

MSCI/APREA PAN- ASIA QUARTERLY PROPERTY FUND INDEX (UNFROZEN) METHODOLOGY

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1 Introduction

The objective of the MSCI/APREA Pan-Asia Quarterly Property Fund Index (Unfrozen) (“Pan-Asia PFI”) is to represent the performance of unlisted open-ended pooled real estate funds with an Asia Pacific investment mandate. The Index is value-weighted based on the capital employed of its constituent property funds each month and is denominated in US Dollars (USD).

2 Methodology Documentation Set

The construction and maintenance rules for the Pan-Asia PFI are collectively described in the following documents:

2.1 MSCI REAL ESTATE INDEX POLICIES

The [MSCI Real Estate – Index Policies](#) document describes the various governance policies related to the construction, maintenance and termination of the MSCI Private Real Estate indexes to provide consistency in decisions and avoid ambiguity in its responses to particular events.

2.2 MSCI PROPERTY FUND INDEXES METHODOLOGY

The [MSCI Property Fund Indexes Methodology](#) describes the general methodology that is being used for the calculation of the MSCI Property Fund Indexes and includes the methodology for the index composition, data requirements and index calculation methodology.

2.3 MSCI/APREA PAN-ASIA QUARTERLY PROPERTY FUND INDEX (UNFROZEN) METHODOLOGY

This document includes the rules and methods specific to the Pan-Asia PFI.



3 MSCI/APREA Pan-Asia Quarterly Property Fund Index (Unfrozen) Methodology

3.1 INITIAL INCLUSION REQUIREMENTS

INCLUSION REQUIREMENTS FOR MSCI/APREA PAN-ASIA QUARTERLY PROPERTY FUND INDEX (UNFROZEN)

In addition to the standard MSCI requirements for MSCI Property Fund Indexes (refer to [MSCI Property Fund Indexes Methodology](#) for further details), there are additional eligibility requirements for initial inclusion in the Pan-Asia PFI. The Pan-Asia PFI comprises of funds that adhere to specific criteria relating to their investment mandate and their structure. In order to be included into Pan-Asia PFI, funds must:

1. Not be listed on a stock exchange.
2. Be professionally managed pooled / commingled property funds providing access to direct property returns, where at least 80% of the Gross Asset Value (excl. cash) is invested in direct property in the Asia Pacific region. Funds of property funds, debt funds and property derivative funds are not eligible for inclusion within the Index.
3. Be open-ended and Semi open-ended. In case a fund closes to new contributions or redemptions, its inclusion in the index will be reviewed. Semi open-ended funds are open-ended funds where investors may be subject to an initial “lock in” for the first 3 to 5 years of the life of the fund during which either,
 - investors are not permitted to redeem their investment, or
 - redemptions by investors are restricted to a maximum fixed percentage of their investment in any one year
4. Have a discretionary mandate to manage its investments through its General Partner / Manager or equivalent for the fund.
5. At the point of index inclusion and based on the latest period data, have investment in minimum three countries within Asia Pacific region and no country should represent more than 70% of fund’s direct real estate capital value. Based on this criteria assessment using latest period data at the point of inclusion, the fund will be included with full history.
6. Have a Net Asset Value (NAV) greater than USD 100 Million. Based on this criteria assessment using latest period NAV at the point of inclusion, the fund will be included with full history.

7. Carry no more than 60% leverage, where leverage is defined as the ratio of total debt to the fund's Gross Asset Value (GAV).
8. Have their underlying direct property performance measured by MSCI at least quarterly.

3.2 QUARTERLY ELIGIBILITY ASSESSMENT OF INDEX CONSTITUENTS

The fund characteristics may change over time either strategically or temporarily due to market movements or transaction activity. Quarterly review and observation period are designed to ensure that the index composition is aligned with index inclusion criteria on an on-going basis and are aimed at stability of index composition. It also ensures periodic governance and oversight on index composition and reporting based on rules based approach.

Quarterly Review: Following index inclusion, MSCI reviews the constituent funds of the Pan-Asia PFI every quarter for their eligibility into the index based on some of the rules mentioned in section 6.1. Any non-adherence to the criteria based on quarterly eligibility assessment of the funds will result in a rules based index exclusion.

Observation Period is defined as a time window of four quarters in which MSCI will monitor the existing index funds that are in temporary non-adherence to a particular criteria. Any non-adherence to the relevant criteria for four consecutive quarters will result in rules based exclusion of fund in the fourth quarter.

The rules within the scope of Quarterly Review and Observation Period are listed in section 6.1 Appendix II: Inclusion criteria for MSCI/APREA Pan-Asia Quarterly Property Fund Index (Unfrozen).



Exhibit 1 - Illustration of Methodology – Introduction of Observation Period for Existing Index Constituents

| | Period 1 | Period 2 | Period 3 | Period 4 | Period 5 | Period 6 | Period 7 | Period 8 |
|--|----------|--|----------|----------|----------|----------|----------|----------|
| Criteria adherence (Yes / No) | Yes | No | No | No | No | No | No | Yes |
| | | Observation Period During Non-adherence (4 quarters) | | | | | | |
| Index Inclusion Status (Yes / No) | Yes | Yes | Yes | Yes | No | No | No | Yes |

Note: Period represents one quarter

3.3 CHANGE IN COMPOSITION

The addition of new funds and withdrawal/termination of existing funds are normal events in the evolution of the MSCI Property Fund Indexes. There are additional requirements and clarification for the Pan-Asia PFI.

New Funds:

- a. New funds are required to provide sufficient and complete data to compile the longest possible history of their investment performance, subject to a minimum of either twelve quarters or the period from date of launch of the fund.

Removed/Withdrawn Funds:

- a. Withdrawal from the Index should be through written communication to MSCI, and where possible, one quarter prior to the next Index release.
- b. A change of mandate, structure, branding or manager does not warrant the removal of historical performance from the index and market information products.

Re-admitted Funds:

- a. In order to be re-admitted to the Index, the funds must provide MSCI with the data to calculate their investment performance during the whole period since their last inclusion in the Index.

- b. Re-admitted funds are subject to the same eligibility requirements as potential new constituents.

Formal communication of a material change in the index composition will be done through an index announcement made available at www.msci.com, in accordance with the thresholds as defined in the [MSCI Real Estate – Index Policies](#).

4 Data Provision Requirements

4.1 NET ASSET VALUE REPORTING REQUIREMENTS

In addition to the standard requirements described in the [MSCI Global Data Standards for Real Estate Investments](#), there are additional requirements for the Net Asset Value (NAV) used in the Pan-Asia PFI. These requirements are:

- a. Vehicles are required to report their NAV on at least a quarterly basis and to have done so for the whole period of their performance history within the Indexes.
- b. The NAV should be based on the quarterly revaluation of at least 95% of the value of each fund’s property portfolio (including the value of other assets held through joint/indirect investments, derivatives and cash).
- c. The revaluation of the property portfolio should be undertaken each quarter as per Market Value¹ definition determined by the International Valuation Standards or equivalent. All properties should be valued by a third-party appraiser at least annually.
- d. Constituents of the Indexes must agree to calculate their NAV on a consistent basis from quarter to quarter, which must be as specified in their own articles of association or equivalent.
- e. NAVs used in performance calculations are net of fund management fees.

¹ Refer to [MSCI Standards of Real Estate Valuations](#) for more details



5 Index Calculation Methodology

The Pan-Asia PFI Methodology is constructed by applying the Time-Weighted Return computation methodology as detailed in the [MSCI Property Fund Indexes Methodology](#) (Section 4.3).

5.1 WEIGHTING

The Index is value-weighted, based on the capital employed (which is derived as previous period Net Asset Value (NAV) adjusted by external cashflows) of its constituent property funds each month.

5.2 UNFROZEN HISTORY REPORTING

The Pan-Asia PFI returns are unfrozen, which means they do not have fixed histories and returns will be updated when new data becomes available or corrections are made. Therefore, the inclusion of a new fund with historical data or any changes to historical data of existing index constituents impacts the historical index returns. MSCI evaluates from time to time, the need to determine if it is suitable to freeze the Index.

5.3 LOCAL CURRENCY RETURN

For funds with multiple currency exposures through underlying holdings, the gain/loss on currency translation is an important driver of return. These measures therefore aim to calculate the return in local currency of the fund's holdings excluding impact of currency translation and currency hedging. The local currency return calculation also uses the Time-Weighted Return computation methodology as detailed in the [MSCI Property Fund Indexes Methodology](#) (Section 4.3).

5.3.1 NET TOTAL RETURN

Net of fees return in local currency

$$Net\ Total\ Return = \frac{NAV_t - NAV_{t-1} - NCI_t - (NIY_t - Dist_t) + NIY_t - FXchange_t - FXhedging_t}{Weighted\ Equity_t - FX\ hedging\ MV_{t-1}}$$

Where

FXchange_t is the Gain or loss on currency translation impacting the fund NAV in month t

FXhedging_t is the Gain or loss on currency hedging impacting the fund NAV in month t

FX hedging MV_{t-1} is the Fair value of currency hedge

5.3.2 GROSS TOTAL RETURN

Gross of fees return in local currency

$$\text{Gross Total Return} = \frac{NAV_t - NAV_{t-1} - NCI_t - (NIY_t - Dist_t) + NIY_t + Fees_t - FXchange_t - FXhedging_t}{\text{Weighted Equity}_t - \text{FX hedging MV}_{t-1}}$$

Where

FXchange_t is the gain or loss on currency translation impacting the fund NAV in month t

FXhedging_t is the gain or loss on currency hedging impacting the fund NAV in month t

FX hedging MV_{t-1} is the Fair value of currency hedge

Fees_t is the total fees (management + incentive) in month t



6 Appendix I: Inclusion criteria for MSCI/APREA Pan-Asia Quarterly Property Fund Index (Unfrozen)

| Inclusion criteria - MSCI/APREA Pan-Asia Quarterly Property Fund Index (Unfrozen) | | | | |
|---|--|--|---------------------------------|--------------------|
| Inclusion Rule | Criteria | Eligibility reviewed at the point of Inclusion | Quarterly review of eligibility | Observation period |
| 1. Investor Type | Institutional Property Funds | ✓ | - | - |
| 2. Listing status | Unlisted | ✓ | ✓ | - |
| 3. Fund Structure | Open or Semi open-ended fund | ✓ | ✓ | - |
| 4. Minimum Direct Real Estate investment in Asia Pacific region | 80% of GAV (excl. cash) | ✓ | ✓ | 4 Quarters |
| 5. Does the General Partner/Manager or equivalent for the fund have a discretionary mandate to manage its investment? | Yes | ✓ | - | - |
| 6. Geographical Diversification | Investment in at least 3 Countries within Asia Pacific region with no more than 70% of direct property capital value in single country | ✓ | - | - |
| 7. Minimum Fund NAV requirement | USD 100 Million | ✓ | - | - |
| 8. Maximum Fund Leverage | 60% of GAV | ✓ | ✓ | 4 quarters |

| Inclusion criteria - MSCI/APREA Pan-Asia Quarterly Property Fund Index (Unfrozen) | | | | |
|--|---|--|---------------------------------|--------------------|
| Inclusion Rule | Criteria | Eligibility reviewed at the point of Inclusion | Quarterly review of eligibility | Observation period |
| 9. Are the underlying direct property performance of the fund measured by MSCI at least quarterly? | Yes | ✓ | ✓ | - |
| 10. Property Valuation | At least Quarterly valuation (internal or external), External valuation at least once annually | ✓ | ✓ | - |
| 11. Minimum Quarterly Fund Valuation | At least 95% of GAV to be valued each quarter | ✓ | ✓ | - |
| 12. Data provision requirements | Longest possible history, subject to a minimum of either 3 years. Where fund is launched during the past 3 years, data should be provided from the date of launch of the fund | ✓ | - | - |



7 Appendix II: Versioning Table

| Version | Publication Date | Key Changes |
|---------|------------------|--|
| V1 | August 2021 | First release of the MSCI/APREA Pan-Asia Quarterly Property Fund Index (Unfrozen) Methodology Document |
| V2 | November 2024 | Section 5.3 Local Currency Return has been added |



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