

Based on the Articles 4, 9 and 25 of the Law on the Banking Agency of Federation of Bosnia and Herzegovina (Official Gazette of Federation of Bosnia and Herzegovina", No. 9/96 and 27/98, 20/00, 45/00, 58/02, 13/03, 19/03, 28/03, 47/06 and 59/06) and Article 38 in relation with Article 69 of Law on Banks ("Official Gazette of Federation of Bosnia and Herzegovina", No. 39/98, 32/00, 48/01, 27/02, 41/02, 58/02, 13/03, 19/03 and 28/03), Management Board of Banking Agency of Federation of Bosnia and Herzegovina issues the

## **DECISION ON MINIMUM STANDARDS FOR BANK MARKET RISKS MANAGEMENT**

### **1. GENERAL PROVISIONS**

#### **Article 1**

This Decision more closely determines the minimum standards for market risks management that banks need to adhere to in their performance.

Market risks management from the 1st paragraph of this Article supposes identification, measurement, control and monitoring of market risks and providing capital for capturing the mentioned risk.

### **2. TRADING BOOK**

#### **Article 2**

Bank's trading book includes following instruments:

1. financial instruments and other marketable assets (commodities) held for resale and/or because the bank purchased/assumed them for profit from difference between their purchase and sale price, or from other price fluctuations, interest rates or positions set for hedging of other elements of so defined items that are kept in the trading book;
2. exposures that have resulted from uncovered transactions, deliveries and unallocated derivative instruments in off-balance sheet (interest rate contracts, currency agreements and contracts similar to interest and currency contracts);
3. instruments that are in nature similar to those listed in items 1 and 2 of this paragraph, including repo and reverse repo contracts as well as the contracts on loaning securities and commodities (in exchange for adequate collateral) that are included in the trading book;
4. exposures in the forms of payment of compensations, fees, dividends and margin on included derivative instruments, that are directly related to items included into the trading book;

5. financial instruments established based on the contract on agent's role of the bank in issuing securities, that is contracts by which the bank obliged itself that it will organize and implement for the issuer an emission of securities, register and pay in all or just a part of securities that remained unregistered, with an aim to further sell them to potential clients.

The values of all instruments that are in the trading book should be registered, that is recorded in market prices every day.

The value of the financial derivatives is recorded under the lower value of underlying financial instruments on which they are based, whether it is the nominal or market price, and of other financial instruments under the lower value, whether it is the nominal or the market price. Long and short positions are shown in total amount, whether or not they are positive or negative.

Banking book includes all bank's assets and all bank's transactions that are not included in the trading book.

Bank is obliged to calculate capital requirements for the risks carried by the trading book financial instruments in accordance with the provisions of this Decision, if one of the following conditions is met:

- if total market value of the trading book items during more than 3 days in a calendar month exceeds 5% of bank's total risk assets,
- if total nominal value of the trading book items during more than 3 days in a calendar month exceeds KM 30 million,
- if total market value of the trading book items on any day during a calendar month exceeds 6% of bank's total risk assets or if total nominal value of the trading book items exceeds KM 40 million.

If the volume of bank's trading book activities is lower than above mentioned, then capital requirements for risk carried by the financial instruments is calculated through credit equivalents of off-balance sheet liabilities in accordance with Decision on Minimum Standards for Bank Capital Management.

The total amount of all types and types of instruments that are under the criteria set in the paragraph 1 of this Article included in the trading book and the maximum total amount included in the trading book, should be in compliance with the internal strategy, policies and procedures for investment and trading that the bank is obliged to submit to the Banking Agency of the Federation of BiH (hereinafter: FBA) and which change can be tested. FBA should be immediately informed in a written form about each change of these documents stating the reasons behind the change. Reallocation and transfer of positions between the trading and the banking book must be documented, able to be proved and supported with bank's records.

As a part of the bank's annual audit, the obligation of the bank is to request from the external auditor, and the auditor is obliged to perform and confirm compliance of bank's performance with internal criteria of the bank for the allocation of positions in the trading book, that is banking book.

Bank is obliged to submit monthly report to the FBA – Detailed Trading Book – Form No. 7, as prescribed in Decision on Reporting Form that Banks Submit to the Banking Agency of the Federation of Bosnia and Herzegovina. Within the format prescribed, banks submit to the FBA data on trading volume in the trading book with the balance as of the last day in a month, and average balances within the month. Bank daily monitors its trading volume in the trading book and if any changes occur that can cause violation of the mentioned limits related to the volume of the trading book activities, then it is obliged to inform the FBA in regard to the requirement to calculate capital requirement carried by the financial instruments allocated in the trading book in accordance with the provisions of this Decision.

### **3. MANAGING MARKET RISKS**

#### **Article 3**

The bank is obliged to establish market risk management systems, which will provide:

- 1) identification of the existing market risks and market risks that may be originated through new business products and activities;
- 2) market risk measurement through establishing mechanisms and procedures for accurate and timely market risk evaluation;
- 3) market risk control;
- 4) monitoring market risk through analysis of balances, changes and trends; and
- 5) providing capital to cover market risks.

Market risks management systems should be adequate for the bank's risk portfolio that is for the level of the accepted risks and complexity of bank's products and services.

#### **Article 4**

The bank is obliged to manage all market risks to which it is exposed to in its performance, especially:

- 1) interest rate risk;
- 2) foreign currency risk;
- 3) price risk.

Market risks, in the sense of this decision, further include the risks related to credit risk, that is: counterparty risk, issuer risk and placement risk.

#### **Article 5**

The bank is obliged to, depending on the volume and complexity of the business, form or designate in its organizational structure an organizational unit or individual that will be directly responsible for managing market risks from the Article 3, Item 1 of this Decision.

The market risks from Article 4 paragraph 2 of this Decision are managed by an organizational unit or an individual that is directly responsible for managing credit risk management in the bank.

The organizational unit that is individuals from paragraph 1 and 2 of this Article are obliged to at least once per month submit to the Supervisory Board reports on activities related to managing market risks.

## **Article 6**

In the market risk management process the bank is obliged to provide that:

- 1) the Supervisory Board of the bank upon bank's Management suggestion adopts an investing and trading strategy that will at minimum include:
  - a) a short description of all types of products for trading,
  - b) acceptable level of relation between yield and risk for the total portfolio of trading products, with a short explanation for each individual type of trading products,
  - c) aims that the bank wants to fulfill in its performance with chosen products, and
  - d) general criteria for choice of the trading counterparty;
- 2) Supervisory Board of the bank upon suggestion from the bank's Management suggestion adopts policies and determines procedures in compliance with the strategy from item 1) of this Article, at a minimum on:
  - a) establishment of limits and control processes,
  - b) methods and means for risk measurement,
  - c) authorizations and responsibilities in the process of taking over and managing market risks, and
  - d) information and reporting system;
- 3) Bank's Management establishes a system that will provide that the processes and transactions are in compliance with the strategy, policies and procedures from items 1) and 2) of this Article and a system for informing the Supervisory Board on exceptions from the determined strategy, policies and procedures;
- 4) Management of the bank brings together the bank's activities related to market risks management with the activities performed in subsidiaries and other legal entities that are subject to control on consolidated basis, and also to incorporate the same into a structure of risk management on the consolidated basis;
- 5) Management of the bank is regularly performing the back-testing and checking the results of market risk management if the market risk management system from the Article 3 of this Decision is apart from the rest significantly based on the hypothesis.

### **3. 1. INTEREST RATE RISK**

#### **Article 7**

The bank is obliged to perform the measuring of risk related to foreign exchange rates changes at least once a month.

Exceptionally to paragraph 1 of this Article, the bank is obliged to measure interest rate risk in shorter intervals if it determines that there are material changes of interest rates, volume and/or types of bank assets, liabilities or off-balance sheet items.

All net positions in the debt securities should be shown daily in KM that is denominated based on the prompt market rates.

#### **Article 8**

The bank is obliged to set limit for interest rate risk that will include all material exposures to risk of interest rate changes.

The bank is obliged to measure and restrict the risk of the changes in interest rates through individual currencies and on aggregate basis.

### **Article 9**

Bank's obligation is to regularly evaluate the impact of the changes in interest rates on the income of the bank, interest spread, funds expenses expressed in interest rate and on the bank's net interest margin.

### **Article 10**

The bank is obliged to calculate the capital requirement for the interest rate risk in compliance with this Decision only for debt financial instruments that are in the trading book. However it is obliged to establish a system to monitor and control the interest rate risk that all its operations are exposed to.

The bank is obliged to perform classification of its net open position in each debt financial instrument (bonds, money market instrument, components of derivative instruments in compliance with the chapter that regulates treatment of derivatives and in every other position that is sensitive to interest rate changes), and in compliance with the currencies in which they are nominated and calculate capital requirement for specific and general interest rate risk in each currency separately.

#### **3.1.1. METHODOLOGY FOR CALCULATION OF THE SPECIFIC INTEREST RISK**

### **Article 11**

The bank will perform allocation of its net positions in debt instruments in relevant categories based on the remaining maturity deadline and multiply them with the proscribed percentages, as shown in the table that follows. Capital requirement for specific interest rate risk presents total of all risk weighted positions multiplied with 12%.

Non-risk bearing items	Qualified items			Other items
	Up to 6 months	Over 6 to 24 months	Over 24 months	
0,00 %	0,25 %	1,00 %	1,60 %	12,00 %

In compliance with this Article, under non-risk bearing items supposed are debt securities issued or completely insured by subjects that, in compliance with the Decision on minimum standards for managing bank's capital, have been designated a 0% credit risk weight, and under the qualified items debt securities issued or completely insured by subjects that have been allocated a 20% credit risk weight.

The bank does not calculate a specific interest risk for its own debt instruments held in its possession.

The bank is obliged to calculate capital requirement for specific interest rate risk and to submit to the FBA a quarterly report – Specific interest rate risk per individual currency – Form 8, Table A, prescribed in accordance with Decision on Reporting Form which Banks Submit to the Banking Agency of the Federation of Bosnia and Herzegovina.

### 3.1.2. METHODOLOGY FOR CALCULATION OF THE GENERAL INTEREST RISK

#### Article 12

For calculation of general interest rate risk the bank is obliged to use: (I) «Maturity based approach », or, with a previous consent from FBA, (II) «Duration based approach». Based on both approaches the capital requirement is calculated as a total of the following elements:

- Parts expressed in % of total matched risk weighted positions in all time-band maturities (EXCEPTION: it is not calculated in duration based approach);
- Parts expressed in % of matched risk weighted positions in all individual maturity zones (zone 1, zone 2 and zone 3);
- Parts expressed in % of matched risk weighted positions between different maturity zones (zone 1 and zone 2; zone 2 and zone 3; zone 1 and zone 3); and
- Remaining mismatched risk weighted positions.

#### 3.1.2.1. Maturity based approach

#### Article 13

In compliance with this approach the bank performs dividing of its net positions in debt instruments applying the table that follows, based on:

1. residual term to maturity (or according to residual term to the next re-pricing of interest for instruments with floating interest rate), and
2. interest rate.

Maturity Zone	MATURITY TIME BAND		Risk weight
	Interest rate of 3% or higher	Interest rate lower than 3%	
1	0 to 1 months	0 to 1 month	0,00 %
1	1 to 3 months	1 to 3 months	0,20 %
1	3 to 6 months	3 to 6 months	0,40 %
1	6 to 12 months	6 to 12 months	0,70 %
2	1 to 2 years	1 year to 1 year and 9 months	1,25 %
2	2 to 3 years	1 year and 9 m. to 2 y. and 8 months	1,75 %
2	3 to 4 years	2 years and 8 m. to 3 y. and 6 m.	2,25 %
3	4 to 5 years	3 y. and 6 m. to 4y. and 3 m.	2,75 %
3	5 to 7 years	4 y. and 3 m. to 5y. and 7 m.	3,25 %
3	7 to 10 years	5 y. and 7 m. to 7y. and 3 m.	3,75 %
3	10 to 15 years	7 y. and 3 m. to 9 y. and 3 m.	4,50 %
3	15 to 20 years	9 y. and 3 m. to 10 y. and 6 m.	5,25 %
3	Over 20 years	10 years and 6 months to 12 year	6,00 %
3		12 years to 20 years	8,00 %
3		Over 20 years	12,50 %

(A) POSITIONS OF MATURITY BANDS: The bank multiplies each position with risk weight for that maturity time band that is given in the last column of the table. In each maturity time band all risk weighted long positions and all risk weighted short positions are independently added. The smaller amount, being the total of risk weighted long positions or total of short weighted positions, in each maturity time-band is considered as matched risk weighted position in that maturity time-band. The difference between those two amounts is considered to be the mismatched (long or short) risk weighted position of that maturity time-band.

The bank calculates the total matched position in all maturity bands as a total of matched risk weighted positions for each maturity band.

- (B) POSITIONS OF MATURITY ZONES: The total of mismatched (long and short) risk weighted positions of all time maturity time-bands in the same maturity zone presents a long or short risk weighted position of that zone. The bank is obliged to compare long and short risk weighted maturity positions for each independent maturity zone and determine the mismatched (long or short) weighted maturity positions for all maturity zones. The lower amount, being the long or short risk weighted maturity zone, presents the matched position of that zone of maturity. The difference between the long and short risk weighted maturity position makes the mismatched (long or short) risk weighted position of that maturity zone.
- (C) COMPARISONS OF DIFFERENT MATURITY ZONE POSITIONS: After the process listed under the above (A) and (B) the bank is obliged to perform the comparison of mismatched long and short risk weighted positions between the following maturity zones and to determine the mismatched positions of those comparisons, that is:
- a) zone 1 and zone 2;
  - b) zone 2 and zone 3; and
  - c) zone 1 and zone 3.

The bank is obliged to perform the above comparisons in the listed order. The lower amounts, being long or short mismatched risk weighted positions, that resulted from the comparison of different zones under the items a), b) and c), present the matched risk weighted positions of in such manner compared different maturity zones.

In the above procedure, the residual mismatched risk weighted position is the total of all mismatched (long and/or short) positions between in such manner compared different maturity zones.

The capital requirement for the general interest rate risk, in compliance with this approach, is calculated as a total:

1. 10 % of the total of matched risk weighted positions for all maturity time- bands;
2. 40 % matched risk weighted position of zone 1;
3. 30 % matched risk weighted position of zone 2;
4. 30 % matched risk weighted position of zone 3;
5. 40 % matched risk weighted position between zone 1 and zone 2;
6. 40 % matched risk weighted position between zone 2 and zone 3;
7. 100 % matched risk weighted position between zone 1 and zone 3; and
8. 100 % residual mismatched risk weighted positions.

The bank is obliged, if it does not have prior approval from the FBA to apply the duration based approach in calculation of interest rate requirement, to calculate capital requirement for the general interest rate risk based on the maturity based approach. In addition, the bank is obliged to accordingly submit quarterly report – The General interest rate risk per individual currency (maturity based approach) – Form 8, Table B, proscribed in accordance with Decision on Reporting Form which Banks Submit to the Banking Agency of the Federation of Bosnia and Herzegovina.

(II) Duration based approach

**Article 14**

This approach can be applied only by those banks that previously received consent from the FBA to use this method in calculating the capital requirement for interest rate risk and in that case they are obliged to implement it consistently.

In accordance with this approach the bank is obliged to:

- a) calculate for debt financial instruments with fixed interest rate yield to maturity based on their market value (that consists of supposed and expected interest rate); and
- b) for debt financial instrument with floating interest rates calculate yield to maturity based on their market value, with a supposition that the principal is due on the date when the next interest rate change can be applied.

The bank is further obliged to calculate modified duration of each debt instrument based on the following formula:

$$D_{mod} = \frac{D}{(1+r)}$$

$$D = \frac{\sum_{t=1}^m \frac{tC_t}{(1+r)^t}}{\sum_{t=1}^m \frac{C_t}{(1+r)^t}}$$

with the following meaning:

$D_{mod}$  = modified duration  
 $D$  = duration  
 $r$  = yield to maturity  
 $C_t$  = cash payment in time  $t$   
 $m$  = total maturity  
 $t$  = time

The bank performs the allocation of each debt instrument individually in relevant zones listed in the following table. That allocation the bank performs based on the modified duration for each instrument.

The position risk weighted for duration for each individual instrument is calculated by multiplying its market value with its modified duration and assumed changes of interest rate of instruments for the duration in compliance with the following table:

<b>ZONE</b>	<b>Modified duration in years</b>	<b>Assumed change in interest rate</b>
<b>One</b>	0,0 to 1,0	1,00 %
<b>Two</b>	1,0 to 3 years and 6 months	0,85 %
<b>Three</b>	over 3 years and 6 months	0,70 %

(A) ZONE POSITION: For each zone the bank is obliged to calculate individually its long and short positions weighted with modified duration and relevant supposed interest rate changes, and then perform its comparison. The lower amount, being long or short risk weighted position presents matched zone position. The difference between the long and short risk weighted position makes the mismatched (long or short) risk weighted position of that zone.

- (B) **COMPARISON OF DIFFERENT ZONE POSITIONS:** After the procedure listed in the above item (A), the bank is obliged to perform comparison of mismatched long and short risk weighted positions between the following zones and to determine mismatched positions for those comparisons, as follows:
- a) zone 1 and zone 2;
  - b) zone 2 and zone 3; and
  - c) zone 1 and zone 3.

The bank is obliged to perform the above comparison in the listed order. Lower amounts, being long or short mismatched risk weighted positions, resulting from different zones under previous items a), b) and c), present matched risk weighted positions of in such manner compared different maturity zones.

In the above procedure, the residual mismatched risk weighted position is made of the total of all mismatched (long and/or short) positions between in such manner compared different maturity zones.

Capital requirement for general interest risk, in compliance with this approach, is calculated as a total:

1. 2 % matched positions for each zone;
2. 40 % matched risk weighted positions between zone 1 and zone 2;
3. 40 % matched risk weighted positions between zone 2 and zone 3;
4. 100 % matched risk weighted positions between zone 1 and zone 3; and
5. 100 % residual mismatched risk weighted positions.

If the bank has received the approval from the FBA to calculate capital requirement for the general interest rate risk based on the duration based approach, it is obliged to submit a quarterly report – The General interest rate risk per individual currency (duration based approach) – Form 8 – Table C, proscribed in accordance with Decision on Reporting Form which Banks Submit to the Banking Agency of the Federation of Bosnia and Herzegovina.

### **3. 2. FOREIGN EXCHANGE RISK**

#### **Article 15**

The foreign exchange risk occurs when the bank holds an open foreign currency position that can lead to losses due to changes in the intercurrent relations, changes in the value of KM in relation to other currencies and changes in the price of gold.

Banks foreign exchange risk management is proscribed in the Decision on minimum standards for managing banks foreign exchange risk and Guidelines for implementation of the Decision on minimum standards for managing banks foreign exchange.

In the sense of this Decision, provisions of the regulation listed in the paragraph 2 of this Article are applied.

### **Article 16**

In addition to the provisions of the regulation listed in the previous Article of this Decision, the bank in the measurement of foreign exchange risk is obliged to at a minimum do the following:

1. measure foreign exchange risk and restrict daily, on aggregated basis and individual currencies;
2. risk measurement performs based on hypothesis on actual anticipated as well as large changes in foreign exchange rates, in order to evaluate the impact of such changes on banks income and capital;
3. daily profit or loss from operations with foreign currencies should be calculated by currencies;
4. individually identifies the results from the conversion impact to net open position, operation spread, gain that is loss from the previously closed positions and all commissions that is fees from conversion operations with citizens; and
5. performs daily valorization by using the market foreign exchange rates at the end of the day and that is performed independently from the organizational units, in other words individuals that are directly responsible for foreign exchange risk management in the bank.

### **Article 17**

Capital requirement for the foreign exchange position is calculated by multiplying the overall opened foreign exchange position (including gold) with 12 %.

The bank is obliged to calculate capital requirement for the foreign exchange risk and to submit to the FBA a quarterly report – Capital requirement for foreign exchange risk – Form 5, Table B, proscribed in accordance with Decision on Reporting Form which Banks Submit to the Banking Agency of the Federation of Bosnia and Herzegovina.

## **3. 3. PRICE RISK**

### **3.3.1. RISK OF INVESTMENT IN EQUITY SECURITIES**

#### **Article 18**

Position risk in the equity securities (equity instruments) is composed out of two components: specific risk and general risk.

Specific risk presents risk of the price change of some equity instruments due to reasons related to its issuer, and in the case of derivative instrument the issuer of the underlying equity instrument supported by that derivative instrument.

The general risk presents the risk of the price change of equity instrument due to changes on the equity instrument market that are not related to any specific characteristics of individual equity instruments.

Capital requirement for investment risk in equity instruments securities is determined only for the equity securities that are in the trading book.

Equity instruments in compliance with this Decision are: shares, deposit institutions' certificates, stock exchange index, convertible bonds and derivative financial instruments that relate to shares or stock exchange index.

### **Article 19**

Positions in equity securities are allocated according to national markets where the equity security is recorded in the stock exchange, and the standard calculation procedure further described below is applied for each national market separately.

The bank is obliged to calculate its net long and net short position in each equity instrument. Net long and net short positions are added separately.

Netting of long and short positions in the equity instruments the bank can perform only if those instruments are identical. The equity instruments are identical if they are issued on the same date by the same issuer, if they have the same treatment in the case of liquidation or bankruptcy of the issuer and if they are denominated in the same currency.

The total gross position of the bank in the equity instruments is equal to the total of the absolute amount of the net absolute amount of net long and net short positions.

The total net position of the bank in the equity instruments is equal to the absolute amount of the difference between net long and net short positions.

### **Article 20**

The capital requirement for the risk position in equity instruments is calculated as: a) total of capital requirement for the specific risk; b) capital requirement for the general risk; and c) capital requirement for the interest rate risk built in the equity derivatives.

Capital requirement for specific risk of investment in equity instruments is 6 % of total gross position of the bank in equity instruments.

Capital requirement for general risk of investment in equity instruments is 12% of total net position in equity instruments.

Capital requirement for interest rate risk built into the equity derivatives is calculated as follows:

- first step: the bank calculates the capital requirement for each supposed position before any netting, as a market value of relevant position multiplied by percentage shown in the following table:

<b>Term to maturity</b>	<b>Percentage of the supposed position</b>
0 to and including 3 months	0,2
3 to and including 6 months	0,4
6 to and including 12 months	0,7
1 to and including 2 years	1,25
2 to and including 3 years	1,75
3 to and including 4 years	2,25
4 to and including 5 years	2,75
over 5 years	3,75

- second step: the bank calculates capital requirement for all supposed interest positions as a total of absolute amounts of individual capital requirements calculated in compliance with previous item of this paragraph.

The bank is obliged to calculate capital requirement for risk positions in equity instruments and submit to the FBA a quarterly report – Capital requirement for risk of investment in equity securities – Form 9, Table A, as proscribed in accordance with Decision on Reporting Form which Banks Submit to the Banking Agency of the Federation of Bosnia and Herzegovina.

### 3.3.2. RISK OF COMMODITIES PRICE CHANGE

#### **Article 21**

The bank calculates the capital requirement for commodities risk that arises due to changes in commodities prices that are traded or can be traded on the recognized secondary market.

In compliance with this Decision commodities present physical products which is or can be traded on a secondary market, e.g.: agricultural products, minerals (including oil), precious metals (except gold) and derived financial instruments related to these products.

#### **Article 22**

When calculating the capital requirement for commodities risk the bank is obliged to first calculate net positions in certain types of commodities that make differences between absolute amounts of short and long positions in those types of commodities.

Each position in commodities should be presented in standardized measurement units (barrels, tons and kilograms).

When commodity market price is presented in a foreign currency, the bank is obliged to present that price in KM applying the market foreign currency rate for the given currency.

Long positions in commodities instruments and long positions in relevant instruments of commodity derivatives bear a plus sign (+), and short positions a minus (-).

The Bank has a net long position in a certain commodity when the total of long and short positions is positive.

The bank has a net short position in certain commodity when the total of long and short positions is negative.

The gross position in certain commodity presents a total of absolute amounts of long and short positions in that commodity.

Before the calculation of the capital requirement for the commodity risk the bank is obliged to perform netting of long and short positions of identical commodity instruments.

The commodity instruments are identical if they refer to the same commodity, if they are denominated in the same currency, if they mature on the same date, and in the case of commodity futures contracts and options that they are issued by the same issuer.

#### **Article 23**

The capital requirement for the commodity risk is equal to the total of the capital requirement for each commodity, which is calculated by applying a simplified method.

According to the simplified method the capital requirement for each position in the commodity is equal to a total of:

- 15 % net position (long or short) multiplied with the prompt market price of the commodity; and
- 3 % gross position (long plus short) multiplied with prompt market price of the commodity.

The total capital requirement for the commodity risk is calculated as a total of capital requirements for every commodity.

The bank is obliged to calculate capital requirement for commodity risk and submit to the FBA a quarterly report – Capital requirement for commodity risk – Form 9, Table B, as proscribed in accordance with Decision on Reporting Form which Banks Submit to the Banking Agency of the Federation of Bosnia and Herzegovina.

### **3. 4. DELIVERY RISK AND COUNTERPARTY RISK**

#### **Article 24**

This chapter defines the manner to calculate capital requirement for delivery risk and counterparty risk, which arise in trading book items.

Delivery risk and counterparty risk are risks that occur due to reasons related to the counterparty, and not to the issuer of the instrument.

#### **3.4.1. DELIVERY RISK**

#### **Article 25**

The bank is obliged to calculate its risk exposure if the transactions in the trading book related to the debt, equity and commodity instruments, between the bank and its counterparty, have not been performed within 5 or more working days since the delivery date.

The exposure to delivery risk is the difference between contracted and actual market price for certain debt, equity or commodity instrument, but only in cases when that difference present a loss for the bank.

The capital requirement for the delivery risk is calculated in such a manner that the bank's exposure, determined based on the previous paragraph, is multiplied with relevant factor from column A in the following table:

<b>Number of working days after the date of delivery or date supposed for realization of the liability</b>	<b>Column A</b>	<b>Column B</b>
5 – 15	10 %	0,5
16 – 30	50 %	4
31 – 45	75 %	9
46 or more	100 %	See column A

The bank does not calculate the exposure to delivery risk in the cases of «repo» and «reverse repo» contracts.

With a previous consent from FBA the bank can calculate capital requirement for this risk in such manner that, for terms after the delivery date of 5 – 45 days, the contracted amount for each transaction multiplies with the relevant factor from column B.

The bank is obliged to calculate capital requirement for delivery risk and submit to the FBA a quarterly report – Capital requirement for delivery risk – Form 10, Table A, as proscribed in accordance with Decision on Reporting Form which Banks Submit to the Banking Agency of the Federation of Bosnia and Herzegovina.

### 3.4.2. RISK OF THE COUNTERPARTY

#### 3.4.2.1. Free deliveries

##### **Article 26**

The bank calculates the capital requirement for the counterparty risk that arises in free deliveries, that is in the following deliveries:

- If it paid securities or commodities before receiving them or if it delivered securities or commodities before being paid; and
- In cases of transactions with abroad, if one day or more days passed since the payment or delivery is performed that is described in the above part of this paragraph.

Capital requirement is 12 % of the amount of securities, commodities or cash funds that are owned to the bank multiplied by a certain credit risk weight (0%, 20%, 50% or 100%) from the Decision on minimum standards for managing bank capital that is applied or could be applied to the counterparty.

#### 3.4.2.2. «Repo» and «reverse repo» contracts for securities or commodities

##### **Article 27**

In the case of «repo» contracts, based on securities or commodities included in the trading book, the bank calculates the difference between the securities market price or

commodities that it transferred to a counterparty and the amount that it owes to the counterparty or the market value of the collateral that it received from the counterparty, and only when such difference is positive.

In the case of «reverse repo» contracts, the bank calculates the difference between the amount that the counterparty owes or the market value of the collateral that it transferred to the counterparty and the market price of securities or commodities that it received from the counterparty and only when such difference is positive.

The accrued interest is included in the calculation of the market value of the amount that is taken or granted and in the calculation of the market value of the collateral.

The capital requirement for the counterparty risk that is generated from the «repo» and «reverse repo» contracts on securities or commodities is 12 % of the amount calculated in the previous paragraphs of this Article, multiplied with a relevant credit risk weight (0%, 20%, 50% or 100%) from the Decision on minimum standards for managing bank's capital that is applied or could be applied to the counterparty.

#### 3.4.2.3. Other counterparty risks

##### **Article 28**

The bank calculates capital requirement for the counterparty risk and for the exposures in the form of commissions, fees, interest, dividends and margins for future contracts and options traded at the stock exchange, and that directly relate to items included in the trading book, but have not been taken into account during the calculation of capital requirement for position risks and counterparty risk.

Capital requirement for other counterparty risks is 12 % of the total exposure listed in the previous paragraph, multiplied with relevant credit risk weight (0%, 20%, 50% or 100%) from the Decision on minimum standards for managing bank capital that is applied or can be applied to the counterparty.

The bank is obliged to calculate capital requirement for counterparty risk and submit to the FBA a quarterly report – Capital requirement for counterparty risk – Form 10, Table B, as proscribed in accordance with Decision on Reporting Form which Banks Submit to the Banking Agency of the Federation of Bosnia and Herzegovina.

## **4. TREATMENT OF DERIVATIVES AND OTHER FINANCIAL INSTRUMENTS**

##### **Article 29**

Derivatives are financial instruments which price is changed according to the change of the determined interest rate, price of securities, price of commodities, currency rate, stock exchange index or a similar variable.

For calculation of the capital requirement for the position risks the derivatives are treated as a combination of notional long and short positions that subsequently serve for calculation of capital requirement for specific and general risk.

### **Article 30**

(1) Interest «futures» and «forward» contracts and (2) term liabilities for purchase or sale of debt instruments in the future are treated as a combination of long positions (position in which the bank has determined the amount of interest receivable in some future term) and short position (position in which the bank determined the amount of interest that it will pay in some future term). Interest futures and forward contracts are treated as a combination of long and short positions in government owned bonds without coupon with a relevant maturity. Term liability is treated as a combination of long/short position in state bonds without coupon and long/short positions in debt instruments that is the subject of the contract (underlying instrument). These instruments are expressed in market value of the amount of principal of the underlying instrument or supposed amount of the underlying instrument.

### **Article 31**

The equity «future» and «forward» contracts that refer to individual equity securities or stock exchange index, are treated as a combination of long and short position in the equity securities in question and long and short position in government bonds without coupons. Position in relevant equity securities is presented according to its market price. Position in government bonds without coupons, resulted from allocation of equity derivatives, is included in the calculation of interest rate risk listed in this Decision under «Risk of investment in equity securities».

### **Article 32**

Commodity «futures» and «forward» contracts and term liabilities for purchase or sale of commodities are treated as a combination of long or short position of certain commodities and long and short positions of government bonds without coupons. They are presented according to supposed amount in standardized measurement units, and with maturity in compliance with the due deadline.

### **Article 33**

Currency «futures» and «forward» contracts are treated as long positions in government bonds without coupons in purchased currency and short positions in government bonds without coupons in sold currency. Positions in government bonds without coupons that are a result of allocation of equity derivatives are included in the calculation of the interest risk in compliance with relevant maturity.

### **Article 34**

«Swap» contracts are treated as two notional positions in government securities with relevant maturities:

- Interest rate swaps are treated as two positions of notional amount in government bonds without coupons with floating or fixed interest rates and relevant maturities;
- Cross-currency swaps for interest rates are treated as a combination of long position in government bonds without coupons in certain currency with fixed or floating interest rates (depending on which one is relevant for that currency) and short position in government bonds without coupons in certain currency with fixed or floating interest rates;
- Swap contracts for equity securities are treated as a combination of long positions in equity securities (equity securities portfolio or stock index) in reference to which the bank receives the amount based on the change of the price of the securities (portfolio or stock index) and short position of such securities (portfolio or index) in reference to

which the bank pays the amount based on the change of value of such securities (portfolio or index);

- Commodity swaps are treated as a combination of long positions in commodities based on which the bank pays the fixed price, and receives a floating price and short positions in commodities based on which the bank receives a fixed price, and pays a floating price.

### **Article 35**

Positions in stock indices are subject to calculation of specific and general risk in compliance with provisions of this Decision under Risk of investment in equity securities. Positions on stock indices are divided into shares that make the base of the given index. Upon division of each index to individual shares, the shares can be offset with positions in the same shares with different signs. Forwards on stock indices are divided for the capital requirements for position risks into long and short positions (depending on whether the bank purchased or sold them) in the stock index or shares that make the base for that index or short positions in government bonds without coupons.

Positions in stock index traded in the stock exchange that are widely diversified can be treated as positions in that index (in such manner that they are slotted into composing shares), and as such are subject to calculation of capital requirement for general, but not specific risk.

### **Article 36**

Positions in convertible securities are treated as positions in notional interest or equity securities. Convertible debt securities are treated as positions in equity securities:

- If there is less than three months to the first date when conversion can be performed or there is less than one year to the following date if the first date has already passed; and
- If the market value of the debt securities is less than 10 % higher than the market value of the equity securities that comprises the underlying instrument; and
- If the bank used the net capital to cover for any losses that may arise due to conversion.

Other convertible debt securities, that do not fulfill the conditions set in the previous paragraphs, can be treated as positions in the debt or notional equity securities.

### **Article 37**

Securities that are the base for «repo» contracts, that fulfill all the conditions listed in this Decision on trading book, are treated by the assignor as long positions in the relevant securities in short position in government bond with a maturity term and interest rate equal to the repurchase rate.

### **Article 38**

The bank calculates capital requirement for options traded at stock, unrated options and products similar to options (guarantees, higher level options-cap, simultaneous purchase of «put» option and sale of «call» option-collar, and similar instruments) in compliance with one of two underlying methods: (a) simplified method or (2) method delta-plus, that is:

- (a) **Simplified method:** The bank that has a low position only in purchased options can, in the sense of this Decision, use this method. If it uses this method for positions in

options, those positions are not included in calculation of capital requirement for other position risks.

For the purchased «call» and «put» options the capital requirement presents an amount that is smaller:

- The market value of the notional securities multiplied by the sum of the factors for specific and general risk for underlying variable (underlying instrument), or
- Market value of the option.

For the positions that are a combination of purchased «put» options or other positions in underlying securities or foreign currency or for positions that are a combination of purchased «call» options and short positions in underlying securities or foreign currency, capital requirement is calculated in such manner that the market value of the underlying security (or foreign currency) is multiplied by the sum of the factors for specific and general risk for the underlying variable (underlying instrument), and then decreased for the amount in which the option carries the yield to its buyer.

- (b) **Method delta-plus:** In compliance with this method options and products similar to options (guarantees, options of the higher level – cap, options of the lower level – floor and similar instruments) are treated as positions that in its value are equal to underlying instrument multiplied by its delta ratio. Delta ratio should be calculated by a recognized stock exchange.

When calculating the general position risks and currency risk the netting of delta equivalents positions in options can be performed with all positions in options of opposite sign, with identical underlying securities or derivatives, in the following manner:

- purchased «call» options as long positions,
- sold «call» options as short positions,
- purchased «put» options as short positions, and
- sold «put» options as long positions.

As delta does not cover the total risk related to options, the bank is obliged to calculate an additional capital requirement for «gamma» and «vega» risk. The bank should apply „gama“ and „vega“ ratios as calculated by a recognized stock exchange.

The bank is obliged to calculate capital requirement for position risk in options and submit to the FBA a quarterly report – Capital requirement for position risk in options – Form 11 as proscribed in accordance with Decision on Reporting Form which Banks Submit to the Banking Agency of the Federation of Bosnia and Herzegovina.

## **5. NETTING**

### **Article 39**

The amount of long (short) positions of the bank that is over the amount of its short (long) positions in the same equity and debt securities is considered to be its net positions in each of the different instruments.

While calculating the net position, the derivative instruments in compliance with this chapter are treated as positions in underlying securities.

Netting of the positions calculated for the mentioned purpose is allowed only if the issuer of the securities is the same, if they have the same interest rate, have the same maturity date, are denominated in the same currency and have the same treatment in the case of liquidation or bankruptcy.

#### **Article 40**

Banks may, with a previous approval by FBA, perform a mutual netting of any position in derivative instruments (defined in the previous chapter of this Decision) that fulfill at minimum the following conditions:

1. if the positions are of the same value and denominated in the same currency;
2. if their notional rate (for positions with floating rates) or coupon rate (for positions with fixed rate) are not significantly different;
3. if the next dates for determining the interest rates (for positions with floating rates) or remaining deadlines to maturity (for positions with fixed interest rates), respond to following restrictions:
  - if the above mentioned deadlines are on the same date for the positions for which the deadlines are shorter than a month;
  - if the above mentioned deadlines are not different in more than seven days for positions for which the deadlines are between a month and one year; and
  - if the above mentioned deadlines are not different for more than thirty days for positions for which the deadlines are longer than one year.

## **6. TRANSITIONAL AND FINAL PROVISIONS**

#### **Article 41**

The bank is obliged, in relation to its market risks management, to comply with the provisions of this Decision, at latest by 30.06.2008.

The FBA will, within 3 months from the date when this Decision is published in the Official Gazette of the Federation of Bosnia and Herzegovina, proscribe the Guidelines for implementation of the Decision.

#### **Article 42**

This Decision comes into effect on the eighth day from the day of its publication in the Official Gazette of Federation of Bosnia and Herzegovina.

Number:01-1-1181-7/07  
Sarajevo, 26.07.2007.

CHAIRMAN OF  
THE MANAGEMENT BOARD

Mr. Eldar Arnautovic