

## **DISCLAIMER**

**The Hungarian language version of this documentation shall be the exclusively governing and controlling in each and every respect. The following non-binding English translation is not an official translation and serves information purposes only.**

# **Documentation of the government securities market benchmark named as RMAX Index**

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## Definitions

**Primary Dealers:** Investment firms and/or credit institutions that have concluded an agency contract with the Government Debt Management Agency Private Company Limited by Shares (hereinafter: ÁKK Zrt.) on the placement and trading of Hungarian Government Bonds.

**Ex-coupon day:** KELER Central Depository Ltd. conducts the ownership identification of debt securities (including government securities) before a coupon or principal payment two business days before the cash-flow event (E-2), at the close of such day. Accordingly, the given security is traded without its coupon the day before the coupon or principal payment, which day is the ex-coupon day.

**Trading day:** Trading days are days when the Primary Dealers are obliged to perform their price quotation duties according to the agency contract.

**Government security:** Hungarian Government Bonds and Discount Treasury Bills (hereafter: T-Bills).

## 1. Introduction, the objective of the index

The RMAX index has been developed with the goal of becoming a reliable market benchmark for institutional and private investors alike, containing government securities with secondary market quotations and a remaining term-to-maturity of at least 105 days and shorter than 365 days, using the market amounts outstanding of constituent government securities as weights, with the help of which the performance of government security portfolios can be measured.

The index basket of RMAX Index is equivalent to a passively managed, well-diversified government security portfolio in the targeted maturity range. The constituents of the index basket are Hungarian Forint denominated, domestically issued T-Bills and fixed interest rate Hungarian Government Bonds, considered to be liquid on the Hungarian government security market. Therefore, investors acting on the domestic government security market can at any time construct a portfolio following the composition the RMAX index basket.

## 2. Characteristics and calculation of the RMAX index

Primary Dealers have a secondary market price quotation obligation for all the government securities in the index basket, i.e. to quote two-way (bid and ask) prices for the series on trading days, for the volumes and within the bid-ask spreads set by the agency contract. ÁKK Zrt. calculates and publishes on its website<sup>1</sup> the 'Best bid and ask prices of Primary Dealers' based on these price quotation data. The value of the RMAX Index on a given day is determined (as set forth in subsection 2.4.) by using the best bid and best offer prices as a basis.

From the day this document comes into effect, the RMAX Index's rules regarding inclusion

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<sup>1</sup> <https://akk.hu/en/page/statistics#best-bid-and-ask-prices-of-primary-dealers>

and exclusion are modified. Thus, it no longer depends on the MAX Index, and the RMAX Index replicates the targeted maturity spectrum more precisely.

### 2.1. Official Hungarian name of the index

RMAX Rövid Lejáratú Magyar Államkötvény és Diszkont Kincstárjegy Index

### 2.2. Official English name of the index

RMAX Short-Term Hungarian Government Bond and Discount Treasury Bill Index

### 2.3. Official abbreviation of the index

RMAX

### 2.4. Formula of the index

$$RMAX_t = RMAX_{t-1} * \frac{\sum_{i \in D_{t-1}} (P_{t,i} + A_{t+2,i} + G_{t+2,i}) * w_{t-1,i}}{\sum_{i \in D_{t-1}} (P_{t-1,i} + A_{t+1,i}) * w_{t-1,i}},$$

where

$P_{t,i}$ : is the arithmetical average, rounded to four decimals, of the best bid and best offer clean (net) price of government security series  $i$  on trading day  $t$  with settlement on day  $t + 2$  based on Primary Dealers' two-way secondary market price quotation

$A_{t,i}$ : is the interest accrued on government security  $i$  until day  $t$  as value date (ignoring the ex-coupon day), rounded to four decimals; zero in case of T-Bills

$G_{t,i}$ : is the interest payment for government security  $i$  on day  $t$ , rounded to four decimals

$w_{t,i}$ : is the weight of government security  $i$  on trading day  $t$  in the index basket based on its outstanding amount

$D_t$ : is the set of constituent government securities in the index basket on trading day  $t$ .

The value of the RMAX Index is calculated by rounding to four decimals.

### 2.5. Basis and measure of the index

December 31, 1996 (trading day) = 100.0000 points

### 2.6. Dates of calculating and publishing the index

The index is calculated once on each trading day during the trading hours of Hungarian Government Bonds. The index value of the given trading day is published at <https://akk.hu/en/statistics/yields-indices-and-secondary-market-turnover/max-index->

[values](#) not later than 3 PM local time on that trading day.

The current value of the index is also published on the following pages of news agencies:

- on the HUBONDINDEX1 page of Refinitiv (formerly Thomson Reuters)
- on Bloomberg's GDMA\ 8) MAX Index page.

## **2.7. Basic criteria of the index basket composition**

The RMAX index is a so-called "all-securities" index, meaning its constituents include every eligible government security that comply with the given criteria.

A government security series is added to the index basket if it meets all the following criteria:

- It is a Hungarian Forint denominated T-Bill or fixed interest rate Hungarian Government Bond publicly and domestically issued by the Hungarian State as the issuer;
- The given government security series falls under the secondary market bid and ask price quotation obligation of Primary Dealers;
- It has a remaining term-to-maturity of at least 105 days but shorter than 365 days at the time of inclusion in the index basket.

## **2.8. Weighting of the constituent government securities**

Government securities are represented in the index basket by a nominal value (Hungarian Government Bonds) or price value (T-Bills) corresponding to their accepted amount at auctions ('classic' and exchange auctions as well as buyback auctions) held by ÁKK Zrt. The sum of these values constitute the total outstanding amount of the index basket constituents. The weight of the individual government securities in the index basket is equal to the quotient of their nominal value (Hungarian Government Bonds) or price value (T-Bills) accepted at auctions and the total outstanding amount of the index basket constituents. In the case of any other transaction involving government securities ÁKK Zrt. decides at its own discretion whether the given amounts should be taken into account as regards the composition of the index basket. In the case when ÁKK Zrt. publishes data about government security transactions beside auctions and at its own discretion decides that the RMAX index basket should take these transactions into account, then ÁKK Zrt. discloses such information on its own website (<https://akk.hu>).

The weights of constituent government securities based on their outstanding amount are determined every two weeks, on the financial settlement day of 12-month T-Bill auctions. If this day is not a trading day, the weights are changed on the next trading day.

## **2.9. The chain-link method**

The index is calculated using the so-called chain-link method, i.e. a given day's index value is the multiple of the previous day's index value and the weighted percentage change of gross prices during the time between. By applying the chain-link method, changes in the

compositions of the index do not cause jumps or distortions in the index value.

## **2.10. Reinvestment of interest payments**

Any interest paid by the Issuer on the constituent government securities is reinvested into the constituent government securities of the current index basket according to their weights. The interest payment is accounted for in the index calculation on the second trading day before the actual interest payment day.

## **2.11. Changes in the composition of the index basket**

### **2.11.1. Inclusion into the index basket**

In case the remaining time-to-maturity a government bond series satisfying all inclusion requirements falls below 365 days, the government bond is then added to the index basket on the first trading day on which weights are changed.

In case a T-Bill series is issued satisfying all inclusion requirements, the T-Bill is then added to the index basket on the first trading day on which weights are changed.

### **2.11.2. Exclusion from the index basket**

In case the remaining term-to-maturity of a constituent government security – calculated from the value date of the index to the maturity date of the government security – decreases below 105 days, then the government security is excluded from the index basket on the first trading day on which weights are changed.

In line with the index calculation method, the current gross price value as at the date of exclusion of the government security so excluded is reinvested into the current index constituents according to their weights on the day of exclusion.

## **2.12. Treatment of extraordinary events**

### **2.12.1. Lack of price quotation**

In the case when Primary Dealers' price quotation is for any reason temporarily not available for a constituent government security, the index should be calculated with the last available correct prices, for a period no longer than 5 consecutive trading days.

In case Primary Dealers' price quotation of the given government security is not restored within 5 trading days, the government security is temporarily excluded from the index basket on the sixth trading day following the cause of the lack of price quotation in line with subsection 2.11.2 paragraph 2.

As in this case this is only a 'temporary' exclusion, as soon as Primary Dealers' price quotation becomes available again for the given government security, the aforementioned technically excluded government security series is reinstated into the index basket on the first trading day when appropriate price quotation is available (i.e. in such cases not on the

financial settlement day of the next 12-month T-Bill auction). Regarding the reinstatement into the index basket the general inclusion rules apply.