Morgan Stanley

Wealth Management Perspectives



Asset Class Returns

As of February 28, 2021

												10-Yrs	10-Yrs
												('11-'20)	('11-'20)
2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 YTD	Ann. Return	Volatility
MLPs	MLPs	REITs	US Equities	REITs	US Equities	MLPs	EM Equities	US Debt	US Equities	EM Equities	MLPs	US Equities	MLPs
35.9%	13.9%	29.8%	32.4%	14.7%	1.4%	18.3%	37-3%	0.0%	31.5%	18.8%	14.1%	13.9%	29.3%
EM Equities	Inflation-Linked	High Yield	MLPs	US Equities	DM Int'l Equities	High Yield	DM Int'l Equities	DM Int'l Debt	REITs	US Equities	Commod.	Diversified Portfolio	REITs
20.2%	13.6%	19.6%	27.6%	13.7%	0.9%	14.3%	26.7%	-0.8%	23.6%	18.4%	9.3%	7.1%	14.4%
REITs	US Debt	EM Equities	DM Int'l Equities	Managed Futures	US Debt	US Equities	US Equities	Inflation-Linked	DM Int'l Equities	Inflation-Linked	EM Equities	High Yield	Commod.
20.0%	7.8%	19.1%	24.0%	12.3%	0.5%	12.0%	21.8%	-1.3%	23.1%	11.0%	4.1%	6.5%	13.6%
Commod.	DM Int'l Debt	DM Int'l Equities	Diversified Portfolio	US Debt	REITs	Commod.	EMD	High Yield	Diversified Portfolio	Diversified Portfolio	REITs	DM Int'l Equities	EM Equities
16.8%	6.0%	18.2%	15.1%	6.0%	-0.4%	11.8%	15.2%	-4.1%	19.1%	10.5%	3.1%	6.3%	13.1%
EMD	High Yield	EMD	Hedged Strategies	MLPs	Managed Futures	EM Equities	REITs	US Equities	EM Equities	DM Int'l Debt	Diversified Portfolio	REITs	DM Int'l Equities
15.7%	3.1%	16.8%	8.8%	4.8%	-0.9%	10.3%	15.0%	-4.4%	18.1%	9.6%	2.1%	5.9%	12.7%
US Equities	US Equities	US Equities	High Yield	Diversified Portfolio	Inflation-Linked	EMD	Diversified Portfolio	Managed Futures	EMD	DM Int'l Equities	US Equities	US Debt	US Equities
15.1%	2.1%	16.0%	7.3%	4.7%	-1.4%	9.9%	14.9%	-4.6%	13.5%	8.9%	1.7%	4.5%	12.4%
High Yield	EMD	Diversified Portfolio	REITs	Inflation-Linked	Diversified Portfolio	Diversified Portfolio	High Yield	REITs	High Yield	US Debt	DM Int'l Equities	Hedged Strategies	High Yield
14.8%	-1.8%	12.0%	2.2%	3.6%	-1.9%	7.5%	10.4%	-5-5%	12.6%	7.5%	1.3%	4.2%	8.1%
Diversified Portfolio	Diversified Portfolio	Inflation-Linked	Managed Futures	Hedged Strategies	High Yield	Inflation-Linked	DM Int'l Debt	Diversified Portfolio	US Debt	Hedged Strategies	Hedged Strategies	EM Equities	DM Int'l Debt
12.7%	-2.1%	7.0%	0.7%	3.4%	-2.7%	4.7%	8.8%	-6.1%	8.7%	7.0%	1.0%	3.8%	6.5%
DM Int'l Equities	Managed Futures	MLPs ²	EM Equities	High Yield	Hedged Strategies	REITs	Hedged Strategies	EMD	Hedged Strategies	High Yield	High Yield	Inflation-Linked	Managed Futures
9.8%	-4.3%	4.8%	-1.9%	0.0%	-3.6%	4.6%	6.0%	-6.2%	10.4%	7.0%	0.0%	3.8%	6.5%
DM Int'l Debt	Hedged Strategies	Hedged Strategies	US Debt	EM Equities	DM Int'l Debt	US Debt	US Debt	Hedged Strategies	Inflation-Linked	EMD	Managed Futures	DM Int'l Debt	Hedged Strategies
7.0%	-5.7%	4.8%	-2.0%	-1.4%	-4.4%	2.6%	3.5%	-7.0%	8.4%	2.7%	-1.0%	1.6%	6.1%
US Debt	REITs	US Debt	DM Int'l Debt	DM Int'l Debt	EM Equities	Hedged Strategies	Inflation-Linked	Commod.	Commod.	Managed Futures	Inflation-Linked	EMD	Diversified Portfolio
6.5%	-8.1%	4.2%	-5.6%	-3.0%	-13.5%	2.5%	3.0%	-11.2%	7.7%	0.7%	-1.3%	1.5%	6.0%
Managed Futures	DM Int'l Equities	DM Int'l Debt	Inflation-Linked	DM Int'l Equities	EMD	DM Int'l Debt	Commod.	MLPs	Managed Futures	Commod.	US Debt	Managed Futures	Inflation-Linked
6.4%	-12.2%	0.5%	-8.6%	-4.5%	-14.9%	2.1%	1.7%	-12.4%	6.7%	-3.1%	-2.2%	0.7%	4.3%
Inflation-Linked	Commod.	Commod.	EMD	EMD	Commod.	DM Int'l Equities	Managed Futures	DM Int'l Equities	MLPs	REITs	EMD	MLPs	EMD
6.3%	-13.3%	-1.1%	-9.0%	-5.7%	-24.7%	1.6%	-0.8%	-14.0%	6.6%	-9.2%	-3.7%	-2.3%	3.8%
Hedged Strategies	EM Equities	Managed Futures	Commod.	Commod.	MLPs	Managed Futures	MLPs	EM Equities	DM Int'l Debt	MLPs	DM Int'l Debt	Commod.	US Debt
4.2%	-19.2%	-1.8%	-9.5%	-17.0%	-32.6%	-4.4%	-6.5%	-14.7%	4.6%	-28.7%	-3.9%	-6.5%	2.9%

Source: FactSet, Morgan Stanley Wealth Management GIC; Indices used: Bloomberg Barclays Capital US Aggregate for US Bonds. FTSE 3M Treasury Bill for cash, Bloomberg Barclays US Aggregate for US Bonds, Bloomberg Barclays Global Majors ex US for DM Int'l Bonds, Bloomberg Barclays US TIPS for Inflation-linked securities, Bloomberg Barclays Global High Yield for global high yield, JP Morgan EMBI for EM Bonds, S&P 500 for US Stocks, MSCI EAFE IMI for Int'l Stocks, MSCI EM IMI for Emerging Market Stocks, FTSE EPRA/NAREIT Global for REITs, Bloomberg Commodity Index for commodities, BarclayHedge US Managed Futures Index for Managed Futures [presented w/ 1-month delay], Alerian MLP Index for MLPs , and HFRX Global hedge Funds for hedged strategies. Diversified portfolio is comprised of 25% S&P 500, 10% Russell 2000, 15% MSCI EAFE, 5% MSCI EME, 25% Bloomberg Barclays US Aggregate, 5% 3 mo. T-Bills, 5% HFRX Global Hedge Funds, 5% Bloomberg Commodity Index, and 5% FTSE EPRA/NAREIT Global Index. MLP data begins on January 1, 2007. Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean.

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appropriate for all investors.

The proprietary **Value Score** methodology considers an active investment strategies' value proposition relative to its costs. From a historical quantitative study of several quantitative markers, Value Score measures perceived forward-looking benefit and computes (1) "fair value" expense ratios for most traditional investment managers across 40 categories and (2) managers' perceived "excess value" by comparing the fair value expense ratios to actual expense ratios. Managers are then ranked within each category by their excess value to assign a Value Score. Our analysis suggests that greater levels of excess value have historically corresponded to attractive subsequent performance.

For more information on the ranking models, please see Adverse Active AlphaSM 2.0: Scoring Active Managers According to Potential Alpha and Value Score: Scoring Fee Efficiency by Comparing Managers' "Fair Value" and Actual Expense Ratios. The whitepapers are available from your Financial Advisor or Private Wealth Advisor. ADVERSE ACTIVE ALPHA is a registered service mark of Morgan Stanley and/or its affiliates. U.S. Pat. No. 8,756,098 applies to the Adverse Active Alpha system and/or methodology.

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A majority of Alternative Investment managers reviewed and selected by GIMA pay or cause to be paid an ongoing fee for distribution from their management fees to Morgan Stanley Wealth Management in connection with Morgan Stanley Wealth Management clients that purchase an interest in an Alternative Investment and in some instances pay these fees on the investments held by advisory clients. Morgan Stanley Wealth Management rebates such fees that are received and attributable to an investment held by an advisory client and retains the fees paid in connection with investments held by brokerage clients. Morgan Stanley Wealth Management has a conflict of interest in offering alternative investments because Morgan Stanley Wealth Management or our affiliates, in most instances, earn more money in your account from your investments in alternative investments than from other investment options.

It should be noted that the majority of hedge fund indexes are comprised of hedge fund manager returns. This is in contrast to traditional indexes, which are comprised of individual securities in the various market segments they represent and offer complete transparency as to membership and construction methodology. As such, some believe that hedge fund index returns have certain biases that are not present in traditional indexes. Some of these biases inflate index performance, while others may skew performance negatively. However, many studies indicate that overall hedge fund index performance has been biased to the upside. Some studies suggest performance has been inflated by up to 260 basis points or more annually depending on the types of biases included and the time period studied. Although there are numerous potential biases that could affect hedge fund returns, we identify some of the more common ones throughout this paper.

Self-selection bias results when certain manager returns are not included in the index returns and may result in performance being skewed up or down. Because hedge funds are private placements,

hedge fund managers are able to decide which fund returns they want to report and are able to opt out of reporting to the various databases. Certain hedge fund managers may choose only to report returns for funds with strong returns and opt out of reporting returns for weak performers. Other hedge funds that close may decide to stop reporting in order to retain secrecy, which may cause a downward bias in returns.

Survivorship bias results when certain constituents are removed from an index. This often results from the closure of funds due to poor performance, "blow ups," or other such events. As such, this bias typically results in performance being skewed higher. As noted, hedge fund index performance biases can result in positive or negative skew. However, it would appear that the skew is more often positive. While it is difficult to quantify the effects precisely, investors should be aware that idiosyncratic factors may be giving hedge fund index returns an artificial "lift" or upwards bias.

Hedge Funds of Funds and many funds of funds are private investment vehicles restricted to certain qualified private and institutional investors. They are often speculative and include a high degree of risk. Investors can lose all or a substantial amount of their investment. They may be highly illiquid, can engage in leverage and other speculative practices that may increase volatility and the risk of loss, and may be subject to large investment minimums and initial lockups. They involve complex tax structures, tax-inefficient investing and delays in distributing important tax information. Categorically, hedge funds and funds of funds have higher fees and expenses than traditional investments, and such fees and expenses can lower the returns achieved by investors. Funds of funds have an additional layer of fees over and above hedge fund fees that will offset returns. An investment in an **exchange-traded fund** involves risks similar to those of investing in a broadly based portfolio of equity securities traded on an exchange in the relevant securities market, such as market fluctuations caused by such factors as economic and political developments, changes in interest rates and perceived trends in stock and bond prices. An investment in a **target date portfolio** is subject to the risks attendant to the underlying funds in which it invests, in these portfolios the funds are the Consulting Group Capital Market funds. A target date portfolio will transition its invested assets from a more aggressive portfolio to a more conservative portfolio as the target date draws closer . An investment in the target date portfolio is not guaranteed at any time, including, before or after the target date is reached. **Managed futures** investments are speculative, involve a high degree of risk, use significant leverage, are generally illiquid, have substantial charges, subject investors to conflicts of interest, and are appropriate only for the risk capital portion of an investor's portfolio. **Managed** futures in econal portio at n

Asset allocation and diversification do not assure a profit or protect against loss in declining financial markets. Past performance is no guarantee of future results. Actual results may vary.

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For index, indicator and survey definitions referenced in this report please visit the following: https://www.morganstanley.com/wealth-investmentsolutions/wmir-definitions

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FEES REDUCE THE PERFORMANCE OF ACTUAL ACCOUNTS: None of the fees or other expenses (e.g. commissions, mark-ups, mark-downs, fees) associated with actual trading or accounts are reflected in the GIC Asset Allocation Models. The GIC Asset Allocation Models and any model performance included in this presentation are intended as educational materials. Were a client to use these models in connection with investing, any investment decisions made would be subject to transaction and other costs which, when compounded over a period of years, would decrease returns. Information regarding Morgan Stanley's standard advisory fees is available in the Form ADV Part 2, which is available at www.morganstanley.com/adv. The following hypothetical illustrates the compound effect fees have on investment returns: For example, if a portfolio's annual rate of return is 15% for 5 years and the account pays 50 basis points in fees per annum, the gross cumulative five-year return would be 101.1% and the five-year return net of fees would be 96.8%. Fees and/or expenses would apply to clients who invest in investments in an account based on these asset allocations, and would reduce clients' returns. The impact of fees and/or expenses can be material.

Variable annuities are long-term investments designed for retirement purposes and may be subject to market fluctuations, investment risk, and possible loss of principal. All guarantees, including optional benefits, are based on the financial strength and claims-paying ability of the issuing insurance company and do not apply to the underlying investment options. Optional riders may not be able to be purchased in combination and are available at an additional cost. Some optional riders must be elected at time of purchase. Optional riders may be subject to specific limitations, restrictions, holding periods, costs, and expenses as specified by the insurance company in the annuity contract. If you are investing in a **variable annuity** through a tax-advantaged retirement plan such as an IRA, you will get no additional tax advantage from the variable annuity. Under these circumstances, you should only consider buying a variable annuity because of its other features, such as lifetime income payments and death benefits protection. Taxable distributions (and certain deemed distributions) are subject to ordinary income tax and, if taken prior to age 59½, may be subject to a 10% federal income tax penalty. Early withdrawals will reduce the death benefit and cash surrender value.

Equity securities may fluctuate in response to news on companies, industries, market conditions and general economic environment. **Ultrashort-term fixed income** asset class is comprised of fixed income securities with high quality, very short maturities. They are therefore subject to the risks associated with debt securities such as credit and interest rate risk.

Master Limited Partnerships (MLPs) are limited partnerships or limited liability companies that are taxed as partnerships and whose interests (limited partnership units or limited liability company units) are traded on securities exchanges like shares of common stock. Currently, most MLPs operate in the energy, natural resources or real estate sectors. Investments in MLP interests are subject to the risks generally applicable to companies in the energy and natural resources sectors, including commodity pricing risk, supply and demand risk, depletion risk and exploration risk. Individual MLPs are publicly traded partnerships that have unique risks related to their structure. These include, but are not limited to, their reliance on the capital markets to fund growth, adverse ruling on the current tax treatment of distributions (typically mostly tax deferred), and commodity volume risk. The potential tax benefits from investing in MLPs depend on their being treated as partnerships for federal income tax purposes and, if the MLP is deemed to be a corporation, then its income would be subject to federal taxation at the entity level, reducing the amount of cash available for distribution to the fund which could result in a reduction of the fund's value. MLPs carry interest rate risk and may underperform in a rising interest rate environment. MLP funds accrue deferred income taxes for future tax liabilities associated with the portion of MLP distributions considered to be a tax-deferred return of capital and for any net operating gains as well as capital appreciation of its investments; this deferred tax liability is reflected in the daily NAV, and, as a result, the MLP fund's after-tax performance could differ significantly from the underlying assets even if the pre-tax performance is closely

tracked.

Investing in commodities entails significant risks. Commodity prices may be affected by a variety of factors at any time, including but not limited to, (i) changes in supply and demand relationships, (ii) governmental programs and policies, (iii) national and international political and economic events, war and terrorist events, (iv) changes in interest and exchange rates, (v) trading activities in commodities and related contracts, (vi) pestilence, technological change and weather, and (vii) the price volatility of a commodity. In addition, the commodities markets are subject to temporary distortions or other disruptions due to various factors, including lack of liquidity, participation of speculators and government intervention. Physical precious metals are non-regulated products. Precious metals are speculative investments, which may experience short-term and long term price volatility. The value of precious metals investments may fluctuate and may appreciate or decline, depending on market conditions. Unlike bonds and stocks, precious metals do not make interest or dividend payments. Therefore, precious metals may not be appropriate for investors who require current income. Precious metals are commodities that should be safely stored, which may impose additional costs on the investor.

REITs investing risks are similar to those associated with direct investments in real estate: property value fluctuations, lack of liquidity, limited diversification and sensitivity to economic factors such as interest rate changes and market recessions. Risks of **private real estate** include: illiquidity; a long-term investment horizon with a limited or nonexistent secondary market; lack of transparency; volatility (risk of loss); and leverage. Principal is returned on a monthly basis over the life of a **mortgage-backed security**. Principal prepayment can significantly affect the monthly income stream and the maturity of any type of MBS, including standard MBS, CMOs and Lottery Bonds. **Asset-backed securities** generally decrease in value as a result of interest rate increases, but may benefit less than other fixed-income securities from declining interest rates, principally because of prepayments.

Yields are subject to change with economic conditions. Yield is only one factor that should be considered when making an investment decision. **Credit ratings** are subject to change. **Duration**, the most commonly used measure of bond risk, quantifies the effect of changes in interest rates on the price of a bond or bond portfolio. The longer the duration, the more sensitive the bond or portfolio would be to changes in interest rates. The majority of \$25 and \$1000 par **preferred securities** are "callable" meaning that the issuer may retire the securities at specific prices and dates prior to maturity. Interest/dividend payments on certain preferred issues may be deferred by the issuer for periods of up to 5 to 10 years, depending on the particular issue. The investor would still have income tax liability even though payments would not have been received. Price quoted is per \$25 or \$1,000 share, unless otherwise specified. Current yield is calculated by multiplying the coupon by par value divided by the market price. The initial interest rate on a **floating-rate security** may be lower than that of a fixed-rate security of the same maturity because investors expect to receive additional income due to future increases in the floating security's underlying reference rate. The reference rate could be an index or an interest rate. However, there can be no assurance that the reference rate will increase. Some floating-rate securities may be subject to call risk. The market value of **convertible bonds** and the underlying common stock(s) will fluctuate and after purchase may be worth more or less than original cost. If sold prior to maturity, investors may receive more or less than their original purchase price or maturity value, depending on market conditions. Callable bonds may be redeemed by the issuer prior to maturity. Additional call features may exist that could affect yield. Some \$25 or \$1000 **par preferred securities** must be held by investors for a minimum period – 91 days during a 180 day window period, beginni

Companies paying dividends can reduce or cut payouts at any time.

Nondiversification: For a portfolio that holds a concentrated or limited number of securities, a decline in the value of these investments would cause the portfolio's overall value to decline to a greater degree than a less concentrated portfolio. The **indices selected by Morgan Stanley Wealth Management** to measure performance are representative of broad asset classes. Morgan Stanley Wealth Management retains the right to change representative indices at any time. Because of their narrow focus, **sector investments** tend to be more volatile than investments that diversify across many sectors and companies.

Growth investing does not guarantee a profit or eliminate risk. The stocks of these companies can have relatively high valuations. Because of these high valuations, an investment in a growth stock can be more risky than an investment in a company with more modest growth expectations. Value investing does not guarantee a profit or eliminate risk. Not all companies whose stocks are considered to be value stocks are able to turn their business around or successfully employ corrective strategies which would result in stock prices that do not rise as initially expected . Any type of continuous or periodic investment plan does not assure a profit and does not protect against loss in declining markets. Since such a plan involves continuous investment in securities regardless of fluctuating price levels of such securities, the investor should consider his financial ability to continue his purchases through periods of low price levels. This material is disseminated in the United States of America by Morgan Stanley Smith Barney LLC. Morgan Stanley Wealth Management is not acting as a municipal advisor to any municipal entity or obligated person within the meaning of Section 15B of the Securities Exchange Act (the "Municipal Advisor Rule") and the opinions or views contained without the written consent of Morgan Stanley Smith Barney LLC.

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