

KAZAKHSTAN STOCK EXCHANGE JSC

Approved

by a decision of the Board of Directors
of Kazakhstan Stock Exchange JSC

(Minutes No. 32 of the meeting
dated October 27, 2022)

effective

as of August 01, 2024¹

NOTICE

This Methodology in English has been translated by employees of Kazakhstan Stock Exchange for information purposes only. In case of any incompliance of this translation with the Methodology original version in Russian, the latter prevails.

METHODOLOGY

for the calculation of securities' market prices

city of Almaty, 2022

¹ From the date determined by the Management Board of the Exchange, after the commissioning of the module for automated calculation of market prices in the back-office system of the Exchange.

This Methodology determines the procedure for calculating the market prices of securities admitted to circulation on Kazakhstan Stock Exchange JSC (hereinafter – the Exchange) for the purpose of publishing these prices as an integral part of information on securities trading conducted on the Exchange.

Article 1. General conditions for calculating market prices

1. For the purposes of this Methodology, the following definitions and abbreviations apply :
 - 1) government securities of the Republic of Kazakhstan (hereinafter – GS) – debt securities issued by the Ministry of Finance of the Republic of Kazakhstan, the National Bank of the Republic of Kazakhstan or local executive bodies in compliance with the legislation of the Republic of Kazakhstan, and included in the Exchange's official list;
 - 2) debt securities issued by international financial institutions (hereinafter – IFI securities) – securities issued by international financial institutions in compliance with the legislation of the Republic of Kazakhstan and included in the Exchange's official list;
 - 3) corporate securities (hereinafter – CS) – securities (except for IFI securities) issued by issuers of the Republic of Kazakhstan in compliance with the legislation of the Republic of Kazakhstan, included in the Exchange's official list and for which secondary trading is open;
 - 4) The Market Risk Committee (hereinafter – the Committee) is a permanent collegial body of the Exchange's Management Board, created by a decision of the Exchange's Management Board, whose task is to analyze, monitor, identify and manage risks associated with the situation on financial markets, the procedure for the formation and implementation of which is determined by an internal document of the Exchange;
 - 5) "clean" price – the price of a debt security without taking into account the accrued and unpaid coupon interest on it;
 - 6) "dirty" price – the price of a debt security, taking into account the accumulated but not paid coupon interest on it;
 - 7) MCI – the monthly calculation indicator for calculating benefits and other social payments, as well as for applying penalties, taxes and other payments in accordance with the legislation of the Republic of Kazakhstan, the value of which is established by the laws of the Republic of Kazakhstan on the republican budget for the corresponding year
2. Other concepts and designations used in this Methodology are identical to the concepts and symbols defined by the legislation of the Republic of Kazakhstan and other internal documents of the Exchange.
3. To determine market prices in accordance with this Methodology, the following are used:
 - 1) parameters of deals concluded in the Exchange's trading system by the open trades methods, as they are determined by the Exchange's internal documents;
 - 2) parameters of orders submitted to the Exchange's trading system for conclusion of transactions by open trading methods, except for orders that do not indicate the price of a financial instrument – market orders, as they are determined by the Exchange's internal documents;
 - 3) parameters of transactions concluded in the Exchange's trading system during a special trading session conducted by the Exchange in respect of securities of IFIs .

4. To determine market prices in accordance with this Methodology, the following are not used:
 - 1) parameters of orders and transactions not specified in item 3 of this article;
 - 2) parameters of orders and deals submitted (concluded) in the Exchange's trading system as part of the procedures for settling defaults of clearing participants, including those concluded in self-settlement modes, as they are defined by the Exchange's internal documents.
5. Valuation of securities and calculation of their market prices is not carried out if there is no or insufficient amount of data necessary for such an assessment (for example, if there are no transactions or orders, based on the parameters of which this security should be evaluated, or if there is an insufficient number of such transactions or requests).
6. The Exchange does not calculate market prices for securities that are not included in the Exchange's official list.
7. Market prices are calculated in accordance with this Methodology and published on the website of the Exchange daily on business days no later than 11:00 o'clock, Astana time and are valid during this business day.
8. Market prices of shares are calculated in Kazakh tenge.

Market prices of debt securities traded on the Exchange in "clean" prices (without taking into account the coupon interest accrued but not paid as of the valuation date) are set in "clean" prices as a percentage of their face value.

Market prices of debt securities traded on the Exchange in "dirty" prices (taking into account the coupon interest accrued but not paid as of the valuation date) are set in "dirty" prices in Kazakh tenge.
9. If the parameters of any orders and transactions used to determine market prices are expressed in a foreign currency, they are recalculated into Kazakh tenge at the exchange rate of the National Bank of the Republic of Kazakhstan effective as of the date of filing such an order (as of the date of conclusion of such a transaction).

Article 2 Limitation of Liability

1. The Exchange makes every effort to ensure the adequacy of market prices calculated in accordance with this Methodology to objective market indicators at the time of such calculation by ensuring the operation of the Committee and authorizing it to make decisions in accordance with this Methodology.

At the same time, the Exchange does not influence the determination by trading participants of prices and other parameters of orders and transactions used to calculate market prices and is not responsible for their compliance with objective market indicators and the value of certain securities determined in other ways.
2. The Exchange calculates market prices for informational purposes only and is not responsible for the results of applying these market prices by third parties for any purpose.

Article 3. Market prices of GS

1. Market prices of non-indexed GS issued by the Ministry of Finance of the Republic of Kazakhstan, the National Bank of the Republic of Kazakhstan are taken equal to the settlement prices of these securities, which are calculated in accordance with the Methodology for determining the yield function of government securities of the Republic of Kazakhstan.

2. Market prices of GS issued by the Ministry of Finance of the Republic of Kazakhstan and the National Bank of the Republic of Kazakhstan, the coupon rate of which is indexed to changes in inflation or changes in money market rates, are taken equal to 100 % of their face value.
3. Market prices of other government securities, in addition to those specified in items 1 and 2 of this article, are calculated in accordance with the procedure for calculating market prices for CS, established by article 5 of this Methodology.

Article 4. Market prices of IFI securities

1. Market prices of non-indexed IFI securities denominated in tenge are determined in accordance with items 4 and 5 of this article.
2. Market prices of IFI securities, the coupon rate of which is indexed to changes in inflation or changes in money market rates, are taken equal to 100% of their face value.
3. Market prices of other IFI securities, in addition to those specified in items 1 and 2 of this article, in accordance with the procedure for calculating market prices for securities established by article 5 of this Methodology.
4. Market prices of IFI securities specified in item 1 of this article are calculated according to the formulas established in Chapter 3 of the Methodology for calculating the yield of bonds and the amounts of transactions with bonds, based on the estimated yield of such securities to maturity for the buyer. In this case, the estimated yield is defined as the sum of:

the yield value of government securities with the same maturity, determined in accordance with the Methodology for determining the yield function of government securities of the Republic of Kazakhstan, and valid at the time of calculating the market price, and

multiplying factor ($IFI\ SPREAD_{res}$), expressed as a percentage per annum, which is set by the Committee based on the rating level of the international financial institution – the issuer of the Central Bank of IFIs of this issue.

5. The Committee sets the values of the multiplying factors ($IFI\ SPREAD_{res}$) on the basis of statistical data on the values of the yield rates of IFI securities for the buyer to maturity, determined by the results of specialized trades held on KASE for the placement of IFI securities.

The procedure and terms for determining and reviewing multiplying factors by the Committee ($IFI\ SPREAD_{res}$) are established by Article 6 of this Methodology, as well as the Regulations on the Market Risk Committee.

Article 5. Valuation of corporate securities

1. For the purpose of calculating market prices for securities of each denomination, a selection of transactions concluded with these securities, as well as orders for concluding transactions with them is carried out, based on the following criteria:
 - 1) the volume of a transaction or order on equity securities – at least 2,000-fold MCI;
 - 2) the volume of a transaction or order on debt securities – at least 1,000-fold MCI;
 - 3) the order was valid for at least 30 minutes, a transaction was concluded or on its basis with a volume (transactions were concluded with a total volume) of at least the values specified in sub-items 1) and 2) of this item ;
 - 4) the yield to maturity for the buyer, specified in the parameters of the transaction or order for debt securities of a particular name, denominated in

tenge, is not less than the calculated yield of government securities with the same maturity, measured in days and determined on the basis of the current GS yield function formed in accordance with the Methodology for determining the yield function of government securities of the Republic of Kazakhstan.

2. The sample specified in item 1 of this article is made out of orders and deals recorded in the Exchange's trading system for five trading days preceding the assessment date.
3. If the sample specified in item 1 of this article for a corporate security of a particular name includes five or more transactions, then the market price of the corporate security of this name is calculated as the weighted average price of the last five relative to the date of evaluation of transactions. In this case, the weighting is carried out according to the volume of these transactions.
4. If the sample specified in item 1 of this article for a corporate security of a particular name includes less than five transactions, or there are no transactions in securities of this denomination, then the calculation of market prices of such securities is carried out in the manner specified in items 5-7 of this article.
5. On corporate securities of each name, for each of the five trading days preceding the assessment date, the following shall be selected from the sample specified in item 1 of this article:
 - 1) an order to buy with the highest price for a given trading day (Bid_t);
 - 2) an order to sell with the lowest price for a given trading day (Ask_t);
 - 3) a deal (s) made on a given trading day ($Deal_{ti}$).
6. If on a CS of particular name for any trading day out of the five days preceding the assessment date, the sample compiled in accordance with item 5 of this article includes:
 - 1) three or more elements – the intermediate price of these securities ($Price_t$) is calculated as the median value of the prices of orders and/or transactions that make up the given sample;
 - 2) two elements – the intermediate price of these securities ($Price_t$) is calculated as the arithmetic mean of the prices of orders and/or deals that make up the given sample;
 - 3) less than two elements – the market price of these securities is not calculated.
7. Market prices ($Price_m$) for CS are calculated on the basis of their intermediate prices determined in accordance with item 6 of this article according to the following formula:

$$Price_m = \frac{\sum_{t=1}^5 (Price_t * k_t)}{\sum_{t=1}^5 k_t}, \text{ where}$$

k is the weighting coefficient for intermediate prices ($Price_t$), which is equal to:

- 1) if the intermediate price for the day t is calculated for corporate securities of a particular name only on the basis of transaction prices – 1;
- 2) if the intermediate price for the day t is calculated for corporate securities of a particular name on the basis of transaction and bid prices – 0.8;
- 3) if the intermediate price for day t is calculated for corporate securities of a particular name on the basis of order prices – 0.6.

Article 6. Increasing factors for valuation of IFI securities

1. Increasing factors ($IFI\ SPREAD_{res}$) are set by the Committee and are subject to revision at least once a calendar quarter and are valid until the next revision.

The increasing coefficients are reviewed by the Committee at the end of each calendar quarter or in case of a significant change in the placement rates of IFI securities in KASE's trading system, or in case of a change in the ratings of the Republic of Kazakhstan or IFIs whose securities are included in the Exchange's official list based on proposals from the unit responsible for calculating market prices in accordance with this Methodology (hereinafter – the responsible unit).

Increasing factors ($IFI\ SPREAD_{res}$) cannot be negative.

Meetings (absentee voting) of the Committee and documenting of materials based on the results of such meetings (absentee voting) are carried out in accordance with the procedure established in the Exchange's internal documents.

2. Increasing factors ($IFI\ SPREAD_{res}$) are established by the Committee, taking into account the expert opinion of the Committee members based on materials on the results of placements of IFI securities prepared by the Exchange's structural unit responsible for calculating market prices in accordance with this Methodology (hereinafter – the responsible unit), and submitted for consideration by the Committee no later than the last working day of the month following the next calendar quarter.
3. To prepare the materials specified in item 2 of this article, the results of five special trading sessions for the placement of securities of IFIs that preceded the end of the next calendar quarter or the date of preparation by the responsible department of materials for an extraordinary revision of multiplying coefficients are used.
4. For each placement of IFI securities, the weighted average value of the yield of these IFI securities for the buyer to maturity is calculated based on the values of the returns on transactions concluded within the framework of specialized trades for the placement of these securities. In this case, the weighting is carried out according to the volume of the transaction.
5. The yield value obtained in accordance with item 4 of this article correlates with the yield value of government securities with the same maturity, expressed in days, reflected on the risk-free yield curve valid at the time of preparation of the materials, determined in accordance with the Methodology for determining the yield function of government securities of the Republic of Kazakhstan. The difference between these values is determined – the yield spread of IFI securities to the risk-free yield curve. The negative value of this difference (spread) is considered equal to zero.
6. Upon completion of calculations of yield values at offerings of IFI securities and determining their spreads to the risk-free yield curve, a matrix of these spreads is compiled in accordance with Appendix 1 to this Methodology.
7. The Committee makes a decision on setting raising factors for each IFI, whose securities are on KASE official list, depending on the rating level of this IFI based on the data of the matrix compiled in accordance with Appendix 1 to this Methodology, as well as other available information, which is relevant to the formation of the opinion of the Committee and the adoption of its decision.

Article 7. Special powers of the Committee

1. In situations where the market prices of some securities determined in accordance with this Methodology differ significantly from the objective current level of prices for these securities in the Exchange's trading system due to force majeure circumstances, refusal of market-makers to fulfill their obligations under maintaining quotations, changes in exchange rates, as well as for other possible reasons affecting objective pricing, the Committee has the right to decide on

determining market prices for such securities in a manner different from that established by this Methodology. At the same time, the specified market prices can be determined within the terms established by this Methodology, or within the terms established by the Committee.

2. When the Committee uses its special powers, the minutes of its meetings must reflect the reasons for the use of these powers and the actions taken by it in accordance with these powers.
3. When the Committee decides to conduct an extraordinary valuation of securities of any denomination, their market prices obtained as a result of such valuation begin to apply from the moment determined by the Committee and are valid until the next revision or other period established by the Committee.

Article 8. Final Provisions

1. This Methodology is published on the official website of the Exchange <https://kase.kz>.
2. Responsibility for the timely introduction of changes and/or additions to this Methodology (updating) rests with the responsible unit.
3. This Methodology is subject to updating as necessary, but at least once every three years.

Chairperson of the Management Board

A. Aldambergen

Appendix 1

to the Methodology for the
calculation of securities'
market prices

M A T R I X
of spreads of IFI securities

Date of special trading session					
Name of IFI					
IFI's credit rating					
Security ticker					
Maturity of the security					
Currency of denomination of the IFI's security					
Availability of indexation of the IFI's security					
Yield rate on special trading sessions					
Spread to the risk-free GS yield curve					