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MSCI GLOBAL FUND RECONCILIATION METHODOLOGY

December 2023

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Contents

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1 Introduction

MSCI Property Fund Indexes and the Property Indexes measure the performance of property funds and their underlying direct investment properties. Measurement of portfolio performance incorporating comprehensive coverage of all financial interests and liabilities, is a logical and necessary extension of MSCI's standard analysis of the underlying direct property. The requirement of a fund reconciliation analysis flows directly from the objective to bring full transparency to an increasingly complex market. This is now one in which the intermediation of financial strategies, including the use of debt, cash, and indirect investment impact the critical risk/return bottom line.

The objective of 'MSCI Global Fund Reconciliation' ("GFR") is to explain the rationale behind fund performance reconciliation procedure in a simplistic and consistent manner to ensure transparency to all users of benchmarking and to develop a detailed understanding on the asset-to-fund reconciliation methodology. This means adding full and consistent financial measurement to a singly defined and comprehensive direct real estate database for all relevant fund types and mandates - open and closed-ended, specialist and diversified, core and opportunistic, listed and privately owned.

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2 Methodology Documentation Set

MSCI Global data standards for real estate investment

The MSCI Global Data Standards For Real Estate Investment describes the data model and provides comprehensive definitions of the data inputs and calculations that support the measurement and reporting of performance and risk for private real estate investments.

MSCI PROPERTY INDEXES METHODOLOGY

The MSCI Property 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.

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MSCI GLOBAL QUARTERLY PROPERTY FUND INDEX (UNFROZEN) METHODOLOGY

The MSCI Global Quarterly Property Fund Index (Unfrozen) Methodology describes the general methodology that is being used for the calculation of the MSCI Global Property Fund Index and includes the specific methodology for the index composition, data requirements and index calculation methodology.

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3 Fund Reconciliation Approach

SEQUENCED APPROACH

Asset-to-fund level performance reconciliation depends as much for its effectiveness on bottom-to-top computation consistency as it does upon methodological approaches, data definitions and comprehensive data collection.

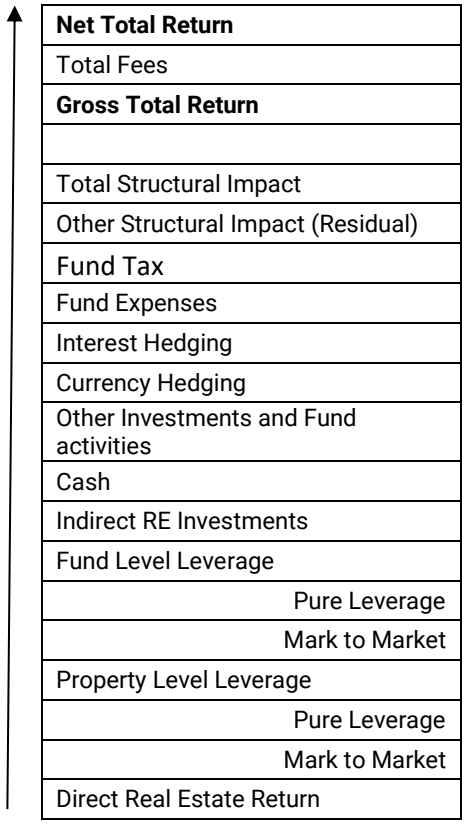
Layering each financial component to build upwards from the direct investment property level is the approach to reconciliation. This approach allows both the numerator and denominator of the return calculation to be “impacted” as the analysis steps up from the direct investment property level.

MSCI Global Fund Reconciliation uses a sequencing approach to overlay each financial components to attribute the impact of each component on the fund’s NAV based performance measured as part of the fund indexes.

As per sequencing method, the impact of each financial elements is shown by way of moving from the return on the real estate assets held in a fund (aggregating to return on direct RE) to the bottom-line return of fund itself (gross total return) after all the financial elements including, debt, cash, cost, taxes, have been accounted.

This approach allows both numerator and denominator of the return calculation to be “impacted”, as the analysis steps up from the asset level. This layered approach starts with the asset level data (i.e., direct RE asset) by calculating the gross return as the sum of the return (income + capital) of each direct RE property divided by the sum of the capital employed in all the properties. After this, financial elements are added to the reconciliation process as the incremental impact on the baseline of asset level returns (i.e., direct RE returns). While moving from asset level return to the fund level return, the reconciliation layers are arranged in a manner wherein the funds utilized primarily for purchasing direct RE investments are captured first like leverage, cash, other assets & liabilities and then expenses incurred by fund are captured like fund level costs, fund tax and fund management fees.

In each of the financial element layer, the total return and capital employed are added to the cumulative return and capital employed of previous layer to compute the impact as total return percentage of net total return. The total return percentage thus calculated after including current layer is compared to the total return percentage calculated for previous layer and the difference between the two is the impact of current layer on the net total return.



4 CALCULATION METHODOLOGY

For each of the reconciliation layer the total return can be calculated as follows

$$Layer\ n_{Total\ Return} = \frac{Layer\ n_{Numerator}}{Layer\ n_{Denominator}}$$

For the stacked return of multiple reconciliation layers, the total return (stacked) is calculated as:

$$Layer\ n_{Total\ Return\ (Stacked)} = \left(\frac{Layer\ 1_{Numerator} + Layer\ 2_{Numerator} + \cdots + Layer\ n_{Numerator}}{Layer\ 1_{Denominator} + Layer\ 2_{Denominator} + \cdots + Layer\ n_{Denominator}}\right)$$

To isolate the impact of a particular layer we should calculate the difference between the stacked return for the layer and the stacked return of the previous layer.

$$Layer\ n_{Reconciliation\ impact} = \left(Layer\ n_{Total\ Return\ (Stacked)} - Layer\ n-1_{Total\ Return\ (Stacked)}\right)$$

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Layer	Layer Description	Step 1: Total return of the layer	Step 2: Stacked Return	Step 3: Reconciliation Impact
	Net Total Return			
	Total Fees			
	Gross Total Return			
	Total Structural Impact			Gross TR – Direct RE Return
	Other Structural Impact (Residual)			Total Structural Impact - ∑Impact (Layer 2…10)
Layer 10	**Fund Tax**	Total Return $_{\text{Fund Tax}}$	$\frac{\sum Numerator\ Layer 1 \dots 10}{\sum Denominator\ Layer\ 1 \dots 10}$	Stacked TR $_{\text{Layer 10}}$ – Stacked TR $_{\text{Layer 9}}$
Layer 9	**Fund Expenses**	Total Return $_{\text{Fund Expenses}}$	$\frac{\sum Numerator\ Layer 1 \dots 9}{\sum Denominator\ Layer\ 1 \dots 9}$	Stacked TR $_{\text{Layer 9}}$ – Stacked TR $_{\text{Layer 8}}$
Layer 8	**Interest Rate Hedging**	Total Return $_{\text{Interest Rate Heding}}$	$\frac{\sum Numerator\ Layer 1 \dots 8}{\sum Denominator\ Layer\ 1 \dots 8}$	Stacked TR $_{\text{Layer 8}}$ – Stacked TR $_{\text{Layer 7}}$
Layer 7	**Currency Hedging**	Total Return $_{\text{Currency Hedging}}$	$\frac{\sum Numerator\ Layer 1 \dots .7}{\sum Denominator\ Layer\ 1 \dots 7}$	Stacked TR $_{\text{Layer 7}}$ – Stacked TR $_{\text{Layer 6}}$
Layer 6	**Other Investments and Fund activities**	Total Return $_{\text{Other Investment and Fund Activities}}$	$\frac{\sum Numerator\ Layer 1 \dots, 6}{\sum Denominator\ Layer\ 1 \dots 6}$	Stacked TR $_{\text{Layer 6}}$ – Stacked TR $_{\text{Layer 5}}$
Layer 5	**Cash**	Total Return $_{\text{Cash}}$	$\frac{\sum Numerator\ Layer 1,..5}{\sum Denominator\ Layer\ 1 \dots 5}$	Stacked TR $_{\text{Layer 5}}$ – Stacked TR $_{\text{Layer 4}}$
Layer 4	**Indirect RE**	Total Return $_{\text{Indirect RE}}$	$\frac{\sum Numerator\ Layer 1 \dots 4}{\sum Denominator\ Layer\ 1 \dots 4}$	Stacked TR $_{\text{Layer 4}}$ – Stacked TR $_{\text{Layer 3}}$
Layer 3	**Fund Leverage**	Total Return $_{\text{Fund Leverage}}$	$\frac{\sum Numerator\ Layer 1..3}{\sum Denominator\ Layer\ 1..3}$	Stacked TR $_{\text{Layer 3}}$ – Stacked TR $_{\text{Layer 2}}$
Layer 3 (a)	**Pure Leverage**			
Layer 3 (b)	**Mark to Market**			
Layer 2	**Property Leverage**	Total Return $_{\text{Property Leverage}}$	$\frac{\sum Numerator\ Layer 1,2}{\sum Denominator\ Layer\ 1\ ,2}$	Stacked TR $_{\text{Layer 2}}$ – Stacked TR $_{\text{Layer 1}}$
Layer 2 (a)	**Pure Leverage**			
Layer 2 (b)	**Mark to Market**			
Layer 1	**Direct RE**	Total Return $_{\text{Direct RE}}$	$\frac{\sum Numerator\ Layer 1}{\sum Denominator\ Layer\ 1}$	TR $_{\text{Direct RE}}$

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4.1 DESCRIPTION AND CALCULATION OF INDIVIDUAL LAYERS

Direct Real Estate Investment (Total Return): Total return of Direct investment properties within the fund. Includes capital appreciation and net operating income of the properties.

Leverage: The reconciliation impact of leverage represents the impact of borrowing funds to finance investments within the fund. For Property fund a predominant portion of borrowed capital is used to finance the direct investment into real estate properties. Therefore, leverage is sequenced after direct real estate return to show the impact of borrowing capital to finance investments within the portfolio and arrive at a levered return easily.

Leverage impact represents spread between the return on direct real estate investments return and the cost of debt. It includes interest cost and any mark-to-market effects on principal. If cost of debt is less than the return of direct real estate portfolio, then the leverage contribution will be positive and increase fund returns.

Leverage impact is split into two subcomponents to differentiate the MTM impact from cost of debt.

Mark to market Impact – MTM impact represents the impact of market movement on leverage by capturing the movement between market value of debt between two consecutive periods. All financial assets and liabilities are periodically marked to market to reflect its true value based on the market conditions. Resultant gain or loss from mark to market is recognized as gain or loss from fair value measurement in the income statement of financial statements.

$$Mark\ to\ Market\ Impact = \frac{(DEBTMTM_t)}{(DEBTMV_{t-1} + DEBTDRAWDOWN_t)}$$

Leverage Impact – Leverage impact measures the impact of the cost of debt on the fund.

$$Leverage\ Impact = \frac{(DEBTMV_t - DEBTMV_{t-1} - DEBTDRAWDOWN_t + DEBTREPAYMENT_t - DEBTMTM_t + DEBTINTERESTPAID_t + DEBTFINANCEFEES_t)}{(DEBTMV_{t-1} + DEBTDRAWDON_t)}$$

Fund reconciliation analysis has granularity to show the impact of property leverage and fund leverage separately. Also, each of these layers are split into MTM impact and leverage impact as explained above.

Property Leverage – Shows the reconciliation impact of amount borrowed by funds to finance individual direct investment properties.

$$Total\ Return_{Property\ Leverage} = \frac{(DEBTMV_t - DEBTMV_{t-1} - DEBTDRAWDOWN_t + DEBTREPAYMENT_t + DEBTINTERESTPAID_t + DEBTFINANCEFEES_t)}{(DEBTMV_{t-1} + DEBTDRAWDOWN_t)}$$

Fund Leverage. Shows the reconciliation impact of amount borrowed by the fund to finance property purchases, developments, or other costs requirements for the fund.

$$Total\ Return_{Fund\ Leverage} = \frac{(DEBTMV_t - DEBTMV_{t-1} - DEBTDRAWDOWN_t + DEBTREPAYMENT_t + DEBTINTERESTPAID_t + DEBTFINANCEFEES_t)}{(DEBTMV_{t-1} + DEBTDRAWDOWN_t)}$$

Indirect Equity Investments in Real Estate: While property funds predominantly invest in direct real estate investments, they may also have some capital allocated to indirect equity investments, either listed or unlisted. The return on these investments is based on the change in equity and income received from such real estate funds/vehicles.

The returns of these indirect equity investments are closely associated with the performance of underlying direct real estate investments held in those funds/vehicles. This layer is therefore sequenced after direct real estate and leverage.

It shows the reconciliation impact of indirect equity investments in real estate held by the fund.

$$Total\ Return_{Indirect\ Equity} = \frac{(INDINVNAV_t - INDINVNAV_{t-1} - INDINVNEWFLOW_t + INDINVREDEMPTION_t + INDINVDIST_t)}{(INDINVNAV_{t-1} + INDINVNEWFLOW_t)}$$

Cash: Cash deposits and short-term securities in banks or other financial institutions or facilities, normally earning interest, and available for use anywhere in the portfolio.

It Includes monies earmarked for a specific purpose and therefore not available for immediate and general use by the fund. e.g., cash-covering derivatives.

$$Total\ Return_{Cash} = \frac{(CASHBAL_t - CASHBAL_{t-1} + CASHINTEREST_t)}{(CASHBAL_{t-1})}$$

Other Investments and Fund Activities. This layer includes other items of the balance sheet which are not separately represented in the layering but have an impact on the NAV of the vehicle. These include:

I. Other Assets - Other assets value (as recorded in the balance sheet) which is not accounted for elsewhere.

$$Total\ Return_{Other\ Assets} = \frac{(OTHASSETSBS_t - OTHASSETSBS_{t-1})}{(OTHASSETSBS_{t-1})}$$

II. Other Liabilities - Balance sheet value of all other liabilities.

$$Total\ Return_{Other\ Liabilities} = \frac{(OTHLIABBS_t - OTHLIABBS_{t-1} + OTHLIABBSINT_t)}{(OTHLIABBS_{t-1})}$$

III. Derivative Market Value - Market Value of the derivative at the end of the period.

Total Return Derivatives = $\frac{DERIVMV_t - DERIVMV_{t-1} - DERIVPUREEXPPT_t + DERIVSALEPRICEPT_t + SWAPPAYMENT_t - MARGININTEREST_t - DERIVCOST_t}{DERIVMV_{t-1} + MARGIN_t + DERIVPUREEXPPT_t}$

IV. Forward Commitment - Contract value of the forward commitment. This is a Gross value, i.e., including any potential transaction costs. This should be exactly offset by the forward commitment liability also recorded on the balance sheet.

$$Total\ Return_{Forward\ Commitment} = \frac{OTHLIABS_t - OTHLIABS_{t-1} + OTHLIABBSINT_t}{OTHLIABBS_{t-1}}$$

V. Acquisition Costs Capitalized - Balance sheet amount that impacts the NAV due to capitalization of transaction costs for direct or indirect investment, arrangement fees for debt when applicable.

Interest Rate Hedging. Interest rate hedging measures the impact of gains or losses incurred on hedging contracts entered into with the objective offsetting the risk associated with changes in interest rates on borrowing.

$$Total\ Return_{Interest\ Rate\ Hedging} = \frac{(Interest\ Rate\ Hedging\ Gain/Loss)}{1}$$

Currency Hedging. Currency hedging measures the impact of gains or losses incurred on hedging contracts entered into with the objective offsetting the risk associated with movements in exchange rates.

$$Total\ Return_{Currency\ Hedging} = \frac{Currency\ Hedging\ Gain/Loss}{1}$$

Fund Costs. This layer measures the impact of expenses incurred at vehicle level. It includes expenses such as audit costs, custodian costs, aborted purchase costs, directors' remuneration and fees, trustees remuneration costs etc. Charges attributable to Special Purpose Vehicles (SPV) are also included in this layer.

$$Total\ Return_{Fund\ Costs} = \frac{Fund\ Level\ Expense}{1}$$

Fund Tax. This layer measures the impact of the taxes paid by the vehicle during a period. The impact includes accrued or paid taxes incurred by the fund during the period (e.g., corporate level tax). Include tax on realized and unrealized gain on valuation of investments (e.g., change in deferred tax liabilities during the period). Exclude tax incurred by investors in the vehicle (withholding tax) or local taxes due on individual properties and recoverable sales Tax (VAT/GST). Balance sheet items should not be included in this data field. Excludes – franking credits on tax allocated to investors.

$$Total\ Retrun_{Fund\ Tax} = \frac{Fund\ Level\ Tax}{1}$$

Other Structural Impacts. This is the arithmetic difference between the gross fund returns calculated bottom-up and the top down statement of that gross fund return. Simply put, this is the residual value which cannot be attributed to any of the financial layers listed above.

Total Structural Impact. Sum of impacts of individual layers. This is the difference between gross total return and direct real estate return which should should be explained by the attribution of impact to each reconciliation layer.

Gross Total Return. -Calculated vehicle level Total Return before deduction of all Fund Management fees

Fund Management Fee. Total of General Fund Management fees and capitalized and/or expensed incentive fees.

Net Total Return. -Calculated vehicle level Total Return net of all Fund Management fees.

4.2 CALCULATION OF CURRENCY IMPACT

The objective of introducing currency impact to global fund reconciliation is to determine the impact of holding assets in multiple currencies on global fund performance. The global structure is designed to show the currency impact against each financial layer from Direct RE to Fund level tax.

$$Layer_{n_{Total\ Currency\ Impact}} = Layer_{n_{Total\ Return\ (Stacked,Variable)}} - Layer_{n_{Total\ Return\ (Stacked,Fixed)}}$$

	Structural Impact	Currency Impact
Net Total Return	xx	
Total Fees	xx	
Gross Total Return	xx	
Total Structural Impact	xx	
Other Structural Impact (Residual)	xx	xx
Fund Tax	xx	xx
Fund Expenses	xx	xx
Interest Hedging	xx	xx
Currency Hedging	xx	xx
Other Investments and Fund activities	xx	xx
Cash	xx	xx
Indirect RE Investments	xx	xx
Fund Level Leverage	xx	xx
Leverage Impact	xx	
Mark-to-Market Impact	xx	
Property Level Leverage	xx	xx
Leverage Impact	xx	
Mark-to-Market Impact	xx	
Direct Real Estate Return	xx	xx

1. MSCI calculates currency impact of each layer as a difference between Total return as per variable conversion method and Total Return as per fixed currency conversion method. Please refer to the section 4.12.1 and 4.12.2 for

Fixed and Variable currency conversion methods from our MSCI Property Indexes Methodology.

2. **Variable currency conversion method**:

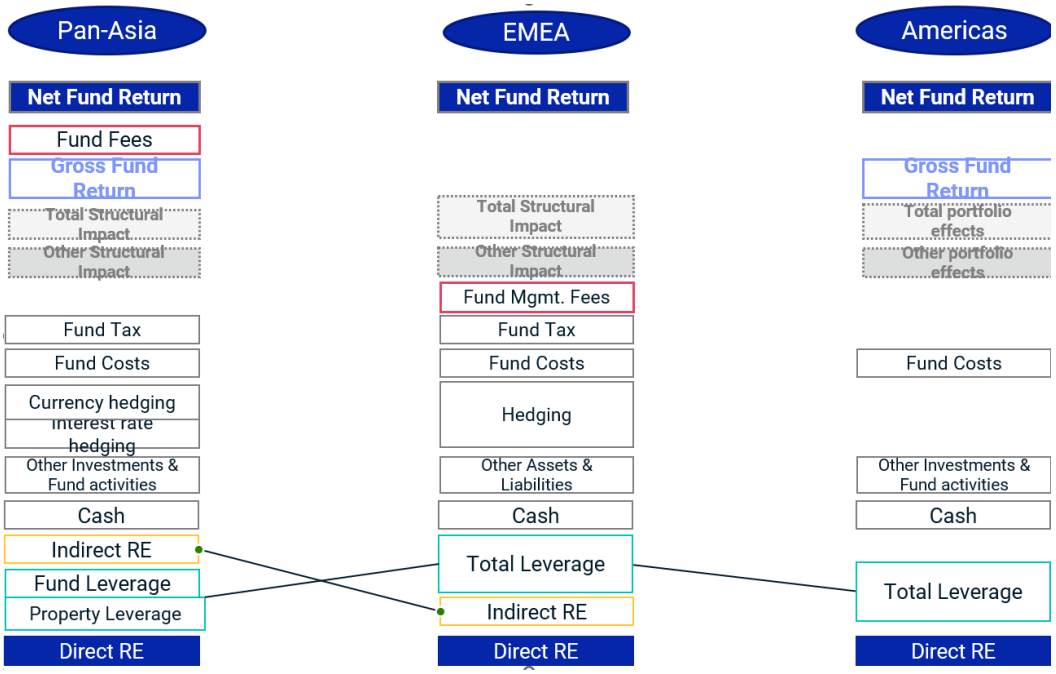
   For variable rate reporting, each data item is converted using the corresponding month-end mid-rate, defined as the median of the bid and offer rates on the last day of the month. Performance measures based on variable rates include the impact of monthly changes in exchange rates. An exception to this is capital expenditure data, which are weighted to the start of the month in growth measures and are converted using the previous monthly rate. For 1994 and later data, MSCI uses exchange rates from WM Reuters. For earlier data, rates from EcoWin and others are used.

3. **Fixed currency conversion method:**

   Fixed rate conversion is applied to remove the impact of currency on measure calculations. A monthly fixed rate method is applied to eliminate the need for historical changes. The application of this methodology for different performance measures is as follows:

   - For monthly compounded growth measures, MSCI converts the relevant data using the exchange rate of the base month. For example, the data required for December 2022 growth measures are converted using the November 2022 exchange rate. •
   - For all spot measures – such as capital value, rent passing, rental value, and capital expenditure – with data collected as at month-end, values are converted using the corresponding month-end exchange rate. For example, December 2022 rent passing is converted using the December 2022 exchange rate. •
   - Similarly for spot ratios, such as gross rent passing yield, the appropriate monthend exchange rate is used to convert both the numerator and denominator values in the calculation. •
   - For measures calculated by summation over time, such as 12-month net investment or net income per square meter (where the numerator is calculated by summation), all values are converted using the exchange rate as at the end of final month of computation.

5 Appendix I: Reconciliation Structures by Region



6 Appendix II: Versioning Table

Version	Publication Date	Key Changes
V1	December 2023	First release of the MSCI Global Fund Reconciliation methodology document

Contact us

realestate@msci.com

+ 44 20 7336 4783

AMERICAS

Canada	+ 1 416 687 6284
US	+ 1 212 804 3900

EUROPE, MIDDLE EAST & AFRICA

UK	+ 44 20 7336 9200
France	+ 44 20 7336 4783
Germany	+ 49 691 3385 900
Italy	+ 44 20 7336 9684
Spain	+ 34 93 467 7403
South Africa	+ 27 11 656 2115
Sweden	+ 46 8 400 252 30

ASIA PACIFIC

Australia	+ 61 2 9033 9300
Hong Kong	+ 852 2844 9333
Singapore	+ 65 6826 9339
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