

MSCI HONG KONG MANDATORY PROVIDENT FUND INDEXES METHODOLOGY

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1 INTRODUCTION TO THE MSCI HONG KONG MANDATORY PROVIDENT FUND INDEXES

The Hong Kong Mandatory Provident Fund Schemes Authority (MPFA) regulates the operations of mandatory provident fund (MPF) schemes in accordance with the provisions under the MPF legislation, as well as relevant codes and guidelines. These regulations impose on the MPF funds, among other restrictions, the universe of permissible investments, the level of investment concentration as well as the requirement of maintaining a certain level of Hong Kong Dollar (HKD) exposure.

Constructed based on the MSCI Global Investable Market Indexes (GIMI), the MSCI Hong Kong MPF¹ Indexes take into account these investment restrictions designed to offer a pertinent benchmarking alternative for MPF compliant funds. The MSCI Hong Kong MPF Indexes are divided into three sub-index families: the MSCI MPF Domestic Indexes, the MSCI MPF Hedged Indexes, and the MSCI MPF Unhedged Indexes, each differs in the mechanism in addressing the MPFA currency exposure requirement.

This document describes the methodology that MSCI uses to calculate the MSCI Hong Kong MPF Indexes.

¹ The MSCI Hong Kong Mandatory Provident Fund Indexes are independently created and maintained by MSCI without input from or involvement by MPFA. MPFA does not endorse the MSCI Hong Kong Mandatory Provident Fund Indexes

2 INDEX CONSTRUCTION

2.1 SECURITY SELECTION

2.1.1 DEFINING THE ELIGIBLE UNIVERSE

The MSCI Hong Kong MPF Indexes include only equity securities from approved stock exchanges by the MPFA. The eligible universe of the MSCI Hong Kong MPF Indexes includes all constituent securities of the underlying MSCI Global Investable Market Indexes (“Parent Indexes”) with the following exceptions:

- The MSCI MPF Domestic Hong Kong Index is based on the MSCI Hong Kong Index plus the Hong Kong-listing of HSBC
- The MSCI MPF China Index is based on the MSCI China Free Index²
- The MSCI MPF Hong Kong Index is a composite index made up of the MSCI MPF Domestic Hong Kong Index and the MSCI MPF China Index

For any MSCI Hong Kong MPF Index that has a United Kingdom component, the London-listing of HSBC will be removed from the eligible universe. REITs are included only if they are listed in the stock exchanges approved by the MPFA for REITs.

The full list of permissible investments can be found in the Appendix I.

2.2 ADDRESSING CONCENTRATION LIMIT

In order to comply with the single issuer concentration limit, MSCI applies a capping of 10% on every company in the MSCI Hong Kong MPF Indexes. This capping is applied at the issuer level. However, a buffer of 10% will be applied to reduce the need of constant rebalancing and excessive index turnover. Specifically, at the point of the index initial construction, the weight of any single issuer is capped at 9% of the index weight. The excess weight of the capped issuer is then proportionally redistributed to other uncapped securities in the index.

2.3 ADDRESSING THE MINIMUM 30% REQUIREMENT OF HONG KONG DOLLAR CURRENCY EXPOSURE

The MSCI Hong Kong MPF Indexes comprise of the following three sub- index families³, characterized by different index designs to address the 30% Hong Kong Dollar currency exposure requirement:

² The MSCI China Free Index is composed of all H shares, Red Chips and P Chips included in the MSCI China Index

2.3.1 MSCI MPF DOMESTIC INDEXES

The MSCI MPF Domestic Indexes apply a floor to the weight of the HKD denominated component and do not involve any currency hedging. Specifically, in order to comply with the requirement of at least 30% Hong Kong Dollar (HKD) currency exposure while applying a buffer to avoid excessive index turnover, a floor of 30% is applied to the weight of the HKD denominated MSCI MPF Hong Kong Index component.

For example, for regional and global indexes including the HKD denominated MSCI MPF Hong Kong Index component and where its weight is less than 35%, the index weight of the HKD denominated MSCI MPF Hong Kong Index component is set to be 35% at initial construction. The weight of the remaining constituents is decreased in proportion to their weight prior to the application of the floor to the HKD denominated securities.

2.3.2 MSCI MPF HEDGED INDEXES

In order to comply with the requirement of at least 30% HKD currency exposure, exposure to currency movements relative to the HKD is partially hedged on a monthly basis based on the MSCI Hedged Indexes methodology. Specifically, the home currency is set to be HKD and the hedged weight for each foreign currency is set to be 35% of its respective weight in the index on a monthly basis. For more information on the MSCI Hedged Indexes methodology, please refer to:

https://www.msci.com/eqb/methodology/meth_docs/MSCI_Hedged_FX_Hedge_and_Global_Currency_Methodology_Nov2015.pdf

2.3.3 MSCI MPF UNHEDGED INDEXES

The MSCI MPF Unhedged Indexes are constructed without any explicit mechanism to address the 30% Hong Kong Dollar currency exposure. These indexes are mainly used as benchmark building blocks in conjunction with other asset classes/segments within an MPF fund that are already exposed to Hong Kong Dollars or for investors who wish to have the flexibility to applying other specific mechanisms to address the 30% Hong Kong Dollar requirement.

³ Please note that due to the original HKD exposure of the regional or global Parent Index, not all three sub-indexes are produced for some regional or global MSCI Hong Kong MPF Indexes.

3 INDEX MAINTENANCE

3.1 QUARTERLY INDEX REVIEW

The MSCI Hong Kong MPF Indexes are rebalanced on a quarterly basis, nine business days before the effective dates of the MSCI Quarterly Index Reviews. The changes resulting from the rebalancing are also announced nine business days before the effective dates of the MSCI Quarterly Index Reviews and implemented as of the close of the last business day of each February, May, August and November, to coincide with the Quarterly Index Reviews of their Parent Indexes.

3.2 REBALANCING DUE TO NON-COMPLIANCE

MSCI Hong Kong MPF Indexes are reviewed for non-compliance on concentration limit and on Hong Kong dollar currency exposure on a daily basis. The MSCI MPF Indexes will be rebalanced in the event of non-compliance. The concentration constraint is considered to be breached when the weight of an issuer increases above 10%. The foreign currency exposure constraint is considered to be breached when the weight of the HKD denominated securities decreases below 30%.

The rebalancing will take place as of the close of the day when the index breaches any constraint, based on closing prices, such that the MSCI Hong Kong MPF Indexes will always be within the constraints before the opening of the following trading day.

In case the pro forma MSCI Hong Kong MPF Indexes become non-compliant between the announcement date and the effective date, the previously announced results will be discarded and a newly rebalanced pro forma index will be announced.

3.3 ADDITIONS AND DELETIONS DUE TO CORPORATE EVENTS

A security added to or deleted from the Parent Index following a corporate event will also be added to or deleted simultaneously from the MSCI Hong Kong MPF Indexes.

In case of MSCI Hong Kong MPF Indexes where the concentration constraint and/or the local currency exposure constraint are triggered, additions are included with an estimated weight based on a rebalancing at the time of addition. The constraint applied on other index constituents is however not changed.

3.4 MAINTENANCE OF THE MPFA INVESTMENT RESTRICTIONS

To ensure the MSCI Hong Kong MPF Indexes accurately reflect the MPF regulatory requirements, MSCI reviews the MPF investment restrictions twice a year coinciding with the May and November Semi-Annual Index Review.

3.5 CALCULATION OF THE MSCI NET DAILY TOTAL RETURN INDEXES

In the calculation of the MSCI Net Daily Total Return Domestic Indexes, MSCI uses the withholding tax rate applicable to Hong Kong investors, as outlined in Appendix II.

APPENDIX I: EXCHANGES APPROVED BY MPFA

Country	Stock Exchange
Australia	Australian Stock Exchange
Austria	Wiener Börse AG
Belgium	Euronext Brussels
Brazil	Sao Paulo Stock Exchange (BOVESPA)
Canada	Toronto Stock Exchange
Taiwan	Taiwan Stock Exchange
Denmark	Copenhagen Stock Exchange
Finland	Helsinki Exchanges
France	Euronext Paris
Germany	Deutsche Börse AG
Greece	Athens Stock Exchange
India	Bombay Stock Exchange of India
	National Stock Exchange of India
Ireland	Irish Stock Exchange
Israel	Tel-Aviv Stock Exchange
Italy	Italian Stock Exchange
Japan	Jasdaq Securities Exchange
	Osaka Securities Exchange
	Nagoya Stock Exchange
	Tokyo Stock Exchange
Korea	Korea Exchange
Luxembourg	Luxembourg Stock Exchange
Malaysia	Bursa Malaysia
Mexico	Mexican Stock Exchange
Netherlands	Euronext Amsterdam
New Zealand	New Zealand Exchange
Norway	Oslo Børs
Philippines	Philippine Stock Exchange
Portugal	Euronext Lisbon
Singapore	Singapore Exchange Securities Trading Limited
South Africa	JSE Securities Exchange South Africa
Spain	Madrid Stock Exchange
Sweden	Stockholmsbörsen
Switzerland	SIX Swiss Exchange
Thailand	Stock Exchange of Thailand
United Kingdom	London Stock Exchange
USA	American Stock Exchange
	NASDAQ
	New York Stock Exchange
	NYSE Arca
	Philadelphia Stock Exchange

Source: MPFA website. Last updated in May 2015.

http://www.mpfa.org.hk/eng/legislation_regulations/legulations_ordinance/quidelines/current_version/investment/files/Annex_A_to_III_4.pdf

In addition to Hong Kong-listed REITs, REITs listed outside of Hong Kong are approved as permissible investments provided that they are listed on an approved stock exchange in the countries of Australia, the United Kingdom or the USA.

APPENDIX II: WITHHOLDING TAX

Country Of Incorporation		Withholding Tax Rates (%) ⁽¹⁾
Code	Name	
AE	United Arab Emirates	0
AN	Netherlands Antilles	0
AR	Argentina	10
AT	Austria	10 ⁽¹⁰⁾
AU	Australia ⁽²⁾	30
BA	Bosnia & Herzegovina	5
BD	Bangladesh	20
BE	Belgium	15 ⁽¹⁰⁾
BG	Bulgaria	5
BH	Bahrain	0
BM	Bermuda	0
BR	Brazil ⁽³⁾	0
BS	Bahamas	0
BW	Botswana	7.5
CA	Canada	15 ⁽¹⁰⁾
CH	Switzerland	10 ⁽¹⁰⁾
CL	Chile	35
CN	China ⁽⁴⁾	0 or 10
CO	Colombia	0
CW	Curacao	0
CY	Cyprus	0
CZ	Czech Republic	35 or 5 ⁽¹⁰⁾
DE	Germany	26.375
DK	Denmark	27
EE	Estonia	0
EG	Egypt	0

Country Of Incorporation		Withholding Tax Rates (%) ⁽¹⁾
Code	Name	
KR	Korea	15 ⁽¹⁰⁾
KW	Kuwait	15
KY	Cayman Islands	0
KZ	Kazakhstan	15
LB	Lebanon	10
LI	Liechtenstein	4
LK	Sri Lanka	10
LR	Liberia	15
LT	Lithuania	15
LU	Luxembourg	15
MA	Morocco	10
MH	Marshall Islands	0
MK	Macedonia	10
MU	Mauritius	0
MT	Malta	0
MX	Mexico ⁽⁹⁾	0 ⁽¹⁰⁾
MY	Malaysia ⁽⁵⁾	0
NG	Nigeria	10
NL	Netherlands	10 ⁽¹⁰⁾
NO	Norway	25
NZ	New Zealand	15
OM	Oman	0
PA	Panama	10
PE	Peru	4.1
PH	Philippines	30
PK	Pakistan	10

Country Of Incorporation		Withholding Tax Rates (%) ⁽¹⁾	Country Of Incorporation		Withholding Tax Rates (%) ⁽¹⁾
Code	Name		Code	Name	
ES	Spain	10 ⁽¹⁰⁾	PL	Poland	19
FI	Finland	30	PR	Puerto Rico	10
FO	Faroe Islands	35	PS	Palestine	0
FR	France	10 ⁽¹⁰⁾	PT	Portugal	10 ⁽¹⁰⁾
GB	United Kingdom ⁽⁶⁾	0	QA	Qatar	0
GG	Guernsey	0	RO	Romania	16
GH	Ghana	8	RS	Serbia	20
GI	Gibraltar	0	RU	Russia	15
GR	Greece	2510	SA	Saudi Arabia	5
HK	Hong Kong	0	SE	Sweden	30
HR	Croatia	12	SG	Singapore ⁽⁷⁾	0
HU	Hungary	0	SI	Slovenia	15
ID	Indonesia	20 or 10 ⁽¹⁰⁾	TH	Thailand	10
IE	Ireland	0 ⁽¹⁰⁾	TN	Tunisia	0
IL	Israel	25	TR	Turkey	15
IM	Isle Of Man	0	TT	Trinidad And Tobago	10
IN	India	0	TW	Taiwan ⁽⁸⁾	20
IT	Italy	10	UA	Ukraine	15
JE	Jersey	0	US	USA	30
JM	Jamaica	33.333	VG	British Virgin Islands	0
JO	Jordan	0	VN	Vietnam	0
JP	Japan	10 ⁽¹⁰⁾	ZA	South Africa	10
KE	Kenya	10	ZW	Zimbabwe	10

Last updated in May 2017

Notes:

- Used in the calculation of the MSCI Net Daily Total Return (DTR) Indexes. Withholding tax rates used are the maximum rates of the company's country of incorporation applicable to institutional investors who do not benefit from double taxation treaties.
- For Australian dividends, franking percentage and conduit foreign income are taken into consideration on calculation of the MSCI Net DTR Indexes. The actual

withholding tax rate for an Australian dividend ranges from 0% to 30%. For details, please refer to the section 2.3.7.2.1 of the MSCI Index Calculation Methodology.

3. Interest on capital is subject to a 15% withholding tax.
4. For the MSCI China Index, the withholding tax rates are exceptionally based on Chinese securities' share types, regardless of the company's country of incorporation. B-share and H-share are subject to a 10% withholding tax. P-Chip and Red Chip are subject to a 0% withholding tax, unless a specific withholding tax of 10% is announced by the companies.
5. Dividends on Real Estate Investment Trusts (REITS) are subject to a 10% withholding tax.
6. Cash dividends paid by companies incorporated in the United Kingdom includes a 10% tax credit. MSCI does not take into consideration the tax credit for both the gross and net dividend amounts. As there is no withholding tax in the United Kingdom, the gross and net amounts of the cash dividends to be reinvested in the MSCI Net Daily Total Return (DTR) indexes are equal.
7. Dividends on Real Estate Investment Trusts (REITS) are subject to a 10% withholding tax.
8. Dividends on Real Estate Investment Trusts (REITS) are subject to a 15% withholding tax.
9. Dividends on Real Estate Investment Trusts (REITS) are subject to a 30% withholding tax.
10. The rates take into account the double tax treaties between Hong Kong resident investors and the relevant countries. In the calculation of the Net Daily Total Return Indexes, these withholding tax rates are applied to securities listed in the countries specified. Source: Inland Revenue Department website: http://www.ird.gov.hk/eng/tax/dta_rates.htm

METHODOLOGY BOOK TRACKED CHANGES

The following sections have been modified since May 2014:

Appendix I: Exchanges Approved by MPFA

- Addition of Philippine Stock Exchange

The following sections have been modified since May 2015:

Section 3.4: Maintenance of the MPFA Investment Restrictions

- Frequency of reviews changed from once a year to twice a year

The following sections have been modified since May 2016:

Appendix II: Withholding Tax

- Withholding tax rates of Italy and South Africa

The following sections have been modified since May 2017:

Appendix II: Withholding Tax

- Withholding tax rates of Korea and Portugal

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