

MSCI/AREF UK Quarterly Property Fund Index Methodology

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1 Introduction

The objective of the MSCI/AREF UK Quarterly Property Fund Index ("UK PFI") is to represent the performance of U.K. unlisted pooled property funds. The Index is value-weighted, denominated in Great Britain Pound Sterling (GBP) and based on the Net Asset Value (NAV) of its constituent property funds each quarter. To determine the representativeness of the Index on an annual basis, the overall size of the underlying U.K. property fund market is estimated and this estimate is reviewed by the MSCI Real Estate Index Committee (REIC).



2 Methodology Documentation Set

The construction and maintenance rules for the UK 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/AREF UK QUARTERLY PROPERTY FUND INDEX METHODOLOGY

This document includes the rules and methods specific to the UK PFI.



3 MSCI/AREF UK Quarterly Property Fund Index Specific Methodology

3.1 INITIAL INDEX INCLUSION REQUIREMENTS

INCLUSION REQUIREMENTS FOR MSCI/AREF UK PROPERTY FUND INDEX

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 UK PFI. Funds must:

- 1. Not be listed on a stock exchange
- 2. Have a minimum of 95% of their gross assets (excl. cash) invested in the U.K.
- 3. Have the investment performance of their direct property portfolio measured by MSCI at least quarterly. The frequency of asset and fund data provision to MSCI must align with the valuation and reporting regime of the fund and must respect MSCI's data collection deadlines.
- 4. Be a full member of the Association of Real Estate Funds (AREF).
- 5. Be open to new investors i.e. open-ended fund, semi open-ended fund or closed-ended fund that are open for investment. Funds such as joint ventures (the investors in which are expected to remain unchanged during the life of the fund) are, therefore, not eligible for inclusion.
 - a. 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:
 - i. investors are not permitted to redeem their investment, or
 - ii. redemptions by investors are restricted to a maximum fixed percentage of their investment in any one year
- 6. Have a NAV equal to or greater than GBP 100million at the point of the fund's entry into the index.
- Be listed within the MSCI/AREF UK Quarterly Property Fund Index market information products with individual fund performance, but not contribute to the Index, for their first period of data provision.
- 8. Value and report the Net Asset Value (NAV) at least quarterly (preferably monthly).



Alongside the MSCI/AREF UK Quarterly Property Fund Index, MSCI offers additional market information products, which includes individual fund performance series. The criteria for inclusion in the additional market information products are less stringent and permit the inclusion of funds:

- a. Which are in their first quarter of data provision;
- For which MSCI has not yet established that both data provision and data accuracy are sufficient; and/or
- c. Which have not yet reached the new entry minimum size threshold.

The reporting of fund results in UK PFI products is shown to one decimal place for publication purposes; however, the underlying data are calculated to more decimal places.

The inclusion rules for this index are updated following a methodology consultation with market participants held in 2021. As announced in the <u>consultation conclusion</u>, 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 UK PFI additional requirements and clarification have been provided.

New Funds:

- a. are required to provide data of their investment performance as per requirements¹, .subject to a minimum of either three years, or the period from the date of launch of the fund.
- b. must always provide performance data 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. A 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 and AREF and, where possible, one quarter prior to the next Index release. MSCI will communicate the fund's withdrawal to industry participants, through the market information products for the MSCI / AREF UK Quarterly Property Fund Index.

Re-ad	Imitted	Funds:

¹ refer section 3 of the MSCI Property Fund Indexes Methodology



- a. Funds wishing to be re-admitted to the Index 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 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.

3.3 SUB-INDEXES

The hierarchy of the UK PFI Sub-Indexes is outlined below and is based on the data provider self-reported classification:

MSCI/AREF UK Quarterly Property Fund Index (also referred to as the MSCI/AREF UK All Property Fund Index)

- a. MSCI/AREF UK Long Income Open-ended Quarterly Property Fund Index
- b. MSCI/AREF UK All Balanced Open-ended Quarterly Property Fund Index
 - MSCI/AREF UK Managed Open-ended Quarterly Property Fund Index
 - MSCI/AREF UK Other Balanced Open-ended Quarterly Property Fund Index
- c. MSCI/AREF UK Other Quarterly Property Fund Index

Each Index has a base date of 31 December 1989, with the exception of the MSCI/AREF UK Other Quarterly Property Fund Index and the MSCI/AREF UK Long Income Open-ended Quarterly Property Fund Index, which have base dates of 31 December 2001 and 31 December 2011, respectively.

Considering the sub-indexes definition is hierarchical, a fund would be included in one of the sub-indexes if it is included in the UK PFI.

The constituents of each index series are as follows:

- a. MSCI/AREF UK Long Income Open-ended Quarterly Property Fund Index Funds that are either open-ended or semi open-ended and maintain weighted average unexpired lease lengths of over 15 years qualify for inclusion in this sub-index. Low leverage ratio i.e. not more than 20% (where leverage ratio is defined as a ratio of Total Debt to Gross Asset Value of the fund) is a further condition for inclusion within this category.
- b. MSCI/AREF UK All Balanced Open-ended Quarterly Property Fund Index Funds that are not long income funds and are either open-ended or semi open-ended will be classified as Balanced as per a diversified allocation based on the sector and geography of assets in the fund. Funds will be classified as Balanced if:
 - their holdings of either office, retail, industrial, residential, hotel or "Other" property account for no more than 70% of the portfolio by Market capital value, and



• they are diversified geographically so that no more than 70% of the portfolio by Market capital value, is located in any one of the following regions: Central London (comprising the City, Mid-town and the West End), Inner London, Outer London, South East, South West, Eastern, East Midlands, West Midlands, Yorkshire & Humberside, North East, North West, Scotland, Wales, Northern Ireland, Offshore UK (Channel Islands & Isle of Man). For historical periods before Q1 2022, closed-ended funds are included in this sub-index.

Balanced Open-ended Funds are split into:

- i. MSCI/AREF UK Managed Open-ended Quarterly Property Fund Index
 - This sub-index includes open-ended or semi open-ended managed property pension funds and excludes long income property funds.
 - For historical periods before Q1 2022, closed-ended funds are included in this sub-index.
- ii. MSCI/AREF UK Other Balanced Open-ended Quarterly Property Fund Index This sub-index includes all other types of balanced funds including open-ended and semi open-ended property unit trusts, common investment funds, open-ended property companies, partnerships and property authorized investment funds or other suitable structures, excluding funds classified as long income open-ended property funds and Managed open-ended property funds. For historical periods before Q1 2022, closed-ended funds are included in this sub-index.

c. MSCI/AREF UK Other Property Fund Index

This sub-index includes funds that otherwise qualify for inclusion in the Index but do not meet the conditions to be included either as a long income open-ended property fund or as a balanced open-ended property fund. For historical periods before Q1 2022, only specialist property funds are included in this sub-index.

3.4 OUARTERLY ELIGIBILITY ASSESSMENT OF INDEX CONSTITUENTS

The fund characteristics may change over time either strategically or temporarily due to market movements or transaction activity. As <u>announced</u> in June 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 UK PFI every quarter for their eligibility into the index based on the rules mentioned in Appendix I. Any non-adherence



to the criteria based on quarterly eligibility assessment of the funds will result in a rules based index exclusion, subject to the observation period, where applicable.

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

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 .

See Exhibit 1 & 2 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

	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Period 8	Period 9	Period 10
	Yes	Yes	No	No	No	No	No	No	Yes	Yes
Inclusion rule compliance (Yes / No)			Obs	Excl	Period Priousion arters)	or to			No observation period before Re- admission of fund	
Index Inclusion Status (Yes / No)	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes
Included in Market Information Products (Individual funds performance) (Yes / No)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

EXHIBIT 2: ILLUSTRATION OF METHODOLOGY - OBSERVATION PERIOD FOR EXISTING SUB-INDEX CONSTITUENTS

	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Period 8	Period 9	Period 10	Period 11	Period 12
Inclusion Rule	Yes	Yes	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Compliance (Yes / No)			Observation Period Prior to Exclusion (4 quarters) Observation Period Prior to Re-admission (4 quarters)				or to					
Sub-Index Inclusion Status (Yes / No)	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	Yes	Yes
Included in Market Information Products (Yes / No)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes



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. These requirements are:

- a. Each fund's NAV should be based on the valuation of at least 95% of the value of its property portfolio. The valuation must also cover properties held through joint or indirect investments. Any other indirect property investments, such as shares in listed property companies and derivatives, should also be re-valued.
- b. Constituents of the Index should calculate their NAV data on a consistent basis from quarter to quarter. NAV should be calculated in accordance with the AREF Code of Practice, unless the fund's articles (or equivalent) specifically require an alternative methodology.
- c. All NAVs used in performance calculations are net of fund management fees.

4.2 INDIRECT HOLDINGS (UNITS IN OTHER FUNDS)

Constituents of the Index must disclose quarterly to MSCI the extent of their holdings in other funds (indirect investments/crossholdings) that are also constituents of the Index. Funds must inform MSCI where the valuation dates of any joint or indirect property investments differ from those of directly-held properties.

4.3 SECTOR WEIGHTING

Clients are required to provide asset level sector allocations based upon the Gross Asset Values (GAVs) of the underlying portfolio. To ensure consistency in the sector weightings reported in the products produced by MSCI, holding of derivative instruments should be recorded and allocated to their appropriate sector or segment, whenever possible. Those that cannot be assigned to a specific sector/segment, because they represent a variety of property segments should be assigned to the segment "Other Property Related Securities."



5 Index Calculation Methodology

The MSCI/AREF UK Quarterly Property Fund Index is constructed by applying the unitized computation methodology as detailed in the MSCI Property Fund Indexes Methodology.

5.1 DATA PREPARATION FOR INDEX CALCULATION

CROSS HOLDING ADJUSTMENT

When one fund in the UK PFI has an interest in another fund included in the Index, the second fund's performance will be over weighted unless an adjustment is made. The performance of the fund that is cross-held will contribute directly at a weight of 100% of its total NAV as well as indirectly, with its additional weight depending upon the ownership percentage held within the cross-holding interest. As a result, the performance of the cross-held fund would, if unadjusted, therefore contribute at over 100% of its total NAV in the performance of the overall Index.

MSCI adjusts for cross holdings in the UK PFI by deducting the amount of the investment from the NAV of the fund in which the investment is made. For the UK PFI, the data is collected for the investments in other funds that are parts of the Index, and the above described adjustment is made. This same adjustment is made for all the sub-indexes within the MSCI/AREF UK Quarterly Property Fund Index, whether or not that cross holding is present within any/all of these sub-indexes.

5.2 RULES FOR PERFORMANCE REPORTING

As part of the requirement for inclusion in the UK PFI, data providers agree to disclose their individual fund results and NAV. This means that individual fund results including the NAV are routinely included in market information products. However, MSCI still 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.

5.3 FROZEN HISTORY REPORTING

The UK PFI and Sub-Index returns are frozen, which means they have fixed histories and returns will not be updated when new data becomes available or corrections are made, unless the historic corrections need to be restated based on the MSCI Correction Policy. Therefore inclusion of a new fund with historical data does not impact the historical Index returns. The Index was originally frozen in June 2005. From that date, funds have only been allowed to contribute from their first data provision that meets MSCI eligibility requirements. The exceptions to this rule have been as follows:

a. In December 2012, due to exceptional circumstances relating to the provision of data, the Index was restated to Q3 2012. At this point, historic fund contributions were refreshed to allow for the correction of data errors. The time periods for which each fund contributes remained unchanged.



b. In January 2019, results were restated to reflect minor data corrections, including certain inputs to cross holdings. This restatement was due to the need to back-calculate indexes on a new technology platform.

Aggregate medians and quartiles for multiperiod results, reported in addition to fund returns, were not based on frozen results until the Q3 2018 release. Starting January 2019 (Q4 2018 release), aggregate medians and quartiles are calcuated based on the frozen results.



6 Governance of the Index

MSCI uses four main committees to provide overall oversight and governance for benchmark administration for MSCI Private Real Estate indexes:

- Oversight as required by EU benchmark regulation and any similar post-Brexit UK regulation (collectively, the "BMR") is provided by the BMR Oversight Committee ("OC").
- Governance is provided by the Private Real Estate Index Risk and Regulatory Committee ("RRC"), the Index Policy Committee ("IPC") and the Real Estate Index Committee ("REIC").

All of the committees are staffed solely by MSCI group company employees with extensive relevant experience.

All committee members are expected to act with integrity as is required of all our employees according to our Code of Ethics and Business Conduct posted on www.msci.com, and are subject to MSCI's compliance policies, including with respect to confidential information and relevant Chinese Walls.

All decisions taken by the committees are the responsibility of their members.

MSCI believes that its editorial and operational independence is critical to its objectivity, efficiency and avoiding conflicts of interest.

6.1 AREF RESEARCH AND INFORMATION COMMITTEE

The AREF Research and Information Committee is an advisory group of users and data providers for the UK PFI. The functions of this group include:

- a. Providing feedback to MSCI on the development of content for the Index.
- b. Providing feedback to MSCI on the inclusion and classification rules for funds within the Index, based on investment mandates and actual data.
- c. Providing feedback to MSCI on changes to the technical specification or the rules of the Index.

MSCI retains sole discretion over the index methodology, its application and any changes.



7 Appendix I: Index Inclusion Rules for UK PFI

#	Index Inclusion Rules and Data Requirements	Eligibility reviewed at the point of inclusion	Quarterly review of eligibility	Observation period
1	Fund should not be listed on a stock exchange	Yes	Yes	
2	Funds should have minimum 95% of their gross assets (excl. cash) invested in the UK	Yes	Yes	4 quarters
3	Fund should have its direct property portfolio investment performance measured by MSCI, at least quarterly ²	Yes	Yes	-
4	Fund must be a full member of AREF	Yes	Yes	
5	Fund must be open ³ to new investors i.e., funds must be registered as: Open-ended and Semi open-ended funds Closed-ended funds that are open to investment	Yes		-
6	Minimum fund size (NAV) of GBP 100 million	Yes	Yes	4 quarters
7	Fund must be listed within the MSCI/AREF UK Quarterly Property Fund Index market information products with individual fund performance, but not contribute to the Index, for their first period of data provision	Yes		
8	Fund must value and report their NAV, at least quarterly	Yes	Yes	
9	Fund should provide data of their investment performance as per requirements ⁴ , subject to minimum of either three years or from the date of launch of the fund	Yes		
10	Fund must value at least 95% of its property portfolio each quarter, including indirect investments	Yes	Yes	

² Since the MSCI UK Quarterly Property Index is published after the UK PFI on a quarterly basis, the fund is included in UK PFI – if the direct property portfolio is measured as part of previous quarter's MSCI UK Quarterly Property Index. The quarterly review of this rule is introduced during the Q2 2022 UK PFI release, using the Q1 2022 property level data provision for fund's eligibility assessment.

³ Quarterly review of this inclusion rule is applicable only at sub-index level

⁴ refer section 3 of the MSCI Property Fund Indexes Methodology



8 Appendix II: Sub-Index Inclusion Rules for UK PFI

#	Sub-index Inclusion Rules	Eligibility reviewed at the point of inclusion	Quarterly review of eligibility	Observation period
1	 MSCI/AREF UK Long Income Open-ended Quarterly Property Fund Index Funds that are open-ended or semi open-ended Funds with weighted average unexpired lease term of greater than 15 years⁵ Funds with a low leverage ratio i.e., not more than 20% (where leverage is defined as the ratio of total debt to Gross Asset Value of the fund) 	Yes	Yes	4 quarters
2	 MSCI/AREF UK All Balanced Open-ended Quarterly Property Fund Index Funds that are open-ended or semi open-ended Balanced Property Funds that are not classified as Long Income funds Funds with holdings of either Retail, Office, Industrial, Residential, Hotel or Other property account for no more than 70%⁴ of the portfolio market capital value Funds diversified geographically so that no more than 70%⁴ of the investments from portfolio by market capital value, are in one of the following regions: Central London (City, Mid-town and the West End), Inner London, Outer London, South East, South West, Eastern, East Midlands, West Midlands, Yorkshire & Humberside, North East, North West, Scotland, Wales, Northern Ireland, Offshore UK) 	Yes	Yes	4 quarters

⁵ Since the MSCI UK Quarterly Property Index is published after the UK PFI on a quarterly basis, a fund's eligibility to these criteria within sub-index rules 1 and 2 is assessed using previous quarter's data. The quarterly review of this rule is introduced during the Q2 2022 UK PFI release, using the Q1 2022 property level data provision for fund's eligibility assessment.



#	Sub-index Inclusion Rules	Eligibility reviewed at the point of inclusion	Quarterly review of eligibility	Observation period
2.a	MSCI/AREF UK Managed Open-ended Quarterly Property Fund Index • Funds that are Open-ended or Semi Open-ended • Managed Property Pension Funds that are not classified as Long Income funds	Yes	Yes	4 quarters
2.b	MSCI/AREF UK Other Balanced Open-ended Quarterly Property Fund Index • Funds that are Open-ended or Semi Open-ended • Other Balanced funds that are not classified as Long Income funds • Balanced funds that are not classified as Managed Property Pension Fund	Yes	Yes	4 quarters
3	MSCI/AREF UK Other Quarterly Property Fund Index Funds that otherwise qualify for inclusion in the Index but do not meet the conditions to be included either as a Long Income open-ended fund or a Balanced open-ended fund	Yes	Yes	4 quarters

Note: MSCI/AREF UK Low Geared Balanced Property Fund Index and MSCI/AREF UK Specialist Property Fund Index are discontinued from Q1 2022 results reporting.



Versioning Table

Version	Publication Date	Key Changes
V1.0	February 2013	Release of the AREF / IPD UK Quarterly Property Fund Index Rules.
V2.0	June 2019	Changed the name of the methodology from AREF / IPD UK Quarterly Property Fund Index Rules into MSCI/AREF UK Quarterly Property Fund Index Methodology. Removed certain sections that are also part of the MSCI Property Fund Indexes Methodology. Removed sections that refer to the oversight of the UK Property Fund Index Consultative Group (PFICG), whose functions have been assumed by an advisory group, the AREF Research and Information Committee. Added sections on the restatement of Index results in January 2019 and the methodology change for percentile results from the Q4 2018 release.
V2.1	February 2020	Updated the wording of several sections in the document.
V2.2	November 2020	Updated the wording of several sections in the document
V2.3	December 2021	Updated the wording of several sections in the document
V2.4	February 2022	Methodology document updated with changes as per the conclusion of consultation ⁶ on PFI inclusion rules ahead of its implementation starting Q1 2022 index results. Summary of changes made to the document: 1. Changes to the certain Index inclusion rules 2. Changes to Sub-index inclusion rules 3. Introduction of quarterly review and observation period for certain criteria to assess eligibility of index constituents 4. In order to reflect the changes to sub-index rules, the sub-indexes are renamed as outlined in the index announcement
V2.5	January 2023	Updated wording in section 3.2 & 6.1
V2.6	February 2024	Updated the wordings in section 3.1: Definition of open-ended and semi open-ended funds moved from footnote to inclusion rules section

⁶ For announcement, refer to "Conclusion of MSCI Consultation on changes to Inclusion Criteria of MSCI AREF UK Quarterly Property Fund Index"



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To learn more, please visit www.msci.com.

The process for submitting a formal index complaint can be found on the index regulation page of MSCI's website at: https://www.msci.com/index-regulation.



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