Benchmark indices BMX2Y, BMX3Y, BMX5Y and BMX10Y for the government securities market

1. Index Description

1.1.   Official Hungarian names of the indices

IE-New York Broker Rt. 2 Éves Referencia Államkötvény Index

IE-New York Broker Rt. 3 Éves Referencia Államkötvény Index

IE-New York Broker Rt. 5 Éves Referencia Államkötvény Index

IE-New York Broker Rt. 10 Éves Referencia Államkötvény Index

1.2 Official English name of the indices

IE-New York Broker Ltd. 2 Year Benchmark Hungarian Government Bond Total Return Index

IE-New York Broker Ltd. 3 Year Benchmark Hungarian Government Bond Total Return Index

IE-New York Broker Ltd. 5 Year Benchmark Hungarian Government Bond Total Return Index

IE-New York Broker Ltd. 10 Year Benchmark Hungarian Government Bond Total Return Index

1.3. Official abbreviated names:

BMX2Y
BMX3Y
BMX5Y
BMX10Y

1.4. Index basis:

Set on February 17, 1997, the basis of BMX2Y is   100.0000 points
Set on February 17, 1997, the basis of BMX3Y is   100.0000 points
Set on February 17, 1997, the basis of BMX5Y is   100.0000 points
Set on January 20, 1999, the basis of BMX10Y is   100.0000 points

1.5 Date and time of index calculation and publication

The indices are calculated once every trading day, following the publication of benchmark yields. The daily index value is published at 3 p.m. on the Reuters page of the Government Debt Management Agency and on the IE-New York Broker Rt's homepage.

1.6 The formula of the indices:

$$index_{t,t+2} = index_{t-1,t+1} * \left(\frac{dirty\ price_{t-x,t+2} + coupon\ payment_{t+2}}{dirty\ price_{t-1,t+1}} \right)$$

with $x = 0$ if the same bond represents the Government Debt Management Agency's benchmark yield for a given maturity on both day *(t-1)* and day t;
and $x = 1$ if the benchmark bond on day *(t-1)* is replaced by another benchmark bond on day t.

$index_{t,t+2}$:	is the index that is calculated on day t based on the benchmark yield of the appropriate maturity that is determined on trading day t and relates to the value date *(t+2)*
$index_{t-1,t+1}$:	is the index that is calculated on day *(t-1)* based on the benchmark yield of the appropriate maturity that is determined on trading day *(t-1)* and relates to the value date *(t+1)*
$dirty\ price_{t-x,t+2}$:	Related to value date (t+2) and based on the benchmark yield published by the Government Debt Management Agency on day *(t-x)=t,* this is the dirty price of a government bond that has been the benchmark for a given maturity for at least two days, or if the benchmark status of a bond is taken over by another bond right on day t, it is the gross price of the preceding day's benchmark bond, based on the ÁKK's benchmark yield for day *(t-x)=(t-1)* and related to the value date *(t+2)*.
$dirty\ price_{t-1,t+1}$:	is the dirty price of the preceding (t-1) trading day's benchmark bond, based on the benchmark yield of that bond on day (t+1) and related to the value date (t+1).
$coupon\ payment_{t+2}$:	is the given bond's coupon value that is payable on day *(t+2)* and expressed as a percentage of the face value.

The calculation method used is in harmony with the security market conventions and is in compliance with the guidelines of the Bond Commission of the European Federation of

Financial Analysts' Societies (EFFAS). The benchmark yields used for calculating rates are expressed in percents, rounded to two decimals. The prices are expressed in percents rounded to four decimals. Indices are rounded to four decimals.

2. Objectives of the indices BMX2Y, BMX3Y, BMX5Y and BMX10Y

The MAX index family, which covers a substantial part of Hungarian government securities, well reflects the development of the government securities market and certain segments thereof. Due to their comprehensive nature, these indices are especially useful for investors whose portfolio includes a wide range of government securities or those who need an overall picture of the government securities market. One must bear in mind, however, that the maturity range of the government securities included in the MAX index basket expanded to almost 9 years by the addition of the 10-year bonds. Of course, the returns corresponding to the different maturities have been varied. This calls for the term-specific monitoring and measurement of returns and performances that are related to some key maturities. The benchmark yields that have been published by the Government Debt Management Agency on a daily basis since as early as February 17, 1997 ensure that the returns belonging to the key maturities are well traceable. (The Agency has been publishing benchmark returns for the 10-year maturity since January 20, 1999.) The performance of government securities for the benchmark maturities has not been measured and published so far. Since the issuing system of benchmark bonds is very transparent system in the Hungarian government securities market, and the Government Debt Management Agency ensures that the necessary information is made public on each trading day through the quotations in the primary dealer system, it is possible to create benchmark bond indices.

Fully compatible with the MAX index, the benchmark government bond indexes are used for measuring the performance of benchmark government bonds belonging to the key maturities (2, 3, 5 and 10 years) that are considered as the core of the MAX portfolio. The indices BMX2Y, BMX3Y, BMX5Y and BMX10Y provide useful benchmarks even for those investors who have less diversified portfolios featuring a few typical maturities only.

The indices BMX2Y, BMX3Y, BMX5Y and BMX10Y are based on the 'total return' concept. It means that the indices are calculated by using dirty prices, therefore accruing interests induce increasing index values, and also the coupons that fall due are re-invested on the coupon payment date. The basket of the indices BMX2Y, BMX3Y, BMX5Y and BMX10Y contains one bond at a time. **The prices required for calculating the indices are based on the appropriate benchmark yields published by the Government Debt Management Agency.**

Indices BMX2Y, BMX3Y, BMX5Y and BMX10Y, which are based on the benchmark returns and are published by the Government Debt Management Agency on a daily basis, show the performance of benchmark government bond series that belong to the quasi-permanent key maturities (2, 3, 5 and 10 years) and generally have the most liquid market of all. It is because the yield on an investment in bond series that feature the key maturities may be calculated from the index values related to two different points of time. For example, index BMX3Y helps to calculate the return that is gained by an investor who kept re-investing every time in 3-year benchmark bonds.

3. Treatment of extraordinary cases

Replacement of benchmark bonds

The bonds represented by the various indices are replaced, with the value date ($t+2$), on the first trading day (day t) of a new bond that is classified as a benchmark in the respective benchmark category. On that trading day, there is no benchmark return attached to the bond that is no longer used as a benchmark since the benchmark return is already calculated in relation to the new benchmark bond. Consequently, the price of the 'ex-benchmark' bond is calculated with the value date ($t+2$) by using the benchmark return of trading day ($t-1$), i.e. the last benchmark return attached to that 'ex-benchmark' bond. The price of the new benchmark bond in that category is determined on the basis of the benchmark yield that belongs to that bond and is published by the Government Debt Management Agency on trading day t with the value date ($t+2$).

Coupon payments

The coupon payable on a bond is reinvested in that bond on the coupon payment date at a price quoted on the given value date. If the coupon payment date of a bond falls on a bank holiday or national holiday, the coupon is considered to fall due on the first subsequent trading day.

Suspension of quotation

If no benchmark yield is set by the Government Debt Management Agency for a given maturity term on any trading day, the index of that maturity term is not calculated on that trading day. When trading is resumed, the latest valid value of an index should be considered as the basis.

Budapest, June 8, 2000