



EBA/RTS/2015/02

---

03 June 2015

---

## FINAL Report

---

Final Draft Regulatory Technical Standards on the specification of the assessment methodology under which competent authorities permit institutions to use Advanced Measurement Approaches (AMA) for operational risk in accordance with Article 312 of Regulation (EU) No 575/2013

---

# Contents

---

<b>1. Executive Summary</b>	<b>3</b>
<b>2. Background and rationale</b>	<b>5</b>
<b>3. EBA draft Regulatory Technical Standards on the specification of the assessment methodology under which competent authorities permit institutions to use Advanced Measurement Approaches for operational risk in accordance with Article 312 (4) (a) of Regulation (EU) No 575/2013</b>	<b>8</b>
<b>4. Accompanying documents</b>	<b>54</b>
4.1 Impact Assessment	54
4.2 Views of the Banking Stakeholder Group (BSG)	62
4.3 Feedback on the public consultation and on the opinion of the BSG	63

# 1. Executive summary

---

Regulation (EU) No 575/2013 (Capital requirements regulation, CRR) sets out requirements relating to the assessment under which the competent authorities permit institutions to use Advanced Measurement Approaches (AMA) for own funds calculation and requirements for operational risk and, in Article 312(4)(a), mandates the EBA to prepare draft regulatory technical standards (RTS) in this area.

These draft RTS are targeted at competent authorities in relation to institutions that want to use or are already using AMA for regulatory purposes. Competent authorities will only grant permission to use AMA where institutions prove that all the relevant qualitative and quantitative requirements set out in these RTS have been met. Competent authorities will also assess whether institutions meet these requirements on an ongoing basis following the granting of permission.

Article 85(1) of Directive 2013/36/EU (Capital requirements directive, CDR) requires institutions to articulate what constitutes operational risk, as defined by the CRR, for the purposes of implementing policies and processes to evaluate and manage the exposure to operational risk. With a view to ensuring uniform application across the European Union of the scope of operational risk, and avoiding inconsistencies in the determination of institutions' operational risk profile, these RTS set out common standards for the supervisory assessment of an institution's classification, identification, collection and treatment of operational risk events for management and measurement purposes.

Article 74 of the CRD and Article 321 of the CRR prescribe certain guidance that should be addressed by the institution's governance and risk management framework. Pursuant to these articles, these RTS also introduce common standards for the supervisory assessment of the qualitative elements of an AMA framework, in particular with respect to the role and responsibilities of the operational risk management function, the 'use test' requirement, the data quality and IT systems, and the scope of audit and validation functions.

Operational risk modelling is a relatively new and evolving discipline, and it should be taken into account that for this reason Article 322 of the CRR grants an institution significant flexibility in building the operational risk measurement system for calculating the AMA regulatory capital. This flexibility, however, should not be conducive to significant differences across institutions in the key components of the measurement system.

These RTS therefore set out standards for the supervisory assessment of these components, with the view of ensuring that the operational risk measurement system is based on a well-founded methodology, is effective in capturing the institutions' actual and potential operational risk, is reliable and robust in generating AMA regulatory capital requirements and is comparable across institutions.

These RTS will replace all the following Committee of European Banking Supervisors (CEBS) guidelines that address AMA institutions: the 'Guidelines on the Implementation, Validation and Assessment of Advanced Measurement (AMA) and Internal Ratings Based (IRB) Approaches' (GL-10 CEBS, issued in 2006), limited to Section 4.3 and Annexes IV and V, the 'Compendium of Supplementary Guidelines on implementation issues of operational risk' (GL-21 CEBS, issued in September 2009), limited to the individual guidance papers 'Guidelines on the use test for AMA institutions' and 'Guidelines on the allocation of the AMA capital', and the 'Guidelines on Operational Risk Mitigation Techniques' (GL-25 CEBS, issued on 22 December 2009). These RTS also rely on:

- the 'Guidelines on the scope of operational risk and operational risk loss', included in the above mentioned CEBS 'Compendium of Guidelines', which will be replaced by these RTS for the parts referring to the AMA institutions only<sup>1</sup>;
- the Basel Committee on 'Operational Risk – Supervisory Guidelines for the Advanced Measurement Approaches' (issued in June 2011) and 'Recognizing the risk-mitigating impact of insurance in operational risk modelling' (issued in October 2010);
- the standards published by industry consortia for the collection and reporting of operational risk data; and
- the experience gained by the supervisors since these Guidelines were issued.

The EBA believes that all EU Member States should assess the permission to use the AMA for operational risk in the same way in view of the establishment of the Single Rulebook, and believes these RTS will encourage this objective.

A public consultation of the draft RTS was held from 12 June to 12 September 2014, and a public hearing on 15 July 2014. 25 responses were submitted, of which 20 have been published on the EBA website. The document generally received a positive feedback from the industry; most respondents supported the EBA's attempt to establish a single document with a set of standards which promote convergence in the assessment methodologies of AMA frameworks. However, many respondents requested the clarification of certain items and provisions and the introduction of a number of amendments to better align the standards with the current practices. The revised RTS take into account most of the comments received while, at the same time, providing a more direct and clearer link of the standards with the related AMA qualitative and quantitative requirements laid down in the CRD and the CRR.

---

<sup>1</sup> The 'Guidelines on the scope of operational risk and operational risk loss' will therefore continue to be valid with regard to the parts that do not strictly refer to AMA institutions.

## 2. Background and rationale

---

1. For the purposes of own funds requirements for operational risk, Article 312(2) of Regulation (EU) No 575/2013 (CRR) allows competent authorities to permit institutions to use an AMA based on institutions' operational risk measurement systems, provided that all qualitative and quantitative standards set out in Articles 321 and 322 of the CRR are met and provided that institutions meet the general risk management standards set out in Articles 74 and 85 of Directive 2013/36/EU (CRD)<sup>2</sup>.
2. According to Article 312(4) of the CRR the EBA is required to develop draft technical standards, to be submitted by the EBA to the Commission, to specify the following:
  - (a) the assessment methodology under which the competent authorities permit institutions to use Advanced Measurement Approaches;
  - (b) the conditions for assessing the materiality of extensions and changes to the Advanced Measurement Approaches;
  - (c) the modalities of the notification required in Article 312(3) of the CRR.
3. The EBA has developed these draft RTS on assessment methodologies for the AMA in accordance with the mandate contained in Article 312(4)(a) of the CRR. Points (b) and (c) of this Article have been included in the RTS on the 'Conditions for assessing the materiality of extensions and changes of internal approaches when calculating own funds requirements for credit and operational risk', which were adopted by the Commission on 12 March 2014, on the basis of the draft RTS prepared by the EBA<sup>3</sup>. These draft RTS should therefore be read in conjunction with the RTS on the 'Conditions for assessing the materiality of extensions and changes of internal approaches when calculating own funds requirements for credit and operational risk'.
4. Similar mandates exist for credit and market risk models, which are currently under development.
5. These RTS should enable harmonisation across all EU Member States in assessing the permission for institutions to use, and to continue to use, the AMA for operational risk.

---

<sup>2</sup> OJ L 176, 27.6.2013, p. 338.

<sup>3</sup> <http://www.eba.europa.eu/regulation-and-policy/model-validation/draft-regulatory-technical-standards-on-the-conditions-for-assessing-the-materiality-of-extensions-and-changes>

## Main points of the final draft RTS

6. Under an AMA, an institution uses its own internal model to calculate capital requirements with respect to its operational risk profile. The elements used to determine the operational risk profile of an institution comprise operational risk data gathered internally – actual and constructed – and operational risk data taken from external sources. This profile, in turn, depends on how institutions ‘articulate’ what constitutes operational risk as required by Article 85(1) of the CRD. However, neither the CRD nor the CRR provide further indications of the ‘scope of operational risk’, leaving the definitions open to different interpretations and allowing institutions to choose how they are implemented. This can have consequences in relation to operational risk regulatory capital and management practices as well as with regard to supervisory assessment purposes, since institutions that have similar events and losses in operational risk may come up with significant differences in terms of operational risk profile and associated AMA regulatory capital.
7. With a view to ensuring uniform application across the European Union of the scope of operational risk, and avoiding inconsistencies in the determination of institutions’ operational risk profile, these RTS set out common standards for the supervisory assessment of an institution’s classification, identification, collection and treatment of operational risk events and losses for management and measurement purposes. Competent authorities must refer to these criteria when assessing whether an institution AMA framework is effective in capturing and representing its operational risk profile.
8. Sound operational risk management is a reflection of the effectiveness of the management body and senior management in administering its portfolio of products, activities, processes and systems and is the foundation of an effective operational risk management framework. Article 74 of the CRD and Article 321 of the CRR prescribe certain guidance that should be addressed by the institution’s governance and risk management framework. Pursuant to these articles, these RTS also introduce common standards for the supervisory assessment of the qualitative elements of an AMA framework, in particular with respect to the role and responsibilities of the operational risk management function, the ‘use test’ requirement, the data quality and IT systems and the scope of audit and validation functions. In particular, standards on data quality and IT systems are called for since, unlike for other types of risk, the data relating to operational risk are not readily available, but need to be first identified within an institution’s books and archives and then properly gathered and maintained. Furthermore, the operational risk measurement system is typically very sophisticated and envisages several logical and computational steps for the generation of the AMA capital.
9. Operational risk modelling is a relatively new and evolving discipline, and each institution has a certain degree of flexibility in building its operational risk measurement system. However, this flexibility should not favour the development and implementation of ineffective, inconsistent or insufficiently risk sensitive internal risk models. For example, Article 322(2)(b) of the CRR requires an institution adopting the AMA to use the four elements – internal data, external data, scenario analysis and business environment and internal control factors – as inputs to its

operational risk measurement system; however, it does not clarify the manner in which these elements should be combined to calculate the AMA own funds requirements. Therefore these RTS set out standards for the supervisory assessment of key components of the operational risk measurement system, aimed at ensuring that the system is based on a well-founded methodology, effective at capturing the institutions' actual and potential operational risk, reliable and robust in generating AMA regulatory capital requirements and comparable across institutions.

### 3. EBA draft Regulatory Technical Standards on the specification of the assessment methodology under which competent authorities permit institutions to use Advanced Measurement Approaches (AMA) for operational risk in accordance with Article 312(4)(a) of Regulation (EU) No 575/2013

---



**COMMISSION DELEGATED REGULATION (EU) No .../..****of XXX****supplementing Regulation (EU) No 575/2013 of the European Parliament and of the Council with regard to regulatory technical standards on the specification of the assessment methodology under which competent authorities permit institutions to use Advanced Measurement Approaches for operational risk**

(Text with EEA relevance)

## THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,  
Having regard to Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012<sup>4</sup>, and in particular the third subparagraph of Article 312(4), in relation to point (a) thereof,

Whereas:

- (1) For the purposes of own funds requirements for operational risk, the first subparagraph of Article 312(2) of Regulation (EU) No 575/2013 provides that competent authorities shall permit institutions to use Advanced Measurement Approaches ('AMA') based on the institutions' own operational risk measurement systems, where they meet all of the qualitative and quantitative standards set out in that Article, implying compliance of institutions with these requirements at all times. As a result, such an assessment does not only relate to the initial application of an institution for the permission to use the AMA, but also applies on an on-going basis.
- (2) The various elements constituting an institution's AMA framework should not be considered in isolation but rather reviewed and assessed as a package of interwoven elements, so that competent authorities are satisfied with an adequate level of compliance in relation to each part of the framework.
- (3) Article 85(1) of Directive 2013/36/EU requires institutions to articulate what constitutes operational risk, as defined in Article 4(1), point (52) of Regulation (EU) No 575/2013, for the purposes of implementing policies and processes to evaluate and manage the exposure to operational risk. That definition of operational risk in Regulation (EU) No 575/2013 and the Article 85(1) of Directive 2013/36/EU include legal risk and model risk, respectively, in operational risk. According to point (11) of Article 3(1) of Directive 2013/36/EU, model risk refers to potential losses owed to errors in the development, implementation or use of internal models, and as such does not include potential losses owed to valuation adjustments from model risk as referred to in Article 105 of Regulation (EU) No 575/2013 on prudent valuation or in the Regulatory Technical Standards developed

---

<sup>4</sup> OJ L 176, 27.6.2013, p.1.

in accordance with Art 105(14) of that Regulation. However no further indications are provided in Regulation (EU) No 575/2013 on how competent authorities should verify that institutions comply with the obligation of the articulation of operational risk when related to legal risk and model risk in an appropriate manner. As a result, rules specifying the assessment methodology for competent authorities in order to permit institutions to use the AMA, should include further elaboration on this point.

- (4) Moreover it is necessary to harmonise supervisory approaches with regard to the correct ‘articulation’ of operational risk in financial transactions, including those related to market risk, as the operational risks of these transactions are proved to be sizeable and their drivers, typically of multifaceted nature, may be not consistently detectable and recordable as such throughout the Union.
- (5) Article 74 of Directive 2013/36/EU and Article 321 of Regulation (EU) No 575/2013 prescribe certain standards that should be addressed by the institution’s governance and risk management framework. In this respect the methodology for AMA assessment should verify that the institution has a clear organisational structure for the governance and management of operational risk with well-defined, transparent and consistent lines of responsibility taking into account the nature, scale and complexity of the activities of the institution. In particular, it should be verified that the operational risk management function plays a key role in identifying, measuring and assessing, monitoring, controlling and mitigating the operational risks faced by the institution and that it is sufficiently independent from the institution’s business units to ensure that its professional judgement and recommendations are both independent and impartial. Moreover it should be assessed whether senior management is responsible for developing and implementing the operational risk governance and management framework that has been approved by the management body; whether such framework is consistently implemented throughout the institution’s organisation; and whether all staff levels are given adequate tools and information in order to understand their responsibilities with respect to operational risk management.
- (6) Effective internal reporting systems are a prerequisite of sound internal governance. As a result, with regard to operational risk, competent authorities should ensure that an institution applying for AMA permission adopts effective risk reporting systems not only to the management body and senior management but also to all the functions responsible for the management of operational risks which the institution is, or might be, exposed to. The reporting system should reflect the up-to-date status of operational risk issues at the institution and should include all material aspects of operational risk management and measurement.
- (7) Pursuant to Article 321(a) of Regulation (EU) No 575/2013, an institution’s internal operational risk measurement system has to be closely integrated into its day-to-day risk management processes. As a result, competent authorities should ensure that an institution applying for an AMA permission actually uses its operational risk measurement system not solely for the purpose of calculating the own funds requirements for operational risk, but also for its day-to-day business process and for risk management purposes on an on-going basis. As a result, rules on the AMA supervisory assessment should include rules on the supervisory expectations to be met by an AMA institution as regards the ‘use test’.

- (8) Moreover, in order to provide both institutions and competent authorities with evidence that an institution's operational risk measurement system is reliable and robust and generates more credible operational risk own funds requirements than the simpler operational risk regulatory methodology, competent authorities should also verify, as part of the AMA assessment, that the institution has compared, for a certain period of time, the operational risk measurement system against the simpler regulatory methodology. This period should be sufficient enough to permit the competent authority to establish that the institution meets the qualitative and quantitative standards laid down in the Regulation (EU) No 575/2013 for the use of an AMA.
- (9) Pursuant to Article 322(g) of Regulation (EU) No 575/2013, an institution's data flows and processes associated with the AMA measurement system should be transparent and accessible. Unlike other types of risks, the data relating to operational risk are not immediately available but need to be first identified within an institution's books and archives, and then properly gathered and maintained. Furthermore, the measurement system is typically very sophisticated and envisages several logical and computational steps for the generation of the AMA own funds requirements. In this respect the methodology for AMA assessment should verify that the data quality and IT systems are properly designed and correctly implemented within an institution so as to serve the purpose for which they are built.
- (10) Pursuant to Article 321(e) and (f) of Regulation (EU) No 575/2013, an AMA framework has to be subject to internal validation and audit reviews. Although the organisational structure of the internal validation and audit functions can vary depending on an institution's nature, complexity and business, it should be ensured that the methodology for AMA assessment of the reviews undertaken by these functions adheres to common criteria as to the terms and scope of such reviews.
- (11) Operational risk modelling is a relatively new and evolving discipline and it should be taken into account that for this reason Article 322 of Regulation (EU) No 575/2013 grants an institution significant flexibility in building the operational risk measurement system for calculating the AMA regulatory capital. This flexibility, however, should not be conducive to significant differences across institutions in the key components of the measurement system: the use of the four elements (i.e. internal data, external data, scenario analysis and business environment and internal control factors); the core modelling assumptions that permit capturing severe tail events and the related risk drivers (i.e. the building of the calculation data set, the granularity, the identification of the loss distributions and the determination of aggregated loss distributions and risk measures); the expected loss, the correlation and the criteria for capital allocation which should ensure a measurement system's internal consistency. Therefore, with the view to ensuring that the risk measurement system is methodologically well founded, comparable across the institutions, effective in capturing the institutions' actual and potential operational risk and reliable and robust in generating AMA regulatory capital requirements, the methodology for AMA assessment should provide that the same criteria and requirements are applied by the competent authorities across the Union. The AMA assessment methodology should also adequately take into consideration the

idiosyncratic components of operational risk that are related to the institutions' different size, nature and complexity.

- (12) With particular regard to the internal data, consideration should be given to the fact that even though an operational risk loss can arise only from an operational risk event, its occurrence may be revealed by different items, such as direct charges, expenses, provisions, uncollected revenues. Whilst some operational risk events have a quantifiable impact and are reflected in the institution's financial statements, others are not quantifiable and do not affect the institution's financial statements and are therefore detectable from other sources such as managerial archives and incidents dataset. Therefore rules specifying the assessment methodology for competent authorities in order to permit institutions to use the AMA should specify what constitutes an operational risk loss and what should be the amount to be recorded for AMA purposes and, more in general, all the potential items that could reveal the occurrence of operational risk events.
- (13) Sometimes, institutions are able to recover in a very timely fashion emerging operational risk losses. As a result, these rapidly recovered losses should not be considered for the purposes of calculating the AMA own funds requirements, even although they may be useful for management purposes. Since there are various criteria that institutions use to qualify losses as rapidly recovered, rules on the AMA assessment methodology should include rules clarifying, in a similar manner for all competent authorities, what are the appropriate criteria for qualifying losses as rapidly recovered.
- (14) Pursuant to Article 323 of Regulation (EU) No 575/2013, risk mitigation techniques may be recognised by competent authorities within the AMA provided that certain conditions are fulfilled. In order to avoid circumvention of the rules relating to these mitigation techniques, specific standards should be followed by competent authorities when assessing the respect of these rules by an institution. In particular where these mitigation techniques are in the form of insurance, it is necessary to ensure that such insurance is provided by insurance firms authorised in the Union or in jurisdictions with equivalent regulatory standards for insurance firms, as those applicable in the Union.
- (15) Moreover, where the risk mitigation techniques are in the form of other risk transfer mechanisms than insurance, competent authorities should ensure that such mechanisms are actually transferring risk and are not used with the view to circumventing the AMA own fund requirements. This condition is necessary in light of the peculiarities of operational risk, where there are no clear underlying assets of reference and where unexpected losses play a greater role than in other types of risk. This is further exacerbated in light of the lack of an efficient, liquid, and structured market for operational risk 'products' which thus far have been traded outside the banking sector, such as catastrophe bonds and weather derivatives. Finally often there is a great difficulty in assessing the legal risk of these mechanisms, even where the terms and conditions of these contracts are clearly and carefully spelt out.
- (16) To ensure a smooth transition for institutions that already have permission to use the AMA or that have applied for a permission to use the AMA before the entry into force of this Regulation, it should be provided that competent authorities apply

this Regulation in relation to the assessment of the AMA of these institutions only after a certain transitional period. Given that the regular review of the AMA referred to in Article 101(1) of Directive 36/2013/EU is normally carried out on an annual basis, that transitional period should be set to at least a year from the date of entry into force of this Regulation.

- (17) Institutions that use Gaussian or Normal-like distributions for recognising correlation within all or parts of their AMA should no longer use them in the context of their AMA as these assumptions would imply tail independence among operational risk categories, thus excluding the possibility of simultaneous occurrence of large losses of different types, an assumption which is neither prudent nor realistic. As a result, enough time should be allowed for the smooth transition of these institutions to a new regime where more conservative assumptions, implying positive tail dependence, are introduced within the operational risk measurement system. Given that the implementation of these assumptions might require modification of some key elements, and the related procedures, of the AMA framework, it would be appropriate to allow two years for that transition.
- (18) This Regulation is based on the draft regulatory technical standards submitted by the European Banking Authority to the Commission.
- (19) The European Banking Authority has conducted open public consultations on these draft regulatory technical standards, analysed the potential related costs and benefits and requested the opinion of the Banking Stakeholder Group established in accordance with Article 37 of Regulation (EU) No 1093/2010 of the European Parliament and of the Council<sup>5</sup>

HAS ADOPTED THIS REGULATION:

## **CHAPTER 1**

### **GENERAL RULES FOR THE ASSESSMENT METHODOLOGY**

#### *Article 1*

##### *Scope*

Competent authorities shall assess the compliance of an institution with the requirements to use Advanced Measurement Approaches, referred to in point (a) of Article 312(4) of Regulation (EU) No 575/2013, in accordance with the requirements established in this Regulation.

---

<sup>5</sup> Regulation (EU) No 1093/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Banking Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/78/EC (OJ L 331, 15.12.2010, p. 12).

## Article 2

### *Quality and auditability of documentation*

1. In the course of the assessment referred to in Article 1, and in particular for the purposes of assessing whether an institution complies with the requirements on documentation of the risk management system, as referred to in Article 321(d) of Regulation (EU) No 575/2013, competent authorities shall verify the quality and auditability of the documentation on the AMA with regard to the relevant parts of this Regulation, in accordance with paragraphs 2 and 3.
2. In assessing the quality of the documentation referred to in paragraph 1, competent authorities shall verify that it is sufficiently detailed and accurate in order to allow the examination of the AMA by third parties and shall, in particular, verify that:
  - (a) the documentation is approved at the appropriate management level of the institution;
  - (b) the institution has in place policies outlining specific standards to ensure high quality of internal documentation, and that there is specific accountability for ensuring that the documentation maintained is complete, consistent, accurate, updated, approved and secure;
  - (c) the layout of the documentation set out in the policy referred to in point (b) provides for the identification of at least the following items: type of document; author; reviewer; authorising agent and owner; dates of development and approval; version number; and history of changes to the document;
  - (d) the institution adequately documents its policies, procedures and methodologies, referred to in this Regulation.
3. In assessing the auditability of the documentation referred to in paragraph 1, competent authorities shall verify in particular that:
  - (a) the documentation of the AMA design is sufficiently detailed to allow third parties to understand the reasoning and procedures underlying its development;
  - (b) the documentation of the AMA is sufficiently detailed in order to allow third parties to understand how the process of measuring operational risk in order to determine the AMA own funds requirements ('operational risk measurement system') operates, its limitations and key assumptions and to replicate the model development.

## CHAPTER 2

### SCOPE OF OPERATIONAL RISK

#### *Article 3*

##### *General*

In assessing whether an institution properly articulates what constitutes operational risk for the purposes of implementing policies and processes to evaluate and manage the exposure to operational risk, as required by the last sentence of Article 85(1) of Directive 2013/36/EU, competent authorities shall verify in particular that:

- (a) the institution identifies, collects and treats data on operational risk events and losses that are related to legal risk, for the purposes of both management of operational risk and calculation of the AMA own funds requirements, in accordance with Article 4;
- (b) the institution identifies, collects and treats data on operational risk events and losses that are related to model risk, as referred to in Article 85(1) of Directive 2013/36/EU, for the purposes of both management of operational risk and calculation of the AMA own funds requirements, in accordance with Article 5;
- (c) the institution identifies, collects and treats data on operational risk events and losses that are related to financial transactions including those related to market risk, for the purposes of both management of operational risk and calculation of the AMA own funds requirements, in accordance with Article 6.

#### *Article 4*

##### *Operational risk events related to legal risk*

1. In assessing whether an institution identifies, collects and treats data on operational risk events and losses that are related to legal risk, as referred to in Article 3(a), competent authorities shall verify that the institution classifies as such, in particular, losses or other expenses that are triggered by the breach of rules resulting in legal proceedings or in other voluntary actions on behalf of the institution undertaken with the view to avoiding upcoming legal risks.
2. For the purposes of paragraph 1, situations in which a breach of a rule shall be assumed to have occurred include where the breach arises from changes to legal or regulatory requirements, where an act has been omitted which is necessary to comply with the rule, where steps have been taken to avoid compliance with the rule, and, where the breach arises from actions or omissions in the supply of financial services, whether or not those actions or omissions were deliberate or negligent ('misconduct events').

3. For the purposes of paragraph 1, rules shall be considered to be all obligations for the institution deriving from statutory or legislative provisions, of national or international origin, or from contractual arrangements, or internal rules and ethical conduct, deriving from national or international norms and practices.
4. For the purposes of paragraph 1, legal proceedings shall be considered to be legal settlements, either judicial, or out of court, such as arbitration, or claims' negotiations.
5. For the purposes of paragraph 1, other voluntary actions on behalf of the institution undertaken with the view to avoiding upcoming legal risks shall be considered to be, in particular, refunds, or discounts of future services offered to customers voluntarily, and without the customers lodging any complaints, due to requirements being imposed on the institution to refund other customers for the same operational risk event.
6. For the purposes of paragraph 1, other expenses shall be considered to be losses from errors and omissions in contracts and documentation.
7. In assessing whether an institution identifies, collects and treats data on operational risk events and losses that are related to legal risk, as referred to in Article 3(a), competent authorities shall also verify that the institution does not classify as such:
  - (a) refunds to third parties or employees and goodwill payments due to business opportunities, where no breach of any rules or ethical conduct has occurred, and where the institution has fulfilled its obligations, such as reminding the clients or counterparts of their obligations on a timely basis;
  - (b) external legal costs where the underlying event is not an operational risk event.

#### *Article 5*

##### *Operational risk events related to model risk*

1. In assessing whether the institution identifies, collects and treats data on operational risk events and losses that are related to model risk, as referred to in Article 3(b), competent authorities shall verify that the institution classifies as such operational risk events, and the related losses, resulting from models used for decision-making, such as product pricing, financial instruments evaluation or hedging, and risk limits monitoring, and in particular:
  - (a) improper definition of a model and its characteristics, or inadequate verification of its suitability for the financial instrument to be evaluated or the product to be priced as well as its appropriateness for the current market conditions;
  - (b) errors in the implementation of a selected model;
  - (c) incorrect mark-to-market valuations and risk measurement, due to erroneous booking of a trade into the trading system;



- (d) use of a model or its outputs for a purpose for which it was not intended or designed, including manipulation of the modelling parameters;
  - (e) inappropriate on-going monitoring of model performance to confirm the model remains fit for purpose.
2. In assessing whether the institution identifies, collects and treats data on operational risk events and losses that are related to model risk, as referred to in Article 3(b), competent authorities shall also verify that the institution does not classify as operational risk events and losses related to model risk those events related to the under-estimation of own funds requirements by regulatory approved internal models.

### *Article 6*

#### *Operational risk events related to financial transactions including those related to market risk*

In assessing whether an institution identifies, collects and treats data on operational risk events and losses that are related to financial transactions including those related to market risk, as referred to in Article 3(c) competent authorities shall verify that the institution classifies as such, in particular, events due to operational and data entry errors, events due to failures in internal controls and events due to inadequate data quality and unavailability of IT environment, and more in particular:

- (a) failures and errors during the introduction or execution of orders;
- (b) errors in classification due to data entry errors or the software used by the front and middle office of the institution;
- (c) incorrect specification of deals in the term-sheet, such as errors related to the transaction amount, maturities and financial features;
- (d) loss of data or misunderstanding of the data flow from the front to the middle and back offices of the institution;
- (e) technical unavailability of access to the market, which render it impossible to close contracts;
- (f) failures in properly executing an order to unwind a market position in case of adverse price movements ('stop loss');
- (g) unauthorised positions taken in excess of allocated limits, irrespective of the type of risk they relate to.

## CHAPTER 3

### QUALITATIVE STANDARDS - GOVERNANCE AND OPERATIONAL RISK MANAGEMENT

#### SECTION 1

#### GOVERNANCE

##### *Article 7*

##### *Governance structure*

1. In order to assess whether, in respect of operational risk, the governance arrangements of an institution comply with the requirements referred to in Articles 74 and 85 of Directive 2013/36/EU and in Article 321(1), points (b) and (c) of Regulation (EU) No 575/2013, competent authorities shall examine all parts of the institution's AMA framework, in order to verify that the institution has a clear organisational structure for the governance and management of operational risk with well-defined, transparent and consistent lines of responsibility taking into account the nature, scale and complexity of the activities of the institution and, in particular, that:
  - (a) the process of identifying, assessing, monitoring and reporting, controlling and mitigating operational risk ('operational risk management process') employed by the institution is appropriate and effective, in accordance with Article 8;
  - (b) the operational risk management function is independent from the institution's business units, in accordance with Article 9;
  - (c) the senior management involvement with operational risk is active and consistent, in accordance with Article 10;
  - (d) the reporting of the representation at a given point in time of the institution's actual and prospective operational risk ('operational risk profile') and of the management of operational risk is regular, timely and sufficient and includes all material aspects of operational risk management and measurement, in accordance with Article 11.
2. For the purposes of the assessment referred to in paragraph 1, competent authorities shall examine the governance structure as a whole and not merely the individual parts separately.
3. For the purposes of the assessment referred to in paragraph 1, competent authorities shall carry it out on the basis of the impact of the operational risk governance structure on behaviour, engagement in operational risk management and culture, and shall examine, more in particular:

- (a) the level of awareness, on behalf of the staff of the institution, of operational risk policies and procedures;
- (b) the institution's internal process for challenging the design and the effectiveness of the AMA framework.

### *Article 8*

#### *Operational risk management process*

1. In assessing whether the operational risk management process employed by the institution is appropriate and sufficient as referred to in point (a) of Article 7(1), competent authorities shall verify, in particular, that:
  - (a) the institution's management body discusses and approves the governance of operational risk, the operational risk management process and the operational risk measurement system;
  - (b) at least on an annual basis the institution's management body discusses and approves:
    - (i) the institution's forward looking view of the aggregate level and types of operational risk that the institution is willing or prepared to incur which will not jeopardise its strategic objectives and business plan ('operational risk tolerance');
    - (ii) the institution's written statement on the aggregate level of operational risk loss and event types - containing both qualitative and quantitative measures, such as thresholds and limits based on operational risk loss metrics - that the institution is willing or prepared to incur in order to achieve its strategic objectives and business plan ('operational risk tolerance statement'), ensuring that it is clear and understood throughout the institution;
  - (c) the institution's management body monitors on a continuous basis the institution's performance against the operational risk tolerance statement;
  - (d) the institution has an on-going process to identify, assess and measure, monitor and report operational risk, including misconduct events, and it is able to identify the responsible staff for all parts of this process;
  - (e) the information resulting from the process referred to in point (d) is transmitted to the relevant committees and executive bodies and that any decision arising from these committees is duly communicated to those areas within the institution that collect, control and monitor operational risk and those that manage activities that give rise to operational risk;
  - (f) at least on an annual basis, the institution carries out an evaluation of the effectiveness of the operational risk governance, the operational

risk management process and the operational risk measurement system, and notifies the relevant competent authority of its findings.

### *Article 9*

#### *Independent operational risk management function*

In assessing the independence of the operational risk management function from the institution's business units, as referred to in point (b) of Article 7(1), competent authorities shall verify, in particular, that:

- (a) the operational risk management function undertakes, and separately from the institution's business lines the following tasks:
  - (i) the design, development, implementation, maintenance and oversight of the operational risk management process and the operational risk measurement system;
  - (ii) analysis of the operational risk associated with the introduction and development of new products, markets, lines of business, processes, systems and significant changes to existing products;
  - (iii) the oversight of business activities that may give rise to an operational risk exposure that could breach the institution's risk tolerance;
- (b) the operational risk management function receives appropriate commitment by the management body and senior management and is of adequate stature within the organization for fulfilling its tasks;
- (c) the operational risk management function is not responsible for the audit function, taking into account the audit function's role in challenging the AMA framework;
- (d) the head of the operational risk management function meets all of the following requirements:
  - (i) is appropriately experienced for the operational risk profile;
  - (ii) is in regular contact with the management body and its committees, depending on the delegation of authority and the risk management structure of the institutions;
  - (iii) is actively involved in the elaboration of an institution's operational risk tolerance as well as in the strategy for its management and mitigation;
  - (iv) is independent from the operational units and functions reviewed by the operational risk management function;
  - (v) is allocated a budget for the operational risk management function by the chief risk officer or a sponsoring member of the management body in a supervisory capacity and not by a business unit or executive function.

## *Article 10*

### *Senior management involvement*

In assessing whether the involvement of the senior management of the institution with operational risk is active and consistent as referred to in point (c) of Article 7(1), competent authorities shall verify that the senior management of the institution meets both of the following requirements:

- (a) it is responsible for implementing the operational risk governance and management framework approved by the management body and that it actually is implementing them;
- (b) it has been delegated the responsibility by the management body to develop policies, processes and procedures for managing operational risk and that it actually is implementing them.

## *Article 11*

### *Reporting*

1. In assessing whether the reporting of an institution's operational risk profile and of the management of operational risk is regular, timely and sufficient and includes all material aspects of operational risk management and measurement as referred to in point (d) of Article 7(1), competent authorities shall verify the timeliness, accuracy, relevance, and comprehensiveness in identifying problem areas of the institution's reporting systems and internal controls.
2. For the purposes of paragraph 1 competent authorities shall in particular verify that:
  - (a) the reports are distributed to appropriate levels of management and to areas of the institution which the reports have identified as an area of concern;
  - (b) the institution's senior management receives at least quarterly reports, reflecting the up-to-date status of the institution's operational risk profile and uses these reports in the decision making process;
  - (c) the institution's operational risk reports contain relevant management information and at least a high-level summary of the top operational risks of the institution and of the relevant subsidiaries as well as business units;
  - (d) the institution uses ad hoc reports in case of certain deficiencies in the policies, processes and procedures for managing operational risk in order to promptly detect and address these deficiencies and therefore substantially reduce the potential frequency and severity of a loss event.

## SECTION 2

### USE TEST

#### *Article 12*

##### *General*

In order to assess whether an institution's internal operational risk measurement system is closely integrated into its day-to-day risk management process as referred to in Article 321(a) of Regulation (EU) No 575/2013, competent authorities shall verify in particular that:

- (a) the institution actually uses the AMA for internal purposes and not only for regulatory purposes, in accordance with Article 13;
- (b) the institution ensures that integration of its operational risk measurement system into its day-to-day risk management processes is done on a continuous basis, in accordance with Article 14;
- (c) the institution uses the AMA to support its operational risk management, in accordance with Article 15;
- (d) the institution uses the AMA to further enhance its operational risk organization and control, in accordance with Article 16;
- (e) the institution demonstrates the stability and robustness of the AMA output by comparing the AMA own funds requirements to the own funds requirements resulting from its previous regulatory regime, in accordance with Article 17.

#### *Article 13*

##### *Current actual use of the AMA*

In assessing whether the institution actually uses the AMA for internal purposes and not only for regulatory purposes, as referred to in Article 12(a), competent authorities shall verify in particular that:

- (a) an institution's operational risk measurement system is used to manage operational risks across different business lines, units or legal entities within the organisation structure;
- (b) the operational risk measurement system is embedded within the various entities of the group and, where it is used at consolidated level, that the parent institution's AMA framework is rolled out to the subsidiaries, and that those subsidiaries' operational risk and business environment and internal control factors are incorporated in the group-wide AMA calculations;

- (c) the operational risk measurement system is used also for the purposes of the institution's internal capital adequacy assessment process in accordance with Article 73 of Directive 2013/36/EU.

#### *Article 14*

##### *Continuous integration of the AMA with evolving nature of the institution*

In assessing whether the institution ensures the integration of its operational risk management system into its day-to-day risk management processes is done on a continuous basis, as referred to in Article 12(b), competent authorities shall verify that the institution adapts the AMA to the experience it gains with risk management techniques and solutions, and shall verify in particular that:

- (a) the operational risk measurement system is updated on a regular basis and evolves as more experience and sophistication in management and quantification of operational risk is gained;
- (b) the nature and balance of inputs into the operational risk measurement system are relevant and continuously fully reflect the evolving nature of the institution's business, strategy, organisation and operational risk exposure.

#### *Article 15*

##### *AMA used in supporting the operational risk management of the institution*

In assessing whether the institution uses the AMA to support its operational risk management, as referred to in Article 12(c), competent authorities shall verify in particular that:

- (a) the operational risk measurement system contributes to the regular and prompt reporting of appropriate and consistent information that fully reflects the nature of the business and the operational risk profile of the institution;
- (b) the institution takes remedial actions for improving processes upon receipt of information from the operational risk measurement system.

#### *Article 16*

##### *AMA used in further enhancing the operational risk organization and control of the institution*

In assessing whether the institution uses the AMA to further enhance its operational risk organization and control, as referred to in Article 12(d), competent authorities shall verify in particular that:

- (a) the institution's definition of operational risk tolerance and its associated operational risk management objectives and activities are clearly communicated within the organisation;

- (b) the relationship between the institution's business strategy and its operational risk management - including with regard to the approval of new products, systems and processes - are clearly communicated within the organisation;
- (c) the operational risk measurement system increases transparency, risk awareness and operational risk management expertise and creates incentives to improve the management of operational risk throughout the organisation;
- (d) the inputs and the outputs of the operational risk measurement system are used in relevant decisions and plans, such as in the institution's action plans, business continuity plans, internal audit working plans, capital assignment decisions, insurance plans and budgeting decisions.

### *Article 17*

#### *Comparison of the AMA with the previous regulatory regime*

1. In assessing whether the institution demonstrates the stability and robustness of the AMA output in terms of own funds requirements by comparing the AMA own funds requirements to the own funds requirements resulting from its previous regulatory regime for operational risk, as referred to in Article 12(e), competent authorities shall in particular:
  - (a) verify that, before granting the permission to use the AMA for regulatory purposes, the institution calculates its own funds requirements for operational risk under both the AMA and the regulatory regime previously applicable to it, and that it does so:
    - (i) on a reasonably regular basis, and at least quarterly;
    - (ii) covering all relevant legal entities that will use the AMA at the date of the initial implementation;
    - (iii) covering all the operational risks that will be covered by the AMA at the date of the initial implementation;

The information to be examined by competent authorities in accordance with the first subparagraph shall cover at least two consecutive quarters.

- (b) verify that the institution has:
  - (i) developed and tested the operational risk management process and the operational risk measurement system;
  - (ii) has resolved problems and fine-tuned the system and attendant processes;
  - (iii) has ensured that the operational risk measurement system generates results which conform to the institution's earlier expectations, including taking account of information from the institution's both existing and legacy systems;



- (iv) has demonstrated it can quickly vary model parameters to understand the impact of changed assumptions with minimal systems adjustments or manual interventions;
  - (v) is able to make appropriate capital adjustments to the own funds requirements before the first date of 'live use' of the AMA;
  - (vi) has demonstrated that the new systems and reporting processes are robust over a reasonable period and generate management information that the institution can use to identify and manage operational risk.
- (c) consider granting the permission to use the AMA conditional upon the institution's continuing to compare the calculation of its own funds requirements for operational risk under the AMA against the regulatory regime previously applicable to it, for one year after the permission is granted.

## SECTION 3

### AUDIT AND INTERNAL VALIDATION

#### *Article 18*

##### *Audit and internal validation reviews*

In order to assess whether an institution complies with the standards on AMA regular reviews and the sound and effective operation of the validation processes referred to in points (e) and (f) of Article 321 of Regulation (EU) No 575/2013, competent authorities shall verify in particular:

- (a) that an institution's audit and internal validation functions confirm, on a regular basis, that the operational risk management and measurement processes implemented for AMA purposes are reliable and effective in managing and measuring operational risk within the organization, in accordance with Article 19;
- (b) that an institution's audit and internal validation governance is of a high quality, in accordance with Article 20.

#### *Article 19*

##### *Audit and internal validation functioning*

1. In assessing whether an institution's audit and internal validation functions confirm, on a regular basis, that the operational risk management and measurement processes implemented for AMA purposes are reliable and effective in managing and measuring operational risk within the organization, as referred to

in Article 18(a), competent authorities shall verify in particular the requirements of paragraphs 2 to 8.

2. For the purposes of paragraph 1, competent authorities shall verify that the internal validation function provides a reasoned and well-informed opinion on whether the operational risk measurement system works as predicted, and that the outcome of the model is suitable for its various internal and supervisory purposes, at least on annual basis.
3. For the purposes of paragraph 1, competent authorities shall verify that the audit function verifies the integrity of the operational risk policies, processes and procedures, assessing whether these comply with legal and regulatory requirements as well with established controls, at least on annual basis, with emphasis on the verification of the quality of the sources and data used for operational risk management and measurement purposes.
4. For the purposes of paragraph 1, competent authorities shall verify that the functions of audit and internal validation have a review program in place that covers the aspects of the AMA included in this Regulation and is regularly updated with regard to:
  - (a) the development of internal processes for identifying, measuring and assessing, monitoring, controlling and mitigating operational risk;
  - (b) the implementation of new products, processes and systems which expose the institution to material operational risk.
5. For the purposes of paragraph 1, competent authorities shall verify that the internal validation is carried out by qualified resources, which are independent of the validated units.
6. For the purposes of paragraph 1, competent authorities shall verify that where audit activities are carried out by internal or external audit functions or qualified external parties, these are independent of the process or system being reviewed and that, where these are outsourced, that the management body and senior management of the institution remain accountable for ensuring that outsourced functions are performed in accordance with the institutions' approved audit plan.
7. For the purposes of paragraph 1, competent authorities shall verify that the audit and internal validation reviews on the AMA framework are properly documented and their output is distributed to the appropriate recipients within the institutions, such as the risk committees, operational risk management function, business line management and other relevant staff, where appropriate.
8. For the purposes of paragraph 1, competent authorities shall verify both of the following:
  - (a) that the results of the audit and internal validation reviews are summarised and reported at least annually to the institution's management body, or to a committee designated by it, for approval;
  - (b) that the review and approval of the effectiveness of the institution's AMA framework is undertaken on at least on an annual basis.

## *Article 20*

### *Audit and internal validation governance*

In assessing whether an institution's audit and internal validation governance is of a high quality, as referred to in Article 18(b), competent authorities shall verify in particular that:

- (a) audit programs for reviewing the AMA framework cover all significant activities that could expose the institution to material operational risk, including outsourced activities;
- (b) the internal validation techniques are proportionate to changing market and operating conditions, and that its outcomes are subject to audit review.

## **SECTION 4**

### **DATA QUALITY AND IT INFRASTRUCTURE**

## *Article 21*

### *General principles*

In order to assess whether an institution's data flows and processes associated with that institution's operational risk measurement system are transparent and accessible, as referred to in Article 322(g) of Regulation (EU) No 575/2013, competent authorities shall verify that the institution's data quality and the composite hardware, software and network resources and services required for the existence, operation and management of an IT environment ('IT infrastructure') for AMA purposes are appropriate, and in particular that:

- (a) the quality of the data used in the AMA framework is maintained over time and that the building and maintenance procedures are regularly analysed by the institution, in accordance with Article 22;
- (b) the institution ensures the soundness, robustness and performance of the IT infrastructure used for AMA purposes, in accordance with Article 23;
- (c) where an institution uses external data sources or outsources parts of the IT infrastructure management, the institution complies with this Section.

## *Article 22*

### *Data quality*

1. In assessing whether the quality of the data used in the AMA is maintained over time and whether the building and maintenance procedures are regularly analysed

by the institution, as referred to in Article 21(a), competent authorities shall verify in particular that the requirements of paragraphs 2 to 6 are met.

2. For the purposes of paragraph 1, competent authorities shall verify that the institution has at its disposal the following sets of data:
  - (a) data to build and track its operational risk history, made up of internal and external data, scenario analysis, and business environment and internal control factors ('BEICF');
  - (b) other complementary data, such as model parameters, model outputs and reports.
3. For the purposes of paragraph 1, competent authorities shall verify that an institution has defined appropriate data quality dimensions to provide effective support to its operational risk management process and measurement system, and that it complies on a regular basis with the set dimensions.
4. For the purposes of paragraph 1, competent authorities shall verify that the institution's data quality dimensions referred to in paragraph 3:
  - (a) are of sufficient breadth, depth, and scope for the task at hand;
  - (b) meet current and potential user needs;
  - (c) are updated promptly;
  - (d) make sense in the scope of their usage;
  - (e) represent correctly the real-life phenomenon that they aim to represent;
  - (f) do not violate any business rule in a database that has to be maintained over time statically and dynamically.
5. For the purposes of paragraph 1, competent authorities shall verify that the institution has appropriate documentation for the design and maintenance of the databases used in the institution's AMA framework, and in particular that the documentation contains at least:
  - (a) a global map of databases involved in the operational risk measurement system with their descriptions;
  - (b) a data policy and a statement of responsibility;
  - (c) descriptions of work-flows and procedures related to data collection and data storage;
  - (d) a statement of weaknesses with all the weaknesses identified in the databases of the validation and review processes and a statement on how the institution plans to correct or reduce the weaknesses identified.
6. For the purposes of paragraph 1, competent authorities shall verify that the policies on the process for planning, creating, testing, and deploying an IT infrastructure ('system development life cycle-SDLC') for AMA are approved by the institution's management body and senior management.

## Article 23

### *Supervisory assessment of IT infrastructure*

1. In assessing whether an institution ensures the soundness, robustness and performance of the IT infrastructure used for AMA purposes, as referred to in Article 21(b), competent authorities shall verify that the IT systems and infrastructure of the institution for AMA purposes are sound and resilient and that these features can be maintained on a continuous basis, and they shall verify in particular the requirements of paragraphs 2 to 5.
2. For the purposes of paragraph 1, competent authorities shall verify that the SDLC for AMA purposes satisfies the best practice for software systems, with the view to ensuring sound and proper:
  - (a) project management, risk management, and governance;
  - (b) requirements engineering, quality assurance and test planning;
  - (c) systems modelling and development;
  - (d) quality assurance in all activities, including code reviews and where appropriate, code verification;
  - (e) testing, including user acceptance.
3. For the purposes of paragraph 1, competent authorities shall verify that the institution's IT infrastructure implemented for AMA purposes is subject to configuration management, change management and release management processes.
4. For the purposes of paragraph 1, competent authorities shall verify that SDLC and contingency plans for AMA purposes are approved by the institution's management body or senior management and that the management body and senior management are periodically informed about the IT infrastructure performance for AMA purposes.

## CHAPTER 4

### QUANTITATIVE STANDARDS - OPERATIONAL RISK MEASUREMENT

## Article 24

### *General principles*

In order to assess compliance of an institution with the AMA quantitative standards, in accordance with Article 322 of Regulation (EU) No 575/2013, competent authorities shall verify in particular that the institution applies:

- (a) the standards relating to the use of internal data, external data, scenario analysis and BEICF ('the four elements') as referred to in

point (b) of Article 322(2) and in paragraphs (3), (4), (5) and (6) of Article 322 of Regulation (EU) No 575/2013, in accordance with Section 1;

- (b) the standards relating to the core modelling assumptions of the operational risk measurement system, and in particular to its ability to capture tail events, as referred to in the last sentence of point (a) of Article 322(2) of Regulation (EU) No 575/2013 and the major drivers of risk affecting the shape of the tail as referred to in point (c) of Article 322(2) of that Regulation, in accordance with Section 2;
- (c) the standards relating to expected loss and correlation, as referred to in the first sentence of point (a) and in point (d) of Article 322(2) of Regulation (EU) No 575/2013, in accordance with Section 3;
- (d) the standards relating to the internal consistency of the operational risk measurement system, as referred to in point (e) of Article 322 (2) of Regulation (EU) No 575/2013, in accordance with Section 4.

## SECTION 1

### USE OF THE FOUR ELEMENTS

#### *Article 25*

##### *General principles*

1. In assessing the compliance of an institution with the standards relating to the use of the four elements, as referred to in Article 24(a), competent authorities shall verify the requirements of paragraphs 2 to 4.
2. For the purposes of paragraph 1, competent authorities shall verify that the institution has internal documentation specifying in detail how the four elements are gathered, combined and/or weighted. The documentation shall also include a description of the modelling process that illustrates the use and combination of the four elements and of the rationale for the modelling choices.
3. For the purposes of paragraph 1, competent authorities shall verify that the institution has a clear understanding of how each of the four elements influences the AMA own funds requirements, and that the combination of the four elements of the AMA used by the institution is based on a sound statistical methodology, sufficient for estimating high percentiles.
4. For the purposes of paragraph 1, competent authorities shall verify that, for the collection or generation and treatment of the four elements, the institution applies all of the following:
  - (a) the criteria set out in Sub-Section 1, relating to internal data;
  - (b) the criteria set out in Article 31, relating to external data;

- (c) the criteria set out in Article 32, relating to scenario analysis;
- (d) the criteria set out in Article 33, relating to business environment and internal control factors.

## **SUB-SECTION 1**

### **INTERNAL DATA**

#### *Article 26*

##### *General principles*

In assessing an institution's standards relating to internal data, as referred to in point (a) of Article 25(4), competent authorities shall verify in particular all of the following:

- (a) that the institution complies with the internal data features, in accordance with Article 27;
- (b) that the institution identifies, collects and treats the loss items generated by an operational risk event, in accordance with Article 28;
- (c) that the institution records the loss amount generated by an operational risk event, in accordance with Article 29;
- (d) that the institution identifies, collects and treats operational risk losses that are related to credit risk, as referred to in point (b) of Article 322(3) of Regulation (EU) No 575/2013, in accordance with Article 30.

#### *Article 27*

##### *Internal data features*

In assessing an institution's standards in relation to internal data features, as referred to in Article 26(a), competent authorities shall verify in particular all of the following:

- (a) that the institution implements in a clear and consistent manner within the group all of the following elements:
  - (i) the loss caused by the occurrence of an operational risk, before taking into account recoveries of any type ('gross loss' or 'loss');
  - (ii) the occurrence related to the original loss that is independent of that loss and that is separate in time, in which funds or inflows of economic benefits are received from first or third parties ('recovery');
  - (iii) the recovery from insurers ('insurance recovery') and the recovery from other parties ('recovery except insurance');
- (b) that following an operational risk event, except where the operational risk event leads to a gross loss that is partly or fully recovered within

- five working days ('rapidly recovered loss event'), the institution is able to separately identify the gross loss amount, the insurance recoveries and the recoveries except insurance;
- (c) that the institution implements a system for defining and justifying appropriate thresholds, based on the gross loss amount, for identifying and collecting losses for management and measurement purposes ('data collection threshold');
  - (d) that the data collection threshold selected by the institution for each level, such as the institution's organizational unit, the operational risk event type, the business line, at which the institution's operational risk measurement system generates separate frequency and severity distributions ('operational risk category') is reasonable and does not omit loss data that is material for effective operational risk measurement and risk management;
  - (e) that for each individual loss, the institution is able to identify and record in the internal database, at least, the date when the operational risk event happened or first began ('date of occurrence'), where available, the date on which the institution became aware of the operational risk event ('date of discovery') and the date when a loss, or reserve, or provision against a loss was first recognized in the profit and loss ('date of accounting').

## *Article 28*

### *Scope of operational risk loss*

1. In assessing whether an institution identifies, collects and treats the loss items generated by an operational risk event, as referred to in Article 26(a), competent authorities shall verify that the institution includes within the scope of operational risk loss for the purposes of both management of operational risk and calculation of the AMA own funds requirements, all of the following items:
  - (a) direct charges, including impairments and settlement charges, to the Profit and Loss account ('P&L') and write-downs due to the operational risk event;
  - (b) costs incurred as a consequence of the operational risk event including both of the following:
    - (i) external expenses with a direct link to the operational risk event, such as legal expenses and fees paid to advisors, attorneys or suppliers;
    - (ii) costs of repair or replacement to restore the position prevailing before the operational risk event, in the form of either precise figures, or, where these are not available, estimates;
  - (c) provisions or reserves accounted for in the P&L against probable operational risk losses including those from misconduct events;



- (d) losses stemming from operational risk events, which are temporarily booked in transitory or suspense accounts and are not yet reflected in the P&L('pending losses'), and which are planned to be included within a time period commensurate to the size and age of the pending item;
  - (e) material uncollected revenues, related to contractual obligations with third parties, such as the decision to compensate a client following the operational risk event, rather than by a reimbursement or direct payment, through a revenue adjustment waiving or reducing contractual fees for a specific future period of time;
  - (f) negative economic impacts booked in a financial accounting period due to operational risk events impacting the cash flows or financial statements of previous financial accounting periods ('timing losses'), where they span more than one financial accounting year and give rise to legal risk.
2. In assessing whether an institution identifies, collects and treats the loss items generated by an operational risk event, as referred to in Article 26(a), competent authorities may also, to the extent appropriate, verify that the institution identifies, collects and treats, for the purposes of management of operational risk, any additional items where they originate from a material operational risk event, and more in particular any of the following:
- (a) a nil loss caused by the occurrence of an operational risk event, such as an IT disruption in the trading room just outside trading hours ('near-misses');
  - (b) a gain caused by the occurrence of an operational risk event ('operational risk gain');
  - (c) an increase in costs or a shortfall in revenues due to operational risk events that prevent undetermined future business from being conducted, such as unbudgeted staff costs, forgone revenue, and project costs related to improving processes ('opportunity cost');
  - (d) internal costs such as overtime or bonuses.
3. For the purposes of paragraph 1, competent authorities shall also verify that the institution excludes the following items from the scope of operational risk loss:
- (a) costs of general maintenance contracts on property, plant or equipment;
  - (b) internal or external expenditures to enhance the business after the occurrence of an operational risk event such as upgrades, improvements, risk assessment initiatives and enhancements;
  - (c) insurance premiums.

## Article 29

### *Recorded loss amount of the operational risk items*

1. In assessing whether an institution records the loss amount generated by an operational risk event, in accordance with Article 26(a), competent authorities shall verify that the whole amount of the incurred loss or expenses is considered as recorded loss amount for the purposes of both management of operational risk and calculation of the AMA own funds requirements, and, in particular, that the recorded loss amount includes all of the external expenses incurred as a result of the operational risk event, such as provisions, costs of settlement, amounts paid to make good the damage, penalties, interest in arrears and legal fees, unless otherwise specified.
2. For the purposes of paragraph 1, competent authorities shall verify, more in particular the requirements of paragraphs 3 to 6.
3. For the purposes of paragraph 1, where the operational risk event relates to market risk, competent authorities shall verify that the institution includes in the recorded loss amount of the operational risk items the costs to unwind market positions, unless the position is intentionally kept open after the operational risk event is recognized. Where the position is intentionally kept open after the operational risk event is recognized, competent authorities shall verify that any portion of the loss due to adverse market conditions after the decision to keep the position open is not included in the recorded loss amount of the operational risk items.
4. For the purposes of paragraph 1, where tax payments relate to failures or inadequate processes of the institution, competent authorities shall verify that the institution includes in the recorded loss amount of the operational risk items the expenses incurred as a result of the operational risk event, such as penalties, interest charges, late-payment charges, and legal fees, with the exclusion of the tax amount originally due.
5. For the purposes of paragraph 1, where the operational risk event leads to a rapidly recovered loss event, competent authorities shall consider appropriate the inclusion, on behalf of the institution, in the recorded loss amount of the operational risk items only that part of the loss that is not rapidly recovered.
6. For the purposes of paragraph 1, where there are timing losses, competent authorities shall verify that the institution includes in the recorded loss amount of the operational risk items all the external expenses incurred as a result of the operational risk event. Where the operational risk event directly affects third parties, such as customers, providers or employees of the institution, competent authorities shall verify that the institution includes in the recorded loss amount of the operational risk item also the correction of the financial statement.

### *Article 30*

#### *Operational risk losses that are related to credit risk*

1. In assessing whether an institution identifies, collects and treats operational risk losses that are related to credit risk, as referred to in Article 26 (d), competent authorities shall verify in particular that the institution includes within the scope of operational risk loss, for the purposes of management of operational risk, all of the following items:
  - (a) frauds committed by a client on its own account, occurring in a credit product or credit process at the initial stage of the lifecycle of a credit relationship ('first party fraud'), and in particular inducement to lending decisions based on counterfeit documents or miss-stated financial statements, such as non-existence or over-estimation of collaterals and counterfeit salary confirmation;
  - (b) frauds committed by means of another, ignorant, person's identity ('third party fraud'), occurring in a credit product or credit process, and in particular:
    - (a) loan applications through electronic identity fraud ('phishing') and using clients' data or using fictitious identities;
    - (b) fraudulent use of clients' credit cards by third parties.
2. For the purposes of paragraph 1, competent authorities shall also verify that the institution:
  - (a) adjusts the data collection threshold relating to the loss events described in paragraph 1 up to comparable levels as those of the other operational risk categories of the AMA framework, where appropriate;
  - (b) includes within the gross loss of the events described in paragraph 1 the total outstanding amount at the time or after the discovery of the fraud, and any related expenses, such as interest in arrears and legal fees.

### *Article 31*

#### *External data*

In assessing an institution's standards in relation to external data, as referred to in point (b) of Article 25(4), competent authorities shall verify in particular all of the following:

- (a) that, where the institution participates in consortia initiatives for the collection of operational risk events and losses, the institution is able to provide data of the same quality, in terms of scope, integrity and comprehensiveness, to internal data meeting the standards referred to in Sub-Section 1, and that it does so consistently with the type of data requested by the consortia reporting standards;

- (b) that the institution has a data filtering process in place which allows the selection of relevant external data, based on specific established criteria and that the external data being used is relevant and consistent with the risk profile of the institution;
- (c) to avoid bias in parameter estimates, that the filtering process results in a consistent selection of data regardless of the loss amount, and that, where the institution permits exceptions to this selection process, it has a policy providing criteria for exceptions and documentation supporting the rationale for those exceptions;
- (d) where the institution adopts a data scaling process involving the adjustment of loss amounts reported in external data, or of the related distributions, to fit the institution's business activities, nature and risk profile, that the scaling process is systematic and statistically supported and that it provides outputs that are consistent with the institution's risk profile;
- (e) that the institution's scaling process is consistent over time and its appropriateness is regularly reviewed.

### *Article 32*

#### *Scenario analysis*

1. In assessing an institution's standards relating to scenario analysis, as referred to in point (c) of Article 25(4), competent authorities shall verify in particular that the institution has in place a robust governance framework relating to the scenario process in order to generate credible and reliable estimates, irrespective of whether the scenario is used for evaluating high severity events or the overall operational risk exposure.
2. For the purposes of paragraph 1, competent authorities shall verify in particular all of the following:
  - (a) that the scenario process is clearly defined, well documented, repeatable and designed to reduce as much as possible subjectivity and biases, including the underestimation of risk due to the number of observed events being small ('overconfidence bias'); the misrepresentation of information due to scenario assessors' interests in conflict with the goals and consequences of the assessment ('motivational bias'); the overestimation of events with temporal proximity to the scenario assessors ('availability bias'); the distortion of assessments due to the categories within which the responses are represented ('partition dependence'); and the bias towards information presented in background materials to survey questions or within the questions themselves ('anchoring');
  - (b) that qualified and experienced facilitators provide consistency in the process;

- (c) that the assumptions used in the scenario process are based, to the maximum extent, on the relevant internal data and external data with an objective and unbiased selection process;
- (d) that the chosen number of scenarios, the level at, or units in, which scenarios are studied, are realistic and properly explained, and that the scenario estimates take into account relevant changes in the internal and external environments that can affect the institution's operational risk exposure;
- (e) that the scenario estimates are generated taking into account in particular potential or probable operational risk events that have not yet, fully or partly, materialised in an operational risk loss;
- (f) that the scenario process and estimates are subject to a robust independent challenge process and oversight.

### *Article 33*

#### *Business Environment and Internal Control Factors*

In assessing an institution's standards relating to the BEICF, as referred to in point (d) of Article 25(4), competent authorities shall verify in particular all of the following:

- (a) that the institution's BEICF are forward looking and reflect potential sources of operational risk such as rapid growth, the introduction of new products, employee turnover and system downtime;
- (b) that the institution has clear policy guidelines that limit the magnitude of reductions in the AMA own funds requirements due to BEICF adjustments;
- (c) that those BEICF adjustments are well justified and that the appropriateness of their level is confirmed by comparison, over time, with the direction and magnitude of actual internal loss data, conditions in the business environment and changes in the validated effectiveness of controls.

## **SECTION 2**

### **CORE MODELLING ASSUMPTIONS OF THE OPERATIONAL RISK MEASUREMENT SYSTEM**

#### *Article 34*

##### *General principles*

1. In assessing an institution's standards relating to the core modelling assumptions of the operational risk measurement system as referred to in Article 24(b),

competent authorities shall verify that the institution develops, implements and maintains an operational risk measurement system that is methodologically well founded, effective in capturing the institution's actual and potential operational risk, and reliable and robust in generating AMA own funds requirements.

2. For the purposes of paragraph 1, competent authorities shall verify in particular all of the following:
  - (a) that the institution has appropriate policies on the building of the portion of gathered data, either actual or constructed, that fulfils the necessary conditions to serve as input into the operational risk measurement system to generate the AMA own funds requirement ('calculation data set'), in accordance with Article 35;
  - (b) that the institution applies the appropriate level of granularity in its model, in accordance with Article 36;
  - (c) that the institution has in place an appropriate process for the identification of loss distributions, in accordance with Article 37;
  - (d) that the institution determines the aggregate loss distributions and risk measures in an appropriate manner, in accordance with Article 38.

#### *Article 35*

##### *Building the calculation data set*

1. In assessing whether an institution has appropriate policies on the building of the calculation data set, as referred to in point (a) of Article 34(2), competent authorities shall verify that the institution complies with the requirements of paragraphs 2 to 10.
2. For the purposes of paragraph 1, competent authorities shall verify that specific criteria and examples for the classification and treatment of operational risk events and losses within the calculation data set are defined by the institution, and that such criteria and examples provide a consistent treatment of loss data across the institution.
3. For the purposes of paragraph 1, competent authorities shall verify that the institution uses 'gross loss amount' or 'gross loss amount after all recoveries except insurance' in the calculation data set, and that it does not use loss net of insurance recoveries in the calculation data set.
4. For the purposes of paragraph 1, competent authorities shall verify that, for operational risk categories with low frequency of events, the institution has adopted an observation period greater than the minimum referred to in point (a) of Article 322 (3) of Regulation (EU) No 575/2013, in order to ensure sufficient data to generate reliable single statistics on operational risk extracted from the aggregated loss distribution at the desired confidence level ('operational risk measures'), such as Value at Risk ('VaR') and Expected Shortfall.

5. For the purposes of paragraph 1, competent authorities shall verify that the institution, in the course of building the calculation data set for the purposes of estimating frequency and severity distributions:
  - (a) uses the date of discovery or the date of accounting only;
  - (b) uses a date no later than the date of accounting for including losses or provisions related to legal risk into the calculation dataset.
6. For the purposes of paragraph 1, competent authorities shall verify all of the following:
  - (a) that the institution's choice of the value starting from which the frequency and severity distributions, either empirical or parametrical, are fitted to the operational risk losses ('*de minimis* modelling threshold') does not adversely impact the accuracy of the operational risk measures and in particular, that the use of *de minimis* modelling thresholds that are much higher than the data collection thresholds is limited and, where applied, is properly justified by sensitivity analysis of various thresholds performed by the institution;
  - (b) that the institution includes all operational losses above the chosen *de minimis* modelling thresholds in the calculation data set and that it uses them, irrespective of their level, for generating the AMA own funds requirements.
7. For the purposes of paragraph 1, competent authorities shall verify that the institution applies appropriate adjustment rates on the data where inflation or deflation effects are material.
8. For the purposes of paragraph 1, competent authorities shall verify all of the following:
  - (a) that losses caused by a common operational risk event or by multiple events linked to an initial operational risk event generating events or losses ('root-event') are grouped and entered into the calculation data set as a single loss by the institution;
  - (b) that any possible exceptions to the treatment laid down in the first subparagraph are properly documented and justified to prevent undue reduction of the AMA own funds requirements.
9. For the purposes of paragraph 1, competent authorities shall verify that the institution does not discard from the AMA calculation data set material adjustments to operational risk losses of single or linked events, where the reference date of these adjustments falls within the observation period and the reference date of the initial, single event or root-event, falls outside such a period.
10. For the purposes of paragraph 1, competent authorities shall verify that the institution is able to distinguish, for each reference year included in the observation period, the loss amounts pertinent to events discovered or accounted for in that year from the loss amounts pertinent to adjustments or grouping of events discovered or accounted for in previous years.

## *Article 36*

### *Granularity*

In assessing whether an institution applies the appropriate level of granularity in its model, as referred to in point (b) of Article 34(2), competent authorities shall verify that the institution takes into account the nature, complexity and idiosyncrasies of its business activities and the operational risks which it is exposed to, where grouping together risks sharing common factors and defining the operational risk categories of an AMA, and shall verify in particular all of the following:

- (a) that the institution justifies its choice of level of granularity of its operational risk categories on the basis of qualitative and quantitative means, and that it classifies operational risk categories based on homogeneous, independent and stationary data;
- (b) that the institution's choice of level of granularity of its operational risk categories is realistic and does not adversely impact the conservatism of the model outcome or of its parts;
- (c) that the institution reviews the choice of level of granularity of its operational risk categories on a regular basis with the view to ensuring that it remains appropriate.

## *Article 37*

### *Identification of the loss distributions*

1. In assessing whether an institution has in place an appropriate process for the identification of frequency and severity distributions of loss ('loss distributions'), as referred to in point (c) of Article 34(2), competent authorities shall verify that the institution follows a well specified, documented and traceable process for the selection, update and review of loss distributions and the estimate of their parameters, and more in particular, they shall verify the requirements of paragraphs 2 to 10.
2. For the purposes of paragraph 1, competent authorities shall verify in particular that the process for the selection of the loss distributions results in consistent and clear choices by the institution, properly captures the risk profile in the tail and includes all of the following elements:
  - (a) a process of using statistical tools, such as graphs, measures of centre, variation, skewness and leptokurtosis ('Exploratory Data Analysis ') to investigate the calculation data set for each operational risk category with the view to better understanding the statistical profile of the data and selecting the most suitable distribution;
  - (b) appropriate techniques for the estimation of the distribution parameters;



- (c) appropriate diagnostic tools for evaluating the appropriateness of the distributions to the data, giving preference to those most sensitive to the tail.
- 3. For the purposes of paragraph 1, competent authorities shall verify that both of the following conditions are met:
  - (a) where selecting a loss distribution, that the institution carefully considers the positive skewness and leptokurtosis of the data;
  - (b) where the data are much dispersed in the tail, empirical curves are not used to estimate the tail region, but that instead distributions whose tail decays slower than the exponential distribution ('sub-exponential distributions') are used, unless exceptional reasons exist to apply other functions, which are in any case properly addressed and fully justified to prevent undue reduction of AMA own funds requirements.
- 4. For the purposes of paragraph 1, competent authorities shall verify that both of the following conditions are met :
  - (a) where separate loss distributions are used for the body and for the tail, that the institution carefully considers the choice of the loss value that separates the body from the tail of the loss distributions ('body-tail modelling threshold');
  - (b) that documented statistical support, supplemented as appropriate by qualitative elements, is provided for the selected body-tail modelling threshold.
- 5. For the purposes of paragraph 1, competent authorities shall verify that where estimating the parameters of the distribution, the institution does one of the following:
  - (a) reflects in the model the incompleteness of the calculation data set due to the presence of de minimis modelling thresholds;
  - (b) justifies the use of an incomplete calculation data set on the basis that it does not adversely impact the accuracy of the parameter estimates and AMA own funds requirements.
- 6. For the purposes of paragraph 1, competent authorities shall verify that the institution has in place methodologies to reduce the variability of estimates of parameters and provides measures of the error around these estimates such as confidence intervals and p-values.
- 7. For the purposes of paragraph 1, competent authorities shall verify that, where the institution adopts generalizations of classical estimators, with good statistical properties such as high efficiency and low bias for a whole neighbourhood of the unknown underlying distribution of the data ('robust estimators'), it can demonstrate that their use does not underestimate the risk in the tail of the loss distribution.
- 8. For the purposes of paragraph 1, competent authorities shall verify both of the following:

- (a) that the institution assesses the goodness-of-fit between the data and the selected distribution by using diagnostic tools of both a graphical and a quantitative nature, which are more sensitive to the tail than to the body of the data, especially where the data are very dispersed in the tail;
  - (b) that, where appropriate, such as where the diagnostic tools do not lead to a clear choice for the best-fitting distribution or to mitigate the effect of the sample size and the number of estimated parameters in the goodness-of-fit tests, the institution uses evaluation methods that compare the relative performance of the loss distributions, such as the Likelihood Ratio, the Akaike Information Criterion, and the Schwarz Bayesian Criterion.
9. For the purposes of paragraph 1, competent authorities shall verify that the institution has a regular cycle for controlling assumptions underlying the selected loss distributions, and that where assumptions are invalidated, such as where they generate values outside established ranges, the institution has tested alternative methods and that it has properly classified any changes made to the assumptions, in accordance with Commission Delegated Regulation (EU) No 529/2014<sup>6</sup>.

### *Article 38*

#### *Determination of aggregated loss distributions and risk measures*

1. In assessing whether an institution determines the frequency-severity aggregated loss distributions ('aggregated loss distributions') and risk measures in an appropriate manner, as referred to in point (d) of Article 34(2), competent authorities shall verify that the techniques elaborated by the institution for that purpose ensure appropriate levels of precision and stability of the risk measures, as well as that the risk measures are supplemented with information on their level of accuracy. For that purpose competent authorities shall verify in particular the requirements of paragraphs 2 to 5.
2. For the purposes of paragraph 1, competent authorities shall verify that, irrespective of the techniques used to aggregate frequency and severity loss distributions, such as Monte Carlo simulations, Fourier Transform-related methods, Panjer algorithm and Single Loss Approximations, the institution adopts criteria that mitigate sample and numerical related errors and provides a measure of the magnitude of these errors.
3. For the purposes of paragraph 1, competent authorities shall verify all of the following:

---

<sup>6</sup>Commission Delegated Regulation No 529/2014 of 12 March 2014 supplementing Regulation (EU) No 575/2013 of the European Parliament and of the Council with regard to regulatory technical standards for assessing the materiality of extensions and changes of the Internal Ratings Based Approach and the Advanced Measurement Approach (OJ L 148, 20.5.2014, p. 36).

- (a) that, where Monte Carlo simulations are used, the number of steps to be performed is consistent with the shape of the distributions and with the confidence level to be achieved;
  - (b) that, where the distribution of losses is heavy-tailed and measured at a high confidence level, the number of steps is sufficiently large to reduce sampling variability to an acceptable level;
  - (c) that, where Fourier Transform or other numerical methods are used, algorithm stability and error propagation issues are carefully considered.
4. For the purposes of paragraph 1, competent authorities shall verify both of the following:
- (a) that the institution's risk measure generated by the operational risk measurement system fulfils the monotonic principle of risk, which can be seen in the generation of higher capital requirements where the underlying risk profile increases and in the generation of lower own funds requirements where the underlying risk profile decreases;
  - (b) that the institution's risk measure generated by the operational risk measurement system is realistic from a managerial and economical perspective, and more in particular that the institution applies appropriate techniques to avoid:
  - (c) capping the maximum single loss, unless it provides a clear objective rationale for the existence of an upper bound;
  - (d) implying the non-existence of the first statistical moment of the distribution.
5. For the purposes of paragraph 1, competent authorities shall verify that the institution explicitly evaluates the robustness of the outcome of the operational risk measurement system by performing appropriate sensitivity analysis on the input data or its parameters.

### **SECTION 3**

#### **EXPECTED LOSS AND CORRELATION**

##### *Article 39*

##### *Expected losses*

1. In assessing the standards relating to expected loss ('EL'), as referred to in Article 24(c)), competent authorities shall verify that, where an institution calculates the AMA own funds requirements only in relation to unexpected loss ('UL') it complies with the requirements of paragraphs 2 to 5.

2. For the purposes of paragraph 1, competent authorities shall verify that the institution's methodology for the estimate of EL is consistent with the operational risk measurement system for the estimate of the AMA own funds requirements that comprises both EL and UL, and that the EL estimation process is done by operational risk category and is consistent over time.
3. For the purposes of paragraph 1, competent authorities shall verify that the institution defines the EL using statistics that are less influenced by extreme losses, such as median and trimmed mean, especially in the case of medium- or heavy-tailed data.
4. For the purposes of paragraph 1, competent authorities shall verify that the maximum offset for EL applied by the institution is bound by the total EL and that the maximum offset for EL in each operational risk category is bound by the relevant EL calculated according to the institution's operational risk measurement system applied to that category.
5. For the purposes of paragraph 1, competent authorities shall verify all of the following:
  - (a) that the offsets the institution allows for EL in each operational risk category are capital substitutes or that they are otherwise available to cover EL with a high degree of certainty over the one-year period;
  - (b) that where the offset is something other than provisions, the institution limits the availability of the offset to those operations with highly predictable, stable and routine losses;
  - (c) that the institution does not use specific reserves for exceptional operational risk loss events that have already occurred as EL offsets.
6. For the purposes of paragraph 1, competent authorities shall verify that the institution clearly documents how its EL is measured and captured, including how any EL offsets meet the conditions outlined above.

#### *Article 40*

#### *Correlation*

1. In assessing the standards relating to correlation, as referred to in Article 24(c), competent authorities shall verify that an institution carefully considers any form of linear or non-linear dependence, relating to all the data, either to the body or to the tail, across two or more operational risk categories or within an operational risk category. Competent authorities shall verify in particular the requirements of paragraphs 2 to 5.
2. For the purposes of paragraph 1, competent authorities shall verify that the institution supports its correlation assumptions, to the greatest extent possible, on an appropriate combination of empirical data analysis and expert judgement.
3. For the purposes of paragraph 1, competent authorities shall verify all of the following:

- (a) that losses within each operational risk category are independent of each other;
  - (b) that where the condition of point (a) is not met, dependent losses are aggregated together;
  - (c) that, only where neither of the conditions of point (a) or (b) can be met, dependence within the operational risk categories is appropriately modelled.
4. For the purposes of paragraph 1, competent authorities shall verify both of the following:
  - (a) that the institution carefully considers dependence between tail events;
  - (b) that the institution does not base the dependence structure on Gaussian or Normal-like distributions.
5. For the purposes of paragraph 1, competent authorities shall verify that all assumptions regarding dependence used by the institution are conservative given the uncertainties relating to dependence modelling for operational risk, and that the degree of conservatism used by the institution increases as the rigour of the dependence assumptions and the reliability of the resulting own funds requirements decrease.
6. For the purposes of paragraph 1, competent authorities shall verify that the institution properly justifies the dependence assumptions it uses and that it regularly performs sensitivity analyses with the view to assessing the effect of the dependence assumptions on its AMA own funds requirements.

## SECTION 4

### CAPITAL ALLOCATION MECHANISM

#### *Article 41*

#### *General principles*

In assessing the standards relating to the internal consistency of the operational risk measurement system, as referred to in Article 24(d)), competent authorities shall also verify that an institution's capital allocation mechanism is consistent with the institution's risk profile and with the overall design of the operational risk measurement system, and shall verify in particular all of the following:

- (a) that allocation of own funds requirements takes into account potential internal differences in risk and quality of operational risk management and internal control between the parts of the group to which the own funds are allocated;

- (b) that there is no observable current or foreseen practical or legal impediment to the prompt transfer of own funds or repayment of liabilities;
- (c) that the own funds allocation from the consolidated group level downwards to the parts of the group involved in the operational risk measurement system relies on sound and to, the maximum extent, risk sensitive methodologies.

## CHAPTER 5

### INSURANCE AND OTHER RISK TRANSFER MECHANISMS

#### *Article 42*

#### *General*

In order to assess the compliance of an institution with the requirements relating to the impact of insurance and other risk transfer mechanisms ('ORTM') within an AMA, as referred to in the last sentence of point (e) of Article 322 (2) and in Article 323 of Regulation (EU) 575/2013, competent authorities shall verify in particular:

- (a) that the insurance provider meets the authorisation requirements referred to in Article 323(2) of Regulation (EU) No 575/2013, in accordance with Article 43;
- (b) that the insurance is provided via a third party, as referred to in point (e) of Article 323(3) of Regulation (EU) No 575/2013, in accordance with Article 44;
- (c) that the institution avoids the multiple counting of risk mitigation techniques, as referred to in point (e) of Article 322 (2) of Regulation (EU) No 575/2013, in accordance with Article 45;
- (d) that the risk mitigation calculation appropriately reflects the insurance coverage, as referred to in point (d) of Article 323 (3) of Regulation (EU) No 575/2013, and that the framework for recognising insurance is well reasoned and documented, as referred to in point (f) of Article 323 (3) of that Regulation, and more in particular that:
  - (i) the insurance coverage relates to the institution's operational risk profile, in accordance with Article 46;
  - (ii) the institution uses a sophisticated risk mitigation calculation, in accordance with Article 47;

- (iii) the risk mitigation calculation is aligned to the institution's operational risk profile in a timely fashion, in accordance with Article 48;
- (e) that the institution's methodology for recognising insurance captures all the relevant elements through discounts or haircuts in the amount of insurance recognition, as referred to in points (a) and (b) of Article 323 (3) and in Article 323(4) of Regulation (EU) No 575/2013, in accordance with Article 49;
- (f) that the institution demonstrates that a noticeable risk mitigating effect is achieved with the introduction of the ORTM, as referred to in the second sentence of Article 323(1) of Regulation (EU) No 575/2013, in accordance with Article 50.

### *Article 43*

#### *Authorisation requirements of the insurance provider*

In assessing the authorisation requirements of the insurance provider as referred to in Article 42(a), competent authorities shall consider that an undertaking authorized in a third country fulfils the requirements of authorisation, where that undertaking satisfies prudential requirements that are equivalent to those applied in the EU, including the requirements referred to in Article 323 of Regulation (EU) No 575/2013.

### *Article 44*

#### *Provision of the insurance via a third party*

1. In assessing whether the insurance coverage for AMA regulatory capital purposes is provided by a third-party entity, as referred to in Article 42(b), competent authorities shall verify, on the basis of the comprehensive view of an institution's consolidated situation as referred to in Article 4(1), point (47) of Regulation (EU) No 575/2013, that neither the institution nor any other of the entities included in the scope of consolidation has a participation or a qualifying holding, as referred to in Article 4(1), points (35) and (36) respectively, of Regulation (EU) No 575/2013 in the party providing the insurance.
2. Where the requirements of paragraph 1 are partially met, only that portion of the insurance provided where ultimate liability rests with an eligible third-party entity by virtue of the fact that the risk is effectively transferred outside of the consolidated entities, shall be considered as insurance provided via a third party.

## *Article 45*

### *Multiple counting of risk mitigation techniques*

In assessing whether the insurance coverage for the purposes of AMA own funds requirements avoids the multiple counting of risk mitigation techniques, as referred to in Article 42 (c), competent authorities shall verify that an institution has taken reasonable steps to ensure that neither the institution nor any of the entities included in the scope of the consolidation is knowingly re-insuring contracts that cover operational risk events forming the object of the initial insurance arrangement entered into by the institution.

## *Article 46*

### *Framework for recognising insurance - Insurance risk mapping process*

1. In assessing that the insurance relates to an institution's risk profile, as referred to in point (i) of Article 42(d), competent authorities shall verify that the institution has carried out a well-documented and well-reasoned assessment of the way that the insurance coverage is aligned to the institution's operational risk profile, and in particular that the institution develops an insurance coverage consistent with the likelihood and impact of all operational risk losses that it may potentially face ('insurance risk mapping process').
2. For the purposes of paragraph 1, competent authorities shall verify in particular that the institution:
  - (a) estimates the probability of insurance recovery and the possible timeframe for the receipt of payments by insurers, such as the likelihood of a claim being litigated, the length of that process and current settlement rates and terms, based on the experience of its insurance risk management team, supported where necessary by appropriate external expertise such as claims counsel, brokers and carriers;
  - (b) uses the estimates resulting from point (a) to assess the performance of insurance in the event of an operational risk loss and designs this process with the view to assessing the insurance response for all relevant loss and scenario data being entered into the capital model;
  - (c) maps the insurance policies based on their assessment resulting from point (b) to the institution's own risks at the maximum level of detail, using all the information sources available, including internal data, external data and scenario estimates;
  - (d) employs the appropriate expertise and conducts this mapping with transparency and consistency;
  - (e) assigns the appropriate weight to the past and expected performance of insurance through an assessment of the components of the insurance policy;



- (f) obtains formal approval from the appropriate risk body or committee;
- (g) periodically re-examines the insurance mapping process.

#### *Article 47*

##### *Framework for recognising insurance - Use of a sophisticated risk mitigation calculation*

In assessing that the institution uses a sophisticated risk mitigation calculation, as referred to in point (ii) of Article 42(d), competent authorities shall verify that the modelling approach for incorporating the insurance coverage within the AMA meets both of the following requirements:

- (a) is consistent with the operational risk measurement system adopted to quantify the gross-of-insurance losses;
- (b) is transparent in its relationship to the actual likelihood and impact of losses used in the institution's overall determination of its AMA own funds requirements, and is also consistent with that relationship.

#### *Article 48*

##### *Framework for recognizing insurance – Alignment of the risk mitigation calculation to the operational risk profile*

In assessing whether the risk mitigation calculation is aligned to the institution's operational risk profile in a timely fashion, as referred to in point (iii) of Article 42(d), competent authorities shall verify in particular all of the following:

- (a) that the institution has reviewed the use of insurance and has recalculated the AMA own funds requirements, as appropriate, where the nature of the insurance has changed significantly or where there is a major change in the institution's operational risk profile;
- (b) where material losses are incurred, affecting the insurance coverage, that the institution recalculates the AMA own funds requirements with an additional margin of conservatism;
- (c) where there is an unexpected termination or reduction of the insurance coverage, that the institution is prepared to immediately replace the insurance policy on equivalent or improved terms, conditions and coverage, or to increase its AMA own funds requirements to a gross-of-insurance level;
- (d) that an institution calculates capital on a gross- and net-of-insurance, at a level of granularity such that any erosion in the amount of insurance available, for example by payment of a material loss, or a change in insurance coverage, can be immediately recognised for its effect on the AMA own funds requirements.

## Article 49

### *Methodology for recognising insurance - Capture of all the relevant elements*

1. In assessing that an institution's methodology for recognising insurance captures all the relevant elements through discounts or haircuts in the amount of insurance recognition, as referred to in Article 42(e), competent authorities shall verify in particular the requirements of paragraphs 2 to 9.
2. For the purposes of paragraph 1, competent authorities shall verify all of the following:
  - (a) that the institution investigates the various factors that create the risk that the insurance provider will not make the payments as expected and decrease the effectiveness of the risk transfer ('payment uncertainty'), including the ability of the insurer to pay in a timely manner and the ability of the institution to identify, analyse and report the claim in a timely manner;
  - (b) how the various factors referred to in point (a) have affected the mitigating impact of insurance on the operational risk profile in the past and how they may affect it in the future;
  - (c) that the institution reflects the uncertainties referred to in point (a) in its AMA own funds requirements, through appropriately conservative haircuts.
3. For the purposes of paragraph 1, competent authorities shall verify both of the following:
  - (a) that the institution carefully takes into account the characteristics of the insurance policies, such as whether those policies cover only losses that are claimed or notified to the insurer during the policy term, therefore any loss that is discovered after the policy expires is not covered ('claims-made'), or whether they cover losses that are incurred during the policy term, even where they are not discovered and the claim is not lodged until after expiration of the policy ('claims-incurred'), or whether the losses are first-party direct losses or third-party liability losses;
  - (b) that the institution considers and fully documents data on insurance pay-outs by loss type in its loss databases and sets haircuts accordingly;
  - (c) that the institution has in place procedures for loss identification, analysis and claims processing, with the view to verifying the actual coverage protection provided by the insurer or the ability to receive the claim payment funds within a reasonable timeframe.
4. For the purposes of paragraph 1, competent authorities shall verify that the institution explicitly quantifies and models separately the haircuts in relation to each of the identified relevant uncertainties and does not apply any of the following:

- (a) one single haircut into the calculation covering all uncertainties;
  - (b) an ex-post calculation haircut.
5. For the purposes of paragraph 1, competent authorities shall verify that the institution takes into account the recognition of the insurer's claims-paying ability risk to the maximum extent, by applying appropriate haircuts in the insurance modelling methodology.
6. For the purposes of paragraph 1, competent authorities shall verify that the institution ensures that the claim paying ability risk for counterparty default is assessed on the basis of the credit quality of the insurance company responsible under the given insurance contract, irrespective of whether the insurance company's parent institution has a better rating or whether the risk is transferred to a third party.
7. For the purposes of paragraph 1, competent authorities shall verify that the institution makes conservative assumptions relating to renewal of insurance policies on the basis of equivalent terms, conditions, and coverage as the original or existing contracts.
8. For the purposes of paragraph 1, competent authorities shall verify that the institution has processes in place to ensure that the potential exhaustion of insurance policy limits and the price and availability of reinstatements of cover as well the cases where the coverage of the insurance contract does not match the operational risk profile of the institution ('coverage mismatches') are appropriately reflected in its AMA insurance methodology.
9. For the purposes of paragraph 1, competent authorities may consider that the requirement for the institution to apply haircuts for the time remaining until the expiry of the insurance contract ('residual term') or for the cancellation term is not necessary where the cover will be renewed and continuous and in particular where one of the following conditions are met:
  - (a) where the institution can demonstrate the existence of continuous cover on equivalent or improved terms, conditions and coverage for at least 365 days;
  - (b) where the institution has in place a policy that cannot be cancelled by the insurer, other than for non-payment of premium, or which has a cancellation period of more than one year.

#### *Article 50*

##### *Considerations for ORTM only*

1. In assessing whether an institution has demonstrated that a noticeable risk mitigating effect is achieved with the introduction of ORTM, as referred to in Article 42(f), competent authorities shall, in particular, apply all of the following:
  - (a) they shall verify that the institution has experience in using ORTM instruments and their characteristics, such as probability of coverage

- and timeliness of payment, before these instruments can be recognized in the institution's operational risk measurement system;
- (b) they shall not accept ORTM as eligible risk mitigation instruments of the AMA own funds requirements where the ORTM are held or used for trading purposes rather than for risk management purposes;
  - (c) they shall verify the eligibility of the protection seller such as whether it is a regulated or unregulated entity, and the nature and characteristics of the protection provided such as whether it is funded protection, securitization, guarantee mechanism or derivatives;
  - (d) they shall verify that outsourced activities are not considered part of ORTM;
  - (e) they shall verify that the institution calculates the AMA own funds requirements on a gross- and net-of- ORTM basis for each capital calculation, at a level of granularity such that any erosion in the amount of protection available, can be immediately recognised for its effect on capital requirements;
  - (f) they shall verify that where material losses are incurred, affecting the coverage provided by the ORTM or where changes in the ORTM contracts create major uncertainty as to their coverage, the institution recalculates its AMA own funds requirements with an additional margin of conservatism.

## **CHAPTER 6**

### **FINAL PROVISIONS**

#### *Article 51*

#### *Transitional provision*

For institutions using an AMA for the purpose of calculating their own funds requirements for operational risk, or for institutions which have already applied for a permission to use AMA for that purpose, this Regulation shall apply from one year after its entry into force.

*Article 52*

*Entry into force*

This Regulation shall enter into force on the twentieth day following that of its publication in the Official Journal of the European Union.

Point (b) of Article 40(4) shall apply from [instructions to the OJ: two years from the entry into force of this Regulation.] This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels,

*For the Commission*  
*The President*  
*On behalf of the President*

## 4. Accompanying documents

---

### 4.1 Impact Assessment

#### Introduction

1. Article 312(4) of Regulation (EU) No 575/2013 (CRR) requires the EBA to develop draft Regulatory Technical Standards (RTS) related to the assessment methodologies for Advanced Measurement Approaches (AMA).
2. Article 10(1) of the EBA Regulation (Regulation (EU) No 1093/2010 of the European Parliament and of the Council) provides that when any draft implementing technical standards / regulatory technical standards developed by the EBA are submitted to the EU Commission for adoption they should be accompanied by an analysis of 'the potential related costs and benefits'. This analysis should provide the reader with an overview of the findings regarding the problem identification, solutions proposed and the potential impact of these options.
3. This annex presents the impact assessment with a cost-benefit analysis of the provisions included in the RTS described in this Consultation Paper. Given the nature of the study, the impact assessment is high level and qualitative in nature.

#### Procedural issues and consultation process

4. The EBA prepared a questionnaire addressed to national competent authorities (NCAs) to obtain information on current practices in the EU Member States and expected costs and benefits related to the adoption of the RTS on assessment methodologies for AMA. This analysis is based on the responses to the questionnaire.
5. The draft RTS are largely based on the current CEBS guidelines 'Guidelines on the Implementation, Validation and Assessment of Advanced Measurement Approaches (AMA) and Internal Ratings Based (IRB) Approaches' (GL-10 CEBS, 'CEBS GLs'). The questionnaire mapped each article of the draft RTS into the corresponding section of the CEBS GLs and asked about the current level of implementation (i.e. the baseline) and expected costs and benefits for all the chapters of the draft RTS, with the exception of Chapter I (which deals with definitional aspects), as follows:
  - scope of operational risk and operational loss;
  - operational risk management;
  - operational risk measurement;
  - data quality and IT system;
  - use test; and

- audit and validation.
6. The respondents were asked to indicate separately the level of implementation and the expected costs and benefits from zero (no implementation/cost/benefit) to three (full implementation/high cost/benefit). For the sake of simplicity, the scope of the questionnaire was restricted to home institutions only.
  7. At the time of the impact analysis, the EBA received 17 responses from NCAs, of which eight confirmed that there are no institutions using AMA under their home Member State supervision.

### Problem definition

8. This section outlines the problems to be addressed by these RTS. The core problem that the RTS aim to address is the lack of harmonisation in current practices for the assessment methodology under which the competent authorities permit institutions to use AMA.
9. Due to the non-binding nature of the CEBS GLs, both the interpretation and the implementation of the assessment methodology, conditions and modalities vary across EU Member States. For example, the risk profile of an institution depends on the scope of the operational risk and the operational loss, and the scope depends on the assessment methodology under which the competent authorities permit institutions to use AMA models. If the interpretation and the implementation of the assessment methodology are not consistent across EU Member States, the framework may lead to regulatory problems in the EU banking sector, including:
  - an uneven level playing field: if the conditions and parameters for assessment are not consistent between jurisdictions, two institutions located in two different jurisdictions may be treated differently, despite having the same operational risk profile;
  - regulatory arbitrage: institutions ceasing their operations in a Member State where the regulatory framework is stricter and/or less predictable and relocating their businesses to Member States with a more favourable regulatory framework.
10. On a larger scale, such problems in the regulatory framework may prevent the effective and efficient functioning of the EU banking sector as well as the internal market.
11. Another problem related to the AMA models is the effectiveness of the current framework in responding to new challenges in the EU banking sector. The current framework is based primarily on the CEBS GLs, and it is reasonable to consider that the current RTS, of which the CEBS GLs are the basis, will provide an updated version of these and establish a regulatory framework that addresses the challenges in the banking sector. The logic behind Section (0) of the assessment of the technical options is based on this argument. This section presents a qualitative analysis and identifies an optimal option that can effectively address the problems identified.

## Baseline scenario

12. There are significant variations between EU Member States in the number of AMA institutions and their asset shares.
13. It is therefore reasonable to expect that the impact of these RTS will also vary between States. Since the CEBS GLs form the basis of the RTS, compliance with the former can be assessed as a benchmark to identify the current level of implementation of the RTS, i.e. by looking at the level of compliance with the CEBS GLs one can understand where each EU Member State currently stands in terms of meeting the content of the RTS.
14. It is reasonable to assume a negative correlation between the level of compliance and the expected costs and benefits that the RTS will generate in the future. For example, if a Member State is currently in full compliance with the CEBS GLs then the costs and benefits are predicted to be low or negligible after the implementation of the RTS.
15. In the sample, all Member States are either in full compliance or mostly comply with the CEBS GLs.

## Objectives of the technical standards

16. The main specific objectives of the technical standards are to:
  - update the regulatory framework related to operational risk to respond effectively to the challenges of the current banking system; and
  - harmonise the standards for the supervisory framework for AMA models to minimise room for regulatory arbitrage and distortions in the EU banking sector.

## Technical options

17. In line with the problem definition, the following possible approaches to the development of the technical standards were considered:
  - Option 1:** converting the CEBS GLs fully into RTS with no additional elements;
  - Option 2:** converting the CEBS GLs into RTS with additional elements;
  - Option 3:** converting the CEBS GLs partially into RTS with no additional elements.
18. The logic behind the technical options is to capture the extent to which the current framework under the CEBS GLs addresses the challenges of the banking sector in relation to operational risk. In other words, it discusses qualitatively whether:



- the current framework is sufficient to completely and effectively meet the objectives (Option 1);
- the current framework is not sufficient, and new elements therefore need to be added (Option 2); or
- the current framework includes outdated elements that are no longer relevant to the current banking sector and can therefore be excluded to allow the current framework to effectively meet the objectives (Option 3).

### Assessment of the technical options

19. The assessment of the options is based on the responses to the questionnaire, in which NCAs were asked to indicate the level of expected costs and benefits and to provide the sources of these costs and benefits.

#### Option 1

20. Under this option, the content of the RTS is identical to that of the CEBS GLs. The basis of the latter is the supervisory experience and expectations for the implementation, validation and assessment of AMA models as of the beginning of 2006. The CEBS GLs are no longer effective at addressing the new challenges in the EU banking sector, particularly those related to the collection and handling of internal loss data, and operational risk modelling and insurance.
21. In their responses to the questionnaire, all NCAs attributed negligible cost to the relevant sections of the RTS. This is due to the already high level of compliance with the CEBS GLs and the unavailability of the AMA institutions in the relevant jurisdiction.
22. In terms of the benefits of the option, NCAs with AMA home institutions under their supervision considered the benefits from the identical transformation of the CEBS GLs into RTS for all chapters in the legislation to be negligible or small. Two NCAs considered the benefits to be negligible and small depending on the chapters of the RTS, while only one Member State predicted significant benefits from this option. The major source of the benefits is the level of harmonisation across Member States and the certainty that all provisions of the previous Guidelines – which were not legally binding – would be implemented in a comprehensive and consistent manner.
23. In addition, Member States with no AMA institutions under their home supervisory jurisdiction can also benefit from the policy, since a more effective regulatory framework will generate positive externalities. This is particularly true given that the EU banking sector is highly interrelated and operates with a high level of cross-border elements.

## Option 2

24. Option 2 is an extended version of Option 1, incorporating additional elements into the CEBS GLs before transforming them into the RTS. The RTS containing the additional elements are expected to address the problems relating to operational risk more effectively. These additional elements mainly cover the collection and handling of internal loss data, operational risk modelling and insurance. Under this option, the RTS incorporate the CEBS GLs with The Basel Committee on Banking Supervision (BCBS) AMA Supervisory GLs and the BCBS Insurance Paper in the areas of:

- gross loss definition;
- date of internal loss;
- granularity;
- distributional assumptions;
- dependence;
- use of the four elements<sup>7</sup>;
- criteria for recognising insurance mitigation;
- insurance modelling;
- haircuts, discounts and uncertainty.

25. In terms of the impact of this option, the magnitude of the associated costs and benefits depends on the technical area of the RTS. The remainder of the section assesses this option for each chapter of the RTS. The following general conclusions can be drawn from the analysis:

- There is no RTS chapter under which any Member State expects greater costs than benefits.
- For some chapters, Member States indicate that the costs will offset and balance out the benefits, and for one Member State this is the case for all chapters.
- At the EU level, under all chapters, the benefits of the RTS are greater than the costs (i.e. the aggregate net benefit is positive for all chapters), and

---

<sup>7</sup> According to Article 322(2)(b) of Regulation (EU) No 575/2013, an AMA Institution must use the following four elements to build its operational risk measurement system: internal loss data, external loss data, scenario analysis and business environment and internal control factors.

- Net benefits are greatest for the chapters on operational measurement, data quality and IT system, and audit and validation.

#### a. Costs and benefits related to the scope of operational risk and operational risk loss

26. The responses received from the Member States indicate that 60% of the NCAs expect low costs associated with ‘the scope of operational risk and operational risk loss’ under Option 2 and around 30% of respondents expect negligible costs in the same area. These costs for the NCAs and the industry are expected to be incurred mainly from the implementation of the provisions. The additional data collection process, the one-off cost to establish appropriate IT mechanisms, and operational arrangements to draw the boundary between operational risk and credit risk are stated as the main sources of costs for the industry. Some NCAs stated that additional costs for the national supervisors are expected due to the implementation of new provisions.

27. In terms of benefits, around 60% of respondents stated that the estimated benefits would be more than small (i.e. medium or large). The provision is expected to clarify the definition and common understanding of operational risk throughout EU Member States, and therefore increase legal certainty and standards in the field of classification and measurement across institutions and Member States, and in terms of operation risk prevention/mitigation in lending activities.

28. Overall, NCAs believe that the benefits of Option 2 exceed the costs in this particular thematic area.

#### b. Costs and benefits related to operational risk management

29. The Member States indicated that the costs generated under this policy area would be either negligible (around 50% of the NCAs) or low (40% of respondents). Although most of the NCAs did not elaborate on this point, it is reasonable to assume that negligible/low costs are foreseen due to the high level of compliance with the CEBS GLs. Some Member States mentioned low costs that could be incurred due to the amendment of the national regulatory framework and minor adaptations of the AMA models for the existing institutions.

30. On the other hand, the same NCAs also expect the benefits in this technical area to be negligible. This is reasonable since these Member States are already in extensive/full compliance with the current framework. Some Member States see great benefits in the option in this technical area of the RTS and believe that the benefits significantly exceed the costs. Legal certainty and harmonisation across EU Member States is considered to be the major benefit of the option.

### c. Costs and benefits related to operational risk measurement

31. The technical area is that which incorporates a great number of new elements from other resources before transforming the CEBS GLs into the RTS. Therefore, this is an area in which these RTS will have a great impact. Around 90% of the Member States expect low or negligible costs under this option while around 60% consider that the benefits will be medium or large. NCAs expect to incur a one-off cost for amending institutions' internal documents. The majority of the NCAs do not expect additional costs in terms of workload since they already apply the relevant provisions under the current framework. They also consider the new elements to be a good addition to the current CEBS GLs in terms of establishing clear definitions and standards.
32. One Member State indicated that the costs would be incurred from the parallel running of the two methods. The current draft includes a proposal requiring the old and new methods to be run in parallel until the institution applies for the new method (Articles 34–36). This requirement will introduce some additional costs for institutions – and to a certain extent for the regulators. However, the benefits of being able to evaluate the effect of the new model also justify this cost.

### d. Costs and benefits related to data quality and IT infrastructure

33. The respondents indicated that while the costs associated with this chapter of the RTS are negligible, the expected benefits can vary across the Member States. Around 40% of respondents expect negligible costs with the RTS requirements under 'Data quality and IT infrastructure'. One Member State argued that the cost would be relatively high due to the additional training required for staff. In this policy area, costs associated with amendments to the national legislation are not expected.
34. The expected benefits among the Member States vary: while the same 40% of NCAs that indicated negligible costs expect negligible benefits, 60% of the NCAs expect benefits at either a medium or high level. The benefits are mostly associated with the transition from initially more implicit requirements to a clear and detailed assessment of the IT infrastructure.

### e. Costs and benefits related to use test

35. Similar to the previous thematic area, the Member States will incur negligible costs due to the RTS requirements on 'use test'. This is indicated by 50% of respondents. Around 40% and 10% of the NCAs consider that the costs will be low and medium, respectively. No NCA expects a high level of costs associated with the RTS requirements under this thematic area. The NCAs are expected to incur costs from the implementation of new elements in the supervisory approach, and no additional costs are expected to fall on the institutions.

36. The same Member States – 50% of the respondents – that expect negligible costs also see negligible benefits in this thematic area. However, the other half of the Member States in the sample, which expect low costs, expect to see a greater benefit from the policy intervention. As above, most of the benefits generated from the RTS are due to harmonisation and the establishment of a clearer set of rules that will shape the regulatory framework.
37. Overall, the benefits are expected to exceed the costs.

#### f. Costs and benefits related to audit and validation

38. Half of the Member States with institutions using AMA models expect negligible costs for NCAs and the industry. The same Member States also stated that the benefits they expect to gain from the intervention are negligible. Around 40% of respondents expect the benefits to exceed the costs. While 30% of respondents indicated low costs and high benefits, one Member State specified low costs and medium-level benefits associated with the RTS requirements under this thematic area. Finally, one Member State indicated that the costs and benefits (that are greater than negligible) will cancel each other out.
39. The Member States that indicated costs would be more than negligible stated that they do not expect any costs for the supervision but they do expect costs for the institutions, especially in relation to the independence of the validation function from the function under review. The institutions will now need to comply with more specific and stringent requirements for their internal audit and validation functions.
40. The major benefit of the policy is the establishment of harmonised processes throughout the Member States and of a more specific list of tasks and responsibilities of the internal audit and validation functions. On aggregate, the benefits of the policy intervention in this area are expected to exceed the costs.

### Option 3

41. This option proposes that the RTS cover the CEBS GLs only partially and do not include any new elements. The option is not effective at addressing the problems and new challenges in the field of operational risk because, as argued above, the CEBS GLs that set the current framework need to be complemented and updated before becoming binding in the form of RTS. Therefore, the analysis does not elaborate further on this option.

### Preferred option

42. Given the formulation of the RTS, Option 2 is that which will most effectively address the identified problems. Firstly, it updates and fills the gaps in the current regulatory framework, and secondly, the expected net benefits from the implementation of Option 2 are the greatest.

## 4.2 Views of the Banking Stakeholder Group (BSG)

The BSG welcomed the efforts of the EBA to combine the hitherto coexisting requirements for the structuring of an AMA for operational risk in a single document. From a general point of view, the BSG requested clarification on how the new standards would affect institutions having models in place, which have already been accepted by the supervisory authorities in the past.

The BSG also made detailed remarks with regard to several paragraphs of the draft RTS, requesting clarifications or amendments, in particular relating to the scope of operational risk (i.e. definition of legal risk and the boundary with market risk), the scope of operational risk loss (i.e. frauds events, timing losses or near misses), the measurement system (occurrence date, external data filtering, use of sub-exponential functions, capping vs use of right-tail truncated distributions, prohibition of the use of Normal copulas), audit and internal validation reviews (annual review).

All the points raised by the BSG have been addressed jointly with those raised by the rest of the respondents, and, where deemed appropriate, incorporated in a revised version of the RTS.

These are summarised in the following Section 4.3 (Feedback statement).

### 4.3 Feedback on the public consultation and on the opinion of the BSG

The EBA publicly consulted on the draft proposal contained in this paper.

The consultation period lasted for three months and ended on 12 September 2014. 25 responses were received, of which 20 were published on the EBA website.

This paper presents a summary of the key points and other comments arising from the consultation, the analysis and discussion triggered by these comments and the actions taken to address them, if deemed necessary.

In many cases, several industry bodies made similar comments or the same body repeated its comments in the response to different questions. In such cases, the comments, and EBA analysis are included in the section of this paper where EBA considers them most appropriate.

Changes to the draft RTS have been incorporated as a result of the responses received during the public consultation.

#### **Summary of key issues and the EBA's response**

The document generally received a positive feedback from the industry; most respondents supported the EBA's attempt to establish a single document with a set of standards which promote convergence in the assessment methodologies of AMA frameworks.

However, many respondents requested clarification on a number of items and provisions and the introduction of a number of amendments to better align the standards with the current practices. The revised RTS take into account most of the comments received and introduce only a few new standards not previously consulted (e.g. on documentation).

At the same time, the revised document provides a more direct and clearer link between the standards and the related AMA qualitative and quantitative requirements laid down in the CRD and the CRR. To this end, a reference to the relevant CRR articles has been introduced in the RTS for each article and the structure and order of these articles has been reviewed and aligned with the provisions of the CRR.

## Summary of responses to the consultation and the EBA's analysis

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
<b>General comments</b>			
RTS in general and definitions	Most respondents support the EBA's attempt to establish a single document with a set of standards which promote convergence but more precise definitions would be welcome. Some expressed concerns that the RTS could be too restrictive and limit varieties of approaches and could narrow necessary flexibility in constructing and use of AMA. A stricter follow-up of existing principles and/or a reference considering geographical idiosyncrasy in the 'Introduction' section is recommended.		A reference considering geographical idiosyncrasy has been added to the Introduction section.
International framework outside EU	Some respondents claim that the introduced changes at European level are in opposition in existing regulations outside the EU and that if the EBA introduces changes before the Basel Committee on Banking Supervision (BCBS) developments are in place it could create an uneven global playing field. The EBA should do everything possible to reduce the discrepancies between AMA and non-AMA banks and between financial institutions in the EBA regulated perimeter versus those in other countries. It was also mentioned that the Consultation Paper (CP) contains specifications which deviate from the rules currently applicable.	As set out in the Executive summary, several sources have been taken into account to draft these RTS, including the AMA supervisory Guidelines published by the BCBS. The EBA believes that the draft RTS are broadly consistent with those set out in other jurisdictions.	Where deemed appropriate, clarifications and amendments to the legal text have been made.



Comments	Summary of responses received	EBA analysis	Amendments to the proposals
Extended phase-in	Some respondents asked for a more adequate extended phase-in and requested implementation guidance and an additional EBA analysis of the practicality of certain conceptual and implementation issues. It is requested that specifications become binding only for models/databases that are validated after the RTS have entered into force and therefore will not require any adoptions to databases with retrospective effect.	To create a level playing field, the EBA believes that the RTS have to be binding for all the institutions. The transitional arrangements give institutions time to adapt models to these standards.	The EBA has introduced the possibility of an additional phase-in period in specific circumstances.
AMA banks vs non-AMA banks	Some respondents asked for clarification on how non-AMA banks can consider the new measures and how to ensure uniformity when consortia data sources are used where participants are not only AMA banks. It is expected that AMA-capital figures will increase, and some respondents expressed concerns that non-AMA-Banks could be affected by e.g. capital charges in the capital calculation or by further specifications on scope and definition of loss event registration. Clarification that no effect on capital calculation under BIA/STA is requested.	The scope of the question exceeds the mandate, which requires only specification of the assessment methodology under which competent authorities permit institutions to use the AMA. The EBA believes that the consortia have the responsibility to ensure uniformity within their members even where participants are not adopting an AMA.	No change.
Recitals	Some respondents remark that the scope of reporting goes too far and would entail disproportionately high costs. It is proposed to restrict the scope of reporting to the staff responsible for operational risk management	The EBA agrees. More generally, all recitals have been reviewed and streamlined where necessary.	Several recitals have been amended.

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	(recital 14).		
Scope of operational risk (Article (1))	<p>Many respondents mentioned the confusion regarding the connection with <u>strategic, reputational and compliance risks</u>. It has been proposed to delete 'with the exclusion of other kinds of risk' or to be more precise.</p> <p>It was also mentioned that some important elements of the definition of operational risk are missing from the scope of operational risk, in particular processes, systems, people or external events.</p> <p>Many respondents noted the lack of clarity with regard to the scope of '<u>model risk</u>', and asked for a clear reference to model risk definition as in the Capital Requirements Directive IV (CRDIV). Moreover they requested a new article on model risk aimed at clarifying what losses stemming from model flaws must be included into (and excluded from) the AMA regulatory capital. Full consistency with the Guidelines on SREP methodologies was also requested (EBA/CP/ 2014/14).</p>	<p>The EBA agrees.</p> <p>The definition of operational risk is already covered by the CRR; there is no need to recall it in the RTS.</p> <p>The EBA agrees.</p>	<p>The articles relevant to the scope of operational risk have been significantly reviewed in order to take into account industry comments and also to better align the RTS with the CRD and CRR texts. In the revised RTS, the scope of operational risk addresses legal risk, model risk and financial transactions.</p>

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
Legal risk (Articles 2(12) and 4)	<p>The inclusion of 'the risk of being sued' or 'being the subject of a claim' in the definition of <u>legal risk</u> is of concern, as 'the risk of being sued' is heavily influenced by the jurisdiction. A recommendation was made to amend this. Another suggestion is to also align the definition of 'legal risk' with that of the Basel Committee.</p> <p>The part of the definition that states 'inaccurately drafted contracts' covers legal risk only partly. Therefore it has been suggested that what is included and what is not be clarified.</p> <p>A recommendation was made to include within the RTS the clarification provided on the scope of legal risk with respect to compliance risk in the Single Rulebook Q&amp;A (Question ID: 2014_1153).</p> <p>Some respondents observed that the expected treatment of 'exposure to newly enacted laws' is not clear: such a provision could lead to the inclusion of internal costs to comply with a new law on the scope of operational risk.</p> <p>One respondent noted that the definition should include contractual risk, dispute risk and legislative risk.</p>	<p>The EBA agrees on most of the raised comments.</p> <p>If the suggested approach were adopted, other operational risk subcategories, such as contractual, dispute and legislative risks should be defined. This would make the definition of the operational risk perimeter much more complex and difficult to interpret and implement. The EBA believes that for</p>	<p>The article on legal risk has been significantly amended.</p> <p>No change regarding contractual, dispute and legislative risks.</p>

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	<p>Some respondents say that the inclusion of “internal rules” and “ethical conduct” in the scope of legal risk is effectively extending the scope of legal risk. It should be deleted or a clear definition of which internal rules are to be considered should be included.</p> <p>Some respondents observed that the reference to industry practice in Article 4(3)(b) is confusing. A number of industry practices have been found to be contrary to ‘legislative or regulatory rules’.</p> <p>Clarification was requested on how to treat legal expenses when the bank initiates a ‘legal event’.</p> <p>Also clarification has been requested that “genuine goodwill cases in which the institution decide to assume costs without an underlying op risk event” should not be classified as an operational risk loss.</p> <p>Many respondents noted that the definition for</p>	<p>simplicity and comparability purposes it is preferable to define the basic reference context and leave some flexibility to institutions in the practical implementation of legal risk within the operational risk perimeter.</p> <p>More recently, large institutions have faced an increasing number of severe operational risk losses stemming from fines/penalties or litigation settlements. In many cases, these losses are attributable to misconduct behaviour with customers or third parties, in turn caused by violation of internal procedures and code of conducts. In light of this, the EBA considers it appropriate to include into the scope of legal risk events due to breaching ‘internal rules’ and ‘ethical conduct’.</p> <p>The EBA agrees.</p> <p>As long as there are no operational risk events causing the loss, this loss must not be included within the scope of operational risk.</p> <p>The EBA agrees.</p>	<p>Misconduct events have been explicitly included in the list of operational risk &amp; legal risk cases.</p> <p>The text has been amended accordingly.</p> <p>Amended, as it is in</p>

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
Definition of recovery (Article 2(21))	<p>'recovery' only refers to what is commonly known as 'indirect recovery'. It is proposed to also give a definition of 'direct recoveries' or, alternatively, the definition could be completed '... received from the first party or from a third party, such as insurers or other parties'.</p> <p>There were suggestions to clarify or slightly amend the definitions of 'AMA institution', 'pending losses' and 'timing losses'.</p>	The EBA agrees.	<p>COREP instructions.</p> <p>The definitions have been amended accordingly.</p>
Operational risk events related to market risk (Article 5)	<p>Many respondents noted that the heading is misleading because the content of the article is related to transaction-related life cycle events in financial markets and not necessarily to market risk. Also, the designation 'boundary events' is said to be misleading and should therefore be deleted. Reference to data entry errors seems to be missing.</p> <p>Other respondents observed that there is overlapping with model risk (Articles 5(2)(c) and 5(3)(i), 5(3)(j) and 5(3)(h) and lack of clarity for the cases of exclusion in 5(4) and 5(5).</p> <p>'Unauthorized market positions taken in excess of limits' should be clarified because operational risk losses can arise when unauthorised positions are taken; they are not limited to market positions. These positions could be in relation to purchasing, recruiting staff or granting credit lines.</p>	The EBA agrees.	<p>The heading and text have been amended accordingly.</p> <p>The cases identified have been moved to the new article on model risk and the cases of exclusion have been dropped from the list.</p> <p>Article 5(3)(g) has been amended to 'positions taken in excess of allocated limits, irrespective of the type of risk they relate to'.</p>

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	<p>There was also a suggestion to include only 'intentional unauthorised excess of limits' within the scope.</p>	<p>EBA is of a view that the unauthorised excess of limits may be caused also by other reasons (e.g. fat finger), which are unintentional.</p>	No change.
	<p>It was noted that the reason for inclusion of unauthorised positions is clear in that it is only unauthorised positions which are included. These may result in excess profits and or excess losses. In the event that an excess profit is derived from an unauthorised position, the profit should be excluded from any modelling.</p>	<p>Indeed, only unauthorised positions are included. If they generate a profit, this is to be considered an operational risk gain as defined in Article 2(15).</p>	No change.
Scope of operational risk loss (Article 7)	<p>One respondent noted that the current wording of Art 7(1) leaves no room for excluding some loss from the AMA calculation. However, the case may arise where the amount of loss to be included within the scope can be different from the total supported loss (for instance in the case of tax payments).</p> <p>One respondent noted that there were difficulties in performing a fair estimation of cost of repair or replacement mentioned in Article 7(1)(b)(2). After a risk event, one may choose to enhance the former situation rather than just to restore it, and it is then quite unclear to assess which part of the cost should be considered to be included in the operational risk database. The suggestion was made to clarify that it should be assessed on a</p>	<p>The EBA agrees with most of the comments raised.</p> <p>The institution should include within the scope of the loss only those costs that permit to restore the former situation. If precise figures are not available, estimates are possible.</p>	<p>The article on the scope of operational risk loss has been amended and moved under the 'Quantitative standards' (Chapter 3, Section 1, sub-section 1, renumbered Article 28)</p>

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	<p>best-effort basis.</p> <p>Some respondents provided a few wording suggestions to clarify the scope of op risk loss in Art 7(1)(a), 7(1)(b), 7(1)(c), 7(1)(e) and suggested that the last sentence of 7(1)(d) related to pending losses be deleted as it was misleading.</p> <p>One institution stated that the category of pending losses was redundant as losses had to be included in provisions/reserves where they are certain and significant. Another respondent asked that precise figures be set as pending losses over two years and higher than 1% of net banking income (NBI).</p> <p>Many respondents said that it is recognised and appreciated that uncollected revenues (Art 7(1)e) were an economic loss to the firm. However, capturing these losses is difficult, in particular in terms of completeness and accuracy. Therefore firms should be able to agree a threshold, with their home regulator, for capturing them as only those material cases should be included within the scope.</p> <p>For the sake of clarity, and to ensure that the treatment of timing losses (Article 7(1)(f) is consistent with example iii) given in the Explanatory Box on page 28, it was proposed that the text be amended to 'legal risks arising from</p>	<p>As set in the definition in Article 2(20), pending losses are typically recorded in transitory or suspense accounts and are not yet reflected in P&amp;L accounts, so they are different from provisions or reserves from both a logical and accounting perspective. It is not possible for the EBA to set precise figures for qualifying losses as pending losses, as these will have to be set by the institutions based on their business characteristics and AMA framework.</p> <p>The EBA agrees.</p> <p>The EBA agrees.</p>	<p>No change.</p> <p>A concept of materiality has been introduced.</p> <p>The text has been amended accordingly.</p>

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	<p>timing losses that span more than one accounting year’.</p> <p>It was also noted that tax-related payments should be explicitly excluded from timing losses since these are not related to operational risk.</p>	<p>The exclusion of tax-related payments is explicitly laid down in renumbered Article 29(4).</p>	<p>No change.</p>
<p>Recorded loss amount of the operational risk items (Article 8)</p>	<p>One respondent noted that the ‘legal interests’ do not correspond to an operational event and should not be considered for modelling operational risk profile. The suggestion was made that only interest in arrears accrued until the date of recognition of the event were included, excluding the interest after this date (Article 8(1)(a)).</p> <p>‘Timing losses’ in Article 8(3): one respondent noted that this section is silent on the materiality test to be applied to collecting these data. The absence of guidance may result in firms applying their own thresholds leading to inconsistencies in the data used for capital calculation purposes.</p> <p>It was also noted that the examples in the Explanatory Box seemed to indicate that timing losses must be collected if the following elements occur simultaneously: i) presence of legal risk; ii) losses involving more than one accounting period; and iii) involvement of third parties. Confirmation is needed that, when all the above three criteria</p>	<p>The interest payments from the date of the claim until the moment the third party is paid are to be considered a component of the operational risk loss. Where an institution believes that this interest is highly predictable and reasonably stable, it can consider it as part of the expected losses and, in line with the CRR and the provisions of Article 24, request that they be offset from the AMA capital calculation.</p> <p>As with any item of the perimeter of the op risk loss, the materiality is chosen by the institution through the application of an appropriate threshold.</p> <p>The make-up payments that are part of the timing losses are those that stem from a temporary distortion of an institution’s financial accounts and that involve more than one annual accounting period. For example, a dispute with an employee for harassment which refers to the restitution of wages typically covers more than an annual accounting</p>	<p>No change. The article on the recorded loss amount has been moved under the ‘Quantitative standards’ (Chapter 3, Section 1, sub-section 1, renumbered Article 29).</p> <p>No change.</p> <p>No change.</p>



Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	<p>occur simultaneously, both the (i) make-up payments and (ii) the penalties and interest are included in the loss amount. If this is the case, should the make-up payments for the current year be included in the amount of the loss? In the example of a dispute with an employee for mobbing which refers to the restitution of wages, it is not clear if the make-up payments for the current year should be considered as operational risk loss.</p>	<p>period; therefore the make-up payments should be included in the perimeter of timing losses. Examples of events to be excluded from the timing losses (and from the scope of the op risk) perimeter are those that are detected and reimbursed within the same annual accounting period, such as extra fees applied to customers caused by procedures mistakes/malfunctions at the end of the 1<sup>st</sup> Quarter and reimbursed at the end of the 3<sup>rd</sup> Quarter.</p>	
Operational risk management (Chapter III)	<p>Two respondents expressed concerns with the use of the term 'institution's management body' in Article 11(2)(a) and (c) because the roles of Management Bodies and Senior Management vary between jurisdictions.</p>	<p>The terms 'management body' and 'senior management' are introduced in these RTS according to their definition as set out in Articles 3(7) and (9) of the CRDIV.</p>	
	<p>There was one concern that Article 12(3)(e) introduces a '<i>budget for the operational management risk function</i>'. All these additions need to be consistent and they are not only relevant for AMA Banks.</p>	<p><b>Article 12(3)(e)</b> is an elaboration of CRDIV, Article 76(5) (para 5) which states that 'The head of the risk management function shall be an independent senior manager with distinct responsibility for the risk management function. Where the nature, scale and complexity of the activities of the institution do not justify a specially appointed person, another senior person within the institution may fulfil that function, provided there is no conflict of interest.</p>	No change.
	<p>Four respondents were concerned with this article which refers to ad hoc reporting of deficiencies – wide-spread comment on 'why detection of deficiencies should lead to ad hoc reporting rather than ad hoc validation'.</p>	<p>The expectation is that the identification of deficiencies in policy, processes or procedures will be reported promptly and addressed in a timely manner. Such reporting will be ad hoc because it falls outside the normal reporting cycle. The underlying assumption is that validation of a</p>	No change.

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
		deficiency should occur at the time it is first detected and that the deficiency should be reported.	
Operational risk measurement (Chapter IV) Section I – The four AMA elements	One respondent noted that the EBA should review the draft rules in order to improve the harmonisation of the two primary regulatory jurisdictions, the EU and the USA. There was a proposal to add further standards to Chapter IV (e.g. on internal loss data, operational risk categories (ORCs), legal risk, external data, scaling, internal data group, scenario, BEICFs).	The EBA believes that the draft RTS are broadly consistent with those set out in other jurisdictions, and that they adequately cover all the components of an AMA measurement framework. As a result, relevant changes or integrations are unnecessary.	No change.
Internal loss data: reference date (Article 16(4))	It was noted that recording the occurrence date would be a significant effort for some institutions.	The RTS state that this date has to be collected when available.	No change.
	Consortia should not necessarily indicate a date of accounting or reserve that is not useful for modelling purposes.	Each consortium has its own rules and standards for data reporting. The RTS are assumed to apply to institutions and not to consortia.	No change.
	One respondent noted that collecting the two dates (the discovery date and the accounting date) will be very expensive for institutions that have one date but not the other. There was a proposed change to Article 6(4) 'for each individual operational loss, at least the date used to build the calculation set and the accounting or discovery date (not both) and that the identification and record of additional dates should be optional'.	Generally institutions have several reference dates that can be captured for any individual operational loss, including the date of occurrence, date of discovery and date of accounting. Each reference date potentially offers different information on the characteristics of each loss, hence institutions should strive to collect at least those dates, i.e. discovery date and accounting date, which are easier to define and identify.	No change.
	It was questioned whether the provision of external loss data in Article 17(1) meant that all	No, the requirement of data quality for submissions to industry consortia only applies to the institutions	No change.

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
External data: Consortia (Article 17(1))	Members had to deliver to the consortium data as required by the EBA for AMA firms.	subject to these RTS (i.e. AMA institutions in the EU). AMA institutions are requested to use external data for capital regulatory purposes; hence the quality of the data they provide to consortia and will receive back in aggregated form needs to be comparable to the internal quality.	A clarification has been added to the article on external data.
	<p>It was also mentioned that external databases in general have different/lower standards than internal databases of AMA banks for several reasons (e.g. lower granularity, higher thresholds, etc.). This also raises questions about reporting reserves &amp; provisions as well as insurance recoveries. This requirement implies that all reserves &amp; provisions, as well as insurance recoveries that are used for internal risk management and measurement purposes must also be reported to the consortia; moreover, it would imply that this data be reported following the internal thresholds rather than those set by the consortia. It will be difficult to achieve comprehensive delivery of reserves &amp; provisions and insurance data without creating additional jeopardy and confidentiality issues.</p>	The article requests institutions to 'provide data of comparable quality, as to scope, integrity and comprehensiveness, to the internal data standards set out in Article 16'. However, this has to be done according to the criteria set by the consortia on the type of data to be reported.	
External data: filtering (Article 17(3))	Clarification was requested on the filtering process.	If filtering is deemed necessary, the filtering process has to be defined by the institution itself. Therefore standardisation of filtering by the EBA is not possible or advisable. Filtering on single loss amounts is in general not permitted. Exceptions are possible, but in this case the RTS state that institution must have a	No change.

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
BEICFs: adjustments (Article 19(2))	The provision of limiting the magnitude of positive/negative adjustments should not apply in case the BEICF are not used as a stand-alone methodology, for example in case of worst-case scenarios. This provision in Art 19 would cap indiscriminately these scenarios.	policy providing criteria for exceptions and documentation supporting the rationale.  The EBA agrees.	The article on BEICFs has been amended accordingly.
Section II – AMA modelling assumptions  Building the calculation data set: observation period (Article 21(3))	Some respondents requested clarification on the five years mentioned in this article. This paragraph states that the minimum acceptable data history is five years. However, the target for firms entering the parallel run is three years of data.  One respondent noted that an observation period of more than five years for severity modelling was reasonable. However, for frequency estimation an extended observation period delays the reaction of the capital figure to changes to the business process that can measurably influence the frequency of loss events. Thus an extended observation period for frequency calibration reduces the incentive effect of the capital model. Proposal to clarify the text.	The EBA agrees.  In the case of low-frequency events, an extended observation period is also useful for a proper estimation of the frequency distribution. The AMA regulation permits the use of elements other than historical data (e.g. scenario analysis, BEICFs) to incorporate into the capital calculation in a timely manner changes to the business process.	The article has been amended. Five years replaced with reference to the minimum period set out by Art 322(3)(a) of Regulation No 575/2013.  No change.
Building the calculation data set: reference date (Article	It was noted by some respondents that the use of ‘date of discovery’ or ‘date of accounting’ is incorrect for estimating dependencies. The	The EBA believes that the occurrence date should not be used for estimating frequency and severity distributions, because of the time lag that typically	This concept has been clarified in the 1 <sup>st</sup> sentence of

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
21(4))	proposed dates do not express the simultaneous occurrence of actual events. Also, the use of these dates could cause unwanted variability in the AMA incident frequencies. The article goes against the BCBS AMA supervisory guidelines (para 28) that state 'An AMA bank may use any of the reference dates (occurrence date, discovery date, contingent liability date or accounting date) for building its calculation dataset, and for meeting minimum observation period requirements, as long as material loss data is not omitted.'	exists between when an event occurs and when it is discovered or accounted, and considering that this date is the most difficult to identify/retrieve in a loss data collection. However, the date of occurrence may be appropriate for estimating dependencies.	renumbered Article 35(5).
Building the calculation data set: <i>de minimis</i> modelling threshold (Article 21(5))	Some respondents noted that there appears to be a conflict between the requirement in article 21(5) to use all operational risk losses and article 21(1) which implies that firms can construct relevant internal loss data sets.	Article 21(1) mandates that ' <i>an institution has a policy that identifies when an event or loss recorded in the internal loss events database is also to be included in the calculation data set</i> '. This is meant to refer to the criteria to set <i>de minimis</i> modelling thresholds and not to the losses above these thresholds, which should be included in the calculation dataset and used, whatever their amounts, for generating the AMA regulatory measures.	No change.
Building the calculation data set: inflation rate (Article 21(6))	There was support for the inflation rate provision by one respondent but some said that appropriate inflation rates are very specific (real estate in different countries/cities, expenses for medical treatment, etc.) and they consider finding an appropriate index for the loss events to be extremely challenging.	The RTS ask for inflation or deflation adjustments only when material.	No change.
Building the calculation data set: root event (Articles 21(7))	Clarification of Articles 21(7) and (10) was requested in relation to the concrete definition of 'single root event' and 'root event'.	The definition of 'root event' is provided in Article 21(10) of this article and EBA believes it is sufficiently clear. There is no difference between	The word 'single' has been deleted

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
and 21(10))	<p>One respondent disagreed with including grouped events into the AMA calculation for several reasons (difficult to reconcile, create distortion, instability of dataset, stationarity issues). It was proposed that losses generated by the same root event should be grouped only if they have occurred in the same period, where 'same period' should be monthly or quarterly.</p>	<p>'single root event' and 'root event'.</p> <p>The grouping of losses related to the same event or root event has the objective of bringing into the calculation data set the whole amount of losses generated by that event. Arbitrarily shortening the concept of 'same period' to one month or one quarter, for instance, would change the nature of this data and give the false impression that the institution is not subject to losses with economic manifestation that cover several months/years, such as litigations.</p>	<p>from the text.</p> <p>No change.</p>
Building the calculation data set: loss adjustments (Article 21(8))	<p>One respondent noted that the interpretation of loss adjustment requirement (Article 21(8)) is that firms will need to record the last date on which the loss amount changed. This reference date is then to be used in determining the inclusion of the loss in the dataset for the AMA calculations. This paragraph appears to be amending that requirement to five years after the last change in the loss amount. A phased approach is proposed, with immediate inclusion of larger events and gradual reduction in the threshold.</p> <p>Some respondents noted that events with an initial reference date outside the observation period are less relevant for the current risk profile than recent events regardless of whether there have been recent adjustments of the loss amount. They suggest including only events in the AMA calculation which have a reference date within the observation period. It was strongly suggested that loss amounts not be split up. Regarding the</p>	<p>The aim of this provision is to avoid adjustments of grouped or linked events that occur within the observation period from being excluded from the estimation of the severity distribution, as these adjustments proved to be very large in some cases (e.g. in the case of legal risks that take several years to settle). For example, imagine that in March 2002 the institution accounted for a provision of €100 in relation to a legal case started with a customer, which came to an end only in October 2013 with a settlement of €150. The institution decided to increase the provisioned amount related to this case in February 2010 and April 2013 by € 30 and € 20 respectively; €150 is the whole loss amount related to this event. Imagine that the observation period for the AMA calculation is 1/1/2004-31/12/2013. As the reference date for this event is March 2002, the whole loss event would be excluded from the calculation if Article 21(8) did not apply. However, Article 21(8) requires that the adjustments of the</p>	<p>A concept of materiality has been included in the renumbered Article 35(9).</p>

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	<p>reference date that should be taken with these adjustments, it is not clear which of the following interpretations is the right one: Option A: all the adjustments are grouped, taking the reference date of the original event, although it falls outside the observation period; Option B: all the adjustments are grouped, taking the first reference date of the adjustments; Option C: the adjustments are treated individually, taking the reference date of each; Option D: the last date on which the loss amount changed is the reference date to be used in determining the inclusion of the loss in the dataset for the AMA calculations.</p>	<p>loss (i.e. the increase in provisions) to a total of €50 are included in the calculation, as they occurred within the observation period (i.e. February 2010 and April 2013). Omitting these parts of the total loss from the calculation would significantly bias down the estimate of the risk related to this event. The article is introduced to mainly ensure a proper feeding of the calculation data set for the estimate of the severity distribution. As a result, the definition of the reference date of the adjusted losses is less important as this information serves to estimate the frequency distribution of the losses. It can be determined in different ways on the basis of the modelling characteristics and procedural constraints. From an economical and managerial point of view, the event would not be split, as it would amount to a total of €150 and only for the purpose of estimating the severity distribution would it be recognised as €50 in the calculation data set pertinent to that observation period.</p>	
Granularity (Article 22)	<p>One respondent noted that a compulsory minimum level of granularity should be regulatory defined as sometimes reducing the granularity was the easiest way to reduce capital figures.</p>	<p>The granularity is significantly related to data availability and model characteristics (e.g. LDA vs scenario-based approaches), hence the minimum number of ORC cannot be regulatory predefined. Supervisors have in any case to carefully assess if the granularity is arbitrarily set to reduce the capital figures; statistical tools such as Exploratory Data Analysis (EDA) (Article 23(2)(a)) are useful to understand the most appropriate granularity level.</p>	No change.
Identification of the probability distributions (Article 23)	<p>Many noted that the <i>ex-ante</i> prioritisation of sub-exponential distributions above other distributions</p>	<p>The provision provides sufficient flexibility, as it advocates the use of sub-exponential distributions</p>	No change.

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	<p>does not seem appropriate in this context. It was proposed to delete this.</p>	<p>when the data are very much dispersed in the tail and permits not using these distributions in exceptional cases.</p>	
	<p>One respondent suggested promoting distributions with the right tail well fitted to the data rather than focusing on kurtosis-related parameters.</p>	<p>This point is already addressed by Article 23(1): 'This process shall result in consistent and clear choices by the institution and shall be finalised with the view to properly capture the risk profile in the tail'.</p>	<p>No change.</p>
	<p>Many note that the CP appears to be moving towards overly strong reliance on statistical measures when selecting appropriate distributions. For example, goodness-of-fit measures are not stable over time, as they change when new data arrive over time. Clearer wording is thus required to put Article 23 into its proper perspective.</p>	<p>The selection of the probability distributions, in particular of severity, is a crucial step in guaranteeing the quality and appropriate conservatism of the capital figure. A less than rigorous approach for selecting distributions, such as the untested adoption of a certain distribution without a proper assessment of its ability to capture the risk in the tail, is considered an unacceptable practice. Article 23 aims at ensuring that this process is well defined and consistently implemented. Nevertheless, this article leaves a sufficient level of flexibility to adapt the process to the AMA model characteristics. For example, in Article 23(2) it is stated that this process also includes Exploratory Data Analysis which encompasses other statistical tools than goodness-of-fit measures, such as graphs.</p>	<p>No change.</p>
<p>Determination of aggregated loss distributions and risk measures: capping (Article 24(4)( a))</p>	<p>Some respondents asked for clarification on the meaning of 'capping' – whether capping could be interpreted as truncating the distribution on the right? It would be helpful if the EBA were to provide a more precise definition of 'capping' to avoid confusion. From a technical point of view, it may be necessary – in some rare cases (depending on the data structure) – to truncate the loss</p>	<p>Capping is meant to refer to methods that limit the magnitude of single loss events (as stated in the article), and not to the mass of probability associated to them. Right-tail truncated distributions can be used, provided that the truncated point can be fully justified on a statistical and economical basis.</p>	<p>No change.</p>



Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	<p>distribution on the right, for instance (which is mathematically not the same as capping and, we hope, is not what the EBA means by ‘capping’) to ensure an acceptable robustness when performing sensitivity analysis, especially in the case of very high losses. This may occur when the data – and hence the fitted distribution – have extreme outliers (this is generally the case when massive losses are added in a sensitivity analysis) and appear to have a very large tail. When massive losses are included in the data they can become overweight compared with the rest of the data because the history is too short. The best-fitted distribution (not right-truncated) may then generate unrealistic losses with an excessively high probability/duration. These respondents would welcome a decision by the EBA to permit right-truncation of the loss distribution for robustness purposes, provided the truncated point can be economically validated.</p> <p>Some noted that while in general Article 24 Item 4 ‘Competent authorities shall verify that the institution applies appropriate techniques to avoid: (a) capping the maximum single loss;’ makes sense, perhaps a caveat is needed so that it does not dismiss the use of exposure-based or factor-based models – these are an important part of the risk tool box and must be maintained. One respondent also stressed that the set of a cap is sometimes necessary for convergence of a simulation procedure, such as the calculation of <math>F^{-1}(x)</math> under a Monte Carlo. One suggestion may be ‘capping the</p>	<p>The RTS do not prescribe the use of a specific model to be used in all the ORC. Depending on the type and nature of operational risks, institutions may choose to apply a different methodology to one or more ORCs, provided that this is fully justified and the standards continue to be fully met.</p>	<p>The Article has been amended as suggested.</p>

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	<p>maximum single loss, if an institution cannot provide a clear objective rationale for the existence of an upper bound (e.g. in the case of fraud events in the credit area).'</p>		
<p>Section III Expected losses and dependence Expected losses, EL (Article 25)</p>	<p>Many respondents requested that 'Clear substitutes' be defined more clearly (Article 25(4)) because it is not clear if they are restricted to Tier 1 or 2 eligible instruments or also include profits &amp; losses (e.g. in trading book and in credit impediments there is the possibility to establish reserves/provision from the profit &amp; loss accounts). If the instruments are Tier 1 or 2 eligible, then these tend to apply to the organisation rather than a risk category or unit of measure, hence they could not be determined at ORC level.</p> <p>Some noted that EL estimation should be made per operational risk category but in this context it is not clear what is meant by "operational risk category".</p>	<p>Expected losses from operational risk events should be absorbed through P&amp;L and sufficiently covered by provisions and other reserves. Provisions and reserves can be detracted from the regulatory capital as long as they can be recognised as EL offset.</p> <p>The definition of operational risk category or ORC is provided in Article 1 (14).</p> <p>Given the multifaceted peculiarity of operational risk, the ORCs are logically and statistically different. While for some ORCs it is possible to have a significant number of predictable events, and hence to have relevant EL offsets, for other ORCs, dominated by rare large events, this is more difficult. It is not logically appropriate and not acceptable from a prudential perspective to use the eventual EL in excess in the first type of ORCs to offset the capital related to the second type of ORCs.</p>	<p>The article has been slightly amended.</p> <p>No change.</p>
	<p>Many also asked for a clearer definition of 'Exceptional operational risk losses'. All the available reserves should be considered for the EL calculation, given that the EL offset is constrained to the statistic EL (e.g. median).</p> <p>A clarification was recommended to Article 25 due to the uncertainty surrounding the meaning and intention of 'Expected Loss'. The term 'expected</p>	<p>The concept of exceptional is idiosyncratic to institutions – therefore no regulatory definition is possible. Accepting all reserves for EL offset would conceptually imply that even large, rare, loss events are easily predictable, which is not the case.</p> <p>The EBA believes that the provision is clear and complete enough, while at the same time leaving some flexibility to the institutions on how to define</p>	<p>No change.</p>

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	<p>loss' is regularly applied to a point on a statistical distribution, in connection with accounting reserves and losses that are expected. Which of these interpretations is intended by the EBA? There should be consistency with the term 'expected loss' as used with credit and market Risks. In the case of modelling insurances, does the expected loss contain savings of this modelling, or is the expected loss without insurance reduction? It is suggested that the EBA statistically define the expected loss within the AMA model, in order to be consistent within all banks, i.e. either median or trimmed median.</p> <p>One respondent noted that trimmed means or median are not sensitive to extreme losses that should instead be considered in the determination of the EL.</p> <p>One respondent claimed that the EBA draft RTS is inconsistent with the EU Regulation. The basic premise is that the calculation of the AMA is a total loss (TL) number i.e. EL + UL as set out in Article 322.</p>	<p>their EL concept and offset.</p> <p>The objective of the provision is exactly that of avoiding large losses affecting EL estimations, as in most cases these losses are not predictable.</p> <p>Article 25(1) clearly refers to Article 322(2)(a) of Regulation (EU) No 575/2013, which envisages as default AMA regulatory capital the sum of the EL and UL figures.</p>	<p>No change.</p> <p>No change.</p> <p>No change.</p>
<p>Section IV – Insurance and other risk transfer mechanisms.</p> <p>Use of insurance and other risk transfer mechanisms (Article 28)</p>	<p>Respondents agreed that, for insurance to be effective, coverage must remain aligned to each institution's operational risk profile. Institutions benefit greatly from a dynamic approach incorporating regular evaluation of the alignment between insurance cover and the changing risk profile. With respect to the last sentence of paragraph 2, a material loss which has eroded</p>	<p>The EBA agrees.</p>	<p>The articles have been amended accordingly.</p>

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
Insurance risk mapping process (Article 29).	<p>available insurance coverage, while being an indicator of the effectiveness of insurance, can be treated similarly to an early policy termination and be treated in three different ways: i) replace the cover with a new policy, ii) incorporate other insurance coverages, and iii) increase capital to compensate termination of insurance cover.</p> <p>It was also recommended that the first sentence of paragraph 2 be changed to 'In the event of an unexpected termination the institution should be prepared immediately to replace the mitigant, raise capital or incorporate another mitigant in the calculation.'</p> <p>It was suggested that the word 'experience' in the penultimate sentence of Article 29(2)(a) be changed to 'assessment', to reflect the forward-looking nature of risk assessment and mitigation evaluation.</p>	EBA is of the view that the word 'experience' provides a sufficient level of flexibility.	No change.
Insurance modelling and haircuts (Article 30)	<p>In keeping with the focus on greater granularity and clarity in coverage, the regulators should foster a culture of continuous improvement in risk mapping methodologies by encouraging institutions to map insurance cover to risks with the maximum detail possible, instead of mandating mapping cover to a specific level, such as risk categories.</p> <p>It was noted that, rather than relying on haircuts, regulators should focus on examining whether institutions have implemented rigorous risk mapping processes, which consider all possible</p>	The EBA agrees.	The article has been amended.
		Haircuts, besides being a regulatory prescription laid down by Article 323(4) of Regulation (EU) No 575/2013, are crucial components of an AMA insurance methodology, as they permit to take into	No change.

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	<p>causes of uncertainty, and whether effective actions have been taken to improve the certainty of insurance recoveries.</p> <p>It was also observed that the effective alignment between loss and insurance cover is a benefit resulting from a regular, dynamic risk mapping process which ensures that cover remains continually aligned to the risk profile in terms of coverage terms, limits and deductibles. As this factor is addressed in other articles, it is not necessary to refer to a specific class of losses (i.e. medium and large) in paragraph 8 of this article.</p> <p>It was recommended to amend Article 30(9) to replace '(i) the willingness of the insurer to pay in a timely manner' with the four elements of payment uncertainty (coverage mismatches, remaining duration of the policy and the ability to renew cover, expected delay in payment, credit counterparty risk of the insurer) and to delete '(iii) the ability of the institution to identify, analyse and report the claim in a timely manner'.</p>	<p>account all the uncertainties that typically characterise insurance coverages.</p> <p>The EBA agrees.</p> <p>The EBA agrees on the need to clarify the sources of uncertainty in this article, however it does not see appropriate to lower the standards on timeliness of claims reporting and insurer payments.</p>	<p>The article has been amended.</p> <p>Partially changed.</p>
Supervisory assessment of insurance mitigation (Article 31).	<p>One respondent recognised that the appropriate haircuts should be applied for residual and cancellation terms, but would welcome further guidance on the methodology for calculating such haircuts.</p> <p>It was deemed unnecessary to also introduce an automatic renewal clause for the BBB insurance policy, as this insurance policy is related to a contract always available on the insurance markets</p>	<p>The calculation of the haircuts strictly depends on the AMA insurance methodology.</p> <p>The EBA is of the view that, as the financial crisis has clearly shown, the assumption that a certain type of insurance policy 'is always available on the market' is</p>	<p>No change.</p> <p>No change.</p>

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	<p>and therefore without risk of non-renewal.</p> <p>One respondent noted that institutions have addressed the issue of haircuts for policy residual terms in a number of ways, including multiyear policies, rolling policies renewable a year in advance and policies with an irrevocable embedded option to renew. This section can be simplified: the wording should be: '(a) haircuts for residual terms may be waived if an institution can demonstrate the existence of continuous cover for at least 365 days, or a long term, consistent ability to purchase insurance for specific risks; (b) haircuts for cancellation terms may be waived if an institution has in place a policy that cannot be cancelled by the insurer, other than for non-payment of premium, or which has a cancellation period of more than one year.'</p>	<p>not always defensible.</p> <p>The EBA agrees.</p>	<p>The article has been amended.</p>
<p>Supervisory assessment of other risk transfer mechanisms (Article 32).</p>	<p>One respondent said that a better solution was to impose conditions on the use of other risk transfer mechanisms (ORTM) broadly similar to the use of insurance mechanisms, rather than verifying that an institution has experience in using these instruments which are in their infancy.</p> <p>One respondent noted that the Insurance section is too lengthy and should be re-written and structured in accordance with the content set out in Article 323. It is also potentially inconsistent with the BCBS paper on insurance issued in 2010. The RTS should explicitly state that the standards</p>	<p>Given the nature of the ORTM, the objective of the article is to avoid these instruments being developed only to get reductions in AMA capital figures. The provision in Article 32(1) has to be read in conjunction with that in Article 32(4) 'Competent authorities shall not accept ORTM as risk mitigation under an AMA if they are held or used for trading purposes rather than for risk management.'</p> <p>As set out in the Executive summary, the BCBS document 'Recognizing the risk-mitigating impact of insurance in operational risk modelling' of October 2010 was one of the sources considered when drafting these RTS. The EBA believes that these RTS are broadly consistent with the BCBS document, and</p>	<p>No change.</p> <p>No change.</p>

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	<p>agree with the text set out in the Basel Committee paper and that, if in doubt, an institution should be guided by the Basel Committee text.</p>	<p>hence relevant changes or insertions into the insurance part are unnecessary.</p>	
Section V – Capital allocation (Article 33)	<p>Some respondents requested clarification on Article 33(1)(b) concerning the granularity of the capital allocation. It is not clear if the capital allocation refers to business lines within a legal entity, legal entities within a jurisdiction or legal entities between jurisdictions. It is also not clear why the regulators would focus upon the allocation of capital to business lines within a legal entity. The business lines within a legal entity are unlikely to correspond to regulatory business lines.</p> <p>A clarification was also requested for the 'quality of operational risk management and internal control' in Article 33(1)(b) because these terms are not sufficiently well defined to enable consistent implementation across the EU. These issues should be addressed by the use of Business Environmental &amp; Internal Control Factors (KRIs) in arriving at the AMA result. Moreover it was requested why the term 'inherent' is used only in this part of the RTS.</p>	<p>The granularity of the allocation mechanisms greatly varies depending on the AMA and business models. A minimum or maximum level of granularity cannot be fixed at a regulatory level.</p> <p>The BEICFs are a means to recognise internal differences in the risk and quality of operational risk management and internal controls among the several parts of a group. However, other tools can be used for this purpose (e.g. scenario analysis).</p>	<p>The provision has been made more general in order to avoid confusion: 'business lines/units' or 'subsidiaries and business lines' have been replaced with 'parts of the group'.</p> <p>The word 'inherent' has been deleted from the sentence.</p>
Section VI – Parallel running	<p>Clarification has been requested on whether these articles apply to institutions that intend to move to AMA from a simpler regulatory methodology.</p>	<p>The concept of parallel running has been dropped from the revised text and replaced with comparability of capitals for use test purposes</p>	<p>The article has been amended.</p>
Data quality & IT infrastructure (Chapter V)	<p>Some respondents proposed to redraft this chapter to be consistent with the six principles of the Basel Committee document 'Progress in adopting the principles for effective risk data</p>	<p>The Article 39 is drafted in a general way and asks for the definition of appropriate data quality dimensions. However, as illustrated in the following explanatory box, the dimensions had in mind while</p>	<p>No change.</p>

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	<p>aggregation and risk reporting’ from December 2013 to avoid confusion by setting own standards with ‘Completeness, Relevance, Timeless, Validity, Accuracy and Consistency’.</p> <p>Some institutions ask what maintenance over time means and if it is sound to keep in line only the data used for AMA analysis and to store all other data in order to ensure good system performance.</p> <p>Many respondents propose to avoid multiple and unnecessary requests on data from NCAs if the AMA calculation for an entity is done by the parent company and governed by a Service Level Agreement, as the parent company has its own supervisor.</p>	<p>drafting this Article are right those mentioned in the BCBS document, i.e. Completeness, Relevance, Timeliness, Validity, Accuracy, and Consistency.</p> <p>It means that the data quality standards described in Articles 38 and 39 must be fulfilled at all the time and regularly analysis shall enable this.</p> <p>The “Principles for home-host supervisory cooperation and allocation mechanisms in the context of AMA’ of the BCBS request that subsidiaries must be in a position to share relevant information with the host supervisor.</p>	No change.
Use test (Chapter VI)	<p>Greater details were requested on to what extent the AMA model had to be used for ICAAP purposes, and on which components could differ (e.g. insurance recognition, sub allocation) in Article 41(d).</p>	<p>These aspects are bank-specific and cannot be clarified in a legal text.</p>	No change.
Audit and internal validation (Chapter VII)	<p>Some institutions believe that deducing the different roles of the independent model risk review function and the internal audit function within this chapter is inappropriate and request an additional chapter providing guidance and covering general guidelines on validation, validation of governance and data elements, validation of the BEICF, validation of quantification systems and the</p>	<p>The EBA believes that the Chapter covers all the relevant aspects of Audit and Internal Validation functions and reviews while, at the same time, leaving some flexibility to the institutions on how to implement them within the organizations. Further guidance is deemed unnecessary.</p>	No change.



Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	<p>role of internal audit.</p> <p>For many institutions, the requirement of the audit activities on an annual basis at least was not in line with current principles, and it was proposed that the Article be amended to correspond to the commonly used risk-based procedure. Some institutions requested additionally that the risk control function and not the internal audit should verify compliance with operational risk policies, processes and procedures.</p>	<p>Article 321(e) and (g) of Regulation No 575/2013 state respectively that 'an institution shall subject its operational risk management processes and measurement systems to regular reviews performed by internal or external auditors' and data flows and processes associated with an institution's risk measurement system shall be transparent and accessible.'</p> <p>Moreover Article 322(3)(c) of Regulation No 575/2013 maintains that 'an institution's internal loss data shall be comprehensive in that it captures all material activities and exposures from all appropriate sub-systems and geographic locations.'</p> <p>The EBA considers it to be crucial that the integrity of the operational risk policies, processes and procedures should be controlled by the audit, at least, on an annual basis, in order to determine whether the AMA framework is working as expected. However, this does not mean that all the components of the AMA framework have to be thoroughly re-examined, provided that these components are not changed and the audit can properly assess they are still fit for the purpose for which they were designed.</p> <p>The quality of the sources and data used for the purposes of operational risk management and measurement requires instead a continuous assessment as these represent the dynamic component of an AMA framework. The EBA believes</p>	<p>No change.</p>

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	<p>Some institutions request that the words 'for approval' be deleted because audit reports do not need to be approved by a management body.</p>	<p>that a minimum frequency of one year permits to assess whether or not the loss data are comprehensive (as required by Article 322(3)(c) of Regulation No 575/2013) and data flows and processes are transparent and accessible (as required by Article 321(g) of Regulation No 575/2013).</p> <p>Moreover this standard aligns the frequency of audit reviews of AMA frameworks with that set out for IRB systems (Article 191 of Regulation No 575/2013).</p> <p>The Management body should receive and approve, or challenge, audit reports.</p>	<p>No change.</p>
<p>Final provisions (Chapter VIII)</p>	<p>One respondent noted that it would be impractical to mandate an institution to update its loss data base to retrospectively take into account new rules. The consequence would be that institutions would then need to wait for a further period of three to five years to model the risk in accordance with Article 322(3)(a), because those institutions that have an AMA model project in place at the time the RTS comes into force will also need to conduct the same assessment.</p> <p>Other respondents requested an adequate extension of the transitional arrangements set out for the collection and use for AMA capital purposes of the fraud losses in the credit area.</p>	<p>The EBA believes that most of the standards set out in these RTS represent common industry practices and do not need additional phase-in periods with respect to the general one-year period laid down in Article 47. This means that, at the end of the transitional phase, both the institutions that are moving to an AMA and those that already use an AMA should comply with these standards, and of course in conjunction with those set out by Regulation No 575/2013.</p> <p>However the EBA recognises that a specific standard (i.e. the banning of the use of Gaussian or Normal-like distributions for correlation purposes) might require more time for its implementation.</p>	<p>A two-year transitional period has been envisaged for the adoption of the standard related to the correlation assumptions.</p>

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
<b>Responses to questions in Consultation Paper EBA/CP/2014/08</b>			
Question 1.	<p>The answers to the question if the provisions included in the RTS are sufficiently clear differed. While some institutions answered 'not clear' and requested for a revision, many institutions considered the RTS to be generally clear but requested for clarification, reformulation or examples.</p>	<p>The EBA endorses the requests for further clarification with regard to some items and sub-items of these RTS, in particular those mentioned in Chapter 2 (Scope of operational risk and operational risk loss).</p>	<p>The legal text has been amended in several articles to accommodate the requests and clarify the meaning of a number of items and sub-items.</p>
Question 2.	<p>Around half of the respondents supported but requested clarifications/amendments in order to solve implementation issues (i.e. definition of first party frauds, exposure-based models, clearer definition of recorded loss amount, longer transitional arrangements). There is also a need for support from the credit risk function and credit risk regulators and to avoid potential inconsistencies in capital calculation (for example with a clear reference to the current RTS on IRB, but also addressing potential double-counting in institutions adopting both IRB and AMA, and potential arbitrage in institutions adopting either IRB or AMA).</p> <p>These respondents in particular recommend:</p> <ul style="list-style-type: none"> <li>• Clearer definition of first-party frauds. The deletion of 'any' would avoid confusion with payments at a later stage of the credit transaction. The deletion of 'no intention of any repayment' would clarify that the frauds</li> </ul>	<p>The EBA agrees. In the revised RTS, no reference has been given to the use of the frauds losses in the credit area for quantification purposes. The scope of these RTS has been limited to the identification, collection and treatment of fraud losses in the credit area for the purposes of management of operational risk.</p>	<p>The text has been amended accordingly.</p>

**Comments****Summary of responses received****EBA analysis****Amendments to the proposals**

also include cases where a client uses a loan not for the intended purpose. The first-party frauds should be limited to the cases where the fraud is initiated at the start of the credit relationship, hence the term 'product' at the end of the second sentence should be amended accordingly. The words 'and by using another person's identifying information' in the second sentence should be removed as it creates confusion with the definition of third-party frauds.

- That 'frauds relate to events that occur in the initial part of the process credit (pre-selling and selling)' be included and 'frauds committed during the later stage of the lifecycle of a credit product (post-selling)' be excluded. Consequently, to determine the scope of loss data collection, a bank should take into account just the process phase / product elements, excluding any other consideration about the customer categories (e.g. new/old customers).
- That larger thresholds (e.g. 500k or 100k) or phased-in thresholds for AMA capital purposes be considered, in order to reduce the implementation challenge. Indeed, the data collection process for operational risk losses related to credit risk significantly differs from that for other operational risk losses, and fraudulently incurred default losses are typically identified in a 'post mortem analysis'

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	<p>which is economically feasible only at a higher collection threshold. This will enable the focus to be placed on the largest events which are subject to a 'fix-back' process, and allow events at lower thresholds to be included in a 'fix-forward' process, thus reducing the volume of data that has to be re-categorised as operational risk losses, which will facilitate the capture and migration of the data to operational risk.</p> <ul style="list-style-type: none"> <li>• Further clarification on the amount of incurred loss in the case of credit frauds. More specifically:               <ul style="list-style-type: none"> <li>a) concerning the object of the fraud, the fraud event may affect a specific credit product and not the whole portfolio or all the transactions with a counterparty. It was suggested that Article 8(1) regarding the recorded loss amount be changed to: 'in case of fraud events in the credit area, the total outstanding amount of the credit products involved in the fraud events at the time or after the discovery of the fraud...'</li> <li>• b) concerning the amount, there is a substantial difference between first party and third-party frauds. In case of first-party frauds, the outstanding amount of credit at the time of discovery of the fraud does not necessarily correspond to the amount of the write-off, and hence to the true loss incurred. For example, potential recoveries from</li> </ul> </li> </ul>		

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	<p>repayments after write-off, or the existence of collaterals or also reduction in provisions can cause the difference between the two.</p> <ul style="list-style-type: none"> <li>To permit the use of exposure-based models for the calculation of the regulatory capital for fraud losses.</li> </ul> <p>Many respondents considered the provisions to be the best estimate of the loss amount in case of first-party frauds. One respondent noted that also in the case of loans that are not yet written off the home regulator required the actual amount of the provision as a best estimator for the amount of loss for operational risk as well.</p> <p>The remaining 50% of respondents did not lend their support. As a fall-back option they propose to limit the inclusion to third-party frauds and, possibly, first-party frauds in retail business, where potentially a greater percentage of first-party lending frauds may occur in initial applications. If the EBA wishes to take action along these lines, they request similar clarifications/amendments as those respondents that expressed their support.</p> <p>It is not clear how banks should separate first-party and third-party frauds in the credit area. This separation process is expected to be very complicated, increasing the requirements on data collection and making adjustments to models necessary.</p> <p>A deep analysis before proposing the change is</p>	<p>The RTS do not prescribe the use of a specific model, as LDA or SBA for all the ORC. Depending on the type and nature of operational risks, institutions may choose to apply a different methodology to one or more ORCs, provided that this is fully justified and the standards continue to be fully met.</p> <p>The separation of first-party and third-party fraud in the credit area is included in the RTS for clarification purposes only; institutions are not requested to apply this distinction in their internal databases.</p>	

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	suggested.		
Question 3.	<p>There was (approximately) an even split in the number of respondents that are ‘for’ or ‘against’ firms recording opportunity costs / loss revenues’ and internal costs (Article 7(2)(b) and (d)). The main concerns were:</p> <ul style="list-style-type: none"> <li>- the collection of these data items on an ongoing basis would be a significant ongoing task; and</li> <li>- the absence of readily available formulas for the calculation of opportunity costs or gains, which can be used consistently and robustly within and between banks, is expected to result in inconsistent data.</li> </ul> <p>There was little comment on Article 7(2)(a) and (b) –i.e. ‘near-misses’ and ‘operational risk gains’: two respondents commented that the implementation of this requirement would pose a large number of challenges to the institutions and that, in contrast to genuine losses, near-misses frequently left no ‘traces’ behind in accounts and therefore the exhaustiveness of the recording of the relative operational risk events could not be guaranteed. Then the bias induced in the loss collection did not allow a proper statistical use of these data’.</p> <p>Some respondents suggested making the wording less directive, e.g. deleting ‘at least’ from the opening sentence of Article 7(2) or replacing ‘shall’ by ‘an institution ‘may’ record.... It was also suggested that points (c) and (d) be deleted.</p>	<p>The EBA finds that the gains are certainly measurable. It also notes the expectation that near misses and gains should be identified in the operational loss database.</p> <p>In general, the EBA agrees with softening the wording of Article 7(2).</p>	<p>Points (c) and (d) have remained in renumbered Article 28(2) but the opening sentence has been amended.</p>

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
Question 4.	<p>Most respondents believe that the list is complete. However, clarifications are necessary for several items or sub-items.</p> <p>A few respondents also recommended that Basel loss event types, level three examples, be referred to and analysed in relation to the operational risk events in Articles 4, 5 and 6, where applicable. This would have given further significant guidance.</p>	<p>The EBA endorses the requests for further clarification on some items, sub-items and event type classification.</p>	<p>The legal text has been amended in several articles to accommodate the requests and clarify the meaning of items and sub-items.</p> <p>It is not possible to introduce a table with clarification and examples into a legal text. This aspect may be addressed by the EBA in future work and published in a different form than a binding legal text (e.g. Guidelines, Recommendations).</p>
Question 5.	<p>Only a few respondents support the proposal without modification. The remaining part of respondents is split between those that do not support the proposal at all and those that support it provided that it is modified as a less restricting rule, for example by imposing that the dependency methodologies adopted lead to a positive tail correlation, i.e. 'The dependency structure shall not be based on distributions that rule out, a priori, a high level of tail dependence (e.g. by using a</p>	<p>The proposed amendment is even more stringent than that included in the RTS.</p>	<p>No change in the renumbered Article 40(b).</p> <p>However a longer transitional period for its adoption has been introduced.</p>



Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	<p>Gaussian copula)'.             Others noted that although a Gaussian copula did understate the market and credit risk tail events, this fact cannot simply be extrapolated to operational risk due to differences in risk types. Moreover, tail events drive operational risk but are generally isolated single incidents and not the sum of a correlated set of incidents. Finally, provided that the large losses are modelled and fitted properly, there is no reason to assume higher tail dependence between the modelled operational risk categories than exists in reality. In our study on consortia data, it is the Gaussian and Normal-like T-copula that provided the best estimation of the dependence structure.</p> <p>Other respondents requested clarification on which quantity the proposed Student copula should apply (frequency, severity, aggregated</p>	<p>Studies are affected by data availability and short time series. Article 322(2)(d) of Regulation (EU) No 575/103 states that '<i>an institution may recognise correlations in operational risk losses across individual operational risk estimates only where its systems for measuring correlations are sound, implemented with integrity, and take into account the uncertainty surrounding any such correlation estimates, particularly in periods of stress</i>'. The Gaussian copula assumption is typically not appropriate for taking into account the 'uncertainty surrounding the correlation estimates, particularly in periods of stress'. Indeed, in periods of stress, severe op risk losses are most likely to occur in some ORCs (e.g. Internal Frauds; Clients, Products and Business Practices), and this requires the use of heavy/medium-tailed marginal distributions to properly capture them. If a Normal distribution is then used to model the correlation, this would exclude the possibility of simultaneous occurrence of large losses in these ORCs during these periods and this is a rather unrealistic, hence not prudent, assumption. It should be noted in any case that the use of anything than the Gaussian or Normal-Like copulas does not imply a perfect correlation structure and can indeed permit to introduce relevant diversification benefits among ORCs.</p> <p>The correlation between frequencies has practically no effect on the aggregate results – and assuming this kind of dependence implies that the risks at the</p>	

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	<p>cells).</p> <p>The guidance states that 'The dependence structure shall not be based on Gaussian or Normal-like distributions'. In this case, more clarity would be welcome on what constitutes a 'Normal-like' copula, in particular at what point the number of degrees of freedom of a t-copular means the copula is 'Normal-like'.</p>	<p>ORC level are independent, the correlation at the level of the single loss distributions is generally inconsistent with the hypothesis on which the LDA is based (in particular: if one assumes that there is cross-correlation between impacts, one cannot state that frequency and impact are independent). Consequently, correlation assumptions should be applied to aggregated distributions.</p> <p>From a technical point of view, the Normal-like domain implies that the tail dependence index is near to 0. This occurrence is substantially removed when the degrees of freedom in a T-copula are conveniently low (say 3 or 4, given that the values below or equal to 2 are not attainable). However, it must be clear that Normal-like is not, strictly speaking, a technical term, and the statement is made to avoid circumventing of the prudential standards.</p>	
Question 6.	<p>There was full support the use of the operational risk measurement system not only for the calculation of the AMA regulatory capital but also for the purposes of internal capital adequacy assessment (as laid down in Article 41(d)).</p>		