

# **METHODOLOGY BOOK FOR:**

- MSCI U.S. Treasury Bond Dynamic Select Index
- MSCI U.S. Treasury Bond Dynamic Select 4% Risk Control Index

**March 2025** 



# **Contents**

1.	ln <sup>-</sup>	troductiontroduction	3
		onstructing the Index	
		Calculating the Index Levels and Returns	
		Application of the MSCI Risk Control Indexes Methodology	
3.	На	andling Suspect or Missing Inflation Indicator	5
4.	M	aintaining the Indexes	6
App	en	dix 1: Methodology Set	7
App	en	dix 2: QuantCube Inflation Indicator	8
App	en	dix 3: MSCI U.S. Treasury Bond Dynamic Select 4% Risk Control Index	9
App	en	dix 4: Determining the Inflation Indicator direction	10
Apr	en	dix 5: ETF Components	11



### 1. Introduction

The MSCI U.S. Treasury Bond Dynamic Select Index<sup>1</sup> (the "Index") aims to represent the performance of a strategy that allocates daily to 7-10 Year Treasury Bond ETF Component<sup>2</sup> and a 1-3 Year Treasury Bond ETF Component based on Inflation Indicator calculated by QuantCube Technology<sup>3</sup>.

The MSCI U.S. Treasury Bond Dynamic Select 4% Risk Control Index (the "Risk Control Index") aims to represent the performance of the Index while targeting an annualized volatility of 4%.

<sup>&</sup>lt;sup>1</sup> The Index is governed by a set of methodology and policy documents ("Methodology Set"), including the present index methodology document. Please refer to Appendix 1 for more details.

<sup>&</sup>lt;sup>2</sup> Please refer to Appendix 5 for details

<sup>&</sup>lt;sup>3</sup> QuantCube is a cross-sectoral Research & Development company which analyses billions of alternative data points in real time to uncover macroeconomic insights ahead of the market for investment. Please refer to Appendix 2 for details



# 2. Constructing the Index

The Index is reviewed daily based on the Inflation Indicator<sup>4</sup> calculated by QuantCube Technology.

### 2.1 Calculating the Index Levels and Returns

On each business day and at initial construction, the Index returns and levels are calculated as below:

$$Index_t = Index_{t-1} \times (1 + IR_t)$$

 $Index_t$  is the Index level on business date t

 $IR_t$  is the Index return on business date t, calculated<sup>5</sup> in accordance with the following formula:

$$IR_t = (A_t \times LTR_t) + (B_t \times STR_t)$$

where:

LTR<sub>t</sub> is the 7-10 Year Treasury Bond ETF Component daily return on business date t,

STR<sub>t</sub> is the 1-3 Year Treasury Bond ETF Component daily return on business date t

The coefficients A, B are the leverage coefficients dependent on the direction of the Inflation Indicator given below:

Inflation indicator Direction	Inflation Indicator up	Inflation Indicator down			
A	1	-1			
В	-4	4			

# 2.2 Application of the MSCI Risk Control Indexes Methodology

The MSCI Risk Control Indexes Methodology<sup>6</sup> is applied on the Index to construct the Risk Control Index in excess return variant. The parameters for the Risk Control Index are noted in Appendix 3.

<sup>&</sup>lt;sup>4</sup> Please refer to Appendix 4 for details

<sup>&</sup>lt;sup>5</sup> The index represents a long-short approach with net negative or positive exposures, incorporating leverage as part of the design. The funding costs of leverage are not included in the calculation

<sup>&</sup>lt;sup>6</sup> Please refer to the MSCI Risk Control Indexes Methodology at <a href="http://www.msci.com/index-methodology">http://www.msci.com/index-methodology</a> for details as well as intended use of such indexes.



# 3. Handling Suspect or Missing Inflation Indicator

If, at an Index Review, MSCI determines that the primary source data from QuantCube Technology is not reflective of the market conditions or there is a temporary outage<sup>7</sup> of data for 4 or more continuous business days, the Inflation Indicator direction will be determined based on latest available OECD's estimation of USA CPI<sup>8</sup> values as per the following steps ("fallback mechanism"):

- · Calculation of change in OECD's estimation of USA CPI
- Determine the CPI direction

When the fallback mechanism comes into effect, the index review frequency will change from daily to a quarterly basis to coincide with the Quarterly Index Reviews.

Subsequently, a review of an alternative data source for the Inflation Indicator would be conducted. The adoption of an alternative data source and any amendments to the methodology to reflect this will be announced to all clients simultaneously. MSCI may consult with clients to gather their feedback on the choice of alternative sources in line with MSCI Index Consultation Policy<sup>9</sup>.

<sup>&</sup>lt;sup>7</sup> Once data from the primary source becomes available again, the Index reverts to daily reviews.

<sup>&</sup>lt;sup>8</sup> Please refer to OECD CPI at: Prices - Inflation (CPI) - OECD Data

<sup>&</sup>lt;sup>9</sup> Please refer to MSCI Index Policies document at: <a href="https://www.msci.com/index-methodology">https://www.msci.com/index-methodology</a>.



# 4. Maintaining the Indexes

The MSCI U.S. Treasury Bond Dynamic Select Index is calculated on each index business date as per the steps described in Section 2.1. The pro forma weights of the components are announced three business days before the effective date.

The MSCI U.S. Treasury Bond Dynamic Select 4% Risk Control Index is calculated on each index business date as per the parameters in Appendix 3.



# **Appendix 1: Methodology Set**

The Indexes are governed by a set of methodology and policy documents ("Methodology Set"), including the present index methodology document as mentioned below:

- Description of methodology set –
   https://www.msci.com/index/methodology/latest/ReadMe
- MSCI Corporate Events Methodology https://www.msci.com/index/methodology/latest/CE
- MSCI Fundamental Data Methodology https://www.msci.com/index/methodology/latest/FundData
- MSCI Index Calculation Methodology https://www.msci.com/index/methodology/latest/IndexCalc
- MSCI Index Glossary of Terms https://www.msci.com/index/methodology/latest/IndexGlossary
- MSCI Index Policies https://www.msci.com/index/methodology/latest/IndexPolicy
- MSCI Global Industry Classification Standard (GICS) Methodology https://www.msci.com/index/methodology/latest/GICS
- MSCI Global Investable Market Indexes Methodology https://www.msci.com/index/methodology/latest/GIMI
- MSCI ETF Linked Indexes Methodology –
   MSCI ETF Linked Indexes Methodology
- MSCI Risk Control Indexes Methodology MSCI Risk Control Indexes Methodology

The Methodology Set for the Indexes can also be accessed from MSCI's webpage https://www.msci.com/index-methodology in the section 'Search Methodology by Index Name or Index Code'.



# **Appendix 2: QuantCube Inflation Indicator**

The following indicator from QuantCube Technology is used in the construction of the Index.

### **Inflation Indicator**

Inflation Indicator is a real-time indicator that quantifies the current Consumer Price Index at a
country level by crossing and aggregating multiple subcomponents like Motor Fuels, Fruits,
Vegetables and others. Inflation Indicator for USA is considered for the construction of the
Index.

For further details on the calculation methodology, please refer to

Real-time macro nowcasting for GDP, Inflation, Investment Decisions — Quant Cube Technology (quant-cube.com)



# **Appendix 3: MSCI U.S. Treasury Bond Dynamic Select 4% Risk Control Index**

The following parameters are used for the calculation of the Risk Control Index:

	MSCI Risk Control Indexes Methodology Parameters	Parameters			
1	Calendar Rule	Daily			
2	Return Variant of the underlying index	Daily Total Return			
3	Risk Free Rate	Fed Funds Rate			
4	Risk Free Maturity Rate	Overnight			
5	Rebalancing Type	Volatility			
6	Risk Control Level	4%			
7	Underlying Index Level Currency	USD			
8	Maximum Leverage	150%			
9	Buffer	5%			
10	Volatility Calculation Type	Equal Weighted Volatility			
11	Number of days for lagged Return	2			
12	Short Term number of days estimate	20			
13	Long Term number of days estimate	60			
14	Return Period	1			



# **Appendix 4: Determining the Inflation Indicator direction**

The direction of the Inflation Indicator is determined as follows:

- **Inflation Indicator Up:** If the Short-Term Inflation Indicator average minus 1% is greater than the Long-Term Inflation Indicator average.
- Inflation Indicator Down: If the above condition is not met.

### Definitions:

- **Short-Term Inflation Indicator Average**: The average Inflation Indicator over the last 5 business days, with a lag of 4 days before the effective date.
- **Long-Term Inflation Indicator Average**: The average Inflation Indicator over the last 126 business days, with a lag of 4 days before the effective date.



# **Appendix 5: ETF Components**

The ETF linked indexes<sup>10</sup> below are used as Components:

Component Indexes	Linked ETF Names	RIC	SEDOL	CUSIP	ISIN	Ticker	Exchange	Price Currency	Close Type
7-10 Year	ISHARES								
Treasury Bond	7-10 YEAR								
ETF linked	TREASURY								
Index	BOND ETF	IEF.OQ	2971494	464287440	US4642874402	IEF	XNMS	USD	Close Price
1-3 Year	ISHARES								
Treasury Bond	1-3 YEAR								
ETF linked	TREASURY								
Index	BOND ETF	SHY.OQ	2971524	464287457	US4642874576	SHY	XNMS	USD	Close Price

If any ETF will cease to exist, a review of an alternative component would be conducted. The adoption of an alternative component and any amendments to the methodology to reflect this will be announced to all clients simultaneously. MSCI may consult with clients to gather their feedback on the choice of alternative sources in line with MSCI Index Consultation Policy<sup>11</sup>.

<sup>&</sup>lt;sup>10</sup> Please refer to MSCI ETF linked Indexes Methodology at: https://www.msci.com/index-methodology.

<sup>11</sup> Please refer to MSCI Index Policies document at: www.msci.com/index/methodology/latest/IndexPolicy.



### Contact us

### msci.com/contact-us

### **AMERICAS**

United States + 1 888 588 4567 \*
Canada + 1 416 687 6270
Brazil + 55 11 4040 7830
Mexico + 52 81 1253 4020

### **EUROPE, MIDDLE EAST & AFRICA**

South Africa + 27 21 673 0103
Germany + 49 69 133 859 00
Switzerland + 41 22 817 9777
United Kingdom + 44 20 7618 2222
Italy + 39 02 5849 0415
France + 33 17 6769 810

### **ASIA PACIFIC**

China +86 21 61326611 Hong Kong +852 2844 9333 India + 91 22 6784 9160 Malaysia 1800818185 \* South Korea + 82 70 4769 4231 Singapore +6567011177 Australia +612 9033 9333 008 0112 7513 \* Taiwan Thailand 0018 0015 6207 7181 \*

Japan
\* toll-free

### About MSCI

MSCI is a leading provider of critical decision support tools and services for the global investment community. With over 50 years of expertise in research, data and technology, we power better investment decisions by enabling clients to understand and analyze key drivers of risk and return and confidently build more effective portfolios. We create industry-leading researchenhanced solutions that clients use to gain insight into and improve transparency across the investment process.

To learn more, please visit <u>www.msci.com</u>.

The process for submitting a formal index complaint can be found on the index regulation page of MSCI's website

at: <a href="https://www.msci.com/index-regulation">https://www.msci.com/index-regulation</a>.

+81345790333



# Notice and disclaimer

This document is research for informational purposes only and is intended for institutional professionals with the analytical resources and tools necessary to interpret any performance information. Nothing herein is intended to promote or recommend any product, tool or service.

This document and all of the information contained in it, including without limitation all text, data, graphs, charts (collectively, the "Information") is the property of MSCI Inc. or its subsidiaries (collectively, "MSCI"), or MSCI's licensors, direct or indirect suppliers or any third party involved in making or compiling any Information (collectively, with MSCI, the "Information Providers") and is provided for informational purposes only. The Information may not be modified, reverse-engineered, reproduced or redisseminated in whole or in part without prior written permission from MSCI. All rights in the Information are reserved by MSCI and/or its Information Providers

The Information may not be used to create derivative works or to verify or correct other data or information. For example (but without limitation), the Information may not be used to create indexes, databases, risk models, analytics, software, or in connection with the issuing, offering, sponsoring, managing or marketing of any securities, portfolios, financial products or other investment vehicles utilizing or based on, linked to, tracking or otherwise derived from the Information or any other MSCI data, information, products or services.

The user of the Information assumes the entire risk of any use it may make or permit to be made of the Information. NONE OF THE INFORMATION PROVIDERS MAKES ANY EXPRESS OR IMPLIED WARRANTIES OR REPRESENTATIONS WITH RESPECT TO THE INFORMATION (OR THE RESULTS TO BE OBTAINED BY THE USE THEREOF), AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, EACH INFORMATION PROVIDER EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES (INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF ORIGINALITY, ACCURACY, TIMELINESS, NON-INFRINGEMENT, COMPLETENESS, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) WITH RESPECT TO ANY OF THE INFORMATION.

Without limiting any of the foregoing and to the maximum extent permitted by applicable law, in no event shall any Information Provider have any liability regarding any of the Information for any direct, indirect, special, punitive, consequential (including lost profits) or any other damages even if notified of the possibility of such damages. The foregoing shall not exclude or limit any liability that may not by applicable law be excluded or limited, including without limitation (as applicable), any liability for death or personal injury to the extent that such injury results from the negligence or willful default of itself, its servants, agents or sub-contractors.

Information containing any historical information, data or analysis should not be taken as an indication or guarantee of any future performance, analysis, forecast or prediction. Past performance does not guarantee future results.

The Information may include "Signals," defined as quantitative attributes or the product of methods or formulas that describe or are derived from calculations using historical data. Neither these Signals nor any description of historical data are intended to provide investment advice or a recommendation to make (or refrain from making) any investment decision or asset allocation and should not be relied upon as such. Signals are inherently backward-looking because of their use of historical data, and they are not intended to predict the future. The relevance, correlations and accuracy of Signals frequently will change materially.

The Information should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. All Information is impersonal and not tailored to the needs of any person, entity or group of persons.

None of the Information constitutes an offer to sell (or a solicitation of an offer to buy), any security, financial product or other investment vehicle or any trading strategy.

It is not possible to invest directly in an index. Exposure to an asset class or trading strategy or other category represented by an index is only available through third party investable instruments (if any) based on that index. MSCI does not issue, sponsor, endorse, market, offer, review or otherwise express any opinion regarding any fund, ETF, derivative or other security, investment, financial product or trading strategy that is based on, linked to or seeks to provide an investment return related to the performance of any MSCI index (collectively, "Index Linked Investments"). MSCI makes no assurance that any Index Linked Investments will accurately track index performance or provide positive investment returns. MSCI Inc. is not an investment adviser or fiduciary and MSCI makes no representation regarding the advisability of investing in any Index Linked Investments.

Index returns do not represent the results of actual trading of investible assets/securities. MSCI maintains and calculates indexes, but does not manage actual assets. The calculation of indexes and index returns may deviate from the stated methodology. Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the index or Index Linked Investments. The imposition of these fees and charges would cause the performance of an Index Linked Investment to be different than the MSCI index performance.

The Information may contain back tested data. Back-tested performance is not actual performance, but is hypothetical. There are frequently material differences between back tested performance results and actual results subsequently achieved by any investment strategy.

Constituents of MSCI equity indexes are listed companies, which are included in or excluded from the indexes according to the application of the relevant index methodologies. Accordingly, constituents in MSCI equity indexes may include MSCI Inc., clients of MSCI or suppliers to MSCI. Inclusion of a security within an MSCI index is not a recommendation by MSCI to buy, sell, or hold such security, nor is it considered to be investment advice.

Data and information produced by various affiliates of MSCI Inc., including MSCI ESG Research LLC and Barra LLC, may be used in calculating certain MSCI indexes. More information can be found in the relevant index methodologies on www.msci.com.

MSCI receives compensation in connection with licensing its indexes to third parties. MSCI Inc.'s revenue includes fees based on assets in Index Linked Investments. Information can be found in MSCI Inc.'s company fillings on the Investor Relations section of msci.com.

MSCI ESG Research LLC is a Registered Investment Adviser under the Investment Advisers Act of 1940 and a subsidiary of MSCI Inc. Neither MSCI nor any of its products or services recommends, endorses, approves or otherwise expresses any opinion regarding any issuer, securities, financial products or instruments or trading strategies and MSCI's products or services are not a recommendation to make (or refrain from making) any kind of investment decision and may not be relied on as such, provided that applicable products or services from MSCI ESG Research may constitute investment advice. MSCI ESG Research materials, including materials utilized in any MSCI ESG Indexes or other products, have not been submitted to, nor received approval from, the United States Securities and Exchange Commission or any other regulatory body. MSCI ESG and climate ratings, research and data are produced by MSCI ESG Research LLC, a subsidiary of MSCI Inc. MSCI ESG Indexes, Analytics and Real Estate are products of MSCI Inc. that utilize information from MSCI ESG Research LLC. MSCI Indexes are administered by MSCI Limited (UK) and MSCI Deutschland GmbH.

Please note that the issuers mentioned in MSCI ESG Research materials sometimes have commercial relationships with MSCI ESG Research and/or MSCI Inc. (collectively, "MSCI") and that these relationships create potential conflicts of interest. In some cases, the issuers or their affiliates purchase research or other products or services from one or more MSCI affiliates. In other cases, MSCI ESG Research rates financial products such as mutual funds or ETFs that are managed by MSCI's clients or their affiliates, or are based on MSCI Inc. Indexes. In addition, constituents in MSCI Inc. equity indexes include companies that subscribe to MSCI products or services. In some cases, MSCI clients pay fees based in whole or part on the assets they manage. MSCI ESG Research has taken a number of steps to mitigate potential conflicts of interest and safeguard the integrity and independence of its research and ratings. More information about these conflict mitigation measures is available in our Form ADV, available at https://adviserinfo.sec.gov/firm/summary/169222.

Any use of or access to products, services or information of MSCI requires a license from MSCI. MSCI, Barra, RiskMetrics, IPD and other MSCI brands and product names are the trademarks, service marks, or registered trademarks of MSCI or its subsidiaries in the United States and other jurisdictions. The Global Industry Classification Standard (GICS) was developed by and is the exclusive property of MSCI and S&P Global Market Intelligence. "Global Industry Classification Standard (GICS)" is a service mark of MSCI and S&P Global Market Intelligence.

MIFID2/MIFIR notice: MSCI ESG Research LLC does not distribute or act as an intermediary for financial instruments or structured deposits, nor does it deal on its own account, provide execution services for others or manage client accounts. No MSCI ESG Research product or service supports, promotes or is intended to support or promote any such activity. MSCI ESG Research is an independent provider of ESG data.

Privacy notice: For information about how MSCI collects and uses personal data, please refer to our Privacy Notice at https://www.msci.com/privacy-pledge.