

Morgan Stanley

# Expanded Horizons Index<sup>SM</sup>

**Index Description:**

A diversified index drawing from a variety of fixed income and global equity asset classes that seeks to achieve attractive growth while maintaining a 5% level of volatility across market cycles.

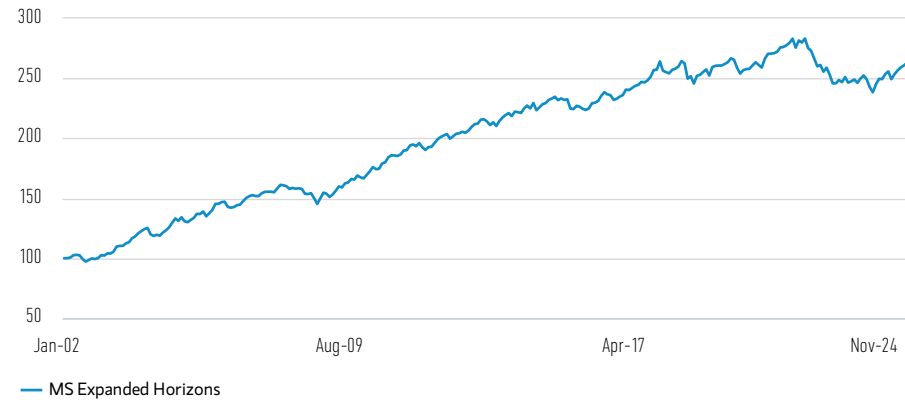
The Index employs a rules-based, forward-looking allocation methodology to make monthly asset class allocations based on momentum and valuation measures and short-term volatility.

The Index allocates to index futures and U.S.-listed exchange-traded funds (ETFs) in order to achieve exposure to treasuries, bonds and US, international and emerging market equities (the "Index Components").

The Index is calculated on an excess return basis, and therefore its level is determined by the weighted return of the portfolio of Index Components reduced by the return on an equivalent cash investment receiving the Federal Funds rate.

**Index Performance (Excess Return)**

Index Value (Base 100)



**Index Performance in USD**

	Cumulative (%)				Annualized (% p.a.)			
	1 M	QTD	YTD	1 YR	3 YR	5 YR	10 YR	INCEPTION
MS Expanded Horizons Index <sup>SM</sup>	2.25	0.46	5.76	7.73	-1.93	0.04	1.45	4.33

Data based on simulated returns from December 31, 2001 to December 5, 2019 (Index live date) and actual thereafter. **Back-tested performance is hypothetical and has been provided for informational purposes only. Past performance is no guarantee or indication of future results, and current performance may be lower or higher than the figures shown.** Please see page 3 for important disclosures on hypothetical performance results. **For the most recent performance figures, please visit [morganstanley.com/mseh](http://morganstanley.com/mseh) or call 1-800-548-7786.**

**MS Expanded Horizons Index<sup>SM</sup> information is as of November 30, 2024, unless otherwise noted.** Returns for less than one year are cumulative (not annualized).

**Index Statistics (3 and 5 Years Annualized)**

	3 Year	5 Year
Standard deviation (%)	5.87	5.43
Max Drawdown (%)	-15.83	-15.83

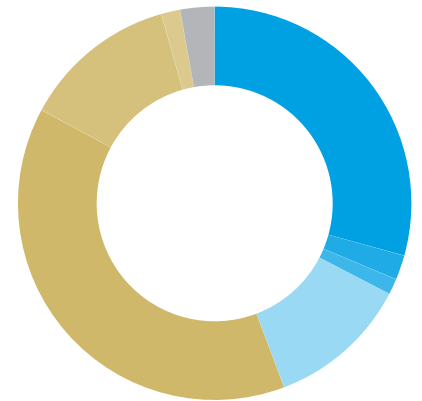
**Index Facts**

Calculation Agent	MS&Co.
Number of Index Components	13
Target Volatility	5%
Risk Control	Daily
Rebalancing Frequency	Monthly
Live date	December 5, 2019
Bloomberg Ticker	MSEHZN

**Index Team**

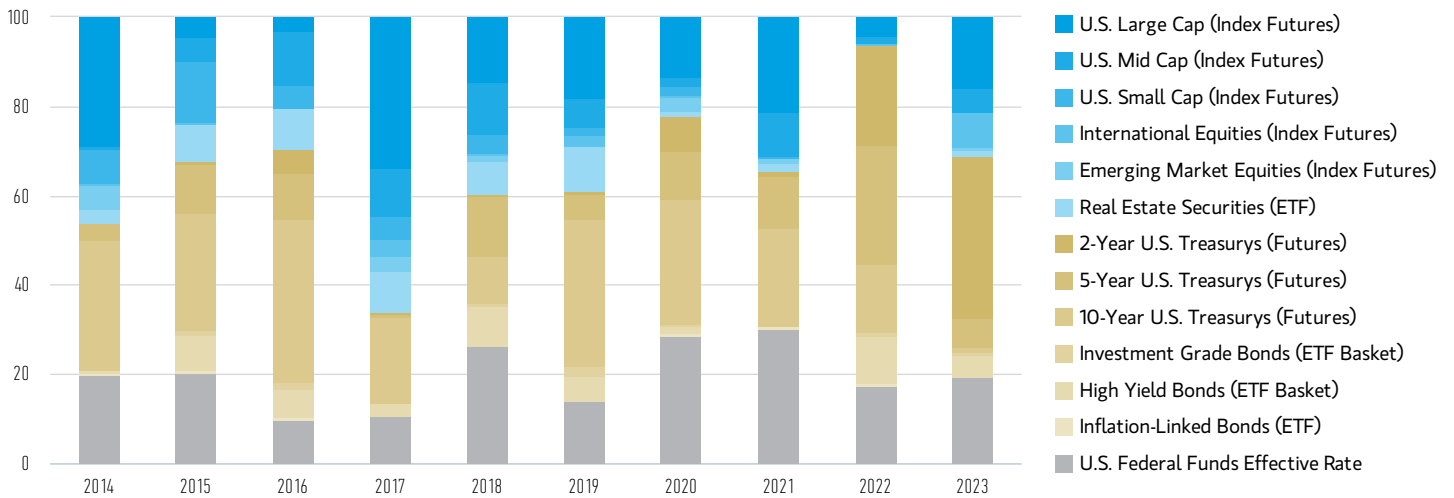
	JOINED FIRM	INDUSTRY EXPERIENCE
Rui De Figueiredo, Ph.D.	2016	26 Years
Ryan Meredith	2007	25 Years
Patrick Reid	1997	26 Years

**Index Components**



	MSEHZN
U.S. Large Cap (Index Futures)	29.31
U.S. Mid Cap (Index Futures)	2.02
U.S. Small Cap (Index Futures)	1.30
International Equities (Index Futures)	0.00
Emerging Market Equities (Index Futures)	0.00
Real Estate Securities (ETF)	11.64
2-Year U.S. Treasuries (Futures)	38.61
5-Year U.S. Treasuries (Futures)	12.77
10-Year U.S. Treasuries (Futures)	1.56
Investment Grade Bonds (ETF Basket)	0.00
High Yield Bonds (ETF Basket)	0.00
Inflation-Linked Bonds (ETF)	0.00
U.S. Federal Funds Effective Rate	2.81

## Average Component Weights by Year



## MS Expanded Horizons Performance

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YTD
2002	0.09	0.50	1.92	0.34	-0.43	-3.09	-2.10	1.47	1.28	-0.56	0.90	2.37	2.58
2003	-0.34	1.83	-0.22	1.63	4.01	0.46	0.04	1.86	0.91	2.92	1.28	2.24	17.83
2004	1.44	1.40	0.79	-4.30	-1.17	0.92	-0.65	2.23	1.54	2.02	3.07	2.71	10.20
2005	-1.52	2.32	-2.54	-0.58	1.44	1.32	2.55	-0.19	1.58	-2.88	1.92	1.96	5.30
2006	3.66	-0.02	0.99	0.22	-2.92	-0.47	0.41	1.06	0.33	2.05	1.79	0.98	8.24
2007	0.54	-0.49	-0.01	1.52	0.77	0.08	0.00	-0.30	1.99	1.95	-0.19	-0.48	5.46
2008	-1.45	0.55	-0.43	0.24	-0.35	-2.55	-0.16	0.45	-2.81	-3.05	3.27	3.08	-3.37
2009	-0.60	-1.72	1.37	2.02	2.30	-0.52	2.16	0.44	1.77	-0.30	2.05	-0.92	8.23
2010	-0.49	1.73	1.74	2.06	-0.94	0.11	2.59	0.50	2.35	0.91	-0.08	-0.22	10.66
2011	0.74	1.68	0.18	2.02	0.48	-0.77	1.35	-1.75	-1.19	1.24	0.13	1.64	5.84
2012	1.61	0.95	0.65	0.56	-1.91	1.01	1.03	0.22	0.59	-0.38	0.90	1.49	6.86
2013	1.08	0.23	1.57	0.11	-0.85	-1.40	1.12	-1.45	1.97	1.35	0.96	0.76	5.50
2014	-1.14	1.71	-0.21	-0.32	1.74	1.06	-1.04	2.02	-2.63	1.09	1.17	0.37	3.75
2015	1.17	0.48	0.65	-1.23	0.63	-0.53	0.22	-3.35	-0.17	1.22	-0.34	-0.78	-2.08
2016	-0.43	0.61	1.92	0.15	0.64	1.86	1.27	-0.73	-0.32	-1.65	0.41	0.78	4.56
2017	0.51	1.97	-0.20	0.75	0.72	0.35	1.03	-0.19	0.68	1.23	2.22	0.11	9.55
2018	2.66	-2.93	-0.45	-0.40	1.16	0.36	0.72	1.74	-0.73	-4.84	0.82	-2.44	-4.50
2019	2.64	0.31	0.94	0.85	-1.99	2.81	0.40	0.09	0.01	0.49	0.55	1.24	8.56
2020	-0.42	-2.50	-1.91	1.12	0.34	0.09	1.10	1.02	-0.83	-0.85	2.83	1.53	1.41
2021	0.05	0.16	0.42	1.33	0.16	0.48	0.77	1.23	-2.67	2.19	-0.62	1.21	4.73
2022	-2.80	-0.85	-2.36	-2.42	0.43	-2.16	1.30	-2.22	-2.87	0.01	1.09	-0.68	-12.84
2023	1.68	-1.84	0.47	0.58	-1.11	1.47	1.01	-1.27	-2.65	-1.73	2.78	1.87	1.11
2024	-0.11	1.67	0.89	-2.53	1.65	1.22	1.00	0.61	0.81	-1.75	2.25	--	5.76

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The Morgan Stanley Expanded Horizons IndexSM dynamically allocates among multiple asset classes based on asset-specific metrics and optimization techniques. It is constructed with a volatility objective of 5% per annum including a daily risk control mechanism to limit drawdown risk and maintain the risk target when market volatility spikes.

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## DEFINITIONS

**Maximum drawdown** is the maximum observed loss from a peak to a trough of a portfolio, before a new peak is attained. Maximum drawdown is an indicator of downside risk over a specified time period. **Standard deviation** measures how widely individual performance returns, within a performance series, are dispersed from the average or mean value.

## MS EXPANDED HORIZONS INDEXES<sup>SM</sup> COMPONENTS:

**U.S. Large Cap:** Index futures based on the **S&P 500<sup>®</sup> Index** which measures the performance of the large cap segment of the U.S. equities market, covering approximately 75% of the U.S. equities market. The Index includes 500 leading companies in leading industries of the U.S. economy.

**U.S. Mid Cap:** Index futures based on the **S&P MidCap 400 Index** which is an unmanaged group of 400 domestic stocks chosen for their market size, liquidity and industry group representation.

**U.S. Small Cap:** Index futures based on the **Russell 2000<sup>®</sup> Index** which is an index that measures the performance of the 2,000 smallest companies in the Russell 3000 Index.

**International Equities:** Index futures based on the **MSCI EAFE Index** (Europe, Australasia, Far East) which is a free float-adjusted market capitalization index that is designed to measure the international equity market performance of developed markets, excluding the U.S. & Canada. 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 MSCI EAFE Index currently consists of 21 developed market country indices. The performance of the Index is listed in U.S. dollars and assumes reinvestment of net dividends.

**Emerging Market Equities:** Index futures based on the **MSCI Emerging Markets Index** which is a free float-adjusted market capitalization weighted index that is designed to measure equity market performance of emerging markets.

**Real Estate Securities:** The **iShares U.S. Real Estate ETF** seeks to track the investment results of an index composed of U.S. equities in the real estate sector.

**Investment Grade Bonds:** ETF basket consisting of **iShares Core U.S. Aggregate Bond ETF** (30%), **iShares iBoxx \$ Investment Grade Corporate Bond ETF** (50%), **Vanguard Total Bond Market ETF** (20%). The iShares Core U.S. Aggregate Bond ETF seeks to track the investment results of an index composed of the total U.S. investment-grade bond market. The iShares iBoxx \$ Investment Grade Corporate Bond ETF seeks to track the investment results of an index composed of U.S. dollar-denominated, investment grade corporate bonds. The Vanguard Total Bond Market ETF is designed to track the performance of the Bloomberg U.S. Aggregate Float Adjusted Index. This Index represents a wide spectrum of public, investment-grade, taxable, fixed income securities in the United States—including government, corporate, and international dollar-denominated bonds, as well as mortgage-backed and asset-backed securities—all with maturities of more than one year.

**High Yield Bonds:** ETF basket consisting of **iShares iBoxx \$ High Yield Corporate Bond ETF** (70%), **SPDR Bloomberg High Yield Bond ETF** (30%). The iShares iBoxx \$ High Yield Corporate Bond ETF seeks to track the investment results of an index composed of U.S. dollar-denominated, high yield corporate bonds. The SPDR<sup>®</sup> Bloomberg High Yield Bond ETF seeks to provide investment results that, before fees and expenses, correspond generally to the price and yield performance of the Bloomberg High Yield Very Liquid Index which is designed to measure the performance of publicly issued U.S. dollar-denominated high yield corporate bonds with above-average liquidity.

**Inflation-Linked Bonds:** The **iShares TIPS Bond ETF** seeks to track the investment results of an index composed of inflation-protected U.S. Treasury bonds.

**Cash:** The **U.S. Federal Reserve Fed Funds Rate** is the interest rate that banks with excess reserves at a Federal Reserve district bank charge other banks that need overnight loans.

**U.S. Treasuries:** Futures based on government debt instruments issued by the United States Government.

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## RISK CONSIDERATIONS:

The following is a non-exhaustive list of certain key risk factors related to the Index and for investors in products linked to the Index. You should also consult with your investment, legal, tax, accounting and other advisors in connection with the Index and any product linked to the Index.

Low Volatility in the Index is Not Synonymous with Low Risk in an Investment Linked to the Index. For example, even if the volatility of the Index was in line with the Volatility Target, the Index may decrease over time, which may result in a loss, and possibly a significant loss, on an investment linked to the Index.

The Level of the Index Can Go Down As Well As Up.

The Index's Constituents are Varied and Represent a Number of Different Sub-Asset Classes in a Number of Different Asset Classes. Prospective investors should be experienced with respect to, and be able to evaluate and understand the risks of (either alone or with the investor's investment, legal, tax, accounting and other advisors), transactions in investments the value of which is derived from different sub-asset classes and asset classes.

The Index at Any Time May Be Composed of a Very Small Number of ETFs. The components of the Asset Portfolio are varied and will be selected from the Index Components according to the Index Methodology. Therefore, at any time, the Index may be composed of a very small number of ETFs and investors in products linked to the Index could be exposed to the risks associated with a concentrated investment in that small number of ETFs.

The Value of the Index and Any Product Linked to the Index May Increase or Decrease Due to a Number of Factors, Many of Which Are Beyond Our Control. The nature and weighting of the Index Components can vary significantly, and no assurance can be given as to the Index's allocation to any Index Component at any time.

While the Index Has a Volatility Target of 5%, There Can Be No Guarantee, Even If the Allocation of the Index is Adjusted As Frequently As is Permitted That the Realized Volatility of the Index Will Not be Less Than or Greater Than 5%.

There Can Be No Assurance That the Actual Volatility of the Index Will Be Lower Than the Volatility of Any or All of the Index Components.

The Volatility Target Feature of the Index May Dampen its Performance in Rising Markets. The Index is designed to achieve a Volatility Target of 5% regardless of the direction of price movements in the market. Therefore, in rising markets, if the Realized Volatility is higher than the Target Volatility, the adjustment through Rebalancing or Daily Allocation might dampen the performance of the Index.

The Future Performance of the Index May Bear Little or No Relation to the Historical or Hypothetical Retrospective Performance of the Index. Among other things, the trading prices of the Index Components and the dividends paid on the Index Components will impact the level and the volatility of the Index. It is impossible to predict whether the level of the Index will rise or fall.

An Investment in Products Linked to the Index Involves Risks Associated with Emerging Markets Equities and Bonds, Currency Exchange Rates. ETFs representing foreign equities (including emerging markets equities) can constitute up to 100% of the Index. The Index can also consist of certain ETFs representing emerging markets bonds. Therefore, an investment in products linked to the Index involves risks associated with the securities markets in those foreign markets and emerging markets countries, including but not limited to risks of volatility in those markets, governmental intervention in those markets and cross-shareholdings in companies in certain countries. The prices of securities issued in foreign markets may be affected by political, economic, financial and social factors in those countries, or global regions, including changes in government, economic and fiscal policies and currency exchange laws. In addition, because the price of an ETF representing foreign securities is generally related to the U.S. dollar value of securities underlying the index tracked by such ETF, an investment in products linked to the Index involves currency exchange rate risk with respect to each of the currencies in which such securities trade. Exchange rate movements for a particular currency are volatile and are the result of numerous factors including the supply of, and the demand for, those currencies, as well as relevant government policy, intervention or actions, but are also influenced significantly from time to time by political or economic developments, and by macroeconomic factors and speculative actions related to the relevant region.

**Investing in products linked to the Index is not equivalent to investing in the Index or its component ETFs or futures.** Investors in products linked to the Index will not have voting rights or rights to receive dividends or other distributions or any other right with respect to the component ETFs of the Index.

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