

*GPR/HVB Euro Top  
50 Real Estate  
(Performance-) Index  
Construction  
& Maintenance  
Procedures*

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## 1 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
<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

*GPR/HVB Euro Top 50 Real Estate  
(Performance-) Index  
Calculation Procedures*

## 2 COMPOSITION OF THE GPR/HVB EURO TOP 50 REAL ESTATE (PERFORMANCE-) INDEX

- 2.1 The GPR/HVB Euro Top 50 Real Estate (Performance-) Index is a weighted index and based on shares of companies included in the GPR General Index, and is composed in such a way that it is considered to be representative for the movements in the Continental European property share market.
- 2.2 The GPR/HVB Euro Top 50 Real Estate (Performance-) Index includes the 50 stocks with the highest monthly trading volume, measured as the twelve month trading volume in US dollars over the previous twelve months. If a company has a track record of less than twelve months, the monthly trading volume is measured as the six month trading volume in US dollars over the previous six months.
- 2.3 Only stock exchange quoted companies are eligible for inclusion in the GPR/HVB Euro Top 50 Real Estate (Performance-) Index. Companies are selected if their annual trading volume exceeds EUR 25 million.
- 2.4 Companies are eligible for inclusion if the 12-month historical rolling dividend yield exceeds 0.5 percent in each of the past three months. If a company is already a constituent of the GPR/HVB Euro Top Real Estate (Performance-) Index, then it will only be excluded if its twelve month historical rolling dividend yield is below 0.5 percent in each of the past three months. If a company has a track record of less than twelve months, but it displays a dividend yields of more than 0.5 percent in each of the past three months, then it is eligible for inclusion. Special dividend payments by a company are not taken into account for the determination of their twelve month historical rolling dividend yield. If a company has a track record of less than 12 months, but it displays an estimated dividend yield of more than 0.5% for a 12 month period then it is eligible for inclusion.
- 2.5 Companies are eligible for inclusion if they have a primary listing within the European Economic Area plus Switzerland and minus the United Kingdom.
- 2.6 If there are less than 50 companies that apply to articles 2.4 and 2.5, then this number of companies will be included in the GPR/HVB Euro Top 50 Real Estate (Performance-) Index.
- 2.7 Companies are selected if their free float market capitalization exceeds EUR 50 million. Free float is reduced to reflect share holdings of more than 10% of the shares outstanding. Combinations of holdings under ten percent never qualify, unless these smaller holdings belong to one fiscal entity. Directors' holdings never qualify as free float, even when these holdings fall below ten percent. Nominee accounts are always considered to be part of available market capitalization. In case both a parent and a daughter company are part of the index, the free float of the daughter company will be lowered to reflect the stake of the parent company in the daughter company.
- 2.8 Companies are included for which at least 75% of operational turnover is 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.
- 2.9 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.
- 2.10 The GPR/HVB Euro Top 50 Real Estate (Performance-) 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.

- 2.11 The stocks included in the GPR/HVB Euro Top 50 Real Estate (Performance-) Index are assigned a base weighting derived from their free float on the date of periodic adjustment.
- 2.12 Country weights are the sum of weighting factors of individual constituents in every country.
- 2.13 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.
- 2.14 In case of exclusion of a company from the index, the compiler will not assign another company for inclusion.
- 2.15 There are no investments in funds whose taxation basis is not subject to a German tax certificate in terms of Sec. 5 para. 1 no. 3 Investment Tax Act ("InvStG") (verifying that the fund's income determination complies with German tax principles and appropriately published in the German electronic Federal Gazette) resulting in the investors' penalty taxation according to Sec. 6 InvStG.

### 3 CALCULATION OF THE GPR/HVB EURO TOP 50 REAL ESTATE (PERFORMANCE-) INDEX

- 3.1 The value of the GPR/HVB Euro Top 50 Real Estate (Performance-) Index is based on total return calculations. The components of total return are price return and dividend return.
- 3.2 The base date of the GPR/HVB Euro Top 50 Real Estate (Performance-) Index is December 31, 1989 and the base value is 100.
- 3.3 Share prices are closing prices established during normal, regulated trading on the stock exchange of primary listing.
- 3.4 Share prices used are most recent closing trade prices. See the Price Source Appendix for an explanation.
- 3.5 Changes in free float will be implemented once a month, on the first trading day of each month.
- 3.6 Free float changes will be reported at least two weeks before occurrence.
- 3.7 The GPR/HVB Euro Top 50 Real Estate (Performance-) Index reflects gross dividend payments adjusted for withholding taxes at a percentage rate of 25 percent for each company.
- 3.8 Dividends are included in the index at the ex-dividend date.
- 3.9 Dividends paid out by a company are immediately reinvested at the first index calculation.
- 3.10 Foreign exchange rates are WM/Reuters London close rates. The service sets a daily standard for the foreign exchange rates required for index calculation, investment management and portfolio valuation. At short intervals before and after 16:00 hrs London time, representative bid and offer rates against the US dollar for some 112 currencies are selected from a wide range of contributing banks and foreign exchange dealers. Anomalous data are screened out, and a median rate selected for each currency. The choice of 16:00 London time as the reference point for the rates captures a large selection of timely quotes from Continental European contributors to the Reuters system and reflects the peak trading period for the London and New York foreign exchange markets. The rates include contributions on a global basis, making them relevant for valuation purposes in all the world's time zones. In the event that WM/Reuters Closing Spot Rates are not published by the WM Company, the previous day's rates will be used to calculate the GPR/HVB Euro Top 50 Real Estate (Performance-) Index.
- 3.11 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 him.
- 3.12 The index may not invest more than 20% of their assets in securities issued by the same entity, provided however that for one issuer (and one only) this limit may be raised to 35%. In consequence, a security may not represent more than 20% of the index, provided however that one security (and one only) may represent up to 35% of the index.

4 PUBLICATION OF THE GPR/HVB EURO TOP 50 REAL ESTATE (PERFORMANCE-) INDEX

- 4.1 The current value of the GPR/HVB Euro Top 50 Real Estate (Performance-) Index will be published once a day.
- 4.2 Index values calculated on calendar days except Saturdays, Sundays, Easter and December 25 and 26 will be published on the first trading day following calculation.
- 4.3 All index values will remain indicative index values until the fifth trading day of the month following publication of the index. Any changes in the indicative index values will be reported at that time.
- 4.4 After the fifth trading day, no changes to the index can occur.
- 4.5 The compiler of the GPR/HVB Euro Top 50 Real Estate (Performance-) Index reserves the right to delay publication of values of the index or to suspend or cease publication, if in his opinion circumstances prevail which prevent the proper calculation of the index.

## 5 PERIODIC ADJUSTMENT OF THE GPR/HVB EURO TOP 50 REAL ESTATE (PERFORMANCE-) INDEX

### *General Rules*

- 5.1 The aim of the compiler of the GPR/HVB Euro Top 50 Real Estate (Performance-) Index when making a periodic adjustment is to ensure that the weighting and selection of the component countries and stocks remains in accordance with the basic principles of the Index, as described in chapter 2.
- 5.2 Periodic adjustments to the selection and base weighting of stocks and countries in the GPR/HVB Euro Top 50 Real Estate (Performance-) Index will occur semi-annually on the 31<sup>st</sup> of March and the 30<sup>st</sup> of September, or the first trading date afterwards in case of non-week days or public holidays.
- 5.3 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.
- 5.4 Periodic adjustment to the selection and base weighting of stocks and countries included in the GPR/HVB Euro Top 50 Real Estate (Performance-) Index may not change the historic value of the index.
- 5.5 The selection of stocks included in the GPR/HVB Euro Top 50 Real Estate (Performance-) Index shall be adjusted semi-annually on the basis of monthly trading volume on an absolute basis over the past year on the primary stock exchange. The stocks trading the largest monthly volume on the relevant exchange will be selected.
- 5.6 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 year.
- 5.7 If a stock has multiple listings only the primary listing will be considered.
- 5.8 The weighting of stocks included in the GPR/HVB Euro Top 50 Real Estate (Performance-) Index shall be adjusted semi-annually on the basis of free float of these stocks on the date of periodic adjustment. The compiler will use the most recently published data of free float.
- 5.9 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 chapter 2.

### *Company Structure Changes*

- 5.10 In case of a merger or acquisition in which all of the companies involved are in the index, only one company will continue to be part of the 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 or the latest trade; whichever is highest.
- 5.11 In case of a merger or acquisition in which one of the companies involved is in the GPR/HVB Euro Top 50 Real Estate (Performance-) 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/HVB Euro Top 50 Real Estate (Performance-) Index. If the resulting company fails to meet these criteria, the company will be excluded.
- 5.12 Newly listed companies will be included in the GPR/HVB Euro Top 50 Real Estate (Performance-) Index at the closing price of the first trading date if they meet Rule 2.7. They

will remain in the index for at least 6 months. If a newly listed company does not explicitly expect to pay at least a 0.5 percent dividend in the first year, then it will not be eligible for immediate inclusion. The GPR/HVB Euro Top 50 Real Estate (Performance-) Index can temporarily have more than 50 companies included until the next semi-annual rebalancing. If the final constituent list for the next rebalancing has already been published according to Rule 5.3, the GPR/HVB Euro Top 50 Real Estate (Performance -) Index can have more than 50 companies included until the semi-annual rebalancing following the next rebalancing. At that rebalancing the number of stocks selected under Rule 2.3 is decreased by the number of stocks included under this Rule.

- 5.13 After the occurrence of a de-merger of a company included in the GPR/HVB Euro Top 50 Real Estate (Performance-) 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.
- 5.14 After the occurrence of a spin-off of part of a company included in the GPR/HVB Euro Top 50 Real Estate (Performance-) Index, only the original company will remain part of the index. The spin-off will be treated as an initial public offering.
- 5.15 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/HVB Euro Top 50 Real Estate (Performance-) 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*

- 5.16 The amount of shares outstanding will be changed to reflect seasoned offerings and share repurchases at the day of occurrence.
- 5.17 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.
- 5.18 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.

6 FINAL PROVISIONS FOR THE GPR/HVB EURO TOP 50 REAL ESTATE (PERFORMANCE-) INDEX

- 6.1 Global Property Research acts as the compiler of the GPR/HVB Euro Top 50 Real Estate (Performance-) Index.
- 6.2 The compiler of the GPR/HVB Euro Top 50 Real Estate (Performance-) Index is responsible for the daily administration of the index. The compiler of the GPR/HVB Euro Top 50 Real Estate (Performance-) 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/HVB Euro Top 50 Real Estate (Performance-) 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/HVB Euro Top 50 Real Estate (Performance-) 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/HVB Euro Top 50 Real Estate (Performance-) Index.
- 6.5 The compiler of the GPR/HVB Euro Top 50 Real Estate (Performance-) Index shall make every effort to safeguard the accuracy of the composition, publication and adjustment of the GPR/HVB Euro Top 50 Real Estate (Performance-) Index in accordance with the applicable rules. However, the compiler of the 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 Index nor in the adjustments themselves.

# *Appendix*

## 7.1 Deriving returns for individual shares

Using the stock price and dividends the returns for the individual companies can be determined. We will assume calculation of the GPR Indices in euro. The following equation describes the calculation of the performance index returns:

$$r_{i,t}^{\epsilon} = \frac{P_{i,t_1}^{\epsilon} + D_{i,t_1}^{\epsilon} - P_{i,t_0}^{\epsilon}}{P_{i,t_0}^{\epsilon}}$$

In which,

$r_{i,t}^{\epsilon}$	Return of share $i$ in euro in period $(t_0, t_1)$
$P_{i,t_1}^{\epsilon}$	Price of share $i$ at time $t_1$ in euro
$D_{i,t_1}^{\epsilon}$	Dividend on share $i$ at time $t_1$ in euro
$P_{i,t_0}^{\epsilon}$	Price of share $i$ at time $t_0$ in euro
$t$	Latest trading day

The following equation describes the calculation of the price index in local currency:

$$r_{i,t}^{LOC} = \frac{P_{i,t_1}^{LOC} - P_{i,t_0}^{LOC}}{P_{i,t_0}^{LOC}}$$

In which,

$r_{i,t}^{LOC}$	Return of share $i$ in local currency in period $(t_0, t_1)$
$P_{i,t_1}^{LOC}$	Price of share $i$ at time $t_1$ in local currency
$P_{i,t_0}^{LOC}$	Price of share $i$ at time $t_0$ in local currency
$t$	Latest trading day

## 7.2 Deriving returns on countries

Combining the returns described above with the (free float) market capitalization of each company, we can calculate the country return. We do this by creating a portfolio with a certain initial value. We first determine the amount of money that needs to be invested in each company by calculating the (free float) market capitalization of the company relative to the (free float) market capitalization of the index. The amount of money invested in the company is the value of the portfolio times the weight of the company in the index. When the amount of money that will be invested in a specific company is known, we need to calculate the number of shares that are bought in the company to come to the actual investment. The amount of shares that is bought equals the investment in the company divided by the price of one share in the company.

The following equation describes the calculation of the weight of a company in the index:

$$W_{i,t_0}^{\epsilon} = \frac{C_{i,t_0}^{\epsilon}}{\sum_{i=1}^{N_{t_0}} C_{i,t_0}^{\epsilon}}$$

in which,

$W_{i,t_0}^{\epsilon}$  Weight of company  $i$  at base date

$C_{i,t_0}^{\epsilon}$  (Free float) market capitalization of company  $i$  at base date

The return on the country index is a comparison of the portfolio value with the initial value. The following section elaborates on this.

We assume that at the base date a certain amount is invested in the property companies that comply with the selection criteria. In each company, an amount corresponding to the weight  $W_{i,t_0}$  times the total investment of the portfolio  $I_{t_0}$  will be invested. The amount of shares invested at the base date in company  $i$  equals the investment in company  $i$  divided by the price of a single share in company  $i$  at the base date  $t_0$ .

The number of shares that will be invested is needed to determine the change in value and the total dividend amount of the investment in a specific share. We calculate the value of the investment in share  $i$  after one period by multiplying the number of shares invested at the beginning of the period with the sum of the price and the dividend at the end of the same period.

The value of the investment in company  $i$  is now calculated by multiplying the amount of shares in the company with the return made on a single share:

$$I_{i,t}^{\epsilon} = (I_{t_0}^{\epsilon} * W_{i,t_0}^{\epsilon}) * r_{i,t}^{\epsilon}$$

in which,

$I_{i,t}^{\epsilon}$  The value of the investment in company  $i$  at time  $t$ .

$I_{t_0}^{\epsilon}$  Investable capital at time  $t_0$

The total value of the index at  $t$  is calculated by taking the sum of the value of all investments in the index at time  $t$ , as the next equation shows. The value of the index is the sum of all returns on the investments of all shares at time  $t$ .

$$I_t^{\epsilon} = I_{t_0}^{\epsilon} \sum_{i=1}^{N_{t-1}} W_{i,t_0}^{\epsilon} * r_{n,t}^{\epsilon}$$

in which,

$I_t^{\epsilon}$  Value of the index at time  $t$

Because the sum of the weights of the funds is 1 per definition, the equation can be re-written as follows:

$$I_t^{\epsilon} = I_{t_0}^{\epsilon} \left( 1 + \sum_{n=1}^{N_{t-1}} (W_{n,t_0}^{\epsilon} * r_{n,t}^{\epsilon}) \right)$$

in which,

$N_{t_0}$  Number of companies that met the inclusion criteria at time  $t_0$

## 8 PRICE SOURCE APPENDIX

8.1 All closing prices are sourced from Bloomberg.

<b>Country</b>	<b>Price Used</b>
Austria	Vienna Stock Exchange last traded price.
Belgium	Brussels Stock Exchange last traded price.
Denmark	Copenhagen Stock Exchange last regular trading price excluding after-hours trading.
Finland	Helsinki Stock Exchange last round lot regular session trade excluding after-hours trading.
France	The French Stock Exchange closes at 17:30 p.m. local time and conducts a five minute closing auction in which all of the orders received are matched at the price calculated to execute the most orders. The result of this auction is the closing price.
Germany	Frankfurt Stock Exchange last regular trade. For German companies, the stock exchange which has the highest turnover is chosen as the primary stock exchange.
Greece	Athens Stock Exchange last traded price.
Ireland	Ireland Stock Exchange last auction price.
Italy	Milan Stock Exchange closing price is the reference price. The reference price is calculated by the Milan Stock Exchange and is the weighted average of the last 10% of the quantity traded.
Netherlands	Amsterdam Stock Exchange last traded price.
Norway	Oslo Stock Exchange last regular traded price.
Portugal	Lisbon Stock Exchange last traded price.
Spain	Madrid Stock Exchange closing price is the closest price to the average of the last 500 units of trading. This calculation excludes block transactions.
Sweden	Stockholm Stock Exchange last regular traded price.
Switzerland	The Swiss Stock Exchange changes at 17:20 p.m. local time into Auction Pre-Closing Status. At the conclusion of the closing auction, the orders on the book are executed in accordance with the principle of the 'largest best execution'. The official closing price is based on this execution price.

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