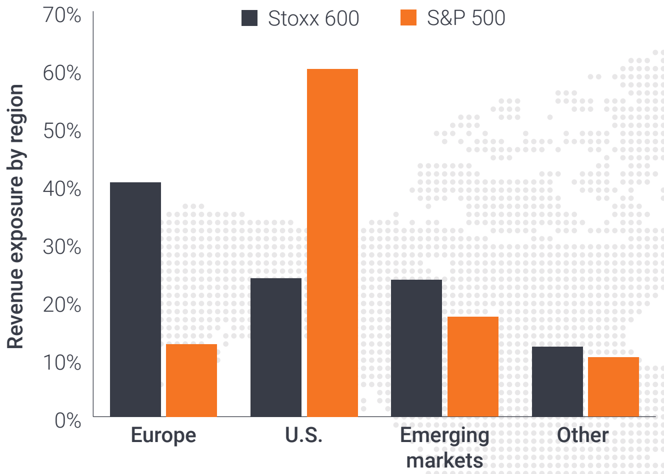
European dividends may also strengthen total return potential. Ben Lofthouse, Head of Global Equity Income, notes: **"Europe ex UK saw strong dividend growth continue into the third quarter of 2023, leaving the region comfortably on track to deliver record distributions for the year.[1] The outlook remains positive for 2024."**

For market participants who remain hesitant, it is important to note that Europe's earnings success is not bound just to its own economic outlook. Rather, European earnings are global by nature, with around 60% of European company sales revenue generated outside of Europe compared to only 40% offshore exposure for the S&P 500 (as shown in **figure 1**). For investors seeking exposure to strong dividends and looking to tap into the European economic recovery story as well as a broader global recovery, Europe offers the benefit of strong and enduring franchises in generally well-regulated market environments.

In addition, European equities have the benefit of appearing attractively valued compared to the U.S., having reached a 30% discount versus U.S. equities (as shown in **figure 2**). Given the opportunity set for high-quality, world-leading companies at large discounts to their U.S. peers, this potentially makes for a compelling entry point in 2024.

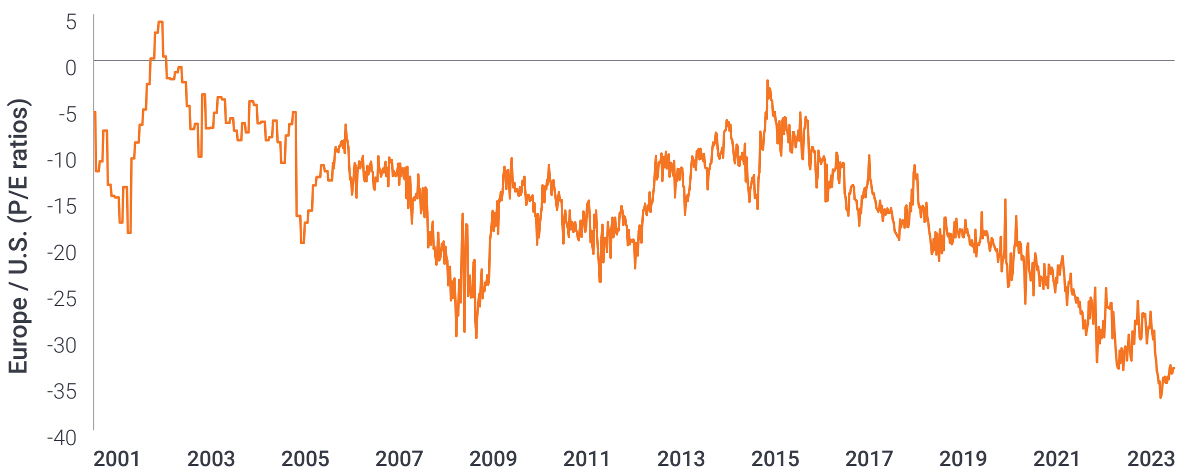
[1]Source: Janus Henderson Global Dividend Index, as of 30 September 2023.

Figure 1: Investing in European companies provides exposure to global revenue streams



Source: Morningstar, Janus Henderson PCS Team, as of 31 October 2023. Stoxx600 represents European listed companies. S&P 500 represents U.S. listed companies. 'Other' includes Asia ex-Japan, Middle East, Japan, and Canada.

Figure 2: European equities are at their cheapest in recent history relative to U.S. equities



Source: Refinitiv DataStream, Janus Henderson Investors, as of 31 October 2023. Europe = MSCI Europe; U.S. = S&P 500. Relative valuation = MSCI Europe forward P/E ratio divided by S&P 500 forward P/E ratio. **Past performance does not predict future returns.**

PCS PERSPECTIVE

- Europe is home to leading companies in a number of industries, including travel and luxury goods, which are generally complementary to the exposure one can achieve by investing in the U.S. In addition, the European equity market continues to appear attractively valued relative to U.S. equities, presenting a unique opportunity for investors.
- Interest rates are likely to remain elevated in coming years. The European market is weighted toward value stocks, which are generally more resilient in a high-rate environment.
- Through careful analysis and bottom-up stock picking, active managers are best placed to identify European companies that cater to the growing demand for deglobalization through exposure to industrial automation, digitalization, and construction materials.

European equities are offering investors the unique opportunity to capitalize on **strong dividends, attractive valuations, and robust global brands.**

THEMATIC EQUITIES

Big picture thinking

2023 saw the world changing at a rapid pace as powerful forces reshaped the economy, how people live, and the health of the planet more widely. We expect 2024 to deliver more of the same.

Against this noisy backdrop and heightened volatility in markets, there may be merit in stepping back and looking longer term. What are the foundational themes reshaping the world and which will become major drivers of future market returns? Thematic equity investing is a way of tapping into these growth stories.

In 2024, there are certain market segments we consider particularly well placed: healthcare, technology, real estate, and sustainable equities. But thematic equity investing must be approached in the right way. Expectations for equities returns are now lower than in the previous decade. To find long-term value, it is important to look deeper to find good growth, but getting the appropriate level of focus is key.

Too broad an exposure and it becomes difficult to measure to what degree a specialist theme drives performance, with some portfolios largely replicating the moves of traditional indices. Too narrow an exposure brings risks for investors, including concentrated portfolios, liquidity issues, and a need to time when to add and remove exposure. A middle point is optimal.

Technology Portfolio Manager Richard Clode explains the importance of an active approach: **"The winners of today will not necessarily be the winners of tomorrow as themes and franchises remain dynamic. With capital more expensive, there is less tolerance for business models that are not self-funding. This is fertile ground for active bottom-up fundamental stock pickers with experience in identifying winners through various economic cycles."**

Thematic sectors include a range of companies and can be used for different purposes in portfolio construction, as shown in **figure 1**. A combination of all four approaches can therefore work effectively from a diversification perspective, allowing investors to skew the blend where they want along the value, growth, and size spectrum.

Figure 1: Thematic opportunities and their potential role in a portfolio

HEALTHCARE	
Defense	Entering a golden age of innovation enabling rapid medical breakthroughs, while demand for care is growing as populations age and unmet medical needs persist.
TECHNOLOGY	
Growth	An innovative, disruptive, and deflationary force providing productivity gains and solutions to multiple global challenges. Despite sector volatility, tech has historically delivered superior earnings growth.
REAL ESTATE	
Inflation sensitivity, value, income	Shifting needs were further accelerated by the pandemic, resulting in a clear polarization in the demand, supply, and growth dynamics across property sectors.
SUSTAINABLE EQUITIES	
Various	Aligned with the development of a sustainable global economy, sustainable equities are more likely to achieve steady compounding growth over the long term.

Figure 2: Blending themes that are too narrow can lead to unintended stock-level concentration

Names appearing in three or more of MSCI's theme indices.

Robotics	Robotics and AI	Digital Economy	Disruptive Technology	Next Generation Internet Innovation	Autonomous Technology and Industrial Innovation
NVIDIA	NVIDIA	NVIDIA	NVIDIA	NVIDIA	NVIDIA
Accenture	Meta	Meta	Microsoft	Meta	Tesla
Advd MicroD	Amazon	Amazon	Visa	Amazon	Meta
J&J	Microsoft	Mastercard	Apple	Mastercard	Apple
Salesforce	Apple	Microsoft	Mastercard	Microsoft	Advd MicroD
Keyence	Adobe	Visa	J&J	Visa	Accenture
ABB	Netflix	Apple	Alphabet	Apple	Alphabet
Emerson Electric	Advd MicroD	Adobe	Alphabet	Tencent	Adobe
Intel Corp	Oracle	Tencent	Tencent	Adobe	Alphabet
Alphabet	Alphabet	Alphabet	Meta	Tesla	J&J

Source: MSCI, as of 31 October 2023. Themes listed are components of the Transformative Technologies megatrend category from the MSCI Thematic Investing suite.

PCS PERSPECTIVE

- Thematic equities are an alternative or complement to region-focused equity portfolios and can unlock investment opportunities in companies and industries capitalizing on secular themes.
- Apart from lower correlations to the broader market, exposure to a defensive sector like healthcare, or one with income potential like real estate, can add diversification. However, caution is needed as popular themes like robotics, AI, or autonomous technology carry the risk of holdings overlap and being too narrow, leading to unintended concentration (see figure 2).
- Embedding thematic exposure while maintaining diversification is key. Careful due diligence is required to avoid the risk of being under- or over-diversified and to ensure that the structural design of the allocation is relatively resilient through different market cycles.

Thematic equity exposure **offers diversification potential and the ability to capitalize on the forces reshaping the economy,** our daily lives, and the health of our planet.

FIXED INCOME

Not all yield is created equal

Due to the recent rise in interest rates, the yields on major U.S. fixed income sectors are near their highest levels in over a decade. While higher yields are universally welcomed by investors, we should remember that bond yields are impacted by two levers: the U.S. Treasury (or risk-free) rate, and the credit spread, or additional yield above the risk-free rate.

Looking only at today's historically high yields, we might falsely conclude that all sectors are equally well priced and that relative value tradeoffs are nonexistent. If we strip out the effect of higher risk-free rates and focus on sector spreads, the picture becomes more nuanced.

For corporate investment-grade and high-yield markets, spread compensation levels over U.S. Treasuries are hovering around 20-year averages. In securitized markets, however, spreads are much wider than their average levels, providing investors with a more attractive total yield. Those wider spreads imply higher compensation for taking risk over U.S. Treasuries.

Additionally, as Head of Fixed Income Strategy Seth Meyer notes, **"it's rare to see securitized sectors trading at such compelling valuations relative to corporates. Current spreads give investors the opportunity to outperform corporates, as we would expect the divergence in spread levels to narrow over time. This is an opportune time to be invested in the securitized space."**

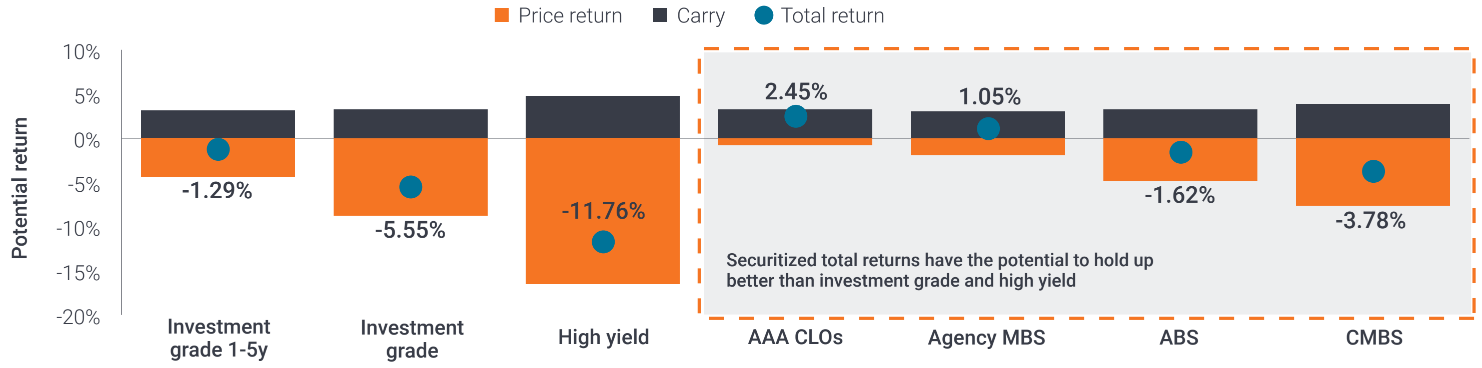
Specifically, we think floating-rate AAA collateralized loan obligations (CLOs) look attractive due to their historically wide spreads coupled with their strong credit ratings and the diversification benefits of their floating-rate coupons. Commercial mortgage-backed securities (CMBS) are trading at significant discounts as well, largely due to fears that office real estate is becoming obsolete. These fears have led to wider spreads across all CMBS subsectors, even where fundamentals remain strong and outlooks are positive. As a result, we believe ample opportunities exist to acquire strong CMBS assets at favorable prices.

Figure 1: Securitized spreads are trading near their widest levels in the past 20 years...

Source: Barclays, J.P. Morgan, and Janus Henderson Investors, 31 October 2023. Indices used: Bloomberg US Corp 1-5yr TR USD, Bloomberg US Corporate Bond TR USD, Bloomberg US Corporate High Yield TR USD, JPM AAA CLOIE TR USD, Bloomberg US MBS TR USD, ICE BofA US Fixed Rate ABS TR USD, ICE BofA US Fixed Rate CMBS TR USD. AAA CLO spreads (discount margin) experienced a one day spread widening of 26 bps on 28 June 2023 when J.P. Morgan transitioned the referenced frate from LIBOR to SOFR. **Past performance does not predict future returns.**

While we see opportunity in U.S. securitized sectors today, markets are constantly evolving. As such, we think a nimble, active approach that is focused on finding and exploiting these opportunities may result in better risk-adjusted returns in the long run.

Figure 2: ...providing an attractive entry point and a buffer if spreads widen



Source: Janus Henderson Investors, 31 October 2023. Potential return if spreads in respective sectors widen to 95th percentile. Indices used: Bloomberg US Corp 1-5yr TR USD, Bloomberg US Corporate Bond TR USD, Bloomberg US Corporate High Yield TR USD, JPM AAA CLOIE TR USD, Bloomberg US MBS TR USD, ICE BofA US Fixed Rate ABS TR USD, ICE BofA US Fixed Rate CMBS TR USD. **Past performance does not predict future returns.**

PCS PERSPECTIVE

- As rates have reset higher, many sectors offer compelling yields that seem to justify investors seeking opportunities for greater returns. However, the true risk-adjusted opportunity of that incremental yield requires further inspection.
- While credit yields are at some of their highest levels, the composition of that yield comes in large part from the reset higher in Treasury rates. Corporate spreads are not nearly as attractive as the spreads offered by most securitized sectors.
- Having the flexibility to dynamically allocate across sectors allows investors to seek out yields that justify the additional risk over Treasuries, which can better prepare portfolios to navigate this uncertain backdrop.

Securitized sectors rarely trade at such compelling valuations relative to corporates, making this **an opportune time to invest in the securitized space.**

ALTERNATIVES

A framework for private asset investing

Private assets issued and traded outside of public markets have grown fourfold since 2010, reaching approximately US$12 trillion in assets under management in 2022. Taking into account the strong risk-adjusted returns over the past 15 years, along with income potential and typically low correlations to traditional asset classes, there is a growing argument for including private assets in investors' portfolios. However, as we look towards 2024, it is crucial to be aware of key considerations.

1. **Valuations:** Private assets are not revalued in the same manner as public markets. The repricing seen in public assets in 2022 and 2023 is only gradually influencing private assets and may yet impact valuations. This necessitates greater selectivity and a critical analysis of the opportunity-set.
2. **Leverage levels:** Private assets often rely on leverage to enhance returns, with borrowing used to amplify market exposure. However, with the increased cost of capital, highly leveraged private assets may face challenges in generating favorable returns.
3. **Liquidity:** The liquidity aspect of private investing came to the forefront during the UK Gilt crash in 2022, where investors had to sell liquid assets to increase equity in their accounts to meet margin calls, leaving them with significant private asset exposures. Understanding and managing liquidity risks is paramount.

As the use of private assets continues to rise, determining the role of private assets in portfolios and how they relate to existing liquid assets is essential. The Janus Henderson PCS team has developed a private assets framework that considers three different outcomes that private assets can provide for portfolios, as outlined in **figure 1**: income, diversification, and growth.

Considering these key outcomes, investors can navigate the private asset landscape more effectively. By adopting a tailored approach that aligns with individual goals and constraints, investors can leverage the potential opportunities offered by private assets in 2024 and beyond.

Figure 1: Simple groupings to meet portfolio construction objectives with privates...

INCOME

- Increase total portfolio yield, adjusted for risk, to levels not easily accessible in public markets

DIVERSIFICATION

- Stable, long-term return drivers largely independent of public market risk factors

GROWTH

- Long-term total returns complementary to public market returns

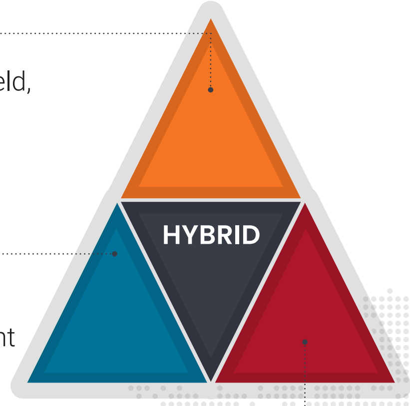
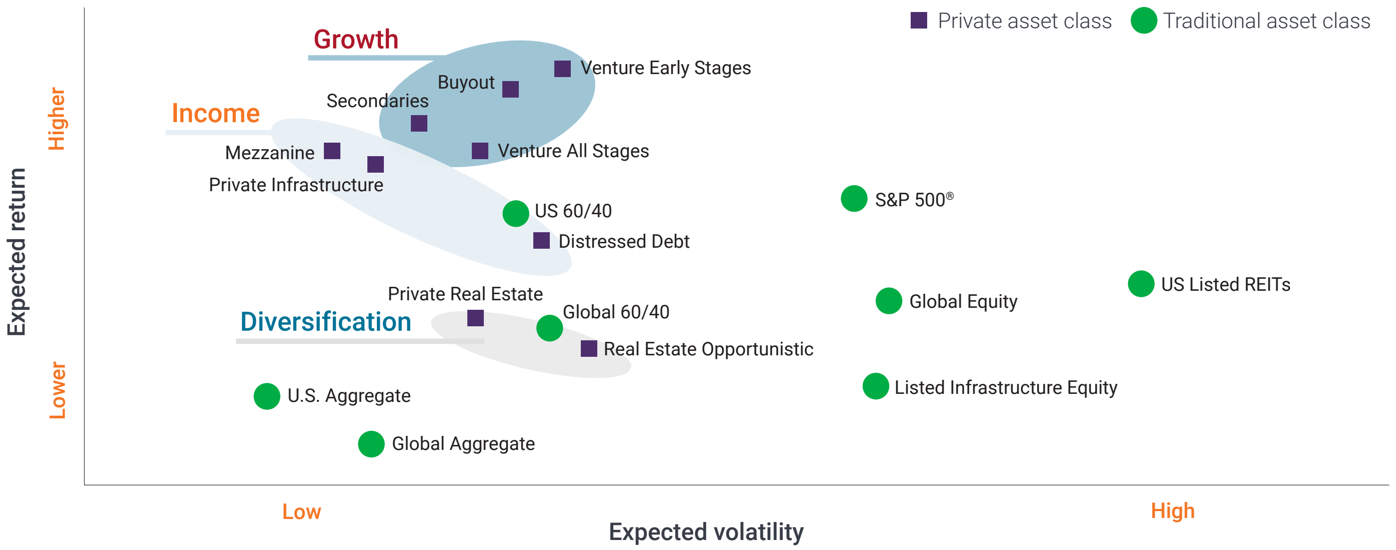


Figure 2: ...which then allow relevant strategies to be identified based on client needs



Source: Janus Henderson PCS Team, Morningstar, Bloomberg, S&P Global. Data values are indicative of relative risk and return vs. traditional Bond and Equity indices. The 60/40 indices are blended averages of 60% S&P 500/Global Equity and 40% US Agg/Global Agg. **Past performance does not predict future returns.**

PCS PERSPECTIVE

- Private assets can play a valuable role in portfolios, supporting a range of investor objectives. However, careful navigation is necessary given the variation in risk and return characteristics across the private space.
- Simplified groupings enable investors to adjust their allocations to specific private strategies based on their individual goals and constraints.
- It is crucial to consider the composition of strategies and sub-strategies within the private asset allocation and how they align with existing assets in the portfolio. Ensuring a cohesive blend is key for optimal holistic portfolio construction.

Private assets offer **income, diversification, and growth potential,** but require careful navigation given varying degrees of risk and return characteristics across sub-strategies.

PORTFOLIO CONSTRUCTION AND STRATEGY

An investment edge for better portfolios

Janus Henderson's **Global Portfolio Construction and Strategy Team** has analyzed more than **15,000 model portfolios** based on consultations with **4,700 financial professionals.**

The team's goal is to help investors make sense of what's happening in the market, understand the implications for portfolio construction, and seek an investment edge through practical insights.

Expert perspective

Leveraging Janus Henderson Edge™ proprietary analytics platform, the team offers custom insights and risk-modeling to help analyze portfolios for unintended risks and opportunities.

Genuine partnership

Dedicated strategists work with clients to keep portfolios on track through consultative strategy calls and tailored solutions.

Practical insights

The team's thinking is published on an ongoing basis providing research-led, actionable insights to better inform asset allocation decisions.

NOTES

GLOSSARY AND INDICES

10-Year Treasury Yield is the interest rate on U.S. Treasury bonds that will mature 10 years from the date of purchase.

Basis point (bp): 1/100 of a percentage point. 1 bp = 0.01%, 100 bps = 1%.

Collateralized Loan Obligation (CLO): A bundle of generally lower quality leveraged loans to companies that are grouped together into a single security, which generates income (debt payments) from the underlying loans. The regulated nature of the bonds that CLOs hold means that in the event of default, the investor is near the front of the queue to claim on a borrower's assets.

Commercial mortgage-backed securities (CMBS): fixed-income investment products that are backed by mortgages on commercial properties rather than residential real estate. CMBS can provide liquidity to real estate investors and commercial lenders alike.

Correlation measures the degree to which two variables move in relation to each other. A value of 1.0 implies movement in parallel, -1.0 implies movement in opposite directions, and 0.0 implies no relationship.

Credit ratings: An independent assessment of the creditworthiness of a borrower by a recognized agency such as Standard & Poor's, Moody's or Fitch. Standardized scores such as 'AAA' (a high credit rating) or 'B' (a low credit rating) are used, although other agencies may present their ratings in different formats.

Credit spread: The difference in yield between securities with similar maturity but different credit quality, often used to describe the difference in yield between corporate bonds and government bonds. Widening spreads generally indicate a deteriorating creditworthiness of corporate borrowers, while narrowing indicate improving.

Discount: When a security is trading at a price lower than its fundamental or intrinsic value.

Duration measures a bond price's sensitivity to changes in interest rates. The longer a bond's duration, the higher its sensitivity to changes in interest rates and vice versa.

Earnings per share (EPS): EPS is the bottom-line measure of a company's profitability, defined as net income (profit after tax) divided by the number of outstanding shares.

European Green Deal: A package of policy initiatives by the European Commission which aims to set the EU on the path to a green transition, with the ultimate goal of reaching climate neutrality by 2050.

A **floating interest rate** refers to a variable interest rate that changes over the duration of the debt obligation based on changes in the benchmark rate to which it is pegged.

Fiscal spend/fiscal policy: Describes government policy relating to setting tax rates and spending levels. Fiscal policy is separate from monetary policy, which is typically set by a central bank.

High yield bond: Also known as a sub-investment grade bond, or 'junk' bond. These bonds usually carry a higher risk of the issuer defaulting on their payments, so they are typically issued with a higher interest rate (coupon) to compensate for the additional risk.

Investment-grade bond: A bond typically issued by governments or companies perceived to have a relatively low risk of defaulting on their payments, reflected in the higher rating given to them by credit ratings agencies.

Leverage: The use of borrowing to increase exposure to an asset/market. This can be done by borrowing cash and using it to buy an asset, or by using financial instruments such as derivatives to simulate the effect of borrowing for further investment in assets.

Liquidity/Liquid assets: A measure of how easily an asset can be bought or sold in the market. Assets that can be easily traded in the market in high volumes (without causing a major price move) are referred to as 'liquid'.

Margin call: A request for funds from a broker when money must be added to a margin account to meet minimum capital requirements.

Monetary tightening refers to central bank activity aimed at curbing inflation and slowing down growth in the economy by raising interest rates and reducing the supply of money.

Monetary Policy refers to the policies of a central bank, aimed at influencing the level of inflation and growth in an economy. It includes controlling interest rates and the supply of money.

Price-to-Earnings (P/E) Ratio measures share price compared to earnings per share for a stock or stocks in a portfolio.

Private assets: investments that are not publicly traded or listed on a public stock exchange.

Risk-adjusted return: A calculation of an investment's return, or potential return, that takes into account the amount of risk required to achieve it. Typical risk measures include alpha, beta, volatility, Sharpe ratio and R2.

Risk-free rate: The rate of return of an investment with, theoretically, zero risk. The benchmark for the risk-free rate varies between countries. In the US, for example, the yield on a three-month US Treasury bill (a short-term money market instrument) is often used.

U.S. Treasury securities are direct debt obligations issued by the U.S. Government. The investor is a creditor of the government. Treasury Bills and U.S. Government Bonds are guaranteed by the full faith and credit of the U.S. government, are generally considered to be free of credit risk and typically carry lower yields than other securities.

Yield: The level of income on a security over a set period, typically expressed as a percentage rate. For equities, a common measure is the dividend yield, which divides recent dividend payments for each share by the share price. For a bond, this is calculated as the coupon payment divided by the current bond price.

Yield-to-worst: The lowest yield a bond with a special feature (such as a call option) can achieve provided the issuer does not default. When used to describe a portfolio, this statistic represents the weighted average across all the underlying bonds held.

Volatility measures risk using the dispersion of returns for a given investment.

INDICES

Bloomberg Global Aggregate Bond Index is a broad-based measure of the global investment grade fixed-rate debt markets.

Bloomberg US Corporate 1-5 years Index measures the investment grade, U.S. dollar-denominated, fixed-rate, taxable corporate bond market with 1-5 year maturities.

Bloomberg US Corporate Bond Index measures the investment grade, U.S. dollar-denominated, fixed-rate, taxable corporate bond market.

Bloomberg US Corporate High Yield Bond Index measures the U.S. dollar-denominated, high yield, fixed-rate corporate bond market.

Bloomberg US Mortgage Backed Securities (MBS) Index measures the performance of U.S. fixed-rate agency mortgage backed pass-through securities.

ICE BofA US Fixed Rate ABS Index tracks the performance of U.S. dollar denominated investment grade fixed and rate asset backed securities publicly issued in the U.S. domestic market.

ICE BofA US Fixed Rate CMBS Index tracks the performance of U.S. dollar denominated investment grade fixed rate commercial mortgage backed securities publicly issued in the U.S. domestic market.

JPM AAA CLOIE tracks the market for AAA-rated U.S. dollar denominated broadly-syndicated, arbitrage CLOs.

MSCI Thematic Index (Transformative Technologies): A subset of the MSCI ACWI Investable Market Index (which captures large-, mid- and small-cap representation across 23 Developed Markets), the MSCI Thematic Indices aim to represent the performance of companies affected by various megatrends shaping our future. The Transformative Technologies subset includes companies impacted by trends capturing the impact of disruptive technology innovation, digital economy, fintech, robotics and other technological innovations.

MSCI Europe Index℠ reflects the equity market performance of developed markets in Europe.

MSCI Europe ex UK Index captures large and mid cap representation across developed markets countries in Europe excluding the UK.

MSCI World Index℠ reflects the equity market performance of global developed markets. **MSCI World Quality Index** is a subset reflecting the performance of quality growth stocks with high quality scores based on three main variables: high return on equity (ROE), stable year-over-year earnings growth and low financial leverage.

S&P 500® Index reflects U.S. large-cap equity performance and represents broad U.S. equity market performance.

S&P 500 Quality tracks high quality stocks in the S&P 500 by quality score.

S&P Mid Cap 400 measure the performance of the mid-range sector of the U.S. stock market.

S&P Mid Cap 400 Quality tracks high quality stocks in the S&P Mid Cap 400 by quality score.

S&P Quality Indices measure the performance of stocks selected on three fundamental measures: return on equity, accruals ratio, and financial leverage ratio. Index constituents are weighted by the product of their market capitalization and quality score, subject to the constraints defined in Constituent Weightings.

S&P Small Cap 600 measure the performance of selected U.S. stocks with a small market capitalization.

S&P Small Cap 600 Quality tracks high quality stocks in the S&P Small Cap 600 by quality score.

STOXX® Europe 600 Index represents large, mid and small capitalization companies across 17 countries in the European region.

IMPORTANT INFORMATION

Any risk management process discussed includes an effort to monitor and manage risk which should not be confused with and does not imply low risk or the ability to control certain risk factors.

Actively managed investment portfolios are subject to the risk that the investment strategies and research process employed may fail to produce the intended results. Accordingly, a portfolio may underperform its benchmark index or other investment products with similar investment objectives.

Alternative investments include, but are not limited to, commodities, real estate, currencies, hedging strategies, futures, structured products, and other securities intended to be less correlated to the market. They are typically subject to increased risk and are not suitable for all investors.

Concentrated investments in a single sector, industry or region will be more susceptible to factors affecting that group and may be more volatile than less concentrated investments or the market as a whole.

Diversification neither assures a profit nor eliminates the risk of experiencing investment losses.

Equity securities are subject to risks including market risk. Returns will fluctuate in response to issuer, political and economic developments.

Fixed income securities are subject to interest rate, inflation, credit and default risk. The bond market is volatile. As interest rates rise, bond prices usually fall, and vice versa. The return of principal is not guaranteed, and prices may decline if an issuer fails to make timely payments or its credit strength weakens.

Growth and value investing each have their own unique risks and potential for rewards, and may not be suitable for all investors. Growth stocks are subject to increased risk of loss and price volatility and may not realize their perceived growth potential. Value stocks can continue to be undervalued by the market for long periods of time and may not appreciate to the extent expected.

Health care industries are subject to government regulation and reimbursement rates, as well as government approval of products and services, which could have a significant effect on price and availability, and can be significantly affected by rapid obsolescence and patent expirations.

High-yield or "junk" bonds involve a greater risk of default and price volatility and can experience sudden and sharp price swings.

Non-U.S. securities are subject to additional risks including currency fluctuations, political and economic uncertainty, increased volatility, lower liquidity and differing financial and information reporting standards, all of which are magnified in emerging markets.

Real estate industries are cyclical and sensitive to interest rates, economic conditions (national and local), property tax rates and other factors. Changes in real estate values or economic downturns can have a significant negative effect on issuers in the real estate industry.

Securitized products, such as mortgage- and asset-backed securities, are more sensitive to interest rate changes, have extension and prepayment risk, and are subject to more credit, valuation and liquidity risk than other fixed-income securities.

Smaller capitalization securities may be less stable and more susceptible to adverse developments, and may be more volatile and less liquid than larger capitalization securities.

Sustainable investing considers factors beyond traditional financial analysis. This may limit available investments and cause performance and exposures to differ from, and potentially be more concentrated in certain areas than, the broader market.

Technology industries can be significantly affected by obsolescence of existing technology, short product cycles, falling prices and profits, competition from new market entrants, and general economic conditions. A concentrated investment in a single industry could be more volatile than the performance of less concentrated investments and the market as a whole.

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