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WEALTH STRATEGIES ANALYSIS

NOVEMBER 2020

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EXECUTIVE SUMMARY

The Wealth Strategies Analysis is broken into multiple sections and sub-sections. The sub-sections are designed to stand alone or may be combined with other sub-sections to provide a more complete picture of financial health.

SECTION	SUB-SECTION	DESCRIPTION	ASSUMPTIONS
Linear Growth Analysis	Assumptions and Asset Allocations	An overview of various portfolios and cash considerations along with risk and return assumptions.	Returns: Morgan Stanley's forecasts Output: Gross of cash inflows, cash outflows and advisory fees
	Expected Performance over Time	A linear illustration of how wealth evolves over time assuming that portfolios achieve their annual return assumption each year. There is no guarantee that these assumptions will be achieved.	Returns: Morgan Stanley's forecasts Output: Net of cash inflows, cash outflows and advisory fees
Monte Carlo Analysis	Hypothetical Performance	An analysis of the range of results that various portfolios may achieve over time.	Returns: Morgan Stanley's forecasts Output: Net of cash inflows, cash outflows and advisory fees
	Probability of Success	A summary of the chances that various portfolios achieve certain goals.	Returns: Morgan Stanley's forecasts Output: Net of cash inflows, cash outflows and advisory fees
Historical Analysis	Historical Performance	A report of the historical blended returns for various portfolios based upon asset classes using indices as proxies.	Returns: Historical Output: Gross of cash inflows, cash outflows and advisory fees
	Contribution to Risk and Return	A representation of how much each asset class contributed to historical risk and return for various portfolios.	Returns: Historical Output: Gross of cash inflows, cash outflows and advisory fees
	Market Scenarios	A hypothetical illustration of how various portfolios would have performed historically given a specific change in a market scenario.	Returns: Historical Output: Gross of cash inflows, cash outflows and advisory fees

¹ Important: The projections or other information generated by the Wealth Strategies Analysis Tool regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Results generated by a Monte Carlo analysis will vary with each use and over time because each portfolio simulation is randomly generated. See the Appendix for assumptions, asset class inputs, a glossary of terms, a description of the risks and disclosures.

ASSET ALLOCATIONS

SUMMARY

	Current Scenario	Mix 1	Mix 2	Mix 3	Mix 4
Cash	1.5%	1.5%	1.5%	1.5%	1.5%
Equities	89.4%	88.5%	86.0%	83.5%	81.0%
US Equities	82.7%	80.0%	77.5%	75.0%	72.5%
US Large Cap Growth	26.2%	30.0%	28.5%	27.0%	26.0%
US Large Cap Value	14.6%	30.0%	30.0%	30.0%	29.5%
US Mid Cap Growth	6.2%	5.0%	4.0%	3.0%	3.0%
US Mid Cap Value	0.0%	5.0%	5.0%	5.0%	5.0%
US Small Cap Growth	6.2%	5.0%	5.0%	5.0%	4.0%
US Small Cap Value	8.4%	5.0%	5.0%	5.0%	5.0%
US Large Cap	21.1%	0.0%	0.0%	0.0%	0.0%
International Equities	3.6%	5.0%	5.0%	5.0%	5.0%
International Equities	3.6%	5.0%	5.0%	5.0%	5.0%
Emerging & Frontier Mkt	3.1%	3.5%	3.5%	3.5%	3.5%
Fixed Income & Preferreds	0.0%	2.5%	5.0%	7.5%	10.0%
US Fixed Income Taxable	0.0%	2.5%	5.0%	7.5%	10.0%
Alternatives	9.5%	7.5%	7.5%	7.5%	7.5%
Real Assets	5.7%	7.5%	7.5%	7.5%	7.5%
REITs	0.7%	2.5%	2.5%	2.5%	2.5%
Precious Metals	5.0%	5.0%	5.0%	5.0%	5.0%
Equity Hedge Assets	3.8%	0.0%	0.0%	0.0%	0.0%
Managed Futures	1.9%	0.0%	0.0%	0.0%	0.0%
Multi-Strategy	1.9%	0.0%	0.0%	0.0%	0.0%
Strategic Assumptions					
Annual Return	6.2%	6.4%	6.3%	6.3%	6.2%

1 The portfolios above are constructed using indices as proxies. Indices are unmanaged. It is not possible to invest directly in an index. Asset allocation does not assure a profit or protect against loss.

2 This analysis assumes that the Strategic Assumptions apply for the first 7 years and the Secular Assumptions apply thereafter.

3 Annual returns are shown gross of cash inflows, cash outflows and advisory fees.

4 Past performance is no guarantee of future results.

ASSET ALLOCATIONS

SUMMARY (CONTINUED)

	Current Scenario	Mix 1	Mix 2	Mix 3	Mix 4
Standard Deviation	13.6%	13.4%	13.1%	12.7%	12.3%
Sharpe Ratio	0.37	0.40	0.40	0.41	0.41
Annual Yield	1.7%	2.0%	2.0%	2.0%	2.0%
Secular Assumptions					
Annual Return	8.6%	8.5%	8.4%	8.2%	8.1%
Standard Deviation	14.4%	14.1%	13.8%	13.4%	13.0%
Sharpe Ratio	0.41	0.41	0.41	0.41	0.42
Annual Yield	1.7%	2.0%	2.1%	2.2%	2.2%

1 The portfolios above are constructed using indices as proxies. Indices are unmanaged. It is not possible to invest directly in an index. Asset allocation does not assure a profit or protect against loss.

2 This analysis assumes that the Strategic Assumptions apply for the first 7 years and the Secular Assumptions apply thereafter.

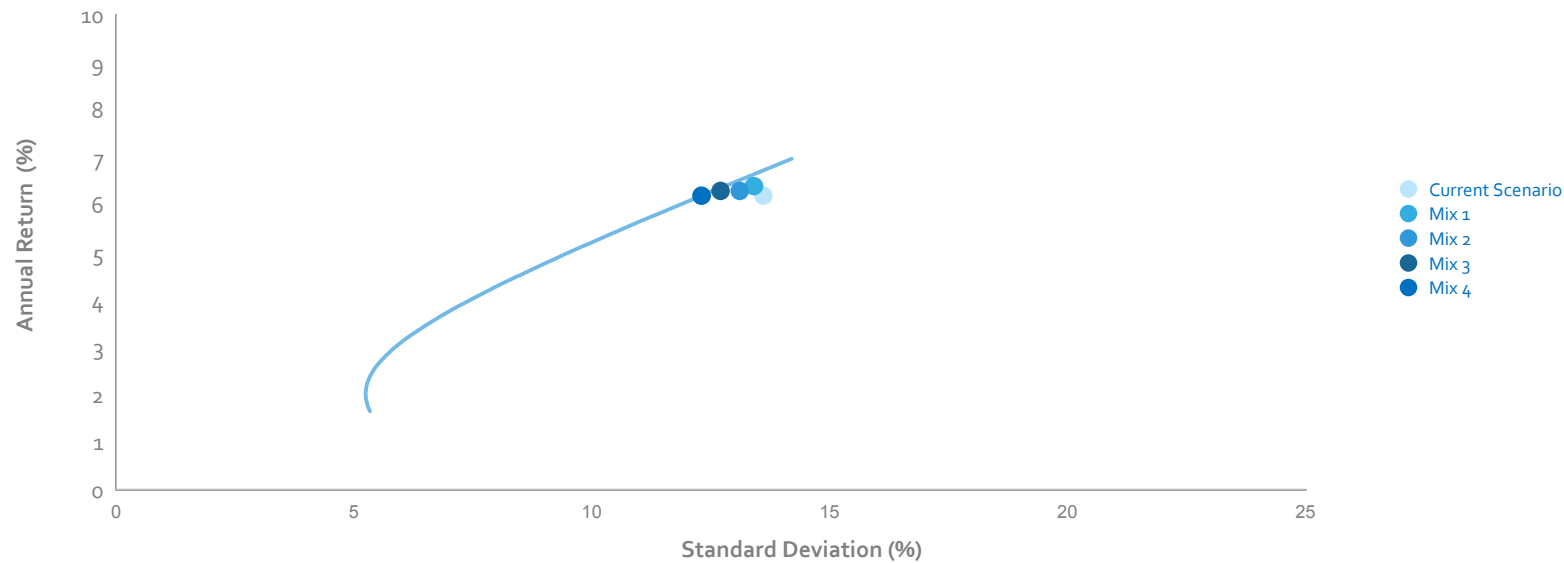
3 Annual returns are shown gross of cash inflows, cash outflows and advisory fees.

4 Past performance is no guarantee of future results.

EFFICIENT FRONTIER

SUMMARY

Efficient Frontier

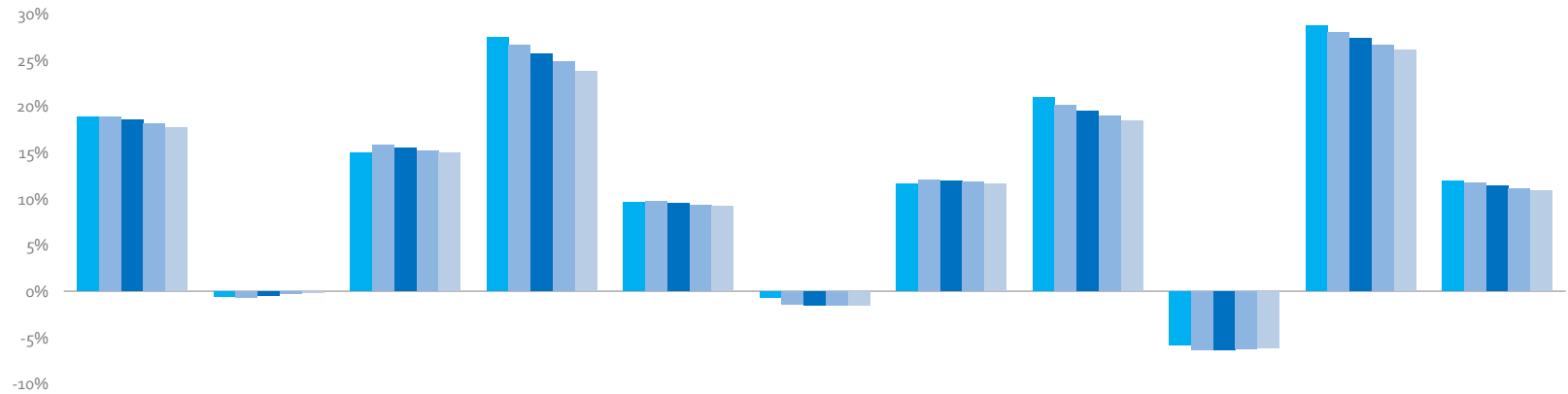


	Current Scenario	Mix 1	Mix 2	Mix 3	Mix 4
Strategic Assumptions					
Annual Return	6.2%	6.4%	6.3%	6.3%	6.2%
Standard Deviation	13.6%	13.4%	13.1%	12.7%	12.3%
Sharpe Ratio	0.37	0.40	0.40	0.41	0.41
Annual Yield	1.7%	2.0%	2.0%	2.0%	2.0%

1 This analysis assumes that the Strategic Assumptions apply for the first 7 years and the Secular Assumptions apply thereafter.
2 Past performance is no guarantee of future results.

HISTORICAL PERFORMANCE (LAST 10 YEARS)

SUMMARY



■ Current Scenario

■ Mix 1

■ Mix 2

■ Mix 3

■ Mix 4

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Last 10 Years Annualized
Current Scenario	18.8%	-0.6%	15.0%	27.4%	9.6%	-0.7%	11.6%	21.0%	-5.8%	28.7%	11.9%
Mix 1	18.8%	-0.7%	15.8%	26.6%	9.7%	-1.4%	12.0%	20.1%	-6.4%	28.0%	11.7%
Mix 2	18.5%	-0.5%	15.5%	25.7%	9.5%	-1.5%	11.9%	19.5%	-6.4%	27.3%	11.4%
Mix 3	18.1%	-0.3%	15.2%	24.8%	9.3%	-1.5%	11.8%	18.9%	-6.3%	26.6%	11.1%
Mix 4	17.7%	-0.2%	15.0%	23.8%	9.2%	-1.5%	11.6%	18.4%	-6.2%	26.1%	10.9%

¹ Historical returns are shown gross of cash inflows, cash outflows and advisory fees.

² Past performance is no guarantee of future results.

HISTORICAL PERFORMANCE (LAST 10 YEARS)

ASSET CLASS DETAIL

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Last 10 Years Annualized
Cash	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	0.8%	1.9%	2.3%	0.6%
Equities	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	7.9%	24.0%	-9.4%	26.6%	8.8%
US Equities	16.9%	1.0%	16.4%	33.6%	12.6%	0.5%	12.7%	21.1%	-5.2%	31.0%	13.4%
US Large Cap Growth	16.7%	2.6%	15.3%	33.5%	13.0%	5.7%	7.1%	30.2%	-1.5%	36.4%	15.2%
US Large Cap Value	15.5%	0.4%	17.5%	32.5%	13.5%	-3.8%	17.3%	13.7%	-8.3%	26.5%	11.8%
US Mid Cap Growth	26.4%	-1.7%	15.8%	35.7%	11.9%	-0.2%	7.3%	25.3%	-4.8%	35.5%	14.2%
US Mid Cap Value	24.8%	-1.4%	18.5%	33.5%	14.7%	-4.8%	20.0%	13.3%	-12.3%	27.1%	12.4%
US Small Cap Growth	29.1%	-2.9%	14.6%	43.3%	5.6%	-1.4%	11.3%	22.2%	-9.3%	28.5%	13.0%
US Small Cap Value	24.5%	-5.5%	18.1%	34.5%	4.2%	-7.5%	31.7%	7.8%	-12.9%	22.4%	10.6%
US Large Cap	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	21.8%	-4.4%	31.5%	13.6%
International Equities	8.9%	-12.2%	16.4%	21.0%	-4.3%	-3.0%	2.7%	24.2%	-14.1%	22.5%	5.3%
International Equities	8.9%	-12.2%	16.4%	21.0%	-4.3%	-3.0%	2.7%	24.2%	-14.1%	22.5%	5.3%
Emerging & Frontier Mkt	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	37.3%	-14.6%	18.4%	3.7%
Fixed Income & Preferreds	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	3.5%	0.0%	8.7%	3.7%
US Fixed Income Taxable	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	3.5%	0.0%	8.7%	3.7%
Alternatives	9.6%	-6.3%	6.4%	10.3%	2.7%	-0.3%	3.9%	8.2%	-5.3%	11.8%	3.9%
Real Assets	24.4%	0.6%	12.7%	7.2%	3.1%	-21.5%	19.3%	5.7%	-11.4%	17.9%	4.9%
REITs	20.0%	-8.1%	29.8%	2.2%	14.7%	-0.4%	4.6%	15.0%	-5.5%	23.6%	8.9%
Precious Metals	42.7%	4.6%	6.3%	-30.8%	-6.7%	-11.5%	9.5%	10.9%	-4.6%	17.0%	2.1%
Equity Hedge Assets	10.8%	2.3%	0.5%	1.2%	11.2%	0.8%	-3.1%	2.8%	-1.8%	12.5%	3.6%
Managed Futures	12.2%	-4.2%	-2.9%	-2.6%	18.4%	-0.9%	-6.8%	3.3%	-5.1%	14.0%	2.2%
Multi-Strategy	9.6%	-6.3%	6.4%	10.3%	2.7%	-0.3%	3.9%	8.2%	-5.3%	11.8%	3.9%

1) The historical return returns for Equity Hedge Assets have been adjusted to account for infrequent pricing.

1 Historical returns are shown gross of cash inflows, cash outflows and advisory fees.

2 Past performance is no guarantee of future results.

RETURN ASSUMPTIONS

	Strategic Assumptions				Secular Assumptions			
	Annual Return	Standard Deviation	Sharpe Ratio	Yield	Annual Return	Standard Deviation	Sharpe Ratio	Yield
Cash	1.1%	1.0%	0.00	1.1%	2.7%	1.0%	0.00	2.7%
Equities	7.0%	14.2%	0.41	2.1%	8.5%	14.9%	0.39	2.1%
US Equities	5.8%	14.8%	0.32	2.1%	8.9%	15.5%	0.40	2.1%
US Large Cap Growth	4.8%	16.0%	0.23	1.3%	9.0%	16.9%	0.37	1.3%
US Large Cap Value	7.4%	14.3%	0.44	3.0%	8.8%	14.9%	0.41	3.0%
US Mid Cap Growth	3.7%	17.9%	0.14	0.8%	9.6%	19.2%	0.36	0.8%
US Mid Cap Value	9.1%	15.4%	0.52	3.1%	9.3%	16.2%	0.41	3.1%
US Small Cap Growth	6.5%	21.7%	0.25	0.6%	9.0%	23.0%	0.28	0.6%
US Small Cap Value	11.5%	18.3%	0.57	2.9%	9.5%	19.0%	0.36	2.9%
US Large Cap	5.6%	14.4%	0.31	2.1%	8.7%	15.1%	0.40	2.1%
International Equities	8.0%	15.8%	0.44	2.1%	8.0%	16.7%	0.32	2.1%
International Equities	8.0%	15.8%	0.44	2.1%	8.0%	16.7%	0.32	2.1%
Emerging & Frontier Mkt	9.7%	21.1%	0.41	2.3%	10.5%	22.6%	0.35	2.3%
Fixed Income & Preferreds	1.7%	5.3%	0.10	1.7%	3.6%	5.3%	0.18	3.6%
US Fixed Income Taxable	1.7%	5.3%	0.10	1.7%	3.6%	5.3%	0.18	3.6%
Alternatives	4.4%	8.4%	0.39	0.0%	6.2%	8.4%	0.42	0.0%
Real Assets	6.1%	12.7%	0.39	2.4%	6.4%	12.7%	0.30	2.4%
REITs	8.8%	16.7%	0.46	2.7%	8.0%	16.7%	0.32	2.7%
Precious Metals	3.9%	22.7%	0.13	0.0%	4.2%	22.7%	0.07	0.0%
Equity Hedge Assets	5.0%	8.4%	0.47	0.0%	6.6%	8.4%	0.47	0.0%
Managed Futures	6.7%	15.0%	0.38	0.0%	8.3%	15.0%	0.38	0.0%
Multi-Strategy	4.4%	8.4%	0.39	0.0%	6.2%	8.4%	0.42	0.0%

1. It is not possible to invest directly in an index. The index performance shown does not reflect the impact of any taxes, transaction costs, management fees or other expenses that may be associated with certain investments. Indices are unmanaged.
2. Past performance is no guarantee of future results.

RETURN ASSUMPTIONS (CONTINUED)

The Strategic Assumptions represent a time horizon of 7 years while the Secular Assumptions represent a time horizon of 20+ years. In the Linear Growth and Monte Carlo analyses the Strategic Assumptions apply for the first 7 years and the Secular Assumptions for each year thereafter. These assumptions are used for modeling purposes only. They are not guarantees of future returns.

- 1) The correlation returns for Equity Hedge Assets have been adjusted to account for infrequent pricing.

1. It is not possible to invest directly in an index. The index performance shown does not reflect the impact of any taxes, transaction costs, management fees or other expenses that may be associated with certain investments. Indices are unmanaged.

2. Past performance is no guarantee of future results.

APPENDIX

CORRELATION ASSUMPTIONS

	US Equities	International Equities	Emerging & Frontier Mkt	US Fixed Income Taxable	Real Assets	Equity Hedge Assets
US Equities	1.00	0.68	0.52	0.21	0.57	-0.04
International Equities		1.00	0.60	0.15	0.54	-0.03
Emerging & Frontier Mkt			1.00	-0.02	0.46	-0.02
US Fixed Income Taxable				1.00	0.18	0.07
Real Assets					1.00	0.08
Equity Hedge Assets						1.00

The strategic and secular assumptions have the same correlations.

1. It is not possible to invest directly in an index. The index performance shown does not reflect the impact of any taxes, transaction costs, management fees or other expenses that may be associated with certain investments. Indices are unmanaged.
2. Past performance is no guarantee of future results.

FEE ASSUMPTIONS

CURRENT SCENARIO

Current Allocation

Cash	0.00%
Equities	0.00%
US Equities	0.00%
US Large Cap Growth	0.00%
US Large Cap Value	0.00%
US Mid Cap Growth	0.00%
US Small Cap Growth	0.00%
US Small Cap Value	0.00%
US Large Cap	0.00%
International Equities	0.00%
International Equities	0.00%
Emerging & Frontier Mkt	0.00%
Alternatives	0.00%
Real Assets	0.00%
REITs	0.00%
Precious Metals	0.00%
Equity Hedge Assets	0.00%
Managed Futures	0.00%
Multi-Strategy	0.00%

¹ If included in this analysis, annual fees are hypothetical in nature and do not reflect any specific expenses or fees that might actually be incurred in your portfolio. We include them here to reflect that expenses and fees may impact portfolio performance over time.

FEE ASSUMPTIONS

MIX 1

Current Allocation

Cash	0.00%
Equities	0.00%
US Equities	0.00%
US Large Cap Growth	0.00%
US Large Cap Value	0.00%
US Mid Cap Growth	0.00%
US Mid Cap Value	0.00%
US Small Cap Growth	0.00%
US Small Cap Value	0.00%
International Equities	0.00%
International Equities	0.00%
Emerging & Frontier Mkt	0.00%
Fixed Income & Preferreds	0.00%
US Fixed Income Taxable	0.00%
Alternatives	0.00%
Real Assets	0.00%
REITs	0.00%
Precious Metals	0.00%

¹ If included in this analysis, annual fees are hypothetical in nature and do not reflect any specific expenses or fees that might actually be incurred in your portfolio. We include them here to reflect that expenses and fees may impact portfolio performance over time.

FEE ASSUMPTIONS

MIX 2

Current Allocation

Cash	0.00%
Equities	0.00%
US Equities	0.00%
US Large Cap Growth	0.00%
US Large Cap Value	0.00%
US Mid Cap Growth	0.00%
US Mid Cap Value	0.00%
US Small Cap Growth	0.00%
US Small Cap Value	0.00%
International Equities	0.00%
International Equities	0.00%
Emerging & Frontier Mkt	0.00%
Fixed Income & Preferreds	0.00%
US Fixed Income Taxable	0.00%
Alternatives	0.00%
Real Assets	0.00%
REITs	0.00%
Precious Metals	0.00%

¹ If included in this analysis, annual fees are hypothetical in nature and do not reflect any specific expenses or fees that might actually be incurred in your portfolio. We include them here to reflect that expenses and fees may impact portfolio performance over time.

FEE ASSUMPTIONS

MIX 3

Current Allocation

Cash	0.00%
Equities	0.00%
US Equities	0.00%
US Large Cap Growth	0.00%
US Large Cap Value	0.00%
US Mid Cap Growth	0.00%
US Mid Cap Value	0.00%
US Small Cap Growth	0.00%
US Small Cap Value	0.00%
International Equities	0.00%
International Equities	0.00%
Emerging & Frontier Mkt	0.00%
Fixed Income & Preferreds	0.00%
US Fixed Income Taxable	0.00%
Alternatives	0.00%
Real Assets	0.00%
REITs	0.00%
Precious Metals	0.00%

¹ If included in this analysis, annual fees are hypothetical in nature and do not reflect any specific expenses or fees that might actually be incurred in your portfolio. We include them here to reflect that expenses and fees may impact portfolio performance over time.

FEE ASSUMPTIONS

MIX 4

Current Allocation

Cash	0.00%
Equities	0.00%
US Equities	0.00%
US Large Cap Growth	0.00%
US Large Cap Value	0.00%
US Mid Cap Growth	0.00%
US Mid Cap Value	0.00%
US Small Cap Growth	0.00%
US Small Cap Value	0.00%
International Equities	0.00%
International Equities	0.00%
Emerging & Frontier Mkt	0.00%
Fixed Income & Preferreds	0.00%
US Fixed Income Taxable	0.00%
Alternatives	0.00%
Real Assets	0.00%
REITs	0.00%
Precious Metals	0.00%

¹ If included in this analysis, annual fees are hypothetical in nature and do not reflect any specific expenses or fees that might actually be incurred in your portfolio. We include them here to reflect that expenses and fees may impact portfolio performance over time.

ASSET CLASS ASSUMPTIONS

Asset Class	Benchmark	Data History
Cash	Cash - USD (90-day Tbills)	1978 - 2019
Equities	MSCI All Country World Index Net	1999 - 2019
US Equities	Russell 3000	1979 - 2019
US Large Cap Growth	Russell 1000 Growth	1979 - 2019
US Large Cap Value	Russell 1000 Value	1979 - 2019
US Mid Cap Growth	Russell Mid Cap Growth	1986 - 2019
US Mid Cap Value	Russell Mid Cap Value	1986 - 2019
US Small Cap Growth	Russell 2000 Growth	1979 - 2019
US Small Cap Value	Russell 2000 Value	1979 - 2019
US Large Cap	S&P 500	1973 - 2019
International Equities	MSCI World ex US Net	1970 - 2019
International Equities	MSCI World ex US Net	1970 - 2019
Emerging & Frontier Mkt	MSCI Emerging Markets Index Net	1999 - 2019
Fixed Income & Preferreds	Barclays U.S. Aggregate Index	1976 - 2019
US Fixed Income Taxable	Barclays U.S. Aggregate Index	1976 - 2019
Alternatives	HFRI Funds Weighted Index	1990 - 2019
Real Assets	Equal Weighted REITs, Commodities, MLP	1972 - 2019
REITs	FTSE EPRA NAREIT Global Total Return	2005 - 2019
Precious Metals	Bloomberg Precious Metals Total Return	1975 - 2019
Equity Hedge Assets	50% CS Tremont Global Macro Index, 50% Barclay BTop50	1994 - 2019
Managed Futures	Dow Jones CS Managed Futures Index	1994 - 2019
Multi-Strategy	HFRI Funds Weighted Index	1990 - 2019

1. It is not possible to invest directly in an index. The index performance shown does not reflect the impact of any taxes, transaction costs, management fees or other expenses that may be associated with certain investments. Indices are unmanaged.
2. Past performance is no guarantee of future results.

METHODOLOGY

Morgan Stanley Wealth Management, in conjunction with your Financial Advisor as well as other resources across Morgan Stanley, has prepared this presentation. The presentation was designed to illustrate the risk and return characteristics of various portfolios when taking into account cash considerations. Each analysis is unique and although no individual analysis can completely describe the risk and return characteristics of a portfolio, the combination of these analyses can assist clients in arriving at an appropriate wealth strategy.

Expected Returns, Standard Deviations and Correlations: Return assumptions are established by the Morgan Stanley Global Investment Committee. The Global Investment Committee utilizes an equilibrium approach to generate expected returns, standard deviations and correlations for each asset class. We believe that by analyzing current and historical economic conditions and market trends, and then making projections of future economic growth, inflation, real yields for each country, we can estimate the equilibrium performance for an asset class. The equilibrium return is simply the central tendency around which market returns tend to fluctuate over a very long period of time. It is possible that actual returns will vary considerably from this equilibrium, even for a number of years, but we believe that market returns will eventually return to their equilibrium trend.

Monte Carlo Analysis: Monte Carlo simulation is an analytical technique which uses several iterations of hypothetical events. Statistics on the distribution of results can help infer which simulated variables are more likely. When simulating hypothetical asset class performance, we utilize Morgan Stanley's expected returns, standard deviations and correlations for each asset class. Small changes in these assumptions may have a sizable impact on the results. As such, the analysis is provided only for general guidance about asset allocation. There can be no assurances that the Monte Carlo-simulated results will be achieved or sustained. Your actual results will surely vary. For example, our simulations don't account for fees or transaction costs, which may be charged when you invest in an actual portfolio of securities. However, the goal of the Monte Carlo analysis is not 100% accurate forecasting, but rather to allow investors to make better, more informed decisions.

Asset Allocations: Unless otherwise stated, this analysis assumes that asset allocations remain constants and achieve the return and standard deviation assumptions over the period in which they are invested.

¹ Important: The projections or other information generated by the Wealth Strategies Analysis Tool regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Results generated by a Monte Carlo analysis will vary with each use and over time because each portfolio simulation is randomly generated.

GLOSSARY

Expected Performance: Performance assuming that portfolios achieve their annual return assumption each year in which they are invested.

Expected Tail Loss: The average expected 1-year portfolio loss, at a 95% confidence level, if an extraordinarily bad event does occur.

Sharpe Ratio: This calculation measures a ratio of return above the risk free rate to volatility.

Standard Deviation: A statistical measure of the degree to which an individual value in a probability distribution tends to vary from the mean of the distribution.

Value at Risk: The maximum expected 1-year portfolio loss, at a 95% confidence level, if an extraordinarily bad event does not occur.

RISK OF DIFFERENT INVESTMENTS

Different security types and asset classes carry different risks of investment.

- **Small/Mid Caps U.S. Equity:** Investing in smaller companies involves greater risks not associated with investing in more established companies, such as business risk, significant stock price fluctuations and illiquidity.
- **International/Emerging Markets:** International investing entails greater risk, as well as greater potential rewards compared to U.S. investing. These risks include potential and economic uncertainties of foreign countries as well as the risk of currency fluctuations. These risks are magnified in countries with emerging markets, since these countries may have relatively unstable governments and less established markets and economics.
- **Fixed Income:** Fixed Income Securities are subject to interest rate risk, credit risk, prepayment risk, market risk, and reinvestment risk. Fixed Income Securities, if held to maturity, may provide a fixed rate of return and a fixed principal value. Fixed Income Securities prices fluctuate and when redeemed, may be worth more or less than their original cost.
- **High Yield Bonds:** HighYield Fixed Income Investments, also known as junk bonds, are considered speculative, involve greater risk of default and tend to be more volatile than investment grade fixed income securities.
- **Hedge Funds:** Hedge funds are appropriate only for long-term, qualified investors. They are generally illiquid, not tax efficient, and have higher fees than many traditional investments. They may also be highly leveraged and engage in speculative investment techniques which can magnify the potential for investment loss or gain.
- **REITS:** REITs investing risks are similar to these associated with direct investments in real estate; lack of liquidity, limited diversification, and sensitivity to economic factors such as interest rate charges and market recessions.
- **Private Equity:** Private equity interests may be highly illiquid, involve a high degree of risk and be subject to transfer restrictions.
- **TIPS:** Because the return of TIPS is linked to inflation, TIPS may significantly underperform vs. fixed return treasuries in times of low inflation.
- **Managed Futures:** 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. Before investing in any partnership and in order to make an informed decision, investors should read the applicable prospectus and/or offering documents carefully for additional information, including charges, expenses and risks. Investors should read the prospectus and/or offering documents carefully for additional information, including charges, expenses and risks. Managed futures investments do not replace equities or bonds but rather may act as a complement in a well diversified portfolio.

RISK OF DIFFERENT INVESTMENTS

Different security types and asset classes carry different risks of investment.

- **Commodities:** 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.
- **MLPs:** Investment in MLPs entails different risks, including tax risks, than is the case for other types of investments. 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 these sectors (including commodity pricing risk, supply and demand risk, depletion risk and exploration risk).
- **Alternative Investments:** Any allocation containing alternative investments should note that they are highly illiquid and are only appropriate for investors willing to put capital at risk for an indefinite period of time. Alternative investments often engage in leverage and other speculative investment practices, may involve complex tax structures, typically have higher fees, and generally are not subject to the same regulatory requirements as traditional asset classes.

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Any samples included in this analysis are not recommendations to pursue any estate planning or asset allocation strategy. They are shown for illustration purposes only.

Since the future cannot be forecast, actual results will vary from the information shown for the future, including estimates and assumptions. The results may vary with each use and over time. It is possible that these variations may be material. The degree of uncertainty normally increases with the length of the future period covered. As a result, Morgan Stanley Wealth Management cannot give any assurances that any estimates, assumptions or other aspects of the following analyses will prove correct. They are subject to actual known and unknown risks, uncertainties and other factors that could cause actual results to differ materially from those shown.

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This Wealth Strategies Analysis Tool may contain historical asset class return data and statistically generated data from 1990-2017 which are not used to forecast potential return but rather to identify relative patterns of behavior among asset classes which when put in different combinations assume various levels of risk.

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DISCLOSURES

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