MSCI PAN-EUROPEAN QUARTERLY PROPERTY FUND INDEX (UNFROZEN) METHODOLOGY

March 2022
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1 Introduction

The objective of the MSCI Pan-European Quarterly Property Fund Index (Unfrozen) ("PEPFI") is to represent the performance of open-ended pooled funds with a Pan-European investment mandate. From Q3 2021 results reporting onwards, PEPFI is value-weighted, based on the capital employed (Until Q2 2021 results reporting, it was based on the Net Asset Value (NAV)) of its constituent property funds each month and is denominated in Euros (EUR).
2 Methodology Documentation Set

The construction and maintenance rules for the PEPFI 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 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 PAN-EUROPEAN QUARTERLY PROPERTY FUND INDEX (UNFROZEN) METHODOLOGY

This document includes the rules and methods specific to the PEPFI.
3 MSCI Pan-European Quarterly Property Fund Index (Unfrozen) Methodology

3.1 INITIAL INDEX INCLUSION REQUIREMENTS

INCLUSION REQUIREMENTS FOR MSCI PAN-EUROPEAN QUARTERLY PROPERTY FUND INDEX (UNFROZEN)

In addition to the standard MSCI requirements for property fund indexes (refer to MSCI Property Fund Indexes Methodology for further details), there are additional eligibility requirements for initial inclusion in the PEPFI. The index is comprised of funds that adhere to specific criteria relating to their investment mandate and their structure. Fund must meet the following criteria for inclusion in the PEPFI:

1. Fund must be a professionally managed pooled / commingled property portfolio providing access to direct property returns. Funds of property funds, debt funds and property derivative funds are not eligible for inclusion within the Index.

2. Open-ended and semi open-ended structures are eligible for inclusion in the index. In case a fund closes to new contributions or redemptions for a sustained period of time, 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 up” for the first 3 to 5 years of the life, 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

3. Only funds where the General Partner / Manager or equivalent for the fund has a discretionary mandate to manage its investments will be included in the Index.

4. Funds should have been incorporated using a recognised legal structure.

5. Based on latest period data at the point of inclusion, a fund must have at least 80% of the Gross Asset Value (excl. cash) invested in direct property in Europe. At the point of inclusion, the fund will be included with history.

6. Based on latest period data at the point of inclusion, a fund must have investments in at least 3 regions of Europe and no single region should represent more than 70% of fund’s direct real estate capital value. At the point of inclusion, the fund will be included with history.

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1 For definition of regions, refer ‘Section 6 - Appendix I: Definition Of Europe & Identified Regions’ of this document
7. Based on latest period data at the point of inclusion, a fund joining the Index must have Net Asset Value (NAV) greater than EUR 200 Million. At the point of inclusion, the fund will be included with history.

8. Based on latest period data at the point of inclusion, a fund must carry no more than 60% leverage, where leverage is defined as the ratio of total debt to the fund’s Gross Asset Value (GAV)\(^2\). At the point of inclusion, the fund will be included with history.

9. Funds must provide:
   a) all their underlying direct property performance is measured by MSCI at least quarterly.
   b) the data required for fund reconciliation analysis is provided to MSCI at least quarterly.
   c) tenancy data for direct properties (excl. properties in Residential sector) in the portfolio is provided to MSCI at least quarterly.

The inclusion rules for this index are updated following a methodology consultation with market participants that was held in the year 2021. As announced in the consultation conclusion, the updated rules are implemented starting the index results for Q1 2022.

3.2 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. However, for the PEPFI additional requirements and clarification have been provided.

New Funds:

1. are required to provide sufficient and complete data of their investment performance for history subject to a minimum of either three years, or the period from the date of launch of the fund.
2. must always provide descriptive data — GAV, NAV and asset allocation, for disclosure in the index products for the history subject to a minimum of either three years, or the period from the date of launch of the fund. Full performance history shall be shown for the fund until it retires from the Index or terminates.

\(^2\) Until Q2 2020 GAV was derived as the summation of the Debt and the Net Asset Value, except where the GAV was being provided. From Q3 2020 onwards, GAV is based on client provided data.
change of mandate, structure, branding or manager does not warrant the removal of historical performance from the index and market information products.

Removed/Withdrawn Funds:

a. Withdrawal from the Index should be through written communication to MSCI.

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 made through an Index Announcement made available at www.msci.com, in accordance with the thresholds as defined in the MSCI Real Estate – Index Policies.

3.3 INDEX SERIES

The standard Index publication comprises of two series:

a. MSCI Pan-European Quarterly Property Fund Index (Unfrozen): This is the headline index series of PEPFI constructed as per rules mentioned in appendix II. It represents a combination of the Specialist Pan-European property funds and the funds in the MSCI Pan-European Balanced Funds Quarterly Property Fund Index (Unfrozen). Specialist Pan-European property funds are those where more than 70% of the portfolio capital value is invested either in a single sector (i.e., retail, office, industrial, residential, hotel or other) or in a single region. This index has a base date of 31 December 2003.

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3 For definition of regions, refer 'Section 6 - Appendix I: Definition Of Europe & Identified Regions’ of this document.
b. **MSCI Pan-European Balanced Funds Quarterly Property Fund Index (Unfrozen):**

The ‘Balanced Funds’ series is a sub-index of PEPFI and it comprises of funds whose portfolios are diversified by Property Type and Geography as follows:

a. Property type: No single sector (i.e., retail, office, industrial, residential, hotel or other) should represent more than 70% of fund’s direct real estate capital value

b. Geography: No single region should represent more than 70% of fund’s direct real estate capital value. (refer section 6 of this document for definition of regions)

This index has a base date of 31 December 2005.

### 3.4 QUARTERLY ELIGIBILITY ASSESSMENT OF INDEX CONSTITUENTS

The fund characteristics may change over time either strategically or temporarily due to market movements or transaction activity. As announced in August 2021, following a public consultation, the quarterly review of eligibility will be implemented starting Q1 2022 index results. The quarterly review of eligibility is designed to ensure that the index composition is aligned with index inclusion criteria on an on-going basis. An observation period for funds temporarily not-aligned to the index inclusion criteria is aimed at stability of index composition. Both quarterly review of eligibility and observation period ensures on-going review of index composition and reporting using a rules based approach.

**Quarterly Review:** Following the index inclusion, MSCI reviews the constituent funds of the PEPFI every quarter for their eligibility into the index based on the rules mentioned in Appendix II. Any non-adherence to the criteria based on quarterly eligibility assessment of the funds will result in a rules based exclusion of fund from the index, subject to the observation period, where applicable.

The rules within the scope of Quarterly Review and Observation Period are listed in appendix II & III.

**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 specific inclusion rule for four consecutive quarters will result in rules based exclusion of the fund in the fourth quarter. Observation period is not applicable for the sub-index.

See Exhibit 1 below for illustration of methodology of observation period applicable to the index and sub-index, respectively.
## EXHIBIT 1: ILLUSTRATION OF METHODOLOGY – OBSERVATION PERIOD FOR EXISTING INDEX CONSTITUENTS

<table>
<thead>
<tr>
<th>Inclusion rule compliance (Yes / No)</th>
<th>Period 1</th>
<th>Period 2</th>
<th>Period 3</th>
<th>Period 4</th>
<th>Period 5</th>
<th>Period 6</th>
<th>Period 7</th>
<th>Period 8</th>
<th>Period 9</th>
<th>Period 10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Observation Period Prior to Exclusion (4 quarters)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Index Inclusion Status (Yes / No)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Note: Period indicates quarter; Observation period is not applicable for sub-index
4 Data Provision Requirements

4.1 NET ASSET VALUE REPORTING REQUIREMENTS

In addition to the standard requirements as part of the MSCI Global Data Standards for Real Estate Investments, there are additional requirements for the Net Asset Value (NAV). These requirements are as follows:

a. Funds are required to report their NAV at least quarterly and should have done so for the whole of the period of their performance history within the Index.

b. Starting Q1 2022 reporting, the constituent funds are required to report and calculate NAV in accordance with the INREV guidelines i.e., INREV NAV\(^4\). Constituents of the Index must agree to calculate their NAV data on a consistent basis from quarter to quarter and to disclose the basis of NAV computation to MSCI. 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 using RICS red-book or similar principles and completed at least quarterly by a third party appraiser.

d. All NAVs used in performance calculations are net of fund management fees.

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\(^4\) Refer INREV guidelines for details on computation of INREV NAV. INREV NAV should not include fund specific adjustments that are not as per the INREV guidelines.
5 Index Calculation Methodology

5.1 METHODOLOGY TRANSITION

MSCI consulted with the real estate investment community on the incorporation of a time-weighted return methodology including adjustment for daily-weighted external cash flows for use in the MSCI Property Fund Indexes methodology for return calculation and index weighting methodology for MSCI Pan-European Quarterly Property Fund Index.

As announced in April 2020 following the public consultation, the new methodology is implemented starting Q3 2021 results reporting of MSCI Pan-European Quarterly Property Fund Index. There is no impact to the historical results of the index due to the methodology change, because the change has been implemented on a moving forward basis only.

Starting Q3 2021 results reporting, the MSCI Pan-European Quarterly Property Fund Index Methodology is constructed by applying the Time-Weighted Return computation methodology as detailed in the MSCI Property Fund Indexes Methodology (Section 4.3). Until Q2 2021, the MSCI Pan-European Quarterly Property Fund Index was constructed by applying the unitized computation methodology as detailed in the MSCI Property Fund Indexes Methodology (Section 4.2). Longer term returns are calculated based on the combination (splicing) of the two methodologies.

5.2 WEIGHTING

The funds included in the PEPFI until Q2 2021 are weighted according to their NAV at the beginning of the month (measurement period). Starting Q3 2021, the funds in the index will be weighted based on the capital employed, which is derived as previous period Net Asset Value (NAV) adjusted by external cashflows.

5.3 RULES FOR PERFORMANCE REPORTING

As part of the requirement for inclusion in the PEPFI, data providers agree to disclose their individual fund NAV and allocations (by geography and sector). The individual fund allocations, including the NAV, are routinely included in market information products. However, MSCI applies both the standard confidentiality rule and the fund dominance rule to determine if index results will be made available. Please refer to MSCI Property Fund Index Methodology for details.

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5 Derived from Direct Property data provided by clients.
5.4 UNFROZEN HISTORY REPORTING

The PEPFI 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 inclusion of a new fund with historical data impacts the historical Index returns.
6 Appendix I: Definition Of Europe & Identified Regions

Europe is defined in terms of geography as all EU and EU candidate countries as well as EFTA (European Free Trade Association) countries as defined by the European Union and the UK.

Defined regions of Europe:

- **Alpine**
  - Austria, Switzerland

- **Benelux**
  - Belgium, Luxembourg, Netherlands

- **Central & Eastern Europe**
  - Albania, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, North Macedonia, Lithuania, Montenegro, Poland, Romania, Serbia, Slovakia, Slovenia, Turkey

- **France**

- **Germany**

- **Iberia**
  - Spain, Portugal

- **Nordic**
  - Denmark, Finland, Iceland, Norway, Sweden

- **Southern Europe**
  - Cyprus, Greece, Italy, Malta

- **UK & Ireland**
# Appendix II: Index Inclusion rules for PEPFI

<table>
<thead>
<tr>
<th>#</th>
<th>Index Inclusion Rules and Data Requirements</th>
<th>Eligibility reviewed at the point of inclusion</th>
<th>Quarterly review of eligibility</th>
<th>Observation period</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fund should be a professionally managed and pooled/commingled property fund</td>
<td>Yes</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>2</td>
<td>Fund must be either Open-ended or Semi open-ended</td>
<td>Yes</td>
<td>Yes</td>
<td>--</td>
</tr>
<tr>
<td>3</td>
<td>General Partner/Manager or equivalent for the fund has a discretionary mandate to manage its investments</td>
<td>Yes</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>4</td>
<td>Fund should have been incorporated using a recognized legal structure</td>
<td>Yes</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>5</td>
<td>Based on latest period data at the point of inclusion, a fund must have at least 80% of the Gross Asset Value (excl. Cash) invested in direct property in Europe. At the point of inclusion, the fund will be included with history.</td>
<td>Yes</td>
<td>Yes</td>
<td>4 quarters</td>
</tr>
<tr>
<td>6</td>
<td>Based on latest period data at the point of inclusion, a fund must have investment in at least 3 regions of Europe and no single region should represent more than 70% of fund’s direct real estate capital value. At the point of inclusion, the fund will be included with history.</td>
<td>Yes</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>7</td>
<td>Based on latest period data at the point of inclusion, a fund must have NAV equal to or greater than Euro 200m. At the point of inclusion, the fund will be included with history.</td>
<td>Yes</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>8</td>
<td>Based on latest period data at the point of inclusion, a fund must carry no more than 60% leverage, where leverage is defined as the ratio of total debt to the fund’s GAV. At the point of inclusion, the fund will be included with history.</td>
<td>Yes</td>
<td>Yes</td>
<td>4 quarters</td>
</tr>
</tbody>
</table>

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6 For definition of regions, refer ‘Section 6 - Appendix I: Definition Of Europe & Identified Regions’ of this document
<table>
<thead>
<tr>
<th>#</th>
<th>Index Inclusion Rules and Data Requirements</th>
<th>Eligibility reviewed at the point of inclusion</th>
<th>Quarterly review of eligibility</th>
<th>Observation period</th>
</tr>
</thead>
</table>
| 9  | Funds must provide:  
  a) all their underlying direct property performance is measured by MSCI at least quarterly.  
  b) the data required for fund reconciliation analysis is provided to MSCI at least quarterly.  
  c) tenancy data for direct properties (excl. properties in Residential sector) in the portfolio is provided to MSCI at least quarterly.                                                                 | Yes                                           | Yes                             | --                |
| 10 | Funds must report their INREV NAV\(^7\), at least quarterly. Constituents of the Index must calculate and report their NAV on a consistent basis from quarter to quarter and should disclose the basis of NAV computation to MSCI.                                         | Yes                                           | Yes                             | --                |
| 11 | 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)                                       | Yes                                           | Yes                             | --                |
| 12 | The revaluation of the property portfolio should be undertaken using RICS red-book or similar principles and completed at least quarterly by a third-party appraiser.                                                                            | Yes                                           | Yes                             | --                |
| 13 | New funds must provide sufficient and complete data to compile the history of their investment performance, subject to a minimum of either three years, or the period from the date of launch of the fund                                                                 | Yes                                           | --                              | --                |

\(^7\) Refer INREV guidelines for details on computation of INREV NAV. INREV NAV should not include fund specific adjustments that are not as per the INREV guidelines.
## Appendix III: Sub-index Inclusion rules for PEPFI

<table>
<thead>
<tr>
<th>#</th>
<th>Sub-Index Inclusion Rules</th>
<th>Eligibility reviewed at the point of inclusion</th>
<th>Quarterly review of eligibility</th>
<th>Observation period</th>
</tr>
</thead>
</table>
| 1 | MSCI Pan-European Balanced Funds Quarterly Property Fund Index (Unfrozen)  
It comprises of funds whose portfolios are diversified by:  
a) Property type: No single sector (i.e., retail, office, industrial, residential, hotel or other) should represent more than 70% of fund’s direct real estate capital value.  
b) Geography: No single region\(^8\) should represent more than 70% of fund’s direct real estate capital value. | Yes | Yes | -- |

\(^8\) For definition of regions, refer ‘Section 6 - Appendix I: Definition Of Europe & Identified Regions’ of this document
## 9 Versioning Table

<table>
<thead>
<tr>
<th>Publication Date</th>
<th>Key Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>October, 2020</td>
<td>Release of the first version of MSCI Pan-European Quarterly Property Fund Index Methodology Document</td>
</tr>
<tr>
<td>November, 2021</td>
<td>Update to section 1 and section 5 of the document with respect to the following – Starting Q3 2021, on going-forward basis, the results calculation and reporting methodology has changed as listed below • Methodology transition to Time-weighted Return including adjustment for daily-weighted external cash flows (TWR) methodology • Change the weighting methodology - to be based on capital employed instead of month start NAV</td>
</tr>
<tr>
<td>March, 2022</td>
<td>Methodology document updated with changes as per the conclusion of consultation(^9) on PFI inclusion rules ahead of its implementation starting Q1 2022 index results. Summary of key changes to the document: • Changes to Index inclusion rules o Enhanced the geographical diversification rule for index inclusion o NAV to be provided as per INREV guidelines, to calculate index o Fund reconciliation &amp; Tenancy data becomes mandatory • Changes to Sub-index inclusion rules o Added geographical diversification as a rule in addition to sector diversification for PEPFI Balanced Funds Quarterly PFI • Introduction of quarterly review and observation period for certain criteria to assess eligibility of index constituents • Other minor wording edits</td>
</tr>
</tbody>
</table>

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\(^9\) For announcement, refer to “Conclusion of MSCI Consultation on changes to the Inclusion Criteria of MSCI Pan-European Quarterly Property Fund Index (Unfrozen)”
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