Morgan Stanley

INVESTMENT MANAGEMENT

The Case for Stable Risk-Adjusted Returns: Why Now?

GLOBAL BALANCED RISK CONTROL TEAM | INVESTMENT INSIGHT | 2023

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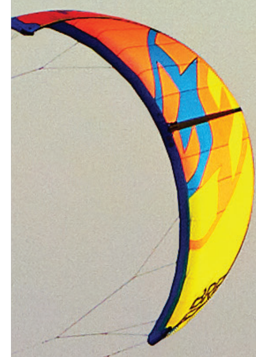
Why now? Because the 40-year decline in interest rates has ended, where inflation risks and interest rates are likely to become more volatile. As a result, investors can no longer rely on bonds to provide steady returns and be the ballast in portfolios as they did for four decades. The correlation of equity and bond returns is likely to be higher, thus increasing the risk of drawdowns for traditionally managed multi-asset portfolios. We believe a balanced approach to managing portfolios that controls for volatility to produce better risk-adjusted returns is required to achieve a stable compounding of returns into the future—and our Global Balanced Risk Control Strategy is designed to do just that.

High correlations across fixed income and equity asset classes reduce diversification benefits and increase portfolio risk, leaving the door open for significant drawdowns. While this tenet is well-established and demonstrable, it is often forgotten in the good years; in 2022 however, market returns made it painfully obvious. This change in market dynamics toward higher correlation risks is not new, it has been with us since 2018 and it is likely to be with us for the foreseeable future. When high correlation risks produce substantially negative returns investors take notice; while in the good years it is ignored. Perhaps the bigger question is: what is an investor going to do about it? As intimated earlier, we have a solution: our Global Balanced Risk Control Strategy.



Better to get balanced and control risk than get defensive

We believe the solution is to construct a portfolio with a better balance of offsetting risks, instead of just utilizing what have been traditionally known as defensive assets. The difference is that balance is a portfolio construction decision to help reduce risk, while becoming defensive is an asset allocation decision.

In high correlation markets, assets' performance is highly correlated, thus defensive asset allocation decisions provide less of a hedge to drawdowns than they historically had in the past. For instance, in 2022 high quality investment grade bonds also lost value and did not provide a meaningful defensive offset to equity as it had prior to 2018.

We suggest a different approach: construct a portfolio that balances the risks of the asset selections against each other to help reduce the portfolio risk. In our opinion, this is accomplished by targeting a level of volatility and managing risks within a specified range around that volatility target, or balancing the risks in order to provide more stable risk-adjusted returns over time.

Put simply, the traditional multi-asset manager approach to creating a diversified portfolio by making a simple asset allocation decision, such as 60% equity versus 40% bonds, will not work well when both asset returns are highly correlated. Employing a balanced and active management approach to achieve more stable risk-adjusted returns may prove superior and the overriding goal of the Global Balanced Risk Control Strategy.

Diversification is good, but being balanced is better[1]

Given the vicissitudes of the market, holding certain investments in certain markets could be potentially disastrous.

> "An actively managed global multi-asset strategy anticipates risk and can adjust its asset mix to capture the best opportunities as market conditions change."

Research shows that, in distressed markets, equities across the globe start to move together in lockstep. Equity-only managers have no recourse other than to reallocate between their equity holdings and cash. We have previously referred to this quandary as "rearranging the deck chairs on the Titanic."

Fixed income is often viewed as a safer investment in volatile markets. But we have seen bonds lose money, and they have historically delivered lower long-term performance than equity.

Diversification is often the pat answer to managing volatility. It entails building a portfolio with both equity and fixed income assets in some fixed proportion based on an investment horizon and risk profile. And it's a good idea.

Until it isn't.

In our minds, a passively-managed portfolio, no matter how diversified, fails to mitigate against the risk of loss of capital during significant market drawdowns. Imagine an investor holding a 70% equity/30% fixed portfolio: If the equity allocation is down -30% and fixed income is unchanged, simple maths indicates the total portfolio is still down -21%, i.e., bear territory.

In contrast, a multi-asset manager allocates across multiple asset classes that can be rearranged to manage risk. But in our view, there are two keys to managing a multi-asset portfolio successfully: One, that the manager is a truly active manager, and two, that they manage to a volatility target, not a benchmark.

Active management is forward looking

Simply defined, multi-asset managers manage equity, fixed income and cash in the same portfolio. In our case (and others), we manage commodity-linked notes as well. Multi-asset funds are not "target date" funds, where allocations between equity and fixed income change at prescribed intervals over the life of the fund, based on the age and risk profile of the investor. While target date strategies are a good fit for certain investors, they generally do not make tactical adjustments based on market conditions over the life of the fund.

As we see it, diversification is only effective if a portfolio is actively managed. In our case, active management is a forward-looking exercise, and anticipating volatility events is the hallmark of our investment approach. Yes, that means we are, in fact, trying to forecast the future. But not with tarot cards. Our dedicated team of 15[2] investment professionals continually surveys macroeconomic and geopolitical conditions across the globe to identify potential sources of risk that could arise. Our stated goal is to adjust portfolio exposures before volatility strikes.

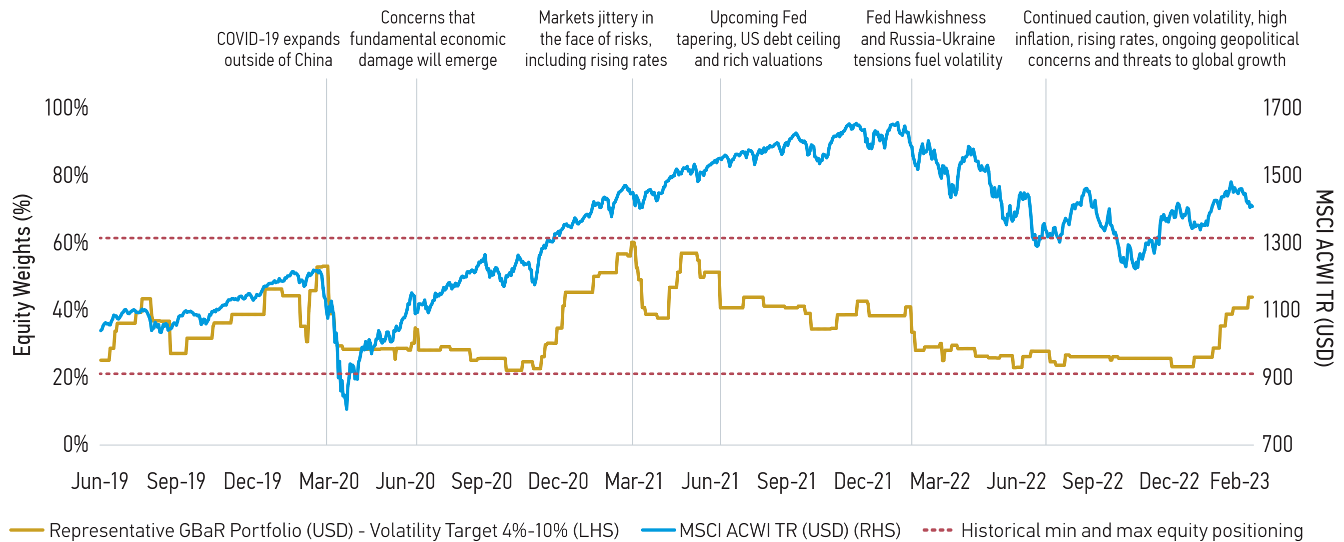
In our portfolios the equity allocation is the primary lever for adjusting our risk exposure. When we expect some event—such as political instability, exacerbated trade tensions or a significant change in monetary policy—to cause a spike in market volatility, we typically—actively—reduce exposure to equities. Our goal is to get ahead of the "bad" news, as opposed to a post-volatility

[1] Diversification does not eliminate the risk of loss.

[2] Source: Morgan Stanley Investment Management, Team as of 31 January 2023. Team members may change from time to time without notice.

DISPLAY 1

Dynamic equity exposure is key in our multi-asset portfolios



Note: The Left-Hand Scale represents the equity weights of the Representative GBaR Portfolio (USD) with a Volatility Target of 4-10%.

Source: Representative GBaR Portfolio (USD), MSIM, DataStream, June 5 2019 to February 28 2023. Subject to change daily. Provided for informational purposes only and should not be deemed as a recommendation to buy or sell securities in the asset class shown above. Each portfolio may differ due to specific investment restrictions and guidelines. Accordingly, individual results may vary. Effective weights incorporate the impact of options. Target weights are the weights targeted at the time of the team's rebalancing.

correction. In the same way, when we expect a reduction in the volatility level, we actively increase exposure to equities, to take advantage of the upside potential. *Display 1* shows how we have adjusted equity exposure in anticipation of various global events over the past two years.

As you can see from *Display 1*, we make significant changes to our asset mix based on what we see as upcoming risk events. Our equity allocation was near 80% in mid 2018, but when US-China trade tensions were exacerbated globally by political factors, we shifted that allocation to close to 25% by the summer of that year. In early 2020, to help manage volatility during the COVID-19 pandemic and unprecedented shutdown of the global economy, we reduced the equity allocation of our flagship portfolio from around 55% to 20%, a position we maintained as volatility remained elevated.

Providing the benefits of compounding returns by managing volatility

On one level we are managing a multi-asset portfolio, but in truth, what we are really managing is volatility. In our case, we manage our multi-asset portfolios to a pre-defined risk budget, also defined as a volatility target range. In our representative Global Balanced Risk Control portfolio, launched in November 2011, we target volatility in the range of 4%-10% (see *Display 2*). Typically, we expect volatility to be towards the middle of this range, but in extreme conditions we may make fuller use of the range, for example to help mitigate the impact of volatile down markets. Our goal is to deliver competitive returns and minimise downside market participation within these volatility parameters.

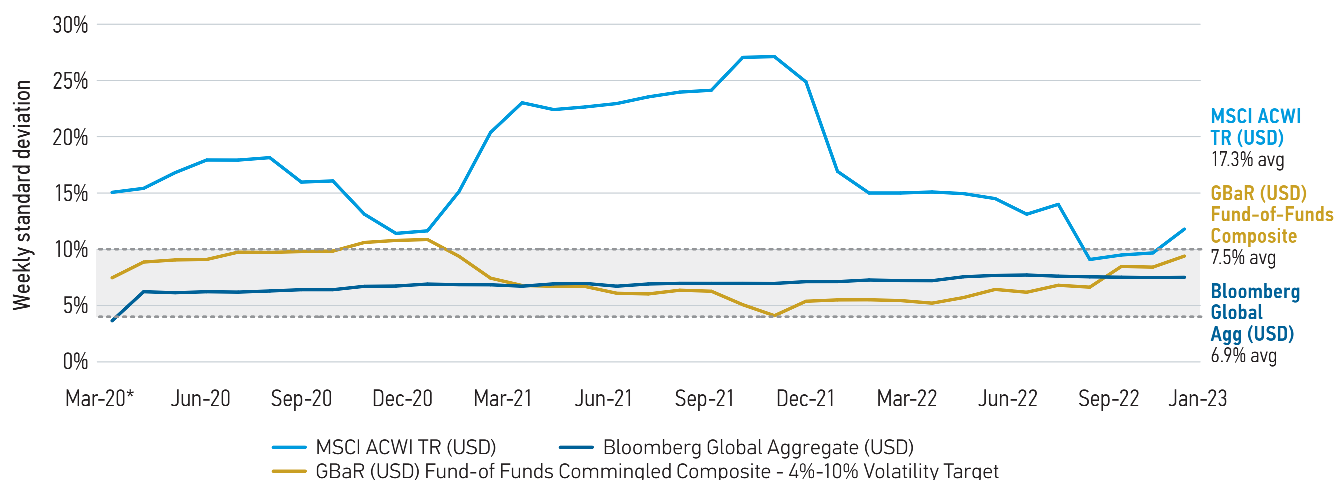
This is quite a different approach from most investment managers, who designate a benchmark to evaluate their fund's performance. But evaluating any investment relative to a benchmark is tricky: If the broader market is down -35% and a portfolio only -30%, the manager has in fact beaten their benchmark, which is great for the manager. The client, however, has still lost close to a third of their investment.

We benchmark our portfolios based on volatility and our investment process begins with risk. As discussed, we specify a target range of volatility, e.g., 4%-10%, within which we aim to maintain the strategy's volatility. Typically, we expect this to be towards the middle of the range i.e., 6%-7%. As stated, our multi-asset portfolios hold a mix of equities, fixed income, commodity-linked notes and cash, and this flexibility to diversify across asset classes is critical in managing risk.

In the industry vernacular, we are often referred to as, not surprisingly, a

DISPLAY 2

A track record of stable volatility



Source: Datastream, from 31 March 2020 to 31 January 2023 (including averages). The composite volatility target range is 4% - 10%. Subject to change daily. Based on 1-year weekly data. **Past performance is not a reliable indicator of future performance.** Provided for informational purposes only and should not be deemed as a recommendation to buy or sell securities in the asset class shown above. Each portfolio may differ due to specific investment restrictions and guidelines. Accordingly, individual results may vary. The index performance is provided for illustrative purposes only and is not meant to depict the performance of a specific investment.

* The data starts one year after inception, as one-year weekly data is required for statistical significance.

"volatility manager." A paper from the Yale School of Management, "Volatility Managed Portfolios,"[3] indicates that volatility management is an investment approach that can produce superior investment results.

From the paper's abstract:

> "Managed portfolios that take less risk when volatility is high produce large, positive alphas and increase factor Sharpe ratios by substantial amounts."

Furthermore from the research:

> "We construct portfolios that scale monthly returns by the inverse of their expected variance, decreasing risk exposure when the returns variance is expected to be high, and vice versa. We call these volatility-managed portfolios. We document that this simple trading strategy earns large alphas across a wide range of asset-pricing factors, suggesting that investors can benefit from volatility timing."

Perhaps the simplest explanation of what we are trying to achieve, is an investment process that provides a stable return profile that enables clients to compound their returns more predictably within a volatility range, as seen in *Display 2*.

The Global Balanced Risk Control team's multi-asset portfolios

2020 is a good example of what we believe are the advantages of an actively managed multi-asset portfolio benchmarked to a volatility target.

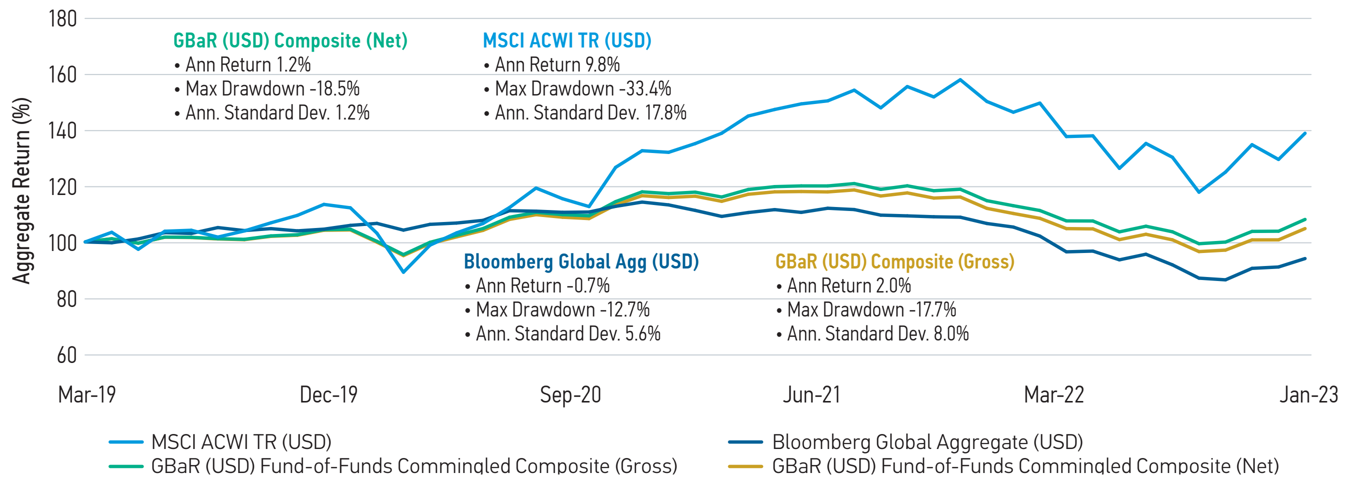
As can be seen in *Display 3*, our multi-asset Global Balanced Risk Control (USD) Fund-of-Funds Commingled Composite track record maximum drawdown over the course of 2020 *was less than half* that of the index approximately -9% (gross and net) vs 33% for the MSCI ACWI TR (USD) achieved *less than half* of the volatility—approximately 11% (gross and net) vs 26% for the MSCI ACWI TR (USD), based on monthly data. In our view, delivering competitive performance without extreme volatility is particularly appealing for the vast majority of clients.

In fact, we find that our approach to multi-asset investing often meets the needs of both high-net-worth (HNW) investors and smaller clients. In particular, as a core portfolio allocation for the former and as a holistic strategy for the latter. Over the years, we have come to understand that investors are often more concerned with keeping their money than with growing it aggressively. Having said that, we see that both HNW and smaller investors do want to grow their money, but with less volatility and most importantly, with no surprises. These investors (and others) realize that massive drawdowns have the potential to cause even the most sophisticated investors to sell at the bottom—often the biggest disaster of all. Instead, true active management and flexibility within a volatility target/risk control framework are required to mitigate the downside during the most volatile periods. The speed of execution and available tools (futures and

[3] Source: https://pdfs.semanticscholar.org/e024/3261d9d0afa94ed87827fcdc68338422fa0f.pdf, published on 23 November 2015

DISPLAY 3

An active multi-asset approach anticipates risk, avoids extremes



Source: Datastream, from composite inception 31 March 2019 to 31 January 2023. Subject to change daily. Provided for informational purposes only and should not be deemed as a recommendation to buy or sell securities in the asset class shown above. The composite results shown are NET of investment advisory/management fees, which include performance fees if applicable, are quoted in USD and include the reinvestment of dividends and income. Each portfolio may differ due to specific investment restrictions and guidelines. Accordingly, individual results may vary. **Past performance is no guarantee of future results.** See next page for standardized gross and net returns.

options, among others) in order to achieve these results are also factors to consider when an investor delegates part of their portfolio to a multi-asset manager with a risk control framework.

ESG and multi-asset investing[4]

There has certainly been an uptick in demand for Environmental, Social and Governance (ESG)-run products in recent years—and multi-asset is no exception to this trend. As a team, we believe that the market ascribes value to ESG factors and that companies with strong ESG profiles are more attractive investments; emphasising such companies therefore provides an opportunity to add value to portfolios. Likewise, avoiding companies that perform relatively poorly on ESG criteria, and could be expected to suffer in the new environment, is an additional risk management tool.

For this reason, the Global Balanced Risk Control team seeks to enhance portfolios' ESG profiles, or ESG "friendliness," through a process of "tilting" towards securities with relatively high ESG ratings. In addition, the team excludes securities with exposure to significant ESG controversies and seeks to actively engage with company management on ESG issues for a targeted set of companies held in our portfolios. Ultimately as an increasing number of ESG factors represent material investment risks, incorporating ESG in an investment process is no longer simply a matter of personal conviction, but in our case is a natural extension of our risk control philosophy.

Our investment team and process

Investors are faced with continually changing market conditions. In our years of active fund management, our team has invested during economic recessions and recoveries, momentum markets and bubbles, rising interest rate and inflationary environments. Not to mention those "black swan" events that can take even the most astute investors by surprise.

We believe that markets will be more volatile in the future and that our investment process that controls for volatility to create a more stable return profile and produce higher quality risk-adjusted returns will offer better long-term results for investors. Our process is paramount.

An approach that adapts – so that you don't have to

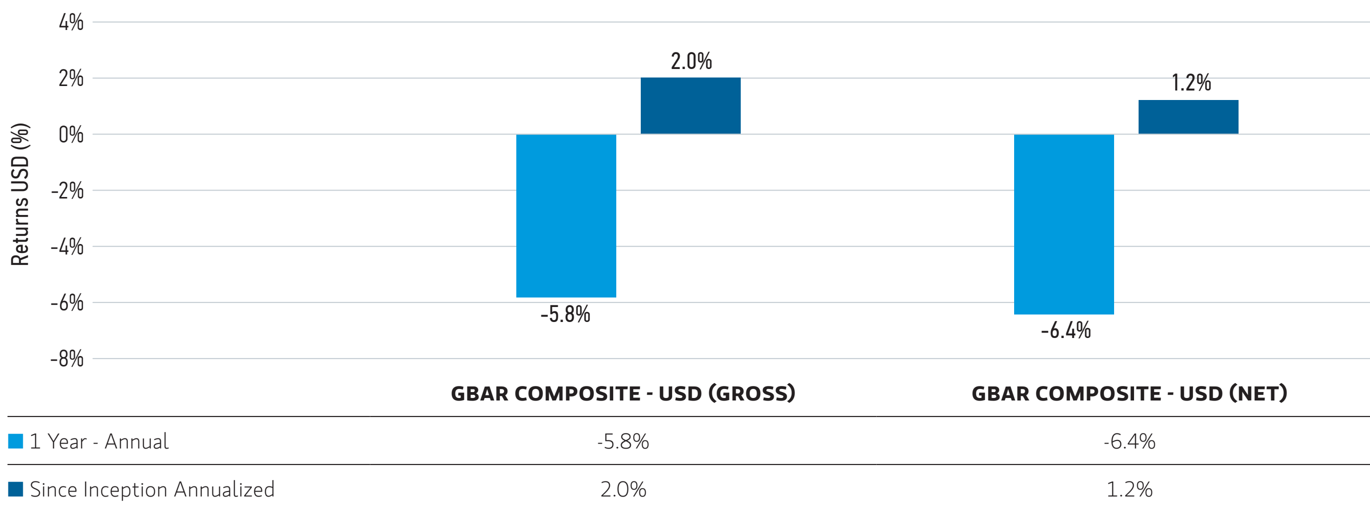
We believe that multi-asset portfolios can navigate a variety of environments by employing an approach that actively manages allocation decisions, while managing the entire portfolio to a volatility target. This is an approach that adapts the asset mix so that you don't have to.

Simply put, our goal is to deliver competitive performance with minimized participation in distressed markets.

[4] Individual funds and client accounts operating within the strategy may have specific ESG related goals and restrictions that affects ESG integration. Please refer to governing documents of individual vehicles to understand their binding ESG criteria.

Global Balanced (USD) Fund-of-Funds Commingled Composite Performance

Presented in USD



	GBAR COMPOSITE - USD (GROSS)	GBAR COMPOSITE - USD (NET)
1 Year - Annual	-5.8%	-6.4%
Since Inception Annualized	2.0%	1.2%

Source: Datastream, from Global Balanced (USD) Fund-of-Funds Commingled Composite inception 31 March 2019 to 31 January 2023. Subject to change daily. Provided for informational purposes only and should not be deemed as a recommendation to buy or sell securities in the asset class shown above. The composite results shown are GROSS and NET of investment advisory/management fees, which include performance fees if applicable, are quoted in USD and include the reinvestment of dividends and income. Each portfolio may differ due to specific investment restrictions and guidelines. Accordingly, individual results may vary. **Past performance is no guarantee of future returns.** GIPS is a registered trademark of the CFA Institute. The CFA Institute does not endorse or promote this organization, nor does it warrant the accuracy or quality of the content contained herein.

Global Balanced Risk Control (USD) Fund-of-Funds Commingled Composite

Presented in USD Terms

YEAR	GROSS COMPOSITE RETURN (%)	NET COMPOSITE RETURN (%)	INDEX RETURN (%)	COMPOSITE 3-YR EX-POST STANDARD DEVIATION (%)	INDEX 3-YR EX-POST STANDARD DEVIATION (%)	NUMBER OF ACCOUNTS	COMPOSITE MARKET VALUE (M)	FIRM ASSETS (B)	INTERNAL DISPERSIONS (%)
01 Apr 19 - 31 Dec 19	4.37	4.15	N/A	N/A	N/A	2	776	451.1	N/A
2020	12.86	11.79	N/A	N/A	N/A	1	275	661.8	N/A
2021	0.78	(0.41)	N/A	N/A	N/A	1	316	750.8	N/A

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Prior to January 1, 2002, the Firm was defined as an investment management firm consisting of investment advisory operations within various legal entities. As of January 1, 2002, the Firm definition was expanded to include all investment advisory operations within MSIM excluding affiliated and unaffiliated wrap fee programs. From January 1, 2007 to May 31, 2010, the Firm definition included wrap fee programs, which were sold May 31, 2010. Due to an acquisition of assets from Morgan Stanley Smith Barney LLC ("MSSB") business on October 1, 2015, the Firm definition was expanded to include wrap fee programs. The Fundamental Equity Advisors wrap fee program was transferred to another firm in October 2018.

The Global Balanced Risk Control (USD) Fund-of-Funds Commingled Composite was created on July 9, 2019 and its inception date is March 31, 2019. This composite is designed to include all separately managed accounts and pooled vehicles managed on a fully discretionary basis according to the Global Balanced Risk Control strategy, with fund-of-funds implementation, in USD terms. The strategy applies to a top-down global asset allocation approach,

investing in equities (including listed real estate and listed infrastructure), fixed income, commodity-linked Investments and cash. The strategy aims to provide capital growth over time, measured in US dollars, while actively managing total portfolio risk; target volatility is in the range of 4% - 10%. Among the strategy's Investments are actively-managed mutual funds (including those managed by third-parties and may include those managed by Morgan Stanley Investment Management), ETFs and index futures, which are used for the purposes of efficient portfolio management. The strategy may also invest in ETCs and government bonds. The strategy may invest in derivatives such as index futures contracts, index futures options, and equity index options, for efficient portfolio management. Foreign exchange forward contracts may be used to a limited extent, including for currency hedging purposes. Using derivatives involve specific risks, including those related to counterparty, liquidity, valuation, correlation, and market risks. A complete list and description of all composites and limited distribution pooled funds (LDPF) is available upon request. A list of the firm's broad distribution pooled funds is available on the firm's website (MSIM.com).

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As the composite's strategy is risk targeted and permits investments in various asset classes, we believe that no appropriate benchmark exists. Therefore, there is no benchmark presented ("N/A") for this composite.

Gross performance is net of all transaction costs and withholding taxes. Net performance is net of all transaction costs, withholding taxes, actual investment management/advisory fees which include performance fees if applicable and applicable administrative expenses. Any performance fees are accounted for and deducted when earned. Performance returns include the reinvestment of dividends and income. The standard investment advisory fee schedule is as of follows: 0.85% per annum on first $100 million of assets; 0.75% per annum on next $150 million of assets; 0.65% per annum on next $250 million of assets; 0.55% per annum on assets under management thereafter. Actual investment advisory fees incurred by clients may vary.

Risk Disclosure

There is no assurance that the Strategy will achieve its investment objective. Portfolios are subject to market risk, which is the possibility that the market values of securities owned by the portfolio will decline and that the value of portfolio shares may therefore be less than what you paid for them. Market values can change daily due to economic and other events (e.g. natural disasters, health crises, terrorism, conflicts and social unrest) that affect markets, countries, companies or governments. It is difficult to predict the timing, duration, and potential adverse effects (e.g. portfolio liquidity) of events. Accordingly, you can lose money investing in this portfolio. Please be aware that this strategy may be subject to certain additional risks. There is the risk that the Adviser's asset allocation methodology and assumptions regarding the Underlying Portfolios may be incorrect in light of actual market conditions and the Portfolio may not achieve its investment objective. Share prices also tend to be volatile and there is a significant possibility of loss. The portfolio's investments in commodity-linked notes involve substantial risks, including risk of loss of a significant portion of their principal value. In addition to commodity risk, they may be subject to additional special risks, such as risk of loss of interest and principal, lack of secondary market and risk of greater volatility, that do not affect traditional equity and debt securities. Currency fluctuations could erase investment gains or add to investment losses. Fixed-income securities are subject to the ability of an issuer to make timely principal and interest payments (credit risk), changes in interest rates (interest-rate risk), the creditworthiness of the issuer and general market liquidity (market risk). In a rising interest-rate environment, bond prices may fall and may result in periods of volatility and increased portfolio redemptions. In a declining interest-rate environment, the portfolio may generate less income. Longer-term securities may be more sensitive to interest rate changes. Equity and foreign securities are generally more volatile than fixed income securities and are subject to currency, political, economic and market risks. Equity values fluctuate in response to activities specific to a company. Stocks of small-capitalization companies carry special risks, such as limited product lines, markets and financial resources, and greater market volatility than securities of larger, more established companies. The risks of investing in emerging market countries are greater than risks associated with investments in foreign developed markets. Exchange traded funds (ETFs) shares have many of the same risks as direct investments in common stocks or bonds and their market value will fluctuate as the value of the underlying index does. By investing in exchange traded funds ETFs and other Investment Funds, the portfolio absorbs both its own expenses and those of the ETFs and Investment Funds it invests in. Supply and demand for ETFs and Investment Funds may not be correlated to that of the underlying securities. Derivative instruments can be illiquid, may disproportionately increase losses and may have a potentially large negative impact on the portfolio's performance. A currency forward is a hedging tool that does not involve any upfront payment. The use of leverage may increase volatility in the Portfolio. Diversification does not protect you against a loss in a particular market; however, it allows you to spread that risk across various asset classes.

DEFINITIONS

Volatility is a statistical measure of the dispersion of returns for a given security or market index. The team measures volatility on an ex-ante (forward-looking) basis using the manager's proprietary risk management system. **Targets** are typical ranges. There is no assurance that these targets will be attained. **Sharpe ratio** is a risk-adjusted measure calculated as the ratio of excess return to standard deviation. The Sharpe ratio determines reward per unit of risk. The higher the Sharpe ratio, the better the historical risk-adjusted performance. **Standard deviation** shows how much variation or dispersion from the average exists. In finance, standard deviation is applied to the annual rate of return of an investment to measure the investment's volatility. Standard deviation is also known as historical volatility and is used by investors as a gauge for the amount of expected volatility.

The **Asset Allocation** strategies provide the Investment Adviser with wide discretion to allocate between different asset classes. From time to time, the Asset Allocation may have significant exposure to a single or limited number of fixed income or equity asset classes. Accordingly, the relative relevance of the risks associated with equity securities, Fixed Income Securities and derivatives will fluctuate over time.

Investments in derivative instruments carry certain inherent risks such as the risk of counter party default and before investing you should ensure you fully understand these risks. Use of leverage may also magnify losses as well as gains to the extent that leverage is employed. These investments are designed for investors who understand and are willing to accept these risks. Performance may be volatile, and an investor could lose all or a substantial portion of his or her investment.

The **MSCI All Country World Index (ACWI)** is a free float-adjusted market capitalization weighted index designed to measure the equity market performance of developed and emerging markets. The term "free float" represents the portion of shares outstanding that are deemed to be available for purchase in the public equity markets by investors. The performance of the Index is listed in EUR and assumes reinvestment of net dividends. The **Bloomberg Global Aggregate Index** is a flagship measure of global investment grade debt from twenty-eight local currency markets. This multi-currency benchmark includes treasury, government-related, corporate and securitized fixed-rate bonds from both developed and emerging markets issuers. There are four regional aggregate benchmarks that largely comprise the Global Aggregate Index: the US Aggregate, the Pan-European Aggregate, the Asian-Pacific Aggregate, and the Canadian Aggregate Indices. The Global Aggregate Index also includes Eurodollar, Euro-Yen, and 144A Index-eligible securities, and debt from five local currency markets not tracked by the regional aggregate benchmarks (CLP, COP, MXN, PEN, and ILS). A component of the Multiverse Index, the Global Aggregate Index was created in 2000, with index history backfilled to January 1, 1990. Total return provides investors with a price-plus-gross cash dividend return. Gross cash dividends are applied on the ex-date of the dividend.

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