



*GPR Asia Pacific Top 30 Index
Construction & Maintenance Procedures*

November 2016

General Information

In order to ensure the highest quality of each of its indices Global Property Research (GPR) exercise the greatest care when compiling and calculating indices on the basis of the rules set out in this GPR index methodology document.

However, GPR cannot guarantee that the various indices, or the various ratios that are required for index compilation and computation purposes, as set out in this GPR index methodology document, are always calculated free of errors. GPR accepts no liability for any direct or indirect losses arising from any incorrect calculation of such indices or ratios.

Decisions concerning the way its indices are calculated, as well as regarding their compilation, are always taken by GPR to the best of knowledge and belief. GPR will not be liable for any losses arising from such decisions.

The indices of GPR do not represent a recommendation for investment of whatever nature. In particular, the compilation and calculation of the various indices shall not be construed as a recommendation of GPR to buy or sell individual instruments, or the basket of instruments underlying a given index.

Table of Contents

1	Introduction	4
2	Composition of the GPR Asia Pacific Top 30 Index	5
3	Calculation of the GPR Asia Pacific Top 30 Index	6
4	Publication of the GPR Asia Pacific Top 30 Index	7
5	Periodic Adjustment of the GPR Asia Pacific Top 30 Index	8
6	Corporate Actions	9
7	Final Provisions for the GPR Asia Pacific Top 30 Index	10
<i>Appendix</i>		
8	Technical appendix	12
9	Breakdown of the GPR Asia Pacific Top 30 Index	14
10	Glossary	15
11	Contacts	16

1 INTRODUCTION

- 1.1 This document contains the rules for the construction and maintenance of the Global Property Research Asia Pacific Top 30 Index (GPR Asia Pacific Top 30 Index).
- 1.2 The GPR Asia Pacific Top 30 Index is a weighted index based on shares of 30 leading property companies in the Asia Pacific region.
- 1.3 The GPR Asia Pacific Top 30 Index is composed in such a way that it is considered to be representative for the movements in the Asia Pacific property stock market.

2 COMPOSITION OF THE GPR ASIA PACIFIC TOP 30 INDEX

- 2.1 The GPR Asia Pacific Top 30 Index includes 30 property stocks classified to the Asia Pacific region. The regional index includes the property stocks with the highest monthly trading volume, measured as the twelve month trading volume in US dollars over the previous twelve months.
- 2.2 Only stock exchange quoted companies without restrictions on foreign ownership are eligible for inclusion in the GPR Asia Pacific Top 30 Index.
- 2.3 Companies are eligible when the free float market capitalization, calculated as the share price times the number of outstanding shares available for trading, is over 50 million USD for two consecutive months, and when the free float percentage is at least 15%.
- 2.4 Companies included must have at least 75% of operational turnover derived from investment activities (property investment companies) or investment and development activities combined (hybrid property companies). In the latter case at least 25% of operational turnover needs to be derived from investment activities.
- 2.5 Operational turnover is determined using figures of the latest available financial statements of the property company. If operational turnover cannot be derived from these financial statements, property assets will serve as the criterion to determine inclusion.
- 2.6 The GPR Asia Pacific Top 30 Index includes office, residential, retail, industrial, diversified, hotel and healthcare property companies. Whenever a company derives at least 60% of operational turnover from one specific property type, the compiler considers this company to be specialized in this property sector. For companies in the hotel and healthcare sector, it must be certain they are an investor and not an operator. The financial information needs to be clear on how the income is derived, from which activities. In case of doubt, the company will not be included.
- 2.7 The property stocks included in the GPR Asia Pacific Top 30 Index are assigned a base weighting derived from their free float market capitalization on the date of periodic adjustment. The methodology of the GPR Asia Pacific Top 30 Index all conform to the UCITS investment directives set by the EU.
- 2.8 Country weights are the sum of weighting factors of individual constituents in every country.
- 2.9 If a company derives over 75% of the operational turnover from one country, not being the country of its primary stock listing, the company is placed in the index of the country in which the assets are located.
- 2.10 In case of exclusion of a company from the index, the compiler will not assign another company for inclusion.
- 2.11 Companies are included if the publication of audited annual reports and press releases on their website are all available in English. An annual report is defined as a current set of accounts consisting of a profit and loss statement, a balance sheet, a directors' review and full notes to the accounts.

3 CALCULATION OF THE GPR ASIA PACIFIC TOP 30 INDEX

- 3.1 The base date of the GPR Asia Pacific Top 30 Index is 19 March 2010 and the base value is 100.
- 3.2 The GPR Asia Pacific Top 30 Index is calculated in EUR.
- 3.3 The GPR Asia Pacific Top 30 Index reflects gross dividend payments.
- 3.4 Share prices are established during normal, regulated trading on the stock exchange of primary listing. If a property stock has multiple listings only the primary listing will be considered. Primary listing describes the quotation of the stock with the highest number of shares traded.
- 3.5 Share prices used are most recent closing trade prices.
- 3.6 Dividends are included in the index at the ex-dividend date.
- 3.7 Dividends paid out by a company are immediately reinvested at the first index calculation.
- 3.8 Foreign exchange rates are WM/Reuters London close rates.
- 3.9 If for any reason the stock price or a foreign exchange rate is not known or deemed to be unreliable the compiler will, after proper inquiries have been made with the relevant pricing source, calculate the index on the basis of the most recent price for that stock or foreign exchange rate which is known to the compiler.
- 3.10 Changes in free float will be implemented once a month, after close of trading on the third Friday of each month. The free float thresholds are determined by GPR.
- 3.11 Free float changes will be reported at least one week before occurrence.
- 3.12 The GPR Asia Pacific Top 30 Index may not invest more than 20% of their assets in shares issued by the same property company, provided however that for one property company (and one only) this limit may be raised to 35%. In consequence, a property company may not represent more than 20% of the index, provided however that one property company (and one only) may represent up to 35% of the index.

4 PUBLICATION OF THE GPR ASIA PACIFIC TOP 30 INDEX

- 4.1 The current value of the GPR Asia Pacific Top 30 Index will be published once a day.
- 4.2 Index values calculated will be published on the next trading day
- 4.3 The compiler of the GPR Asia Pacific Top 30 Index reserves the right to delay publication of values of the index or to suspend or cease publication, if in its opinion circumstances prevail which prevent the proper calculation of the index.

PERIODIC ADJUSTMENT OF THE GPR ASIA PACIFIC TOP 30 INDEX

- 4.4 The aim of the compiler of the GPR Asia Pacific Top 30 Index when making a periodic adjustment is to ensure that the weighting and selection of the component countries and property stocks remains in accordance with the basic principles of the Index, as described in chapter 2.
- 4.5 Periodic adjustments to the selection and base weighting of stocks and countries in the GPR Asia Pacific Top 30 Index will occur semi-annually after trading hours on the third Friday of March and September.
- 4.6 Changes in the selection and base weighting of countries or in the selection of stocks will be announced one month before occurrence of the adjustment. The compiler will publish a main list as well as a replacement list. The replacement list is ranked in order of first substitute and serves as a backup in case companies on the main list do not meet the inclusion criteria in the time frame between publication and adjustment. Any exclusion from the main listing will be reported immediately.
- 4.7 Periodic adjustment to the selection and base weighting of stocks and countries included in the GPR Asia Pacific Top 30 Index may not change the historic value of the index.
- 4.8 The selection of stocks included in the GPR Asia Pacific Top 30 Index shall be adjusted semi-annually on the basis of monthly trading volume on an absolute basis over the past twelve months on the primary stock exchange. The property stocks trading the largest monthly volume on the relevant exchange will be selected.
- 4.9 If there has not been a publication of monthly trading volume throughout the entire period, adjustments will be based on the longest possible period within that twelve month period.
- 4.10 The weighting of property stocks included in the GPR Asia Pacific Top 30 Index shall be adjusted quarterly on the basis of free float market capitalization of these stocks on the date of periodic adjustment. The compiler will use the most recently published data of free float.
- 4.11 In cases, which are not explicitly defined in the rules for periodic adjustment, periodic adjustment will be carried out in spirit of the aims mentioned in article 1.3. All adjustments must meet the criteria mentioned in chapter 2.

Company Structure Changes

- 5.1 In case of a merger or acquisition in which all of the companies involved are in the GPR Asia Pacific Top 30 Index, only one company will continue to be part of the GPR Asia Pacific Top 30 Index. The weight of this company is dependent on the free float market capitalization of the surviving company. Free float will be adjusted to publications following the offer. The compiler will not assign another company for inclusion. The final return will reflect the offer price.
- 5.2 In case of a merger or acquisition in which one of the companies involved is in the GPR Asia Pacific Top 30 Index and the other company does not meet the criteria as expressed in chapter 2, the company resulting from the activity will have to comply with these criteria in order for the company to remain included in the GPR Asia Pacific Top 30 Index. If the resulting company fails to meet these criteria, the company will be excluded. The final return will reflect the offer price.
- 5.3 After the occurrence of a de-merger of a company included in the GPR Asia Pacific Top 30 Index, both the original and/or the newly created entities will immediately become part of the index whenever the new entities meet the criteria of chapter 2.
- 5.4 After the occurrence of a spin-off of part of a company included in the GPR Asia Pacific Top 30 Index, only the original company will remain part of the index. The spin-off will be treated as an initial public offering.
- 5.5 In case of a suspension of trading in a company, the price of the share will remain the price of the last trade in the companies' shares, reflecting a zero return. The weight of the company in the GPR Asia Pacific Top 30 Index will remain unchanged. In case the suspension eventually leads to a bankruptcy, the loss of the investment will be taken on the filing date. Whenever the suspension continues for more than three consecutive months, the share price will be set at zero, assuming a total loss of the investment.

Company Capital Changes

- 5.6 The amount of shares outstanding will be changed to reflect seasoned offerings and share repurchases at the day of occurrence.
- 5.7 If a company goes bankrupt, the index will reflect the return by setting the price at zero, in order to reflect a total loss of the investment.
- 5.8 In case of a stock split, a stock dividend, a poison pill, a rights issue or a bonus issue the number of shares will be adjusted. Furthermore, an adjustment factor is implemented to ensure continuity of return calculations.
- 5.9 In case of a merger or acquisition, whereby the target company remains listed on the stock exchange with a free float percentage of at least 15%, this target company will continue to be part of the Index when the offer has been declared unconditional. This article will be superior to articles 6.1 and 6.2.
- 5.10 In the event of a rights issue, an adjustment factor is implemented to ensure continuity of return calculations. If the rights issue is fully underwritten, then the newly issued shares will be included in the index at the closing price at the end of the ex-right date. If the rights issue is not fully underwritten, then the newly issued shares will be included in the index at the closing price at the end of the first day of trading. In case of doubt, the rights issue will be perceived as not fully underwritten.

6 FINAL PROVISIONS FOR THE GPR ASIA PACIFIC TOP 30 INDEX

- 6.1 Global Property Research acts as the compiler of the GPR Asia Pacific Top 30 Index.
- 6.2 The compiler of the GPR Asia Pacific Top 30 Index is responsible for the daily administration of the index. The compiler of the GPR Asia Pacific Top 30 Index is also responsible for decisions regarding the interpretation of these rules.
- 6.3 In cases for which the rules make no provision, but which require immediate action, the compiler of the GPR Asia Pacific Top 30 Index shall decide to the best of his ability and within the spirit of and in accordance with the aim of the rules.
- 6.4 These rules may be amended, which may also lead to a change in the GPR Asia Pacific Top 30 Index. There must be a period of at least three months between the date of publication of a proposed amendment and the date on which it comes into effect, unless the amendment does not conflict with any interest of the parties involved. No responsibility is accepted for damages arising from an amendment to the rules of the GPR Asia Pacific Top 30 Index.
- 6.5 The compiler of the GPR Asia Pacific Top 30 Index shall make every effort to safeguard the accuracy of the composition, publication and adjustment of the GPR Asia Pacific Top 30 Index in accordance with the applicable rules. However, the compiler of the GPR Asia Pacific Top 30 Index accepts no responsibility whatsoever for any inaccuracy in the share prices, the calculation and publication of the index, the information used to make adjustments neither in the GPR Asia Pacific Top 30 Index nor in the adjustments themselves.

Appendix

7.1 Calculating returns for individual companies

The returns for individual companies are calculated as follows:

$$r_{i,t+1} = \frac{P_{i,t+1} + D_{i,t+1} - P_{i,t}}{P_{i,t}}, \text{ where}$$

$r_{i,t+1}$	Return of company i in period t, t+1
$P_{i,t+1}$	Price of company i at time t+1
$D_{i,t+1}$	Dividend on company i at time t+1
$P_{i,t}$	Price of company i at time t
t	Last trading day

7.2 Calculating weights of individual companies

The weight of companies in the index is derived as follows:

$$W_{i,t} = \frac{C_{i,t}}{\sum_{i=1}^{N_t} C_{i,t}}, \text{ where}$$

$W_{i,t}$	Weight of company i at time t
$C_{i,t}$	(Free float) market capitalization of company i at time t
N_t	Number of companies that meet the inclusion criteria at time t

7.3 Calculating Indices

Total Return Index

The total return is a quantity which adjusts the price for issuance of dividends. When a company issues a dividend, the price of the equity drops in the exact amount of the per share dividend amount. Leaving aside subsequent market movements of the equity price, the impact of a constituent equity dividend upon an index is a drop in the price of the index. A companion index which is based on the total return adjusts the price-only index for the issuance of dividends by its constituents. The total return index is computed as follows:

$$TRIndex Price_t = TRIndex Price_{t-1} = \frac{\sum_{i=1}^n [(p_{i,t} \times h_{i,t} \times r_{i,t}) + (div_{i,t} \times h_{i,t} \times r_{i,t})]}{\sum_{i=1}^n (p_{i,t-1} \times h_{i,t-1} \times r_{i,t-1})}$$

Where: $p_{i,t}$ = price of equity $i=1,2,\dots,n$ at time $t=0,1,2,\dots,T$ and $t=0$ means the initial time
 n = the number of equities in the index
 $b_{i,t}$ = the number of shares in equity i at time $t == q_{i,t}$ or $s_{i,t}$, depending on whether MC or EQ weighting is used respectively,
 $r_{i,t}$ = exchange rate from local currency to USD at time t
 $dm_{i,t}$ = per share dividend on ex-date

All quantities in the equation above are end-of-day quantities. The numerator is computed as per the ex-date for any dividends. A key point for this approach comes via the observation that the dividend is adjusted for solely on the ex-date and does not enter the computations (implicitly) after that date. To accomplish this on the day following the ex-date, a price-only version of the index's ex-date total value enters in the denominator (divisor) of the equation.

Asia Pacific

Afghanistan
Australia
Bangladesh
Bhutan
Cambodia
China
Fiji
Hong Kong
India
Indonesia
Iran, Islamic Republic
Iraq
Japan
Kazakhstan
Kiribati
Korea, Republic of
Kyrgyz Republic
Lao PDR
Malaysia
Maldives
Marshall Islands
FS Micronesia
Mongolia
Myanmar
Nepal
New Zealand
Pakistan
Palau
Papua New Guinea
Philippines
Samoa
Singapore
Solomon Islands
Sri Lanka
Tajikistan
Thailand
Timor Leste (East Timor)
Tonga
Turkmenistan
Tuvalu
Uzbekistan
Vanuatu
Vietnam

GLOSSARY

<i>Adjustment factor</i>	A multiplier to correct for changes in the intrinsic value of the stock not having return implications
<i>Bank fund</i>	A property company, managed by a bank, with an unlimited amount of shares. The company issues and buys back shares constantly at a price determined by the company itself
<i>Base</i>	Initial value of the index
<i>Compiler</i>	Party responsible for the management and maintenance of the indices
<i>De-merger</i>	Situation in which a company splits up in two or more entities, which may be floated
<i>Development activities</i>	Property holdings under construction
<i>Directors' holdings</i>	Shares held by the management and board of Directors of the company
<i>Ex-dividend date</i>	First trading date at which the holder of the stock is no longer entitled to receive the subsequent dividend
<i>Free float</i>	The number of shares outstanding considered to be available for trading on the stock market, excluding shares held by management, board of directors and blockholders owning more than 5% of the companies' shares outstanding.
<i>Gross dividends</i>	Dividends before taxes
<i>Indicative values</i>	Values subject to change
<i>Investment activities</i>	Income generating property holdings, including land
<i>Market capitalization</i>	Number of shares outstanding times the share price
<i>Nominee account</i>	A joint share account held by a financial institution aggregating various separate share holdings
<i>Operational turnover</i>	Recurrent income from activities
<i>Primary stock listing</i>	Quotation of the stock with the highest number of shares traded
<i>Spin-off</i>	Situation in which a company disposes part of its portfolio by creating a separate entity, which subsequently may be floated
<i>Suspension of trading</i>	A temporary deferral of regulated trading
<i>Trading volume</i>	Share turnover expressed as the number of shares traded times the price of the shares in US dollars

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