

METHODOLOGY BOOK FOR MSCI WORLD SELECT COUNTRIES YIELD LOW VOLATILITY 60 INDEX, MSCI WORLD SELECT COUNTRIES YIELD LOW VOLATILITY 60 5% DECREMENT INDEX| MAY 2018

METHODOLOGY BOOK FOR:

- MSCI WORLD SELECT COUNTRIES YIELD LOW VOLATILITY 60 INDEX

MSCI WORLD SELECT
COUNTRIES YIELD LOW
VOLATILITY 60 5%
DECREMENT INDEX

May 2018



METHODOLOGY BOOK FOR MSCI WORLD SELECT COUNTRIES YIELD LOW VOLATILITY 60 INDEX, MSCI WORLD SELECT COUNTRIES YIELD LOW VOLATILITY 60 5% DECREMENT INDEX | MAY 2018

CONTENTS

1 In ⁻	troduction 3
2 Cc	onstructing the MSCI World Select Countries Yield Low Volatility
60 Ind	ex
2.1	Issuer Level Screening 4
2.2	Liquidity Screening
2.3	Dividend Screening5
2.4	Security Selection
2.5	Weighting Scheme
2.5	Calculating the Composite Factor Z-Score6
2.5	Calculating the Final Factor Score
2.6	Applying the MSCI Decrement Indexes Methodology
	laintaining the MSCI World Select Countries Yield Low Volatility
	ex
3.1	Quarterly Index Reviews7
3.2	Ongoing Event Related Changes 7
Appen	dix 1: Region/Country Definitions10
Appen	dix 2: Calculating the Z-Scores for Dividend and Volatility
Factor	s 11
Appen	dix 3: Parameters used for the MSCI Decrement Indexes
Metho	dology





1 INTRODUCTION

The MSCI World Select Countries Yield Low Volatility 60 Index aims to represent the performance of a selection of 60 securities from Developed Markets that exhibit both high dividend yield as well as low volatility characteristics. The index aims to mitigate concentration risk by limiting the maximum weight of an index constituent to 6%.

The MSCI World Select Countries Yield Low Volatility 60 5% Decrement Index aims to represent the performance of the MSCI World Select Countries Yield Low Volatility 60 Index while applying a constant markdown ('synthetic dividend') expressed in percentage terms.



2 CONSTRUCTING THE MSCI WORLD SELECT COUNTRIES YIELD LOW VOLATILITY 60 INDEX

The MSCI World Select Countries Yield Low Volatility 60 Index and the MSCI World Select Countries Yield Low Volatility 60 5% Decrement Index are constructed from the MSCI World Index (the "Parent Index").

Securities from the Parent Index are classified into three "Region groups" based on their MSCI country of classification¹. The Region groups² are:

- a) North America
- b) Europe
- c) Pacific Ex New Zealand

The following steps are applied for each of the Region groups above in the construction of the MSCI World Select Countries Yield Low Volatility 60 Index.

- Issuer Level Screening
- Liquidity Screening
- Dividend Screening
- Security Selection
- Weighting Scheme

In addition to the above steps, the following step is applied to construct the MSCI World Select Countries Yield Low Volatility 60 5% Decrement Index

• Applying the MSCI Decrement Indexes Methodology

2.1 ISSUER LEVEL SCREENING

To avoid multiple securities of the same company in the Index, only the most liquid security for each issuer based on 1-month Annualized Traded Value³ (ATV) is eligible for inclusion in the Index. For any issuer, should two issues have the same 1-month ATV, the one with the higher free float-adjusted market capitalization is included.

¹ Please refer to the MSCI Global Investable Market Indexes methodology for further information on MSCI's country of classification at <u>www.msci.com/index-methodology</u>

² Please refer to Appendix 1 for further details on the countries included in each region

³ Please refer to the MSCI Index Calculation methodology at <u>www.msci.com/index-methodology</u>



2.2 LIQUIDITY SCREENING

From the securities selected after the Issuer Level Screening, any security with a 1-month Annualized Traded Value of less than or equal to USD 3 Billion is excluded from the eligible universe.

2.3 DIVIDEND SCREENING

Only securities with a dividend yield⁴ greater than or equal to 1.5 times the weighted average dividend yield of the securities selected after the Liquidity Screening from each Region group are eligible for inclusion in the final Index. For example, a security with a MSCI country of classification as USA is selected if it has a dividend yield greater than or equal to 1.5 times the dividend yield of the securities selected after the Liquidity Screening step from the North America Region group.

If the number of securities in any Region group post the Dividend Screening step is less than 40, then the top 40 securities ranked by descending order of gross dividend yield are selected from the securities selected in the Region group after the Liquidity Screening. However, if the number of securities selected after the Liquidity Screening is less than 40 for any Region group then all securities are selected after the Liquidity Screening step.

2.4 SECURITY SELECTION

From securities selected after the Dividend Screening step, the 20 least volatile securities from each Region Group based on 52 weekly price return variance are included in the index. This is achieved by weighting the securities selected after the Dividend Screening step in accordance with the MSCI Risk Weighted Indexes methodology⁵ and selecting the top 20 securities by weight. The variance for each security is computed using weekly local price returns over the last one year prior to the rebalancing date.

If there are two or more securities within any Region group that have the same price variance, the one with the higher dividend yield is ranked higher for inclusion in the index.

2.5 WEIGHTING SCHEME

The 20 securities included from each of the three Region groups are then combined to create the Index.

⁴ Please refer to the MSCI Fundamental Data methodology for the definition of Dividend Yield at <u>www.msci.com/index-methodology</u>

⁵ Please refer to the MSCI Risk Weighted Indexes methodology at <u>www.msci.com/index-methodology</u>



The included securities are assigned weights in proportion of the Final Factor Score, and are then subject to a weight capping applied at the security level. The maximum security weight in the Index is capped at 6%, in accordance with the MSCI Capped Indexes methodology⁶.

2.5.1 CALCULATING THE COMPOSITE FACTOR Z-SCORE

The Composite Factor Z-Score is computed from the factor z-scores as described below.

$$Z_{Comp} = 0.50 * Z_{Dividend} + 0.50 * Z_{Volatility}$$

Where:

- Z_{Comp} is Composite Factor Z-Score
- Z_{Dividend} is the Dividend Factor Z-Score*
- Z_{Volatility} is the Volatility Factor Z-Score*

2.5.2 CALCULATING THE FINAL FACTOR SCORE

The Final Factor Score is computed from the Composite Factor Z-Score as follows:

Final Factor Score =
$$\begin{cases} 1+Z, & Z \ge 0\\ (1-Z)^{-1}, & Z < 0 \end{cases}$$

Where Z is the Composite Factor Z-Score determined in the previous step.

The resulting securities and weights after the application of the above methodology form the "MSCI World Select Countries Yield Low Volatility 60 Index".

The following step is applied to construct the "MSCI World Select Countries Yield Low Volatility 60 5% Decrement Index".

2.6 APPLYING THE MSCI DECREMENT INDEXES METHODOLOGY

The MSCI Decrement Indexes methodology⁸ is applied using the parameters mentioned in Appendix 3, to construct the MSCI World Select Countries Yield Low Volatility 60 5% Decrement Index.

⁶ Please refer to the MSCI Capped Indexes methodology at <u>www.msci.com/index-methodology</u>

^{*}Please refer to Appendix 2 for details about the Dividend and Volatility Factor Z-Score calculation

⁸ Please refer to the MSCI Decrement Indexes Methodology at <u>http://www.msci.com/index-methodology</u>



3 MAINTAINING THE MSCI WORLD SELECT COUNTRIES YIELD LOW VOLATILITY 60 INDEX

3.1 QUARTERLY INDEX REVIEWS

The MSCI World Select Countries Yield Low Volatility 60 Index is reviewed on a quarterly basis, coinciding with the May and November Semi-Annual Index Reviews and the February and August Quarterly Index Reviews of the Parent Index.

The dividend yield data used in the Dividend Screening step is maintained monthly. For the May and November Semi-Annual Index Reviews, the dividend yield data as of the end of April and the end of October is used respectively. For the February and August Quarterly Index Reviews, the dividend yield data as of the end of January and the end of July is used respectively⁹.

The pro forma Index is typically announced nine business days before the effective date.

At each Quarterly Index Review, the MSCI World Select Countries Yield Low Volatility 60 Index is rebalanced as described in Section 2, with a 100% selection buffer applied at the Security Selection step as described below.

• A security selection buffer of 100% is applied at Section 2.4 for each index review. As an example, the Index targets 20 securities from each of the three Region groups. Existing Index constituents that are amongst 40 least volatile securities from securities selected after the Dividend Screen step for each Region group will be added to the Index on a priority basis. If the number of securities selected from any Region group is below 20 after this step, the remaining securities selected after the Dividend Screen step from the corresponding Region group with lowest volatility are added until the number of securities selected from that Region group reaches 20.

3.2 ONGOING EVENT RELATED CHANGES

The general treatment of corporate events in the MSCI World Select Countries Yield Low Volatility 60 Index aims to minimize turnover outside of Index Reviews. The methodology aims to appropriately represent an investor's participation in an event based on relevant deal terms and pre-event weighting of the index constituents that are involved. Further, changes in index market capitalization that occur as a result of corporate event

⁹ Please refer to the MSCI Fundamental Data methodology for the definition of Dividend Yield at <u>www.msci.com/index-</u> methodology



METHODOLOGY BOOK FOR MSCI WORLD SELECT COUNTRIES YIELD LOW VOLATILITY 60 INDEX, MSCI WORLD SELECT COUNTRIES YIELD LOW VOLATILITY 60 5% DECREMENT INDEX | MAY 2018

implementation will be offset by a corresponding change in the Variable Weighting Factor (VWF) of the constituent. There will be no additions to the Index in between Index Reviews.

Additionally, if the frequency of Index Reviews in the Parent Index is greater than the frequency of Index Reviews in the MSCI World Select Countries Yield Low Volatility 60 Index, the changes made to the Parent Index during intermediate Index Reviews will be neutralized in the MSCI World Select Countries Yield Low Volatility 60 Index.

The following section briefly describes the treatment of common corporate events within the MSCI World Select Countries Yield Low Volatility 60 Index.

No new securities will be added (except where noted below) to the Index between Index Reviews. For cases where additions are noted below, securities will be added to the index only if added to the parent index. Parent Index deletions will be reflected simultaneously.

EVENT TYPE	EVENT DETAILS
New additions to the Parent Index	A new security added to the parent index (such as IPO and other early inclusions) will not be added to the index.
Spin-Offs	All securities created as a result of the spin-off of an existing Index constituent will be added to the Index at the time of event implementation. Reevaluation for continued inclusion in the Index will occur at the subsequent Index Review.
Merger/Acquisition	For Mergers and Acquisitions, the acquirer's post event weight will account for the proportionate amount of shares involved in deal consideration, while cash proceeds will be invested across the Index.
	If an existing Index constituent is acquired by a non-Index constituent, the existing constituent will be deleted from the Index and the acquiring non-constituent will not be added to the Index.



METHODOLOGY BOOK FOR MSCI WORLD SELECT COUNTRIES YIELD LOW VOLATILITY 60 INDEX, MSCI WORLD SELECT COUNTRIES YIELD LOW VOLATILITY 60 5% DECREMENT INDEX | MAY 2018

Changes in Security Characteristics

A security will continue to be an Index constituent if there are changes in characteristics (country, sector, size segment, etc.) Reevaluation for continued inclusion in the Index will occur at the subsequent Index Review.

Further detail and illustration regarding specific treatment of corporate events relevant to this Index can be found in the MSCI Corporate Events Methodology book under the sections detailing the treatment of events in Capped Weighted and Non-Market Capitalization Weighted indexes.

The MSCI Corporate Events methodology book is available at: https://www.msci.com/index-methodology



APPENDIX 1: REGION/COUNTRY DEFINITIONS

This appendix details the countries from the Parent Index that are classified into the three "Region groups" used for creating the Index. Only securities part of the countries belonging to these Region groups are considered eligible for inclusion to the Index.

Currently, this includes the following countries, under each defined region

North America	Europe	Pacific Ex New Zealand
USA	AUSTRIA	AUSTRALIA
CANADA	BELGIUM	HONG KONG
	DENMARK	JAPAN
	FINLAND	SINGAPORE
	FRANCE	
	GERMANY	
	IRELAND	
	ITALY	
	NETHERLANDS	
	NORWAY	
	PORTUGAL	
	SPAIN	
	SWEDEN	
	SWITZERLAND	
	UNITED KINGDOM	

Whenever MSCI changes the country constituents of the MSCI Parent Region Index, the constituent countries of this Index will change accordingly. Changes in the constituent companies of the MSCI Standard Country Indexes that comprise this Index will also be reflected in this Index.



APPENDIX 2: CALCULATING THE Z-SCORES FOR DIVIDEND AND VOLATILITY FACTORS

Z-score for a factor is calculated as described below.

$$z=\frac{(x-\mu)}{\sigma}$$

Where:

- z is the individual descriptor z-score
- x is the descriptor value for a given security
- μ is the equal weighted mean of the descriptor value of all the 60 securities selected in the Index
- σ is the equal weighted standard deviation of the descriptor value of all the 60 securities selected in the Index

Z-Scores are then winsorized at +/-3 (i.e., the z-scores above 3 are capped at 3 and z-scores below -3 are floored at -3).

The Factors and the individual descriptors defining both the factors are as follows.

I. Dividend Factor

- a) Gross Dividend Yield
- II. Volatility Factor
 - a) Security weight computed after the application of the MSCI Risk Weighted Indexes methodology using weekly price returns over the last one year prior to the rebalancing date as described in section 2.4



APPENDIX 3: PARAMETERS USED FOR THE MSCI DECREMENT INDEXES METHODOLOGY

The following parameters are used in the calculation of the Index.

	MSCI Decrement Index Methodology Parameters	
1	Currency of Calculation	EUR
2	Decrement Type	Fixed Percentage Decrement
3	Decrement Application	Geometric Application
4	Decrement Value	5%
5	Day-count Convention	Act/365
6	Index Floor	0
7	Decrement Frequency	Daily



METHODOLOGY BOOK FOR MSCI WORLD SELECT COUNTRIES YIELD LOW VOLATILITY 60 INDEX, MSCI WORLD SELECT COUNTRIES YIELD LOW VOLATILITY 60 5% DECREMENT INDEX | MAY 2018

CONTACT US

AMERICAS

clientse	rvice	@msci	i.com
CIICIICSC	I VICC(emse	

Americas	1 888 588 4567 *
Atlanta	+ 1 404 551 3212
Boston	+ 1 617 532 0920
Chicago	+ 1 312 675 0545
Monterrey	+ 52 81 1253 4020
New York	+ 1 212 804 3901
San Francisco	+ 1 415 836 8800
Sao Paulo	+ 55 11 3706 1360
Toronto	+ 1 416 628 1007

EUROPE, MIDDLE EAST & AFRICA

Cape Town	+ 27 21 673 0100
Frankfurt	+ 49 69 133 859 00
Geneva	+ 41 22 817 9777
London	+ 44 20 7618 2222
Milan	+ 39 02 5849 0415
Paris	0800 91 59 17 *

ABOUT MSCI

For more than 40 years, MSCI's researchbased indexes and analytics have helped the world's leading investors build and manage better portfolios. Clients rely on our offerings for deeper insights into the drivers of performance and risk in their portfolios, broad asset class coverage and innovative research.

Our line of products and services includes indexes, analytical models, data, real estate benchmarks and ESG research.

MSCI serves 98 of the top 100 largest money managers, according to the most recent P&I ranking.

For more information, visit us at www.msci.com.

ASIA PACIFIC

China North	10800 852 1032 *
China South	10800 152 1032 *
Hong Kong	+ 852 2844 9333
Mumbai	+ 91 22 6784 9160
Seoul	00798 8521 3392 *
Singapore	800 852 3749 *
Sydney	+ 61 2 9033 9333
Таіреі	008 0112 7513 *
Токуо	+ 81 3 5290 1555

* = toll free



METHODOLOGY BOOK FOR MSCI WORLD SELECT COUNTRIES YIELD LOW VOLATILITY 60 INDEX, MSCI WORLD SELECT COUNTRIES YIELD LOW VOLATILITY 60 5% DECREMENT INDEX | MAY 2018

NOTICE AND DISCLAIMER

• 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.

• 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 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. 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 filings on the Investor Relations section of www.msci.com.

• MSCI ESG Research LLC is a Registered Investment Adviser under the Investment Advisers Act of 1940 and a subsidiary of MSCI Inc. Except with respect to any applicable products or services from MSCI ESG Research, 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 intended to constitute investment advice or a recommendation to make (or refrain from making) any kind of investment decision and may not be relied on as such. Issuers mentioned or included in any MSCI ESG Research materials may include MSCI Inc., clients of MSCI or suppliers to MSCI, and may also purchase research or other products or services from MSCI ESG Research. 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.

• Any use of or access to products, services or information of MSCI requires a license from MSCI. MSCI, Barra, RiskMetrics, IPD, InvestorForce, 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 Standard & Poor's. "Global Industry Classification Standard (GICS)" is a service mark of MSCI and Standard & Poor's.