

**BANKING AGENCY OF REPUBLIKA SRPSKA**

**INSTRUCTIONS  
FOR CLASSIFICATION AND VALUATION OF FINANCIAL ASSETS**

**Banja Luka, June 2019**

Pursuant to Article 5, Paragraph 1, Item b and Article 20, Paragraph 1, Item f of the Law on the Banking Agency of Republika Srpska ("Official Gazette of Republika Srpska" No. 59/13 and 4/17), and Article 6, Paragraph 1, Item b and Article 22, Paragraph 4, Item m of the Statute of the Banking Agency of Republika Srpska ("Official Gazette of Republika Srpska" No. 63/17), the Director of the Banking Agency of Republika Srpska, adopted the following

## **INSTRUCTIONS FOR CLASSIFICATION AND VALUATION OF FINANCIAL ASSETS**

### **1. General provisions**

#### **Subject Article 1**

(1) These Instructions stipulate guidelines for the classification and valuation of financial assets with the aim of ensuring uniform accounting and regulatory treatment of financial assets, which contributes to the mutual comparability of banks' financial statements.

(2) These Instructions define:

1) classification and valuation method:

1. balance sheet exposure:

- cash on hand and treasury,
- funds at the Central Bank of Bosnia and Herzegovina account,
- funds on transaction accounts at banks and other placements to banks,
- investments in debt instruments,
- investments in equity instruments,
- holdings in investment funds,
- loans extended,
- derivatives,
- financial asset acquired through collection of receivables,
- receivables from financial leasing,
- receivables from buyers and other receivables,
- receivables from factoring,

2. off-balance sheet exposures:

- irrevocable approved not utilized loans and credit lines,
- letters of credit,
- issued guarantees and irrevocable approved guarantee frameworks,

2) method of determining expected credit losses for balance and off-balance sheet exposures referred to in Item 1 of this Paragraph.

(3) Classification and valuation of balance sheet and off-balance sheet exposures and liabilities of the bank that are not the subject of these Instructions shall be performed in accordance with other regulations, i.e. accounting standards.

## Terms Article 2

(1) Terms used in these Instructions shall have the following meaning:

- 1) **Exposure at default, EaD** is the total amount of balance sheet and / or off-balance sheet exposure for which it is necessary to determine and record expected credit loss.
- 2) **Credit conversion factor, CCF** is the ratio of the amount of off-balance sheet liability that is expected to be used at the time of default and the total amount of off-balance sheet liability, and is used for the purpose of conversion of off-balance sheet exposures into balance sheet exposures when determining expected credit losses.
- 3) **Probability of default, PD parameter** is the probability that the counterparty will enter into default status within a certain observation period, and is used for the purpose of determining expected credit losses.
- 4) **Loss given default, LGD parameter** is the amount of loss incurred due to default status of the counterparty, and is used for the purpose of determining expected credit losses.
- 5) **Reclassification date** is the first day following the change in the business model which results in the reclassification of the bank's financial assets.
- 6) **Effective interest rate** is the rate that exactly discounts estimated future cash inflows or outflows over the expected period of the financial asset to the gross carrying amount of the financial asset. When calculating the effective interest rate, it is necessary to estimate the expected cash flows taking into account all contractual conditions related to financial assets, but not taking into account the expected credit losses. The effective interest rate reflects only the total income that the bank collects from the client on the basis of the contract, i.e. the total expenses of the bank incurred on the basis of payments to the client, and does not take into account the client's payments to third parties.
- 7) **Fair value** is the price that would be realized on the valuation date by selling an asset item in a regular transaction between market participants in the main or most favorable market, using the available input data. In doing so, the bank should maximize the use of visible input data and minimize the use of input data that are not directly visible.
- 8) **The main market** is the market in which the highest turnover and the highest level of activities related to an asset item is realized.
- 9) **The most favorable market** is the market in which the sale of an asset item would receive the highest amount of money after taking into account the transaction costs.
- 10) **Input data** are assumptions that market participants would use in determining the price of an asset item and are divided into three levels of the fair value hierarchy:
  1. first level input data are prices quoted on active markets for identical assets and which are available to the bank on the valuation date,
  2. second level input data are data that are not prices quoted in active markets, but are directly or indirectly visible for an asset item,
  3. third level input data for an asset item are those data that are not visible.
- 11) **The level of the fair value hierarchy** represents the categorization of the input data on the basis of which the fair value is determined.

12) **Transaction costs** are the costs of selling an asset item in the main (or most favorable) market for that asset item and that are directly related to the sale of that item, and meet both of the following criteria:

1. arise directly from the specified transaction and are important for the same,
2. would not have arisen with the bank if the decision on the sale of that asset item had not been made.

13) **Acquisition of a financial asset item** is a procedure that implies approval, purchase of financial assets or taking over such assets in the collection procedure based on a decision of a court, other competent institution and / or through an out-of-court settlement.

14) **Homogeneous group** is a group of exposures that includes exposures with similar credit risk characteristics (e.g. based on the type of exposure, contractual conditions, industrial / market segment, geographical location, maturity, etc.) and with a similar value of the relevant credit risk parameter, determined based on the analysis of data availability and quality. The level of granularity of the homogeneous group must be sufficient to adequately assess changes in the level of the appropriate credit risk parameter.

The bank is obliged to ensure that the adequacy of the identified homogeneous groups is regularly revised, taking into account new information (on the actual occurrence of default status for the PD parameter, recovery rates for the LGD parameter, etc.), and macroeconomic factors. If this revision determines that it is necessary, the bank will perform re-segmentation of the exposure and form new homogeneous groups.

15) **Back-testing** is a procedure of comparison and quantitative analysis of the model predicted (or estimated) and realized rates of non-payment (PD model testing), collection, i.e. losses after occurrence of the status of default (testing LGD model) and use of off-balance sheet (potential) exposures (CCF model testing) in order to determine the overall accuracy and consistency of the credit risk parameter model. The term accuracy means the percentage of cases in which the realized values of the credit risk parameter in question belong to the initially defined interval of expected values.

16) **Model validation** is a confirmation that previous models for determining expected credit losses and credit risk parameters are still applicable, based on the results of back testing.

(2) Terms that are not defined by this Article, and are used in this Instruction, have the meaning in accordance with legal regulations and other bylaws.

## 2. Recognition and derecognition of financial assets

### Initial recognition of financial assets

#### Article 3

(1) The Bank recognizes an item of financial assets in the financial statements at the trade date.

(2) The trade date referred to in Paragraph 1 of this Article is the date of concluding the contract, by which the bank undertakes the obligation to acquire the item of financial assets (e.g. concluding a loan agreement, concluding a contract on purchasing other financial assets, concluding a stock exchange transaction or other regulated market and similar).

### **Derecognition of financial assets**

#### **Article 4**

(1) A bank shall derecognize a financial asset, fully or partially, in the following cases:

- 1) when the contractual rights to receive cash flows from those financial assets expire,
- 2) when it transfers the risks and benefits of those financial assets,
- 3) when it ceases to have control over the contractual rights to that financial asset.

(2) In the case of a modification of a financial asset item in accordance with Article 6 of this Instruction, it is necessary to first determine whether the modification is significant, i.e. whether it is necessary to derecognize the original financial asset item, and immediately recognize a new one, modified item of financial assets.

(3) The bank shall assess whether and to what extent the item of financial assets shall be derecognized in the manner shown in the diagram in Annex 1 to this Instruction.

(4) All effects from derecognition of a financial asset are recognized in the bank's income statement at the time of derecognition.

### **3. Financial asset item classification**

#### **Financial asset classification process**

#### **Article 5**

(1) The bank is obliged to establish an adequate and efficient process of classification of financial asset items, i.e. to adopt and consistently apply internal acts defining the classification process, which should at least include procedures for determining:

- 1) whether the modification of the item of financial assets is significant,
- 2) the scope of treatment of each item of financial assets acquired by the bank,
- 3) whether it is an item of financial assets that at the time of acquisition has identified credit losses at the level of individual exposure (Purchased or originated credit impaired asset, hereinafter: POCI assets),
- 4) business model for the asset item that the bank acquires (Business model test, hereinafter: BM test),
- 5) whether the agreed cash flows from the financial assets acquired by the bank represent only the payment of principal and interest (hereinafter: Solely payment of principal and interest, hereinafter: SPPI test),
- 6) an appropriate model of accounting measurement,
- 7) reclassification of financial asset items.

(2) Financial asset item classification shall be performed in the manner shown in the diagram from Annex 2 of this Instruction.

### **Significance of financial asset item modification**

#### **Article 6**

(1) Financial asset item modification shall exist when the change of some or all contract provisions has been made.

(2) In the case of an item of financial assets that represents a debt financial instrument (securities and loans), the bank shall determine whether the performed modification is significant, i.e. whether the difference between the present value of the remaining cash flows discounted using the original effective interest rate and present values of modified cash flows discounted using an original effective interest rate is greater than 10%.

(3) The bank may, in addition to the criteria referred to in Paragraph 2 of this Article, stipulate by internal acts additional criteria for determining the significance of the modification.

(4) If the modification is significant, the bank shall cease to recognize the original item of financial assets and shall begin to recognize the new item.

In doing so, the bank determines whether the new item of financial assets represents POCI assets, and if so - treats the same in accordance with Article 8 of this Instruction. If it is not a POCI asset, the bank again conducts the BM test and the SPPI test and determines the appropriate accounting measurement model for the new modified item of financial assets.

(5) If the modification is not significant, the bank shall continue to recognize the item of financial assets.

### **Financial asset treatment scope**

#### **Article 7**

(1) Depending on the type of financial assets, the bank applies full treatment to all items of financial assets, except for the following items to which it applies partial treatment:

- 1) trade receivables and other receivables,
- 2) receivables based on factoring,
- 3) receivables based on financial leasing.

(2) Full treatment implies the entire process of classification and valuation of a financial asset item, while partial treatment implies only the allocation of exposures to credit risk levels and the determination and recognition of expected credit losses.

### **POCI assets**

#### **Article 8**

(1) The bank shall determine for each item of financial assets that represents a debt instrument at the time of initial recognition whether it is POCI assets referred to in Article 21 of the Decision on credit risk management and determination of expected credit losses (hereinafter: the Decision).

(2) If it is determined that these are POCI assets, the bank shall apply the model of accounting measurement at amortized cost, whereby the determination of expected losses shall be performed in accordance with Article 17, Paragraph 8 of this Instruction.

## **BM test**

### **Article 9**

(1) At the time of initial recognition of a financial asset item, the bank shall establish a business model that, in addition to management's intention, reflects the manner in which the bank manages that financial asset in order to generate cash flows, providing objective evidence. In doing so, the bank conducts the BM test only for items of financial assets that represent debt financial instruments (securities and loans) that have not received the status of POCI assets.

(2) The business model determines whether cash flows are generated by collecting contracted cash flows, selling financial assets or both.

(3) The bank may choose one of the following three business models for an item of financial assets:

1) business model "Hold to Collect", HtC the aim of which is to hold financial assets for the purpose of collecting contracted cash flows,

2) business model "Hold to Collect or Sell", HtCoS the purpose of which is to collect contracted cash flows or sell financial assets,

3) business model with other objectives (Other).

(4) The choice of business model should be based on realistic future expectations, i.e. it is not based on "worst case" scenarios or "stress case".

(5) When conducting the BM test, the bank shall act as follows:

1) check the business model "Hold to Collect" by confirming at least the following:

1. that sales of debt instruments in the previous period (if any) were rare (although they may be significant in value) or extremely small in value (although frequent), where the significance is determined in comparison with the same type of exposure within the same business model,

2. that the rare sales were justified, and based on the determination of:

- the significance of the retention period of the instrument in the bank's books, i.e. whether the sales made were close to the maturity of the instrument and whether the sales revenues were approximately equal to the amount that would be obtained on the basis of the remaining contracted cash flows,

- whether the sales are the result of an increase in the counterparty credit risk (e.g. the sale of a portfolio that is in the status of default, a decline in the rating of the issuer of a debt security, etc.),

- whether sales are a consequence of an internal or external stress scenario,

- whether the sales are a consequence of the need to comply with the stipulated exposure limits,

3. that the debt instrument is not kept in the portfolio due to the need to ensure operational liquidity.

2) verify the business model "Hold to Collect or Sell" by confirming at least the following:

1. that the frequency, number and value of sold debt instruments are higher than those in the business model "Hold to Collect", but that the level of frequency of sale of instruments is not excessive,

2. that when making a decision on acquiring or selling a debt instrument, information on interest income was more important than on income that would be generated by selling

a debt instrument, whereby the bank should also analyze the structure of income from a similar instrument in the previous period,

3. dynamics of monitoring the credit quality of the counterparty,

4. primary reasons / objectives for holding the debt instrument, which may, for example, be liquidity needs management, achieving maturity matching of assets and liabilities instruments and similar.

3) when determining the business model "Business model with other objectives", the basic objective of managing debt instruments is neither holding for collect, nor holding to collect or sell. The objective of this model usually leads to active purchase and sale, and the collection of contracted cash flows is only a secondary element in achieving the objective of this business model.

## **SPPI test**

### **Article 10**

(1) The SPPI test is performed only for items of financial assets that represent debt instruments that have not received the status of POCI assets.

(2) The bank is obliged to define in its internal acts the manner of conducting the SPPI test, taking into account at least the following:

**1) Whether the interest includes only the fee for credit risk, liquidity risk, administrative costs, profit margin, etc., which is included in the interest rate defined in the contract.**

If the bank concludes that the contracted cash flows include compensation for other types of risks or variability of contracted cash flows that do not reflect the essence of the contract under which the instrument is recognized, then such cash flows do not represent only payment of principal and interest.

**2) Determine whether the interest under the contract contains only a fee for the time value of money which provides a fee for the time flow.**

If the bank concludes that the expected undiscounted cash flows differ significantly from the contracted undiscounted cash flows, in cases where, for example, the interest rate changes at a frequency less than the frequency of the reference interest rate on which it is based, etc., then such cash flows do not represent only payment of principal and interest,

**3) Determine the existence of unusual provisions in the contract on the debt instrument.**

If the bank establishes the existence of unusual provisions in the debt instrument contract such as: the existence of leverage when determining the interest rate (e.g. if the reference interest rate is multiplied by a factor greater than 1), the relation of interest to other prices or indices, in addition to variable reference interest rates or inflation rates, the possibility of converting the instrument into another financial instrument or currency under predetermined conditions, the existence of restrictions from the contract related to the collection of receivables (e.g. the bank is legally restricted to collect only cash flows related to that debt instrument or from the project financed by it), the existence of an inverse interest rate (e.g. the interest rate is formed by subtracting the variable reference interest rate from the bank's margin or the interest rate increases due to a decrease in the reference interest rate) and similar, then such cash flows do not represent only the payment of principal and interest.

**4) Determine the significance of changes in the amount of contracted cash flows due to the verification of the currency structure.**



In this case, if the bank, due to the verification of the currency structure, determines that e.g. cash flows may be settled in different currencies (e.g. the principal is settled in EUR and the interest in CHF), that the interest rate related to the reference rate of the currency is different from that in which the loan is denominated (e.g. a loan granted in USD, with interest paid in that currency, calculated on the basis of annual EURIBOR) and similar, then such cash flows do not represent only the payment of principal and interest. The bank is not required to assess the significance of changes in the amount of contracted cash flows due to the application of the currency structure for exposures with the euro foreign exchange clause, given the existence of a currency board in Bosnia and Herzegovina.

**5) Determine whether the option of early repayment as well as the option of extending the term of the debt instrument does not represent only the outstanding amount of principal and interest, and a reasonable additional fee for early termination of the contract, i.e. its extension.**

In doing so, if the bank determines that a debt instrument contains contractual provisions that may change the term or amount of cash flows, it shall assess the significance of those changes and, accordingly, determine whether such cash flows represent only principal and interest payments.

## **Selection of appropriate accounting measurement model**

### **Article 11**

(1) Based on the results of the BM test and the SPPI test, the bank applies one of the following accounting measurement models for each item of financial assets that represents a debt instrument in the manner shown in Annex 3 to this Instruction, i.e.:

- 1) valuation at amortized cost in the case of selecting the business model “Hold to Collect” and when the conditions of the SPPI test are met,
- 2) valuation at fair value through accumulated other comprehensive income in case of selecting the business model “Hold to Collect or Sell” and when the conditions of the SPPI test are met,
- 3) valuation at fair value through income statement in case of selecting the business model with other objectives and when the conditions of the SPPI test are not met.

(2) The bank may value equity instruments at fair value through income statement or at fair value through accumulated other comprehensive income and may derive financial derivatives only at fair value through income statement.

(3) Upon initial recognition, the bank may irrevocably determine that other items of financial assets are measured at fair value through income statement, if in this manner it eliminates or significantly reduces inconsistencies in accounting valuation and recognition of that item (fair value option).

## **Financial asset item reclassification**

### **Article 12**

(1) In exceptional situations, the bank may reclassify items of financial assets that represent debt instruments, and only in the event of a change in the business model. Such changes must be significant, provable and the result of internal and / or external changes, and they are determined by the competent authority in accordance with the internal acts of the bank. It is expected that such changes are not frequent, i.e. that these changes will occur in cases when the bank, for example, commences or terminates performing activities that are significant for its operations. In doing so, the change in the business model must be made before the reclassification date.

(2) A change in the business model shall not be made in the following cases:

- 1) changes of purpose in respect of a particular debt instrument,
- 2) temporary non-existence of the market for a certain debt instrument,
- 3) transfer of a debt instrument from legal entities in a special relation with the bank for which a business model different from the one applied by the bank for such item of financial assets has been selected.

(3) In the event that cash flows from a debt instrument are generated in a manner different from that expected on the date when the business model was initially selected, no reclassification of that debt instrument shall be performed. However, when the bank selects a business model for a new debt instrument, it takes into account data on how cash flows from a similar debt instrument have been generated in the last three years.

(4) Exceptionally from Paragraphs 1–3 of this Article, the Banking Agency of Republika Srpska (hereinafter: the Agency) may order the bank to reclassify, i.e. change the method of valuing financial asset items.

## **4. Financial asset item valuation**

### **4.1. Process of financial asset item valuation**

#### **Process of financial asset item valuation**

##### **Article 13**

The bank is obliged to adopt and consistently apply internal acts defining the process of valuation of financial asset items, which should at least include:

- 1) initial valuation of financial asset items,
- 2) subsequent valuation of items of financial assets at fair value,
- 3) subsequent valuation of items of financial assets at amortized cost,
- 4) the manner of allocating financial asset items to credit risk levels and determining expected credit losses.

#### **Initial valuation of financial asset items**

##### **Article 14**

(1) Items of financial assets at the time of initial recognition are valued at fair value increased by transaction costs.

(2) Notwithstanding Paragraph 1 of this Article, if items of financial assets are subsequently valued at fair value through income statement, no increase shall be made for transaction costs at the time of initial recognition.

#### **Subsequent valuation of items of financial assets at fair value**

##### **Article 15**

(1) Items of financial assets are subsequently valued at fair value if the accounting treatment is applied: valuation at fair value through accumulated other comprehensive income or valuation at fair value through income statement.

(2) When valuing items of financial assets at fair value, it is necessary to determine:

- 1) the main, i.e. the most favorable market for that item and

2) valuation methods appropriate for determining the fair value of the item, taking into account the availability of input data that can be used to determine the price of the relevant item, and the level of the fair value hierarchy to which these input data belong.

(3) For the purposes of valuation referred to in Paragraph 2, Item 2 of this Article, the bank may use one of the following methods:

1) market method, i.e.:

1. the method of valuation at market price (Mark-to-Market), according to which the last average price from the active market is used for the valuation of a certain item of financial assets, or

2. the method of valuation Mark-to-Model, which is used if there is an active market for a similar item of financial assets, but not for the subject item of financial assets being valued (e.g. a debt instrument is issued by the same issuer and / or has the same maturity and similar).

2) Discounted cash flows method, which implies a reduction to the present value, and is used if price information is not available for the same or a similar item of financial assets in an active market.

(4) For the purposes of applying Paragraph 3 of this Article, it is considered that there is an active market for a certain item of financial assets if at least the following conditions are met:

1) in the last year, at least two transactions have been performed every month and

2) a minimum turnover of 25,000 KM was generated with a certain item of financial assets in the last three months.

## **Subsequent valuation of items of financial assets at amortized cost**

### **Article 16**

(1) Items of financial assets held for collection are subsequently valued at amortized cost using the effective interest rate method, according to which all estimated future cash flows over the expected life of the item of financial assets are discounted at the effective interest rate applicable at the reporting date.

(2) Interest income is calculated by applying the effective interest rate method to the gross carrying amount of principal for exposures allocated to credit risk levels 1 and 2.

## **4.2. Determining expected credit losses**

### **Expected credit losses**

#### **Article 17**

(1) The bank determines the expected credit loss for items of financial assets that are valued in accordance with Article 11 of this Instruction at amortized cost and fair value through accumulated other comprehensive income.

(2) The bank shall calculate the expected credit losses for exposures allocated to credit risk level 1 for a twelve-month period, and calculate expected credit losses for exposures allocated to credit risk levels 2 and 3 until the expiration of maturity of the exposure.

(3) The bank shall determine on an individual basis the expected credit loss for individually significant exposures allocated to the level of credit risk 3, i.e. which are greater than:

1) 30,000 KM, if its net assets amount to 500 million KM,

- 2) 50,000 KM, if its net assets amount to 500 million KM to one billion KM,
- 3) 100,000 KM, if its net assets amount to over one billion KM.

(4) The bank may determine lower thresholds than those specified in Paragraph 3 of this Article by its internal acts.

(5) Total net assets referred to in Paragraph 3 of this Article shall mean the amount of net assets according to the audited financial statements of the bank for the previous year.

(6) The bank determines the expected credit loss for exposures on a group basis in accordance with the following general formula:

$$ECL = PD \times LGD \times EaD$$

where:

**ECL** – expected credit loss,

**PD** - probability of default,

**LGD** - loss given default,

**EaD** - exposure at default.

(7) The bank determines the expected credit loss for exposures on an individual basis as the positive difference between the gross carrying amount of the exposure and the estimated future cash flows (from operating income and / or realization of collateral) over the expected life of the financial assets discounted at the effective interest rate applicable at the reporting date. The bank may use several different scenarios (from operating income and / or realization of collateral) when assessing the certainty of future cash flows with percentages of probability of their realization. The assessment of the certainty of the realization of future cash flows from operating income must be based at least on:

- 1) historical cash flows in the period of at least the last six months,
- 2) reliable documentation of future cash flows,
- 3) the bank's experience in collecting receivables from clients with similar characteristics.

(8) The bank shall determine the expected credit loss for POCI assets referred to in Article 8 of this Instruction on an individual basis, and in the manner defined in Paragraph 7 of this Article.

(9) Notwithstanding Paragraph 3 of this Article, the Agency shall, if the supervision determines that it is necessary, order the bank to determine on an individual basis the expected credit losses for certain items that are allocated to credit risk levels 1 and 2.

(10) Notwithstanding Paragraph 6 of this Article, for the purpose of determining expected credit losses for items subject to partial treatment referred to in Article 7 of this Instruction, the bank may use a simplified approach and perform expert assessment of expected losses based on historical data on collection of such types of receivables, recorded losses, and future expectations about the collection of such types of receivables.

#### **4.2.1. Credit risk parameters**

##### **Probability of default (PD parameter)**

##### **Article 18**

(1) For the purpose of determining the value of the PD parameter, the bank shall allocate all exposure segments into PD homogeneous groups, to which it shall assign the value of the PD parameter in an appropriate manner (in accordance with its internal methodology). It is expected that the PD parameter for homogeneous groups the bank estimates as the ratio of the number of placements for which the

default status occurred during the observed time period, and the total number of placements that were not in the default status at the beginning of the observed period.

(2) The bank may apply a different calculation of PD parameters for homogeneous groups in relation to the manner specified in Paragraph 1 of this Article, provided that it can prove that this calculation is more prudent and appropriate.

(3) The bank determines the value of the PD parameter by statistical methods, i.e. by a combination of expert assessment and statistical methods.

(4) The bank shall exclude cases of technical error referred to in Article 19, Paragraph 3 of the Decision from the reference data used for the purposes of assessing credit risk parameters.

(5) In case the bank's client has been assigned a credit rating of an external institution for credit rating assessment, the bank may use the assessments of these institutions and their associated PD parameter values, provided that they apply them continuously and consistently. In doing so, the bank is obliged by its internal acts to define external institutions for the assessment of the credit rating whose ratings it will use. If there are two credit ratings of external institutions for credit rating assessment used by the bank, a less favorable rating is taken, and in case there are more than two credit ratings of external institutions for credit rating assessment, the bank allocates the two most favorable ratings and uses the less favorable one.

(6) In order to ensure the credibility and reliability of the determined PD parameter, the following conditions must be met as a minimum:

1) impartiality, i.e. from a statistical point of view, the determined PD parameters should represent the best estimates,

2) homogeneous groups must be determined in the manner defined in Article 2, Paragraph 1, Item 14 of this Instruction,

3) the historical data used must refer to a period of at least three years, with the bank consistently adjusting the data to current conditions and expected future economic circumstances (forward-looking),

4) different macroeconomic assumptions are taken into account, i.e. projections of macroeconomic indicators, with clear documentation of the used data sources and clear documentation of the used macroeconomic assumptions.

(7) The bank shall ensure that the estimates of the value of the PD parameter used in determining the expected credit losses are credible and reliable measures of the process of entering the default status over the life of the exposure. The values of the PD parameter obtained in this way should reflect the current impartial expectation of the future rate of entering the default status, which are not based on the stress scenario.

(8) The data used by the bank for calibration of PD models (especially those related to historical default rates and maturity structure of PD parameters) should be harmonized with the current definition of default status, and for the development of PD models the bank is obliged to use internally available bank data, which are representative for the observed portfolio. Historical data on past events refer to a period of at least three years, and the bank should consistently adjust that data to current conditions and expected future economic circumstances.

For instruments of mutually comparable level of credit risk, the risk of future occurrence of default status (estimates of multi-year values of PD parameters) must be higher the longer the expected life of the instrument.

(9) The bank is obliged to perform back-testing at least on an annual basis and, if necessary, update the determined PD parameters. In doing so, the bank conducts testing with the aim of checking the adequacy

of the determined parameters at the level of homogeneous groups. Test results must be adequately documented and available for the needs of internal and external controls, i.e. banking supervision. If the bank determines that it is necessary or ordered by the Agency, the bank also conducts subsequent testing of the adequacy of the determined parameters.

(10) The bank analyzes the interdependence of various macroeconomic factors (e.g. rate of change in gross domestic product, rate of industrial production, rate of foreign direct investment, employment rate, unemployment rate, inflation rate) and historical rates of default, i.e. tests in a broader sense the interdependence of the probability of transition from one PD to another homogeneous group and changes in macroeconomic factors. If it is determined that the level of the mentioned interdependence is not insignificant, the initially calculated value of the PD parameter is corrected taking into account macroeconomic factors.

(11) The PD parameter for exposures allocated to credit risk level 3 for which the expected credit loss is determined on a group basis is 100%.

### Loss given default (LGD parameter)

#### Article 19

(1) Loss given default (LGD parameter) represents the bank's internal assessment of the level of expected loss related to exposure in the event of occurrence of default status.

For credit exposures, it is expected that the determination of the LGD parameter is done through the so-called *work-out* assessment method, which is based on the analysis of historical cases of the collection process after the onset of default status. In each such case, the relevant sequence of cash flows that occur during the collection process (e.g. inflows based on debtor's payments, collection of debtor's cash from collateral in relation to exposure, regardless of whether the collateral was considered eligible under Articles 28-31 Decisions, as well as outflows related to internal and external direct costs of the collection process itself) are discounted at the effective interest rate on the date of entry into default, in order to obtain the present value of collection after the occurrence of default. The LGD parameter is calculated at the level of the relevant homogeneous group, and in accordance with the following formula:

$$LGD_{HomGr} = 100\% - RR_{HomGr} = 100\% - \left[ \frac{NPV(\sum_i(CF_{In_i} - CF_{Out_i}))}{EaD} \right]$$

where:

**$LGD_{HomGr}$**  - LGD parameter for a relevant homogeneous group,

**$RR_{HomGr}$**  - Recovery Rate, i.e. collection rate after the onset of default status for a relevant homogeneous group,

**$NPV$**  – net present value,

**$CF_{In}$**  – cash flow in,

**$CF_{Out}$**  – cash flow out,

**$EaD$**  - exposure at default.

(2) The bank may apply a different calculation of LGD parameters in relation to the manner specified in Paragraph 1 of this Article, provided that it can prove that this calculation is more prudent.

(3) The bank shall determine the values of the LGD parameter on the basis of historical data on collections from collateral or other sources after the onset of default status by determined homogeneous groups, for

a period of at least the last five years. As the LGD parameter does not depend on the trend of the client's credit quality, i.e. on the trend of the PD parameter level, it can be uniformly applied in different levels of credit risk and / or homogeneous groups. When calculating the value of LGD, the bank must not use the value of financial and tangible assets acquired in the process of collection of receivables after the onset of default status, which is still recorded in the banking books, i.e. not realized in the market.

(4) The number of parameters that affect the definition of homogeneous groups depends on the availability and quality of data on historical collections after the onset of default status.

(5) If the bank has established LGD homogeneous groups, it is necessary to analyze the interdependence of various macroeconomic factors (e.g. rate of change of gross domestic product, rate of industrial production, foreign direct investment rate, employment rate, unemployment rate, inflation rate, real estate market trends) and historical loss rates due to the onset of default status (LGD parameter), i.e. in a broader sense to test the interdependence of the probability of transition from one to another LGD homogeneous group and changes in macroeconomic factors. If it is determined that the level of the mentioned interdependence is not insignificant, the initially calculated value of the LGD parameter is corrected taking into account macroeconomic factors.

(6) If the bank does not have an adequate time series, quantity and / or quality of relevant historical data, and is not able to determine the value of the LGD parameter using its model in an adequate and documented manner, then it uses fixed values of that parameter based on conservative estimates, where the said cannot be lower than:

- 1) 45% for exposures secured by eligible collateral,
- 2) 75% for exposures not secured by eligible collateral.

(7) Notwithstanding Paragraph 6 of this Article, the bank may not determine the value of the LGD parameter for exposures with low credit risk in the amount lower than 4%.

(8) It is necessary for the bank to exclude cases of technical error referred to in Article 19, Paragraph 3 of the Decision from the reference data used for the purpose of assessing credit risk parameters.

#### **4.2.2. Determining exposure at default (EaD)**

##### **Exposure at default (EaD)**

##### **Article 20**

(1) For each exposure, the bank estimates the amount of exposure at the time of onset of default status (EaD) on the basis of related contractual and expected cash flows until the expiration of the maturity.

(2) The estimate of expected cash flows is not based on historical data on early payments.

(3) The bank shall determine the exposure at the onset of default status (EaD) for off-balance sheet exposures by multiplying the book value of the off-balance sheet item by the credit conversion factor (CCF).

(4) The credit conversion factor referred to in Paragraph 3 of this Article is an estimate of the percentage of conversion of off-balance sheet exposures into balance sheet exposures at the time of onset of default status.

(5) The bank determines the credit conversion factors (CCF) on the basis of historical data on the conversion of certain types of off-balance sheet items into balance sheet items at the onset of default status by determined homogeneous groups, at least for the last three years.

(6) If the bank does not have an adequate quantity and / or quality of relevant historical data, and is not able to determine the value of CCF parameters using its model in an adequate and documented manner, then it uses conversion factors from Article 44, Paragraph 1 of the Decision on calculating capital in banks.

(7) The bank shall reduce the amount of exposure referred to in Paragraph 1 of this Article by the amount of the cash deposit deposited with that bank, which serves as collateral for that exposure, and is pledged in the competent pledge register, only if that deposit has the same or longer maturity.

(8) The bank may make a reduction referred to in Paragraph 7 of this Article only when it has concluded a deposit pledge agreement which stipulates that the bank is the only privileged entity which has a secured interest in the respective pledge, that the pledge is irrevocable, that the only precondition for banks on a pledge is that the user fails to fulfill his obligation to the bank and that the pledge is given in a way that does not provide an opportunity to establish additional interests.

#### **4.2.3. Back-testing and validation of model for determining expected credit losses and credit risk parameters**

##### **Back-testing and model validation**

###### **Article 21**

(1) The bank shall establish procedures for adequate and efficient back-testing of the accuracy and consistency of models for determining the expected credit losses and credit risk parameters at least once a year, as well as for the validation of these models.

(2) The procedure of each conducted back-testing must be adequately documented (tools, data used, and test results, etc.), in such a way that changes and reasons for the proposed changes can be continuously determined.

(3) If, after testing, it is determined that it is necessary to make changes in the model and / or parameters of credit risk, and the changes result in changes in the amount of expected credit losses by 5 percentage points or more than the total level of already expected values of expected credit loss, observed within any level of credit risk, the bank is obliged to notify the Agency no later than five days from the date of adoption of the results of back-testing and model validation.

#### **5. Reporting**

##### **Reporting codes**

###### **Article 22**

For the purposes of reporting to the Agency in accordance with Article 33, Paragraph 2 of the Decision, the bank shall use the reporting codes from Annex 4 in a manner defined in more detail in the reporting templates and accompanying instructions, as well as for submitting data to the Central Credit Register at the Central Bank of Bosnia and Herzegovina.

#### **6. Transitional and final provisions**

##### **Transitional and final provisions**

###### **Article 23**

(1) This Instruction shall enter into force on the day of entry into force of the Decision on credit risk management and determining expected credit losses and shall be published on the official website of the Agency.



(2) Bank shall harmonize credit risk parameters from Subsection 4.2.1. of this instruction with stipulated requirements no later than 30 September, 2020.

Number: D-9/19

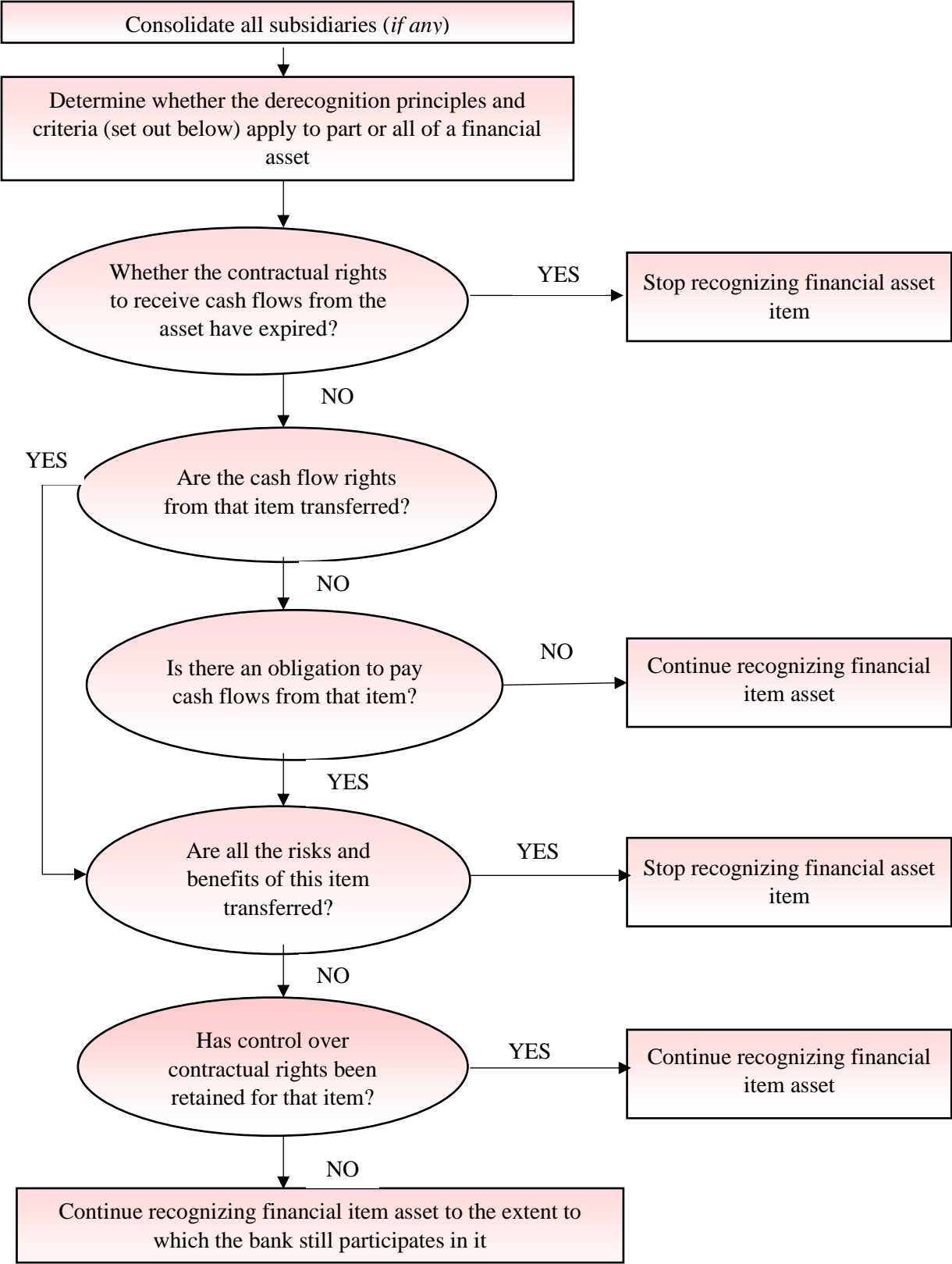
Date: 7 June, 2019

Director

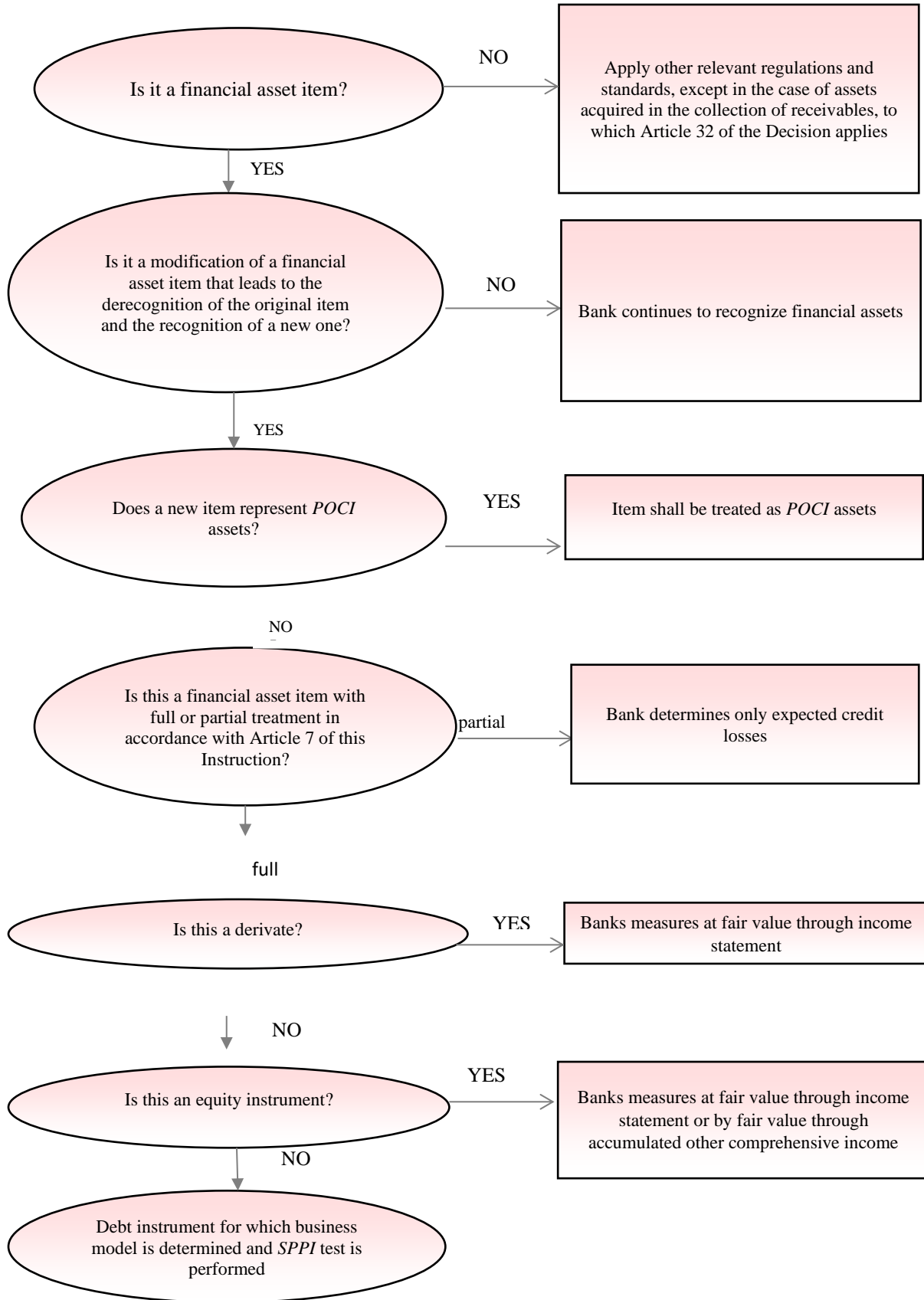
---

Rade Rastoka

**Annex 1. Derecognition of financial assets**



## Annex 2. Financial asset classification process



### Annex 3. Simplified overview of financial asset item treatment

Business model	SPPI test	IFRS 9 classification	Initial valuation	Subsequent valuation	Effect of subsequent valuation on bank's financial statement	Expected credit loss
„Hold to Collect“ <i>HtC</i> )	fulfils	Financial asset valued at amortized cost	Fair value (with transaction costs)	Amortized cost (EIR method application)	Financial asset decrease (interest income with expected credit loss)	financial asset decrease and expenses
„ Hold to Collect“ <i>(HtC)</i>	does not fulfil	Financial asset valued at fair value through income statement	Fair value (without transaction costs)	Fair value at reporting date	Fair value increase – increase of financial asset and income / Fair value decrease – financial asset decrease and expenses	n/a
„ Hold to Collect or Sell“ <i>(HtCoS)</i>	fulfils	Financial asset valued at fair value through accumulated other comprehensive income	Fair value (with included transaction costs)	Fair value at reporting date	Fair value increase – increase of financial asset and capital increase (accumulated other comprehensive income) / Fair value decrease – financial asset decrease and capital decrease (accumulated other comprehensive income)	повећање капитала (осталог укупног резултата) и расход
„ Hold to Collect or Sell“ <i>(HtCoS)</i>	does not fulfil	Financial asset valued at fair value through income statement	Fair value (without transaction costs)	Fair value at reporting date	Fair value increase – increase of financial asset and income / Fair value decrease – financial asset decrease and expenses	n/a
Business model with other objectives <i>(Other)</i>	not required	Financial asset valued at fair value through income statement	Fair value (without transaction costs)	Fair value at reporting date	Fair value increase – increase of financial asset and income / Fair value decrease – financial asset decrease and expenses	n/a

**Annex 4. Codes for reporting purposes (the table will be updated and published on the Agency's website if necessary)**

Codes	Exposure	Identification criteria	CCR codes
1.1	Exposures with low credit risk	Article 18, Paragraph 1, Item 1 of the Decision	A
1.2.	Exposures where credit risk is not significantly increased after initial recognition	Article 18, Paragraph 1, Item 2 of the Decision	A
1.3.	Modifications of credit risk level 1 exposure caused by current needs of debtors	Article 18, Paragraph 1, Item 3 of the Decision	A
1.4.	Exposures to central governments and central banks outside BiH, banks and other financial sector entities	Article 23, Paragraph 1, Items 2 and 3 of the Decision	A
1.5.	Exposures measured at fair value through income statement that qualify for credit risk level 1	Article 18 of the Decision	A
2.1.	Exposures where credit risk increased significantly after initial recognition	Article 19, Paragraph 1 of the Decision	B
2.2.	Modifications of credit risk level 2 exposure caused by current needs of debtors	Article 17, Paragraph 4 of the Decision	B
2.3.	Restructured exposures that were not allocated credit risk level 3 at the time of approval	Article 19, Paragraph 6 of the Decision	B
2.4.	Exposures during recovery	Article 22, Paragraph 1, Item 2, Sub-item 1 of the Decision	B
2.5.	Exposures during recovery	Article 22, Paragraph 1, Item 2, Sub-item 2 of the Decision	B
2.6.	Exposures during recovery	Article 22, Paragraph 1, Item 2, Sub-item 3 of the Decision	B
2.7.	POCI asset allocated to credit risk level 2	Article 17, Paragraph 2 of the Decision	B
2.8.	Exposures measured at fair value through income statement that qualify for credit risk level 2	Article 19 of the Decision	B
3.1.*	Exposures in default status secured by eligible collateral, other than restructured exposures caused by financial difficulties of debtors, with a delay of up to 365 days	Article 25, Paragraph 1 of the Decision – Table 1	C
3.2.	Exposures in default status secured by eligible collateral, other than restructured exposures caused by financial difficulties of debtors with a delay of 366 to 1460 days	Article 25, Paragraph 1 of the Decision – Table 1	D
3.3.	Exposures in default status secured by eligible collateral, other than restructured exposures caused by financial difficulties of debtors with a delay of more than 1460 days, but no expected credit losses of 100% are recorded in accounting	Article 25, Paragraph 3 of the Decision	D
3.4.	Exposures in default status secured by eligible collateral, other than restructured exposures caused by financial difficulties of debtors, with a delay of over 1460 days and if the expected credit losses of 100% are recorded in accounting	Article 25, Paragraph 1 of the Decision – Table 1	E
3.5.	Exposures in default status that are not secured by eligible collateral, other than restructured exposures caused by financial difficulties of debtors with a delay of up to 270 days	Article 25, Paragraph 1 of the Decision – Table 2	C
3.6.	Exposures in default status that are not secured by eligible collateral, other than restructured exposures caused by financial difficulties of debtors with a delay of 270 to 456 days	Article 25, Paragraph 1 of the Decision – Table 2	D

3.7.	Exposures in default status that are not secured by eligible collateral, other than restructured exposures caused by financial difficulties of debtors with a delay of over 456 days	Article 25, Paragraph 1 of the Decision – Table 2	E
3.8.	Exposures during recovery	Article 22, Paragraph 3, Item 2, Sub-item 1 and 2 of the Decision	C
4.1.	Initially recognized POCI asset	Article 17, Paragraph 2 of the Decision	C
4.2.	Exposures measured at fair value through income statement that qualify for credit risk level 3	Article 20, Paragraph 1 of the Decision	C
4.3.	Restructured exposures that have previously been restructured three or more times	Article 25, Paragraph 5 of the Decision	E
4.4.	Demend for payment under guarantee	Article 25, Paragraph 6 of the Decision	D
4.5.	Demend for payment under guarantee and if the expected credit losses of 100% are recorded in accounting	Article 25, Paragraph 6 of the Decision	E
4.6.	Other exposures - accounting write-off	Article 11, Paragraph 5, Item 3. of the Decision	E
5.1.	Other exposures – credit risk level 1 (delay up to 30 days)	Article 26 of the Decision	A
5.2.	Other exposures – credit risk level 2 (delay from 31 to 90 days)	Article 26 of the Decision	B
5.3.	Other exposures – credit risk level 3 (delay from 91 to 180 days)	Article 26 of the Decision	C
5.4.	Other exposures – credit risk level 3 (delay from 181 to 365 days)	Article 26 of the Decision	D
5.5.	Other exposures – credit risk level 3 (delay over 365 days)	Article 26 of the Decision	E

\* For exposures secured by eligible collateral in a percentage greater than 50% of the total exposure, Items 3.1 to 3.4 shall apply.