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 (Text with EEA relevance)

PART THREE

CAPITAL REQUIREMENTS

TITLE II

CAPITAL REQUIREMENTS FOR CREDIT RISK

CHAPTER 3

Internal Ratings Based Approach

Section 1

Permission by competent authorities to use the irb approach

Article 142

Definitions

1 For the purposes of this Chapter, the following definitions shall apply:

(1) 'rating system' means all of the methods, processes, controls, data collection and IT systems that support the assessment of credit risk, the assignment of exposures to rating grades or pools, and the quantification of default and loss estimates that have been developed for a certain type of exposures;

(2) 'type of exposures' means a group of homogeneously managed exposures which are formed by a certain type of facilities and which may be limited to a single entity or a single sub-set of entities within a group provided that the same type of exposures is managed differently in other entities of the group;

(3) 'business unit' means any separate organisational or legal entities, business lines, geographical locations;

(4) 'large financial sector entity' means any financial sector entity, other than those referred to in point (27)(j) of Article 4(1), which meets the following conditions:

(a) its total assets, calculated on an individual or consolidated basis, are greater than or equal to a EUR 70 billion threshold, using the most recent audited financial statement or consolidated financial statement in order to determine asset size; and

(b) it is, or one of its subsidiaries is, subject to prudential regulation in the Union or to the laws of a third country which applies prudential supervisory and regulatory requirements at least equivalent to those applied in the Union;

(5) 'unregulated financial entity' means any other entity that is not a regulated financial sector entity but performs, as its main business, one or more of the activities listed in Annex I to Directive 2013/36/EU or listed in Annex I to Directive 2004/39/EC;

(6) 'obligor grade' means a risk category within the obligor rating scale of a rating system, to which obligors are assigned on the basis of a specified and distinct set of rating criteria, from which estimates of probability of default (PD) are derived;

(7) 'facility grade' means a risk category within a rating system's facility scale, to which exposures are assigned on the basis of a specified and distinct set of rating criteria from which own estimates of LGD are derived;

(8) 'servicer' means an entity that manages a pool of purchased receivables or the underlying credit exposures on a day-to-day basis.

2 For the purposes of point (4)(b) of paragraph 1 of this Article, the Commission may adopt, by way of implementing acts, and subject to the examination procedure referred to in Article 464(2), a decision as to whether a third country applies supervisory and regulatory arrangements at least equivalent to those applied in the Union. In the absence of such a decision, until 1 January 2015, institutions may continue to apply the treatment set out in this paragraph to a third country where the relevant competent authorities had approved the third country as eligible for this treatment before 1 January 2014.

Article 143

Permission to use the IRB Approach

1 Where the conditions set out in this Chapter are met, the competent authority shall permit institutions to calculate their risk-weighted exposure amounts using the Internal Ratings Based Approach (hereinafter referred to as 'IRB Approach').

2 Prior permission to the use the IRB Approach, including own estimates of LGD and conversion factors, shall be required for each exposure class and for each rating system and internal model approaches to equity exposures and for each approach to estimating LGDs and conversion factors used.

3 Institutions shall obtain the prior permission of the competent authorities for the following:

a material changes to the range of application of a rating system or an internal models approach to equity exposures that the institution has received permission to use;

b material changes to a rating system or an internal models approach to equity exposures that the institution has received permission to use.

The range of application of a rating system shall comprise all exposures of the relevant type of exposure for which that rating system was developed.

4 Institutions shall notify the competent authorities of all changes to rating systems and internal models approaches to equity exposures.

5 EBA shall develop draft regulatory technical standards to specify the conditions for assessing the materiality of the use of an existing rating system for other additional exposures

not already covered by that rating system and changes to rating systems or internal models approaches to equity exposures under the IRB Approach.

EBA shall submit those draft regulatory technical standards to the Commission by 31 December 2013.

Power is delegated to the Commission to adopt the regulatory technical standards referred to the first subparagraph in accordance with Articles 10 to 14 of Regulation (EU) No 1093/2010.

Article 144

Competent authorities' assessment of an application to use an IRB Approach

1 The competent authority shall grant permission pursuant to Article 143 for an institution to use the IRB Approach, including to use own estimates of LGD and conversion factors, only if the competent authority is satisfied that requirements laid down in this Chapter are met, in particular those laid down in Section 6, and that the systems of the institution for the management and rating of credit risk exposures are sound and implemented with integrity and, in particular, that the institution has demonstrated to the satisfaction of the competent authority that the following standards are met:

a the institution's rating systems provide for a meaningful assessment of obligor and transaction characteristics, a meaningful differentiation of risk and accurate and consistent quantitative estimates of risk;

b internal ratings and default and loss estimates used in the calculation of own funds requirements and associated systems and processes play an essential role in the risk management and decision-making process, and in the credit approval, internal capital allocation and corporate governance functions of the institution;

c the institution has a credit risk control unit responsible for its rating systems that is appropriately independent and free from undue influence;

d the institution collects and stores all relevant data to provide effective support to its credit risk measurement and management process;

e the institution documents its rating systems and the rationale for their design and validates its rating systems;

f the institution has validated each rating system and each internal models approach for equity exposures during an appropriate time period prior to the permission to use this rating system or internal models approach to equity exposures, has assessed during this time period whether the rating system or internal models approaches for equity exposures are suited to the range of application of the rating system or internal models approach for equity exposures, and has made necessary changes to these rating systems or internal models approaches for equity exposures following from its assessment;

g the institution has calculated under the IRB Approach the own funds requirements resulting from its risk parameters estimates and is able to submit the reporting as required by Article 99;

h the institution has assigned and continues with assigning each exposure in the range of application of a rating system to a rating grade or pool of this rating system; the institution has assigned and continues with assigning each exposure in the range of application of an approach for equity exposures to this internal models approach.

The requirements to use an IRB Approach, including own estimates of LGD and conversion factors, apply also where an institution has implemented a rating system, or model used within a rating system, that it has purchased from a third-party vendor.

2 EBA shall develop draft regulatory technical standards to specify the assessment methodology competent authorities shall follow in assessing the compliance of an institution with the requirements to use the IRB Approach.

EBA shall submit those draft regulatory technical standards to the Commission by 31 December 2014.

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with Articles 10 to 14 of Regulation (EU) No 1093/2010.

Article 145

Prior experience of using IRB approaches

1 An institution applying to use the IRB Approach shall have been using for the IRB exposure classes in question rating systems that were broadly in line with the requirements set out in Section 6 for internal risk measurement and management purposes for at least three years prior to its qualification to use the IRB Approach.

2 An institution applying for the use of own estimates of LGDs and conversion factors shall demonstrate to the satisfaction of the competent authorities that it has been estimating and employing own estimates of LGDs and conversion factors in a manner that was broadly consistent with the requirements for use of own estimates of those parameters set out in Section 6 for at least three years prior to qualification to use own estimates of LGDs and conversion factors.

3 Where the institution extends the use of the IRB Approach subsequent to its initial permission, the experience of the institution shall be sufficient to satisfy the requirements of paragraphs 1 and 2 in respect of the additional exposures covered. If the use of rating systems is extended to exposures that are significantly different to the scope of the existing coverage, such that the existing experience cannot be reasonably assumed to be sufficient to meet the requirements of these provisions in respect of the additional exposures, then the requirements of paragraphs 1 and 2 shall apply separately for the additional exposures.

Article 146

Measures to be taken where the requirements of this Chapter cease to be met

Where an institution ceases to comply with the requirements laid down in this Chapter, it shall notify the competent authority and do one of the following:

(a) present to the satisfaction of the competent authority a plan for a timely return to compliance and realise this plan within a period agreed with the competent authority;

(b) demonstrate to the satisfaction of the competent authorities that the effect of non-compliance is immaterial.

Article 147

Methodology to assign exposure to exposures classes

1 The methodology used by the institution for assigning exposures to different exposure classes shall be appropriate and consistent over time.

2 Each exposure shall be assigned to one of the following exposure classes:
- a exposures to central governments and central banks;
- b exposures to on institutions;
- c exposures to corporates;
- d retail exposures;
- e equity exposures;
- f items representing securitisation positions;
- g other non credit-obligation assets.

3 The following exposures shall be assigned to the class laid down in point (a) of paragraph 2:
- a exposures to regional governments, local authorities or public sector entities which are treated as exposures to central governments under Articles 115 and 116;
- b exposures to multilateral development banks referred to in Article 117(2);
- c exposures to International Organisations which attract a risk weight of 0 % under Article 118.

4 The following exposures shall be assigned to the class laid down in point (b) of paragraph 2:
- a exposures to regional governments and local authorities which are not treated as exposures to central governments in accordance with Article 115(2) and (4);
- b exposures to Public Sector Entities which are not treated as exposures to central governments in accordance with Article 116(4);
- c exposures to multilateral development banks which are not assigned a 0 % risk weight under Article 117; and
- d exposures to financial institutions which are treated as exposures to institutions in accordance with Article 119(5).

5 To be eligible for the retail exposure class laid down in point (d) of paragraph 2, exposures shall meet the following criteria:
- a they shall be to one of the following:
  - (i) exposures to one or more natural persons;
  - (ii) exposures to an SME, provided in that case that the total amount owed to the institution and parent undertakings and its subsidiaries, including any past due exposure, by the obligor client or group of connected clients, but excluding exposures secured on residential property collateral, shall not, to the knowledge of the institution, which shall have taken reasonable steps to confirm the situation, exceed EUR 1 million;
- b they are treated by the institution in its risk management consistently over time and in a similar manner;
- c they are not managed just as individually as exposures in the corporate exposure class;

d they each represent one of a significant number of similarly managed exposures.

In addition to the exposures listed in the first subparagraph, the present value of retail minimum lease payments shall be included in the retail exposure class.

6 The following exposures shall be assigned to the equity exposure class laid down in point (e) of paragraph 2:

a non-debt exposures conveying a subordinated, residual claim on the assets or income of the issuer;

b debt exposures and other securities, partnerships, derivatives, or other vehicles, the economic substance of which is similar to the exposures specified in point (a).

7 Any credit obligation not assigned to the exposure classes laid down in points (a), (b), (d), (e) and (f) of paragraph 2 shall be assigned to the corporate exposure class referred to in point (c) of that paragraph.

8 Within the corporate exposure class laid down in point (c) of paragraph 2, institutions shall separately identify as specialised lending exposures, exposures which possess the following characteristics:

a the exposure is to an entity which was created specifically to finance or operate physical assets or is an economically comparable exposure;

b the contractual arrangements give the lender a substantial degree of control over the assets and the income that they generate;

c the primary source of repayment of the obligation is the income generated by the assets being financed, rather than the independent capacity of a broader commercial enterprise.

9 The residual value of leased properties shall be assigned to the exposure class laid down in point (g) of paragraph 2, except to the extent that residual value is already included in the lease exposure laid down in Article 166(4).

10 The exposure from providing protection under an nth-to-default basket credit derivative shall be assigned to the same class laid down in paragraph 2 to which the exposures in the basket would be assigned, except if the individual exposures in the basket would be assigned to various exposure classes in which case the exposure shall be assigned to the corporates exposure class laid down in point (c) of paragraph 2.

Article 148

Conditions for implementing the IRB Approach across different classes of exposure and business units

1 Institutions and any parent undertaking and its subsidiaries shall implement the IRB Approach for all exposures, unless they have received the permission of the competent authorities to permanently use the Standardised Approach in accordance with Article 150.

Subject to the prior permission of the competent authorities, implementation may be carried out sequentially across the different exposure classes, referred to in Article 147, within the same business unit, across different business units in the same group or for the use of own estimates of LGDs or conversion factors for the calculation of risk weights for exposures to corporates, institutions, and central governments and central banks.

In the case of the retail exposure class referred to in Article 147(5), implementation may be carried out sequentially across the categories of exposures to which the different correlations in Article 154 correspond.

2 Competent authorities shall determine the time period over which an institution and any parent undertaking and its subsidiaries shall be required to implement the IRB Approach for all exposures. This time period shall be one that competent authorities consider to be appropriate on the basis of the nature and scale of the activities of the institutions, or any parent undertaking and its subsidiaries, and the number and nature of rating systems to be implemented.

3 Institutions shall carry out implementation of the IRB Approach according to conditions determined by the competent authorities. The competent authority shall design those conditions such that they ensure that the flexibility under paragraph 1 is not used selectively for the purposes of achieving reduced own funds requirements in respect of those exposure classes or business units that are yet to be included in the IRB Approach or in the use of own estimates of LGDs and conversion factors.

4 Institutions that have begun to use the IRB Approach only after 1 January 2013 or have until that date been required by the competent authorities to be able to calculate their capital requirements using the Standardised Approach shall retain their ability to calculate capital requirements using the Standardised Approach for all their exposures during the implementation period until the competent authorities notify them that they are satisfied that the implementation of the IRB Approach will be completed with reasonable certainty.

5 An institution that is permitted to use the IRB Approach for any exposure class shall use the IRB Approach for the equity exposure class laid down in point (e) of Article 147(2), except where that institution is permitted to apply the Standardised Approach for equity exposures pursuant to Article 150 and for the other non credit-obligation assets exposure class laid down in point (g) of Article 147(2).

6 EBA shall develop draft regulatory technical standards to specify the conditions according to which competent authorities shall determine the appropriate nature and timing of the sequential roll out of the IRB Approach across exposure classes referred to in paragraph 3.

EBA shall submit those draft regulatory technical standards to the Commission by 31 December 2014.

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with Articles 10 to 14 of Regulation (EU) No 1093/2010.

Article 149

Conditions to revert to the use of less sophisticated approaches

1 An institution that uses the IRB Approach for a particular exposure class or type of exposure shall not stop using that approach and use instead the Standardised Approach for the calculation of risk-weighted exposure amounts unless the following conditions are met:

- a the institution has demonstrated to the satisfaction of the competent authority that the use of the Standardised Approach is not proposed in order to reduce the own funds requirement of the institution, is necessary on the basis of nature and complexity of the institution's total exposures of this type and would not have a material adverse impact on the solvency of the institution or its ability to manage risk effectively;
- b the institution has received the prior permission of the competent authority.

2 Institutions which have obtained permission under Article 151(9) to use own estimates of LGDs and conversion factors, shall not revert to the use of LGD values and conversion factors referred to in Article 151(8) unless the following conditions are met:

a the institution has demonstrated to the satisfaction of the competent authority that the use of LGDs and conversion factors laid down in Article 151(8) for a certain exposure class or type of exposure is not proposed in order to reduce the own funds requirement of the institution, is necessary on the basis of nature and complexity of the institution's total exposures of this type and would not have a material adverse impact on the solvency of the institution or its ability to manage risk effectively;

b the institution has received the prior permission of the competent authority.

3 The application of paragraphs 1 and 2 is subject to the conditions for rolling out the IRB Approach determined by the competent authorities in accordance with Article 148 and the permission for permanent partial use referred to in Article 150.

Article 150

Conditions for permanent partial use

1 Where institutions have received the prior permission of the competent authorities, institutions permitted to use the IRB Approach in the calculation of risk-weighted exposure amounts and expected loss amounts for one or more exposure classes may apply the Standardised Approach for the following exposures:

a the exposure class laid down in Article 147(2)(a), where the number of material counterparties is limited and it would be unduly burdensome for the institution to implement a rating system for these counterparties;

b the exposure class laid down in Article 147(2)(b), where the number of material counterparties is limited and it would be unduly burdensome for the institution to implement a rating system for these counterparties;

c exposures in non-significant business units as well as exposure classes or types of exposures that are immaterial in terms of size and perceived risk profile;

d exposures to central governments and central banks of the Member States and their regional governments, local authorities, administrative bodies and public sector entities provided:

(i) there is no difference in risk between the exposures to that central government and central bank and those other exposures because of specific public arrangements; and

(ii) exposures to the central government and central bank are assigned a 0 % risk weight under Article 114(2), (4) or (5);

e exposures of an institution to a counterparty which is its parent undertaking, its subsidiary or a subsidiary of its parent undertaking provided that the counterparty is an institution or a financial holding company, mixed financial holding company, financial institution, asset management company or ancillary services undertaking subject to appropriate prudential requirements or an undertaking linked by a relationship within the meaning of Article 12(1) of Directive 83/349/EEC;

f exposures between institutions which meet the requirements set out in Article 113(7);

g equity exposures to entities whose credit obligations are assigned a 0 % risk weight under Chapter 2 including those publicly sponsored entities where a 0 % risk weight can be applied;

h equity exposures incurred under legislative programmes to promote specified sectors of the economy that provide significant subsidies for the investment to the institution and involve some form of government oversight and restrictions on the equity investments where such exposures may in aggregate be excluded from the IRB Approach only up to a limit of 10 % of own funds;

i the exposures identified in Article 119(4) meeting the conditions specified therein;

j State and State-reinsured guarantees referred to in Article 215(2).

The competent authorities shall permit the application of Standardised Approach for equity exposures referred to in points (g) and (h) of the first subparagraph which have been permitted for that treatment in other Member States. EBA shall publish on its website and regularly update a list with the exposures referred to in those points (to be treated according to the Standardised Approach.

2 For the purposes of paragraph 1, the equity exposure class of an institution shall be material if their aggregate value, excluding equity exposures incurred under legislative programmes as referred to in point (g) of paragraph 1, exceeds on average over the preceding year 10 % of the own funds of the institution. Where the number of those equity exposures is less than 10 individual holdings, that threshold shall be 5 % of the own funds of the institution.

3 EBA shall develop draft regulatory technical standards to determine the conditions of application of points (a), (b) and (c) of paragraph 1.

EBA shall submit those draft regulatory technical standards to the Commission by 31 December 2014.

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with Articles 10 to 14 of Regulation (EU) No 1093/2010.

4 EBA shall issue guidelines on the application of point (d) of paragraph 1 in 2018, recommending limits in terms of a percentage of total balance sheet and/or risk weighted assets to be calculated in accordance with the Standardised Approach.

Those guidelines shall be adopted in accordance with Article 16 of Regulation (EU) No 1093/2010.

Section 2

Calculation of risk weighted exposure amounts

Sub-Section 1

Treatment by type of exposure class

Article 151

Treatment by exposure class

1 The risk-weighted exposure amounts for credit risk for exposures belonging to one of the exposure classes referred to in points (a) to (e) and (g) of 147(2) shall, unless deducted from own funds, be calculated in accordance with Sub-section 2 except where those exposures are deducted from Common Equity Tier 1 Additional Tier 1 items or Tier 2 items.

2 The risk-weighted exposure amounts for dilution risk for purchased receivables shall be calculated in accordance with Article 157. Where an institution has full recourse to the seller

of purchased receivables for default risk and for dilution risk, the provisions of this Article and Article 152 and Article 158(1) to (4) in relation to purchased receivables shall not apply and the exposure shall be treated as a collateralised exposure.

3 The calculation of risk-weighted exposure amounts for credit risk and dilution risk shall be based on the relevant parameters associated with the exposure in question. These shall include PD, LGD, maturity (hereinafter referred to as 'M') and exposure value of the exposure. PD and LGD may be considered separately or jointly, in accordance with Section 4.

4 Institutions shall calculate risk-weighted exposure amounts for credit risk for all exposures belonging to the exposure class 'equity' referred to in point (e) of Article 147(2) in accordance with Article 155. Institutions may use the approaches set out in Article 155(3) and (4) where they have received the prior permission of the competent authorities. Competent authorities shall grant permission for an institution to use the internal models approach set out in Article 155(4) provided the institution meets the requirements set out in Sub-section 4 of Section 6.

5 The calculation of risk weighted exposure amounts for credit risk for specialised lending exposures may be calculated in accordance with Article 153(5).

6 For exposures belonging to the exposure classes referred to in points (a) to (d) of Article 147(2), institutions shall provide their own estimates of PDs in accordance with Article 143 and Section 6.

7 For exposures belonging to the exposure class referred to in point (d) of Article 147(2), institutions shall provide own estimates of LGDs and conversion factors in accordance with Article 143 and Section 6.

8 For exposures belonging to the exposure classes referred to in points (a) to (c) of Article 147(2), institutions shall apply the LGD values set out in Article 161(1), and the conversion factors set out in Article 166(8)(a) to (d), unless it has been permitted to use its own estimates of LGDs and conversion factors for those exposure classes in accordance with paragraph 9.

9 For all exposures belonging to the exposure classes referred to in points (a) to (c) of Article 1472), the competent authority shall permit institutions to use own estimates of LGDs and conversion factors in accordance with Article 143 and Section 6.

10 The risk-weighted exposure amounts for securitised exposures and for exposures belonging to the exposure class referred to in point (f) of Article 147(2) shall be calculated in accordance with Chapter 5.

Article 152

Treatment of exposures in the form of units or shares in CIUs

1 Where exposures in the form of units or shares in CIUs meet the criteria set out in Article 132(3) and the institution is aware of all or parts of the underlying exposures of the CIU, the institution shall look through to those underlying exposures in order to calculate risk-weighted exposure amounts and expected loss amounts in accordance with the methods set out in this Chapter.

Where an underlying exposure of the CIU is itself another exposure in the form of units or shares in another CIU, the first institution shall also look through to the underlying exposures of the other CIU.

2 Where the institution does not meet the conditions for using the methods set out in this Chapter for all or parts of the underlying exposures of the CIU, risk weighted exposure amounts and expected loss amounts shall be calculated in accordance with the following approaches:

a for exposures belonging to the 'equity' exposure class referred to in Article 147(2)(e), institutions shall apply the simple risk-weight approach set out in Article 155(2);

b for all other underlying exposures referred to in paragraph 1, institutions shall apply the Standardised Approach laid down in Chapter 2, subject to the following:

(i) for exposures subject to a specific risk weight for unrated exposures or subject to the credit quality step yielding the highest risk weight for a given exposure class, the risk weight shall be multiplied by a factor of two but shall not be higher than 1 250 %;

(ii) for all other exposures, the risk weight shall be multiplied by a factor of 1,1 and shall be subject to a minimum of 5 %.

Where, for the purposes of point (a), the institution is unable to differentiate between private equity, exchange-traded and other equity exposures, it shall treat the exposures concerned as other equity exposures. Where those exposures, taken together with the institution's direct exposures in that exposure class, are not material within the meaning of Article 150(2), Article 150(1) may be applied subject to the permission of the competent authorities.

3 Where exposures in the form of units or shares in a CIU do not meet the criteria set out in Article 132(3), or the institution is not aware of all of the underlying exposures of the CIU or of its underlying exposures which is itself an exposure in the form of units or shares in a CIU, the institution shall look through to those underlying exposures and calculate risk-weighted exposure amounts and expected loss amounts in accordance with the simple risk-weight approach set out in Article 155(2).

Where the institution is unable to differentiate between private equity, exchange-traded and other equity exposures, it shall treat the exposures concerned as other equity exposures. It shall assign non equity exposures to the other equity class.

4 Alternatively to the method described in paragraph 3, institutions may calculate themselves or may rely on the following third parties to calculate and report the average risk weighted exposure amounts based on the CIU's underlying exposures in accordance with the approaches referred to in points (a) and (b) of paragraph 2 for the following:

a the depository institution or financial institution of the CIU provided that the CIU exclusively invests in securities and deposits all securities at this depository institution or financial institution;

b for other CIUs, the CIU management company, provided that the CIU management company meets the criteria set out in Article 132(3)(a).

The correctness of the calculation shall be confirmed by an external auditor.

5 EBA shall develop draft regulatory technical standards to specify the conditions according to which competent authorities may permit institutions to use the Standardised Approach referred to in Article 150(1) under point (b) of paragraph 2 of this Article.

EBA shall submit those draft regulatory technical standards to the Commission by 30 June 2014.

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with Articles 10 to 14 of Regulation (EU) No 1093/2010.

Sub-Section 2

Calculation of risk weighted exposure amounts for credit risk

Article 153

Risk weighted exposure amounts for exposures to corporates, institutions and central governments and central banks

1 Subject to the application of the specific treatments laid down in paragraphs 2, 3 and 4, the risk weighted exposure amounts for exposures to corporates, institutions and central governments and central banks shall be calculated according to the following formulae:

$$Risk\ -weighted\ exposure\ amount = RW \cdot exposure\ value$$

where the risk weight RW is defined as

(i) if PD = 0, RW shall be 0;

(ii) if PD = 1, i.e., for defaulted exposures:

— where institutions apply the LGD values set out in Article 161(1), RW shall be 0;

— where institutions use own estimates of LGDs, RW shall be

$$RW = \max\left\{0{,}12.5 \cdot (LGD - EL_{BE})\right\}$$

;

where the expected loss best estimate (hereinafter referred to as 'EL_{BE}') shall be the institution's best estimate of expected loss for the defaulted exposure in accordance with Article 181(1)(h);

(iii) if 0 < PD < 1

$$RW = \left(LGD \cdot N\left(\frac{1}{\sqrt{1-R}} \cdot G(PD) + \sqrt{\frac{R}{1-R}} \cdot G(0.999)\right) - LGD \cdot PD\right) \cdot \frac{1 + (M - 2{,}5) \cdot b}{1 - 1{,}5 \cdot b} \cdot 12{,}5 \cdot 1{,}06$$

where:

N(x)	=	the cumulative distribution function for a standard normal random variable (i.e. the probability that a normal random variable with mean zero and variance of one is less than or equal to x);
G(Z)	=	denotes the inverse cumulative distribution function for a standard normal random variable (i.e. the value x such that N(x) = z)
R	=	denotes the coefficient of correlation, is defined as $R = 0.12 \cdot \frac{1 - e^{-50 \cdot PD}}{1 - e^{-50}} + 0.24 \cdot \left(1 - \frac{1 - e^{-50 \cdot PD}}{1 - e^{-50}}\right)$
b	=	the maturity adjustment factor, which is defined as

$$b = \left(0.11852 - 0.05478 \cdot \ln(PD)\right)^2$$

.

2 For all exposures to large financial sector entities, the co-efficient of correlation of paragraph 1(iii) is multiplied by 1,25. For all exposures to unregulated financial entities, the coefficients of correlation set out in paragraph 1(iii) and paragraph 4, as relevant, are multiplied by 1,25.

3 The risk weighted exposure amount for each exposure which meets the requirements set out in Articles 202 and 217 may be adjusted according to the following formula:

$$Risk\ –weighted\ exposure\ amount = RW \cdot exposure\ value \cdot \left(0.15 + 160 \cdot PD_{pp}\right)$$

where:

PD_{pp} = PD of the protection provider.

RW shall be calculated using the relevant risk weight formula set out in point 1 for the exposure, the PD of the obligor and the LGD of a comparable direct exposure to the protection provider. The maturity factor (b) shall be calculated using the lower of the PD of the protection provider and the PD of the obligor.

4 For exposures to companies where the total annual sales for the consolidated group of which the firm is a part is less than EUR 50 million, institutions may use the following correlation formula in paragraph 1 (iii) for the calculation of risk weights for corporate exposures. In this formula S is expressed as total annual sales in millions of Euros with EUR 5 million ≤ S ≤ EUR 50 million. Reported sales of less than EUR 5 million shall be treated as if they were equivalent to EUR 5 million. For purchased receivables the total annual sales shall be the weighted average by individual exposures of the pool.

$$R = 0.12 \cdot \frac{1 - e^{-50 \cdot PD}}{1 - e^{-50}} + 0.24 \cdot \left(1 - \frac{1 - e^{-50 \cdot PD}}{1 - e^{-50}}\right) - 0.04 \cdot \left(1 - \frac{\min\{\max\{5, S\}, 50\} - 5}{45}\right)$$

Institutions shall substitute total assets of the consolidated group for total annual sales when total annual sales are not a meaningful indicator of firm size and total assets are a more meaningful indicator than total annual sales.

5 For specialised lending exposures in respect of which an institution is not able to estimate PDs or the institutions' PD estimates do not meet the requirements set out in Section 6, the institution shall assign risk weights to these exposures according to Table 1, as follows:

TABLE 1

Remaining Maturity	**Category 1**	**Category 2**	**Category 3**	**Category 4**	**Category 5**
Less than 2,5 years	50 %	70 %	115 %	250 %	0 %
Equal or more than 2,5 years	70 %	90 %	115 %	250 %	0 %

In assigning risk weights to specialised lending exposures institutions shall take into account the following factors: financial strength, political and legal environment, transaction and/or asset characteristics, strength of the sponsor and developer, including any public private partnership income stream, and security package.

6 For their purchased corporate receivables institutions shall comply with the requirements set out in Article 184. For purchased corporate receivables that comply in addition

with the conditions set out in Article 154(5), and where it would be unduly burdensome for an institution to use the risk quantification standards for corporate exposures as set out in Section 6 for these receivables, the risk quantification standards for retail exposures as set out in Section 6 may be used.

7 For purchased corporate receivables, refundable purchase discounts, collateral or partial guarantees that provide first-loss protection for default losses, dilution losses, or both, may be treated as first-loss positions under the IRB securitisation framework.

8 Where an institution provides credit protection for a number of exposures under terms that the nth default among the exposures shall trigger payment and that this credit event shall terminate the contract, if the product has an external credit assessment from an ECAI the risk weights set out in Chapter 5 shall be applied. If the product is not rated by an ECAI, the risk weights of the exposures included in the basket will be aggregated, excluding n-1 exposures where the sum of the expected loss amount multiplied by 12,5 and the risk weighted exposure amount shall not exceed the nominal amount of the protection provided by the credit derivative multiplied by 12,5. The n-1 exposures to be excluded from the aggregation shall be determined on the basis that they shall include those exposures each of which produces a lower risk-weighted exposure amount than the risk-weighted exposure amount of any of the exposures included in the aggregation. A 1 250 % risk weight shall apply to positions in a basket for which an institution cannot determine the risk-weight under the IRB Approach.

9 EBA shall develop draft regulatory technical standards to specify how institutions shall take into account the factors referred to the second subparagraph of paragraph 5 when assigning risk weights to specialised lending exposures.

EBA shall submit those draft regulatory technical standards to the Commission by 31 December 2014.

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with Articles 10 to 14 of Regulation (EU) No 1093/2010.

Article 154

Risk weighted exposure amounts for retail exposures

1 The risk-weighted exposure amounts for retail exposures shall be calculated according to the following formulae:

$$Risk\ –weighted\ exposure\ amount = RW \cdot exposure\ value$$

where the risk weight RW is defined as follows:

(i) if PD = 1, i.e., for defaulted exposures, RW shall be

$$RW = \max\left\{0{,}12.5 \cdot (LGD - EL_{BE})\right\}$$

;

where EL_{BE} shall be the institution's best estimate of expected loss for the defaulted exposure in accordance with Article 181(1)(h);

(ii) if 0 < PD < 1, i.e., for any possible value for PD other than under (i)

$$RW = \left(LGD \cdot N\left(\frac{1}{\sqrt{1-R}} \cdot G(PD) + \sqrt{\frac{R}{1-R}} \cdot G(0.999)\right) - LGD \cdot PD\right) \cdot 12{,}5 \cdot 1{,}06$$

where:

N(x)	=	the cumulative distribution function for a standard normal random variable (i.e. the probability that a normal random variable with mean zero and variance of one is less than or equal to x);
G(Z)	=	the inverse cumulative distribution function for a standard normal random variable (i.e. the value x such that N(x) = z);
R	=	the coefficient of correlation defined as

$$R = 0.03 \cdot \frac{1-e^{-35 \cdot PD}}{1-e^{-35}} + 0.16 \cdot \left(1 - \frac{1-e^{-35 \cdot PD}}{1-e^{-35}}\right)$$

2 The risk weighted exposure amount for each exposure to an SME as referred to in Article 147(5) which meets the requirements set out in Articles 202 and 217 may be calculated in accordance with Article 153(3).

3 For retail exposures secured by immovable property collateral a coefficient of correlation R of 0,15 shall replace the figure produced by the correlation formula in paragraph 1.

4 For qualifying revolving retail exposures in accordance with points (a) to (e), a coefficient of correlation R of 0,04 shall replace the figure produced by the correlation formula in paragraph 1.

Exposures shall qualify as qualifying revolving retail exposures if they meet the following conditions:

- a the exposures are to individuals;
- b the exposures are revolving, unsecured, and to the extent they are not drawn immediately and unconditionally, cancellable by the institution. In this context revolving exposures are defined as those where customers' outstanding balances are permitted to fluctuate based on their decisions to borrow and repay, up to a limit established by the institution. Undrawn commitments may be considered as unconditionally cancellable if the terms permit the institution to cancel them to the full extent allowable under consumer protection and related legislation;
- c the maximum exposure to a single individual in the sub-portfolio is EUR 100 000 or less;
- d the use of the correlation of this paragraph is limited to portfolios that have exhibited low volatility of loss rates, relative to their average level of loss rates, especially within the low PD bands;
- e the treatment as a qualifying revolving retail exposure shall be consistent with the underlying risk characteristics of the sub-portfolio.

By way of derogation from point (b), the requirement to be unsecured does not apply in respect of collateralised credit facilities linked to a wage account. In this case amounts recovered from the collateral shall not be taken into account in the LGD estimate.

Competent authorities shall review the relative volatility of loss rates across the qualifying revolving retail sub-portfolios, as well the aggregate qualifying revolving retail portfolio, and shall share information on the typical characteristics of qualifying revolving retail loss rates across Member States.

5 To be eligible for the retail treatment, purchased receivables shall comply with the requirements set out in Article 184 and the following conditions:

a the institution has purchased the receivables from unrelated, third party sellers, and its exposure to the obligor of the receivable does not include any exposures that are directly or indirectly originated by the institution itself;

b the purchased receivables shall be generated on an arm's-length basis between the seller and the obligor. As such, inter-company accounts receivables and receivables subject to contra-accounts between firms that buy and sell to each other are ineligible;

c the purchasing institution has a claim on all proceeds from the purchased receivables or a pro-rata interest in the proceeds; and

d the portfolio of purchased receivables is sufficiently diversified.

6 For purchased receivables, refundable purchase discounts, collateral or partial guarantees that provide first-loss protection for default losses, dilution losses, or both, may be treated as first-loss positions under the IRB securitisation framework.

7 For hybrid pools of purchased retail receivables where purchasing institutions cannot separate exposures secured by immovable property collateral and qualifying revolving retail exposures from other retail exposures, the retail risk weight function producing the highest capital requirements for those exposures shall apply.

Article 155

Risk weighted exposure amounts for equity exposures

1 Institutions shall determine their risk-weighted exposure amounts for equity exposures, excluding those deducted in accordance with Part Two or subject to a 250 % risk weight in accordance with Article 48, in accordance with the approaches set out in paragraphs 2, 3 and 4 of this Article. An institution may apply different approaches to different equity portfolios where the institution itself uses different approaches for internal risk management purposes. Where an institution uses different approaches, the choice of the PD / LGD approach or the internal models approach shall be made consistently, including over time and with the approach used for the internal risk management of the relevant equity exposure, and shall not be determined by regulatory arbitrage considerations.

Institutions may treat equity exposures to ancillary services undertakings according to the treatment of other non credit- obligation assets.

2 Under the Simple risk weight approach, the risk weighted exposure amount shall be calculated according to the formula:

$$Risk-weighted\ exposure\ amount = RW * exposure\ value$$

,

where:

Risk weight (RW)	=	190 % for private equity exposures in sufficiently diversified portfolios.
Risk weight (RW)	=	290 % for exchange traded equity exposures.
Risk weight (RW)	=	370 % for all other equity exposures.

Short cash positions and derivative instruments held in the non-trading book are permitted to offset long positions in the same individual stocks provided that these instruments have been explicitly designated as hedges of specific equity exposures and that they provide a hedge for at least another year. Other short positions are to be treated as if they are long positions with the relevant risk weight assigned to the absolute value of each position. In the context of maturity mismatched positions, the method is that for corporate exposures as set out in Article 162(5).

Institutions may recognise unfunded credit protection obtained on an equity exposure in accordance with the methods set out in Chapter 4.

3 Under the PD/LGD approach, risk weighted exposure amounts shall be calculated according to the formulas in Article 153(1). If institutions do not have sufficient information to use the definition of default set out in Article 178, a scaling factor of 1,5 shall be assigned to the risk weights.

At the individual exposure level the sum of the expected loss amount multiplied by 12,5 and the risk weighted exposure amount shall not exceed the exposure value multiplied by 12,5.

Institutions may recognise unfunded credit protection obtained on an equity exposure in accordance with the methods set out in Chapter 4. This shall be subject to an LGD of 90 % on the exposure to the provider of the hedge. For private equity exposures in sufficiently diversified portfolios an LGD of 65 % may be used. For these purposes M shall be five years.

4 Under the internal models approach, the risk weighted exposure amount shall be the potential loss on the institution's equity exposures as derived using internal value-at-risk models subject to the 99th percentile, one-tailed confidence interval of the difference between quarterly returns and an appropriate risk-free rate computed over a long-term sample period, multiplied by 12,5. The risk weighted exposure amounts at the equity portfolio level shall not be less than the total of the sums of the following:

a the risk weighted exposure amounts required under the PD/LGD Approach; and
b the corresponding expected loss amounts multiplied by 12,5.

The amounts referred to in point (a) and (b) shall be calculated on the basis of the PD values set out in Article 165(1) and the corresponding LGD values set out in Article 165(2).

Institutions may recognise unfunded credit protection obtained on an equity position.

Article 156

Risk weighted exposure amounts for other non credit-obligation assets

The risk weighted exposure amounts for other non credit-obligation assets shall be calculated according to the following formula:

$$Risk\ –weighted\ exposure\ amount = 100\ \% \cdot exposure\ value$$

,

except for:

(a) cash in hand and equivalent cash items as well as gold bullion held in own vault or on an allocated basis to the extent backed by bullion liabilities, in which case a 0 % risk-weight shall be assigned;

(b) when the exposure is a residual value of leased assets in which case it shall be calculated as follows:

$$\frac{1}{t} \cdot 100\,\% \cdot exposure\ value$$

where t is the greater of 1 and the nearest number of whole years of the lease remaining.

Sub-Section 3

Calculation of risk weighted exposure amounts for dilution risk of purchased receivables

Article 157

Risk weighted exposure amounts for dilution risk of purchased receivables

1 Institutions shall calculate the risk weighted exposure amounts for dilution risk of purchased corporate and retail receivables according to the formula set out in Article 153(1).

2 Institutions shall determine the input parameters PD and LGD in accordance with Section 4.

3 Institutions shall determine the exposure value in accordance with Section 5.

4 For the purposes of this Article, the value of M is 1 year.

5 The competent authorities shall exempt an institution from calculating and recognising risk weighted exposure amounts for dilution risk of a type of exposures caused by purchased corporate or retail receivables where the institution has demonstrated to the satisfaction of the competent authority that dilution risk for that institution is immaterial for this type of exposures.

Section 3

Expected loss amounts

Article 158

Treatment by exposure type

1 The calculation of expected loss amounts shall be based on the same input figures of PD, LGD and the exposure value for each exposure as are used for the calculation of risk-weighted exposure amounts in accordance with Article 151.

2 The expected loss amounts for securitised exposures shall be calculated in accordance with Chapter 5.

3 The expected loss amount for exposures belonging to the 'other non credit obligations assets' exposure class referred to in point (g) of Article 147(2) shall be zero.

4 The expected loss amounts for exposures in the form of shares or units of a CIU referred to in Article 152 shall be calculated in accordance with the methods set out in this Article.

5 The expected loss (EL) and expected loss amounts for exposures to corporates, institutions, central governments and central banks and retail exposures shall be calculated according to the following formulae:

$$Expected\ loss(EL) = PD * LGD$$

Expected loss amount = EL [multiplied by] exposure value.

For defaulted exposures (PD = 100 %) where institutions use own estimates of LGDs, EL shall be EL_{BE}, the institution's best estimate of expected loss for the defaulted exposure in accordance with Article 181(1)(h).

For exposures subject to the treatment set out in Article 153(3), EL shall be 0 %.

6 The EL values for specialised lending exposures where institutions use the methods set out in Article 153(5) for assigning risk weights shall be assigned according to Table 2.

TABLE 2

Remaining Maturity	**Category 1**	**Category 2**	**Category 3**	**Category 4**	**Category 5**
Less than 2,5 years	0 %	0,4 %	2,8 %	8 %	50 %
Equal to or more than 2,5 years	0,4 %	0,8 %	2,8 %	8 %	50 %

7 The expected loss amounts for equity exposures where the risk weighted exposure amounts are calculated according to simple risk weight approach shall be calculated according to the following formula:

$$Expected\ loss\ amount = EL \cdot exposure\ value$$

The EL values shall be the following:

Expected loss (EL) = 0,8 % for private equity exposures in sufficiently diversified portfolios

Expected loss (EL) = 0,8 % for exchange traded equity exposures

Expected loss (EL) = 2,4 % for all other equity exposures.

8 The expected loss and expected loss amounts for equity exposures where the risk weighted exposure amounts are calculated according to the PD/LGD approach shall be calculated according to the following formulae:

$$Expected\ loss(EL) = PD \cdot LGD$$

$$Expected\ loss\ amount = EL \cdot exposure\ value$$

9 The expected loss amounts for equity exposures where the risk weighted exposure amounts are calculated according to the internal models approach shall be zero.

10 The expected loss amounts for dilution risk of purchased receivables shall be calculated according to the following formula:

$$Expected\ loss(EL) = PD \cdot LGD$$

$$Expected\ loss\ amount = EL \cdot exposure\ value$$

Article 159

Treatment of expected loss amounts

Institutions shall subtract the expected loss amounts calculated in accordance with Article 158 (5), (6) and (10) from the general and specific credit risk adjustments and additional value adjustments in accordance with Articles 34 and 110 and other own funds reductions related to these exposures. Discounts on balance sheet exposures purchased when in default in accordance with Article 166(1) shall be treated in the same manner as specific credit risk adjustments. Specific credit risk adjustments on exposures in default shall not be used to cover expected loss amounts on other exposures. Expected loss amounts for securitised exposures and general and specific credit risk adjustments related to these exposures shall not be included in this calculation.

Section 4

PD, LGD and maturity

Sub-Section 1

Exposures to corporates, institutions and central governments and central banks

Article 160

Probability of default (PD)

1 The PD of an exposure to a corporate or an institution shall be at least 0,03 %.

2 For purchased corporate receivables in respect of which an institution is not able to estimate PDs or institution's PD estimates do not meet the requirements set out in Section 6, the PDs for these exposures shall be determined according to the following methods:

- a for senior claims on purchased corporate receivables PD shall be the institutions estimate of EL divided by LGD for these receivables;
- b for subordinated claims on purchased corporate receivables PD shall be the institution's estimate of EL;
- c an institution that has received the permission of the competent authority to use own LGD estimates for corporate exposures pursuant to Article 143 and that can decompose its EL estimates for purchased corporate receivables into PDs and LGDs in a manner that the competent authority considers to be reliable, may use the PD estimate that results from this decomposition.

3 The PD of obligors in default shall be 100 %.

4 Institutions may take into account unfunded credit protection in the PD in accordance with the provisions of Chapter 4. For dilution risk, in addition to the protection providers referred to in Article 201(1)(g) the seller of the purchased receivables is eligible if the following conditions are met:

a the corporate entity has a credit assessment by an ECAI which has been determined by EBA to be associated with credit quality step 3 or above under the rules for the risk weighting of exposures to corporates under Chapter 2;
b the corporate entity, in the case of institutions calculating risk-weighted exposure amounts and expected loss amounts under the IRB Approach, does not have a credit assessment by a recognised ECAI and is internally rated as having a PD equivalent to that associated with the credit assessments of ECAIs determined by EBA to be associated with credit quality step 3 or above under the rules for the risk weighting of exposures to corporates under Chapter 2.

5 Institutions using own LGD estimates may recognise unfunded credit protection by adjusting PDs subject to Article 161(3).

6 For dilution risk of purchased corporate receivables, PD shall be set equal to the EL estimate of the institution for dilution risk. An institution that has received permission from the competent authority pursuant to Article 143 to use own LGD estimates for corporate exposures that can decompose its EL estimates for dilution risk of purchased corporate receivables into PDs and LGDs in a manner that the competent authority considers to be reliable, may use the PD estimate that results from this decomposition. Institutions may recognise unfunded credit protection in the PD in accordance with the provisions of Chapter 4. For dilution risk, in addition to the protection providers referred to in Article 201(1)(g), the seller of the purchased receivables is eligible provided that the conditions set out in paragraph 4 are met.

7 By way of derogation from Article 201(1)(g), the corporate entities that meet the conditions set out in paragraph 4 are eligible.

An institution that has received the permission of the competent authority pursuant to Article 143 to use own LGD estimates for dilution risk of purchased corporate receivables, may recognise unfunded credit protection by adjusting PDs subject to Article 161(3).

Article 161

Loss Given Default (LGD)

1 Institutions shall use the following LGD values:
a senior exposures without eligible collateral: 45 %;
b subordinated exposures without eligible collateral: 75 %;
c institutions may recognise funded and unfunded credit protection in the LGD in accordance with Chapter 4;
d covered bonds eligible for the treatment set out in Article 129(4) or (5) may be assigned an LGD value of 11,25 %;
e for senior purchased corporate receivables exposures where an institution is not able to estimate PDs or the institution's PD estimates do not meet the requirements set out in Section 6: 45 %;
f for subordinated purchased corporate receivables exposures where an institution is not able to estimate PDs or the institution's PD estimates do not meet the requirements set out in Section 6: 100 %;
g For dilution risk of purchased corporate receivables: 75 %.

2 For dilution and default risk if an institution has received permission from the competent authority to use own LGD estimates for corporate exposures pursuant to Article 143 and it can decompose its EL estimates for purchased corporate receivables into PDs and LGDs

in a manner the competent authority considers to be reliable, the LGD estimate for purchased corporate receivables may be used.

3 If an institution has received the permission of the competent authority to use own LGD estimates for exposures to corporates, institutions, central governments and central banks pursuant to Article 143, unfunded credit protection may be recognised by adjusting PD or LGD subject to requirements as specified in Section 6 and permission of the competent authorities. An institution shall not assign guaranteed exposures an adjusted PD or LGD such that the adjusted risk weight would be lower than that of a comparable, direct exposure to the guarantor.

4 For the purposes of the undertakings referred to in Article 153(3), the LGD of a comparable direct exposure to the protection provider shall either be the LGD associated with an unhedged facility to the guarantor or the unhedged facility of the obligor, depending upon whether in the event both the guarantor and obligor default during the life of the hedged transaction, available evidence and the structure of the guarantee indicate that the amount recovered would depend on the financial condition of the guarantor or obligor, respectively.

Article 162

Maturity

1 Institutions that have not received permission to use own LGDs and own conversion factors for exposures to corporates, institutions or central governments and central banks shall assign to exposures arising from repurchase transactions or securities or commodities lending or borrowing transactions a maturity value (M) of 0,5 years and to all other exposures an M of 2,5 years.

Alternatively, as part of the permission referred to in Article 143, the competent authorities shall decide on whether the institution shall use maturity (M) for each exposure as set out under paragraph 2.

2 Institutions that have received the permission of the competent authority to use own LGDs and own conversion factors for exposures to corporates, institutions or central governments and central banks pursuant to Article 143 shall calculate M for each of these exposures as set out in points (a) to (e) of this paragraph and subject to paragraphs 3 to 5 of this Article. M shall be no greater than five years except in the cases specified in Article 384(1) where M as specified there shall be used:

a for an instrument subject to a cash flow schedule, M shall be calculated according to the following formula:

$$M = \max\left\{1, \min\left\{\frac{\sum_t t \cdot CF_t}{\sum_t CF_t}, 5\right\}\right\}$$

where CF_t denotes the cash flows (principal, interest payments and fees) contractually payable by the obligor in period t;

b for derivatives subject to a master netting agreement, M shall be the weighted average remaining maturity of the exposure, where M shall be at least 1 year, and the notional amount of each exposure shall be used for weighting the maturity;

c for exposures arising from fully or nearly-fully collateralised derivative instruments listed in Annex II and fully or nearly-fully collateralised margin lending transactions which are subject to a master netting agreement, M shall be the weighted average remaining maturity of the transactions where M shall be at least 10 days;

d for repurchase transactions or securities or commodities lending or borrowing transactions which are subject to a master netting agreement, M shall be the weighted average remaining maturity of the transactions where M shall be at least five days. The notional amount of each transaction shall be used for weighting the maturity;

e an institution that has received the permission of the competent authority pursuant to Article 143 to use own PD estimates for purchased corporate receivables, for drawn amounts M shall equal the purchased receivables exposure weighted average maturity, where M shall be at least 90 days. This same value of M shall also be used for undrawn amounts under a committed purchase facility provided the facility contains effective covenants, early amortisation triggers, or other features that protect the purchasing institution against a significant deterioration in the quality of the future receivables it is required to purchase over the facility's term. Absent such effective protections, M for undrawn amounts shall be calculated as the sum of the longest-dated potential receivable under the purchase agreement and the remaining maturity of the purchase facility, where M shall be at least 90 days;

f for any other instrument than those mentioned in this paragraph or when an institution is not in a position to calculate M as set out in (a), M shall be the maximum remaining time (in years) that the obligor is permitted to take to fully discharge its contractual obligations, where M shall be at least 1 year;

g for institutions using the Internal Model Method set out in Section 6 of Chapter 6 to calculate the exposure values, M shall be calculated for exposures to which they apply this method and for which the maturity of the longest-dated contract contained in the netting set is greater than one year according to the following formula:

$$M = \min\left\{\frac{\sum_k EffectiveEE_{t_k} \cdot \Delta t_k \cdot df_{t_k} \cdot s_{t_k} + \sum_k EE_{t_k} \cdot \Delta t_k \cdot df_{t_k} \cdot \left(1 - s_{t_k}\right)}{\sum_k EffectiveEE_{t_k} \cdot \Delta t_k \cdot df_{t_k} \cdot s_{t_k}}, 5\right\}$$

where:

S_{t_k}	=	a dummy variable whose value at future period t_k is equal to 0 if $t_k > 1$ year and to 1 if $t_k \leq 1$;
EE_{t_k}	=	the expected exposure at the future period t_k;
$EffectiveEE_{t_k}$	=	the effective expected exposure at the future period t_k;
df_{t_k}	=	the risk-free discount factor for future time period t_k;

$$\Delta t_k = t_k - t_{k-1}$$

;

h an institution that uses an internal model to calculate a one-sided credit valuation adjustment (CVA) may use, subject to the permission of the competent authorities, the effective credit duration estimated by the internal model as M.

Subject to paragraph 2, for netting sets in which all contracts have an original maturity of less than one year the formula in point (a) shall apply;

i for institutions using the Internal Model Method set out in Section 6 of Chapter 6, to calculate the exposure values and having an internal model permission for specific risk associated with traded debt positions in accordance with Part Three, Title IV, Chapter 5, M shall be set to 1 in the formula laid out in Article 153(1), provided that an institution can demonstrate to the competent authorities that its internal model for Specific risk associated with traded debt positions applied in Article 383 contains effects of rating migrations;

j for the purposes of Article 153(3), M shall be the effective maturity of the credit protection but at least 1 year.

3 Where the documentation requires daily re-margining and daily revaluation and includes provisions that allow for the prompt liquidation or set off of collateral in the event of default or failure to remargin, M shall be at least one-day for:

a fully or nearly-fully collateralised derivative instruments listed in Annex II;
b fully or nearly-fully collateralised margin lending transactions;
c repurchase transactions, securities or commodities lending or borrowing transactions.

In addition, for qualifying short-term exposures which are not part of the institution's ongoing financing of the obligor, M shall be at least one-day. Qualifying short term exposures shall include the following:

a exposures to institutions arising from settlement of foreign exchange obligations;
b self-liquidating short-term trade financing transactions connected to the exchange of goods or services with a residual maturity of up to one year as referred to in point (80) of Article 4(1);
c exposures arising from settlement of securities purchases and sales within the usual delivery period or two business days;
d exposures arising from cash settlements by wire transfer and settlements of electronic payment transactions and prepaid cost, including overdrafts arising from failed transactions that do not exceed a short, fixed agreed number of business days.

4 For exposures to corporates situated in the Union and having consolidated sales and consolidated assets of less than EUR 500 million, institutions may choose to consistently set M as set out in paragraph 1 instead of applying paragraph 2. Institutions may replace EUR 500 million total assets with EUR 1 000 million total assets for corporates which primarily own and let non-speculative residential property.

5 Maturity mismatches shall be treated as specified in Chapter 4.

Sub-Section 2

Retail exposures

Article 163

Probability of default (PD)

1 PD of an exposure shall be at least 0,03 %.

2 The PD of obligors or, where an obligation approach is used, of exposures in default shall be 100 %.

3 For dilution risk of purchased receivables PD shall be set equal to EL estimates for dilution risk. If an institution can decompose its EL estimates for dilution risk of purchased receivables into PDs and LGDs in a manner the competent authorities consider to be reliable, the PD estimate may be used.

4 Unfunded credit protection may be taken into account by adjusting PDs subject to Article 164(2). For dilution risk, in addition to the protection providers referred to in Article

201(1)(g), the seller of the purchased receivables is eligible if the conditions set out in Article 160(4) are met.

Article 164

Loss Given Default (LGD)

1 Institutions shall provide own estimates of LGDs subject to requirements as specified in Section 6 and permission of the competent authorities granted in accordance with Article 143. For dilution risk of purchased receivables, an LGD value of 75 % shall be used. If an institution can decompose its EL estimates for dilution risk of purchased receivables into PDs and LGDs in a reliable manner, the institution may use its own LGD estimate.

2 Unfunded credit protection may be recognised as eligible by adjusting PD or LGD estimates subject to requirements as specified in Article 183(1), (2) and (3) and permission of the competent authorities either in support of an individual exposure or a pool of exposures. An institution shall not assign guaranteed exposures an adjusted PD or LGD such that the adjusted risk weight would be lower than that of a comparable, direct exposure to the guarantor.

3 For the purposes of Article 154(2), the LGD of a comparable direct exposure to the protection provider referred to in Article 153(3) shall either be the LGD associated with an unhedged facility to the guarantor or the unhedged facility of the obligor, depending upon whether, in the event both the guarantor and obligor default during the life of the hedged transaction, available evidence and the structure of the guarantee indicate that the amount recovered would depend on the financial condition of the guarantor or obligor, respectively.

4 The exposure weighted average LGD for all retail exposures secured by residential property and not benefiting from guarantees from central governments shall not be lower than 10 %.

The exposure weighted average LGD for all retail exposures secured by commercial immovable property and not benefiting from guarantees from central governments shall not be lower than 15 %.

5 Based on the data collected under Article 101 and taking into account forward-looking property market developments and any other relevant indicators, the competent authorities shall periodically, and at least annually, assess whether the minimum LGD values in paragraph 4 of this Article are appropriate for exposures secured by residential or commercial immovable property located in their territory. Competent authorities may, where appropriate on the basis of financial stability considerations, set higher minimum values of exposure weighted average LGD for exposures secured by property in their territory.

Competent authorities shall notify EBA of any changes to the minimum LGD values that they make in accordance with the first subparagraph and EBA shall publish these LGD values.

6 EBA shall develop draft regulatory technical standards to specify the conditions that competent authorities shall take into account when determining higher minimum LGD values.

EBA shall submit those draft regulatory technical standards to the Commission by 31 December 2014.

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with Articles 10 to 14 of Regulation (EU) No 1093/2010.

7 The institutions of one Member State shall apply the higher minimum LGD values that have been determined by the competent authorities of another Member State to exposures secured by property located in that Member State.

Sub-Section 3

Equity exposures subject to PD/LGD method

Article 165

Equity exposures subject to the PD/LGD method

1 PDs shall be determined according to the methods for corporate exposures.

The following minimum PDs shall apply:

a 0,09 % for exchange traded equity exposures where the investment is part of a long-term customer relationship;

b 0,09 % for non-exchange traded equity exposures where the returns on the investment are based on regular and periodic cash flows not derived from capital gains;

c 0,40 % for exchange traded equity exposures including other short positions as set out in Article 155(2);

d 1,25 % for all other equity exposures including other short positions as set out in Article 155(2).

2 Private equity exposures in sufficiently diversified portfolios may be assigned an LGD of 65 %. All other such exposures shall be assigned an LGD of 90 %.

3 M assigned to all exposures shall be five years.

Section 5

Exposure value

Article 166

Exposures to corporates, institutions, central governments and central banks and retail exposures

1 Unless noted otherwise, the exposure value of on-balance sheet exposures shall be the accounting value measured without taking into account any credit risk adjustments made.

This rule also applies to assets purchased at a price different than the amount owed.

For purchased assets, the difference between the amount owed and the accounting value remaining after specific credit risk adjustments have been applied that has been recorded on the balance-sheet of the institutions when purchasing the asset is denoted discount if the amount owed is larger, and premium if it is smaller.

2 Where institutions use Master netting agreements in relation to repurchase transactions or securities or commodities lending or borrowing transactions, the exposure value shall be calculated in accordance with Chapter 4 or 6.

3 In order to calculate the exposure value for on-balance sheet netting of loans and deposits, institutions shall apply the methods set out in Chapter 4.

4 The exposure value for leases shall be the discounted minimum lease payments. Minimum lease payments shall comprise the payments over the lease term that the lessee is or can be required to make and any bargain option (i.e. option the exercise of which is reasonably certain). If a party other than the lessee may be required to make a payment related to the residual value of a leased asset and this payment obligation fulfils the set of conditions in Article 201 regarding the eligibility of protection providers as well as the requirements for recognising other types of guarantees provided in Article 213, the payment obligation may be taken into account as unfunded credit protection in accordance with Chapter 4.

5 In the case of any contract listed in Annex II, the exposure value shall be determined by the methods set out in Chapter 6 and shall not take into account any credit risk adjustment made.

6 The exposure value for the calculation of risk weighted exposure amounts of purchased receivables shall be the value determined in accordance with paragraph 1 minus the own funds requirements for dilution risk prior to credit risk mitigation.

7 Where an exposure takes the form of securities or commodities sold, posted or lent under repurchase transactions or securities or commodities lending or borrowing transactions, long settlement transactions and margin lending transactions, the exposure value shall be the value of the securities or commodities determined in accordance with Article 24. Where the Financial Collateral Comprehensive Method as set out under Article 223 is used, the exposure value shall be increased by the volatility adjustment appropriate to such securities or commodities, as set out therein. The exposure value of repurchase transactions, securities or commodities lending or borrowing transactions, long settlement transactions and margin lending transactions may be determined either in accordance with Chapter 6 or Article 220(2).

8 The exposure value for the following items shall be calculated as the committed but undrawn amount multiplied by a conversion factor. Institutions shall use the following conversion factors in accordance with Article 151(8) for exposures to corporates, institutions, central governments and central banks:

a for credit lines that are unconditionally cancellable at any time by the institution without prior notice, or that effectively provide for automatic cancellation due to deterioration in a borrower's credit worthiness, a conversion factor of 0 % shall apply. To apply a conversion factor of 0 %, institutions shall actively monitor the financial condition of the obligor, and their internal control systems shall enable them to immediately detect deterioration in the credit quality of the obligor. Undrawn credit lines may be considered as unconditionally cancellable if the terms permit the institution to cancel them to the full extent allowable under consumer protection and related legislation;

b for short-term letters of credit arising from the movement of goods, a conversion factor of 20 % shall apply for both the issuing and confirming institutions;

c for undrawn purchase commitments for revolving purchased receivables that are able to be unconditionally cancelled or that effectively provide for automatic cancellation at any time by the institution without prior notice, a conversion factor of 0 % shall apply. To apply a conversion factor of 0 %, institutions shall actively monitor the financial condition of the obligor, and their internal control systems shall enable them to immediately detect a deterioration in the credit quality of the obligor;

d for other credit lines, note issuance facilities (NIFs), and revolving underwriting facilities (RUFs), a conversion factor of 75 % shall apply;

e institutions which meet the requirements for the use of own estimates of conversion factors as specified in Section 6 may use their own estimates of conversion factors across different product types as mentioned in points (a) to (d), subject to permission of the competent authorities.

9 Where a commitment refers to the extension of another commitment, the lower of the two conversion factors associated with the individual commitment shall be used.

10 For all off-balance sheet items other than those mentioned in paragraphs 1 to 8, the exposure value shall be the following percentage of its value:

a 100 % if it is a full risk item;
b 50 % if it is a medium-risk item;
c 20 % if it is a medium/low-risk item;
d 0 % if it is a low-risk item.

For the purposes of this paragraph the off-balance sheet items shall be assigned to risk categories as indicated in Annex I.

Article 167

Equity exposures

1 The exposure value of equity exposures shall be the accounting value remaining after specific credit risk adjustment have been applied.

2 The exposure value of off-balance sheet equity exposures shall be its nominal value after reducing its nominal value by specific credit risk adjustments for this exposure.

Article 168

Other non credit-obligation assets

The exposure value of other non credit-obligation assets shall be the accounting value remaining after specific credit risk adjustment have been applied

Section 6

Requirements for the IRB approach

Sub-Section 1

Rating systems

Article 169

General principles

1 Where an institution uses multiple rating systems, the rationale for assigning an obligor or a transaction to a rating system shall be documented and applied in a manner that appropriately reflects the level of risk.

2 Assignment criteria and processes shall be periodically reviewed to determine whether they remain appropriate for the current portfolio and external conditions.

3 Where an institution uses direct estimates of risk parameters for individual obligors or exposures these may be seen as estimates assigned to grades on a continuous rating scale.

Article 170

Structure of rating systems

1 The structure of rating systems for exposures to corporates, institutions and central governments and central banks shall comply with the following requirements:

a a rating system shall take into account obligor and transaction risk characteristics;

b a rating system shall have an obligor rating scale which reflects exclusively quantification of the risk of obligor default. The obligor rating scale shall have a minimum of 7 grades for non-defaulted obligors and one for defaulted obligors;

c an institution shall document the relationship between obligor grades in terms of the level of default risk each grade implies and the criteria used to distinguish that level of default risk;

d institutions with portfolios concentrated in a particular market segment and range of default risk shall have enough obligor grades within that range to avoid undue concentrations of obligors in a particular grade. Significant concentrations within a single grade shall be supported by convincing empirical evidence that the obligor grade covers a reasonably narrow PD band and that the default risk posed by all obligors in the grade falls within that band;

e to be permitted by the competent authority to use own estimates of LGDs for own funds requirement calculation, a rating system shall incorporate a distinct facility rating scale which exclusively reflects LGD related transaction characteristics. The facility grade definition shall include both a description of how exposures are assigned to the grade and of the criteria used to distinguish the level of risk across grades;

f significant concentrations within a single facility grade shall be supported by convincing empirical evidence that the facility grade covers a reasonably narrow LGD band, respectively, and that the risk posed by all exposures in the grade falls within that band.

2 Institutions using the methods set out in 153(5) for assigning risk weights for specialised lending exposures are exempt from the requirement to have an obligor rating scale which reflects exclusively quantification of the risk of obligor default for these exposures. These institutions shall have for these exposures at least 4 grades for non-defaulted obligors and at least one grade for defaulted obligors.

3 The structure of rating systems for retail exposures shall comply with the following requirements:

a rating systems shall reflect both obligor and transaction risk, and shall capture all relevant obligor and transaction characteristics;

b the level of risk differentiation shall ensure that the number of exposures in a given grade or pool is sufficient to allow for meaningful quantification and validation of the loss characteristics at the grade or pool level. The distribution of exposures and obligors across grades or pools shall be such as to avoid excessive concentrations;

c the process of assigning exposures to grades or pools shall provide for a meaningful differentiation of risk, for a grouping of sufficiently homogenous exposures, and shall allow for accurate and consistent estimation of loss characteristics at grade or pool level.

For purchased receivables the grouping shall reflect the seller's underwriting practices and the heterogeneity of its customers.

4 Institutions shall consider the following risk drivers when assigning exposures to grades or pools:

a obligor risk characteristics;

b transaction risk characteristics, including product or collateral types or both. Institutions shall explicitly address cases where several exposures benefit from the same collateral;

c delinquency, except where an institution demonstrates to the satisfaction of its competent authority that delinquency is not a material driver of risk for the exposure.

Article 171

Assignment to grades or pools

1 An institution shall have specific definitions, processes and criteria for assigning exposures to grades or pools within a rating system that comply with the following requirements:

a the grade or pool definitions and criteria shall be sufficiently detailed to allow those charged with assigning ratings to consistently assign obligors or facilities posing similar risk to the same grade or pool. This consistency shall exist across lines of business, departments and geographic locations;

b the documentation of the rating process shall allow third parties to understand the assignments of exposures to grades or pools, to replicate grade and pool assignments and to evaluate the appropriateness of the assignments to a grade or a pool;

c the criteria shall also be consistent with the institution's internal lending standards and its policies for handling troubled obligors and facilities.

2 An institution shall take all relevant information into account in assigning obligors and facilities to grades or pools. Information shall be current and shall enable the institution to forecast the future performance of the exposure. The less information an institution has, the more conservative shall be its assignments of exposures to obligor and facility grades or pools. If an institution uses an external rating as a primary factor determining an internal rating assignment, the institution shall ensure that it considers other relevant information.

Article 172

Assignment of exposures

1 For exposures to corporates, institutions and central governments and central banks, and for equity exposures where an institution uses the PD/LGD approach set out in Article 155(3), assignment of exposures shall be carried out in accordance with the following criteria:

a each obligor shall be assigned to an obligor grade as part of the credit approval process;

b for those exposures for which an institution has received the permission of the competent authority to use own estimates of LGDs and conversion factors pursuant to Article 143, each exposure shall also be assigned to a facility grade as part of the credit approval process;

c institutions using the methods set out in Article 153(5) for assigning risk weights for specialised lending exposures shall assign each of these exposures to a grade in accordance with Article 170(2);

d each separate legal entity to which the institution is exposed shall be separately rated. An institution shall have appropriate policies regarding the treatment of individual obligor clients and groups of connected clients;

e separate exposures to the same obligor shall be assigned to the same obligor grade, irrespective of any differences in the nature of each specific transaction. However, where separate exposures are allowed to result in multiple grades for the same obligor, the following shall apply:

(i) country transfer risk, this being dependent on whether the exposures are denominated in local or foreign currency;

(ii) the treatment of associated guarantees to an exposure may be reflected in an adjusted assignment to an obligor grade;

(iii) consumer protection, bank secrecy or other legislation prohibit the exchange of client data.

2 For retail exposures, each exposure shall be assigned to a grade or a pool as part of the credit approval process.

3 For grade and pool assignments institutions shall document the situations in which human judgement may override the inputs or outputs of the assignment process and the personnel responsible for approving these overrides. Institutions shall document these overrides and note down the personnel responsible. Institutions shall analyse the performance of the exposures whose assignments have been overridden. This analysis shall include an assessment of the performance of exposures whose rating has been overridden by a particular person, accounting for all the responsible personnel.

Article 173

Integrity of assignment process

1 For exposures to corporates, institutions and central governments and central banks, and for equity exposures where an institution uses the PD/LGD approach set out in Article 155(3), the assignment process shall meet the following requirements of integrity:

a Assignments and periodic reviews of assignments shall be completed or approved by an independent party that does not directly benefit from decisions to extend the credit;

b Institutions shall review assignments at least annually and adjust the assignment where the result of the review does not justify carrying forward the current assignment. High risk obligors and problem exposures shall be subject to more frequent review. Institutions shall undertake a new assignment if material information on the obligor or exposure becomes available;

c An institution shall have an effective process to obtain and update relevant information on obligor characteristics that affect PDs, and on transaction characteristics that affect LGDs or conversion factors.

2 For retail exposures, an institution shall at least annually review obligor and facility assignments and adjust the assignment where the result of the review does not justify carrying forward the current assignment, or review the loss characteristics and delinquency status of each identified risk pool, whichever applicable. An institution shall also at least annually review in a representative sample the status of individual exposures within each pool as a means of ensuring that exposures continue to be assigned to the correct pool, and adjust the assignment where the result of the review does not justify carrying forward the current assignment.

3 EBA shall develop draft regulatory technical standards for the methodologies of the competent authorities to assess the integrity of the assignment process and the regular and independent assessment of risks.

EBA shall submit those draft regulatory technical standards to the Commission by 31 December 2014.

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with Articles 10 to 14 of Regulation (EU) No 1093/2010.

Article 174

Use of models

If an institution uses statistical models and other mechanical methods to assign exposures to obligors or facilities grades or pools, the following requirements shall be met:

(a) the model shall have good predictive power and capital requirements shall not be distorted as a result of its use. The input variables shall form a reasonable and effective basis for the resulting predictions. The model shall not have material biases;

(b) the institution shall have in place a process for vetting data inputs into the model, which includes an assessment of the accuracy, completeness and appropriateness of the data;

(c) the data used to build the model shall be representative of the population of the institution's actual obligors or exposures;

(d) the institution shall have a regular cycle of model validation that includes monitoring of model performance and stability; review of model specification; and testing of model outputs against outcomes;

(e) the institution shall complement the statistical model by human judgement and human oversight to review model-based assignments and to ensure that the models are used appropriately. Review procedures shall aim at finding and limiting errors associated with model weaknesses. Human judgements shall take into account all relevant information not considered by the model. The institution shall document how human judgement and model results are to be combined.

Article 175

Documentation of rating systems

1 The institutions shall document the design and operational details of its rating systems. The documentation shall provide evidence of compliance with the requirements in this Section, and address topics including portfolio differentiation, rating criteria, responsibilities of parties that rate obligors and exposures, frequency of assignment reviews, and management oversight of the rating process.

2 The institution shall document the rationale for and analysis supporting its choice of rating criteria. An institution shall document all major changes in the risk rating process, and such documentation shall support identification of changes made to the risk rating process subsequent to the last review by the competent authorities. The organisation of rating

assignment including the rating assignment process and the internal control structure shall also be documented.

3 The institutions shall document the specific definitions of default and loss used internally and ensure consistency with the definitions set out in this Regulation.

4 Where the institution employs statistical models in the rating process, the institution shall document their methodologies. This material shall:

a provide a detailed outline of the theory, assumptions and mathematical and empirical basis of the assignment of estimates to grades, individual obligors, exposures, or pools, and the data source(s) used to estimate the model;
b establish a rigorous statistical process including out-of-time and out-of-sample performance tests for validating the model;
c indicate any circumstances under which the model does not work effectively.

5 An institution shall demonstrate to the satisfaction of the competent authority that the requirements of this Article are met, where an institution has obtained a rating system, or model used within a rating system, from a third-party vendor and that vendor refuses or restricts the access of the institution to information pertaining to the methodology of that rating system or model, or underlying data used to develop that methodology or model, on the basis that such information is proprietary.

Article 176

Data maintenance

1 Institutions shall collect and store data on aspects of their internal ratings as required under Part Eight.

2 For exposures to corporates, institutions and central governments and central banks, and for equity exposures where an institution uses the PD/LGD approach set out in Article 155(3), institutions shall collect and store:

a complete rating histories on obligors and recognised guarantors;
b the dates the ratings were assigned;
c the key data and methodology used to derive the rating;
d the person responsible for the rating assignment;
e the identity of obligors and exposures that defaulted;
f the date and circumstances of such defaults;
g data on the PDs and realised default rates associated with rating grades and ratings migration.

3 Institutions not using own estimates of LGDs and conversion factors shall collect and store data on comparisons of realised LGDs to the values as set out in Article 161(1) and realised conversion factors to the values as set out in Article 166(8).

4 Institutions using own estimates of LGDs and conversion factors shall collect and store:

a complete histories of data on the facility ratings and LGD and conversion factor estimates associated with each rating scale;
b the dates the ratings were assigned and the estimates were done;
c the key data and methodology used to derive the facility ratings and LGD and conversion factor estimates;

d the person who assigned the facility rating and the person who provided LGD and conversion factor estimates;

e data on the estimated and realised LGDs and conversion factors associated with each defaulted exposure;

f data on the LGD of the exposure before and after evaluation of the effects of a guarantee/ or credit derivative, for those institutions that reflect the credit risk mitigating effects of guarantees or credit derivatives through LGD;

g data on the components of loss for each defaulted exposure.

5 For retail exposures, institutions shall collect and store:

a data used in the process of allocating exposures to grades or pools;

b data on the estimated PDs, LGDs and conversion factors associated with grades or pools of exposures;

c the identity of obligors and exposures that defaulted;

d for defaulted exposures, data on the grades or pools to which the exposure was assigned over the year prior to default and the realised outcomes on LGD and conversion factor;

e data on loss rates for qualifying revolving retail exposures.

Article 177

Stress tests used in assessment of capital adequacy

1 An institution shall have in place sound stress testing processes for use in the assessment of its capital adequacy. Stress testing shall involve identifying possible events or future changes in economic conditions that could have unfavourable effects on an institution's credit exposures and assessment of the institution's ability to withstand such changes.

2 An institution shall regularly perform a credit risk stress test to assess the effect of certain specific conditions on its total capital requirements for credit risk. The test shall be one chosen by the institution, subject to supervisory review. The test to be employed shall be meaningful and consider the effects of severe, but plausible, recession scenarios. An institution shall assess migration in its ratings under the stress test scenarios. Stressed portfolios shall contain the vast majority of an institution's total exposure.

3 Institutions using the treatment set out in Article 153(3) shall consider as part of their stress testing framework the impact of a deterioration in the credit quality of protection providers, in particular the impact of protection providers falling outside the eligibility criteria.

Sub-Section 2

Risk quantification

Article 178

Default of an obligor

1 A default shall be considered to have occurred with regard to a particular obligor when either or both of the following have taken place:

a the institution considers that the obligor is unlikely to pay its credit obligations to the institution, the parent undertaking or any of its subsidiaries in full, without recourse by the institution to actions such as realising security;

b the obligor is past due more than 90 days on any material credit obligation to the institution, the parent undertaking or any of its subsidiaries. Competent authorities may replace the 90 days with 180 days for exposures secured by residential or SME commercial real estate in the retail exposure class, as well as exposures to public sector entities). The 180 days shall not apply for the purposes of Article 127.

In the case of retail exposures, institutions may apply the definition of default laid down in points (a) and (b) of the first subparagraph at the level of an individual credit facility rather than in relation to the total obligations of a borrower.

2 The following shall apply for the purposes of point (b) of paragraph 1:

a for overdrafts, days past due commence once an obligor has breached an advised limit, has been advised a limit smaller than current outstandings, or has drawn credit without authorisation and the underlying amount is material;

b for the purposes of point (a), an advised limit comprises any credit limit determined by the institution and about which the obligor has been informed by the institution;

c days past due for credit cards commence on the minimum payment due date;

d materiality of a credit obligation past due shall be assessed against a threshold, defined by the competent authorities. This threshold shall reflect a level of risk that the competent authority considers to be reasonable;

e institutions shall have documented policies in respect of the counting of days past due, in particular in respect of the re-ageing of the facilities and the granting of extensions, amendments or deferrals, renewals, and netting of existing accounts. These policies shall be applied consistently over time, and shall be in line with the internal risk management and decision processes of the institution.

3 For the purpose of point (a) of paragraph 1, elements to be taken as indications of unlikeliness to pay shall include the following:

a the institution puts the credit obligation on non-accrued status;

b the institution recognises a specific credit adjustment resulting from a significant perceived decline in credit quality subsequent to the institution taking on the exposure;

c the institution sells the credit obligation at a material credit-related economic loss;

d the institution consents to a distressed restructuring of the credit obligation where this is likely to result in a diminished financial obligation caused by the material forgiveness, or postponement, of principal, interest or, where relevant fees. This includes, in the case of equity exposures assessed under a PD/LGD Approach, distressed restructuring of the equity itself;

e the institution has filed for the obligor's bankruptcy or a similar order in respect of an obligor's credit obligation to the institution, the parent undertaking or any of its subsidiaries;

f the obligor has sought or has been placed in bankruptcy or similar protection where this would avoid or delay repayment of a credit obligation to the institution, the parent undertaking or any of its subsidiaries.

4 Institutions that use external data that is not itself consistent with the definition of default laid down in paragraph 1, shall make appropriate adjustments to achieve broad equivalence with the definition of default.

5 If the institution considers that a previously defaulted exposure is such that no trigger of default continues to apply, the institution shall rate the obligor or facility as they would for a non-defaulted exposure. Where the definition of default is subsequently triggered, another default would be deemed to have occurred.

6 EBA shall develop draft regulatory technical standards to specify the conditions according to which a competent authority shall set the threshold referred to in paragraph 2(d).

EBA shall submit those draft regulatory technical standards to the Commission by 31 December 2014.

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with Articles 10 to 14 of Regulation (EU) No 1093/2010.

7 EBA shall issue guidelines on the application of this Article. Those guidelines shall be adopted in accordance with Article 16 of Regulation (EU) No 1093/2010.

Article 179

Overall requirements for estimation

1 In quantifying the risk parameters to be associated with rating grades or pools, institutions shall apply the following requirements:

- a an institution's own estimates of the risk parameters PD, LGD, conversion factor and EL shall incorporate all relevant data, information and methods. The estimates shall be derived using both historical experience and empirical evidence, and not based purely on judgemental considerations. The estimates shall be plausible and intuitive and shall be based on the material drivers of the respective risk parameters. The less data an institution has, the more conservative it shall be in its estimation;
- b an institution shall be able to provide a breakdown of its loss experience in terms of default frequency, LGD, conversion factor, or loss where EL estimates are used, by the factors it sees as the drivers of the respective risk parameters. The institution's estimates shall be representative of long run experience;
- c any changes in lending practice or the process for pursuing recoveries over the observation periods referred to in Article 180(1)(h) and (2)(e), Article 181(1)(j) and (2), and Article 182(2) and (3) shall be taken into account. An institution's estimates shall reflect the implications of technical advances and new data and other information, as it becomes available. Institutions shall review their estimates when new information comes to light but at least on an annual basis;
- d the population of exposures represented in the data used for estimation, the lending standards used when the data was generated and other relevant characteristics shall be comparable with those of the institution's exposures and standards. The economic or market conditions that underlie the data shall be relevant to current and foreseeable conditions. The number of exposures in the sample and the data period used for quantification shall be sufficient to provide the institution with confidence in the accuracy and robustness of its estimates;
- e for purchased receivables the estimates shall reflect all relevant information available to the purchasing institution regarding the quality of the underlying receivables, including data for similar pools provided by the seller, by the purchasing institution, or by external sources. The purchasing institution shall evaluate any data relied upon which is provided by the seller;

f an institution shall add to its estimates a margin of conservatism that is related to the expected range of estimation errors. Where methods and data are considered to be less satisfactory, the expected range of errors is larger, the margin of conservatism shall be larger.

Where institutions use different estimates for the calculation of risk weights and for internal purposes, it shall be documented and be reasonable. If institutions can demonstrate to their competent authorities that for data that have been collected prior to 1 January 2007 appropriate adjustments have been made to achieve broad equivalence with the definition of default laid down in Article 178 or with loss, competent authorities may permit the institutions some flexibility in the application of the required standards for data.

2 Where an institution uses data that is pooled across institutions it shall meet the following requirements:

a the rating systems and criteria of other institutions in the pool are similar with its own;

b the pool is representative of the portfolio for which the pooled data is used;

c the pooled data is used consistently over time by the institution for its estimates;

d the institution shall remain responsible for the integrity of its rating systems;

e the institution shall maintain sufficient in-house understanding of its rating systems, including the ability to effectively monitor and audit the rating process.

Article 180

Requirements specific to PD estimation

1 In quantifying the risk parameters to be associated with rating grades or pools, institutions shall apply the following requirements specific to PD estimation to exposures to corporates, institutions and central governments and central banks and for equity exposures where an institution uses the PD/LGD approach set out in Article 155(3):

a institutions shall estimate PDs by obligor grade from long run averages of one-year default rates. PD estimates for obligors that are highly leveraged or for obligors whose assets are predominantly traded assets shall reflect the performance of the underlying assets based on periods of stressed volatilities;

b for purchased corporate receivables institutions may estimate the EL by obligor grade from long run averages of one-year realised default rates;

c if an institution derives long run average estimates of PDs and LGDs for purchased corporate receivables from an estimate of EL, and an appropriate estimate of PD or LGD, the process for estimating total losses shall meet the overall standards for estimation of PD and LGD set out in this part, and the outcome shall be consistent with the concept of LGD as set out in Article 181(1)(a);

d institutions shall use PD estimation techniques only with supporting analysis. Institutions shall recognise the importance of judgmental considerations in combining results of techniques and in making adjustments for limitations of techniques and information;

e to the extent that an institution uses data on internal default experience for the estimation of PDs, the estimates shall be reflective of underwriting standards and of any differences in the rating system that generated the data and the current rating system. Where underwriting standards or rating systems have changed, the institution shall add a greater margin of conservatism in its estimate of PD;

f to the extent that an institution associates or maps its internal grades to the scale used by an ECAI or similar organisations and then attributes the default rate observed for the external organisation's grades to the institution's grades, mappings shall be based on a comparison of internal rating criteria to the criteria used by the external organisation and on a comparison of the internal and external ratings of any common obligors. Biases or inconsistencies in the mapping approach or underlying data shall be avoided. The criteria of the external organisation underlying the data used for quantification shall be oriented to default risk only and not reflect transaction characteristics. The analysis undertaken by the institution shall include a comparison of the default definitions used, subject to the requirements in Article 178. The institution shall document the basis for the mapping;

g to the extent that an institution uses statistical default prediction models it is allowed to estimate PDs as the simple average of default-probability estimates for individual obligors in a given grade. The institution's use of default probability models for this purpose shall meet the standards specified in Article 174;

h irrespective of whether an institution is using external, internal, or pooled data sources, or a combination of the three, for its PD estimation, the length of the underlying historical observation period used shall be at least five years for at least one source. If the available observation period spans a longer period for any source, and this data is relevant, this longer period shall be used. This point also applies to the PD/LGD Approach to equity. Subject to the permission of competent authorities, institutions which have not received the permission of the competent authority pursuant to Article 143 to use own estimates of LGDs or conversion factors may use, when they implement the IRB Approach, relevant data covering a period of two years. The period to be covered shall increase by one year each year until relevant data cover a period of five years.

2 For retail exposures, the following requirements shall apply:

a institutions shall estimate PDs by obligor grade or pool from long run averages of one-year default rates;

b PD estimates may also be derived from an estimate of total losses and appropriate estimates of LGDs;

c institutions shall regard internal data for assigning exposures to grades or pools as the primary source of information for estimating loss characteristics. Institutions may use external data (including pooled data) or statistical models for quantification provided the following strong links both exist:

(i) between the institution's process of assigning exposures to grades or pools and the process used by the external data source; and

(ii) between the institution's internal risk profile and the composition of the external data;

d if an institution derives long run average estimates of PD and LGD for retail from an estimate of total losses and an appropriate estimate of PD or LGD, the process for estimating total losses shall meet the overall standards for estimation of PD and LGD set out in this part, and the outcome shall be consistent with the concept of LGD as set out in point (a) of Article 181(1);

e irrespective of whether an institution is using external, internal or pooled data sources or a combination of the three, for their estimation of loss characteristics, the length of the underlying historical observation period used shall be at least five years for at least one source. If the available observation spans a longer period for any source, and these data are relevant, this longer period shall be used. An institution need not give equal importance to historic data if more recent data is a better predictor of loss rates.

Subject to the permission of the competent authorities, institutions may use, when they implement the IRB Approach, relevant data covering a period of two years. The period to be covered shall increase by one year each year until relevant data cover a period of five years;

f institutions shall identify and analyse expected changes of risk parameters over the life of credit exposures (seasoning effects).

For purchased retail receivables, institutions may use external and internal reference data. Institutions shall use all relevant data sources as points of comparison.

3 EBA shall develop draft regulatory technical standards to specify the following:

a the conditions according to which competent authorities may grant the permissions referred to in point (h) of paragraph 1 and point (e) of paragraph 2;

b the methodologies according to which competent authorities shall assess the methodology of an institution for estimating PD pursuant to Article 143.

EBA shall submit those draft regulatory technical standards to the Commission by 31 December 2014.

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with Articles 10 to 14 of Regulation (EU) No 1093/2010.

Article 181

Requirements specific to own-LGD estimates

1 In quantifying the risk parameters to be associated with rating grades or pools, institutions shall apply the following requirements specific to own-LGD estimates:

a institutions shall estimate LGDs by facility grade or pool on the basis of the average realised LGDs by facility grade or pool using all observed defaults within the data sources (default weighted average);

b institutions shall use LGD estimates that are appropriate for an economic downturn if those are more conservative than the long-run average. To the extent a rating system is expected to deliver realised LGDs at a constant level by grade or pool over time, institutions shall make adjustments to their estimates of risk parameters by grade or pool to limit the capital impact of an economic downturn;

c an institution shall consider the extent of any dependence between the risk of the obligor with that of the collateral or collateral provider. Cases where there is a significant degree of dependence shall be addressed in a conservative manner;

d currency mismatches between the underlying obligation and the collateral shall be treated conservatively in the institution's assessment of LGD;

e to the extent that LGD estimates take into account the existence of collateral, these estimates shall not solely be based on the collateral's estimated market value. LGD estimates shall take into account the effect of the potential inability of institutions to expeditiously gain control of their collateral and liquidate it;

f to the extent that LGD estimates take into account the existence of collateral, institutions shall establish internal requirements for collateral management, legal certainty and risk management that are generally consistent with those set out in Chapter 4, Section 3;

g to the extent that an institution recognises collateral for determining the exposure value for counterparty credit risk in accordance with Chapter 6, Section 5 or 6, any amount expected to be recovered from the collateral shall not be taken into account in the LGD estimates;

h for the specific case of exposures already in default, the institution shall use the sum of its best estimate of expected loss for each exposure given current economic circumstances and exposure status and its estimate of the increase of loss rate caused by possible additional unexpected losses during the recovery period, i.e. between date of default and final liquidation of the exposure;

i to the extent that unpaid late fees have been capitalised in the institution's income statement, they shall be added to the institution's measure of exposure and loss;

j for exposures to corporates, institutions and central governments and central banks, estimates of LGD shall be based on data over a minimum of five years, increasing by one year each year after implementation until a minimum of seven years is reached, for at least one data source. If the available observation period spans a longer period for any source, and the data is relevant, this longer period shall be used.

2 For retail exposures, institutions may do the following:

a derive LGD estimates from realised losses and appropriate estimates of PDs;

b reflect future drawings either in their conversion factors or in their LGD estimates;

c For purchased retail receivables use external and internal reference data to estimate LGDs.

For retail exposures, estimates of LGD shall be based on data over a minimum of five years. An institution needs not give equal importance to historic data if more recent data is a better predictor of loss rates. Subject to the permission of the competent authorities, institutions may use, when they implement the IRB Approach, relevant data covering a period of two years. The period to be covered shall increase by one year each year until relevant data cover a period of five years.

3 EBA shall develop draft regulatory technical standards to specify the following:

a the nature, severity and duration of an economic downturn referred to in paragraph 1;

b the conditions according to which a competent authority may permit and institution pursuant to paragraph 3 to use relevant data covering a period of two years when the institution implements the IRB Approach.

EBA shall submit those draft regulatory technical standards to the Commission by 31 December 2014.

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with Articles 10 to 14 of Regulation (EU) No 1093/2010.

Article 182

Requirements specific to own-conversion factor estimates

1 In quantifying the risk parameters to be associated with rating grades or pools, institutions shall apply the following requirements specific to own-conversion factor estimates:

a institutions shall estimate conversion factors by facility grade or pool on the basis of the average realised conversion factors by facility grade or pool using the default weighted average resulting from all observed defaults within the data sources;

b institutions shall use conversion factor estimates that are appropriate for an economic downturn if those are more conservative than the long-run average. To the extent a rating system is expected to deliver realised conversion factors at a constant level by grade or pool over time, institutions shall make adjustments to their estimates of risk parameters by grade or pool to limit the capital impact of an economic downturn;

c institutions' estimates of conversion factors shall reflect the possibility of additional drawings by the obligor up to and after the time a default event is triggered. The conversion factor estimate shall incorporate a larger margin of conservatism where a stronger positive correlation can reasonably be expected between the default frequency and the magnitude of conversion factor;

d in arriving at estimates of conversion factors institutions shall consider their specific policies and strategies adopted in respect of account monitoring and payment processing. Institutions shall also consider their ability and willingness to prevent further drawings in circumstances short of payment default, such as covenant violations or other technical default events;

e institutions shall have adequate systems and procedures in place to monitor facility amounts, current outstandings against committed lines and changes in outstandings per obligor and per grade. The institution shall be able to monitor outstanding balances on a daily basis;

f if institutions use different estimates of conversion factors for the calculation of risk weighted exposure amounts and internal purposes it shall be documented and be reasonable.

2 For exposures to corporates, institutions and central governments and central banks, estimates of conversion factors shall be based on data over a minimum of five years, increasing by one year each year after implementation until a minimum of seven years is reached, for at least one data source. If the available observation period spans a longer period for any source, and the data is relevant, this longer period shall be used.

3 For retail exposures, institutions may reflect future drawings either in their conversion factors or in their LGD estimates.

For retail exposures, estimates of conversion factors shall be based on data over a minimum of five years. By way of derogation from point (a) of paragraph 1, an institution need not give equal importance to historic data if more recent data is a better predictor of draw downs. Subject to the permission of competent authorities, institutions may use, when they implement the IRB Approach, relevant data covering a period of two years. The period to be covered shall increase by one year each year until relevant data cover a period of five years.

4 EBA shall develop draft regulatory technical standards to specify the following:

a the nature, severity and duration of an economic downturn referred to in paragraph 1;

b conditions according to which a competent authority may permit and institution to use relevant data covering a period of two years at the time an institution first implements the IRB Approach.

EBA shall submit those draft regulatory technical standards to the Commission by 31 December 2014.

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with Articles 10 to 14 of Regulation (EU) No 1093/2010.

Article 183

Requirements for assessing the effect of guarantees and credit derivatives for exposures to corporates, institutions and central governments and central banks where own estimates of LGD are used and retail exposures

1 The following requirements shall apply in relation to eligible guarantors and guarantees:

- a institutions shall have clearly specified criteria for the types of guarantors they recognise for the calculation of risk weighted exposure amounts;
- b for recognised guarantors the same rules as for obligors as set out in Articles 171, 172 and 173 shall apply;
- c the guarantee shall be evidenced in writing, non-cancellable on the part of the guarantor, in force until the obligation is satisfied in full (to the extent of the amount and tenor of the guarantee) and legally enforceable against the guarantor in a jurisdiction where the guarantor has assets to attach and enforce a judgement. Conditional guarantees prescribing conditions under which the guarantor may not be obliged to perform may be recognised subject to permission of the competent authorities. The assignment criteria shall adequately address any potential reduction in the risk mitigation effect.

2 An institution shall have clearly specified criteria for adjusting grades, pools or LGD estimates, and, in the case of retail and eligible purchased receivables, the process of allocating exposures to grades or pools, to reflect the impact of guarantees for the calculation of risk weighted exposure amounts. These criteria shall comply with the requirements set out in Articles 171, 172 and 173.

The criteria shall be plausible and intuitive. They shall address the guarantor's ability and willingness to perform under the guarantee, the likely timing of any payments from the guarantor, the degree to which the guarantor's ability to perform under the guarantee is correlated with the obligor's ability to repay, and the extent to which residual risk to the obligor remains.

3 The requirements for guarantees in this Article shall apply also for single-name credit derivatives. In relation to a mismatch between the underlying obligation and the reference obligation of the credit derivative or the obligation used for determining whether a credit event has occurred, the requirements set out under Article 216(2) shall apply. For retail exposures and eligible purchased receivables, this paragraph applies to the process of allocating exposures to grades or pools.

The criteria shall address the payout structure of the credit derivative and conservatively assess the impact this has on the level and timing of recoveries. The institution shall consider the extent to which other forms of residual risk remain.

4 The requirements set out in paragraphs 1 to 3 shall not apply for guarantees provided by institutions, central governments and central banks, and corporate entities which meet the requirements laid down in Article 201(1)(g) if the institution has received permission to apply the Standardised Approach for exposures to such entities pursuant to Articles 148 and 150. In this case the requirements of Chapter 4 shall apply.

5 For retail guarantees, the requirements set out in paragraphs 1, 2 and 3 shall also apply to the assignment of exposures to grades or pools, and the estimation of PD.

6 EBA shall develop draft regulatory technical standards to specify the conditions according to which competent authorities may permit conditional guarantees to be recognised.

EBA shall submit those draft regulatory technical standards to the Commission by 31 December 2014.

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with Articles 10 to 14 of Regulation (EU) No 1093/2010.

Article 184

Requirements for purchased receivables

1 In quantifying the risk parameters to be associated with rating grades or pools for purchased receivables, institutions shall ensure the conditions laid down in paragraphs 2 to 6 are met.

2 The structure of the facility shall ensure that under all foreseeable circumstances the institution has effective ownership and control of all cash remittances from the receivables. When the obligor makes payments directly to a seller or servicer, the institution shall verify regularly that payments are forwarded completely and within the contractually agreed terms. Institutions shall have procedures to ensure that ownership over the receivables and cash receipts is protected against bankruptcy stays or legal challenges that could materially delay the lender's ability to liquidate or assign the receivables or retain control over cash receipts.

3 The institution shall monitor both the quality of the purchased receivables and the financial condition of the seller and servicer. The following shall apply:

a the institution shall assess the correlation among the quality of the purchased receivables and the financial condition of both the seller and servicer, and have in place internal policies and procedures that provide adequate safeguards to protect against any contingencies, including the assignment of an internal risk rating for each seller and servicer;

b the institution shall have clear and effective policies and procedures for determining seller and servicer eligibility. The institution or its agent shall conduct periodic reviews of sellers and servicers in order to verify the accuracy of reports from the seller or servicer, detect fraud or operational weaknesses, and verify the quality of the seller's credit policies and servicer's collection policies and procedures. The findings of these reviews shall be documented;

c the institution shall assess the characteristics of the purchased receivables pools, including over-advances; history of the seller's arrears, bad debts, and bad debt allowances; payment terms, and potential contra accounts;

d the institution shall have effective policies and procedures for monitoring on an aggregate basis single-obligor concentrations both within and across purchased receivables pools;

e the institution shall ensure that it receives from the servicer timely and sufficiently detailed reports of receivables ageings and dilutions to ensure compliance with the institution's eligibility criteria and advancing policies governing purchased receivables, and provide an effective means with which to monitor and confirm the seller's terms of sale and dilution.

4 The institution shall have systems and procedures for detecting deteriorations in the seller's financial condition and purchased receivables quality at an early stage, and for

addressing emerging problems pro-actively. In particular, the institution shall have clear and effective policies, procedures, and information systems to monitor covenant violations, and clear and effective policies and procedures for initiating legal actions and dealing with problem purchased receivables.

5 The institution shall have clear and effective policies and procedures governing the control of purchased receivables, credit, and cash. In particular, written internal policies shall specify all material elements of the receivables purchase programme, including the advancing rates, eligible collateral, necessary documentation, concentration limits, and the way cash receipts are to be handled. These elements shall take appropriate account of all relevant and material factors, including the seller and servicer's financial condition, risk concentrations, and trends in the quality of the purchased receivables and the seller's customer base, and internal systems shall ensure that funds are advanced only against specified supporting collateral and documentation.

6 The institution shall have an effective internal process for assessing compliance with all internal policies and procedures. The process shall include regular audits of all critical phases of the institution's receivables purchase programme, verification of the separation of duties between firstly the assessment of the seller and servicer and the assessment of the obligor and secondly between the assessment of the seller and servicer and the field audit of the seller and servicer, and evaluations of back office operations, with particular focus on qualifications, experience, staffing levels, and supporting automation systems.

Sub-Section 3

Validation of internal estimates

Article 185

Validation of internal estimates

Institutions shall validate their internal estimates subject to the following requirements:

(a) institutions shall have robust systems in place to validate the accuracy and consistency of rating systems, processes, and the estimation of all relevant risk parameters. The internal validation process shall enable the institution to assess the performance of internal rating and risk estimation systems consistently and meaningfully;

(b) institutions shall regularly compare realised default rates with estimated PDs for each grade and, where realised default rates are outside the expected range for that grade, institutions shall specifically analyse the reasons for the deviation. Institutions using own estimates of LGDs and conversion factors shall also perform analogous analysis for these estimates. Such comparisons shall make use of historical data that cover as long a period as possible. The institution shall document the methods and data used in such comparisons. This analysis and documentation shall be updated at least annually;

(c) institutions shall also use other quantitative validation tools and comparisons with relevant external data sources. The analysis shall be based on data that are appropriate to the portfolio, are updated regularly, and cover a relevant observation period. Institutions' internal assessments of the performance of their rating systems shall be based on as long a period as possible;

(d) the methods and data used for quantitative validation shall be consistent through time. Changes in estimation and validation methods and data (both data sources and periods covered) shall be documented;

(e) institutions shall have sound internal standards for situations where deviations in realised PDs, LGDs, conversion factors and total losses, where EL is used, from expectations, become significant enough to call the validity of the estimates into question. These standards shall take account of business cycles and similar systematic variability in default experience. Where realised values continue to be higher than expected values, institutions shall revise estimates upward to reflect their default and loss experience;

Sub-Section 4

Requirements for equity exposures under the internal models approach

Article 186

Own funds requirement and risk quantification

For the purpose of calculating own funds requirements institutions shall meet the following standards:

(a) the estimate of potential loss shall be robust to adverse market movements relevant to the long-term risk profile of the institution's specific holdings. The data used to represent return distributions shall reflect the longest sample period for which data is available and meaningful in representing the risk profile of the institution's specific equity exposures. The data used shall be sufficient to provide conservative, statistically reliable and robust loss estimates that are not based purely on subjective or judgmental considerations. The shock employed shall provide a conservative estimate of potential losses over a relevant long-term market or business cycle. The institution shall combine empirical analysis of available data with adjustments based on a variety of factors in order to attain model outputs that achieve appropriate realism and conservatism. In constructing Value at Risk (VaR) models estimating potential quarterly losses, institutions may use quarterly data or convert shorter horizon period data to a quarterly equivalent using an analytically appropriate method supported by empirical evidence and through a well-developed and documented thought process and analysis. Such an approach shall be applied conservatively and consistently over time. Where only limited relevant data is available the institution shall add appropriate margins of conservatism;

(b) the models used shall capture adequately all of the material risks embodied in equity returns including both the general market risk and specific risk exposure of the institution's equity portfolio. The internal models shall adequately explain historical price variation, capture both the magnitude and changes in the composition of potential concentrations, and be robust to adverse market environments. The population of risk exposures represented in the data used for estimation shall be closely matched to or at least comparable with those of the institution's equity exposures;

(c) the internal model shall be appropriate for the risk profile and complexity of an institution's equity portfolio. Where an institution has material holdings with values that are highly non-linear in nature the internal models shall be designed to capture appropriately the risks associated with such instruments;

(d) mapping of individual positions to proxies, market indices, and risk factors shall be plausible, intuitive, and conceptually sound;

(e) institutions shall demonstrate through empirical analyses the appropriateness of risk factors, including their ability to cover both general and specific risk;

(f) the estimates of the return volatility of equity exposures shall incorporate relevant and available data, information, and methods. Independently reviewed internal data or data from external sources including pooled data shall be used;

(g) a rigorous and comprehensive stress-testing programme shall be in place.

Article 187

Risk management process and controls

With regard to the development and use of internal models for own funds requirement purposes, institutions shall establish policies, procedures, and controls to ensure the integrity of the model and modelling process. These policies, procedures, and controls shall include the following:

(a) full integration of the internal model into the overall management information systems of the institution and in the management of the non-trading book equity portfolio. Internal models shall be fully integrated into the institution's risk management infrastructure if they are particularly used in measuring and assessing equity portfolio performance including the risk-adjusted performance, allocating economic capital to equity exposures and evaluating overall capital adequacy and the investment management process;

(b) established management systems, procedures, and control functions for ensuring the periodic and independent review of all elements of the internal modelling process, including approval of model revisions, vetting of model inputs, and review of model results, such as direct verification of risk computations. These reviews shall assess the accuracy, completeness, and appropriateness of model inputs and results and focus on both finding and limiting potential errors associated with known weaknesses and identifying unknown model weaknesses. Such reviews may be conducted by an internal independent unit, or by an independent external third party;

(c) adequate systems and procedures for monitoring investment limits and the risk exposures of equity exposures;

(d) the units responsible for the design and application of the model shall be functionally independent from the units responsible for managing individual investments;

(e) parties responsible for any aspect of the modelling process shall be adequately qualified. Management shall allocate sufficient skilled and competent resources to the modelling function.

Article 188

Validation and documentation

Institutions shall have robust systems in place to validate the accuracy and consistency of their internal models and modelling processes. All material elements of the internal models and the modelling process and validation shall be documented.

The validation and documentation of institutions' internal models and modelling processes shall be subject to the following requirements:

(a) institutions shall use the internal validation process to assess the performance of its internal models and processes in a consistent and meaningful way;

(b) the methods and data used for quantitative validation shall be consistent through time. Changes in estimation and validation methods and data both data sources and periods covered shall be documented;

(c) institutions shall regularly compare actual equity returns computed using realised and unrealised gains and losses with modelled estimates. Such comparisons shall make use of historical data that cover as long a period as possible. The institution shall document the methods and data used in such comparisons. This analysis and documentation shall be updated at least annually;

(d) institutions shall make use of other quantitative validation tools and comparisons with external data sources. The analysis shall be based on data that are appropriate to the portfolio, are updated regularly, and cover a relevant observation period. Institutions' internal assessments of the performance of their models shall be based on as long a period as possible;

(e) institutions shall have sound internal standards for addressing situations where comparison of actual equity returns with the models estimates calls the validity of the estimates or of the models as such into question. These standards shall take account of business cycles and similar systematic variability in equity returns. All adjustments made to internal models in response to model reviews shall be documented and consistent with the institution's model review standards;

(f) the internal model and the modelling process shall be documented, including the responsibilities of parties involved in the modelling, and the model approval and model review processes.

Sub-Section 5

Internal governance and oversight

Article 189

Corporate Governance

1 All material aspects of the rating and estimation processes shall be approved by the institution's management body or a designated committee thereof and senior management.

These parties shall possess a general understanding of the rating systems of the institution and detailed comprehension of its associated management reports.

2 Senior management shall be subject to the following requirements:

a they shall provide notice to the management body or a designated committee thereof of material changes or exceptions from established policies that will materially impact the operations of the institution's rating systems;

b they shall have a good understanding of the rating systems designs and operations;

c they shall ensure, on an ongoing basis that the rating systems are operating properly.

Senior management shall be regularly informed by the credit risk control units about the performance of the rating process, areas needing improvement, and the status of efforts to improve previously identified deficiencies.

3 Internal ratings-based analysis of the institution's credit risk profile shall be an essential part of the management reporting to these parties. Reporting shall include at least risk profile by grade, migration across grades, estimation of the relevant parameters per grade, and comparison of realised default rates, and to the extent that own estimates are used of realised LGDs and realised conversion factors against expectations and stress-test results. Reporting frequencies shall depend on the significance and type of information and the level of the recipient.

Article 190

Credit risk control

1 The credit risk control unit shall be independent from the personnel and management functions responsible for originating or renewing exposures and report directly to senior management. The unit shall be responsible for the design or selection, implementation, oversight and performance of the rating systems. It shall regularly produce and analyse reports on the output of the rating systems.

2 The areas of responsibility for the credit risk control unit or units shall include:

a testing and monitoring grades and pools;

b production and analysis of summary reports from the institution's rating systems;

c implementing procedures to verify that grade and pool definitions are consistently applied across departments and geographic areas;

d reviewing and documenting any changes to the rating process, including the reasons for the changes;

e reviewing the rating criteria to evaluate if they remain predictive of risk. Changes to the rating process, criteria or individual rating parameters shall be documented and retained;

f active participation in the design or selection, implementation and validation of models used in the rating process;

g oversight and supervision of models used in the rating process;

h ongoing review and alterations to models used in the rating process.

3 Institutions using pooled data in accordance with Article 179(2) may outsource the following tasks:

a production of information relevant to testing and monitoring grades and pools;

b production of summary reports from the institution's rating systems;

c production of information relevant to review of the rating criteria to evaluate if they remain predictive of risk;
d documentation of changes to the rating process, criteria or individual rating parameters;
e production of information relevant to ongoing review and alterations to models used in the rating process.

4 Institutions making use of paragraph 3 shall ensure that the competent authorities have access to all relevant information from the third party that is necessary for examining compliance with the requirements and that the competent authorities may perform on-site examinations to the same extent as within the institution.

Article 191

Internal Audit

Internal audit or another comparable independent auditing unit shall review at least annually the institution's rating systems and its operations, including the operations of the credit function and the estimation of PDs, LGDs, ELs and conversion factors. Areas of review shall include adherence to all applicable requirements.