PROCEDURE

FOR

ICAAP ASSESSMENT

Version 2011.3
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Introduction

Bank’s ICAAP assessment is one of the main components of the bank’s annual assessment, used in what is known as the Supervisory Review and Evaluation Process (SREP), which includes:

- Risk Assessment System (RAS);
- Internal Capital Adequacy Assessment Process (ICAAP);
- Assessment of the bank’s compliance with minimum legislative requirements.

The role of this procedure is to set the rules and procedures for the bank’s ICAAP assessment.

The assessment is prepared in accordance with expectations of GL 39 (JRAD), which harmonises individual regulators’ approaches across the EU to achieve a joint decision on capital sufficiency (adequacy). The preparation of information for HOME regulators will be based on ICAAP assessment. The form and extent of assessment reports for HOME regulators are defined by them and differ from each other. Hence the local ICAAP assessment will be transformed into templates defined by HOME regulators.

The ICAAP assessment consists of two main components – qualitative and quantitative. The qualitative component of the assessment will be prepared on the basis of defined assessment criteria (questions), which are programmed in file Hodnotiaci zosit ICAAP (ICAAP assessment workbook). The quantitative component of the assessment (internal capital adequacy) is evaluated on the basis of internal capital adequacy indicators, i.e. SREP ratio 1 and SREP ratio 2. These indicators are based on the assessment of the individual quantification methods used by banks, evaluated by supervisors in file Kvantifikacia ICAAP (ICAAP quantification). The overall final ICAAP assessment consists of the combination of qualitative and quantitative assessments.

The input information submitted by banks for the ICAAP assessment is divided into 3 areas:

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<table>
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<tr>
<th>Table of requirements for internal capital</th>
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<table>
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<th>Table of resources of internal capital</th>
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The structure of the ICAAP assessment by supervisors will be identical. The assessment team shall prepare the textual part of the assessment using the template ICAAP hodnotenie_Banka_rok.doc (ICAAP assessment_Bank_year.doc).
as well as the table of requirements and resources using the template *Kvantifikacia ICAAP_Banka_rok.xls* (ICAAP quantification_Bank_year.xls).

The assessment shall include the completed ICAAP assessment workbook implemented in file *Hodnotiaci_zosit ICAAP_Banka_rok.xls* (ICAAP assessment workbook_Bank_year.xls).

The ICAAP assessment workbook includes the summary assessment table and workbooks with predefined questions for each assessment area. Each member of the team will be responsible for the assessment area assigned to him or her; the area will be determined, subject to agreement, by the leader of the ICAAP assessment team. The final qualitative assessment by the team leader will be prepared on the basis of sub-assessments of the individual areas and after a discussion by the whole team.

### Assessment scores

The assessment uses the following scores:

- 0 – not evaluable
- 1 – very good
- 2 – satisfactory
- 3 – unsatisfactory
- 4 – inappropriate / poor

### Allocation of tasks and responsibilities

**The ICAAP assessment team leader takes care of and is responsible for:**

- assigning tasks to the individual members of the team;
- the consistency of the individual members’ assessments;
- defining the main ICAAP expectations in respect of the individual bank while observing the principle of proportionality and in agreement with the relevant department head;
- defining the level of assessment detail with a view to the bank size, complexity of the bank’s ICAAP approach, and the bank’s risk profile;
- adequately completing all the necessary assessment documents
  - *assessment report*;
  - *assessment workbook*;
  - *table of internal capital requirements*;
  - *table of internal capital resources*;
- setting the weights for individual areas assessed, taking into account the bank’s risk profile and the principle of proportionality;
- preparing the ICAAP supporting documents for the SREP assessment;
- meeting with the bank, presentation of results, keeping a dialogue with the bank;
- preparing a report for HOME regulators in cooperation with the bank’s analyst;
- determining the time schedule of the assessment process.

**The assessment team leader is responsible for the resulting ICAAP assessment and for the preparation of the assessment report.**

**The ICAAP assessment team member takes care of and is responsible for:**

- a consistent assessment of the ICAAP areas assigned:
  - evaluating the individual questions in the assessment workbook for the area assigned;
  - modifying the assessment proposed in the assessment workbook, including the specification of the reason for the modification;
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- preparing the quantitative assessment in the table of internal capital requirements and resources for the area assigned;
- preparing the textual part of the assessment;
- suggesting the weights of the individual areas for the team leader, taking into account the bank’s risk profile;
- preparing the supporting documents required for the dialogue with the bank, active participation in the dialogue with the bank;
- cooperating with the team leader and team members to achieve a consistent ICAAP assessment;
- cooperating on the assessment finalisation, preparing the SREP and the information for a HOME regulator.

A member of the assessment team is responsible for the resulting assessment of the areas assigned within the ICAAP (both qualitative and quantitative) and for the preparation of the assessment report sections that cover the areas concerned.

Stages of assessment process

- delivery of documentation from the bank;
- finding out about the ICAAP assessment for a previous year (the team leader presents the information to the whole team);
- studying the documentation and preparing for a meeting with the bank (if the meeting with the bank is necessary);
- a meeting with the bank
  - discussing the ICAAP, understanding the bank’s approach;
  - discussing the main deficiencies and problems;
  - requesting additional documents;
- preparation of the assessment of sub-areas using the ICAAP assessment workbook;
- assessment of ICAAP as a whole at the level of the entire assessment team
  - summary of the assessment of all areas in the document
    
    Hodnotiaci zosit ICAAP_Banka_rok.xls
    (ICAAP assessment workbook_Bank_year.xls)
  - setting the weights of the individual areas for the overall ICAAP assessment and for the SREP;
  - quantitative assessment in the file
    
    Kvantifikacia ICAAP_Banka_rok.xls
    (ICAAP quantification_Bank_year.xls)
  - defining the main problems and recommendations;
- assessment formulation in the textual part of the document
  
  ICAAP hodnotenie_Banka_rok.doc
  (ICAAP assessment_Bank_year.doc)
- finalisation of all assessment documents;
- preparation of the SREP assessment and of the report for a HOME regulator.

The names of the files completed must be changed to include the abbreviation of the bank and the year at the end of which the assessment is being prepared.

Example of a ČSOB assessment as of 31 December 2010:

Hodnotiaci zosit ICAAP_CSOB_2010.xls
Kvantifikacia ICAAP_CSOB_2010.xls
ICAAP hodnotenie_CSOB_2010.doc

The team leader shall prepare an assessment workbook for each bank:

- shall change the workbook name according to the assessed bank name;
- shall indicate, on the first sheet,
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- whether a large/small bank will be subject to the assessment;
- the date as of which the ICAAP is assessed (end of the year);
- the name and residence of the bank;
- shall send the assessment workbook prepared in this way to all members of the team to carry out the assessment.

**Principle of proportionality**

The principle of proportionality is taken into account at three various levels:

- differently set scales in the ICAAP assessment workbook for large banks, small banks and building societies;
- different approaches to the evaluation of answers to individual assessment questions;
- individual weights for individual areas in the overall ICAAP assessment for each bank.

**Principle of proportionality**

The bank should have an appropriate defined/chosen approach to quantify its internal capital requirements and AFR in line with its size; the nature, scale and complexity of its activities pursued. The selection of the approach/method is the responsibility and decision of the bank; however, the bank should take into account the above principle of proportionality. Banks with fewer activities may use simpler ways to identify and measure risks (the use of Pillar 1 methods is enough completed with a calculation and estimates of the risks not captured under Pillar 1, known as the Pillar1+ approach). Large banks will be required by supervisors to use more comprehensive methods to assess internal capital adequacy. For banks that use an advanced risk measurement approach in Pillar 1, supervisors will also require the adequate use of this in the ICAAP.1

To evaluate the internal capital adequacy assessment process, supervisors will break up banks into three main groups:

1) large banks
2) small banks
3) building societies

Medium-sized banks will be included among large or small ones, depending on the decision by the department head in agreement with the assessment team leader.

The bank type needs to be set on the first sheet of hodnotiaci zošit ICAAP (ICAAP assessment workbook). A change in the setting has a fundamental impact on the assessment scales and questions used! A separate assessment workbook is prepared for building societies.

**Weights of individual areas for the overall ICAAP assessment**

The overall ICAAP assessment is calculated (designed) as a weighted average of the assessments of individual areas. The assessment workbook includes preset weights of the individual areas. Given that the bank’s risk profile needs to be taken into account in the assessment, it is possible (and advisable) to set the weights of individual areas according to the bank’s risk profile.

**Weight distribution (standard in the SREP table):**

1. 10 points
   a. Strategy, Organisational structure and management, ICAAP scope, System of risk identification, Limit system, ICR quantification methodology

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b. UseTest, Reporting

2. **30 points**
   a. Available capital (AFR)

3. **60 points**
   a. 50 points
      i. **Credit, Market, Operational risks**
      ii. **IRRBB, Concentration and Liquidity risks**
      iii. **Stress testing**
   b. 10 points
      i. **Risks not fully covered by Pillar I**
      ii. **Business, Strategic, Reputational, Other risks**
      iii. **Capital buffer, Risk aggregation**

We recommend leaving the weights in sections 1 and 2 unchanged, given their identical settings in the SREP assessment. They are highlighted in grey in the assessment table.

It is advisable to set the weights in section 3 at the ratio of 50 + 10 (A+B).

The weights in section 3a (highlighted in red in the assessment table) will be set individually depending on the bank’s risk profile. A good aid to set those weights is the following formula:

\[
\text{Weight} = \frac{ICAAP_{\text{risk}}}{ICAAP_{\text{whole}}} \times (A - ST),
\]

where:
- \( ICAAP_{\text{risk}} \) ... internal capital requirement for the relevant risk in supervisors’ opinion
- \( ICAAP_{\text{whole}} \) ... overall internal capital requirement in supervisors’ opinion
- \( A \) ... weight (points) for the risks of section 3a
- \( ST \) ... weight (points) for stress testing

The same weights shall also be used in the SREP assessment.

The weights in section 3b (highlighted in orange in the assessment table) will be set individually subject to an agreement by the assessment team.

The subsequent sections of the procedure describe individual assessment areas sorted by assessment questions.

**Degree of assessment detail**

The level of detail of the ICAAP assessment should be chosen in a way to take account of:
- the materiality and weight of the individual areas (important areas, such as the credit risk, should be assessed in greater detail than less important areas, such as the business risk);
- systemic importance of the bank;
- requirements specified by a HOME regulator to achieve a joint decision;
- expert assessment of the need for the level of assessment detail by the team leader;
- possibilities of the team;
- time constraints of the team.

The optimum length of the full assessment of one bank is 2-3 weeks (for a bank with advanced methods and the ICAAP model). The role of the assessment is to assess the ICAAP
as a whole rather than find all detailed problems in the ICAAP. Negatively assessed areas can be subsequently inspected in detail through, for example, an on-site inspection.
List of abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AFR</td>
<td>Available Financial Resources to cover risks</td>
</tr>
<tr>
<td>CEBS</td>
<td>Committee of European Banking Supervisors</td>
</tr>
<tr>
<td>CPM</td>
<td>Credit Portfolio Model</td>
</tr>
<tr>
<td>CRD</td>
<td>Capital Requirement Directive/Basel 2</td>
</tr>
<tr>
<td>EBA</td>
<td>European Banking Authority</td>
</tr>
<tr>
<td>GL</td>
<td>Guideline</td>
</tr>
<tr>
<td>GL03</td>
<td>Guideline on the Application of the Supervisory Review Process under Pillar 2 (CP03 revised) 25 January 2006</td>
</tr>
<tr>
<td>HH index</td>
<td>Herfindahl Hirschmann index</td>
</tr>
<tr>
<td>ICAAP</td>
<td>Internal Capital Adequacy Assessment Process</td>
</tr>
<tr>
<td>IRB</td>
<td>Internal Rating Based approach</td>
</tr>
<tr>
<td>IRRBB</td>
<td>Interest Rate Risk in the Banking Book</td>
</tr>
<tr>
<td>CR</td>
<td>Credit risk</td>
</tr>
<tr>
<td>TB</td>
<td>Trading book</td>
</tr>
<tr>
<td>OPRC</td>
<td>Operational risk concentration</td>
</tr>
<tr>
<td>ICR</td>
<td>Internal capital requirement</td>
</tr>
<tr>
<td>CoR</td>
<td>Concentration risk</td>
</tr>
<tr>
<td>BS</td>
<td>Building society</td>
</tr>
<tr>
<td>STA / STD</td>
<td>Standardised approach in operational / credit and market risks</td>
</tr>
<tr>
<td>VaR</td>
<td>Value at Risk</td>
</tr>
<tr>
<td>IC&amp;IA</td>
<td>Internal Control and Internal Audit Department</td>
</tr>
<tr>
<td>AoB</td>
<td>Act No. 483/2001 Coll. on Banks and on Amendments to Certain Laws</td>
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</table>

List of legislation and GL

1. Act No. 483/2001 Coll. on Banks and on Amendments to Certain Laws, as amended
2. Decree No. 13/2010 of Národná banka Slovenska of 31 August 2010 on additional types of risk, on details of the risk management system of banks and branches of foreign banks, and on defining a sudden and unexpected change in market interest rates
3. Decree No. 4/2007 of Národná banka Slovenska of 13 March on banks’ own funds of financing and banks’ capital requirements ..., as amended
6. Guidelines for the Joint Assessment of the Elements covered by the Supervisory Review and Evaluation Process (SREP) and the Joint Decision regarding the Capital Adequacy of Cross-border Groups (GL39) 22 December 2010
7. Consultation paper on the Guidebook on Internal Governance (CP44) 13 October 2010
8. CEBS Guidelines on the management of concentration risk under the supervisory review process (GL31) 2 September 2010
10. CEBS Guidelines on Stress Testing (GL32) 26 August 2010
11. High level principles for risk management 16 February 2010
Chapter 1. Company data

The company data supplied by the bank needs to be verified by the company data available to the NBS.

Chapter 2. General information about the ICAAP

2.1. ICAAP strategy

Risk appetite
The ICAAP must be risk-oriented. The bank should have its defined risk appetite/risk tolerance as the main precondition to set the appropriate ICAAP strategy. The appetite can be expressed qualitatively, quantitatively or in both ways, and it should be updated/reviewed. The risk appetite/risk tolerance should clearly define the bank’s attitude to the size and form of the risks taken in view of its capital targets, shareholders’ expectations and macroeconomic environment. The bank’s risk appetite should be subsequently detailed and elaborated into a strategy, a business plan. The more clearly the bank has defined its risk appetite/risk tolerance the more easily it can define its risk profile and decentralise responsibilities for risks and decision-making authority into individual business lines and organisational departments within the bank. The defined risk appetite should be documented and approved by the Board of Directors.

Main expectations for the ICAAP strategy
The internal capital adequacy assessment process should also encompass the strategy to manage the amount of internal capital. The ICAAP strategy should be based on risk appetite/risk tolerance.

The bank management, namely the top management body and the top supervisory authority collectively are responsible for putting in place and for the form of the ICAAP system. The top supervisory authority (Supervisory Board) should approve the bank’s ICAAP concept while the top management body (Board of Directors) is responsible for elaborating the concept into a more detailed form and for implementing it into individual organisational units of the bank. The ICAAP process requires the involvement of the top management level of the bank – i.e. the Board of Directors, and should be implemented into the bank’s decision-making process.

The ICAAP strategy is a written document approved by the bank’s Board of Directors as an internal regulation. Legislation does not set out whether it should be a single summary document or a set of documents. The ICAAP strategy may also be part of the overall risk strategy. The bank should identify the documents that comprehensively cover the entire ICAAP process of the bank.

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2 Article 27 (3) of Act No. 483/2001 on Banks and on Amendments to Certain Laws
3 High level principles for risk management (HLP – 16 Feb 2010)
4 Principle 5, CP 44, Guidebook on Internal Governance
5 10, item 65, Guideline 39
6 Item 20, Methodological Instruction No. 1/2007 of the Financial Market Supervision Unit of the NBS of 5 February 2007
The strategy should be the basic summary document which comprehensively defines and describes the ICAAP process and its main components. The ICAAP strategy may be usually followed up by other internal documents, which provide a more detailed technical description of the individual areas, such as capital planning, approach to individual risks, etc. Furthermore, the ICAAP strategy should be based on the bank’s risk profile, also with a view to the estimated future development of the bank’s performance as well as to the external macroeconomic environment, i.e. should be adequately set to the conditions in which the bank operates. The main precondition for the ICAAP process to take place in compliance with a strategy approved is the timeliness of the ICAAP strategy. The ICAAP strategy should immediately reflect changes in the organisational structure, changes in competences of the individual departments/staff involved, approved changes in the ICAAP process, changes in follow-up internal regulations, etc.

The ICAAP strategy should include a defined ICAAP update/review frequency. The bank should review the appropriateness of the ICAAP, the need to put in place new elements, improvements, changes in the process, and to assess supervisors’ ICAAP recommendations. This review process should be documented by the bank in a demonstrable manner. The bank should be able to prove that such a process takes place on a regular basis; for example, the output might be a decision by the Board of Directors that certain changes have been made or a decision by the Board of Directors that the strategy has been confirmed and is still in force in that wording. The update/review may also take place within a shorter than set time horizon if any reasons/suggestions leading to the review occur. The primary range of reasons/suggestions should be set and clearly defined in the ICAAP strategy. The updated/reviewed written document must be approved by the bank’s Board of Directors, including the specification of the time horizon within which the ICAAP strategy is in force.

**ICAAP scope in strategy**

The ICAAP strategy should include the definition of the ICAAP system for the bank. Also, the bank management should set the strategy at the consolidated level and specify the way of inclusion of subsidiaries in the ICAAP on a consolidated basis (applicable to consolidating banks) and ensure that all business activities/business lines on the level of the bank/consolidated level are covered. Members of subsidiaries’ top management bodies should actively participate in the process of creation, implementation, update/review and approval of the ICAAP strategy.

**Risk management framework**

The ICAAP strategy should also include the basic risk management framework (identification, measurement, monitoring, mitigation). If the bank uses the ICAAP on a consolidated basis, the risk management framework should also be set on the consolidated basis – the principle of consistency. The ICAAP strategy should sufficiently justify the use of the chosen risk management approaches (qualitative, quantitative) as well as the adequacy of the methods, procedures and techniques for the bank (the assessment team shall assess whether the methods chosen are not too simple, failing to comply with the stage of development and complexity of the bank, or whether they are not unnecessarily complicated, complex, the bank management fails to understand them, fails to use them in practical life, or whether they are inappropriate for the nature of the bank’s activities).

**Capital management and planning**

The ICAAP system should be created on a forward-looking basis. The ICAAP strategy should also include a general description of the process of managing and planning the capital earmarked to cover risks and the principles to determine the adequate amount of internal
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capital. The amount and composition of internal capital should be defined and reviewed in compliance with the bank’s strategic goals and business plan. The ICAAP strategy should define the bank’s long-term objectives in respect of capital needs, reflecting the risks to which the bank is or might be exposed, the business intentions and planned profit of the bank, as well as the relevant external factors, such as market expectations, the bank’s position in the market and the external rating the bank wishes to achieve. The bank’s refocusing on a different market segment may imply a change to its risk profile, and consequently a different requirement for its capital level.

The bank should have and regularly review an exact capital plan, and should also review it if major initial assumptions under which the bank created the plan have changed (for example, a change in its forecast profit, a change in its dividend policy, a change in legislation (definition of own funds) etc.).

The bank management should set the frequency of reviewing the internal capital adequacy.

The strategy should also include other components of the ICAAP process for this process to be coherent and consistent:

- **the way of reporting the ICAAP results** to the Board of Directors and the Supervisory Board;\(^7\)
- **description of the activities** in which the ICAAP results are used (UseTest). Thus the requirement that the ICAAP be an integral part of the bank’s culture, of the overall risk management process and the day-to-day business, organisational and decision-making processes of the bank is met;
- **description of the performance of stress tests** in the ICAAP, the frequency of performing those tests, the way of using the stress test results in planning capital and setting limits, the use of the stress test results in modifying the bank’s business intentions;
- definition of the capital buffer (as an internal capital requirement, not as a capital reserve) and the way of its inclusion in the ICAAP;
- definition of the approach to the risk aggregation/diversification;
- **description of the AFR calculation.**

After studying the ICAAP strategy of the bank under assessment, the assessment team of the NBS should obtain an overall view of the bank’s ICAAP system, its structure, components and their inter-relationships and continuities.

The assessment team should also be able to assess the quality of internal regulations pertaining to the ICAAP system. All members of the assessment team have to make comments on the assessment of internal regulations.

### 2.2. Organisational structure and management

The ICAAP, as an integral part of the bank’s management, must be well integrated in the bank’s organisational structure and, within its framework, the responsibilities and authority must be clearly allocated. The organisational structure should be transparent and organised in a way that promotes the effective and prudent management of the bank both on a solo basis and at group level.

The ICAAP processes, the responsibilities and authority within the ICAAP should be organised in a way to cover the entire ICAAP scope, to promote the efficient process, and to ensure that the ICAAP is functional and feasible.

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\(^7\) ICAAP 3, CP 03
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Clearly defined responsibilities should be in place at the bank in respect of its Supervisory Board, Board of Directors, senior management, committees and individual organisational departments participating in the process of the ICAAP development, approval, use and review.

**Organisational structure**

- should be **transparent and organised** in a way that promotes and demonstrates the effective and prudent management of the institution both on a solo basis and at group level\(^8\)
- should be **transparent** and **clear** to employees as well as to the supervisory authority, and should be managed efficiently\(^9\)

The reporting lines and the allocation of responsibilities and authority within an institution should be clear, precise, well-defined, transparent, coherent, and enforced\(^10\).

The ICAAP authority and responsibilities should also be embedded in the primary internal regulations of the bank (such as organisation rules, occupational duties of the department/employee, internal ICAAP regulation, etc.).

**Determination of responsibilities and powers in the ICAAP**

**Responsibility of the Supervisory Board in the ICAAP process**

- approves the bank’s ICAAP concept (at least the scope of activities, general methodology and objectives)\(^11\)

**Responsibility of the Board of Directors in the ICAAP process**

- is responsible for elaborating a concept into a more detailed form and for implementing it into the individual organisational units of the bank; is responsible for ICAAP process reviews and changes\(^12\);
- sets the bank’s risk appetite and risk tolerance, and is responsible for reviewing these on a regular basis\(^13\);
- puts in place an internal control framework in compliance with regulatory requirements;
- establishes expert committees (depending on the bank size and complexity), composed of members of the Board of Directors. However, these committees do not assume the responsibility and obligation of the Board of Directors; they assist in expert areas of management and decision-making process, such as Audit Committee, Risk Committee, Remuneration Committee, Compliance Committee, etc.;
- defines the strategy, policies and processes within the ICAAP (such as risk appetite, capital planning) and defines specific objectives;
- is duly kept informed of ICAAP results and regularly assesses the appropriateness of organisational measures, methodology and planning.

**Responsibility of the department in charge of the ICAAP**

- the responsibilities of the department in charge of the ICAAP are clearly and comprehensively set out in the internal regulations of the bank (such as organisational rules, ICAAP strategy, etc.);

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\(^8\) Item IG1, CP 03
\(^9\) Methodological Instruction of the NBS No. 1/2007 of 5 February 2007
\(^10\) Item IG2, CP 03
\(^11\) Item C2-17, Methodological Instruction of the NBS No. 1/2007 of 5 February 2007
\(^12\) Item C2-17, Methodological Instruction of the NBS No. 1/2007 of 5 February 2007
\(^13\) Item 18, HLP
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- the department in charge of the ICAAP actually exercises its responsibilities, supervises the entire process, and is methodically in charge of and approves all changes in the ICAAP;
- it is advisable that the Risk Management Department be the one in charge of the ICAAP.

Responsibilities of the individual organisational departments and committees
Other organisational departments engaged in the ICAAP process, such as controlling committees like ALCO etc., should have their ICAAP responsibilities clearly defined, either in their organisational rules or in other internal regulations, which are embedded in the system of ICAAP regulations. It is essential that someone (a department/person) be responsible for any ICAAP activity to ensure that all stages of the process or components (such as the capital buffer, ICAAP stress testing, UseTest, etc.) are covered.

Committees should also include active representatives of the management of subsidiaries.

The formalisation of responsibilities and authority is an important and essential precondition of exercising an efficient and effective ICAAP process at the bank.

Internal Control and Internal Audit (IC&IA) Department
IC&IA is an independent department of the bank with defined responsibilities and authority in the ICAAP process. The IC&IA Department should carry out the ICAAP assessment. The assessment frequency is not governed by legislation.

The assessment should focus on the comprehensive evaluation of all components of the ICAAP process (such as methods/approaches to the quantification of internal capital requirements for relevant risks, approach to the AFR calculation, limit system, UseTest, reporting system, stress testing system, etc.) and should also be detailed (including, for example, a description of the strengths/weaknesses of the area assessed, etc.).

2.3. ICAAP scope

This assessment section should be prepared by the assessment team leader in cooperation with all members of the team and an off-site analyst of the bank.

The ICAAP scope can be broken down into two main levels:
- ICAAP scope – consolidated level;
- ICAAP scope – bank’s risks and activities.

ICAAP scope – consolidated level
The ICAAP system should be organised at the consolidated level (if it is a consolidating bank), should adequately capture all relevant entities and business lines, as well as current and expected material risks.

Subsidiaries hold capital ties with the bank, financial inter-relationships exist between them, and these relationships pose certain risks and capital requirements. For the ICAAP system to be adequately configured on the entire consolidated level, defined/determined rules of subsidiaries’ inclusion in the ICAAP must exist at the bank and the way of inclusion or non-inclusion, as appropriate, of the bank subsidiaries has to be described. The principle of proportionality is taken into account in the assessment, with a view to the character, nature

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14 Guideline 6, GL 39
and importance of these consolidated subsidiaries; while some subsidiaries may be less important, others may be significant for certain banks.

The consolidating bank should set the ICR and AFR at both consolidated and solo levels.

Assessment of the area concerned:

- calculation at both the consolidated level and the solo level: yes;
- calculation at the consolidated level only: somewhat;
- calculation at the solo level only: no.

The participation of subsidiaries in the process of the ICAAP development, approval, use and review is desirable to ensure that the ICAAP system is configured well.

**ICAAP scope – bank’s risks and activities**

A well-configured ICAAP takes account of:

- bank’s strategic targets;
- bank’s business objectives;
- forward-looking view;
- external factors, business and economic environments.

The ICAAP should be comprehensive and consistent, and should include all relevant risks to which the bank is exposed in respect of its business activities, and should also include entities at the consolidated level.

The ICAAP should include:

- Pillar 1 risks (credit, market and operational), including major differences between the treatment of Pillar 1 risks in the calculation of own funds requirements and their treatment under the ICAAP.
- Risks not fully captured under Pillar 1 (notably residual risk and securitisation risks, underestimation of the credit risk using the standardised approach, underestimation of the operational risk using the basic indicator approach or standardised approach).
- Pillar 2 risks: The ICAAP should cover all material risks to which the bank may be exposed, such as interest rate risk in the banking book, concentration risk, liquidity risk, reputational and strategic risk. Some of these risks are less likely to lend themselves to quantitative approaches, in which cases banks are expected to employ more qualitative methods of assessment and mitigation.
- Risk factors external to the institution. These include risks which may arise from the regulatory, economic or business environment and which are not included in the above mentioned risks.

The ICAAP consistency and complexity are assessed by the entire assessment team. The main consistency expectations include:

- consistency of the bank’s strategy with risk appetite;
- consistency of the internal capital requirement calculation with the AFR calculation
  - static/dynamic approach;
  - equal/similar level of cyclicality of individual models used in the ICAAP;
- consistency of limits in the ICAAP.

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2.4. System of risk identification

The system of risk identification forms an integral part of the bank’s ICAAP system. The identification of the risks to which the bank is exposed and the determination of their relevancy should be based on a comprehensive assessment of the existing and potential risk factors of individual transactions, products, activities, processes and systems of the bank. Another risk identification component is the assessment of the external environment in which the bank operates.

The risks which the bank covers and actively monitors in the ICAAP process (such as capital creation, control by limits, process settings) are considered by supervisors to be relevant risks for the purpose of the ICAAP assessment.

The approach to risk identification in the ICAAP is very diverse across banks. Likewise, banks use very diverse identification of materiality, such as material/immaterial, tangible/intangible, capitalisable/non-capitalisable, etc. To unify the approach and terminology, supervisors will use the term relevant/irrelevant in the ICAAP and material/immaterial.

Scope of the bank’s departments engaged in the risk identification process

The bank should have a defined process of risk identification and the frequency of reviewing the risks included in the ICAAP. The identification process should be clear and lucid, including the specification of responsible departments, participating in the identification process. While the ICAAP covers the entire bank, it is advisable that as many of its departments as possible actively participate in the risk identification process.

The bank should appoint a department to be responsible for the finalisation of relevant risks and to be in charge of the risk identification activities.

The principle of proportionality needs to be taken into account in connection with the size of the bank and the complexity of its organisational structure. Large banks need to be expected to engage multiple departments in their risk identification processes. In smaller banks, one department is enough to take care of risk identification (risk management) in cooperation (which need not be formally defined) with other departments of the bank.

Banks that use ICAAP models of their parent companies often include only those risks in the ICAAP that have been defined by their respective parent companies while they fail to pay the necessary attention to the local identification of risks. Evaluating this area, it is therefore also necessary to assess the parent company’s influence and the bank’s local approach. The adoption of the purely parent approach and of a list of risks without any local analysis is not appropriate.

List of potential risks

To ensure reasonable identification of risks, it is appropriate for a bank to have a list of potential risks (an outline list of risks) available. While identifying its risks, the bank goes through such a list and identifies which of the risks it is actually exposed to and will add them to the ICAAP as relevant.

Rules and criteria that determine the materiality of risks

The materiality of risks is directly associated with the bank’s approach to the risk concerned. Clear rules or criteria to determine the materiality of risks make it possible to define more accurately the bank’s approach to the management of the risk concerned and to the limit settings. For the sake of simplification, supervisors have only defined 2 levels of materiality: material/immaterial. Internally, the bank may use various levels of materiality or,
where appropriate, other identification, but it should be able to define material and immaterial risks clearly.

**Definition of risks**

A clear definition and determination of risk is the main precondition of the good risk management. Internal definitions of risks may be broader than those specified in the Decree of the NBS No. 13/2010 on other types of risks or in GL 03, but they should, in essence, cover these formal definitions. The bank should clearly name each relevant risk in the ICAAP, define it and set risk management rules for it. The specification of a relevant risk without this additional information (the definition and the management rules) is unacceptable.

The appropriateness of definitions of all risks will be assessed as a weighted average of the assessments of the appropriateness of the definitions of the individual risks using the scale of 1-4.

**Frequency of reviewing the risks in the ICAAP**

An annual interval is the most common to review the relevancy and materiality of risks. Supervisors consider this interval to be appropriate and adequate. Also, rules should be defined at the bank for the ‘urgent’ need to review risks. Failure to define the review interval or, where applicable, leaving the review up to the parent company is inappropriate.

**Scope of relevant risks in the ICAAP**

Supervisors should assess the adequacy of the extent of relevant risks defined by the bank. The entire assessment team should comment on the assessment of this section. The opinion by an off-site analyst of the bank concerned is highly important, as he or she should point out potential risks that the bank has failed to include in the ICAAP.

Banks that use standardised approaches to the quantification of internal capital requirements frequently fail to ‘see’ the risks that these standardised approaches do not reflect. There is a well-known case of a bank whose securities portfolio includes bonds of riskier countries which are, however, weighted by zero risk weight in the STD approach to credit risk. Nonetheless, the fair value of these bonds may be much lower than their book value and these securities pose a great deal of risk of a change in their fair value. The STD approach ‘underestimates’ the credit risk. However, the bank may concurrently hold a high concentration of those securities, and this raises the requirement for the relevancy of concentration risk. In addition, if the bank regards those securities as being highly liquid while it considers their book value in its liquidity risk management, it also underestimates the liquidity risk, and its approach to the liquidity risk management is not correct because the bank would carry out the sale for the purposes of obtaining liquidity at the fair value, which may be much lower than their book value.

The assessment team should consider all potential risks from the information it knows about the bank, and decide on the adequacy of the relevant risks defined by the bank.

**Risk structure/map**

A lucid risk map (often as a table), just like a clear definition of risks and a list of potential risks, assists in the risk identification process. The definition and the actual use of the risk map at the bank are signals of the bank’s structured approach to risk identification. The appropriateness of the risk map should be assessed in connection with the definitions of risks and the list of potential risks.
Criteria to determine the approach to risks
The bank should have criteria in place on the basis of which it will decide how to manage a risk, whether it will earmark internal capital for the risk, etc. The criteria should be based on the ‘size/materiality’ of the risk and on the possible impact of the risk on the bank’s activities.
2.5. Limit system in the ICAAP

One of the main instruments to manage risks is the determination and monitoring of limits. Limits may have a variety of forms (amount, loss, quantity, ...). To ensure that the monitoring is unambiguous, it is advisable that the use of the limits be clearly defined. A department other than that which creates a risk (conducts transactions) has to be responsible for monitoring the limits.

Appropriateness of limits in the ICAAP
The assessment of internal capital adequacy must have clearly defined adequacy rules. At any time, the bank must be aware whether it has enough resources to cover risks. The performance of this task should be overarched by appropriate limits set at the top level of internal capital management, which are known as the ICAAP limits.

Examples of the ICAAP limits include:
- limit on the difference between resources of and requirements for internal capital (what is known as the capital reserve or tolerance);
- limit on the share of resources of and requirements for internal capital;
- limit on solvency ratio, or
- limit on tier 1 ratio.

Limits are appropriate if they are clearly defined, can be monitored and are prudent enough for the bank to be able to flexibly tackle exceeding those limits, if required, to ensure, at any time, that its internal capital is adequate.

Helpful information in the assessment of the appropriateness of the limits may be, for example, the following indicator:
\[
\frac{\text{Internal capital resources}}{\text{Internal capital requirement}} > 1.1
\]

Limits arising from risk appetite
ICAAP limits should be based on the bank’s risk appetite. Risk appetite may only be defined by text but it should clearly set out the bank’s approach to the size and form of the risks incurred. Limits must reflect the bank’s capital position. It is appropriate if the bank has a directly defined relationship between ICAAP limits and the amount of internal capital resources.

Procedures if limits are exceeded
The procedures if ICAAP limits are exceeded should be clearly formulated. For example, the bank can reduce the risks by entering into mitigation transactions or by selling a portion of its portfolio; the bank may change its dividend policy and raise its internal capital. If the bank is a subsidiary of another bank, it may have rules in place to transfer capital from its parent company. However, the capital transfer rules must be clearly formulated and contractually agreed. Also, the bank may significantly reduce its limits on individual risks. A reduction of the amount of risk incurred or an increase in internal capital resources cannot be carried out within a short period of time; hence the monitored ICAAP limits need to be set with sufficient prudence given the limited flexibility of their management.

Structure and consistency of limits
In determining the amount of limits, a principle should be observed that the limits at a lower management level are based on the limits at a senior management level. ICAAP limits should
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be based on risk appetite. The individual risk limits should be based on ICAAP limits. The limit system should be designed in a way that the observance of limits at a lower management level means the observance of limits at a senior management level. Hence the individual risk limits should be set so that even if they are used at 100%, the ICAAP limit is not yet exceeded. The limit structure should be clearly defined at the bank. A simple structure is shown on the figure below.

Responsibilities in the limit system

The responsibilities for proposing, approving and monitoring the limits must be clearly defined at the bank at all management levels. The ICAAP supporting documents submitted by the bank must clearly describe those responsibilities.

Frequency of reviewing the limits

The review of ICAAP limits should be part of the review of the ICAAP strategy, risk identification, risk appetite, etc. Hence the review frequency should be set at the frequency of reviewing the other ICAAP documents. The usual standard is an annual limit review period.
Chapter 3. Internal capital requirements

3.1. Quantification methodology

Assessments are concerned with a bank’s approach to the quantification of internal capital requirements. The quantification model should be **structured**. It is advisable that the bank describes all components of the model according to the figure below, i.e. the model should **include** the quantification of internal capital requirements for:

- Pillar 1 risks;
- Pillar 2 risks;
- Capital buffer;
- Diversification effect;

Failure to include any component is a negative signal of misunderstanding the ICAAP structure. The quantification should be clear and comprehensible. If the bank fails to apply diversification effects or fails to create a capital buffer, it should be evident from the description.

**Definition of internal capital requirements**

The quantification of an internal capital requirement should be based on a clear definition of what the bank quantifies. The definition should be consistent with the requirement quantification methodology. For example, if the bank primarily uses standardised approaches, it cannot define an internal capital requirement exactly at the quantile level and the holding period because these methods are not based on those assumptions and only quantify risks ‘roughly’.

**Bank’s approach to the ICR calculation**

In general, there are 2 types of approaches:

- static and
- dynamic.
The static approach is based on an ICR estimate from the data (status) as of a date without any forecast (estimate) of the future development. If the bank uses such an approach to the ICR quantification, its AFR cannot include, for example, the profit anticipated in the years to come. If a purely static approach is used, the bank needs to create a capital buffer of at least 10% of the ICR amount of individual risks. The use of a purely static approach to the ICAAP is only suitable for small banks (the smallest banks).

The dynamic approach to the ICAAP is based on the data applicable to a certain period of time and on the assumptions of the bank’s future development. The bank should predict the development of requirements as well as the development of resources and use the results, for example, to create (modify) the amount of its capital buffer.

ICAAP cyclicity
More advanced methods used for quantification are ‘risk-sensitive’. The sensitivity of the models to changes in the economic climate is characterised by the cyclicity of the models. In general, there are two types of models:
- point in time (sensitive models that ‘copy’ the condition of the economy)
- through the cycle (stable models that ‘do not copy’ the condition of the economy)
Banks that use more advanced risk quantification methods (such as VaR, IRB, CPM, AMA) should define the overall type of the ICAAP model and the level of its cyclicity, and should ensure that the quantification of individual risks is consistent with the overall ICAAP model.

**Model risk/uncertainty**

While the bank should be aware of the strengths and weaknesses of the models of individual risk quantifications, it should equally be aware of the strengths and weaknesses of the ICAAP model as a whole. The description of the strengths and weaknesses of the ICAAP model should be specified in section 5.1. of the ICAAP supporting documents.

**Consistency of individual risk quantification with a definition**

The quantification of the individual risks must comply with the definition of internal capital requirements. If the bank defines the requirement exactly (for example, the internal capital requirement is quantified to cover a potential loss during one year at the reliability interval of 99.97%), a situation may occur that, for certain risks, the bank has developed no model to take into account that definition (for example, to estimate a strategic risk). In those events, the materiality of the risk at the bank will be taken into account in the assessment.

Example:
The bank has an exact definition of requirements (quantile + holding period). The bank quantifies the market risk by the VaR model, operational risk by the AMA model and other risks by internal models, which take into account the definition. However, the bank quantifies credit risk by the STD approach. If the credit risk constitutes a majority portion within the bank, the consistency will be assessed as unsatisfactory (3).

By contrast, if the bank has an exact definition, it quantifies both credit risk and market risk by advanced approaches and the other risks by simpler models, and the consistency may be assessed as satisfactory (2).

**Quantification model structure**

The lucidity of the model structure is assessed. Even a very simple model may have a very complicated and unclear structure while a very complex model may have a very lucid structure. The model structure quality is an indicator of the bank’s approach to the ICAAP, of the lucidity and intelligibility of the quantification of requirements, and consequently of the bank’s ICAAP culture.

**Other assessment areas of individual risks**

Naturally, the quality of the quantification methodology primarily depends on the quality of the quantification and approach to individual risks. Therefore individual risk scores are transferred to the assessment form in further areas, and the evaluator can manually adjust the scores while specifying the reasons for such a manual adjustment.

### 3.2. Pillar 1 risks

#### 3.2.1. Credit risk

**Definition of credit risk and its position in the ICAAP**

Credit risk is a risk of loss arising from the fact that the debtor or other contracting party fails to meet its liabilities. It is a risk of loss arising from the fact that the debtor or other

16 Article 23 (6) a), item 1 of Act No. 483/2001 Coll. on Banks
contracting party of the bank fails to comply with the agreed terms of a financial transaction (contract) and the creditor (bank) consequently incurs a financial loss. The debtor or other contracting party is not able or willing to meet its liability to the bank, i.e. fails in meeting its liabilities arising from the terms agreed.

Under the Act on Banks, credit risk also includes the country risk, concentration risk, transaction settlement risk and business partner risk.\textsuperscript{16}

The country risk means the risk arising from the fact that the relevant authorities of the country or the central bank will not be able or willing to meet their liabilities to foreign entities and the other debtors in the relevant country will not be able to meet their liabilities to foreign entities because they are residents of that country.\textsuperscript{17} Thus the country risk (sovereign risk) is a risk of loss arising from the fact that a sovereign debtor, i.e. a foreign government, a central bank or an agency supported by the government, fails, as well as from the fact that all or most economic entities of that country will not be able, for a certain common reason, to meet their liabilities to foreign entities. The reasons may be economic, political or force majeur (a natural disaster). **Country risk as part of the credit risk may or may not be assessed by the bank as a separate risk** (if the bank assesses it as a separate risk, it will be assessed in chapter 3.3.8. Other risks).

Supervisors require that banks manage the concentration risk in the ICAAP process as a separate risk among Pillar 2 risks\textsuperscript{18}, and they will assess it separately (for details, see chapter 3.3.4. Concentration risk). The transaction settlement risk and the business partner risk as the risks arising from positions recorded in the trading book are, under the Act on Banks, part of the credit risk, but are subject to a separate calculation of own funds requirements in Pillar 1. As part of the ICAAP assessment, it is necessary that supervisors assess the inclusion of those risks in the calculation of the internal capital requirement (separately, as part of the credit risk or as part of the market risk; for details, see chapter 3.2.2. Market risk).

The transaction settlement risk means the risk arising from the fact that a transaction is not settled according to the terms agreed upon.\textsuperscript{19} Hence the transaction settlement risk poses a risk of loss arising from the fact that a financial transaction is not settled according to the terms agreed upon, i.e. arising from failure of transactions in the settlement process, e.g. if the counterparty is able and willing to carry out the settlement but the settlement is interrupted due to technical problems. The business partner risk means a credit risk arising from a position recorded in the bank’s trading book.\textsuperscript{20}

Under the Guidelines on the Application of the Supervisory Review Process under Pillar 2 (CP03 revised) of 25 January 2006, credit risk also includes **residual risk, credit risk in securitisation** and **cross-border risk** (or transfer risk).

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\textsuperscript{17} Article 2 (13) of the Decree of the NBS No. 13/2010 of 31 August 2010 on additional types of risk, on details of the risk management system of banks and branches of foreign banks, and on defining a sudden and unexpected change in market interest rates

\textsuperscript{18} Guidelines on the Application of the Supervisory Review Process under Pillar 2 (CP03 revised) of 25 January 2006, ICAAP 7: The ICAAP should be comprehensive

\textsuperscript{19} Article 2 (11) of the Decree of the NBS No. 13/2010 of 31 August 2010 on additional types of risk, on details of the risk management system of banks and branches of foreign banks, and on defining a sudden and unexpected change in market interest rates

\textsuperscript{20} Article 2 (12) of the Decree of the NBS No. 13/2010 of 31 August 2010 on additional types of risk, on details of the risk management system of banks and branches of foreign banks, and on defining a sudden and unexpected change in market interest rates
Supervisors expect banks to include residual risk and the risk arising from securitisation among the risks not fully captured under Pillar 1 and will assess them separately (for details, see chapter 3.3.1. Risks not fully covered by Pillar 1).

Cross-border risk (or transfer risk) is a risk of loss arising from the fact that, due to an administrative restriction, i.e. a tightening of a country’s foreign exchange regime (for example, due to lack of foreign exchange), the country and business entities of that country will fail to meet their foreign currency obligations albeit they are able to meet their national currency obligations. **Banks may or may not assess cross-border risk within the credit risk as a separate risk.**

Credit risk, as Pillar 1 risk, is a major risk included in a bank’s ICAAP process. Supervisors expect that the credit risk is a relevant and material risk at any bank, with a significant impact on the value of the bank’s internal capital requirement. **In the ICAAP assessment process, supervisors will require that each bank effectively and prudently manage its credit risk and that it quantify an internal capital requirement for that risk.** Given their past experience, supervisors expect the amount of this requirement to be at least 50% of the overall internal capital requirement (less than 50% is a non-standard situation, which requires a more detailed review).

**Banks’ approaches to credit risk quantification**

The approaches/methods of internal capital requirement calculation most frequently used by banks for Pillar 2 criteria include:

- Standardised approach (STA approach) – Pillar 1 method
- Internal Rating Based Approach (IRB approach) – Pillar 1 method
  - Foundation IRB approach (Foundation IRB → F-IRB)
  - Advanced IRB approach (Advanced IRB → A-IRB)
- Modified STA approach
- Modified IRB approach
- Combination of (modified) IRB approach and (modified) STA approach
- CPM (Credit Portfolio Model)
- Credit VaR model
- Other approach/model or, where appropriate, a combination of the above approaches/models

**Standardised approach/Modified standardised approach**

For the purposes of using the STA approach for credit risk, all exposures are included in individual exposure classes, and each exposure class includes its defined range of risk weights. The process of risk weight determination depends on the external credit rating of the counterparty (client) and the exposure class. If any adjustments and modifications of the regulatory STA approach are made, supervisors will expect that the bank will detail and document the differences (such as the use of modified risk weights, the removal of risk from real estate to Pillar 2 risks, etc.) and that the used (modified) weights for the individual exposure classes and credit quality grades are appropriately set, meaningful, and do not distort the risk incurred by the bank.

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**IRB approach/CPM model**

Supervisors expect that the approach/model chosen by the bank will be consistent with the internal capital definition and with the bank’s overall approach to the internal capital requirement creation (model reliability level).

The approach used for the conversion of the model’s results into a capital requirement should be clearly specified, appropriate and meaningful (e.g. a coefficient multiplication for the bank to achieve the same reliability level at which its internal capital is defined). The bank should perform adequate validations of the used models as part of the chosen approach (the items assessed include regularity, appropriateness, quality and comprehensiveness of the validations performed, which should be preferably carried out by an independent department, at least at the level of the department responsible for validations), including the reverse testing of individual transaction parameters. Banks should record exceptions (exceeded values, deviations) from reverse tests and use the reverse test results to change/recalibrate the model (banks should have procedures in place to change the model if a specific number of exceptions occur). If a bank with a non-approved IRB approach, only used by the bank in Pillar 2, fails to make validations, it has thus not demonstrated that its model is good and really suitable for the bank (this applies to large banks). For small banks, a simpler validation is enough (need not be detailed/comprehensive) or, where appropriate, the bank may demonstrate that its approach used to measure credit risk in Pillar 2 is suitable and the final value of its internal capital requirement (assessed as “somewhat”) is adequate.

**Other approach**

Supervisors will comprehensively assess the appropriateness and quality of the bank’s approach/model chosen, notably the model’s consistency with the bank’s overall approach to the creation of internal capital requirement, whether the model is meaningful and appropriate for the bank, the awareness of the model and the performance of validations, i.e. of reverse testing of the model parameters (assessed as part of the criterion “The bank’s approach to the quantification of the internal capital requirement is good and of high quality.”). Supervisors will also assess the risk and uncertainty of the approach used as viewed by the NBS (assessed as part of the criterion “The NBS regards the risk and uncertainty of the approach used (the risk of underestimating the internal capital requirement) as being:”).

As the bank’s approach/model used need not be generally known to supervisors, the quality of documentation is essential in that event. Supervisors will assess the documentation of the chosen quantification approach submitted by the bank; the documentation should be up-to-date, adequate and comprehensible (assessed as part of the criterion “The documentation of the approach used by the bank is:”).

** Appropriateness of the bank’s chosen approach to credit risk**

**Principle of proportionality**

In their assessment of banks, supervisors apply the principle of proportionality. That said, they expect large banks to use more advanced risk measurement approaches than small banks. Supervisors will assess the appropriateness of the approach/method used, taking into account the principle of proportionality:

- **Small banks:** We evaluate the use of the regulatory STD approach as “somewhat”; the use of the modified STD approach or, where appropriate, the use of a more advanced method (such as the IRB approach) as “yes”.
- **Large banks:** We evaluate the use of the regulatory STD approach as “no”; the use of modified STD approach as “somewhat”; the use of the regulatory IRB approach, a combination of the IRB and STD approaches and the use of a more advanced method (such as the modified IRB approach, CPM model) as “yes”.


In the assessment of building societies, the same assessment criteria will be used as those used for large and small banks.

The criteria specified are approximate and, depending on a particular bank, its size, nature and complexity, they can be modified (for example, for a medium-sized bank of which we know that it plans to apply for an IRB approach, we can evaluate the use of the regulatory STA approach as “no”; or for a small bank of which we know from on-site inspections that it has serious problems in its Pillar 1 credit risk management system and uses a complicated credit VaR model for Pillar 2, we can also evaluate the use of this approach as “no”).

Appropriateness and quality of the quantification method

Supervisors will assess whether the way of quantifying the internal capital requirement for the Pillar 2 credit risk is good and of high quality. The assessment should not depend on whether or not the method is appropriate for the bank in terms of proportionality; it should be based on the evaluation of the actual quality of the approach (the approach should be prepared in a good and high quality manner). The assessment should take into account the assessment criteria of the approach used as well as all the other information acquired from the bank’s documentation, from on-site inspections, etc.

Documentation

Supervisors will evaluate the market risk documentation submitted by the bank, which should be up-to-date, adequate, comprehensible, and approved in accordance with the bank’s regulatory rules. The documentation should provide an in-depth description of the way and method of quantification to indicate sufficiently all technical details and reasons for using the approach chosen. If the bank uses quantification methods different from those of Pillar 1, all differences in handling the Pillar 2 market risk should be described and documented. If adjustments and modifications vis-à-vis regulatory approaches are used (such as the modified STD approach, modified IRB approach), all modifications and differences must be detailed and documented. Great emphasis on the documentation quality is laid if complicated modifications or approaches/models that supervisors may not generally know are used (Other approach).

Knowledge of the model, its strengths and weaknesses, risk and uncertainty

Supervisors expect that the bank will adequately demonstrate its knowledge of the used method of quantifying the internal capital requirement for credit risk. A more detailed review is required if a different (more complicated) measurement approach than that of Pillar 1 is used, or if a parent company’s method is used, where the bank must clearly demonstrate the knowledge of the method used.

The bank should know all assumptions of the method concerned, should be aware of its strengths and weaknesses and of the risks and uncertainty associated with the use of the method. The risk to the model should be subsequently taken into account, for example, in the margin of conservatism, or included in the capital buffer. In that event, the bank is expected to be able to specify what portion of the buffer it has earmarked to cover that risk.

An important component of the assessment of the chosen approach is the bank’s ability to justify its choice and to demonstrate sufficiently the appropriateness of the used approach to the credit risk measurement as well as to demonstrate the adequacy of the amount of internal capital requirement in respect of credit risk.

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Risk and uncertainty of the model as viewed by the NBS

As part of the assessment of the risk and uncertainty of the approach used, supervisors primarily focus on the assessment of the risk of ICR underestimation and distortion. Supervisors will assess whether the bank efficiently mitigates or addresses the risk of quantification method and its deficiencies (for example, by the margin of conservatism or by other additional ICR increase). The deficiencies and risk of the model include, for example, the simplicity of the methods used, the mathematical simplifications and inaccuracies of the models, inaccurate mathematical assumptions (for example, about normal distribution), technical constraints, etc. On this basis, supervisors will assess whether the approach risk and uncertainty, as viewed by the NBS, are high, medium or low. That said, if the model is risky and the bank is aware of the risk, and duly addresses or mitigates it, supervisors may assess the risk of the approach as low. If the bank demonstrably fails to know the quantification method, is unaware of its deficiencies and risks, and fails to address them in any way, supervisors will assess the risk of such an approach as high. Special emphasis on the assessment of this criterion is laid if risk quantification approaches/models that supervisors may not generally know are used (Other approach).

Local management of the model

The model should be adjusted to the current status at the bank and needs to take into account its local specificities, the risk profile and economic environment of the bank. This is why the local management/setting of the model is required. Banks that use their parent companies’ models need to ensure and demonstrate that such a model takes into account the local specificities and that the bank has instruments for the flexible setting of these local characteristics.

Supervisors will not accept if a bank uses the results of its parent company’s model that fails to take into account the local specificities of the bank. If the bank uses the Pillar 1 standardised approach for the quantification, supervisors will assess this criterion as met.

UseTest in credit risk

The bank should actively utilise the used risk measurement approach as a credit risk management tool. The measurement result should serve not only to determine the amount of the internal capital requirement, it should also be an integral part of management processes, should be actively used in decision-making processes, settings and reviews of credit risk limits, in capital allocation and planning, in granting credit facilities and the assessment of their recoverability – the yield from the credit facilities granted, etc. If the bank only uses the chosen quantification approach to determine the ICR amount while it uses different approaches to manage risks, supervisors will assess this criterion as not met. Use of the results of parent companies’ models without a local implementation, the knowledge of the model and the use in management is unsatisfactory/poor.

UseTest in STD approach

If the bank uses the STA approach to quantify the credit risk in Pillar 2, supervisors will assume that the credit risk UseTest implies the use of other processes in credit risk management, such as an internal rating system (used for the risk management rather than for the internal capital requirement calculation), client monitoring, the settings and reviews of limits on credit risk, the use of stress testing.

Credit risk stress testing

The bank should perform regular credit risk stress tests, in which it should use adverse but actually plausible comprehensive scenarios. If the bank has a model to measure risks, it should stress not only the risk itself but also the model’s assumptions. The results as well as the stress test system itself should be actively used in the credit risk management (for example, to set and review credit risk limits, to take account of an additional capital
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requirement in Pillar 2, to provide less risky transactions, to raise capital where appropriate, to take various remedial actions if the results are poor, etc.) and the results should be part of the bank management’s decision-making process. Supervisors will evaluate the adequacy of stress scenarios in respect of credit risk.

### 3.2.2. Market risk

The Act on Banks (AoB No. 423/2001, Article 23 (6) a), item 2) defines market risk as follows: Market risk arises from a bank’s positions and is caused by changes in the values of risk factors, with these values being usually set by the market; the main components of market risk include interest rate risk, equity risk, foreign exchange risk and commodity risk, with the market risk being measured by them.

For the purposes of Pillar 1 (under the AoB and the Decree of the NBS No. 4/2007), capital requirement is calculated for market risks arising from the positions recorded in the trading book in respect of the risk of financial debt instruments (interest rate risk) and the risk of capital instruments (equity risk), and from the positions of a whole bank in the event of foreign exchange and commodity risks. The risk of financial debt instruments (interest rate risk) also includes specific interest rate risk while the risk of capital instruments (equity risk) also includes specific equity risk. Their inclusion in the capital requirement calculation and the way of their quantification need to be assessed separately.

**Transaction settlement risk**

Given the legislative changes under preparation, the assessment of this risk in the ICAAP will be defined later.

The definition of the risk arising from positions recorded in the trading book also includes the business partner risk, which is included (under the AoB) among the credit risk but, in respect of Pillar 1, it is quantified separately for the trading book. In the market risk assessment, it is necessary to evaluate the inclusion of this risk in the ICAAP, the appropriateness of its definition and the relevancy in the ICAAP (required from any bank exposed to this risk), the inclusion of the risk in the capital requirement calculation (whether separately or as part of the credit risk), as well as the risk quantification method.
The interest rate risk in the banking book is assessed separately (see chapter 3.3.2. IRRBB). The equity risk arising from positions in the banking book is not captured under Pillar 1 and is not governed by any Guidelines. This risk is not material at Slovak banks but, if a bank quantifies or defines it, we view this positively. However, it is not specifically assessed.

**Risk definition and quantification**

The bank has an appropriately defined market risk (all of its components), business partner risk, transaction settlement risk and specific risks when it has defined all of the following risks (if it is exposed to them) and these definitions are good, comprehensive and meaningful:

- general risk of financial debt instruments in respect of trading book positions (interest rate risk);
- specific risk of financial debt instruments in respect of trading book positions (specific interest rate risk);
- general risk of capital instruments in respect of trading book positions (equity risk);
- specific risk of capital instruments in respect of trading book positions (specific equity risk);
- transaction settlement risk in respect of trading book positions;
- business partner risk in respect of trading book positions;
- foreign exchange risk on a bank-wide basis;
- commodity risk on a bank-wide basis;

Each bank is required to quantify its market risk. If a bank maintains a trading book, it shall quantify all relevant market risks, business partner risk and transaction settlement risk. If a bank does not maintain a trading book but holds positions in foreign currencies, it shall quantify the foreign exchange risk in the banking book. The interest rate risk in the banking book is assessed separately (see chapter 3.3.2. IRRBB). The bank shall clearly set the method used for the calculation of its capital requirement in respect of all risks.

**Bank’s approaches to market risk quantification**

To measure market risks, the bank can use several approaches. These usually include:

1. Standardised approach
2. VaR model (historical simulation, Monte Carlo simulation, var-covar matrix)
3. GAP analysis
4. Other approach
5. Combination of the above approaches

In the market risk assessment, all the risk measurement approaches used by the bank need to be indicated. Separate assessment criteria are specified for individual approaches.

**VaR model**

If the bank uses the VaR model to measure any risk, it shall define the type of the VaR model used (historical simulation, Monte Carlo, variance-covariance matrix (parametric VaR)), holding period, level of reliability and length of timelines used. The level of reliability and the holding period of the chosen VaR model must be consistent with the bank’s overall approach to the creation of internal capital requirement (for example, if bank declares that its whole ICAAP is calculated at the 99.97% level of reliability for 1 year, the VaR model parameters for the market risk must be consistent with this).

If the VaR model results are converted into VaR using other parameters, the bank shall specify the way of such conversion (e.g. the multiple of \(\sqrt{\text{time}}\); the multiple by the factor derived from the relevant distribution, …). The bank must also clearly specify its approach to the conversion of the VaR model results into its internal capital requirement, and this
approach must be appropriate and meaningful (for example, an average of 60 results of the VaR model or the maximum in the month concerned as appropriate, etc.).

The bank should perform regular reverse testing of the individual parameters of the model. It should record exceptions (exceeded values) and use them to change/recalibrate the model in order to meet the bank’s conditions (it should have procedures in place to change the model if a specific number of exceptions occur).

**GAP model**

If the bank uses the GAP analysis to measure interest rate risk, it should use an appropriate interest rate shock, with supervisors requiring at least a 200 basis point parallel shift of yield curves. In addition, large banks should use additional changes in curves such as other shifts, rotation, inversion of curves, etc.

The GAP analysis should be based on reports of sensitivity to interest rate changes, where the structure of individual timelines makes sense and does not distort risk (e.g. a sufficient number of time bands).

The weights used for the individual time bands should be suitable and based on real assumptions.

**Appropriateness of the bank’s chosen approach to market risk**

**Principle of proportionality**

In their assessment of banks, supervisors apply the principle of proportionality. Thus large banks are expected to use more advanced risk measurement approaches than small banks. Large banks are expected to use more advanced approaches to all market risks (VaR, GAP). Standardised approach is acceptable for less material risks of the bank concerned (such as the equity risk). The use of standardised approach for all market risks is inadequate for large banks; however, it is completely acceptable for small banks. Given a greater number of combinations of possible approaches to the measurement of individual market risks, the following table shows the most frequent combinations and their supervisory assessments for large banks.

<table>
<thead>
<tr>
<th>Risk</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>The bank’s approach is commensurate with its size and complexity: yes</td>
<td>1 1 1 1 2 3 3</td>
</tr>
<tr>
<td></td>
<td>somewhat</td>
</tr>
<tr>
<td></td>
<td>1 1 1 1 2 3 3</td>
</tr>
<tr>
<td></td>
<td>no</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Risk</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest rate risk in TB</td>
<td>VaR VaR GAP VaR VaR GAP STD</td>
</tr>
<tr>
<td>Bank’s FX risk</td>
<td>VaR VaR VaR VaR STD STD</td>
</tr>
<tr>
<td>Bank’s commodity risk</td>
<td>VaR VaR STD STD STD</td>
</tr>
<tr>
<td>Equity risk in TB</td>
<td>VaR STD VaR STD STD</td>
</tr>
</tbody>
</table>

For small banks, the use of standardised approaches for all risks is assessed as appropriate “yes – the bank’s approach is commensurate with its size and complexity”. If the bank uses multiple calculation methods (a combination of multiple approaches), it should proceed consistently while aggregating its internal capital requirement.

**Appropriateness and quality of the quantification method**

Supervisors will assess whether the way of quantifying the internal capital requirement for the Pillar 2 market risk is good and of high quality. The assessment should not depend on whether or not the method is appropriate for the bank in terms of proportionality; it should be based on
the evaluation of the actual quality of the approach (the approach should be prepared in a good and high quality manner). The assessment should take into account the assessment criteria of the approach used as well as all the other information acquired from the bank’s documentation, from on-site inspections, etc.

**Documentation**

Supervisors will evaluate the market risk documentation submitted by the bank, which should be up-to-date, adequate, comprehensible, and approved in accordance with the bank’s regulatory rules. The documentation should provide an in-depth description of the way and method of quantification to indicate sufficiently all technical details and reasons for using the approach chosen. If the bank uses quantification methods different from those of Pillar 1, all differences in handling the Pillar 2 market risk should be described and documented. If modified standardised approaches are used, all modifications and differences must be detailed and documented. Great emphasis on the documentation quality is laid if complicated modifications or approaches/models that supervisors may not generally know are used (Other approach).

**Knowledge of the model, its strengths and weaknesses, risk and uncertainty**

Supervisors expect that the bank will sufficiently demonstrate its knowledge of the used method of quantifying the internal capital requirement in respect of market risk. A more detailed review is required if a different (more complicated) measurement approach than that of Pillar 1 is used, or if the parent company’s method is used, where the bank must clearly demonstrate the knowledge of the method used.

The bank should know all assumptions of the method concerned, should be aware of its strengths and weaknesses, and of the risks and uncertainty associated with the use of the method. The risk of the model should be subsequently reflected, for example, in the margin of conservatism, or included in the capital buffer. In that event, the bank is expected to be able to specify what portion of the buffer it has earmarked to cover this risk.

An important component of the assessment of the chosen approach is the bank’s ability to justify the choice and to demonstrate sufficiently the appropriateness of the used approach to the market risk measurement and to demonstrate the adequacy of the amount of internal capital requirement in respect of market risk.

**Risk and uncertainty of the model as viewed by the NBS**

As part of the assessment of the risk and uncertainty of the approach used, supervisors primarily focus on the assessment of the risk of ICR underestimation and distortion.

Supervisors will assess whether the bank efficiently mitigates or addresses the risk of quantification method and its deficiencies (for example, by the margin of conservatism or by other additional ICR increase). The deficiencies and risk of the model include, for example, the simplicity of the methods used, the mathematical simplifications and inaccuracies of the models, inaccurate mathematical assumptions (for example, about normal distribution), technical constraints, etc. On this basis, supervisors will assess whether the approach risk and uncertainty, as viewed by the NBS, are high, medium or low. That said, if the model is risky and the bank is aware of the risk, and duly addresses or mitigates it, supervisors may assess the risk of the approach as low. If the bank demonstrably fails to know the quantification method, is unaware of its deficiencies and risks, and fails to address them in any way, supervisors will assess the risk of such an approach as high. Special emphasis on the assessment of this criterion is laid if risk quantification approaches/models that supervisors may not generally know are used (Other approach).

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**Local management of the model**
The model should be adjusted to the current status at the bank and needs to take into account its local specificities, the risk profile and economic environment of the bank. This is why the local management/setting of the model is required. Banks that use their parent companies’ models need to ensure and demonstrate that such a model takes into account the local specificities and that the bank has instruments for the flexible setting of these local characteristics.

Supervisors will not accept if a bank uses the results of its parent company’s model that fails to take into account the local specificities of the bank. If the bank uses the Pillar 1 standardised approaches for the quantification, supervisors will assess this criterion as met.

**UseTest in market risk**
The bank should actively **utilise** the used risk measurement approach as a market risk management tool. The measurement result should serve not only to determine the amount of the internal capital requirement, it should also be an integral part of management processes, should be actively used in decision-making processes, reviews of limits, in capital allocation and planning, etc. If the bank only uses the chosen quantification approach to determine the ICR amount while it uses different approaches to manage risks, supervisors will assess this criterion as not met. Use of the results of parent companies’ models without a local implementation, the knowledge of the model and the use in management is unsatisfactory/poor.

**UseTest in STD approach**
If the bank uses the standardised approach to quantify the market risk in Pillar 2, supervisors will assess the adequacy of other market risk management processes as part of the UseTest (limit system, use of internal models for management, etc.).

**Market risk stress testing**
The bank should perform regular **market risk stress tests**, in which it should use adverse but actually plausible comprehensive scenarios. If the bank has a model to measure risks, it should stress not only the risk itself but also the model’s assumptions. The results as well as the stress test system itself should be actively used in the market risk management and the results should be part of the bank management’s decision-making process. Supervisors will evaluate the adequacy of stress scenarios in respect of market risk.

**Specific risks, settlement risk and business partner risk**
The inclusion of specific risks, settlement risk and business partner risk in the ICAAP as well as the way of their quantification needs to be evaluated during the market risk assessment. These risks are usually not material for banks in terms of the amount of internal capital requirement but are a standard part of Pillar 1, and therefore banks should take them into account in their ICAAPs.

These risks are usually quantified using the Pillar 1 standardised approach. However, the specific risks may be included in the VaR model, the business partner risk may be included in the IRB approach as part of the credit risk, or they may be quantified using a different approach. Supervisors will assess the way of their inclusion in the bank’s ICAAP while it is irrelevant whether the internal capital requirement to cover those risks is part of the market risk or credit risk. Failure to include those risks in the capital requirement is unacceptable. If the bank fails to take them into account in its ICAAP, supervisors will raise the internal capital requirement in respect of market risk by the amount of the capital requirement calculated within Pillar 1 in respect of those risks. Supervisors consider the inclusion of all the 4 risks (if the bank is exposed to them) in the internal capital requirement (irrespective of the quantification method) to be a **good way** of including those risks in the bank’s ICAAP. By
contrast, **satisfactory, unsatisfactory** and **poor** ways of inclusion, according to supervisors, are those when some of these risks are not taken into account in the capital requirement (depending on the importance of the individual risks for the bank concerned) or when the quantification method for those risks is inappropriate.

### 3.2.3. Operational risk

**Operation risk definition and quantification**

Operational risk is a risk of loss arising from inappropriate or wrong internal procedures, from failure of the human factor, from failure of the systems used or from external events. The operational risk encompasses **legal risk**, which is the risk primarily arising from the unenforceability of contracts, the risk of unsuccessful litigations or of judgements with a negative impact on the bank.

Operational risk is the risk of loss arising from inadequate or failed processes, people and systems or from external events. This risk **includes IT, legal and compliance risks**.

**The IT risk** is a subcategory of operational risk, and is the current or prospective risk to earnings and capital arising from inadequate information technology and processing in terms of manageability, exclusivity, integrity, controllability and continuity, or arising from an inadequate IT strategy and policy or from inadequate use of information technology.

**Legal and compliance risk** as a subcategory of operational risk is the current or prospective risk to earnings and capital arising from violations of or noncompliance with laws, rules, regulations, agreements, prescribed practices, or ethical standards.

Operational risk as a Pillar 1 risk is the main risk included in the bank’s ICAAP process. Supervisors expect that the operational risk is a relevant and material risk in any bank. In the ICAAP assessment process, supervisors will require that the bank **appropriately define** the operational risk in compliance with legislation in force and that it **quantify the requirement** for internal capital in respect of this risk.

**Bank’s approach to the operational risk quantification**

To quantify their internal capital requirements in respect of the Pillar 2 operational risk, banks may use several approaches:

- **Standardised approaches of Pillar I**
  - Basic indicator approach (BIA)
  - Standardised approach (STD)
- **Modified standardised approaches of Pillar I**
  - Modified basic indicator approach (BIA)
  - Modified standardised approach (STD)
- **AMA model**
- **Other approach**

**Modified STD approach, Modified BIA approach**

If the bank uses the modified standardised approach or modified BIA approach for the quantification as well as if it uses estimated values in its calculation (such as a forecast of gross earnings for the year concerned), it needs to perform regular reverse testing of this approach and use the reverse test results to modify its ICR.

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24 Article 23 (6) a), item 3 of Act No. 483/2001 Coll. on Banks
**AMA model**

If the bank uses the AMA model to measure operational risk, it shall define the holding period, the level of reliability and the length of timelines used. The level of reliability and the holding period of the AMA model must be consistent with the bank’s overall approach to the creation of its internal capital requirement (for example, if the bank declares that its whole ICAAP is calculated at the 99.97% level of reliability for 1 year, the AMA model parameters for the operational risk must be consistent with this).

The bank must clearly specify its approach to the conversion of the AMA model results into the internal capital requirement in respect of operational risk, and this approach must be clearly specified, appropriate and meaningful.

The bank should perform regular reverse testing of the individual parameters of the model. It should record exceptions (exceeded values) and use them to change/recalibrate the model in order to meet the bank’s conditions. The frequency of reverse testing should be at least once per quarter of a year for large banks and at least once a year for small banks and building societies.

**Appropriateness of the bank’s chosen approach to operational risk**

**Principle of proportionality**

In their assessment of banks, supervisors apply the principle of proportionality. Thus large banks are expected to use more advanced risk measurement approaches than small banks. Supervisors expect large banks to use an advanced approach to operational risk measurement (AMA model). For small banks, at least the standardized approach is enough for their internal capital calculations. For building societies, even the basic indicator approach (BIA) is enough. The table includes supervisors’ view of the appropriateness of using the individual approaches for large banks.

<table>
<thead>
<tr>
<th>Operational risk</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The bank’s approach is commensurate with its size and complexity:</td>
</tr>
<tr>
<td></td>
<td>AMA</td>
</tr>
<tr>
<td>Large bank</td>
<td>yes</td>
</tr>
<tr>
<td>Small bank</td>
<td>yes</td>
</tr>
<tr>
<td>Building society</td>
<td>yes</td>
</tr>
</tbody>
</table>

**Appropriateness and quality of the bank’s approach**

Supervisors will assess whether the way of quantifying the internal capital requirement for the Pillar 2 operational risk is good and of high quality. The assessment should not depend on whether or not the method is appropriate for the bank in terms of proportionality; it should be based on the evaluation of the actual quality of the approach (the approach should be prepared in a good and high quality manner). The assessment should take into account the assessment criteria of the approach used as well as all the other information acquired from the bank’s documentation, from on-site inspections, etc.

**Documentation**

Supervisors will evaluate the operational risk documentation submitted by the bank, which should be up-to-date, adequate, comprehensible, and approved in accordance with the bank’s regulatory rules. The documentation should provide an in-depth description of the way and method of quantification to indicate sufficiently all technical details and reasons for using the approach chosen. If the bank uses quantification methods different from those of Pillar 1, all
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differences in handling the Pillar 2 operational risk should be described and documented\textsuperscript{26}. If modified approaches are used, all modifications and differences must be detailed and documented. Great emphasis on the documentation quality is laid if complicated modifications or approaches/models that supervisors may not generally know are used (Other approach).

**Knowledge of the model, its strengths and weaknesses, risk and uncertainty**

Supervisors expect that the bank will sufficiently demonstrate its knowledge of the used method of quantifying the internal capital requirement in respect of operational risk. A more detailed review is required if a different (more complicated) measurement approach than that of Pillar 1 is used, or if the parent company’s method is used, where the bank must clearly demonstrate the knowledge of the method used.

The bank should know all assumptions of the method concerned, should be aware of its strengths and weaknesses, and of the risks and uncertainty associated with the use of the method. The risk of the model should be subsequently reflected, for example, in the margin of conservatism, or included in the capital buffer. In that event, the bank is expected to be able to specify what portion of the buffer it has earmarked to cover this risk.

An important component of the assessment of the chosen approach is the bank’s ability to justify the choice and to demonstrate sufficiently the appropriateness of the used approach to the operational risk measurement and to demonstrate the adequacy of the amount of internal capital requirement in respect of operational risk.

**Risk and uncertainty of the approach used as viewed by the NBS**

As part of the assessment of the risk and uncertainty of the approach used, supervisors primarily focus on the assessment of the risk of ICR underestimation and distortion. Supervisors will assess whether the bank efficiently mitigates or addresses the quantification method risk and its deficiencies (for example, by the margin of conservatism or by other additional ICR increase). The deficiencies and risk of the model include, for example, the simplicity of the methods used, the mathematical simplifications and inaccuracies of the models, inaccurate mathematical assumptions (for example, about normal distribution), technical constraints, etc. On this basis, supervisors will assess whether the risk and uncertainty of the approach as viewed by the NBS are high, medium or low. This means that if the model is risky and the bank is aware of and duly addresses or mitigates the risk, supervisors may evaluate the risk of the approach as low. If the bank demonstrably fails to know the quantification method, is not aware of its deficiencies and risks, and fails to address them in any way, supervisors will evaluate the risk of such an approach as high. Special emphasis on the assessment of this criterion is laid if risk quantification approaches/models that supervisors may not generally know are used (Other approach).

**UseTest in operational risk**

The bank should actively utilise the used risk measurement approach as an operational risk management tool. The measurement result should serve not only to determine the amount of the internal capital requirement, it should also be an integral part of management processes, should be actively used in decision-making processes, reviews of limits, in capital allocation and planning, etc. If the bank only uses the chosen quantification approach to determine the ICR amount while it uses different approaches to manage risks, supervisors will assess this criterion as not met. Use of the results of parent companies’ models without a local implementation, the knowledge of the model and the use in management is unsatisfactory/poor.

UseTest in the BIA and STD approaches
If the bank uses the BIA or STD approach to quantify its Pillar 2 operational risk, supervisors will assess the adequacy of other operational risk management processes as part of the UseTest (mitigation, limit system, outsourcing, detailed monitoring of operational risk events, collection of events).

Operational risk stress testing
The bank should perform regular operational risk stress tests, in which it should use adverse but actually plausible comprehensive scenarios. If the bank has a model to measure risks, it should stress not only the risk itself but also the model’s assumptions. The results as well as the stress test system itself should be actively used in the operational risk management and the results should be part of the bank management’s decision-making process. Supervisors will evaluate the adequacy of stress scenarios in respect of operational risk.

ICR adequacy review in respect of operational risk
As part of the annual supervisory ICAAP assessment, banks are requested to present 10 instances of operational risk with the highest operating loss over the last three calendar years (for each required calendar year separately). This information is used to compare the ICR amount in respect of operational risk, the total loss from operational risk and the sum of the 30 highest losses from the instances of operational risk presented by the bank.

3.3. Pillar 2 risks
The objective of this section is to describe in detail the inclusion of other risks (Pillar 2 risks) in the ICAAP, notably the selection of relevant Pillar 2 risks, their management and the quantification methods used, the justification of the choice of methods, the stress testing process in respect of those risks and the way of the bank using the measurement results from those risks.

3.3.1. Risks not fully covered by Pillar 1
An evaluator’s assessment report should describe the bank’s approach to this issue and assess its adequacy. Just like in 2.4. System of risk identification, it is advisable that the area concerned is consulted across the entire assessment team and an off-site analyst of the bank concerned. If the assessment team draws a conclusion that the bank fails to quantify a certain Pillar 1 risk that is not fully captured under Pillar 1 approach (such as the country risk) and regards this risk as being relevant, this information must be included in the final assessment report. The information may be subsequently used for a manual adjustment of the score for the relevant Pillar 1 risk, including the specification of the reason for this.

3.3.2. Interest Rate Risk in the Banking Book (IRRBB)
IRRBB definition and its position in the ICAAP
Supervisors consider the interest rate risk in the banking book (IRRBB) to be one of the major Pillar 2 risks. In essence, the IRRBB is a market (interest rate) risk, arising from the positions and products recorded in the banking book. The IRRBB definitions in the individual banks vary but should encompass this view. As this is a Pillar 2 risk, there is no legislation to define the methods of the quantification of this risk and the calculation of the capital requirement to cover this risk. Supervisors require that each bank create an internal capital requirement in respect of IRRBB.
Bank’s approach to the operational risk quantification

Banks and their parent companies have developed various approaches to the IRRBB quantification. In general, these can be broken down into two categories:

- Methods based on interest rate GAP analysis;
- Methods based on VaR approach.

GAP analysis

The method based on the GAP analysis is described more in detail in the Basel Principles for the Management and Supervision of Interest Rate Risk, which calls this a standard method. The method is based on the distribution of bank’s assets and liabilities into time bands, depending on their sensitivity to interest rate changes (a report on sensitivity to interest rate changes). The interest rate GAPs are calculated within the individual time bands and subsequently multiplied by the weight that estimates the amount of risk. The sum of the GAPs and weights multiplied in this way for all time bands constitutes an estimate of the interest rate risk in the banking book (or, where appropriate, of the bank-wide interest rate risk if the quantification covers the entire bank – both trading and banking books). Supervisors use this method for internal IRRBB forecasts.

VaR model

The methods based on the VaR approach estimate potential changes in the economic value of the banking book (or of the entire bank) in a way similar to that of the VaR method used in the market risk.

Appropriateness of the bank’s chosen approach to IRRBB

Banks that use more advanced risk measurement approaches are used to quantify the IRRBB along with the market risk, e.g. by VaR model. An approach like this is appropriate; however, it is necessary to evaluate how banking book positions enter the VaR model and whether their transformation does not distort risk. An adequate assessment in this section would require a detailed on-site inspection and an analysis of the model. ICAAP assessment lacks space for such a detailed analysis, and therefore the assessment criteria are set in a way that makes it possible to assess the area concerned ‘adequately’ on the basis of supporting documents submitted by the bank. If the evaluator draws a conclusion that the problem needs to be addressed in detail, e.g. by on-site inspection, the evaluator will highlight that information, including the specification of the reasons, in the IRRBB assessment.

Principle of proportionality

In the assessment of banks, supervisors apply the principle of proportionality. That said, they expect large banks to use more advanced risk measurement approaches than small banks. Large banks should use more advanced IRRBB measurement methods; for example, the VaR model. GAP analysis is only good for large banks if the bank determines the interest rate shock from the historical interest rate development, and does not use the ‘fixed’ shock only. Small banks may use a fixed-shock GAP analysis, which should not be much lower than the 200 bps prescribed as a standard shock by regulator. A shock below 200-150 bps is considered to be satisfactory, a shock of 100-150 bps is considered to be unsatisfactory, and a shock below 100 bps is assessed as poor.

Appropriateness and quality of the bank’s approach

Supervisors will assess whether the way of quantifying the internal capital requirement for the Pillar 2 IRRBB is good and of high quality. The assessment should not depend on whether or not the method is appropriate for the bank in terms of proportionality; it should be based on
the evaluation of the actual quality of the approach (the approach should be prepared in a good and high quality manner). The assessment should take into account the assessment criteria of the approach used as well as all the other information acquired from the bank’s documentation, from on-site inspections, etc.

**Documentation**

Supervisors will evaluate the IRRBB documentation submitted by the bank, which should be up-to-date, adequate, comprehensible, and approved in accordance with the bank’s regulatory rules. The documentation should provide an in-depth description of the way and method of quantification to indicate sufficiently all technical details and reasons for using the approach chosen. Great emphasis on the documentation quality is laid if complicated modifications or approaches/models that supervisors may not generally know are used (Other approach).

**Knowledge of the model, its strengths and weaknesses, risk and uncertainty**

Supervisors expect that the bank will sufficiently demonstrate its knowledge of the used method of quantifying the internal capital requirement in respect of IRRBB. A more detailed review is required if the parent company’s method is used, where the bank must clearly demonstrate the knowledge of the method used.

There is no ideal model. The bank should know all assumptions of the method concerned, should be aware of its strengths and weaknesses, and of the risks and uncertainty associated with the use of the method. The risk of the model should be subsequently reflected, for example, in the margin of conservatism, or included in the capital buffer. In that event, the bank is expected to be able to specify what portion of the buffer it has earmarked to cover this risk.

An important component of the assessment of the chosen approach is the bank’s ability to justify the choice and to demonstrate sufficiently the appropriateness of the used approach to the IRRBB measurement and to demonstrate the adequacy of the amount of internal capital requirement in respect of IRRBB.

**Risk and uncertainty of the approach used as viewed by the NBS**

As part of the assessment of the risk and uncertainty of the approach used, supervisors primarily focus on the assessment of the risk of ICR underestimation and distortion. Supervisors will assess whether the bank efficiently mitigates or addresses the quantification method risk and its deficiencies (for example, by the margin of conservatism or by other additional ICR increase). The deficiencies and risk of the model include, for example, the simplicity of the methods used, the mathematical simplifications and inaccuracies of the models, inaccurate mathematical assumptions (for example, about normal distribution), technical constraints, etc. On this basis, supervisors will assess whether the risk and uncertainty of the approach as viewed by the NBS are high, medium or low. This means that if the model is risky and the bank is aware of and duly addresses or mitigates the risk, supervisors may evaluate the risk of the approach as low. If the bank demonstrably fails to know the quantification method, is not aware of its deficiencies and risks, and fails to address them in any way, supervisors will evaluate the risk of such an approach as high. Special emphasis on the assessment of this criterion is laid if risk quantification approaches/models that supervisors may not generally know are used (Other approach).

**Local management of the model**

The model should be adjusted to the current status at the bank and needs to take into account its local specificities, the risk profile and economic environment of the bank. This is why the local management/setting of the model is required. Banks that use their parent companies’ models need to ensure and demonstrate that such a model takes into account the local
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specificities and that the bank has instruments for the flexible setting of these local characteristics.

**Supervisors will not accept if a bank uses the results of its parent company’s model that fails to take into account the local specificities of the bank.**

**UseTest in IRRBB**
The bank should actively utilise the used risk measurement approach as an IRRBB management tool. The measurement result should serve not only to determine the amount of the internal capital requirement, it should also be an integral part of management processes, should be actively used in decision-making processes, reviews of limits, in capital allocation and planning, etc. If the bank only uses the chosen quantification approach to determine the ICR amount while it uses different approaches to manage risks, supervisors will assess this criterion as not met. Use of the results of parent companies’ models without a local implementation, the knowledge of the model and the use in management is unsatisfactory/poor.

**IRRBB stress testing**
The bank should perform regular IRRBB stress tests, in which it should use adverse but actually plausible comprehensive scenarios. If the bank has a model to measure risks, it should stress not only the risk itself but also the model’s assumptions. The results as well as the stress test system itself should be actively used in the IRRBB management and the results should be part of the bank management’s decision-making process. Supervisors will evaluate the adequacy of stress scenarios in respect of IRRBB.

**Internal models to estimate interest rate sensitivity**
As setting the market values of most products in the banking book is not easy, IRRBB forecasts bring about various technical issues. A typical example is the appraisal of a mortgage credit facility which a client may repay earlier than scheduled, or an estimate of the interest rate sensitivity of a current account. This is why certain banks use various estimates of the interest rate sensitivity of banking book products. We need to add that even a fairly small change in the expected sensitivity to interest rate changes may have a very strong impact on the result of the model!

Banking book products can be generally broken down into 4 main types:

<table>
<thead>
<tr>
<th>Maturity</th>
<th>Interest rate</th>
<th>Type I</th>
<th>Type II</th>
<th>Type III</th>
<th>Type IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>defined / clear</td>
<td>fixed</td>
<td>fixed rate credit facilities, fixed coupon bonds</td>
<td>fixed rate credit facilities repayable earlier than scheduled</td>
<td>variable rate credit facilities, variable coupon bonds</td>
<td>savings accounts, current accounts, variable rate credit facilities repayable earlier than scheduled</td>
</tr>
</tbody>
</table>
Products with undefined maturities or variably changing interest rates are not easy to include instantly in the timeline of sensitivity to interest rate changes. Hence certain banks use their own estimates of interest rate sensitivity. These should be based on the bank’s real experience. It is important to stress the difference between liquidity and interest rate sensitivity! The bank may have a ‘proof’ that the maturity of a certain amount of current account balances is long (e.g. 1 year) or, expressed differently, the amount remains in the bank for a long time; however, this does not mean that, as concerns the interest rate sensitivity, such a balance should be included in a longer time band. If, for example, the bank changes its interest rates on current accounts on a monthly basis (with a view to market rates), this means that the current account balances are not very sensitive to interest rates, and should be included in a monthly time band rather than a longer one (1 year), as might be the case of liquidity.

Therefore internal models to estimate the interest rate sensitivity must take into account the status and view of the interest rate sensitivity, and it is not advisable for them to be based purely on the assumptions determined by liquidity. The impact of these models is very strong as concerns the final amount of interest rate risk. The bank should be able to vindicate and demonstrate the appropriateness of these models.

If the bank fails to use its own estimates of interest rate sensitivity and also includes current accounts in the shortest time band, supervisors consider this to be a satisfactory approach.

**In managing the IRRBB, the bank uses both long-term (economic value) and short term (interest yield) views**

Adequate IRRBB management should take into account the impact of interest rate changes on the changes in the bank’s net interest yield (for example, within a year) as well as the impact on the changes in the bank’s economic value. The model to quantify the internal capital requirements to cover the IRRBB may only anticipate the bank’s economic decline while in the IRRBB management it is advisable to take both views into account.

### 3.3.3. Liquidity risk

**Liquidity risk definition**

Liquidity risk is the current or prospective risk arising from an institution’s inability to meet its liabilities or obligations when they come due, without causing unacceptable losses.

More complex banks are expected to use broader definitions of liquidity risk, such as further breakdown into, for example, the funding liquidity risk (the risk to funding the firm itself) and the market liquidity risk (the risk of illiquidity of the relevant balance-sheet or off-balance-sheet market or product).

**Bank’s approach to liquidity risk management**

**Liquidity management** is the constant process of balancing the cash inflows and outflows from on- and off-balance sheet items, along with structural and strategic planning, to ensure both that adequate sources of cost-effective funding – including some excess capacity – are available, and that those sources are used appropriately. All these activities must be carried out on a day-to-day basis. The assumptions used are institution-specific, i.e., they depend on the institution’s business model and profile, while taking account of exogenous factors. The structure for managing liquidity – i.e., the degree of centralisation or decentralisation of liquidity risk management – should take into consideration any regulatory restrictions on the transferability of funds.

Liquidity risk management requires a robust organisation and management of the bank – appropriate tools to identify, measure, monitor and manage liquidity risk, including stress testing, contingency plans and a carefully defined communication strategy. The Board of
Directors is responsible for an institution’s liquidity strategy and liquidity risk management policies, prepared by senior management. It should make sure that the strategy and policies are adequate to the liquidity risk level of the institution, its role in the financial system, its current and potential activities and its risk tolerance level. The Board of Directors should also ensure that the senior management defines appropriate procedures to implement these strategies and policies and that these are reflected in the institution’s organisational structure. Senior management should have a clear view of all liquidity risks. It should ensure that a complete appraisal of all sources of liquidity risk, including contingent risk, is conducted through stress tests, including setting adequate liquidity buffers and defining contingency funding plans.

Each bank must manage liquidity risk procedurally, i.e. to have a system of measures, parameters and limits in normal as well as stressed conditions, various instruments (gap analysis), early warning indicators, etc. in place. The range should take into account the principle of proportionality, i.e. small institutions usually have less comprehensive liquidity management systems.

If possible from the materials presented, compliance with Articles 4-7 of the Decree of the NBS No. 18/2008 on liquidity, as amended, shall be taken into account. The bank must have an adequate internal control system for liquidity risk management in place (Article 12 of Decree of the NBS No. 18/2008 on liquidity, as amended) and to comply with the liquidity indicators set by regulator (Article 13 of Decree of the NBS No. 18/2008 on liquidity, as amended).

**Liquidity risk stress testing**

As part of its processes to identify, measure, monitor and mitigate liquidity risk, each bank must have scenarios pursuant to Article 8 of Decree of the NBS No. 18/2008 on liquidity, as amended, (a baseline scenario and alternative scenarios) in place, within which the assumptions of the development of the amount and structure of balance-sheet assets and liabilities, off-balance-sheet items, etc. are determined. The scenarios may also be part of the liquidity risk stress testing system. Small banks should have a well elaborated and updated baseline scenario and alternative scenario. Large institutions should have a more comprehensive system of scenarios (a baseline scenario and multiple alternative ones), which may also be part of their stress testing programmes based on very severe but plausible events concerning the bank, market conditions and a combination of these factors. If a firm adopts the methodology of its parent company, it needs to understand it. The outputs of scenarios or stress tests should be reflected in liquidity risk management; depending on the bank size, these should be either profoundly integrated, for example, in limits, reviews of source concentration indicators, or at least provide information to the Board of Directors or influence a strategy.

**Contingency plan**

The bank must have an up-to-date contingency plan to manage its liquidity under exceptional circumstances, and must actively monitor its market access (compliance with Articles 10 and 11 of Decree of the NBS No. 18/2008 on liquidity, as amended).

**Liquidity buffer**

In stress situations the liquidity buffer, composed of cash and other unencumbered highly liquid assets, enables an institution to make payments within a selected timeframe (survival period). Liquidity buffers should be created in favourable conditions, be actively managed and integrated in the institution’s overall liquidity strategy. Within the defined survival period, the liquidity buffer is an instantly available component of the total counterbalancing capacity, i.e. is not used for transactions in progress. Thus it is a liquidity reserve to enable the institution to counterbalance unexpected liquidity requirements. It should primarily
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include cash and core assets, which are liquid even in stressed conditions and which the bank may sell or pledge irrespective of its own condition. Institutions are expected to have liquidity buffers in place at the central level; however, the terms of access to them need to be appropriately defined (to minimise the effect of possible legal, regulatory or operational restrictions associated with the use of assets within the buffer). A more comprehensive bank (a banking group) should define its survival periods in both short term and long term horizons.

**Documentation**

To manage liquidity risk effectively, the bank must have adequately prepared internal regulations in place. However, these should cover not only regulatory requirements (Article 5 of Decree of the NBS No. 18/2008 on liquidity, as amended) but also the stress testing programme and liquidity risk management in the ICAAP. Group regulations adopted have to be adequately implemented locally.

**ICR quantification**

Solvency problems are often a source of liquidity pressure. Consequently, sound capital regulation and strong capital positions reduce the likelihood of liquidity pressure: the ability of an institution to bear liquidity risk is linked to the amount of capital it possesses and the losses it can absorb. But, as recent events have highlighted, although sound liquidity management is critical to protect capital, capital itself may not be an appropriate buffer in a difficult liquidity environment. Because of information asymmetries, creditors may be uncertain about an institution’s solvency position, leaving them unwilling to lend even though the institution may be fundamentally solvent. The increased uncertainty about the bank’s ability to repay its liabilities may lead to a significant reduction of counterparties’ willingness to provide funding. In these events, the quality and strength of the bank’s capital buffer may have a positive effect on the counterparties’ willingness to keep the mutual relationships. Stress scenarios and contingency funding plans should encompass the effects by which losses and subsequent capital reductions may impact on the bank’s ability to keep its funding relationships.

A good management of all risks is helpful, but fails to ensure that liquidity risk is adequately mitigated. The existence of a reasonably large capital base and a high capital ratio indicator should not make supervisory authorities minimise their liquidity risk assessments.

A regulator should intervene to achieve an efficient and early reaction of the bank to deficiencies in the processes of managing the liquidity risk or liquidity position. Some of the requirements may include holding a higher capital amount, albeit capital is not a solution to lack of liquidity or to inefficient liquidity risk management processes (in the long term); the bank’s capital position may have an impact on its ability to obtain liquidity, particularly during crises.

In general, supervisors require that banks do not create capital requirements to cover liquidity risk. Otherwise, the approach must be documented and explained in detail.

**3.3.4. Concentration risk**

**Relationship between credit risk and concentration risk**

Article 23 (6) of the Act on Banks No. 483/2001, as amended, defines risk as a prospective loss (including harm) arising from the bank’s own activities or caused to the bank by other facts.

The Act on Banks defines credit risk as the risk arising from the fact that the debtor or other contracting party fails to meet its liabilities. Credit risk also includes country risk, concentration risk, transaction settlement risk and business partner risk.
Concentration risk has been traditionally analysed in relation to credit activities. However, concentration risk refers not only to risk related to credit but to any other significant asset or liability exposures which, in cases of distress in some markets/sectors/countries or areas of activity, may threaten the soundness of a bank.

The definition of concentration risk purely within the scope of credit risk is inappropriate (it is only partly appropriate).

**Concentration risk definitions:**

**Previous view of concentration risk:**

Decree of the NBS No. 13/2010:
Concentration risk means the risk arising from the concentration of the bank’s transactions vis-à-vis a person, a group of economically linked entities, country, geographical area or an economic sector.

Guidelines CP 03:
Concentration risk as part of credit risk includes:
(i) large (connected) individual exposures
(ii) significant exposures to groups of counterparts whose likelihood of default is driven by common underlying factors, e.g. sector, economy, geographical location, instrument type.

**Appropriate view and definition of concentration risk:**

Guidelines GL 31:
Exposure(s) that may arise within or across different risk categories throughout an institution with the potential to produce:
(i) losses large enough to threaten the bank’s health and ability to maintain its core operations,
(ii) material changes in a bank’s risk profile.

In defining the concentration risk, it is important to define 2 terms, which describe relationships between risk concentrations:

- **Intra-risk concentration** – refers to risk concentrations that may arise from interactions between different risk exposures within a single risk category.

- **Inter-risk concentration** – refers to risk concentrations that may arise from interactions between different risk exposures across different risk categories.

**Main assumptions of concentration risk assessment:**

Supervisors expect that each bank will assess concentration risk as relevant and the bank will take it into account in its ICAAP.

If the bank only deals with concentration risk within the scope of credit risk (the most important part of concentration risk), we evaluate this as ‘somewhat’ in the relevant questions, provided that concentration risk within the scope of credit risk is appropriately set within the individual assessment areas (management system, limits, stress testing).

**Concentration risk management system**

The concentration risk management system is adequately subject to the provisions of Article 3 (1) of Decree No. 13/2010 (Article 15 (1) of Decree No. 13/2010).

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27 GL 31, part 1. paragraph 5
• The bank’s risk management system should clearly address concentration risk and its management. (Guideline 1 of GL 31) based on chapter 2.1.CP 03.
• In order to adequately manage concentration risk, banks should have an integrated approach for looking at all aspects of concentration risk within and across risk categories (Guideline 2 of GL 31).
• Banks should have a framework for the identification and measurement of intra- and inter-risk concentrations. Such measurement should adequately capture the interdependencies between exposures. Stress scenario analyses (Guidelines 3-4 of GL 31).
• The institutions should have the definitions of clear rules and procedures for quantitative, qualitative and organisational aspects of concentration risk management.

Comprehensiveness
The concentration risk management system should be comprehensive (on an institution-wide level). Concentration risk may have an impact on capital, liquidity and profitability within the institution. These three aspects do not exist separately from each other, and the risk management should take this into account.

Limit system
Limit system for the concentration risk management:
• Banks should have adequate arrangements in place for actively controlling, monitoring and mitigating concentration risk. Banks should use internal limits, thresholds or similar concepts, as appropriate (Guideline 5 of GL 31).
• In addition to regulatory limits (exposures), the bank should have the definition of its own limits to manage CoR, and not only for credit risk but also for CoR in relation to other risks (market concentration risk, liquidity risk concentrations, OPRC).
• It is necessary that banks have procedures defined to address exceeded limits.
• The limits defined should be reviewed according to stress test scenario results.

Examples of the types of limits that should be in place and monitored by banks:
• limits on countries and geographical areas at the level of total exposure to all entities of individual countries and geographical areas;
• limits on sectors;
• limits on foreign currency positions;
• limits on positions in single-issuer bonds;
• monitor collateral concentrations (both financial and non-financial);
• etc.

Examples of inter-risk concentrations (IRC):
Credit - liquidity risk:
Failure of material counterparties impairs an institution’s cash flow and its ability to meet commitments.

Credit - market risk:
The worsening credit quality of an issuer can be the source of inter-risk concentration between market risk and credit risk. This, for example, would be the case where an institution has given a loan or granted a credit facility in addition to investing in the equity of the same company. All these positions will be adversely affected by a deteriorating credit quality of the company. Therefore these types of risks cannot be measured independently and seen as uncorrelated. This confirms the necessity for the adequate management of inter-risk concentrations.

Market - liquidity risk:
Increased volatility, rapid changes in value or the drying up of markets for certain instruments may negatively affect the liquidity of a given institution (a decline in the value of liquid securities on the market).

**The rise in the risk premium could also be the source of an IRC between market risk and liquidity risk.** An institution can generate less liquidity by selling assets because of the lower prices. It is possible that some assets cannot be sold at acceptable prices (if the markets are illiquid as a consequence of market participants’ risk aversion). In addition the issuance of debt or equity is more expensive because the institution has to pay a higher risk premium itself. Here again the connection between different risk types requires appropriate management of risk concentrations.

**Stress testing**

**Stress testing** in the form of sensitivity analysis and more complex scenario stress testing is a key tool in the identification and management of concentration risk. The analysis should be performed on a bank-wide, business unit or risk type basis. In addition, stress tests may allow institutions to identify interdependencies between exposures which may become apparent only in stressed conditions.

Banks should use stress testing at least in creating and reviewing the internal limits on concentration risk.

A good qualitative management of concentration risk outweighs the CoR quantification itself. The principle of proportionality should be taken into account.

**Reporting**

The results of concentration risk assessments should be included in the regular reporting to the Board of Directors, for example, as part of an ICAAP report.

Adequate reporting means regular (at least quarterly), lucid, comprehensible reporting to the members of the Board of Directors responsible for risk management.

**Concentration risk quantification**

- Banks should ensure that concentration risk is taken into account adequately within their ICAAP and capital planning frameworks. In particular, they should assess the amount of capital which they consider to be adequate to hold given the level of concentration risk in their portfolios (Guideline 6 of GL 31).
- The models and indicators used by institutions to measure credit concentration risk should adequately capture the nature of the interdependencies between exposures (Guideline 8 of GL 31).

**Quantification of concentration risk purely within credit risk is not enough.**

Banks should demonstrate that the chosen model is commensurate with the structure and characteristics of their portfolios and interdependencies (comprehensively). The method used should be comprehensible, should clearly reflect the amount of ICR in respect of CoR, and the results should be meaningful.

The HH index is often used for the concentration risk identification and management.

The simplest method used for the quantification of ICR in respect of CoR is the creation of ICR in the amount by which the set limit used in the CoR management is exceeded.

**Supervisors should:**
assess whether concentration risk is adequately captured in the bank’s risk management framework. The supervisory review should encompass the quantitative, qualitative and organisational aspects of concentration risk management (Guideline 16 of GL 31),

in cases where supervisory assessment reveals material deficiencies, regulators, if deemed necessary, should take appropriate actions and measures, for example, as set out in Article 136 of the CRD aka Capital Requirements Directive (Guideline 17 of GL 31),

assess whether concentration risk is adequately captured in bank-wide stress testing programmes (Guideline 19 of GL 31),

in the case of a cross-border operating bank, appropriate discussions should be held between home and host regulators to ensure coordination of supervisory activities, and that concentration risk is adequately captured within the bank’s risk management framework (Guideline 20 of GL 31),

in their reviews, supervisors should pay particular attention to those institutions which are highly concentrated, e.g. by geographical region of operation, customer type and specialised nature of product or funding source (specialised banks) (Guideline 21 of GL 31);

assess concentration risk in building societies (BS) as follows:

- Activities pursued by building societies are narrowly defined by Act No. 310/1992 Coll. on Building Savings, notably Article 4, which defines the client type exactly. This narrows the scope of the CoR assessment. The assessment workbook takes this into account.
- If a building society applies for a prior approval of the NBS in respect of activities under Article 2 (3), the concentration risk will be assessed to the standard extent as if the institution were a large/small bank.

### 3.3.5. Business risk

**Business risk definition**

According to GL03, business risk is defined as follows: Business risk consists, amongst others, of credit risk, market risk, interest rate risk, liquidity risk, operational risk, **strategic risk**, and reputation risk.

The interpretation of this definition is vague, and therefore banks have mostly created their own definitions of business risk, under which they also capture strategic risk. The boundary between strategic and business risks is not clear, with some banks viewing them as very similar (or identical).

**Business risk definitions by banks:**

- **Business risk (UniCredit)** is defined by the bank as an adverse, unexpected change in the volume of transactions and/or margins not attributable to other risks and having an impact on the bank’s revenues and costs, excluding unusual items.

- **Business risk (ČSOB)** is defined by the bank as the variability of earnings and costs due to an impact of changes within the market environment and/or strategic decisions. The bank’s business risk also covers strategic and reputational risks.

- **Business risk (ČSOB Building Society)** is defined by the bank as a potential loss arising from the fact that the bank’s current financial results will negatively differ from those planned. It defines 4 subgroups of this risk:
  1. the risk of a decline in available resources for the bank’s business activities (covered by capital)
  2. the risk of a decline in credit margin (covered by capital)
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3. the risk of a decline in new output (not covered by capital) (due to changes, if any, in the organisation of sales channels in respect of building saving products; due to an increase in interest rates on housing credit facilities)

4. the risk of poor awareness of the ČSOB BS brand due to its inadequate promotion (covered by capital)

Supervisors expect that any bank will assess business risk as relevant, and capture it in its ICAAP. Banks should manage the risk by means of appropriate procedural safeguards and/or quantify an internal capital requirement to cover the risk. The chosen approach should be consistent with the risk definition and should cover all of its aspects. The procedures used should be reasonably documented. If a bank defines strategic risk as part of business risk, supervisors will take this into account in their strategic risk assessments.

Bank’s approach to business risk

The approach to business risk management and quantification is not defined, and is completely the responsibility and the choice/decision of the bank.

If the bank does not consider business risk to be relevant in the ICAAP, supervisors will automatically assess this area by score 4. If the bank defines its approach to business risk along with strategic risk without making a significant distinction between them, supervisors will assess the relevancy of how the risk is captured as “somewhat”, for which the bank will automatically obtain score 3, with the details of this approach being evaluated separately with the strategic risk.

The bank should be able to justify the choice of its approach (qualitative, quantitative, a combination) and the appropriateness of its use, with the choice and the appropriateness of the approach to be evaluated by supervisors depending on the bank’s ability to substantiate the information required.

If procedural safeguards are used, the approach chosen must be meaningful, efficient and adequately described (the mere statement “managed procedurally” is not enough). Good procedural safeguards may suffice but the bank may also quantify an internal capital requirement as part of capital buffer, as part of another risk, or using its own method, which must be meaningful, efficient, and the bank must be able to demonstrate its appropriateness. Supervisors will independently assess the approach to risk used by the bank as “very good”, “satisfactory”, “unsatisfactory” or “poor”. The bank’s approach to business risk must be reasonably documented (particularly if the bank uses its own quantification method), clear and comprehensible.

The assessment criteria apply to all banks, and supervisors will take account of the principle of proportionality in their final ICAAP assessment.

3.3.6. Strategic risk

Strategic risk definition

According to GL03, strategic risk is defined as the current or prospective risk to earnings and capital arising from changes in the business environment and from adverse business decisions, improper implementation of decisions or lack of responsiveness to changes in the business environment.

The strategic risk definition must be appropriate and meaningful (in compliance with GL03).
GL03 considers strategic risk to be a material Pillar 2 risk, and should be included in the ICAAP. If the risk cannot be quantified, the bank should employ qualitative methods of assessment and mitigation (GL03, ICAAP 7b). **Supervisors expect that any bank will assess strategic risk as relevant, and capture it in its ICAAP.** Banks should manage the risk by means of appropriate procedural safeguards and/or quantify an internal capital requirement to cover the risk. The procedures used by the bank should be reasonably documented.

**Bank’s approach to strategic risk**

The approach to strategic risk management and quantification is not defined, and is completely the responsibility and the choice/decision of the bank.

If the bank does not consider strategic risk to be relevant in the ICAAP, supervisors will automatically assess this area by score 4. If the bank defines its approach to strategic risk along with business risk without making a significant distinction between them, supervisors will assess the relevancy of how the risk is captured as “somewhat”, for which the bank will automatically obtain score 3, with the details of this approach being evaluated separately with the business risk.

The bank should be able to justify the choice of its approach (qualitative, quantitative, a combination) and the appropriateness of its use, with the choice and the appropriateness of the approach to be evaluated by supervisors depending on the bank’s ability to substantiate the information required.

If procedural safeguards are used, the approach chosen must be meaningful, efficient and adequately described (the mere statement “managed procedurally” is not enough). Good procedural safeguards may suffice but the bank may also quantify an internal capital requirement as part of capital buffer, as part of business (or other) risk, or using its own method, which must be meaningful, efficient, and the bank must be able to demonstrate its appropriateness. Supervisors will independently assess the approach to risk used by the bank as “very good”, “satisfactory”, “unsatisfactory” or “poor”. The bank’s approach to strategic risk must be reasonably documented (particularly if the bank uses its own quantification method), clear and comprehensible.

The assessment criteria apply to all banks, and supervisors will take account of the principle of proportionality in their final ICAAP assessment.

### 3.3.7. **Reputational risk**

**Definition of reputational risk and its position in the ICAAP**

Reputational risk is the current or prospective risk to earnings and capital arising from adverse perception of the image of the financial institution on the part of customers, counterparties, shareholders, investors or regulators.28

The definition of reputational risk should be appropriate and meaningful (in compliance with GL03). If the bank captures the definition of reputational risk under the definition of another risk (such as operational risk, liquidity risk, or other risk), supervisors will assess the appropriateness of the definition as ‘somewhat’.

Under the Guidelines on the Application of the Supervisory Review Process under Pillar 2 (CP03 revised) of 25 January 2006, reputational risk is one of the material Pillar 2 risks, and the bank should include it in the ICAAP. If the risk cannot be quantified, the bank should employ qualitative methods of assessment and mitigation. **Supervisors expect that any bank will assess reputational risk as relevant, and capture it in its ICAAP.** Banks should manage reputational risk by means of appropriate qualitative processes and/or quantify an internal capital requirement to cover the risk. The procedures used by the bank should be reasonably documented.

**Bank’s approach to reputational risk**

The approach to reputational risk management and quantification is not defined, and is completely the responsibility and the choice/decision of the bank.

The bank should be able to justify the choice of its approach (qualitative, quantitative, a combination) and the appropriateness of its use, with the choice and the appropriateness of the approach to be evaluated by supervisors depending on the bank’s ability to substantiate the information required.

If procedural safeguards (qualitative procedures) are used, the approach chosen must be meaningful, efficient and adequately described (the mere statement “managed procedurally” is not enough). Good procedural safeguards may suffice but the bank may also quantify an internal capital requirement in respect of reputational risk as part of capital buffer, as part of another quantified risk, or using its own method, which must be meaningful, efficient, and the bank must be able to demonstrate its appropriateness. Supervisors will independently assess the approach to reputational risk used by the bank as “very good”, “satisfactory”, “unsatisfactory” or “poor”. The bank’s approach to reputational risk must be reasonably documented (particularly if the bank uses its own quantification method), clear and comprehensible.

The assessment criteria apply to all banks, and supervisors will take account of the principle of proportionality in their final ICAAP assessment.

### 3.3.8. Other risks

**Definition of “other risks” relevant in the ICAAP**

“Other risks” shall mean all the other Pillar 2 risks which are not separately addressed in this procedure and which the individual banks have defined as part of their own ICAAP processes.

As part of the ICAAP process of previous years, individual banks primarily defined the following risks among “other risks” in Pillar 2 to which they were exposed:

- model risk,
- capital risk,
- real estate risk,
- macroeconomic risk,
- external factor risk,
- outsourcing risk,
- project risk,
- asset risk,
- client behaviour risk,
- financial investment risk,

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- risk of losing a major client.

Of the above risks, the individual banks assessed the following risks, for which they created internal capital requirements, as material risks:

- real estate risk,
- project risk,
- client behaviour risk,
- financial investment risk,
- risk of losing a major client.

Legislation does not include any classification or definitions of “other risks”, nor does it lay down any approach to the management or quantification of such risks. The selection of an approach to managing the identified “other risks” is completely the responsibility and the choice/decision of the bank.

The bank should be able to justify the choice of its approach (qualitative, quantitative, a combination) and the appropriateness of its use, with the choice and the appropriateness of the approach to be evaluated by supervisors depending on the bank’s ability to substantiate the information required.

The assessment team, in cooperation with an off-site analyst of the bank concerned, will assess whether the bank has identified all material risks (those relevant in the ICAAP) to which it is or might be exposed in relation to its activities. If the assessment team draws a conclusion that the bank fails to manage/quantify some of the “other risks” and views such risk as relevant in the ICAAP, such information must be included in the final assessment report.

If the bank identifies no more risks – “other risks” – as relevant in the ICAAP and the assessment team along with an off-site analyst of the bank agrees with that, the whole area 3.3.8. Other risks will be assessed by score 0.

If the bank identifies more risks – “other risks” – as relevant in the ICAAP, supervisors will assess whether the definitions of “other risks” identified by the bank are appropriate, comprehensive and meaningful.

Supervisors expect banks to manage all the “other risks” identified as relevant in the ICAAP by means of appropriate qualitative processes and/or to quantify an internal capital requirement to cover the risks. The chosen approaches should be consistent with the definition of the risks and should cover all of their aspects. The procedures used by the bank should be reasonably documented.

Bank’s approach to “other risks” relevant in the ICAAP

If procedural safeguards (qualitative procedures) are used, the approach chosen must be meaningful, efficient and adequately described (the mere statement “managed procedurally” is not enough). Good procedural safeguards may suffice but the bank may also quantify an internal capital requirement in respect of “other risks” as part of capital buffer, another quantified risk, or using its own method, which must be meaningful, efficient, and the bank must be able to demonstrate its appropriateness. Supervisors will independently assess the approach to “other risks” used by the bank as “very good”, “satisfactory”, “unsatisfactory” or “poor”. The bank’s approaches to “other risks” must be reasonably documented (particularly if the bank uses its own quantification methods), clear and comprehensible.
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The assessment criteria apply to all banks, and supervisors will take account of the principle of proportionality in their final ICAAP assessment.

3.4. Other internal capital requirements

3.4.1. Capital buffer

Capital buffer, in addition to Pillar 1 risks, risks not fully covered by Pillar 1 and Pillar 2 risks, is the fourth element of the ICAAP process\(^\text{30}\).

**Definition of capital buffer and its function in the ICAAP process**

“Capital buffer” is not exactly defined in literature but its materiality and need in the ICAAP process directly result from the above literature. Hence it is an important part of a bank’s ICAAP assessment process.

Capital buffer is the amount of supplementary (additional) capital within internal capital requirements, outside the requirement for internal capital for covering the bank’s individual relevant risks, and should be used to cover:

1. external risk drivers, including the risks which may arise from regulatory, economic or business environments and which are not included in Pillar 1 and Pillar 2 risks\(^\text{30}\);
2. risks/indeterminacy/uncertainties arising from calculation (the risk/uncertainty of the model used for ICAAP)\(^\text{31}\);
3. stress test results\(^\text{32}\);
4. potential deficiencies arising from long-term capital planning (from the modelling of future capital developments);
5. uncertainties arising from the use of diversification in the risk aggregation process.

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\(^{30}\) Guidelines on the Application of the Supervisory Review Process under Pillar 2 (CP03 revised) of 25 January 2006, ICAAP 7: The ICAAP should be comprehensive.

\(^{31}\) Methodological Instruction No. 1/2007 of the Financial Market Supervision Unit of the National Bank of Slovakia of 5 February 2007 on the internal capital adequacy assessment process for banks, part C.7., item 32.: It is advisable to determine also an additional amount of capital required to cover uncertainties arising from the calculation, i.e. a capital buffer to cover the risk of the ICAAP calculation model used.

\(^{32}\) CEBS Guidelines on Stress Testing (GL32) of 26 August 2010, Section 5, Guideline 15, item 84: One of the measures available to management may be the raising of additional capital. The presence of a capital buffer, of appropriate quality, can be a significant mitigating factor as higher levels of capital increase the degree of freedom management has when taking mitigating actions.
ICAAP assessment procedure

Fig. 1: Illustrative example – capital buffer vs. AFR reserve

Capital buffer should be a standard component of the ICAAP process of any bank. Each bank should identify the capital buffer need in its ICAAP process (the criterion is based on GL03 as well as on the Methodological Instruction of the NBS No. 1/2007). The bank should take account of external risk drivers to which it is exposed as well as the risks arising from the use of individual models/approaches to the calculation of internal capital requirements in respect of risks relevant in the ICAAP. While each model/approach involves a degree of uncertainty and inaccuracy, the final figure may be slightly distorted, and fails to reflect the true reality. This is why capital buffer should be reasonably included in the ICAAP process.

Capital buffer needs to be created on the part of internal capital requirements (to be considered an internal capital requirement), not on the part of internal capital resources (not to be confused with capital reserve/AFR reserve).

In the previous ICAAP assessments of individual banks, supervisors found that multiple banks did not consider a capital buffer in their ICAAP process at all or misunderstood it (viewing it as capital reserve rather than internal capital requirement). In the assessment of the appropriateness of the capital buffer definition and function, it is therefore necessary to assess whether a bank considers the capital buffer in the ICAAP process and whether it views the capital buffer correctly (appropriately), and subsequently to assess how the bank defines the function of the buffer, i.e. what the bank plans to cover by the buffer (the capital buffer may be used to cover the above items 1-5). The size, nature, range and complexity of the bank’s activities (the principle of proportionality) also need to be taken into account in the assessment.

**Comprehensiveness**

Capital buffer should be comprehensive, i.e. should cover and overarch all aspects of the ICAAP process (should be above the ICAAP process as a whole, i.e. above all risks). If stress test results are taken into account in the capital buffer, the buffer should include the results of the stress tests of the entire ICAAP (i.e. a comprehensive stress test system, not just the stress tests of individual risks).

**Bank’s approach to the creation and determination of the capital buffer amount in the ICAAP process**

The bank should have an appropriate defined/chosen approach to the creation and determination of the capital buffer amount in the ICAAP process, taking into account the size, nature, range and complexity of the activities pursued (the principle of proportionality). The choice of the approach to the capital buffer creation is the responsibility and the decision of the bank.
Assessment of the bank’s approach to the capital buffer creation by supervisors:

a. **A complex, sophisticated approach**, e.g. a comprehensive model (forward-looking approach), approach based on stress testing (bank’s own approach, using special instruments to determine it, by inclusion of stress test results, taking into account the results of the modelling of capital development (planning), etc.) – this approach is advisable for larger banks; if it is good and meaningful, it is assessed as “very good”;

b. **Percentage of the total sum of internal capital requirements for individual relevant risks; a simple approach** – an acceptable and sufficient approach for smaller banks, also acceptable for larger banks where, however, a more complex approach is advisable; if this approach is good and meaningful, it is assessed as “satisfactory”;

c. **A simplified approach, not risk-sensitive enough**, e.g. a fixed interest value (a fixed number) – only acceptable for smaller banks, with a recommendation to use an approach that will better reflect the bank’s risk profile; this approach is assessed as “unsatisfactory”;

d. The bank **has defined no approach to the capital buffer creation**; it fails to create a capital buffer in the ICAAP process – assessed as “undefined”.

**Note:** In the ICAAP assessment process, supervisors have seen an approach of a bank which quantified the capital buffer amount as 10% of the bank’s own funds. This approach is inappropriate (assessed as “undefined”) because the amount of own funds fails to reflect the bank’s risk profile. In this case, the bank’s capital buffer is neither comprehensive nor covering the ICAAP process because the bank does not determine it in relation to risks incurred.

If the bank fails to create a capital buffer in the ICAAP process or if supervisors believe that its amount is insufficient or inadequate:

a) **supervisors will recommend that the bank create a capital buffer of 10% of the total sum of internal capital requirements** if the bank only quantifies an internal capital requirement for Pillar 1 risks and for interest rate risk in the banking book, and these requirements are concurrently conservative enough (commensurate with the regulatory approach); also if the bank fails to perform stress testing or, where applicable, fails to take into account the stress test results in the ICAAP (for example, as an additional capital requirement);

b) **supervisors will recommend that the bank create a capital buffer of 0-10% of the total sum of the internal capital requirements (individually evaluated)** if the bank, in addition to the internal capital requirement for Pillar 1 risks and interest rate risk in the banking book, quantifies the internal capital requirements for other Pillar 2 risks in adequate amounts or, where appropriate, these requirements are very conservative, or if the bank’s calculation also includes stress test results, long-term capital planning, etc.;

c) **supervisors recommend that the bank create a capital buffer of more than 10% of the total sum of internal capital requirements (individually evaluated; past experience: up to 28%)** if the total sum of internal capital requirements quantified by the bank is significantly undervalued compared to the regulatory approach while supervisors fail to raise the internal capital requirement concerned, i.e. if supervisors accept the use of diversification in the risk aggregation process and require covering the uncertainty arising from the used diversification by an increased capital buffer.

The above recommendations for a bank’s capital buffer amount in the ICAAP process apply to small banks and large banks alike. For Pillar 2 purposes, small banks usually use simple, standardised approaches, which fail to reflect the actual risk profile of the bank (this is why the need to create a capital buffer arises) while large banks, using more complex models, are
more exposed to external risk drivers – are more susceptible to changes in the economic and business environments in which they operate and concurrently are exposed to the increased risk/uncertainty of the models used in the ICAAP.

**Taking into account the results of stress testing and modelling of the capital development in capital buffer**

Taking into account the results of stress testing and the results of modelling of the capital development in capital buffer is not required from small banks. For large banks, however, it is appropriate if the bank takes account of those results in the capital buffer. If a bank considers and uses the diversification effect in its risk aggregation process, the bank must be required to take into account, within the capital buffer, the uncertainty (degree of inaccuracy) arising from the use of that effect.

### 3.5. Aggregation methodology

The final internal capital requirement may not be necessarily determined as the sum total of the requirements in respect of individual risks. Banks that use more complex models in the ICAAP, such as the ECM (Economical Capital Model) are used to aggregate the individual risk requirements using a correlation matrix. In other words, they say that the individual risks are, in a way, ‘independent’ of each other, and they model this ‘independence’ by the correlation matrix, which is not an identity matrix. The final internal capital requirement is, by using the non-identity correlation matrix, lower than the sum of the requirements. The difference is called the **diversification effect**. A diversification effect different from zero is only accepted by supervisors if the bank reasonably demonstrates the appropriateness of that effect or if the bank adjusts the diversification effect, for example, by raising the capital buffer amount (uncertainty of the ICAAP model as a whole).

**Taking into account the bank’s local specificities**

Approaches used by banks in the Slovak Republic are mostly set by the banks’ parent companies. The banks are obliged to ensure that the approach is also appropriate at the local level, taking local specificities into account, for example, by adjusting the correlation matrix.

**Demonstration of appropriateness**

If the risk aggregation differs from the sum of ICR for individual risks, the bank needs to demonstrate the appropriateness of the approach used. Without demonstrating the appropriateness, the diversification effect cannot be recognised.

**Stress testing**

The assumptions of the aggregation method (such as the correlation matrix) are not stable. In a comprehensive stress testing system, it is therefore necessary to test also the sensitivity of the change of these assumptions to the amount of internal capital requirements. Appropriate methods include, for example, an increase in the correlation coefficients used and the recalculation of the total requirement by means of a changed correlation matrix. It is advisable to reflect the calculation difference in the capital buffer amount.
Chapter 4. Internal capital resources (available financial resources to cover risks)

Definition
Available financial resources (hereinafter also referred to as the “AFR”) mean the actual value of resources the bank may use during a crisis. AFR mean the bank’s internal capital resources which can absorb the losses arising from the deterioration of the quality of assets.

Calculation methodology
In calculating the AFR, a bank may use its parent company’s methodology, which may, however, not be based on a deeper understanding of the local conditions in which the bank operates and reflect those conditions; it may also use its parent company’s methodology which reflects the local conditions and specificities of the bank; and the bank may also use its own methodology. Supervisors will consider the bank’s own methodology to be the most appropriate and most acceptable.

If the bank is part of a consolidated unit, supervisors also expect the AFR to be specified at the consolidated level.

Review frequency
The frequency of reviewing the amount of AFR and its components lies within the bank’s competence, with supervisors considering a quarterly review periodicity to be ideal.

Putting in place a proper risk management process to ensure a detailed and accurate identification of the risks to which the bank is exposed, and assessing and setting the amount of internal capital to cover those risks are the responsibility of the bank management. The internal capital adequacy assessment process is a process developed and managed by the bank, and thus will be unique for a particular bank.

Differences between AFR and own funds
Banks may set the amount of available resources in the amount of their own funds for the bank financing as set out by Decree of the NBS No. 4/2007 on banks’ own funds for financing and on requirements for banks’ own funds for financing and on securities brokers’ own funds for financing and on requirements for securities brokers’ own funds for financing.

Differences in the approaches to setting the individual AFR items compared to regulatory capital must be adequately described and specified by the bank.

Items reducing the amount of the bank’s available resources:
- Goodwill and net book value of computer software.
- Expected loss pursuant to Article 47 (4) a) and b) and Article 48 of Decree No. 4/2007, and positive differences from calculation pursuant to Article 48 of Decree No. 4/2007 if the bank or a securities broker uses the internal rating based approach.
- Surplus in the sum total of the values of expected losses as set out by Decree of the NBS No. 11/2010, for individual items of the bank’s assets and for individual items not kept in the bank’s balance sheet, over the sum total of the values of identified depreciation of these items of the bank’s assets and of the values of reserves created.
for items not kept in the bank’s balance sheet pursuant to Article 4 (4) of Decree of the NBS No. 12/2010 (in force since January 2011).

Note: If the bank has posted the above items in the regulatory capital, supervisors expect that these values will also be posted in AFR within the ICAAP.

Items that create the value of the bank’s available resources and that are subject to the following restrictions:

- **Profit of the current period** normally up to 50%; up to 100% can be recognised in relation to a bank’s demonstrable dividend policy.
- **Estimated financial result** in the next 12 months, but only if the bank uses a dynamic approach involving stress testing in its internal capital adequacy assessment process.
- **Asset revaluation adjustments** (differences between the book value and the real value); however, the bank has to reduce the value of positive revaluation adjustments by the sum of negative revaluation adjustments.
- The value by which **valuation adjustments exceed the value of an expected loss** of assets (banks with an internal ratings based approach as well as those with a standardised approach).
- **Subordinated debts** are included by the bank according to its own methodology of calculating available resources.

Supervisors have to pay the greatest attention to the assessment of the correctness of the reported AFR components that differ from reported regulatory capital components.

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**Chapter 5. UseTest of the ICAAP**

### 5.1. Stress testing in the ICAAP

Stress testing is a key instrument of institutions’ risk management. The CRD and particularly the supervisory assessment process under Pillar 2 require that the institution use a progressive view in its risk management, strategic planning and capital planning. One of the instruments that may assist the institution in doing so is the stress testing.\(^{33}\)

Risk measurement means a calculation or estimation of the value of identified risk by means of a chosen method and procedure; this process usually includes stress testing and reverse testing.\(^{34}\)

Stress testing can be defined as the process of identification of mostly exceptional but actually plausible events which may have an extraordinarily adverse effect on the bank’s financial health, and the appropriate quantification of this effect. Stress testing is usually composed of the creation of stress scenarios and the assessment of their impact on costs and revenues or profit.\(^{35}\)

Stress scenario means a set of assumptions under which the bank identifies events that may influence its financial health.\(^{36}\)

**Stress testing of individual risks**

Banks should allocate internal capital to individual activities, processes and systems to cover the risks arising from them, i.e. the range of activities and the quality of processes and

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\(^{33}\) CEBS Guidelines on the Application of the Supervisory Review Process under Pillar 2 (GL03); ICAAP 8  
\(^{34}\) Article 1 d) of Decree of the NBS No. 13/2010 on risks  
\(^{35}\) Article 1 h) of Decree of the NBS No. 13/2010 on risks  
\(^{36}\) Article 197 (2) of Decree of the NBS No. 4/2007 on banks’ own funds for financing
systems should reflect the amount of internal capital allocated. Banks should be able to formulate and determine the current and future amounts of internal capital required to cover the measured risk level, taking stress test results into account.\(^{37}\)

**As one component of demonstrating that the stress testing programme is embedded in risk management, supervisors expect to see stress testing as an integral part of the ICAAP.** The ICAAP should be forward-looking, predictable (foreseeable) and take into account the impact of a severe scenario that could impact the institution. The ICAAP should demonstrate that stress testing reports provide the Board of Directors and management with a thorough understanding of the material risks to which the institution may be exposed. Stress tests should be undertaken with appropriate frequency. Infrastructure and/or data frameworks should be proportionate to the size, complexity, risk and business profile of an institution.\(^{38}\)

Banks are expected to demonstrate a clear link between their risk appetite, their business strategy, their capital planning and stress testing programmes. In particular, institutions should assess and be able to demonstrate their ability to remain above regulatory minimum capital requirements during a stress.\(^{39}\)

**The principle of proportionality**, i.e. small companies may run a less complex stress testing programme, needs to be taken into account in the stress testing system. Risk measurement encompasses stress testing and sensitivity analyses, which are required for the assessment of a possible negative impact of various economic or external events on the level of the risk incurred.\(^{40}\)

**Sensitivity analysis** is the simple stressing of one risk driver to assess the sensitivity of the institution to that risk driver. An institution should identify these risk drivers, these primarily include macroeconomic risk drivers (interest rates), credit risk drivers (changes in bankruptcy law or a shift in probabilities of defaults (PDs), the default of their largest counterparties), financial risk drivers (e.g. increased volatility in financial instruments markets, a decline in value of liquid assets), and external events (operational risk events, market events, events affecting regional areas or industry sectors). An institution should use different degrees of severity and conduct sensitivity analyses at the level of individual exposures, portfolios or business units, as well as firm-wide. A simple multi-factor sensitivity analysis may also be used. A small bank should conduct at least simpler sensitivity analyses for each material risk.

Institutions should undertake **scenario analysis** as part of their suite of stress tests which should be dynamic and predictable (foreseeable), and should incorporate the simultaneous occurrence of events across the institution. It should identify sufficient and meaningful mechanisms for translating scenarios into relevant internal risk parameters that provide a firm-wide view of risks. The formulation of scenarios includes explicit estimates (assumptions) about the dependence structure between the main underlying economic and financial drivers such as interest rates, GDP, unemployment, capital, consumer and property prices, etc. The chosen scenario should be applied to all relevant positions (on- and off-balance sheet) of the institution. Small companies may use the very basic simple scenarios but a redesigned sensitivity analysis system should suffice.

Stress testing should be based on exceptional but plausible events. The stress testing programme should cover a range of scenarios with different severities, including scenarios which reflect a severe economic downturn. For capital planning, at least a severe economic

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\(^{37}\) Item 31 of Methodological Instruction No. 1/2007 of the Financial Market Supervision Unit of the National Bank of Slovakia of 5 February 2007 on the internal capital adequacy assessment process for banks

\(^{38}\) CEBS Guidelines on Stress Testing (GL32); Guideline 2

\(^{39}\) CEBS Guidelines on Stress Testing (GL32); Guideline 17

\(^{40}\) Item 28 of Methodological Instruction No. 1/2007 of the Financial Market Supervision Unit of the National Bank of Slovakia of 5 February 2007 on the internal capital adequacy assessment process for banks
downturn scenario is required; various degrees of severity are expected for sensitivity analysis and scenarios.

A more complex institution should perform stress tests on specific portfolios and the specific types of risk that affect them. Consideration should also be given to changes in correlations between risks that the institution identifies for a given portfolio.

The section of Stress testing of individual risks assesses the appropriateness, adequacy and range of sensitivity analyses and scenarios during the stress tests of individual risks in general (the stress tests of individual risks are assessed in the relevant section of the form that assesses each risk).

**Comprehensive stress testing**

Stress testing should be conducted on an institution-wide basis covering a range of risks in order to deliver a complete and holistic picture of the institution’s risks.

Institution-wide stress testing should apply to all material risks, reflecting the correlations between and within risk categories. In times of stress, correlations between risk categories tend to increase. Small banks are not expected to use correlations; by contrast, a simple aggregation of sensitivity analyses should be used as a base scenario on an institution-wide basis.

Depending on the organisational structure and business model of a particular institution, the stress tests should be performed at both the consolidated level and the level of material entities, i.e. at the solo and/or a sub-consolidated level if appropriate. Institution-wide stress tests should be embedded in the risk management framework of the institution and should incorporate views from parties across the organisation. This is also the case for scenario selection and assumptions used in stress testing programmes.

Comprehensive stress tests (i.e. at the institution-wide level) should be performed periodically; large banking entities are expected to perform stress tests quarterly while small ones are expected to perform them annually.

Stress tests should cover a period of at least two years.

The stress testing programme should be regularly reviewed by all institutions on an annual basis at least. An independent control function should play a key role in the process, also in small institutions to a certain extent.

**Stress testing generally**

To complement the risk management tools, the largest banks should have reverse stress testing in place, the importance of which consists in identifying a significant negative result/outcome and then identifying the causes and consequences that could lead to such an outcome. Reverse stress testing should be carried out regularly at the same level of application as ICAAP. Reverse stress testing is not expected to result in capital planning and capital add-ons, nor in their application to the risk management system of small banks.

Stress testing programmes should assist in decision-making and in executing decisions at all appropriate management levels of an institution. Examples of managerial reactions as a result of evaluation of stress testing reports:

- Reviewing the set of limits, especially in cases where legislative requirements indicate that the results of the stress tests should be reflected in the limits set by institutions;
- Use of risk mitigation techniques;

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41 CEBS Guidelines on Stress Testing (GL32); Guidelines 3 and 15
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- reducing exposures or business in specific sectors, countries, regions or portfolios;
- reconsidering the policies that apply, for example, to funding or capital adequacy;
- reviewing capital and liquidity adequacy;
- reviewing a strategy or a business plan;
- reviewing the risk appetite;
- Review of the contingency/conditionality of the framework, or development of a framework where none exists.

Banks using advanced risk measurement approaches must have a more sophisticated system of using the stress testing in the bank management.

If a bank is a subsidiary of another (foreign) institution, it may implement a group methodology for its stress testing programme. In that event, the relevant responsible people should understand the group methodology, localise it appropriately to the specificities of the Slovak market and, preferably, also make effort for improvements in the area concerned. The largest banks are also expected to create and develop their own stress scenarios, in addition to the group methodology. Naturally, a reasonable documentation should be provided.

An institution should have clear responsibilities, allocated resources and written policies and procedures in place to facilitate the implementation of the stress testing programme. The following aspects in particular should be detailed in internal regulation:

- The types of stress testing and the main purpose of each component of the programme;
- Frequency of stress testing exercises;
- The methodological details of each component, including the definition of relevant scenarios and the role of expert judgement;
- The range of business assumptions and remedial actions envisaged, based on the purpose, type and result of the stress testing, including an assessment of the feasibility of corrective actions in stress situations and a changing business environment.  

The Board of Directors has ultimate responsibility for the stress testing programme of the institution, and should be able to understand the impact of stress events on the overall risk profile of the institution. The stress testing programme should be an integral part of an institution’s risk management framework and be supported by an effective infrastructure.

The bank’s Board of Directors shall be kept informed of stress test results and actively participate in the decisions arising from them.

Practical aspects of stress testing, such as identification of risk drivers, implementation, management, may be delegated to senior management. The Board of Directors should actively engage in the discussion or challenge the key modelling assumptions and scenario selection in terms of business strategy. It also discusses the purpose and essence of managerial actions and risk mitigation activities based on stress test results, and approves them.

5.2. Reporting and monitoring in the ICAAP

Reporting:

- is the system to provide relevant information to recipients

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42 CEBS Guidelines on Stress Testing (GL32); Guideline 4
43 CEBS Guidelines on Stress Testing (GL32); Guideline 1
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• is used not only for reviewing and evaluating the current financial performance developments but also for planning and decisions in respect of measures to improve the bank-wide performance as well as the performance of its organisational and responsible departments
• has the form of reports or statements defined by the bank

Reporting is designed for:

Internal recipients: these primarily include owners and management, i.e. the Board of Directors and Supervisory Board of the bank. These are recipients with decision-making authority, who are responsible for the outcomes of banking operations.

External recipients: these may consist of a very wide range of authorised control bodies, interest groups as well as individuals. They include, for example:

• bank employees
• regulator
• etc.

ICAAP report

Banks should prepare an ICAAP report and have clear responsibilities and authority in respect of the report preparation process. The ICAAP report should be a comprehensive and lucid report, providing all relevant information on the ICAAP process as of a date (such as 31 December 201x), and should be presented at a meeting of the Board of Directors at least once in calendar quarter (market standard).

Expected content of the ICAAP report

The ICAAP report should assist the Board of Directors in reviewing and evaluating the state of the ICAAP process as of an exactly defined date (such as 31 December 201x) as well as during planning and decision-making in respect of measures to improve the ICAAP process and to improve the performance of all responsible departments participating in that process. The main precondition is that the report should include quality information, i.e., detailed/specific information in addition to basic information. The more detailed the information available to the Board of Directors, the better the actions the Board may take in further decision-making and management processes.

Overview of basic information:

• amount of internal capital requirement for Pillar II risks
• comparison of the capital requirement amounts for Pillar I risks and Pillar II risks
• capital buffer amount

Overview of detailed/specific information:

• components and amount of internal capital resources (AFR)
• stress test results and taking into account the stress test results in respect of the amount of Pillar II internal capital requirements
• effect of aggregation/diversification (if applied by the bank)
• limits on individual risks and a limit on internal capital requirement on a bank-wide basis

\[
\text{use ratio} = \frac{\text{internal capital requirement}}{\text{internal capital resources}}
\]
• corrective actions proposed (if the results are not in line with the rules defined by the bank) and the description of how the corrective actions have been met by the bank
• other

**Supplementary reports**

Supplementary reports mean **a set of all reports in the ICAAP (such as the risk report, the stress testing framework report, the credit risk report, etc.).** Banks should have clear definitions of responsibilities and authority in respect of the supplementary report preparation process. The information included in supplementary reports should be of high quality.

ICAAP (summary & supplementary) reports should **not only be** formally prepared, presented, discussed and approved by the bank management; **the information should also be actively used in further management processes.**

**Control mechanisms in the ICAAP**

For the ICAAP process to be carried out with the maximum efficiency, banks must have adequate control mechanisms in place to ensure that all information used is up-to-date, comprehensive, reliable and consistent.

**Strong and comprehensive control mechanisms should ensure** that the ICAAP process is:
- effective and powerful;
- in compliance with legislation, regulation, supervisory requirements and internal rules/regulations of the bank.

**Responsibility of Internal Control and Internal Audit (IC&IA)**

The regular independent assessment of the ICAAP process by the IC&IA department should also encompass reporting and monitoring; this will ensure a comprehensive and independent control of quality, time relevancy, reliability and consistency of the information included in all ICAAP (summary & supplementary) reports.

The above assessment criteria equally apply to all banks, with no differences in the expectations from small and medium-sized banks, building societies and large banks within the Reporting and Monitoring assessment area.

### 5.3. UseTest of the ICAAP

**UseTest**

Definition according to Guideline CP03

ICAAP 4

ICAAP should form an integral part of the management process and decision-making culture of the institution.

The ICAAP should form an integral part of institutions’ management processes so as to enable the management body (both supervisory and management functions) to assess, on an ongoing basis, the risks that are inherent in their activities and material to the institution. This could range from using the ICAAP to allocate capital to business units, to having it play a role in the individual credit decision process, to having it play a role in more general business decisions (e.g. expansion plans) and budgets.

**UseTest expectations**

A) The ICAAP is an integral part of the bank’s management processes if:
ICAAP assessment procedure

• the ICAAP is used in the determination of a budget
• the ICAAP is used in approving credit facilities
• the ICAAP is used in setting the objectives of the bank’s business departments with a view to internal capital
• the bank uses various economic/financial indicators to determine its performance (EVA, RAROC, RORAC, etc.)
• stress test results are taken into account
• the ICAAP serves as the basis to create the risk management strategy for a next period
• the ICAAP is linked to capital planning and management
• the ICAAP is used to determine strategies in new segments, products
• the ICAAP is used in setting product prices, margins
• the bank prepares ICAAP reports
• other

B) The ICAAP satisfactorily forms an integral part of the bank’s management processes if:
• The ICAAP is used in the determination of a budget
• ICAAP is used in setting the objectives of the bank’s business departments with a view to internal capital
• the bank uses various economic/financial indicators to determine its performance (EVA, RAROC, RORAC, etc.)
• the bank prepares ICAAP reports
• other

The bank may also use the ICAAP for different/other areas than those stated in item B). However, the ICAAP only adequately forms an integral part of the bank’s management processes and there is still room for it to be used better.

C) The ICAAP unsatisfactorily forms an integral part of the bank’s management processes if:
• the bank only prepares ICAAP reports

Supervisors expect that the bank management is aware of the strengths and weaknesses of its ICAAP process, and that it plans changes and improvements to make it better.

Responsibility of the Internal Control and Internal Audit (IC&IA)

As part of the regular independent assessment of the ICAAP process by the IC&IA department, the review should also encompass the UseTest. This will ensure a comprehensive independent control of the use of the ICAAP in the management process and the decision-making culture of an institution.

The above assessment criteria equally apply to all banks, with no differences in the expectations from small and medium-sized banks, building societies and large banks within the assessed area UseTest.

Capital allocation

ICAAP results should not be an end in themselves; the bank should actively use them in capital allocation. The bank should have rules in place to allocate internal capital to individual risks, business activities of the bank, products, etc.
**Capital planning**

The bank should have an explicit, approved capital plan which states the capital planning process, the objectives and the time horizon for achieving those objectives, as well as the time horizon for which the capital is planned. The plan should also lay out how the bank will comply with capital requirements in the future, any relevant limits related to capital, and a general contingency plan for dealing with any unexpected events and divergences from capital planned (for example, raising additional capital, restricting business, or using risk mitigation techniques). The institution’s capital policy should be fully documented. The bank should set the frequency and the reasons for reviewing its capital plan.

Supervisors will independently assess the appropriateness and comprehensiveness of the capital plan. They will also assess the appropriateness of the approach (method) in respect of the bank’s capital planning.

The management body is responsible for setting the responsibilities for the capital planning process, the integration of capital planning and management into the institution’s overall culture and approach to risk management. It should ensure that the policies and procedures of capital planning and management are notified and implemented on an institution-wide basis and supported by adequate authority and resources.

For less complex banks, where strategic capital planning is likely to be somewhat difficult, the results of the process should primarily influence the management of the bank’s risk profile (for example, through changes in its credit behaviour or through the use of funds to mitigate risks).

**Stress testing and capital planning**

Stress test results should be used to assess the viability of a capital plan in adverse circumstances. For the capital planning to be efficient, an institution should consider a range of scenarios. The scenario required for capital planning is at least a severe economic downturn that is particularly severe but plausible, such as a severe economic downturn and/or a system-wide shock to liquidity.

All capital planning stress tests should cover a period of at least two years. Institutions are expected to demonstrate a clear link among their risk appetite, their business strategy, their capital planning and stress testing programmes.

**List of CEBS documents used**

  [http://www.eba.europa.eu/getdoc/00ec6db3-bb41-467c-acb9-8e271f617675/GL03.aspx](http://www.eba.europa.eu/getdoc/00ec6db3-bb41-467c-acb9-8e271f617675/GL03.aspx)
- Technical aspects of the management of interest rate risk arising from nontrading activities under the supervisory review process, 3 October 2006
- Guidelines on Liquidity Buffers & Survival Periods, 9 December 2009
- Guidelines on the management of concentration risk under the supervisory review process (GL31), 2 September 2010
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• Guidelines on Stress Testing (GL32), 26 August 2010

• High level principles for risk management, 16 February 2010

• Consultation paper on the Guidebook on Internal Governance (CP44), 13 October 2010

• Guidelines for the joint assessment of the elements covered by the supervisory review and evaluation process (SREP) and the joint decision regarding the capital adequacy of cross-border groups (GL39), 22 December 2010