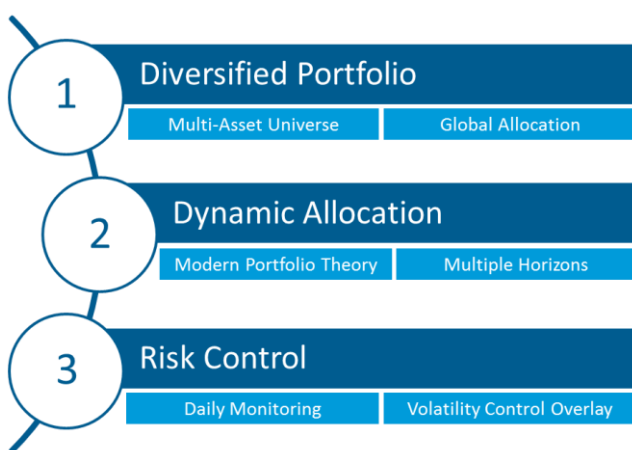


Morgan Stanley

Morgan Stanley Dynamic Contribution Index

Index Philosophy



INDEX IDENTIFIER (TICKER):

MSUSMSDC

WEBSITE:

morganstanley.com/indices/msdc

INDEX CALCULATION AGENT:

Morgan Stanley & Co. LLC

INDEX LIVE DATE:

April 30, 2019

NUMBER OF INDEX COMPONENTS:

Maximum 9

REBALANCE FREQUENCY:

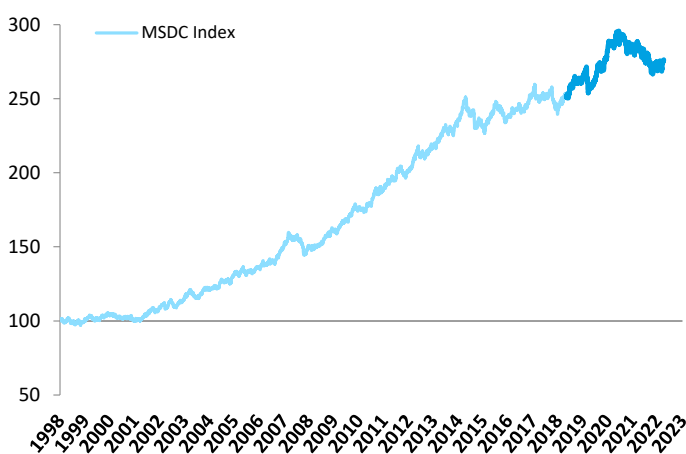
Daily

VOLATILITY TARGET:

5% Annualized

Please see Notes on Simulated Returns, page 3.

Index Performance, Simulated and Actual*



Source: Morgan Stanley, Bloomberg.

Summary Statistics, Simulated and Actual*

	MSDC Index	S&P 500 (Excess Return)	Barclays Aggregate Bond (Excess Return)
YTD Return	2.79%	6.19%	1.71%
Return** Since Index Live Date	3.41%	13.45%	-2.05%
1-Year Ann. Return	-2.71%	-10.87%	-8.03%
3-Year Ann. Return	2.56%	17.02%	-4.07%
5-Year Ann. Return	2.08%	9.28%	-0.81%
10-Year Ann. Return	2.76%	10.91%	0.17%
10-Year Ann. Volatility	4.79%	17.71%	4.23%
10-Year Sharpe Ratio	0.58	0.62	0.04
Correlation to MSDC Index	100%	18%	34%

Source: Morgan Stanley, Bloomberg.

** Actual Return if less than 1yr since Index Live Date; if not, Annualized Return is used.

* From December 31, 1998 to March 31, 2023.

The Index Live Date is April 30, 2019. All data prior to that are simulated.

Index Construction

The Morgan Stanley Dynamic Contribution Index offers diversified exposure to a wide range of asset classes representing global equities, government bonds and major commodities. It uses modern portfolio theory principles and the concept of the efficient frontier to attempt to maximize returns for a defined level of risk:



Diversified Portfolio - The Index seeks to gain broad exposure to a diversified universe of asset classes representing global equities, government bonds and major commodities.

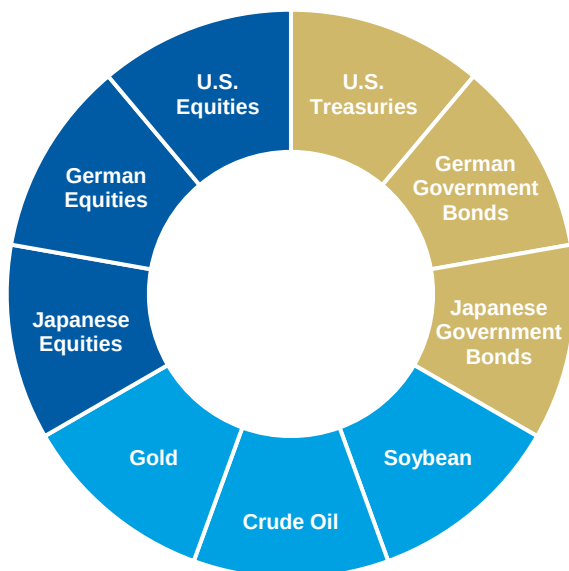


Dynamic Allocation - The Index uses modern portfolio theory principles to target the highest possible return for a given level of risk, rebalancing daily to account for changes in market conditions over both short-term and long-term horizons.

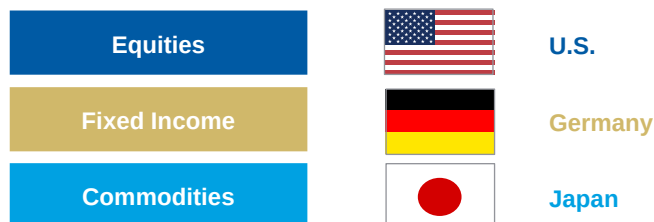


Risk Control - The Index attempts to reduce risk and smooth returns through daily monitoring and rebalancing, targeting an overall 5% volatility level.

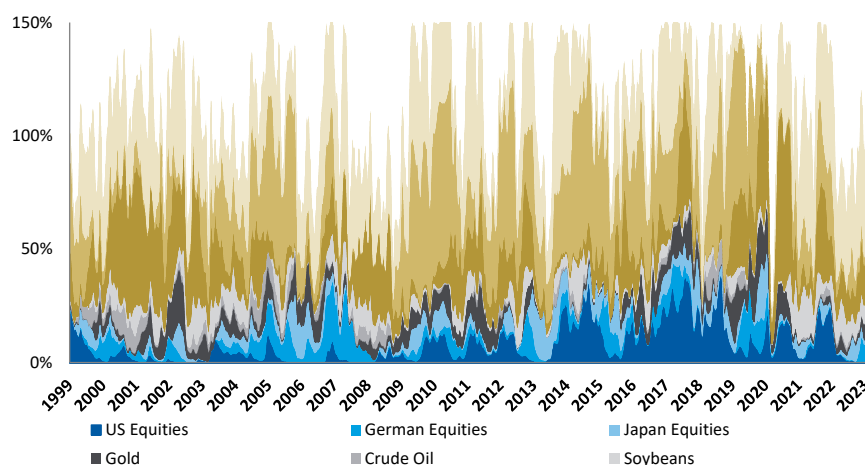
Index Components



Broad & Diversified Investment Universe



1- Month Rolling Index Composition*



Monthly Allocations*

Average Leverage (Curr. Month): 109.9%

Asset Class	Description	Average Core Allocations ¹ Full History	Monthly Average Core Allocations ¹ March 2023	Cumulative Return Attributions ² March 2023
Equities				
	US Equities	7%	0%	0.00%
	German Equities	5%	9%	-0.02%
	Japanese Equities	5%	1%	0.02%
Fixed Income				
	10-Year U.S. Treasuries	19%	20%	0.74%
	10-Year German Euro-Bund	19%	1%	0.05%
	10-Year Japanese Bond	30%	49%	1.18%
Commodities				
	Crude Oil	3%	0%	-0.01%
	Soybeans	6%	11%	0.29%
	Gold	6%	8%	0.54%

* As of March 31, 2023. The Index Live Date is April 30, 2019. All data prior to that are simulated.

¹ Computed as the average of the daily allocations over the corresponding month, before applying leverage.

² The sum of the index components' return attribution is not equal to the Index return over that month due to the servicing fee and return compounding effects. Individual return attributions are calculated after applying leverage.

NOTE ON SIMULATED RETURNS:

Back-testing and other statistical analyses provided herein use simulated analysis and hypothetical circumstances to estimate how the Index may have performed between December 31, 1998 and April 30, 2019, prior to its actual existence. The results obtained from such "back-testing" should not be considered indicative of the actual results that might be obtained from an investment in the Index. The actual performance of the Index may vary significantly from the results obtained from back-testing. Unlike an actual performance record, simulated results are achieved by means of the retroactive application of a back-tested model itself designed with the benefit of hindsight and knowledge of factors that may have possibly affected its performance. Morgan Stanley provides no assurance or guarantee that any product linked to the Index will operate or would have operated in the past in a manner consistent with these materials. Calculation based on simulated performance is purely hypothetical and may not be an accurate or meaningful comparison. Past performance (actual or simulated) is not necessarily indicative of future results.

Certain Key Risks

- The Index level may decrease due to a number of factors including trends in the markets for the underlying components.
- The Index's volatility scaling mechanism may dampen the performance of the Index and a different volatility estimation methodology may provide better risk management.
- It is possible that the Index may be composed of a very small number of index components at any time.
- Products linked to the Index involve risks associated with global equities markets, currency exchange rates, interest rates, commodities and precious metals.
- The Index has a limited performance history and past performance is no indication of future performance.
- The Index level is adjusted for costs associated with trading the underlying futures contracts, which will reduce returns on the Index.
- Purchasers of products linked to the index will have no access to the assets underlying the Index.
- Because there are costs associated with trading the futures contracts, the Strategy level will be lower than if there were no transaction costs and roll costs.
- The level of the Index will include the deduction of a fee of 0.50% per annum.

The risks identified above are not exhaustive. Please see the full set of risk factors included in any disclosure materials relating to instruments linked to the Index for additional information.

Monthly Returns*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Full Year
2023	2.04%	-2.13%	2.92%										
2022	-0.84%	0.98%	-0.50%	-0.45%	-0.30%	-1.65%	1.32%	-2.31%	-2.54%	0.78%	1.47%	-1.72%	-5.70%
2021	0.52%	-0.15%	0.70%	1.58%	0.05%	-0.51%	0.33%	-0.57%	-2.72%	0.58%	-0.76%	1.07%	0.05%
2020	0.72%	-1.69%	-1.94%	0.80%	1.18%	0.78%	2.62%	0.96%	-0.78%	-0.59%	2.74%	3.07%	8.00%
2019	2.87%	-0.39%	1.54%	0.56%	-0.82%	3.12%	0.05%	2.10%	-1.05%	1.17%	-0.92%	0.86%	9.35%
2018	1.61%	-2.22%	-0.69%	0.51%	0.42%	0.15%	-0.14%	1.71%	-0.01%	-3.20%	-0.89%	-1.70%	-4.48%
2017	-0.09%	2.50%	-0.68%	0.70%	0.50%	-1.30%	0.56%	0.56%	-0.09%	1.89%	1.48%	0.17%	6.29%
2016	0.31%	1.50%	0.48%	0.84%	0.87%	3.12%	-1.20%	-1.56%	0.48%	-1.96%	-1.15%	1.11%	2.77%
2015	1.61%	2.01%	1.47%	-1.54%	-0.30%	-1.55%	0.51%	-3.91%	-0.19%	1.90%	-0.09%	-1.61%	-1.85%
2014	-0.31%	2.06%	0.49%	1.42%	1.44%	-0.21%	-1.34%	2.08%	-0.89%	0.67%	1.50%	0.57%	7.68%
2013	0.45%	1.47%	2.12%	2.01%	-0.89%	-0.47%	-0.14%	-0.52%	1.45%	1.05%	1.79%	-0.31%	8.22%
2012	1.68%	1.08%	0.27%	1.34%	-0.63%	0.14%	2.80%	1.13%	-1.43%	-1.21%	0.20%	1.30%	6.79%
2011	-0.73%	0.15%	-0.31%	2.16%	0.41%	-1.19%	3.29%	2.28%	-1.17%	1.10%	-0.15%	1.04%	6.97%
2010	-0.31%	1.27%	1.65%	1.71%	-0.07%	1.01%	0.06%	2.39%	1.10%	0.97%	-0.12%	0.59%	10.70%
2009	-1.37%	0.17%	1.03%	-0.16%	0.41%	1.42%	1.65%	0.93%	0.79%	-0.75%	3.14%	-1.37%	5.95%
2008	1.09%	4.24%	-1.97%	-1.03%	0.24%	1.41%	-1.36%	-0.01%	-3.25%	-3.52%	2.66%	1.62%	-0.19%
2007	0.81%	1.40%	-0.70%	0.59%	1.53%	-0.47%	-0.54%	0.92%	2.13%	1.83%	0.76%	2.31%	11.04%
2006	1.29%	-0.98%	0.76%	1.35%	-1.23%	-0.38%	0.38%	0.79%	-0.51%	0.73%	1.40%	-0.29%	3.32%
2005	0.62%	-0.08%	1.12%	-1.05%	2.70%	0.98%	0.38%	0.06%	0.75%	-2.19%	3.25%	1.89%	8.63%
2004	0.83%	2.22%	0.87%	-1.26%	-2.20%	0.04%	0.22%	1.37%	1.96%	1.10%	0.44%	-0.77%	4.86%
2003	1.14%	0.90%	-2.30%	1.17%	2.44%	-0.81%	-2.54%	1.21%	1.14%	1.72%	-0.65%	2.45%	5.88%
2002	0.21%	1.28%	-0.29%	1.47%	2.06%	-0.50%	1.50%	1.28%	1.50%	-1.21%	-0.67%	2.40%	9.32%
2001	0.01%	-0.15%	-1.19%	-0.30%	-0.26%	-0.51%	1.10%	-0.30%	-0.17%	1.06%	-2.03%	-1.19%	-3.91%
2000	-0.17%	1.47%	0.79%	-2.39%	-0.55%	1.62%	-1.65%	2.99%	-0.93%	0.85%	2.33%	-1.39%	2.85%
1999	1.55%	-2.85%	0.86%	2.03%	-2.11%	-0.81%	-0.22%	0.16%	1.79%	-2.52%	0.82%	2.63%	1.14%

Source: Morgan Stanley, Bloomberg.

* Data based on simulated returns from December 31, 1998 to April 29, 2019 and actual thereafter. Data through March 31, 2023.

Please see Notes on Simulated Returns.

Disclaimer:

Any product that is linked to the performance of the Index is not sponsored, endorsed, sold or promoted by Morgan Stanley & Co. LLC, or any of its affiliates (collectively, "Morgan Stanley"). Neither Morgan Stanley nor any other party (including without limitation any calculation agents or data providers) makes any representation or warranty, express or implied, regarding the advisability of purchasing this product. In no event shall Morgan Stanley have any liability for any special, punitive, indirect or consequential damages including lost profits, even if notified of the possibility of such damages. The Index is the exclusive property of Morgan Stanley. Morgan Stanley and the Index are service marks of Morgan Stanley and have been licensed for use for certain purposes. Neither Morgan Stanley nor any other party has or will have any obligation or liability to owners of this product in connection with the administration or marketing of this product, and neither Morgan Stanley nor any other party guarantees the accuracy and/or the completeness of the Index or any data included therein.

No purchaser, seller or holder of this product, or any other person or entity, should use or refer to any Morgan Stanley trade name, trademark or service mark to sponsor, endorse, market or promote this product, without first contacting Morgan Stanley to determine whether Morgan Stanley's permission is required. Under no circumstances may any person or entity claim any affiliation with Morgan Stanley without the prior written permission of Morgan Stanley.

In calculating the performance of the Index, Morgan Stanley deducts, on a daily basis, a servicing cost of 0.50% per annum. This reduces the positive change or increase the negative change in the Index level and thus decreases the return of any product linked to the Index. The volatility control calculation applied by Morgan Stanley as part of the Index's methodology may decrease the Index's performance and thus the return of any product linked to the Index. In addition, because the volatility control calculation is expected to reduce the overall volatility of the Index, it will also reduce the cost of hedging certain products linked to the Index.

This material is not a solicitation of any offer to buy or sell any security or other financial instrument or to participate in any trading strategy. This material was not prepared by the Morgan Stanley Research Department. Please refer to important information and qualifications at the end of this material. The information contained herein does not constitute advice. Morgan Stanley is not acting as your advisor (municipal, financial, or otherwise) and is not acting in a fiduciary capacity.