

# **CENTRAL BANK OF CYPRUS**

## **GUIDELINES TO BANKS ON THE APPROVAL PROCESS OF THE INTERNAL RATINGS BASED (IRB) AND THE ADVANCED MEASUREMENT (AMA) APPROACHES FOR THE CALCULATION OF CAPITAL REQUIREMENTS**

**APRIL 2007**

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## **1. Introduction**

When a bank or a banking group is planning to use the Internal Ratings Based Approach (IRB) and/or the Advanced Measurement Approach (AMA) for the calculation of its capital requirements for credit and operational risk, respectively, it is necessary for the Central Bank of Cyprus and the applicant bank to follow specific steps and processes in order to manage the unavoidably complex procedures involved. These procedures emanate from the provisions of the European Union Directive 200/48/EC (CRD) and are further analysed in the guidelines of the Committee of European Banking Supervisors (CEBS) on the implementation, validation and assessment of Advance Measurement and Internal Ratings Based Approaches (GL10).

This document and its appendices summarise the steps that the Central Bank of Cyprus follows in reaching a decision on an application to use the IRB and/or the AMA approach. This information is published in order to inform banks, which are subject to the Central Bank of Cyprus supervision, as to what they should expect during their application's evaluation process and indicate the principal interactions between the Central Bank of Cyprus, the applicant banks and other supervisory authorities concerned.

## 2. Approval Process

A bank or a banking group intending to use the internal rating systems to calculate minimum capital requirement for credit risk and/or the advanced measurement systems to calculate the minimum capital requirements for operational risk should apply to the Central Bank of Cyprus for permission.

To decide on the above applications, the Central Bank of Cyprus has to evaluate the models that the applicant bank uses or plans to use. For this purpose, the Central Bank of Cyprus requires detailed information on the construction and calibration of the models, the database, the technological environment, and related policies and procedures, including the applicant bank's control environment.

The Central Bank of Cyprus approval process is based on article 129 (2) of the European Union Directive 2006/48/EC and on the CEBS guidelines on the implementation, validation and assessment of AMA and IRB approaches (GL10).

In order to grant permission for the use of the IRB and/or the AMA approaches, the Central Bank of Cyprus requires the submission of a formal and explicit application. In the case that the applicant bank does not meet the minimum requirements, the application is rejected and the applicant bank is advised the reasoning of the rejection in writing. In the case of approval, the bank receives a written confirmation.

The approval process is divided into three phases:

- Pre-Application Phase
- Approval Phase – six-month period
- Post-Approval Phase

These guidelines summarise the procedures and the role of the Central Bank of Cyprus in each of the above phases. They also summarise the key cross-border considerations and the role of the Central Bank of Cyprus both as the competent authority for the exercise of supervision on a consolidated basis (consolidating supervisory authority) and host supervisory authority.

## **2.1. Pre-Application Phase**

Before an application is submitted, there will usually be preliminary contacts between the applicant bank and its supervisory authority. In case that a cross-border banking group intends to use the IRB and/or AMA methods both in the home and host countries, preliminary contacts between the consolidating supervisory authority and host supervisory authority, are also essential.

The formal application will usually follow the preliminary contacts of the pre-application phase. In order to facilitate the whole process and avoid unnecessary duplication of work, the consolidating supervisory authority and the host supervisory authority cooperate in the pre-application phase in the spirit of article 129 (2) of the European Union Directive 2006/48/EC.

All the steps and stages followed by the Central Bank of Cyprus, in its capacity as the consolidating and a host supervisory authority, in the pre-application phase, are given below:

- (1) Exploratory discussions.
- (2) Intention to move towards the advanced approaches.
- (3) Consultative framework.
- (4) Understanding intentions.
- (5) Supervisory plan of action.

### **Stage 1: Exploratory discussions**

The banking group has exploratory discussions with the consolidating and host supervisory authorities about its intention to use the IRB and/or AMA approaches. Although there is no formal requirement at this stage to inform the other supervisory authorities concerned, the Central Bank of Cyprus, both as the consolidating and a host supervisory authority, communicates the outcomes of the exploratory discussions to the other supervisory authorities concerned.

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### **Stage 2: Intention to move towards the advanced approaches**

When a banking group expresses a clear intention to move towards the advanced approaches, the Central Bank of Cyprus, as a consolidating supervisory authority, advises the relevant host supervisory authorities.

### **Stage 3: Consultative framework**

The Central Bank of Cyprus, as a consolidating supervisory authority, plans and organises a consultative framework that includes: (a) the communication strategy among the supervisory authorities concerned, and (b) the mechanism that will enhance conclusion of a common agreement among those supervisory authorities.

### **Stage 4: Understanding intentions**

In order to understand the nature and extent of the banking group's intentions, the Central Bank of Cyprus, as a consolidating supervisory authority, discusses with the group its intentions to implement an internal models approach. Subsequently, it prepares a preliminary assessment of the group's proposals, including the readiness and adequacy of its plans. Thereafter, it communicates the salient features of the group's plans to the host supervisory authorities concerned in accordance with the agreed communication strategy. Finally, it collates the concerns and issues raised by host supervisory authorities concerning the proposed approach and produces a summary of the principal issues arising.

As a host supervisory authority, the Central Bank of Cyprus, communicates to the consolidating supervisory authority any concerns and issues concerning the proposed approach and identifies potential points of dispute so that supervisory authorities plan their prompt resolution.

### **Stage 5: Supervisory plan of action**

The Central Bank of Cyprus, as a consolidating supervisory authority, draws up the supervisory plan in consultation with the host supervisory authorities concerned and in cooperation with the applicant banking group. The plan includes: (a) identification of

significant models and proposed roll-out plans, (b) the allocation of workload with respect to the significant models, (c) priority issues, (d) a timetable, (e) standards for judging the completeness and accuracy of the application, and (f) standards for reaching agreement on a final decision. The Central Bank of Cyprus communicates the salient points of the supervisory plan to the applicant group.

## **2.2. Approval Phase – six-month period**

According to article 129 (2) of the European Union Directive 2006/48/EC, applications for the use of the IRB and/or AMA models, are submitted only to the consolidating supervisor. Consolidating and host supervisors cooperate with each other in order to reach a decision, within six months, whether to approve or reject the application, and specify the any terms and conditions that need to be met in the case of approval. The consolidating supervisor has the leading role with respect to the above procedure.

The stages followed by the Central Bank of Cyprus, as a consolidating supervisory authority and as a host supervisory authority, during the approval process, in line with the CEBS guidelines (GL10), are given below:

- (1) Submission of a formal application.
- (2) Initial assessment of the application.
- (3) Model validation by the applicant bank.
- (4) Model assessment by the Central Bank of Cyprus.
- (5) Reporting of the results.
- (6) Agreement on decision.
- (7) Communication of the decision.

### **Stage 1: Submission of a formal application**

The six-month period, referred to in article 129 (2) of the European Union Directive 2006/48/EC, for deciding on an application, shall begin on the date that a complete application is received by the Central Bank of Cyprus in its capacity as the consolidating

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supervisory authority. Specifically, the clock starts as soon as the Central Bank of Cyprus has received an application that is complete with respect to the signatory, format, content, and minimum requirements set out in the attached appendices I and II, on IRB and AMA, respectively.

### **Stage 2: Initial assessment of the application**

The Central Bank of Cyprus, as a consolidating supervisory authority, performs a preliminary assessment of the entire application immediately upon its receipt. If the application is complete in all essential aspects and does not raise any significant doubt or non-satisfaction in this regard or with respect to the requirements mentioned above, the clock for the six months' period starts upon receipt of the application. In this situation, the Central Bank of Cyprus informs immediately the host supervisory authorities that an application has been received and distributes to them the application form, in whole or part, as previously agreed.

If the application lacks essential parts or is, otherwise, deemed incomplete, the Central Bank of Cyprus informs the applicant bank accordingly, setting out the reasons why and what further data or information the group may need to submit. In addition, it informs the host supervisory authorities that an application has been received, that it is incomplete, and that the group has been asked to provide further information. Depending on the seriousness of the deficiencies, the applicant is either allowed to supplement the application or is asked to provide a new application at a later date. When the application is complete, the clock for the six months' period starts.

The Central Bank of Cyprus considers that a pause in the six-month period may be acceptable if, during the assessment process, the applicant bank no longer meets any of the requirements for a complete application. If during its examination the Central Bank of Cyprus discovers essential deficiencies concerning the completeness of the application, it may decide to suspend further examination of the application until the deficiencies of the application are corrected, as an alternative to rejecting the application. The responsibility for the operation of the clock rests with the Central Bank of Cyprus. This includes promptly

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making any change in the status of the clock known to all parties involved, including the applicant bank.

The timetables for the approval process are planned and coordinated by the Central Bank of Cyprus and agreed with all host supervisory authorities involved. Consolidating and host supervisory authorities should aim at agreeing on flexible plans which accommodate the needs and specificities of all supervisory authorities involved. This is of a particular importance where an entity in a host country is significant for the applicant banking group or is considered of systemic importance by the host supervisory authority.

Before proceeding to the assessment of the details of the rating or operational risk measurement systems, it is necessary for the supervisory authorities to form an opinion of the overall picture. The issues analysed, in this respect, by the Central Bank of Cyprus include, among others:

- the suitability of the organizational structure, in terms of the responsibilities and functions assigned to the different areas involved in managing, measuring, and controlling risks (e.g. the role and responsibilities of the Board of Directors, designated committee functions involved in governance, risk control units, internal unit, lending unit etc, as well as the interaction between the various governance bodies.)
- the sufficiency of the human and material resources assigned.
- the practicality and feasibility of the implementation plan<sup>1</sup> for institutions adopting a phased rollout.
- the group structure, including the legal entities within the group and business lines, and
- regulatory capital requirements.

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<sup>1</sup> The terms “implementation plan” and “roll-out plan” are sometimes used synonymously. Article 85 of the European Union Directive 2006/48/EC (adopted in Unit A, paragraph 29 of the relevant Central Bank of Cyprus Directive) refers only to “implementation”. However, there is a common understanding among supervisors that there is a difference in terms of the time period covered. “Roll-out plan” refers to the time after the initial approval has been granted, whereas “implementation plan” also covers the time prior to approval. Therefore, the “roll-out” period is thus shorter than, but entirely a subset of the “implementation” period.

### **Stage 3: Model validation by the applicant bank**

In order for the IRB and/or AMA approaches to be recognised for regulatory purposes, they must firstly be validated the executive directors of the applicant bank who, according to article 19 of the Banking Laws of 1997 to 2005, are responsible for the effective direction and management of the business of the bank. The term 'validation' encompasses a range of processes and activities. For the IRB, this includes whether ratings adequately differentiate risk and whether estimates of risk components (such as PD, LGD, or CF) appropriately characterise the relevant aspects of risk. For the AMA, it includes the quality and soundness of the operational risk management processes and measurement systems.

The validation by the applicant bank needs to take into account the specific purpose or purposes for which a rating system or an operational risk measurement system is being used. In particular, it should examine and review all the elements in the rating or operational risk measurement systems and controls, for every portfolio to which the IRB approach is applied and all operations relevant to the AMA, in order to verify that they:

- Satisfy the use test.
- Produce outputs suitable for all intended purposes, including regulatory capital requirements.
- Are suitable for the specific circumstances in which the model are used (e.g., countries, size, and complexity of portfolios in the case of IRB, and business lines in the case of AMA).
- Meet all other minimum regulatory requirements, insofar as applicable.

### **Stage 4: Model assessment by the Central Bank of Cyprus**

The Central Bank of Cyprus, as a consolidating supervisory authority, assesses the completeness and accuracy of the application against the defined standards and, in consultation with the host supervisory authorities, leads the assessment of models and related aspects. As a host supervisory authority, it assesses those aspects of the application that it is best able to comment on (e.g., relating to locally developed models) and communicates the results of the assessment to the consolidating supervisory authority.

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In more detail, the Central Bank of Cyprus, as a consolidating supervisory authority, leads the assessment of centralised models and some local models (where agreed with the host supervisory authorities), the governance of the group, the role of the Board and Senior Management, and centralised risk management functions. In addition, it assesses compliance with the use test, the self-assessment and the rollout plan, if applicable.

The Central Bank of Cyprus, as a host supervisory authority, leads the assessment of local models (where agreed), the governance of the local entities, and local risk management functions. In addition, it assesses compliance with the use test with respect to local models.

The Central Bank of Cyprus uses its own methods to assess the validation process, or certain parts of it. These methods may include offsite analysis and/or onsite inspections conducted by its own staff. The Central Bank of Cyprus pays special attention to the fact that validation is made for regulatory capital purposes.

In assessing applications for the use of **Internal Ratings Based (IRB)** approach, the Central Bank undertakes off-site data analysis and on-site inspections to examine and review the applicant bank's Internal Rating Based framework. More explicitly, in assessing IRB applications, the Central Bank of Cyprus:

- examines and assesses the rating system methodology and the quality of internal documentation supporting the rating system.
- assesses the quality of data and databases being used for the development of the rating systems, in the rating assignment process, and in the estimation of risk parameters, along with any other databases needed to calculate minimum regulatory capital. This is to ensure the soundness of calibration and of the capital calculation.
- assesses the quantitative information provided by the applicant relating to the performance, validation, and monitoring of rating systems. The Central Bank of Cyprus may ask applicants to undertake additional analyses and/or undertake quantitative procedures of its own.
- performs an overall assessment of the quality of the internal model. This involves integrating all the information generated in the previous phases and discussing with the applicant bank the appropriate interpretation of the data with respect of the quality

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of the rating system. It also assesses compliance with the minimum qualitative regulatory requirements i.e. the use test, the internal governance, the role of senior management, the adequacy of internal controls as well as other areas in order to assess the qualitative aspects of the rating system that have a bearing on the approval and to check for compliance with the minimum qualitative requirements.

- evaluates the reliability and integration of systems, the functionality of the model, and the quality of information provided by systems.

In assessing **AMA applications**, the Central Bank undertakes similar off-site and on-site inspections to the banks to examine and review their Advanced Measurement Approach framework. More explicitly, in assessing AMA applications, the Central Bank of Cyprus:

- examines and assesses the risk measurement methodology and the quality of internal documentation supporting the methodology.
- assesses the quality of data and databases being used in the risk measurement system, including the four AMA elements (internal data, external data, scenario analysis and business environment and internal control factors). This is to ensure the soundness of the data set used for estimation and the correctness of the capital calculation.
- assesses the reasonableness and robustness of the assumptions and techniques used to model internal data, integrate internal and external data, generate scenario data, and incorporate business environment and internal control factors into the operational risk measurement system. The Central Bank of Cyprus also assesses some of the issues linked to parameter estimation and validation. The Central Bank of Cyprus discusses with applicants the appropriate interpretation of the data with respect of the quality of the risk measurement system. The Central Bank of Cyprus may ask applicants to undertake additional analyses and may undertake quantitative procedures of its own.
- assesses the use test, internal governance, the role of senior management, the adequacy of internal controls as well as other areas in order to assess the operational

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risk management processes and the qualitative aspects of the risk measurement system that have a bearing on the approval.

- evaluates the reliability and integration of systems, the functionality of the model, and the quality of information provided by systems.

The Central Bank of Cyprus may also rely on work undertaken by the applicant bank's own resources (internal audit, the unit responsible for internal validation of models, model users) or external resources (e.g. external auditors), in order to facilitate some tasks of the whole process and make its assessment more efficient. Without a previous validation carried out by the applicant bank, the Central Bank of Cyprus cannot perform an assessment for AMA and/or IRB approval with a reasonably acceptable supervisory risk. For this reason, validation by the applicant bank becomes a prerequisite for the assessment by the Central Bank of Cyprus.

### **Stage 5: Reporting the results**

The Central Bank of Cyprus, as a consolidating supervisory authority,

- collates progress reports and assesses the overall level of progress.
- assesses whether the supervisory plans need to be revised.
- reports overall progress to host supervisory authorities in accordance with the agreed supervisory plan.

As a host supervisory authority, the Central Bank of Cyprus:

- provides the consolidating supervisory authority with progress reports on the work in accordance with the agreed supervisory plan, and
- informs the consolidating supervisor immediately in the event of significant failings identified in the model application process and if there is a risk that deadlines will not be met.

### **Stage 6: Agreement on decision**

The Central Bank of Cyprus, as a consolidating supervisory authority, agrees with the host supervisory authority on:

- the decision,
- any terms and conditions to be attached to the decision,
- the process for handling rollout, and
- the timeframe for implementing the decision.

After the supervisory assessment, a decision has to be made whether or not to approve the use of the IRB and/or AMA approach for regulatory purposes. Under article 129 (2) of the European Union Directive 2006/48/EC, when an application for IRB and/or AMA permission is submitted by an EU parent institution and its subsidiaries, or jointly by the subsidiaries of an EU parent financial holding company, the competent authorities shall work together, in full consultation, to decide whether or not to grant the permission sought and to determine the terms and conditions, if any, to which the permission should be subject. Furthermore, within six months, the competent authorities shall do everything within their power to reach a joint decision on the application.

A joint decision<sup>2</sup> may contain group-specific or nation-specific terms and conditions. An alternative type of a joint decision could be the dismissal of the application. It is also possible for a permission to be granted without any terms and conditions. The final responsibility for the decision-making process rests with the consolidating supervisory authority. The procedural law of the consolidating supervisory authority's legislation determines the proceedings and the legal form of the decision which shall be provided to the applicant bank.

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<sup>2</sup> It is important to distinguish between 'decision' and 'permission.' While "decision" is the final act in the approval process, as a result of the consultation between the competent authorities, "permission" is the legal form by which this decision, determinative and legally binding on the competent authorities, comes into force in their respective legislation, in other words, "permission" is the transposition of the full content of the "decision" under the standing legal provisions of each country.

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The joint decision shall be set out in a document containing the fully reasoned decision. This document is binding on all supervisory authorities concerned. If the decision is made subject to certain terms and conditions, these need to be clearly articulated in the document. It may also cover recommendations for the possible improvement of any deficiencies revealed during the assessment process. The justification of the decision will contain reference both to the legal framework which, generally, provides for the Central Bank of Cyprus assessment and the application document which effectively triggers the approval process. Although not explicitly required by the CRD, certain issues form, by their natural, part of the decision document. These may include (but are not limited to) the following:

- commentary on the application, with particular reference to the scope of the application and the scope of the models themselves.
- assessment of the application, in particular, with reference to the assessment against the CRD's requirements.
- milestones and recommended or mandatory remedial action, possibly expressed as terms and conditions to the decision, as well as suggestions for the possible improvement of any deficiencies.

In concluding a decision, the Central Bank of Cyprus, as a consolidating supervisory authority, coordinates a timeframe for implementing the decision, having regard to information concerning the transposition of the decision in the countries of the host supervisory authorities

Under article 129 (2) of the European Union Directive 2006/48/EC, the supervisory authorities concerned are required to implement the decision, and they carry full responsibility for doing so within the agreed time frame. The agreed time frame, the arrangements for dealing with portfolios as they are rolled out and the requirements with respect to the use test should be included in the decision document.

**Stage 7: Communication of decision**

The decision process referred to in article 129 (2) of the European Union Directive 2006/48/EC ends when the decision is communicated to the applicant bank. The Central Bank of Cyprus, as a consolidating supervisory authority, draws up a fully reasoned decision document in line with the above principles and communicates it to the applicant bank.

**2.3. Post-approval Phase**

The stages to be followed and the role of the Central Bank of Cyprus during the post-approval process, both as a consolidating and a host supervisory authority, are the following:

- (1) Implementation.
- (2) On-going review.

**Stage 1: Implementation**

Once the approval process has ended, the Central Bank of Cyprus monitors the roll-out plan and any terms and conditions to which the approval is subject. If, after the approval, a new decision (but not necessarily a new approval process) has become necessary due to the fulfilment of or changes in the roll-out plan, the Central Bank of Cyprus cooperates with the host supervisory authorities in the spirit of article 129 (2) of the European Union Directive 2006/48/EC. The same applies for the monitoring of terms and conditions associated with the approval.

After the roll-out period, the fulfilment of terms and conditions attached to the permission is monitored on the basis of consultations between consolidating and host supervisory authorities in line with the Guidelines of the Committee of European Banking Supervisors (CEBS) on Supervisory Cooperation for Cross-Border Banking (GL09).

A proposal to revoke a decision taken under article 129 (2) of the European Union Directive 2006/48/EC can be made by the consolidating supervisory authority, a host supervisory authority, or the applicant bank itself. Such a decision can be revoked by joint agreement of

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the consolidating supervisory and the host supervisory authorities or, in the absence of an agreement, by the consolidating supervisory authority alone. A host supervisory authority cannot revoke such decision acting on its own.

### **Stage 2: On-going review**

The ongoing review of the continuing appropriateness of the models in use shall be conducted within the Pillar 2 framework. The framework for supervisory cooperation follows the process outlined above.

### 3. Cross-border considerations

Cross-border mergers and acquisitions and other structural changes may have an impact on planning the approval process, or even on an approval process that is already underway. In the latter case, such changes could imply a change in the responsibilities of the consolidating supervisory authority as well as the host supervisory authorities.

In such cases:

- it is essential that the consolidating supervisory authority has all relevant information on possible structural changes of the group at the beginning of the approval process. Information on mergers and acquisitions and other structural changes is typically exchanged during the ongoing home-host supervisory process, however, the Central Bank of Cyprus considers that it is useful to update this information at the beginning of the approval process,
- the Central Bank of Cyprus considers that, in a changing environment, effective consultation with all relevant supervisory authorities at a very early stage is important before a detailed step-by-step planning of the approval process,
- in assessing the application, the Central Bank of Cyprus identifies anticipated changes in the responsibilities of the consolidating supervisory authority and/or the host supervisory authorities which will have an impact on the approval process,
- if it is foreseeable that a change of the consolidating supervisory authority will take place during the approval process, the relevant supervisory authorities shall take these changes into account when planning the assessment process (i.e., communication, allocation of tasks, etc.),
- a new approval process shall not be started in case of a change in the consolidating supervisory authority. However, cross-border mergers and acquisitions of institutions, in particular, may justify modifying the approval process,
- a fully reasoned decision to implement IRB or AMA approaches remains valid even after a change of the consolidating supervisory authority, and

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- the legal responsibilities and duties of competent authorities laid down in Article 129 are not altered in the event of structural changes in cross-border groups. Furthermore, the guidelines for cooperation between home and host supervisors shall be implemented, even in such a changing environment.

## **Appendix I: Documents and Information required for an Application to Use the Internal Ratings Based Approach (IRB)**

A bank or banking group applies for permission in order to use the internal rating based approach (IRB) for calculating minimum capital requirement for credit risk.

The application should be addressed to the Senior Manager, Banking Supervision and Regulation Division, Central Bank of Cyprus, 80 Kennedy Avenue, 1076 Nicosia, Cyprus.

The minimum documentation required for such an application falls under the following five headings:

- (a) cover letter by which the applicant bank requests the approval of the Central Bank of Cyprus,
- (b) documentation of the rating systems (including models already in use),
- (c) control environment of the rating systems, implementation procedures, and IT infrastructure,
- (d) implementation plan (including roll-out) and details on permanent partial use, and
- (e) self-assessment.

If any of these documents are not provided by the applicant bank, or if they do not meet the standards set out in these guidelines or any other requirements of the Central Bank of Cyprus, the application shall not be considered as complete. Documents (b) through (e) should provide supporting material. Unless otherwise indicated, the supporting material consists of general information about the implementation of the proposed risk measurement approach.

The supporting material should provide a summary of the applicant bank's current or planned practices in sufficient depth to enable the Central Bank of Cyprus to make an initial supervisory assessment of the application, and to develop a risk-based plan for a more thorough assessment.

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The Central Bank of Cyprus may request more detailed information, either in the initial application or at a later stage, to allow an effective assessment of the application. These documents, as well as all relevant internal documentation, have to be made available to the Central Bank of Cyprus upon request.

### **A. Cover letter**

The cover letter is submitted on behalf of all the legal entities of the banking group jointly applying for permission to use the IRB approach, based on the information contained in the documentation attached thereto.

The cover letter should be signed by an executive director of the parent bank who, according to article 19 of the Banking Laws of 1997 to 2005, is responsible for the effective direction and management of the business of the bank. The Central Bank of Cyprus may require more than one signatory. In such a case, the Central Bank of Cyprus defines the exact person or persons who should sign the application.

The signatory(ies) also confirm that the material, data and information attached to the application is a “true and fair summary” of the subjects covered<sup>3</sup>.

The cover letter should be in Greek language. Nevertheless, the Central Bank of Cyprus may accept, in certain cases, a cover letter in English language. The other documentation in the application should be in a language or languages agreed between the applicant bank, the Central Bank of Cyprus and the host supervisors. If these documents need to be translated, the Central Bank of Cyprus may require the applicant bank to translate them.

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<sup>3</sup> “True and fair summary” means that the document provides only a summary of the topic in question, “true” means that the information contained in the summary is not false or misleading, and “fair” means that the information presents a reasonable overall summary, without omitting material facts.

## **B. Documentation of rating systems**

For an application to use the IRB approach, it is essential that the documentation of rating systems includes, at least:

- a list of all internal documents held by the applicant bank that it considers relevant to the application, including a brief description of their contents, especially, those documenting the design and operational characteristics of the systems and certifying compliance with the minimum requirements set out in the relevant provisions of the Central Bank of Cyprus Directive on the Calculation of the Capital Requirements and Large Exposures.
- a map of the models that the applicant bank will use for each of its portfolios. For IRB, a “map of models” means a statement that explains which exposures, legal entities, and geographical locations are covered (or will be covered) by each rating system, and
- a general description of each of the models. This should include a description of the types of data used, the definitions, classifications and the methodologies used, and quantitative and qualitative assessments.

Additional documentation required for IRB applications include, but not limited to, the information listed in paragraphs 31 to 35 and 110 to 114 of Part 4, Annex VII of Unit A of the Central Bank of Cyprus Directive to Banks for the Calculation of Capital Requirements and Large Exposures, covering the following areas:

- design and operational details,
- major changes in the risk rating process,
- definitions of default and loss,
- use of models obtained from third-party vendors,
- differences, if any, between the parameters used for the calculation of regulatory capital requirements and those used for internal purposes,
- validation of rating systems, and

- model assessment processes.

The list of documents referred to above is intended to be a comprehensive list of the entire internal documentation underlying the validation process, which the bank judges to be relevant to its application. In the case that the applicant bank uses external vendor models, then the applicant bank should incorporate their corresponding validation.

### **C. Control Environment**

The documentation of the control environment, implementation procedures, and the IT infrastructure should, at least, include:

- an overview of the internal governance of the applicant bank (i.e., the role and responsibilities of management, the functions of committees involved in governance, and the role of internal audit),
- the planned use of the different rating systems (how, in practical terms, the applicant bank plans to use different models in its operating activities),
- the process of rating assignment for IRB purposes,
- the responsibilities of the parties involved in modelling,
- an overview of the validation process,
- general information on the applicant bank's IT structure, and
- internal audit reports (if applicable).

The Central Bank of Cyprus may require additional and/or more detailed information.

## **D. Implementation plan**

Applicant banks intending to move to the IRB approach are expected to prepare a meaningful implementation plan (including roll-out), and submit it to the Central Bank of Cyprus as part of the application pack. The implementation plan is a commitment on the part of the applicant bank to implement the IRB approach on the specified dates for all of the rating systems and operations for which it is seeking approval to use the IRB approach. This is an essential part of the application.

The implementation plan (including rollout) for IRB should be broken down at least by supervisory exposure classes, business units, and, if applicable, any IRB parameters that need to be estimated. Internal rules with detailed provisions regarding time and content should be laid down for combinations of the above, in particular for the following:

- development of the rating methodology,
- preparation of the technical concept for IT implementation of the rating methodology,
- IT implementation,
- training of staff, including management staff,
- transition from the existing rating system to the new system on the basis of current business, if a transition is made, and
- formal internal acceptance of the new rating system and its implementation as the rating system of the bank.

In addition, a list of all portfolios which are to be permanently exempted from the IRB approach should be provided. The exempted portfolios should be quantified comprehensively (e.g., number of material counterparties, credit aggregates in the exposure value and risk-weighted exposure amounts).

## **E. Self assessment**

The applicant bank should carry out a self-assessment of its state of readiness based on these guidelines and the standards and minimum requirements set out in the Directive of the Central Bank of Cyprus on the calculation of Capital Requirements and Large Exposures. It should also develop an action plan to fill identified gaps and deficiencies, and a schedule for achieving compliance.

The self-assessment should begin with a global assessment, from a consolidated perspective, of how the various models fit together within the bank or the group. This global assessment should cover the suitability of the organizational structure in terms of internal governance, the adequacy of resources devoted to the rating system, comparability across the group with respect to data and methodology, and consistency in IT organization.

The self-assessment should also cover all the aspects of the rating system i.e. methodology, quality of data, quantitative and qualitative validation procedures, internal governance, and technological environment. The self assessment could be conducted by staff from an independent risk assessment function with the support, if necessary, of auditors or inspectors teams or a combination of all the resources including also the participation of external auditors and consultants.

## **Appendix II: Documents and Information required for an Application to Use the Advanced Measurement Approach (AMA)**

A bank or banking group applies for permission in order to use the Advanced Measurement Approach (AMA) to calculate the minimum capital requirements for operational risk.

The application should be addressed to the Senior Manager, Banking Supervision and Regulation Division, Central Bank of Cyprus, 80 Kennedy Avenue, 1076 Nicosia, Cyprus.

The minimum documentation required for such an application falls under the following five headings:

- (a) cover letter by which the applicant bank requests approval from the Central Bank of Cyprus,
- (b) documentation of the planned operational risk measurement systems (including models already in use),
- (c) control environment of the operational risk measurement system, implementation procedures, and IT infrastructure,
- (d) implementation plan (including roll-out) and details on the use of the method, and
- (e) self-assessment.

If any of these documents are not provided by the applicant bank, or if they do not meet the standards set out in these guidelines or in any other requirements of the Central Bank of Cyprus, the application shall not be considered as complete. Documents (b) through (e) should provide supporting material. Unless otherwise indicated, the supporting material consists of general information about the implementation of the proposed risk measurement approach.

The supporting material should provide a summary of the applicant bank's current or planned practices in sufficient depth to enable the Central Bank of Cyprus to make an initial supervisory assessment of the application, and to develop a risk-based plan for a more thorough assessment.

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The Central Bank of Cyprus may request more detailed information, either in the initial application or at a later stage, to allow an effective assessment of the application. These documents, as well as all relevant internal documentation, have to be made available to the Central Bank of Cyprus upon request.

### **A. Cover letter**

The cover letter is submitted on behalf of all the legal entities of the banking group jointly applying for permission to use the AMA approach based on the information contained in the documentation attached thereto.

The cover letter should be signed by an executive director of the parent bank who, according to article 19 of the Banking Laws of 1997 to 2005, is responsible for the effective direction and management of the bank. The Central Bank of Cyprus may require more than one signatory. In such a case, the Central Bank of Cyprus defines the exact person or persons who should sign the application.

The signatory(ies) also confirm that the material, data and information attached to the application is a “true and fair summary” of the subjects covered<sup>4</sup>.

The cover letter should be in Greek language. Nevertheless, the Central Bank of Cyprus may accept, in certain cases, a cover letter in English language. The other documentation in the application should be in a language or languages agreed between the applicant bank, the Central Bank of Cyprus and the host supervisors. If these documents need to be translated, the Central Bank of Cyprus may require the applicant bank to translate them.

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<sup>4</sup> “True and fair summary” means that the document provides only a summary of the topic in question, ‘true’ means that the information contained in the summary is not false or misleading, and ‘fair’ means that the information presents a reasonable overall summary, without omitting material facts.

## **B. Documentation of operational risk measurement systems**

For an application to use the AMA, it is essential that the documentation of operational risk measurement systems include, at least:

- a list of all internal documents held by the applicant bank that it considers relevant to the application, including a brief description of their contents, especially, those documenting the design and operational characteristics of the systems and certifying compliance with the minimum requirements set out in the relevant provisions of the Central Bank of Cyprus Directive on the Calculation of the Capital Requirements and Large Exposures.
- a map of the models which the applicant bank will use. For AMA, this means a statement that explains which operations and/or operational risks are covered by each model.
- a general description of all the models. This should include a description of the types of data used, including the four AMA elements, the definitions, classifications, and methodologies used, and quantitative and qualitative assessments.
- the allocation of operational risk capital between different entities within the banking group, and the use of diversification effects.
- if the institution uses capital-relief tools, documentation should be provided on the coverage and measurement of expected loss, the bank's operational risk insurance policy or other risk transfer mechanisms, and the use of correlations.

The list of documents referred to above is intended to be a comprehensive list of the entire internal documentation underlying the validation process which the bank judges to be relevant to its application.

### **C. Control Environment**

The documentation of the control environment, implementation procedures, and the IT infrastructure should, at least, include:

- an overview of the internal governance of the applicant bank (i.e., the role and responsibilities of management, the functions of committees involved in governance, and the role of internal audit),
- the planned use of the operational risk measurement systems (how, in practical terms, institutions plan to use different models in its operating activities),
- the responsibilities of the parties involved in modelling,
- an overview of the validation process,
- general information on the applicant bank's IT structure,
- internal audit reports (if applicable).

The Central Bank of Cyprus may require additional and/or more detailed information.

### **D. Implementation plan**

Applicant banks intending to move to an AMA approach are expected to prepare a meaningful implementation plan (including roll-out), and submit it to the Central Bank of Cyprus as part of the application pack. The implementation plan is a commitment on the part of the applicant bank to implement the AMA approach on the specified dates for all of the systems and operations for which it is seeking approval to use the AMA approach. This is an essential part of the application.

As far as the implementation plan (including rollout) for AMA is concerned, internal rules with detailed provisions regarding time and content are to be laid out for the following:

- development of operational risk management processes, especially for data collection.

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- development of the measurement methodology.
- implementation of the IT infrastructure which is used for operational risk management and measurement purposes.
- training of staff, including management staff.
- the 'use test.'

### **E. Self Assessment**

The applicant bank should carry out a self-assessment of its state of readiness based on these guidelines and the standards and minimum requirements set out in the Directive of the Central Bank of Cyprus on the Calculation of Capital Requirements and Large Exposures. It should also develop an action plan to fill identified gaps and deficiencies, and a schedule for achieving compliance.

The self-assessment should begin with a global assessment, from a consolidated perspective, of how the various models fit together within the bank or the group. This global assessment should cover the suitability of the organizational structure in terms of internal governance, the adequacy of resources devoted to the operational risk measurement system, comparability across the group with respect to data and methodology, and consistency in IT organization.

The self-assessment should also cover all the aspects of the operational risk measurement system: methodology, quality of data, quantitative and qualitative validation procedures, internal governance, and technological environment. The self assessment could be conducted by staff from an independent risk assessment function with the support, if necessary, of auditors or inspectors teams, or a combination of all the resources including also the participation of external auditors and consultants.