

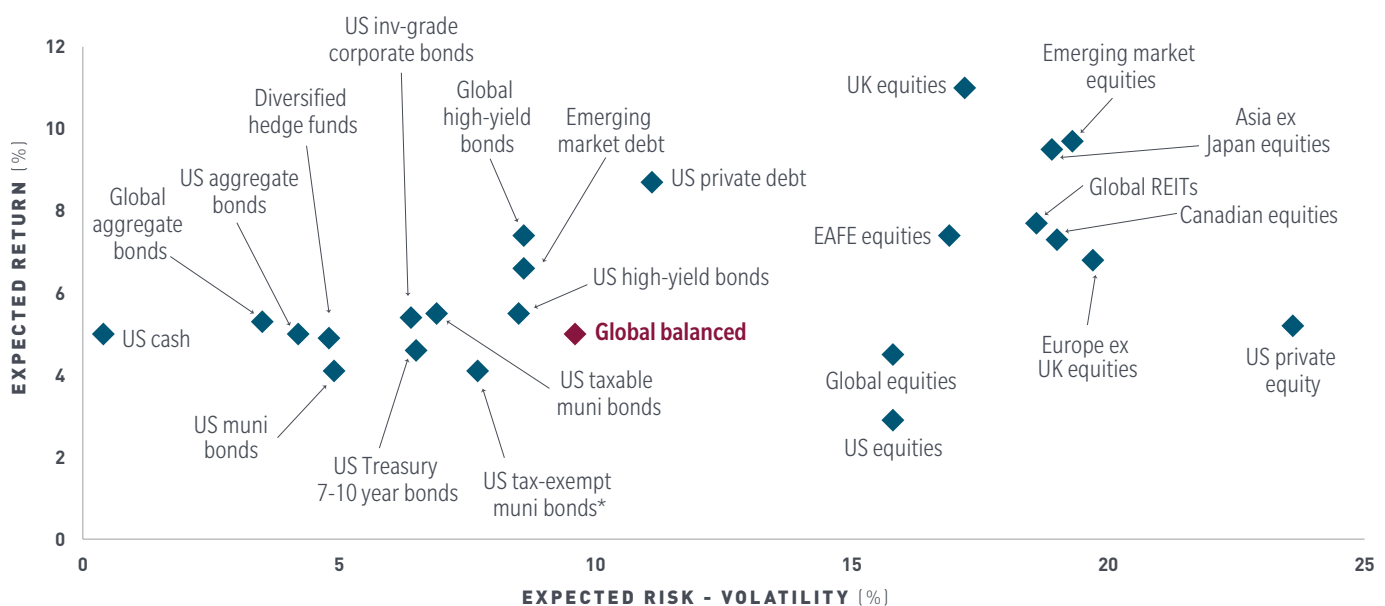
Executive Summary

MFS® is pleased to present the January 2024 edition of MFS Long-Term Capital Market Expectations. These proprietary expectations look at return and risk across a variety of asset classes and regions as of January 2024. Below are highlights, details of our market expectations and our view of current economic and capital market conditions.

Our long-term, nominal total return expectation for global equities is 4.5%, slightly lower than our July outlook of 4.9%. Global equities made an astonishing comeback in 2023, recovering much of the ground lost in 2022. Investor enthusiasm around all things AI underpinned the rally as the Magnificent Seven, a group of US large-cap growth stocks, recovered from the near 40% loss of 2022, reaching new highs in December. Although these companies all leverage various forms of technology, their core businesses, growth rates and corporate leadership lend to significant differentiation and even span three different sectors. The distribution of these seven stocks across sectors helped lift the US information technology, communication services and consumer discretionary indices by around 58%, 56% and 42% respectively in 2023. The utilities, consumer staples and energy sectors were laggards on the year.

Although many market participants anticipated that 2023 would be the year when rate hikes would finally start to weigh on the economy, overall macro conditions surprised to the upside. The US Federal Reserve stayed active, stepping in to sooth markets in March after a minicrisis erupted involving several US regional banks that were facing asset-liability mismatches and deposit outflows. The Fed continued its rate-hiking trajectory through midyear before pausing after its July meeting. In all, the Fed hiked rates at eleven consecutive meetings, so the pause marked a significant change. While rates remain in restrictive territory, declining inflation has given the central bank cover needed to pause and then shift

Exhibit 1: MFS Long Term Market Expectations



Global balanced portfolio is 60% global equity, 40% global fixed income. Expected Risk-Volatility is represented by standard deviation.
 *US tax-exempt muni bonds = US muni bonds return expectation/(1-37%). 37% is the highest marginal tax rate.

A global, balanced portfolio is expected to provide a nominal total return of 5.0% with a volatility of 9.6%

Capital Markets

January 2024

to rate-cutting mode. With headline inflation down to 3.4% in December, well below the 9.1% rate in June of 2022, the Fed can now afford to take a wait-and-see approach, particularly if economic activity begins to slow. Other central banks such as the European Central Bank and the Bank of England are continuing to battle higher-than-comfortable inflation rates, so rate cuts will need to wait.

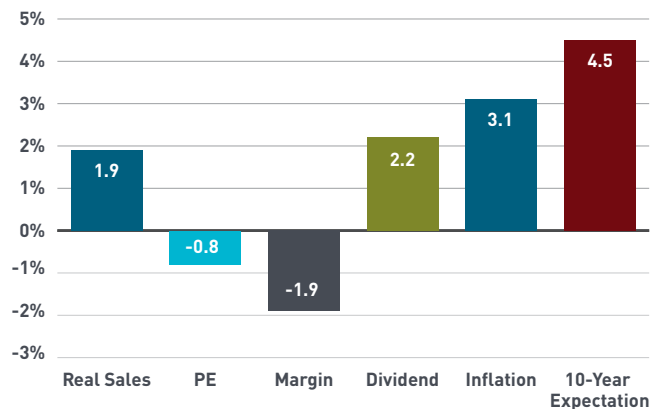
US equities, at a more than 60% weighting in the MSCI AC World Index, were the key performance driver of global equities despite tepid earnings growth. Much of the performance was driven by valuation expansion, with the next-twelve-months P/E ratio rising from just below 17x at the end of 2022 to close to 20x, remaining above its 10-year average. Japanese equities were also a substantial contributor, posting a 20% total return for the year in US dollar terms. Although Japan's weight of 5.4% in the global index is modest compared to the US, it is the largest non-US country weighting. On a regional basis, European equities were also up sharply on the year, led by Italian and German equities, which started the year at very low valuations.

Over the next 10 years, we expect modest real sales growth and dividend payouts to be the primary contributors to global equity returns. Valuations, which were around long-term averages at the start of the year, have once again expanded to the higher end of their long-term range, so further multiple expansion is not expected to contribute to returns. Global equity profit margins, at around 10.1%, remain near all-time highs and above their 10-year average of 8.9%, so sales growth and dividends will need to do some heavy lifting for returns to exceed expectations, based on our building-blocks methodology. Within fixed income, we see compelling opportunities across a number of fixed income asset classes. For the first time in years, US Treasuries are offering meaningful yields across the curve. In credit, although spreads remain tight, all-in yields are near their highest level in the past 10 years, based on percentile rankings. These higher starting yields present a solid argument for investing in high-quality fixed income, particularly from a risk/reward standpoint. The periods following central bank hiking cycles have historically been good times to deploy duration risk, and the combination of high sovereign yields and a positive credit outlook make a compelling case for corporate credit. Our long-term, nominal total return expectation for global bonds is 5.3%, up from 5% in July.

As we look back on a year of strong equity returns, we find it surprising how successful many companies have been in defending their profit margins during a period of higher borrowing cost, higher input costs and wage pressures. A possible explanation involves some combination of robust government spending, the leveraging of technology and the terming out of debt that took place in prior years to take advantage of low rates. In addition, the same strong labor market

that has led to wage pressures could also be supporting consumers' willingness to absorb higher prices, thus allowing companies to pass on higher costs rather than absorbing them.

Exhibit 2: Global Equity Building Blocks



For illustration purposes only, numbers may not add due to rounding.

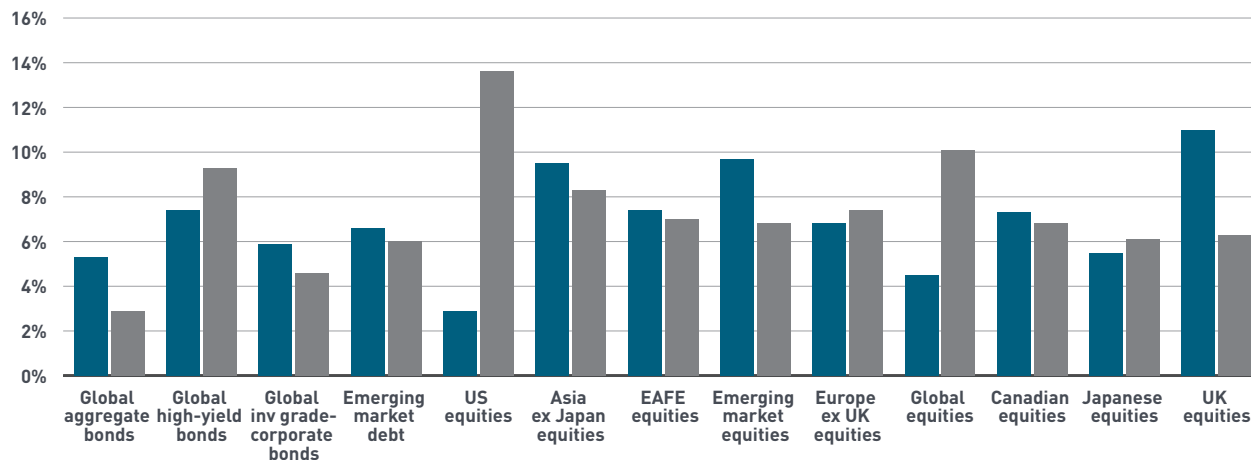
High profit margins are expected to compress, but solid real sales growth and a favorable dividend yield are likely to contribute to global equity returns.

Look to the labor market

So what could be keeping the labor market so tight? One cause could be the overall labor force participation rate remaining below pre-COVID levels, with many over-55 workers having not re-entered the work force. There could be a variety of reasons for this including that they have hit their retirement bogey, don't want to deal with return-to-office friction or are unable to work due to health challenges. With a major worker-to-opening mismatch, workers appear to have greater leverage over employers for the first time in decades. This has resulted in wage growth rising by 5% recently versus an average of around 2.8% annually during the 2010s. For many companies, labor is a large, if not the largest, proportion of their cost structure, so higher wages mean lower profit margins or increasing the costs of their goods and services. When inflation was on the rise in 2021 and 2022, many companies were able to pass on higher labor costs either through higher prices or the smaller packaging often referred to as shrinkflation. As inflation recedes, this may be more difficult to pull off, which could weigh on profit margins. Most recently, in many categories of goods, inflation has not only receded, but shifted to disinflation, suggesting that companies in the aggregate may have hit their pricing power limits.

Exhibit 3: Expectations vs Historical Return

■ Expectation ■ Historical



Source: FactSet. Historical performance is for the trailing 15-year period as of 30 November 2023. Asset class proxies: Global aggregate bonds - Bloomberg Barclays Global Aggregate USD Hedged Index; Global high yield bonds - Bloomberg Barclays Global High Yield USD Hedged Index; Global investment grade corporate bonds - Bloomberg Barclays Global Aggregate Corporate USD Hedged Index; Emerging market debt - J.P. Morgan EMBI Global Index; US equities - Wilshire 5000 Composite Index; Asia ex Japan - MSCI AC Asia Ex Japan Index (\$Net); EAFE equities - MSCI EAFE Index (\$Net); Emerging market equities - MSCI Emerging Markets Index (\$Net); Europe ex UK equities - MSCI Europe Ex-UK Index (\$Net); Global equities - MSCI AC World Index (\$Net); Canadian equities - MSCI Canada Index (\$Net); Japanese equities - MSCI Japan Index (\$Net); UK equities - MSCI United Kingdom Index (\$Net).

Central banks in focus

After a flurry of central bank hiking over the past two years, we appear to be entering a new phase in which banks are on pause, or may be on pause soon, as they monitor the economic implications of rate hikes. Realizing they were potentially behind the curve with respect to inflation, starting in 2022 the Fed embarked on the fastest, most aggressive hiking cycle since the 1980s. While the Fed was arguably the most aggressive central bank, it was certainly not alone in its actions. By a Reuters tally, through September 2023, G10 central banks hiked 36 times, with the size of those hikes totaling 1,150 basis points. The Fed paused after its July meeting, and we believe it is done for now, barring a major unforeseen inflation catalyst. Other central banks may be emulating the Fed but are not as far down that path given their current inflation backdrops. While moderating inflation rates and pockets of slowing economic activity have giving these central banks the cover needed to pause as they await additional economic data, it may be too soon to consider cuts. In what the market considered a major pivot, the “dot plot” of Fed expectations released after the December meeting suggests 0.75% of cuts from current levels in 2024, but it is unclear when these cuts will commence. The Fed is hinting later in the year while markets are pricing in the potential of a move as early as the end of the first quarter, with about twice the number of cuts suggested by the dot plot. We believe that is too many cuts too soon.

Overall, the World Bank’s estimate for real global GDP growth for this year is 2.7%, which would be lower than 2023’s rate but far below 2021’s 6%. The US remains among the best-positioned economies, with strong consumer spending and excess stimulus savings, some of which is still making its way through state and local government channels. However, there are early signs of consumer exhaustion as credit card balances and the use of buy now, pay later services rise. Buy now pay later services, which allow consumers to split payments over several weeks, act as a form of short-term credit. However, they lack a uniform regulatory framework, leading to concerns by regulators that they are acting as a form of “shadow credit” without appropriately protecting the consumer. Credit card defaults have started to turn higher, although they are starting from a very low level and do not yet indicate significant consumer stress.

In Europe, economic growth has slowed to a crawl amid higher inflation rates, higher interest rates and weak private consumption. Germany’s economy continues to flirt with recession, with declining business sentiment and the housing market suffering as a result of a steep climb in borrowing costs. Elsewhere in Europe, the Bank of Italy recently trimmed its growth forecast as tighter credit conditions crimped consumer and business spending, with stagnation seen as the best-case scenario.

In Asia, after the excitement over Japan, the world's third-largest economy, finally appearing to achieve a higher-growth, higher-inflation regime, there has been a return to reality. After a surge of growth this summer, the country's economy once again shrank in the third quarter, on spending and investment declines. However, that has not stopped investors from bidding up Japanese equities, with the Nikkei 225 index rising more than 20% on the year. Longer term, serious corporate governance improvements and the strengthening of trading alliances may function as a tailwind for Japanese equities. China continues its struggle to spark growth as it contends with slowing residential real estate activity, low levels of investor confidence and an unpredictable regulatory environment. In addition, youth unemployment remains a problem, having hit a record high of 21.3%, according to a September 2023 Council on Foreign Relations report.

Having been early movers during the rate hiking cycles, some emerging market central banks have begun to ease monetary policy, a trend that is likely to accelerate if developed market central banks are able to begin cutting rates. Local currency emerging market debt could benefit from a continued weakening of the US dollar, which has come off its 2022 highs.

As economies around the world start to feel the impact of rising borrowing costs, we will likely continue to see diverging growth and inflation trajectories in 2024. Importantly, higher rates impact the economies of different countries in a variety of ways. For example, on the housing front, most US homeowners have fixed rate mortgages. In contrast, in Canada and many countries in Europe, mortgages reset, exposing owners to fluctuations in rates. In addition, consumer debt levels vary across countries, with the Canadian consumer base, for example, carrying a high debt burden compared to other advanced economies.

Exhibit 4: 10-Year and 30-Year Expectations

Asset Class	10-Year Return Expectation	30-Year Return Expectation
Global equities	4.5%	7.7%
US large-cap equities	2.7%	7.5%
EAFE equities	7.4%	7.4%
Emerging market equities	9.7%	8.5%
Global aggregate bonds	5.3%	4.9%
US aggregate bonds	5.0%	4.7%
Global high-yield bonds	7.4%	6.8%
Emerging market debt	6.6%	6.9%

Low 10-year expectations for US large-cap equities contrast with our solid 30-year return expectation.

PORTFOLIO CONSIDERATIONS FOR 2024

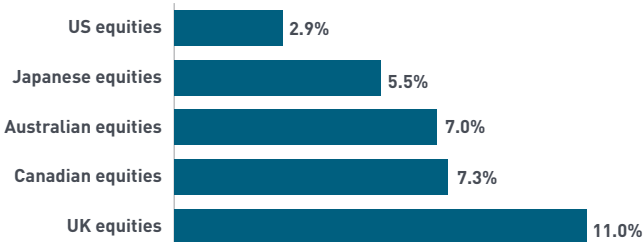
One of the worst years in history for the balanced portfolio was 2022. Last year marked one of the strongest, bolstered by positive returns in both asset classes. A classic 60/40 portfolio returned more than 17% on the year, rewarding investors who resisted the urge to move to cash after the 2022 drawdown. While a key reason the balanced strategy has proven so effective over time has been the counterbalance of the asset classes, US stocks and US bonds both ended 2023 with a positive total return. The S&P 500 was up around 26% on the year with the Magnificent Seven stocks up more than 100%. The combination of strong performance and mammoth weights in the index allowed for strong overall index returns despite the rest of the names lagging significantly. The media-assigned nickname of the stocks has led many investors to place them in a single basket, drawing conclusions about their fates as a collective. However, each of these companies has unique fundamental characteristics, management teams and business prospects, so we suggest investors resist the urge to view them as a unit. That said, some of them share the potential to benefit from the rise in artificial intelligence. While some will be the infrastructure providers, others will benefit as they facilitate the government, business and consumer utilization of AI. But as we have written in the past, as with many new technologies, there will be a significant learning and implementation curve, along with unexpected corporate beneficiaries and casualties, just as we have seen with the rise of other technologies such as the personal computer and the Internet. Outside of these names, we continue to see opportunity in high-quality US value companies in the aerospace and defense, food and beverage and electric power industries. While US large-cap growth has garnered all of the attention, over the past three years through the end of 2023, US value and US growth have near identical performance on an annualized basis, a reminder of how important it is for investors to have exposure to both styles.

We continue to favor international equities over US, considering their better valuations and favorable dividend profiles and because they present better opportunities for diversification. Both European and Japan equities boasted strong performance in 2023, helping the MSCI EAFE achieve an 18% total return on the year. While many investors have grown frustrated with the underperformance of developed international versus US equities, our Long-Term Capital Market Expectations have international equities significantly outperforming US equities over the next 10 years. Emerging market equities fall into a similar camp with a few notable differences. Economic and global trade dynamics suggest opportunity for companies in emerging market economies that could benefit from "reglobalization" — the idea that global trading relationships and supply chains are on the move. India, for example, has seen significant activity and an interest in their manufacturing capabilities. To capitalize on this, the Indian

Capital Markets

January 2024

Exhibit 5: Equity Expectations by Country



government is building up the country’s infrastructure, a much-needed course of action, to compete with other developing economies. India’s economy is expected to grow more than 7% in 2024, on par with 2023’s growth. Other countries, such as Vietnam and Thailand, are also seeing increased interest and activity as US and European companies seek to diversify supply chains. We do however caution against a passive allocation to emerging market equity, considering the weight that China has achieved in the index. Nearly 30% of the MSCI index is in China equities, which have lost around 42% over the past three years through the end of 2023. While there continue to be excellent opportunities for investment on a company-by-company basis in China, selectivity and differentiation from the index will be critical.

Exhibit 6: Equity Expectations by Region

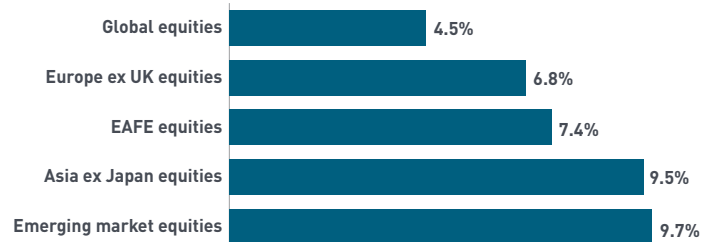
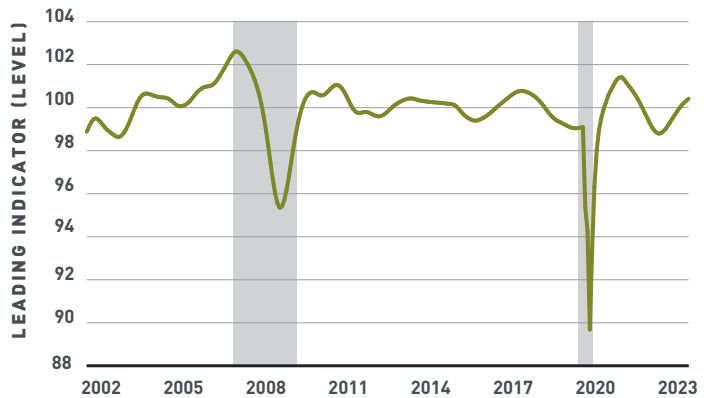


Exhibit 7: OECD G20 Leading Economic Indicator



Source: Bloomberg as of 30 November 2023. Shaded areas = US recessions. G20 = Group of 20 is an intergovernmental forum comprising 19 countries and the European Union (EU).

OECD leading economic indicators suggest the global economy is much more resilient than feared a year ago.

Exhibit 8: Fixed Income Expectations – US



Exhibit 9: Fixed Income Expectations – Global



Capital Markets

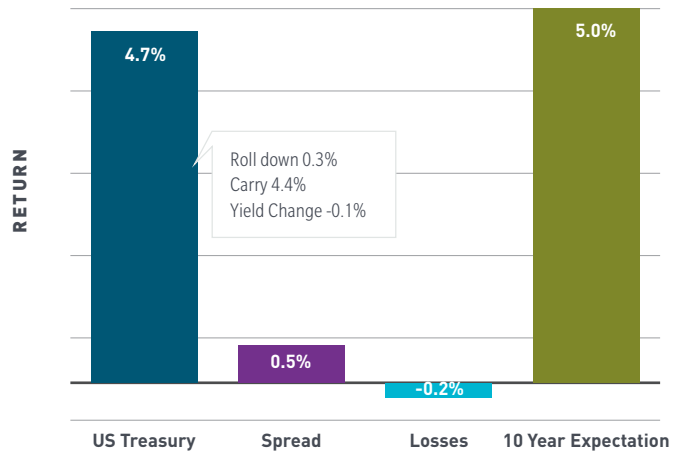
January 2024



Our fixed income expectations focus on the underlying building blocks of return such as yield, yield curve roll-down, price change and credit spreads. Across a spectrum of asset classes, higher all-in yields present a compelling entry point for many investors. Although credit spreads may be on the tighter side, meaningful underlying sovereign yields provide a significant cushion against any spread widening. After a prolonged period in which credit risk was the only way to achieve meaningful yields, higher rates across sovereign curves have resulted in yields not seen in more than a decade, with global investment-grade sporting a 4.6% yield-to-worst and global high yield an 8.2% YTW as of the end of December. Corporate balance sheets remain in good shape, and we see few signs at the aggregate levels of stress, although we are monitoring the space closely for any early signs of fundamental deterioration. In addition, we believe that concerns over a credit maturity wall are overblown. To begin with, the overall maturities are not stacked in one particular year. Rather, they are smoothed out over the next several years. Second, because bonds are set to mature does not necessarily mean they must be refinanced: companies can simply let them mature and if needed, explore alternative channels of funding. Finally, some of the riskiest borrowers have done just that and opted to avoid the traded high-yield market in favor of loans or private credit.

Emerging market debt remains one of the most promising fixed income opportunities in the period ahead, supported by a decent global growth outlook, robust fundamentals and favorable inflation dynamics. This profile is further supported by a weakening dollar, which has declined from its 2022 highs and has traded rangebound since. However, there are serious sovereign-specific risks that will require an active credit selection process to successfully navigate. For long-term investors with the ability to absorb some volatility, we believe EMD presents a real opportunity.

Exhibit 10: US core fixed income building blocks



For illustration purposes only, numbers may not add due to rounding.

Higher US Treasury yields underpin our US core fixed income expectations.

Exhibit 11: Credit and Emerging Market Debt Spreads Have Tightened

- J.P. Morgan EMBI Global Spread (LHS)
- Bloomberg Barclays Global High Yield Avg OAS (LHS)
- Bloomberg Barclays Global Aggregate Corporate Avg OAS (RHS)



Source: Bloomberg, as of 30 November 2023 (daily). Spreads are option adjusted spreads (OAS) for Bloomberg Barclays Global High Yield and Bloomberg Barclays Global Aggregate Corporate.

Global high-yield and emerging market debt spreads have widened from 2021 levels; however, spread widening has been concentrated mainly in the lowest quality tiers.

Capital Markets

January 2024

Region	Asset class	Long-term return expectation ¹	Long-term risk expectation
	Inflation	3.1%	1.1%
Equities (Unhedged nominal total return)			
US	US equities	2.9%	15.8%
	US large-cap equities	2.7%	15.3%
	US small-cap equities	5.0%	20.3%
NON-US REGIONAL	Asia ex Japan equities	9.5%	18.9%
	EAFE equities	7.4%	16.9%
	Emerging market equities	9.7%	19.3%
	Europe ex UK equities	6.8%	19.7%
	Global equities	4.5%	15.8%
COUNTRY	Australian equities	7.0%	22.2%
	Canadian equities	7.3%	19.0%
	Japanese equities	5.5%	14.8%
	UK equities	11.0%	17.2%
Fixed Income (Hedged nominal total return)			
US	US cash	5.0%	0.4%
	US aggregate bonds	5.0%	4.2%
	US high-yield bonds	5.5%	8.5%
	US inv-grade corporate bonds	5.4%	6.4%
	US TIPS	5.7%	5.5%
	US Treasury 7-10-year bonds	4.6%	6.5%
	US Long Treasury	5.1%	12.8%
	US Long Corporate	5.6%	11.3%
	US Long Govt/Credit	5.3%	10.8%
	US Muni Bonds	4.1%	4.9%
	US Taxable Muni Bonds	5.5%	6.9%
GLOBAL	Emerging market debt	6.6%	8.6%
	Global aggregate bonds	5.3%	3.5%
	Global high-yield bonds	7.4%	8.6%
	Global investment-grade bonds	5.9%	5.3%
NON-US REGIONAL	European aggregate bonds	4.6%	4.4%
	European high-yield bonds	6.1%	9.5%
	European investment-grade bonds	4.9%	4.6%
Alternatives (Unhedged nominal return)			
NON-LIQUID	US private equity ²	5.2%	23.6%
	US direct real estate	6.1%	7.9%
	Diversified hedge funds	4.9%	4.8%
	US private debt	8.7%	11.1%
LIQUID	Global REITs	7.7%	18.6%
	Global infrastructure	6.7%	12.8%
	Commodities	8.1%	14.9%

¹ Geometric return.

² As of January 2022, the methodology for US private equity risk has changed from using a fund of funds proxy to using listed private equity companies.

Exhibit 12: Currency Expectations

		Long Currency									
		Pound Sterling	US Dollar	Canadian Dollar	Swiss Franc	Norwegian Krone	Swedish Krona	Japanese Yen	Australian Dollar	New Zealand Dollar	Euros
Base Currency	Pound Sterling	0.0%	-2.2%	-0.3%	-2.5%	2.9%	3.3%	4.7%	-0.9%	-2.2%	-0.2%
	US Dollar	2.3%	0.0%	2.0%	-0.3%	5.2%	5.6%	7.1%	1.4%	0.0%	2.1%
	Canadian Dollar	0.3%	-2.0%	0.0%	-2.3%	3.1%	3.5%	5.0%	-0.6%	-2.0%	0.0%
	Swiss Franc	2.6%	0.3%	2.3%	0.0%	5.5%	5.9%	7.4%	1.7%	0.3%	2.4%
	Norwegian Krone	-2.8%	-4.9%	-3.0%	-5.3%	0.0%	0.4%	1.8%	-3.6%	-4.9%	-3.0%
	Swedish Krona	-3.1%	-5.3%	-3.4%	-5.6%	-0.4%	0.0%	1.4%	-4.0%	-5.3%	-3.4%
	Japanese Yen	-4.5%	-6.6%	-4.7%	-6.9%	-1.8%	-1.4%	0.0%	-5.3%	-6.6%	-4.7%
	Australian Dollar	0.9%	-1.4%	0.6%	-1.7%	3.8%	4.2%	5.6%	0.0%	-1.4%	0.7%
	New Zealand Dollar	2.3%	0.0%	2.0%	-0.3%	5.2%	5.6%	7.1%	1.4%	0.0%	2.0%
	Euros	0.2%	-2.0%	0.0%	-2.3%	3.1%	3.5%	4.9%	-0.7%	-2.0%	0.0%

Appendix

The MFS Long-Term Capital Markets Expectations (LTCME) for 2024 includes return and risk expectations for equity, fixed income and alternative asset classes across country, regional and global markets. The focus of these expectations is to provide a strategic, long-term, forward-looking view of various global markets. We use a proprietary top-down approach by employing quantitative, country-based models as the foundation for our expectations. Elements of these models are influenced by views from our fundamental equity and fixed income teams.

Our expectations are developed across 26 countries comprising 18 developed countries and 8 emerging market countries.

Equity expectations

MFS equity market expectations are displayed in unhedged, nominal total return and are developed using a building-blocks approach.

Elements of market history and mean reversion are incorporated into our models. Reversion speed and target levels are calibrated based on our analysis of historical data and forward looking expectations. Any return figure should be viewed as the mid-point in that range of outcomes.

Fixed income expectations

MFS fixed income market expectations are displayed in nominal total return, hedged to the investor's home currency. As with our equity model, our fixed income model employs a building-blocks approach.

And, again like the equity model, the fixed income model derives its reversion speed and target level parameters from careful historical research as well as forward looking expectations.

In our forecast, we focus on the returns from carry, yield change, roll-down and credit loss (where appropriate). Using this framework, we develop expectations across a range of sovereign, global credit and regional credit markets, while being careful to tune our models in accordance with the unique attributes of the various fixed income markets.

Alternative expectations

Due to the unique characteristics and varying drivers of return in alternatives, we vary our approach for each category. Our equity and fixed income capital market expectations serve as key variables in our alternatives models.

Currency Expectations

We use a mean reversion approach to calculate currency expectations. Currency expectations represent the nominal excess returns which are nominal total return less domestic carry. Nominal total return is calculated as nominal price change plus foreign currency carry. Domestic and foreign currency carry comes from the MFS Long Term Capital Expectations cash forecasting model. Nominal price change is real price change plus inflation differential between currencies.

Appendix II MFS 30-Year Capital Market Expectations

In addition to our 10-year capital market expectations, MFS is pleased to release our 30-year capital market expectations to provide perspective across the different time horizons.

In this release, we provide asset class expectations over a period long enough to encompass a variety of equity and credit market cycles and multiple economic regimes. Our 30-year annualized expectation is 7.7% for global equity and 4.9% for global fixed income with a 60/40 global balanced portfolio expected to return 6.8% over that timeframe. These 30-year market expectations are a critical input to the asset allocation process and have a number of practical applications that enable investment professionals to do the following:

- Analyze risk and return relationships across asset classes
- Compare and contrast 10-year expectations with 30-year expectations
- Compare historical market performance with forward-looking expectations
- Develop objective-based multi-asset portfolios
- Serve as inputs for mean variance optimization
- Calculate expected long-term risk and return for policy portfolio
- Develop Monte Carlo simulations and stress tests on portfolios


Exhibit 13: 30 year return and risk expectations



Source: MFS Long Term Market Expectations (US Edition) as of January 2024. Global balanced portfolio is 60% global equity, 40% global fixed income. Risk-Volatility is represented by standard deviation. The expected returns presented are hypothetical in nature and are not representative of an actual account. Certain assumptions have been made for modeling purposes and are unlikely to be realized. No representation or warranty is made as to the reasonableness of the assumptions made or that all assumptions used in calculating returns have been stated or fully considered. Projections and forward-looking assumptions are no guarantees of future performance. The expected returns are not targeted or projected performance for any MFS portfolio or advisory service.

Capital Markets

January 2024



	30-Year Return Expectation ¹	30-Year Risk Expectation
Inflation	2.8%	1.0%
Equities (Unhedged nominal total return)		
US large-cap equities	7.5%	15.3%
EAFE equities	7.4%	16.9%
Emerging market equities	8.5%	19.3%
Global equities	7.7%	15.8%
Fixed Income (Hedged nominal total return)		
US Cash	3.7%	0.4%
US Treasury 10-year bonds	4.3%	6.5%
US Treasury 30-year bonds	4.7%	14.3%
US aggregate bonds	4.7%	4.2%
US high-yield bonds	5.4%	8.5%
US Long Govt/Credit	5.4%	10.8%
Emerging market debt	6.9%	8.6%
Global aggregate bonds	4.9%	3.5%
Global high-yield bonds	6.8%	8.6%
Alternatives (Unhedged nominal total return)		
US private equity*	8.4%	23.6%
Diversified hedge funds	5.8%	4.9%
US REITs	7.6%	20.1%
Global REITs	7.4%	18.6%
Global infrastructure	6.2%	12.8%
Commodities	7.1%	14.9%
Convertible bonds	6.4%	12.3%

¹ Geometric return.

* As of January 2022, the methodology for US private equity risk has changed from using a fund of funds proxy to using listed private equity companies.

Methodology

In the development of these expectations, we employ a quantitative framework with our 10-year capital market expectations as a starting point and then incorporate a historical risk premium approach to extend the time horizon to 30 years. The equity risk premium is the higher return over a risk free asset that is offered by equities to compensate for additional volatility and can be estimated on both a historical and forward-looking basis. Combining these two approaches creates extended horizon expectations that incorporate both the current market environment and a long-term historical perspective. Our 10-year market expectations are developed using a building blocks approach where a degree of mean reversion is assumed for fundamental drivers of return such as P/E and profit margin for equity and yield and credit spread for fixed income. For years 11 through 30, we determine historical risk premium and return relationships across asset classes and then build up to an asset class level expectations. Expectations for the two time periods are then proportionally weighted.

GLOSSARY

Equity Expectations Building Blocks

Our equity building blocks are measured at the index level for each country.

Price/Earnings (P/E) ratio Price to earnings ratio is the trailing 12-month P/E ratio as measured by the index level divided by the trailing 12-month earnings for the constituent members of that index. We use P/E ratio as a measure of valuation. Our very-long-term reversion target for P/E ratios is 18.

Profit margins Profit margins are a measure of profitability and are measured in percentage terms. Our margin expectations are assumed to revert toward a target based on long term history.

Sales growth Sales growth is a measure of increase or decrease in real sales per share. To estimate this, we incorporate elements of economic theory and examine current levels relative to trends.

Dividends Dividends are measured in percentage terms, and we assume that a country's dividend payout ratio, over our forecast horizon, will be equal to its trailing 5-year average.

Fixed Income Expectations Building Blocks

Our fixed income building blocks are measured at the index level for each country.

Nominal yield Nominal yield is the observed yield at the index level. Nominal yields consist of both a real yield component and an inflation expectation component.

Real yield Real current yield is a nominal yield less the trailing 5-year annualized change in the Consumer Price Index.

Carry The carry return is calculated as the average of the current nominal yield and the expected nominal yield.

Yield change return The yield change return is calculated as the expected yield change multiplied by the current duration and then annualized.

Inflation Inflation is measured as a 5-year trailing change in the US Consumer Price Index. We then assume that inflation reverts towards a global equilibrium value.

Roll down The roll down return expectations are based on index duration as well as localized curve steepness for the maturity being forecast.

Regional credit markets For regional credit markets, we take a building-blocks approach incorporating duration-matched risk-free return, spread return and loss return.

Duration-matched risk-free return This represents the estimated return of a sovereign bond portfolio with the same duration and nationality as the regional credit in question.

Spread return The spread return is measured by the differential between the yield in the index and the yield of the sovereign bonds for that country. This is the return that can be earned for taking on credit risk.

Credit losses Credit losses are determined based on historical rates of default losses and credit quality migration that are reflective of the index being forecast.

Global credit Because of the complexities of multiple durations and multiple loss provisions across several countries, we take the current yield of the index, assume a constant roll down and subtract any loss return expectations based on expected default rates.

US Treasury Inflation-Protected Securities For TIPS, we forecast a future real yield based on the same mean reverting assumptions we use for other sovereign indices. We then calculate a real carry return, a real yield change return, and a real roll-down return in the same manner with which we calculated nominal versions of these returns for sovereign indices. We then add back inflation expectations to produce a nominal return.

US cash Our estimate of future cash returns reflects the sum of expected real cash rates and expected inflation, both of which are based on mean reversion.

Alternatives Expectations Building Blocks

Real estate For global real estate investment trusts (REITs), we rely upon current dividend yield based on the fact that REITs pay out a considerable percentage of their funds from operations in the form of dividends.

For US direct real estate (RE), we capture the historical relationship between REITs and direct RE by unsmoothing direct RE returns and then estimating beta.

Private equity Our private equity approach starts with our capital markets expectations for global developed markets and then makes adjustments based on the higher levels of risk associated with private equity.

Global infrastructure Our global infrastructure expectations are calculated based off of the relationship between listed global infrastructure and real estate.

Hedge funds We would note that hedge fund investments are pools of capital invested at the discretion of the manager, and as such, risk and return are highly dependent on skill and timing. In addition, within the hedge fund universe, there is a divergent range of asset classes, strategies and implementation approaches. We take a diversified hedge fund portfolio approach where we assume an investment across multiple hedge fund types. To calculate hedge fund expectations, we use a regression based approach to estimate relationships between certain hedge fund styles and public markets. For hedge fund styles that do not appear to hold relationships to public markets, we use steady state expectations plus cash. Expectations for each hedge fund style are allocated to create a diversified hedge fund portfolio.

Commodities We develop our commodities expectations to represent broad exposure to the commodities market through a fully collateralized commodity position. Three primary building blocks — collateral return, spot return and roll return — are estimated and then added to determine our long-term commodities expectation.

Risk and correlations Our risk and correlation expectations are derived largely from historical observed risk and correlation patterns. Risk, as measured by standard deviation, and correlations across broad asset classes tend to be relatively stable over long periods of time. However, over shorter periods of time or during periods of market disruption, this stability can quickly break down. We use the 15-year historical standard deviation and correlations of proxy indices where available. Where a 15-year history is not available, we use the longest available history and make adjustments based on historical patterns and relationships to other asset classes.

Authors



Benjamin R. Nastou, CFA
Portfolio Manager



Michael W. Roberge, CFA
Chief Executive Officer



Erich B. Shigley
Portfolio Manager



Vishal Hindocha, CFA
Global Head of Investment Solutions



Jonathan W. Hubbard, CFA
Managing Director,
Investment Solutions Group



Robert M. Almeida, Jr.
Global Investment Strategist
and Portfolio Manager

The views expressed herein are those of the MFS Investment Solutions Group within the MFS distribution unit and may differ from those of MFS portfolio managers and research analysts. These views are subject to change at any time and should not be construed as the Advisor's investment advice, as securities recommendations, or as an indication of trading intent on behalf of MFS.

References to future expected returns and performance are not promises or estimates of actual performance that may be realized by an investor, and should not be relied upon. The forecasts are for illustrative purposes only and are not to be relied upon as advice, interpreted as a recommendation, or be guarantees of performance. The forecasts are based upon subjective estimates and assumptions that have yet to take place or may occur. The projections have limitations because they are not based on actual transactions, but are based on the models and data compiled by MFS. The results do not represent nor are indicative of actual results that may be achieved in the future. Individual investor performance may vary significantly.

Source: Bloomberg Index Services Limited. BLOOMBERG® is a trademark and service mark of Bloomberg Finance L.P. and its affiliates (collectively "Bloomberg"). BARCLAYS® is a trademark and service mark of Barclays Bank Plc (collectively with its affiliates, "Barclays"), used under license. Bloomberg or Bloomberg's licensors, including Barclays, own all proprietary rights in the Bloomberg Barclays Indices. Neither Bloomberg nor Barclays approves or endorses this material, or guarantees the accuracy or completeness of any information herein, or makes any warranty, express or implied, as to the results to be obtained therefrom and, to the maximum extent allowed by law, neither shall have any liability or responsibility for injury or damages arising in connection therewith.

Information has been obtained from sources believed to be reliable but J.P. Morgan does not warrant its completeness or accuracy. The Index is used with permission. The Index may not be copied, used, or distributed without J.P. Morgan's prior written approval. Copyright 2020, J.P. Morgan Chase & Co. All rights reserved.

Index data source: MSCI. MSCI makes no express or implied warranties or representations and shall have no liability whatsoever with respect to any MSCI data contained herein. The MSCI data may not be further redistributed or used as a basis for other indices or any securities or financial products. This report is not approved, reviewed or produced by MSCI.

"Standard & Poor's" and S&P "S&P" are registered trademarks of Standard & Poor's Financial Services LLC ("S&P") and Dow Jones is a registered trademark of Dow Jones Trademark Holdings LLC ("Dow Jones") and have been licensed for use by S&P Dow Jones Indices LLC and sublicensed for certain purposes by MFS. The S&P 500® is a product of S&P Dow Jones Indices LLC, and has been licensed for use by MFS. MFS's Products are not sponsored, endorsed, sold or promoted by S&P Dow Jones Indices LLC, Dow Jones, S&P, or their respective affiliates, and neither S&P Dow Jones Indices LLC, Dow Jones, S&P, their respective affiliates make any representation regarding the advisability of investing in such products.

Unless otherwise indicated, logos and product and service names are trademarks of MFS® and its affiliates and may be registered in certain countries.

Distributed by: **U.S.** – MFS Institutional Advisors, Inc. (“MFSI”), MFS Investment Management and MFS Fund Distributors, Inc., Member SIPC; **Latin America** – MFS International Ltd.; **Canada** – MFS Investment Management Canada Limited. **Note to UK and Switzerland readers:** Issued in the UK and Switzerland by MFS International (U.K.) Limited (“MIL UK”), a private limited company registered in England and Wales with the company number 03062718, and authorised and regulated in the conduct of investment business by the UK Financial Conduct Authority. MIL UK, an indirect subsidiary of MFS®, has its registered office at One Carter Lane, London, EC4V 5ER. **Note to Europe (ex UK and Switzerland) readers:** Issued in Europe by MFS Investment Management (Lux) S.à r.l. (MFS Lux) – authorized under Luxembourg law as a management company for Funds domiciled in Luxembourg and which both provide products and investment services to institutional investors and is registered office is at S.a r.l. 4 Rue Albert Borschette, Luxembourg L-1246. Tel: 352 2826 12800. This material shall not be circulated or distributed to any person other than to professional investors (as permitted by local regulations) and should not be relied upon or distributed to persons where such reliance or distribution would be contrary to local regulation; **Singapore** – MFS International Singapore Pte. Ltd. (CRN 201228809M); **Australia/New Zealand** - MFS International Australia Pty Ltd (“MFS Australia”) (ABN 68 607 579 537) holds an Australian financial services licence number 485343. MFS Australia is regulated by the Australian Securities and Investments Commission.; **Hong Kong** - MFS International (Hong Kong) Limited (“MIL HK”), a private limited company licensed and regulated by the Hong Kong Securities and Futures Commission (the “SFC”). MIL HK is approved to engage in dealing in securities and asset management regulated activities and may provide certain investment services to “professional investors” as defined in the Securities and Futures Ordinance (“SFO”).; **For Professional Investors in China** – MFS Financial Management Consulting (Shanghai) Co., Ltd. 2801-12, 28th Floor, 100 Century Avenue, Shanghai World Financial Center, Shanghai Pilot Free Trade Zone, 200120, China, a Chinese limited liability company registered to provide financial management consulting services.; **Japan** - MFS Investment Management K.K., is registered as a Financial Instruments Business Operator, Kanto Local Finance Bureau (FIBO) No.312, a member of the Investment Trust Association, Japan and the Japan Investment Advisers Association. As fees to be borne by investors vary depending upon circumstances such as products, services, investment period and market conditions, the total amount nor the calculation methods cannot be disclosed in advance. All investments involve risks, including market fluctuation and investors may lose the principal amount invested. Investors should obtain and read the prospectus and/or document set forth in Article 37-3 of Financial Instruments and Exchange Act carefully before making the investments; **Bahrain** - This document has not been approved by the Central Bank of Bahrain which takes no responsibility for its contents. No offer to the public will be made in the Kingdom of Bahrain and this document is intended to be read by the addressee only and must not be passed to, issued to, or shown to the public generally. The Central Bank of Bahrain assumes no responsibility for the accuracy and completeness of the statements and information contained in this document and expressly disclaims any liability whatsoever for any loss howsoever arising from reliance upon the whole or any part of the contents of this document. The Board of Directors and the management of the issuer accepts responsibility for the information contained in this document. To the best of the knowledge and belief of the board of directors and the management, who have all taken all reasonable care to ensure that such is the case, the information contained in this document is in accordance with the facts and does not omit anything likely to affect the reliability of such information.; **Kuwait** - This document is not for general circulation to the public in Kuwait. The information has not been licensed for offering in Kuwait by the Kuwait Capital Markets Authority or any other relevant Kuwaiti government agency. No private or public offering of the information is being made in Kuwait, and no agreement relating to the information will be concluded in Kuwait. No marketing or solicitation or inducement activities are being used to offer or market the information in Kuwait.; **Oman** - For Residents of the Sultanate of Oman: The information contained in this document does not constitute a public offer of securities in the Sultanate of Oman as contemplated by the Commercial Companies Law of Oman (Royal Decree 4/74) or the Capital Market Law of Oman (Royal Decree 80/98). This information is being circulated on a limited basis only to corporate entities that fall within the description of sophisticated investors (Article 139 of the Executive Regulations of the Capital Market Law). The recipient acknowledges that they are a sophisticated investor who has experience in business and financial matters and is capable of evaluating the merits and risks on an investment.; **South Africa** - This document has not been approved by the Financial Services Board and neither MFS International (U.K.) Limited nor its funds are registered for public sale in South Africa.; **UAE** - This document, and the information contained herein, does not constitute, and is not intended to constitute, a public offer of securities in the United Arab Emirates and accordingly should not be construed as such. The information is only being offered to a limited number of exempt investors in the UAE who fall under one of the following categories of non-natural Qualified Investors: (1) an investor which is able to manage its investments on its own, namely: (a) the federal government, local governments, government entities and authorities or companies wholly-owned by any such entities; (b) international entities and organisations; or (c) a person licensed to carry out a commercial activity in the UAE, provided that investment is one of the objects of such person; or (2) an investor who is represented by an investment manager licensed by the SCA, (each a “non-natural Qualified Investor”). The information and data have not been approved by or licensed or registered with the UAE Central Bank, the Securities and Commodities Authority, the Dubai Financial Services Authority, the Financial Services Regulatory Authority or any other relevant licensing authorities or governmental agencies in the UAE (the “Authorities”). The Authorities assume no liability for any investment that the named addressee makes as a non-natural Qualified Investor diligence on the accuracy of the information relating to the securities. If you do not understand the contents of this document you should consult an authorised financial adviser; **Saudi Arabia** - This document may not be distributed in the Kingdom except to such persons as are permitted under the Investment Funds Regulations issued by the Capital Market Authority. The Capital Market Authority does not make any representation as to the accuracy or completeness of this document, and expressly disclaims any liability whatsoever for any loss arising from, or incurred in reliance upon, any part of this document. Prospective purchasers of the securities offered hereby should conduct their own due.; **Qatar** - This material/fund is only being offered to a limited number of investors who are willing and able to conduct an independent investigation of the risks involved in an investment in such material/fund. The material does not constitute an offer to the public and is for the use only of the named addressee and should not be given or shown to any other person (other than employees, agents or consultants in connection with the addressee’s consideration thereof). The fund has not been and will not be registered with the Qatar Central Bank or under any laws of the State of Qatar. No transaction will be concluded in your jurisdiction and any inquiries regarding the material/fund should be made to your contact outside Qatar.