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 4

Credit risk mitigation

Section 4

Calculating the effects of credit risk mitigation

Sub-Section 1

Funded credit protection

Article 218

Credit linked notes

Investments in credit linked notes issued by the lending institution may be treated as cash collateral for the purpose of calculating the effect of funded credit protection in accordance with this Sub-section, provided that the credit default swap embedded in the credit linked note qualifies as eligible unfunded credit protection. For the purpose of determining whether the credit default swap embedded in a credit linked note qualifies as eligible unfunded credit protection, the institution may consider the condition in point (c) of Article 194(6) to be met.

Article 219

On-balance sheet netting

Loans to and deposits with the lending institution subject to on-balance sheet netting are to be treated by that institution as cash collateral for the purpose of calculating the effect of funded credit protection for those loans and deposits of the lending institution subject to on-balance sheet netting which are denominated in the same currency.

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Article 220

Using the Supervisory Volatility Adjustments Approach or the Own Estimates Volatility Adjustments Approach for master netting agreements

1   When institutions calculate the 'fully adjusted exposure value' (E*) for the exposures subject to an eligible master netting agreement covering repurchase transactions or securities or commodities lending or borrowing transactions or other capital market-driven transactions, they shall calculate the volatility adjustments that they need to apply either by using the Supervisory Volatility Adjustments Approach or the Own Estimates Volatility Adjustments Approach ('Own Estimates Approach') as set out in Articles 223 to 226 for the Financial Collateral Comprehensive Method.

The use of the Own Estimates Approach shall be subject to the same conditions and requirements as apply under the Financial Collateral Comprehensive Method.

2   For the purpose of calculating E*, institutions shall:
   a   calculate the net position in each group of securities or in each type of commodity by subtracting the amount in point (ii) from the amount in point (i):

      (i)   the total value of a group of securities or of commodities of the same type lent, sold or provided under the master netting agreement;

      (ii)   the total value of a group of securities or of commodities of the same type borrowed, purchased or received under the master netting agreement;

   b   calculate the net position in each currency, other than the settlement currency of the master netting agreement, by subtracting the amount in point (ii) from the amount in point (i):

      (i)   the sum of the total value of securities denominated in that currency lent, sold or provided under the master netting agreement and the amount of cash in that currency lent or transferred under that agreement;

      (ii)   the sum of the total value of securities denominated in that currency borrowed, purchased or received under the master netting agreement and the amount of cash in that currency borrowed or received under that agreement;

   c   apply the volatility adjustment appropriate to a given group of securities or to a cash position to the absolute value of the positive or negative net position in the securities in that group;

   d   apply the foreign exchange risk (fx) volatility adjustment to the net positive or negative position in each currency other than the settlement currency of the master netting agreement.

3   Institutions shall calculate E* according to the following formula:

$$\max\{0, E - G_A\} \cdot r + G_A \cdot g$$

where:

E_i = the exposure value for each separate exposure i under the agreement that would apply in the absence of the credit protection, where institutions calculate risk-weighted exposure amounts under the Standardised Approach or where they calculate the risk-weighted exposure amounts and expected loss amounts under the IRB Approach;

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C_i	=	the value of securities in each group or commodities of the same type borrowed, purchased or received or the cash borrowed or received in respect of each exposure i;
E_{sec}^j	=	the net position (positive or negative) in a given group of securities j;
E_{fx}^k	=	the net position (positive or negative) in a given currency k other than the settlement currency of the agreement as calculated under point (b) of paragraph 2;
H_{sec}^j	=	the volatility adjustment appropriate to a particular group of securities j;
H_{fx}^k	=	the foreign exchange volatility adjustment for currency k.

4   For the purpose of calculating risk-weighted exposure amounts and expected loss amounts for repurchase transactions or securities or commodities lending or borrowing transactions or other capital market-driven transactions covered by master netting agreements, institutions shall use E* as calculated under paragraph 3 as the exposure value of the exposure to the counterparty arising from the transactions subject to the master netting agreement for the purposes of Article 113 under the Standardised Approach or Chapter 3 under the IRB Approach.

5   For the purposes of paragraphs 2 and 3, 'group of securities' means securities which are issued by the same entity, have the same issue date, the same maturity, are subject to the same terms and conditions, and are subject to the same liquidation periods as indicated in Articles 224 and 225, as applicable.

Article 221

Using the Internal Models Approach for Master netting agreements

1   Subject to permission of competent authorities, institutions may, as an alternative to using the Supervisory Volatility Adjustments Approach or the Own Estimates Approach in calculating the fully adjusted exposure value (E*) resulting from the application of an eligible master netting agreement covering repurchase transactions, securities or commodities lending or borrowing transactions, or other capital market driven transactions other than derivative transactions, use an internal models approach which takes into account correlation effects between security positions subject to the master netting agreement as well as the liquidity of the instruments concerned.

2   Subject to the permission of the competent authorities, institutions may also use their internal models for margin lending transactions, where the transactions are covered under a bilateral master netting agreement that meets the requirements set out in Chapter 6, Section 7.

3   An institution may choose to use an internal models approach independently of the choice it has made between the Standardised Approach and the IRB Approach for the calculation of risk-weighted exposure amounts. However, where an institution seeks to use an internal models approach, it shall do so for all counterparties and securities, excluding immaterial portfolios where it may use the Supervisory Volatility Adjustments Approach or the Own Estimates Approach as laid down in Article 220.

Institutions that have received permission for an internal risk-management model under Title IV, Chapter 5 may use the internal models approach. Where an institution has not received such permission, it may still apply for permission to the competent authorities to use an internal models approach for the purposes of this Article.

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4   Competent authorities shall permit an institution to use an internal models approach only where they are satisfied that the institution's system for managing the risks arising from the transactions covered by the master netting agreement is conceptually sound and implemented with integrity and where the following qualitative standards are met:

   a   the internal risk-measurement model used for calculating the potential price volatility for the transactions is closely integrated into the daily risk-management process of the institution and serves as the basis for reporting risk exposures to the senior management of the institution;

   b   the institution has a risk control unit that meets all the following requirements:

      (i)   it is independent from business trading units and reports directly to senior management;

      (ii)   it is responsible for designing and implementing the institution's risk-management system;

      (iii)   it produces and analyses daily reports on the output of the risk-measurement model and on the appropriate measures to be taken in terms of position limits;

   c   the daily reports produced by the risk-control unit are reviewed by a level of management with sufficient authority to enforce reductions of positions taken and of overall risk exposure;

   d   the institution has sufficient staff skilled in the use of sophisticated models in the risk control unit;

   e   the institution has established procedures for monitoring and ensuring compliance with a documented set of internal policies and controls concerning the overall operation of the risk-measurement system;

   f   the institution's models have a proven track record of reasonable accuracy in measuring risks demonstrated through the back-testing of its output using at least one year of data;

   g   the institution frequently conducts a rigorous programme of stress testing and the results of these tests are reviewed by senior management and reflected in the policies and limits it sets;

   h   the institution conducts, as part of its regular internal auditing process, an independent review of its risk-measurement system. This review shall include both the activities of the business trading units and of the independent risk-control unit;

   i   at least once a year, the institution conducts a review of its risk-management system;

   j   the internal model meets the requirements set out in Article 292(8) and (9) and in Article 294.

5   An institution's internal risk-measurement model shall capture a sufficient number of risk factors in order to capture all material price risks.

An institution may use empirical correlations within risk categories and across risk categories where its system for measuring correlations is sound and implemented with integrity.

6   Institutions using the internal models approach shall calculate E* according to the following formula:

$$E^* = \max\left\{0, \left(\sum_i E_i - \sum_i C_i\right) + potential\ change\ in\ value\right\}$$

where:

E_i =   the exposure value for each separate exposure i under the agreement that would apply in the absence of the credit protection, where institutions

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		calculate the risk-weighted exposure amounts under the Standardised Approach or where they calculate risk-weighted exposure amounts and expected loss amounts under the IRB Approach;
C_i	=	the value of the securities borrowed, purchased or received or the cash borrowed or received in respect of each such exposure i.

When calculating risk-weighted exposure amounts using internal models, institutions shall use the previous business day's model output.

7   The calculation of the potential change in value referred to in paragraph 6 shall be subject to all the following standards:

a   it shall be carried out at least daily;

b   it shall be based on a 99th percentile, one-tailed confidence interval;

c   it shall be based on a 5-day equivalent liquidation period, except in the case of transactions other than securities repurchase transactions or securities lending or borrowing transactions where a 10-day equivalent liquidation period shall be used;

d   it shall be based on an effective historical observation period of at least one year except where a shorter observation period is justified by a significant upsurge in price volatility;

e   the data set used in the calculation shall be updated every three months.

Where an institution has a repurchase transaction, a securities or commodities lending or borrowing transaction and margin lending or similar transaction or netting set which meets the criteria set out in Article 285(2), (3) and (4), the minimum holding period shall be brought in line with the margin period of risk that would apply under those paragraphs, in combination with Article 285(5).

8   For the purpose of calculating risk-weighted exposure amounts and expected loss amounts for repurchase transactions or securities or commodities lending or borrowing transactions or other capital market-driven transactions covered by master netting agreements, institutions shall use E* as calculated under paragraph 6 as the exposure value of the exposure to the counterparty arising from the transactions subject to the master netting agreement for the purposes of Article 113 under the Standardised Approach or Chapter 3 under the IRB Approach.

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

a   what constitutes an immaterial portfolio for the purpose of paragraph 3;

b   the criteria for determining whether an internal model is sound and implemented with integrity for the purpose of paragraphs 4 and 5 and master netting agreements.

EBA shall submit those draft regulatory technical standards to the Commission by 31 December 2015.

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 222

Financial Collateral Simple Method

1   Institutions may use the Financial Collateral Simple Method only where they calculate risk-weighted exposure amounts under the Standardised Approach. Institution shall not use both the Financial Collateral Simple Method and the Financial Collateral Comprehensive Method, except for the purposes of Articles 148(1) and 150(1). Institutions shall not use this exception

selectively with the purpose of achieving reduced own funds requirements or with the purpose of conducting regulatory arbitrage.

2   Under the Financial Collateral Simple Method institutions shall assign to eligible financial collateral a value equal to its market value as determined in accordance with point (d) of Article 207(4).

3   Institutions shall assign to those portions of exposure values that are collateralised by the market value of eligible collateral the risk weight that they would assign under Chapter 2 where the lending institution had a direct exposure to the collateral instrument. For this purpose, the exposure value of an off-balance sheet item listed in Annex I shall be equal to 100 % of the item's value rather than the exposure value indicated in Article 111(1).

The risk weight of the collateralised portion shall be at least 20 % except as specified in paragraphs 4 to 6. Institutions shall apply to the remainder of the exposure value the risk weight that they would assign to an unsecured exposure to the counterparty under Chapter 2.

4   Institutions shall assign a risk weight of 0 % to the collateralised portion of the exposure arising from repurchase transaction and securities lending or borrowing transactions which fulfil the criteria in Article 227. Where the counterparty to the transaction is not a core market participant, institutions shall assign a risk weight of 10 %.

5   Institutions shall assign a risk weight of 0 %, to the extent of the collateralisation, to the exposure values determined under Chapter 6 for the derivative instruments listed in Annex II and subject to daily marking-to-market, collateralised by cash or cash-assimilated instruments where there is no currency mismatch.

Institutions shall assign a risk weight of 10 %, to the extent of the collateralisation, to the exposure values of such transactions collateralised by debt securities issued by central governments or central banks which are assigned a 0 % risk weight under Chapter 2.

6   For transactions other than those referred to in paragraphs 4 and 5, institutions may assign a 0 % risk weight where the exposure and the collateral are denominated in the same currency, and either of the following conditions is met:

     a   the collateral is cash on deposit or a cash assimilated instrument;

     b   the collateral is in the form of debt securities issued by central governments or central banks eligible for a 0 % risk weight under Article 114, and its market value has been discounted by 20 %.

7   For the purpose of paragraphs 5 and 6 debt securities issued by central governments or central banks shall include:

     a   debt securities issued by regional governments or local authorities exposures to which are treated as exposures to the central government in whose jurisdiction they are established under Article 115;

     b   debt securities issued by multilateral development banks to which a 0 % risk weight is assigned under or by virtue of Article 117(2);

     c   debt securities issued by international organisations which are assigned a 0 % risk weight under Article 118;

     d   debt securities issued by public sector entities which are treated as exposures to central governments in accordance with Article 116(4).

Article 223

Financial Collateral Comprehensive Method

1   In order to take account of price volatility, institutions shall apply volatility adjustments to the market value of collateral, as set out in Articles 224 to 227, when valuing financial collateral for the purposes of the Financial Collateral Comprehensive Method.

Where collateral is denominated in a currency that differs from the currency in which the underlying exposure is denominated, institutions shall add an adjustment reflecting currency volatility to the volatility adjustment appropriate to the collateral as set out in Articles 224 to 227.

In the case of OTC derivatives transactions covered by netting agreements recognised by the competent authorities under Chapter 6, institutions shall apply a volatility adjustment reflecting currency volatility when there is a mismatch between the collateral currency and the settlement currency. Even where multiple currencies are involved in the transactions covered by the netting agreement, institutions shall apply a single volatility adjustment.

2   Institutions shall calculate the volatility-adjusted value of the collateral (C_{VA}) they need to take into account as follows:

$$C_{VA} = C \cdot (1 - H_C - H_{fx})$$

where:

C	=	the value of the collateral;
H_C	=	the volatility adjustment appropriate to the collateral, as calculated under Articles 224 and 227;
H_{fx}	=	the volatility adjustment appropriate to currency mismatch, as calculated under Articles 224 and 227.

Institutions shall use the formula in this paragraph when calculating the volatility-adjusted value of the collateral for all transactions except for those transactions subject to recognised master netting agreements to which the provisions set out in Articles 220 and 221 apply.

3   Institutions shall calculate the volatility-adjusted value of the exposure (E_{VA}) they need to take into account as follows:

$$E_{VA} = E \cdot (1 + H_E)$$

where:

E	=	the exposure value as would be determined under Chapter 2 or Chapter 3, as applicable, where the exposure was not collateralised;
H_E	=	the volatility adjustment appropriate to the exposure, as calculated under Articles 224 and 227.

In the case of OTC derivative transactions institutions shall calculate E_{VA} as follows:

$$E_{VA} = E$$

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4   For the purpose of calculating E in paragraph 3, the following shall apply:

a   for institutions calculating risk-weighted exposure amounts under the Standardised Approach, the exposure value of an off-balance sheet item listed in Annex I shall be 100 % of that item's value rather than the exposure value indicated in Article 111(1);

b   for institutions calculating risk-weighted exposure amounts under the IRB Approach, they shall calculate the exposure value of the items listed in Article 166(8) to (10) by using a conversion factor of 100 % rather than the conversion factors or percentages indicated in those paragraphs.

5   Institutions shall calculate the fully adjusted value of the exposure (E*), taking into account both volatility and the risk-mitigating effects of collateral as follows:

$$E^* = \max\{0, E_{VA} - C_{VAM}\}$$

where:

E_{VA}	=	the volatility adjusted value of the exposure as calculated in paragraph 3;
C_{VAM}	=	C_{VA} further adjusted for any maturity mismatch in accordance with the provisions of Section 5;

6   Institutions may calculate volatility adjustments either by using the Supervisory Volatility Adjustments Approach referred to in Article 224 or the Own Estimates Approach referred to in Article 225.

An institution may choose to use the Supervisory Volatility Adjustments Approach or the Own Estimates Approach independently of the choice it has made between the Standardised Approach and the IRB Approach for the calculation of risk-weighted exposure amounts.

However, where an institution uses the Own Estimates Approach, it shall do so for the full range of instrument types, excluding immaterial portfolios where it may use the Supervisory Volatility Adjustments Approach.

7   Where the collateral consists of a number of eligible items, institutions shall calculate the volatility adjustment (H) as follows:

$$H = \sum_i a_i H_i$$

where:

a_i	=	the proportion of the value of an eligible item *i* in the total value of collateral;
H_i	=	the volatility adjustment applicable to eligible item *i*.

Article 224

Supervisory volatility adjustment under the Financial Collateral Comprehensive Method

1   The volatility adjustments to be applied by institutions under the Supervisory Volatility Adjustments Approach, assuming daily revaluation, shall be those set out in Tables 1 to 4 of this paragraph.

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Status: *Point in time view as at 26/06/2013.*

Changes to legislation: Regulation (EU) No 575/2013 of the European Parliament and of the Council, Section 4 is up to date with all changes known to be in force on or before 10 July 2024. There are changes that may be brought into force at a future date. Changes that have been made appear in the content and are referenced with annotations. (See end of Document for details)

VOLATILITY ADJUSTMENTS

Table 1

Credit quality step with which the credit assessment of the debt security is associated	Residual Maturity	Volatility adjustments for debt securities issued by entities described in Article 197(1)(b)			Volatility adjustments for debt securities issued by entities described in Article 197(1) (c) and (d)			Volatility adjustments for securitisation positions and meeting the criteria in Article 197(1) (h)		
		20-day liquidation period (%)	10-day liquidation period (%)	5-day liquidation period (%)	20-day liquidation period (%)	10-day liquidation period (%)	5-day liquidation period (%)	20-day liquidation period (%)	10-day liquidation period (%)	5-day liquidation period (%)
1	≤ 1 year	0,707	0,5	0,354	1,414	1	0,707	2,829	2	1,414
	>1 ≤ 5 years	2,828	2	1,414	5,657	4	2,828	11,314	8	5,657
	> 5 years	5,657	4	2,828	11,314	8	5,657	22,628	16	11,313
2-3	≤ 1 year	1,414	1	0,707	2,828	2	1,414	5,657	4	2,828
	>1 ≤ 5 years	4,243	3	2,121	8,485	6	4,243	16,971	12	8,485
	> 5 years	8,485	6	4,243	16,971	12	8,485	33,942	24	16,97
4	≤ 1 year	21,213	15	10,607	N/A	N/A	N/A	N/A	N/A	N/A
	>1 ≤ 5 years	21,213	15	10,607	N/A	N/A	N/A	N/A	N/A	N/A
	> 5 years	21,213	15	10,607	N/A	N/A	N/A	N/A	N/A	N/A

Table 2

Credit quality step with which the credit	Volatility adjustments for debt securities issued by entities described in Article 197(1)(b) with short-term credit assessments	Volatility adjustments for debt securities issued by entities described in Article 197(1) (c) and (d) with short-term credit assessments	Volatility adjustments for securitisation positions and meeting the criteria in Article 197(1)(h)

Table 2

assessment of a short term debt security is associated	20-day liquidation period (%)	10-day liquidation period (%)	5-day liquidation period (%)	20-day liquidation period (%)	10-day liquidation period (%)	5-day liquidation period (%)	20-day liquidation period (%)	10-day liquidation period (%)	5-day liquidation period (%)
1	0,707	0,5	0,354	1,414	1	0,707	2,829	2	1,414
2-3	1,414	1	0,707	2,828	2	1,414	5,657	4	2,828

Table 3

Other collateral or exposure types

	20-day liquidation period (%)	10-day liquidation period (%)	5-day liquidation period (%)
Main Index Equities, Main Index Convertible Bonds	21,213	15	10,607
Other Equities or Convertible Bonds listed on a recognised exchange	35,355	25	17,678
Cash	0	0	0
Gold	21,213	15	10,607

Table 4

Volatility adjustment for currency mismatch

20-day liquidation period (%)	10-day liquidation period (%)	5-day liquidation period %)
11,314	8	5,657

2 The calculation of volatility adjustments in accordance with paragraph 1 shall be subject to the following conditions:

a for secured lending transactions the liquidation period shall be 20 business days;

b for repurchase transactions, except insofar as such transactions involve the transfer of commodities or guaranteed rights relating to title to commodities, and securities lending or borrowing transactions the liquidation period shall be 5 business days;

c for other capital market driven transactions, the liquidation period shall be 10 business days.

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Where an institution has a transaction or netting set which meets the criteria set out in Article 285(2), (3) and (4), the minimum holding period shall be brought in line with the margin period of risk that would apply under those paragraphs.

3   In Tables 1 to 4 of paragraph 1 and in paragraphs 4 to 6, the credit quality step with which a credit assessment of the debt security is associated is the credit quality step with which the credit assessment is determined by EBA to be associated under Chapter 2.

For the purpose of determining the credit quality step with which a credit assessment of the debt security is associated referred to in the first subparagraph, Article 197(7) also applies.

4   For non-eligible securities or for commodities lent or sold under repurchase transactions or securities or commodities lending or borrowing transactions, the volatility adjustment is the same as for non-main index equities listed on a recognised exchange.

5   For eligible units in CIUs the volatility adjustment is the weighted average volatility adjustments that would apply, having regard to the liquidation period of the transaction as specified in paragraph 2, to the assets in which the fund has invested.

Where the assets in which the fund has invested are not known to the institution, the volatility adjustment is the highest volatility adjustment that would apply to any of the assets in which the fund has the right to invest.

6   For unrated debt securities issued by institutions and satisfying the eligibility criteria in Article 197(4) the volatility adjustments is the same as for securities issued by institutions or corporates with an external credit assessment associated with credit quality steps 2 or 3.

Article 225

**Own estimates of volatility adjustments under
the Financial Collateral Comprehensive Method**

1   The competent authorities shall permit institutions to use their own volatility estimates for calculating the volatility adjustments to be applied to collateral and exposures where those institutions comply with the requirements set out in paragraphs 2 and 3. Institutions which have obtained permission to use their own volatility estimates shall not revert to the use of other methods except for demonstrated good cause and subject to the permission of the competent authorities.

For debt securities that have a credit assessment from an ECAI equivalent to investment grade or better, institutions may calculate a volatility estimate for each category of security.

For debt securities that have a credit assessment from an ECAI equivalent to below investment grade, and for other eligible collateral, institutions shall calculate the volatility adjustments for each individual item.

Institutions using the Own Estimates Approach shall estimate volatility of the collateral or foreign exchange mismatch without taking into account any correlations between the unsecured exposure, collateral or exchange rates.

In determining relevant categories, institutions shall take into account the type of issuer of the security, the external credit assessment of the securities, their residual maturity, and their modified duration. Volatility estimates shall be representative of the securities included in the category by the institution.

2   The calculation of the volatility adjustments shall be subject to all the following criteria:

   a   institutions shall base the calculation on a 99th percentile, one-tailed confidence interval;

   b   institutions shall base the calculation on the following liquidation periods:

      (i)   20 business days for secured lending transactions;

      (ii)   5 business days for repurchase transaction, except insofar as such transactions involve the transfer of commodities or guaranteed rights relating to title to commodities and securities lending or borrowing transactions;

      (iii)   10 business days for other capital market driven transactions;

   c   institutions may use volatility adjustment numbers calculated according to shorter or longer liquidation periods, scaled up or down to the liquidation period set out in point (b) for the type of transaction in question, using the square root of time formula:

$$H_M = H_N \cdot \sqrt{\frac{T_M}{T_N}}$$

where:

T_M	=	the relevant liquidation period;
H_M	=	the volatility adjustment based on the liquidation period T_M;
H_N	=	the volatility adjustment based on the liquidation period T_N.

   d   institutions shall take into account the illiquidity of lower-quality assets. They shall adjust the liquidation period upwards in cases where there is doubt concerning the liquidity of the collateral. They shall also identify where historical data may understate potential volatility. Such cases shall be dealt with by means of a stress scenario;

   e   the length of the historical observation period institutions use for calculating volatility adjustments shall be at least one year. For institutions that use a weighting scheme or other methods for the historical observation period, the length of the effective observation period shall be at least one year. The competent authorities may also require an institution to calculate its volatility adjustments using a shorter observation period where, in the competent authorities' judgement, this is justified by a significant upsurge in price volatility;

   f   institutions shall update their data sets and calculate volatility adjustments at least once every three months. They shall also reassess their data sets whenever market prices are subject to material changes.

3   The estimation of volatility adjustments shall meet all the following qualitative criteria:

   a   an institutions shall use the volatility estimates in the day-to-day risk management process including in relation to its internal exposure limits;

   b   where the liquidation period used by an institution in its day-to-day risk management process is longer than that set out in this Section for the type of transaction in question, that institution shall scale up its volatility adjustments in accordance with the square root of time formula set out in point (c) of paragraph 2;

   c   an institution shall have in place established procedures for monitoring and ensuring compliance with a documented set of policies and controls for the operation of its system for the estimation of volatility adjustments and for the integration of such estimations into its risk management process;

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d   an independent review of the institution's system for the estimation of volatility adjustments shall be carried out regularly within the institution's own internal auditing process. A review of the overall system for the estimation of volatility adjustments and for the integration of those adjustments into the institution's risk management process shall take place at least once a year. The subject of that review shall include at least the following:

    (i)   the integration of estimated volatility adjustments into daily risk management;

    (ii)   the validation of any significant change in the process for the estimation of volatility adjustments;

    (iii)   the verification of the consistency, timeliness and reliability of data sources used to run the system for the estimation of volatility adjustments, including the independence of such data sources;

    (iv)   the accuracy and appropriateness of the volatility assumptions.

Article 226

Scaling up of volatility adjustment under the Financial Collateral Comprehensive method

The volatility adjustments set out in Article 224 are the volatility adjustments an institution shall apply where there is daily revaluation. Similarly, where an institution uses its own estimates of the volatility adjustments in accordance with Article 225, it shall calculate them in the first instance on the basis of daily revaluation. Where the frequency of revaluation is less than daily, institutions shall apply larger volatility adjustments. Institutions shall calculate them by scaling up the daily revaluation volatility adjustments, using the following square-root-of-time formula:

$$H = H_M \cdot \sqrt{\frac{N_R + (T_M - 1)}{T_M}}$$

where:

H	=	the volatility adjustment to be applied;
H_M	=	the volatility adjustment where there is daily revaluation;
N_R	=	the actual number of business days between revaluations;
T_M	=	the liquidation period for the type of transaction in question.

Article 227

Conditions for applying a 0 % volatility adjustment under the Financial Collateral Comprehensive method

1   In relation to repurchase transactions and securities lending or borrowing transactions, where an institution uses the Supervisory Volatility Adjustments Approach under Article 224 or the Own Estimates Approach under Article 225 and where the conditions set out in points (a) to (h) of paragraph 2 are satisfied, institutions may, instead of applying the volatility adjustments calculated under Articles 224 to 226, apply a 0 % volatility adjustment. Institutions using the internal models approach set out in Article 221 shall not use the treatment set out in this Article.

2   Institutions may apply a 0 % volatility adjustment where all the following conditions are met:

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a   both the exposure and the collateral are cash or debt securities issued by central governments or central banks within the meaning of Article 197(1)(b) and eligible for a 0 % risk weight under Chapter 2;

b   both the exposure and the collateral are denominated in the same currency;

c   either the maturity of the transaction is no more than one day or both the exposure and the collateral are subject to daily marking-to-market or daily re-margining;

d   the time between the last marking-to-market before a failure to re-margin by the counterparty and the liquidation of the collateral is no more than four business days;

e   the transaction is settled in a settlement system proven for that type of transaction;

f   the documentation covering the agreement or transaction is standard market documentation for repurchase transactions or securities lending or borrowing transactions in the securities concerned;

g   the transaction is governed by documentation specifying that where the counterparty fails to satisfy an obligation to deliver cash or securities or to deliver margin or otherwise defaults, then the transaction is immediately terminable;

h   the counterparty is considered a core market participant by the competent authorities.

3   The core market participants referred to in point (h) of paragraph 2 shall include the following entities:

a   the entities mentioned in Article 197(1)(b) exposures to which are assigned a 0 % risk weight under Chapter 2;

b   institutions;

c   other financial undertakings within the meaning of points (25)(b) and (d) of Article 13 of Directive 2009/138/EC exposures to which are assigned a 20 % risk weight under the Standardised Approach or which, in the case of institutions calculating risk-weighted exposure amounts and expected loss amounts under the IRB Approach, do not have a credit assessment by a recognised ECAI and are internally rated by the institution;

d   regulated CIUs that are subject to capital or leverage requirements;

e   regulated pension funds;

f   recognised clearing organisations.

Article 228

**Calculating risk-weighted exposure amounts and expected loss
amounts under the Financial Collateral Comprehensive method**

1   Under the Standardised Approach, institutions shall use E* as calculated under Article 223(5) as the exposure value for the purposes of Article 113. In the case of off-balance sheet items listed in Annex I, institutions shall use E* as the value to which the percentages indicated in Article 111(1) shall be applied to arrive at the exposure value.

2   Under the IRB Approach, institutions shall use the effective LGD (LGD*) as the LGD for the purposes of Chapter 3. Institutions shall calculate LGD* as follows:

$$LGD^* = LGD \cdot \frac{E^*}{E}$$

where:

LGD   = the LGD that would apply to the exposure under Chapter 3 where the exposure was not collateralised;
E   = the exposure value in accordance with Article 223(3);
E*   = the fully adjusted exposure value in accordance with Article 223(5).

Article 229

Valuation principles for other eligible collateral under the IRB Approach

1   For immovable property collateral, the collateral shall be valued by an independent valuer at or at less than the market value. An institution shall require the independent valuer to document the market value in a transparent and clear manner.

In those Member States that have laid down rigorous criteria for the assessment of the mortgage lending value in statutory or regulatory provisions the property may instead be valued by an independent valuer at or at less than the mortgage lending value. Institutions shall require the independent valuer not to take into account speculative elements in the assessment of the mortgage lending value and to document that value in a transparent and clear manner.

The value of the collateral shall be the market value or mortgage lending value reduced as appropriate to reflect the results of the monitoring required under Article 208(3) and to take account of any prior claims on the property.

2   For receivables, the value of receivables shall be the amount receivable.

3   Institutions shall value physical collateral other than immovable property at its market value. For the purposes of this Article, the market value is the estimated amount for which the property would exchange on the date of valuation between a willing buyer and a willing seller in an arm's-length transaction.

Article 230

Calculating risk-weighted exposure amounts and expected loss amounts for other eligible collateral under the IRB Approach

1   Institutions shall use LGD* calculated in accordance with this paragraph and paragraph 2 as the LGD for the purposes of Chapter 3.

Where the ratio of the value of the collateral (C) to the exposure value (E) is below the required minimum collateralisation level of the exposure (C*) as laid down in Table 5, LGD* shall be the LGD laid down in Chapter 3 for uncollateralised exposures to the counterparty. For this purpose, institutions shall calculate the exposure value of the items listed in Article 166(8) to (10) by using a conversion factor or percentage of 100 % rather than the conversion factors or percentages indicated in those paragraphs.

Where the ratio of the value of the collateral to the exposure value exceeds a second, higher threshold level of C** as laid down in Table 5, LGD* shall be that prescribed in Table 5.

Where the required level of collateralisation C** is not achieved in respect of the exposure as a whole, institutions shall consider the exposure to be two exposures — one corresponding to the part in respect of which the required level of collateralisation C** is achieved and one corresponding to the remainder.

2   The applicable LGD* and required collateralisation levels for the secured parts of exposures are set out in Table 5 of this paragraph.

TABLE 5

Minimum LGD for secured parts of exposures

	LGD* for senior exposure	LGD* for subordinated exposures	Required minimum collateralisation level of the exposure (C*)	Required minimum collateralisation level of the exposure (C**)
Receivables	35 %	65 %	0 %	125 %
Residential real estate/ commercial real estate	35 %	65 %	30 %	140 %
Other collateral	40 %	70 %	30 %	140 %

3   As an alternative to the treatment set out in paragraphs 1 and 2, and subject to Article 124(2), institutions may assign a 50 % risk weight to the part of the exposure that is, within the limits set out in Article 125(2)(d) and Article 126(2)(d) respectively, fully collateralised by residential property or commercial immovable property situated within the territory of a Member State where all the conditions in Article 199(4) are met.

Article 231

**Calculating risk-weighted exposure amounts and expected
loss amounts in the case of mixed pools of collateral**

1   An institution shall calculate the value of LGD* that it shall use as the LGD for the purposes of Chapter 3 in accordance with paragraphs 2 and 3 where both the following conditions are met:
   a   the institution uses the IRB Approach to calculate risk-weighted exposure amounts and expected loss amounts;
   b   an exposure is collateralised by both financial collateral and other eligible collateral.

2   Institutions shall be required to subdivide the volatility-adjusted value of the exposure, obtained by applying the volatility adjustment as set out in Article 223(5) to the value of the exposure, into parts so as to obtain a part covered by eligible financial collateral, a part covered by receivables, a part covered by commercial immovable property collateral or residential property collateral, a part covered by other eligible collateral, and the unsecured part, as applicable.

3   Institutions shall calculate LGD* for each part of the exposure obtained in paragraph 2 separately in accordance with the relevant provisions of this Chapter.

Article 232

Other funded credit protection

1   Where the conditions set out in Article 212(1) are met, deposits with third party institutions may be treated as a guarantee by the third party institution.

2   Where the conditions set out in Article 212(2) are met, institutions shall subject the portion of the exposure collateralised by the current surrender value of life insurance policies pledged to the lending institution to the following treatment:

    a   where the exposure is subject to the Standardised Approach, it shall be risk-weighted by using the risk weights specified in paragraph 3;

    b   where the exposure is subject to the IRB Approach but not subject to the institution's own estimates of LGD, it shall be assigned an LGD of 40 %.

In the event of a currency mismatch, institutions shall reduce the current surrender value in accordance with Article 233(3), the value of the credit protection being the current surrender value of the life insurance policy.

3   For the purposes of point (a) of paragraph 2, institutions shall assign the following risk weights on the basis of the risk weight assigned to a senior unsecured exposure to the undertaking providing the life insurance:

    a   a risk weight of 20 %, where the senior unsecured exposure to the undertaking providing the life insurance is assigned a risk weight of 20 %;

    b   a risk weight of 35 %, where the senior unsecured exposure to the undertaking providing the life insurance is assigned a risk weight of 50 %;

    c   a risk weight of 70 %, where the senior unsecured exposure to the undertaking providing the life insurance is assigned a risk weight of 100 %;

    d   a risk weight of 150 %, where the senior unsecured exposure to the undertaking providing the life insurance is assigned a risk weight of 150 %.

4   Institutions may treat instruments repurchased on request that are eligible under Article 200(c) as a guarantee by the issuing institution. The value of the eligible credit protection shall be the following:

    a   where the instrument will be repurchased at its face value, the value of the protection shall be that amount;

    b   where the instrument will be repurchased at market price, the value of the protection shall be the value of the instrument valued in the same way as the debt securities that meet the conditions in Article 197(4).

Sub-Section 2

Unfunded credit protection

Article 233

Valuation

1   For the purpose of calculating the effects of unfunded credit protection in accordance with this Sub-section, the value of unfunded credit protection (G) shall be the amount that the protection provider has undertaken to pay in the event of the default or non-payment of the borrower or on the occurrence of other specified credit events.

2   In the case of credit derivatives which do not include as a credit event restructuring of the underlying obligation involving forgiveness or postponement of principal, interest or fees that result in a credit loss event the following shall apply:

a where the amount that the protection provider has undertaken to pay is not higher than the exposure value, institutions shall reduce the value of the credit protection calculated under paragraph 1 by 40 %;

b where the amount that the protection provider has undertaken to pay is higher than the exposure value, the value of the credit protection shall be no higher than 60 % of the exposure value.

3   Where unfunded credit protection is denominated in a currency different from that in which the exposure is denominated, institutions shall reduce the value of the credit protection by the application of a volatility adjustment as follows:

$$G^* = G \cdot (1 - H_{fx})$$

where:

G^*	=	the amount of credit protection adjusted for foreign exchange risk,
G	=	the nominal amount of the credit protection;
H_{fx}	=	the volatility adjustment for any currency mismatch between the credit protection and the underlying obligation determined in accordance with paragraph 4.

Where there is no currency mismatch H_{fx} is equal to zero.

4   Institutions shall base the volatility adjustments for any currency mismatch on a 10 business day liquidation period, assuming daily revaluation, and may calculate them based on the Supervisory Volatility Adjustments approach or the Own Estimates Approach as set out in Articles 224 and 225 respectively. Institutions shall scale up the volatility adjustments in accordance with Article 226.

Article 234

**Calculating risk-weighted exposure amounts and expected
loss amounts in the event of partial protection and tranching**

Where an institution transfers a part of the risk of a loan in one or more tranches, the rules set out in Chapter 5 shall apply. Institutions may consider materiality thresholds on payments below which no payment shall be made in the event of loss to be equivalent to retained first loss positions and to give rise to a tranched transfer of risk.

Article 235

Calculating risk-weighted exposure amounts under the Standardised Approach

1   For the purposes of Article 113(3) institutions shall calculate the risk-weighted exposure amounts in accordance with the following formula:

$$\max\{0, E - G_A\} \cdot r + G_A \cdot g$$

where:

E	=	the exposure value in accordance with Article 111; for this purpose, the exposure value of an off-balance sheet item listed in Annex I shall be 100 % of its value rather than the exposure value indicated in Article 111(1);

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G_A	=	the amount of credit risk protection as calculated under Article 233(3) (G*) further adjusted for any maturity mismatch as laid down in Section 5;
r	=	the risk weight of exposures to the obligor as specified under Chapter 2;
g	=	the risk weight of exposures to the protection provider as specified under Chapter 2.

2   Where the protected amount (G_A) is less than the exposure (E), institutions may apply the formula specified in paragraph 1 only where the protected and unprotected parts of the exposure are of equal seniority.

3   Institutions may extend the treatment set out in Article 114(4) and (7) to exposures or parts of exposures guaranteed by the central government or central bank, where the guarantee is denominated in the domestic currency of the borrower and the exposure is funded in that currency.

Article 236

**Calculating risk-weighted exposure amounts and
expected loss amounts under the IRB Approach**

1   For the covered portion of the exposure value (E), based on the adjusted value of the credit protection G_A, the PD for the purposes of Section 4 of Chapter 3 may be the PD of the protection provider, or a PD between that of the borrower and that of the guarantor where a full substitution is deemed not to be warranted. In the case of subordinated exposures and non-subordinated unfunded protection, the LGD to be applied by institutions for the purposes of Section 4 of Chapter 3 may be that associated with senior claims.

2   For any uncovered portion of the exposure value (E) the PD shall be that of the borrower and the LGD shall be that of the underlying exposure.

3   For the purposes of this Article, G_A is the value of G* as calculated under Article 233(3) further adjusted for any maturity mismatch as laid down in Section 5. E is the exposure value determined in accordance with Section 5 of Chapter 3. For this purpose, institutions shall calculate the exposure value of the items listed in Article 166(8) to (10) by using a conversion factor or percentage of 100 % rather than the conversion factors or percentages indicated in those paragraphs.

Status:
Point in time view as at 26/06/2013.

Changes to legislation:
Regulation (EU) No 575/2013 of the European Parliament and of the Council, Section 4 is up to date with all changes known to be in force on or before 10 July 2024. There are changes that may be brought into force at a future date. Changes that have been made appear in the content and are referenced with annotations.