

Directive 2006/48/EC of the European Parliament and of the Council of 14 June 2006 relating to the taking up and pursuit of the business of credit institutions (recast) (Text with EEA relevance) (repealed)

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ANNEX I

LIST OF ACTIVITIES SUBJECT TO MUTUAL RECOGNITION

1. Acceptance of deposits and other repayable funds
2. Lending including, inter alia: consumer credit, mortgage credit, factoring, with or without recourse, financing of commercial transactions (including forfeiting)
3. Financial leasing
- [^{F1}4. Payment services as defined in Article 4(3) of Directive 2007/64/EC of the European Parliament and of the Council of 13 November 2007 on payment services in the internal market]⁽¹⁾

Textual Amendments

F1 Substituted by [Directive 2007/64/EC of the European Parliament and of the Council of 13 November 2007 on payment services in the internal market amending Directives 97/7/EC, 2002/65/EC, 2005/60/EC and 2006/48/EC and repealing Directive 97/5/EC \(Text with EEA relevance\).](#)

- [^{F15}5. Issuing and administering other means of payment (e.g. travellers' cheques and bankers' drafts) insofar as this activity is not covered by point 4]
6. Guarantees and commitments
7. Trading for own account or for account of customers in:
 - (a) money market instruments (cheques, bills, certificates of deposit, etc.);
 - (b) foreign exchange;
 - (c) financial futures and options;
 - (d) exchange and interest-rate instruments; or
 - (e) transferable securities.
8. Participation in securities issues and the provision of services related to such issues
9. Advice to undertakings on capital structure, industrial strategy and related questions and advice as well as services relating to mergers and the purchase of undertakings
10. Money broking
11. Portfolio management and advice
12. Safekeeping and administration of securities
13. Credit reference services
14. Safe custody services

The services and activities provided for in Sections A and B of Annex I to Directive 2004/39/EC of the European Parliament and of the Council of 21 April 2004 on markets in financial instruments⁽²⁾, when referring to the financial instruments provided for in Section C of Annex I of that Directive, are subject to mutual recognition according to this Directive.

- [^{F2}15. Issuing electronic money.]

Textual Amendments

- F2** Inserted by [Directive 2009/110/EC of the European Parliament and of the Council of 16 September 2009 on the taking up, pursuit and prudential supervision of the business of electronic money institutions amending Directives 2005/60/EC and 2006/48/EC and repealing Directive 2000/46/EC \(Text with EEA relevance\)](#).

ANNEX II

CLASSIFICATION OF OFF-BALANCE-SHEET ITEMS

Full risk:

- Guarantees having the character of credit substitutes,
- Credit derivatives,
- Acceptances,
- Endorsements on bills not bearing the name of another credit institution,
- Transactions with recourse,
- Irrevocable standby letters of credit having the character of credit substitutes,
- Assets purchased under outright forward purchase agreements,
- Forward forward deposits,
- The unpaid portion of partly-paid shares and securities,
- Asset sale and repurchase agreements as defined in Article 12(3) and (5) of Directive 86/635/EEC, and
- Other items also carrying full risk.

Medium risk:

- Documentary credits issued and confirmed (see also ‘Medium/low risk’),
- Warranties and indemnities (including tender, performance, customs and tax bonds) and guarantees not having the character of credit substitutes,
- Irrevocable standby letters of credit not having the character of credit substitutes,
- Undrawn credit facilities (agreements to lend, purchase securities, provide guarantees or acceptance facilities) with an original maturity of more than one year,
- Note issuance facilities (NIFs) and revolving underwriting facilities (RUFs), and
- Other items also carrying medium risk and as communicated to the Commission.

Medium/low risk:

- Documentary credits in which underlying shipment acts as collateral and other self-liquidating transactions,
- Undrawn credit facilities (agreements to lend, purchase securities, provide guarantees or acceptance facilities) with an original maturity of up to and including one year which may not be cancelled unconditionally at any time without notice or that do not effectively provide for automatic cancellation due to deterioration in a borrower's creditworthiness, and
- Other items also carrying medium/low risk and as communicated to the Commission.

Low risk:

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- Undrawn credit facilities (agreements to lend, purchase securities, provide guarantees or acceptance facilities) which may be cancelled unconditionally at any time without notice, or that do effectively provide for automatic cancellation due to deterioration in a borrower's creditworthiness. Retail credit lines may be considered as unconditionally cancellable if the terms permit the credit institution to cancel them to the full extent allowable under consumer protection and related legislation, and
- Other items also carrying low risk and as communicated to the Commission.

ANNEX III

THE TREATMENT OF COUNTERPARTY CREDIT RISK OF DERIVATIVE INSTRUMENTS, REPURCHASE TRANSACTIONS, SECURITIES ORCOMMODITIES LENDING OR BORROWING TRANSACTIONS, LONG SETTLEMENT TRANSACTIONS AND MARGIN LENDING TRANSACTIONS

PART 1

Definitions

For the purposes of this Annex the following definitions shall apply:

General terms

1. 'Counterparty Credit Risk (CCR)' means the risk that the counterparty to a transaction could default before the final settlement of the transaction's cash flows.
2. 'Central counterparty' means an entity that legally interposes itself between counterparties to contracts traded within one or more financial markets, becoming the buyer to every seller and the seller to every buyer.

Transaction types

3. 'Long Settlement Transactions' mean transactions where a counterparty undertakes to deliver a security, a commodity, or a foreign exchange amount against cash, other financial instruments, or commodities, or vice versa, at a settlement or delivery date that is contractually specified as more than the lower of the market standard for this particular transaction and five business days after the date on which the credit institution enters into the transaction.
4. 'Margin Lending Transactions' mean transactions in which a credit institution extends credit in connection with the purchase, sale, carrying or trading of securities. Margin lending transactions do not include other loans that happen to be secured by securities collateral.

Netting sets, hedging sets, and related terms

5. 'Netting Set' means a group of transactions with a single counterparty that are subject to a legally enforceable bilateral netting arrangement and for which netting is recognised under Part 7 of this Annex and Articles 90 to 93. Each transaction that is not subject to a legally enforceable bilateral netting arrangement, which is recognised under Part 7 of this Annex, should be interpreted as its own netting set for the purpose of this Annex.^[F3] Under the method set out in Part 6 of this Annex (IMM), all netting sets with a single counterparty may be treated as single netting set if negative simulated market values of the individual netting sets are set to 0 in the estimation of expected exposure (EE).]

Textual Amendments

F3 Inserted by [Directive 2009/111/EC of the European Parliament and of the Council of 16 September 2009 amending Directives 2006/48/EC, 2006/49/EC and 2007/64/EC as regards banks affiliated to central institutions, certain own funds items, large exposures, supervisory arrangements, and crisis management \(Text with EEA relevance\)](#).

6. 'Risk Position' means a risk number that is assigned to a transaction under the Standardised Method set out in Part 5 following a predetermined algorithm.
7. 'Hedging Set' means a group of risk positions from the transactions within a single netting set for which only their balance is relevant for determining the exposure value under the Standardised Method set out in Part 5.
8. 'Margin Agreement' means a contractual agreement or provisions of an agreement under which one counterparty shall supply collateral to a second counterparty when an exposure of that second counterparty to the first counterparty exceeds a specified level.
9. 'Margin Threshold' means the largest amount of an exposure that remains outstanding until one party has the right to call for collateral.
10. 'Margin Period of Risk' means the time period from the last exchange of collateral covering a netting set of transactions with a defaulting counterpart until that counterpart is closed out and the resulting market risk is re-hedged.
11. 'Effective Maturity under the Internal Model Method, for a netting set with maturity greater than one year' means the ratio of the sum of expected exposure over the life of the transactions in the netting set discounted at the risk-free rate of return divided by the sum of expected exposure over one year in a netting set discounted at the risk-free rate. This effective maturity may be adjusted to reflect rollover risk by replacing expected exposure with effective expected exposure for forecasting horizons under one year.
12. 'Cross-Product Netting' means the inclusion of transactions of different product categories within the same netting set pursuant to the Cross-Product Netting rules set out in this Annex.
13. For the purposes of Part 5, 'Current Market Value (CMV)' refers to the net market value of the portfolio of transactions within the netting set with the counterparty. Both positive and negative market values are used in computing CMV.

Distributions

14. 'Distribution of Market Values' means the forecast of the probability distribution of net market values of transactions within a netting set for some future date (the forecasting horizon), given the realised market value of those transactions up to the present time.
15. 'Distribution of Exposures' means the forecast of the probability distribution of market values that is generated by setting forecast instances of negative net market values equal to zero.
16. 'Risk-Neutral Distribution' means a distribution of market values or exposures at a future time period where the distribution is calculated using market implied values such as implied volatilities.

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17. ‘Actual Distribution’ means a distribution of market values or exposures at a future time period where the distribution is calculated using historic or realised values such as volatilities calculated using past price or rate changes.

Exposure measures and adjustments

18. ‘Current Exposure’ means the larger of zero or the market value of a transaction or portfolio of transactions within a netting set with a counterparty that would be lost upon the default of the counterparty, assuming no recovery on the value of those transactions in bankruptcy.

19. ‘Peak Exposure’ means a high percentile of the distribution of exposures at any particular future date before the maturity date of the longest transaction in the netting set.

20. ‘Expected Exposure (EE)’ means the average of the distribution of exposures at any particular future date before the longest maturity transaction in the netting set matures.

21. ‘Effective Expected Exposure (Effective EE) at a specific date’ means the maximum expected exposure that occurs at that date or any prior date. Alternatively, it may be defined for a specific date as the greater of the expected exposure at that date, or the effective exposure at the previous date.

22. ‘Expected Positive Exposure (EPE)’ means the weighted average over time of expected exposures where the weights are the proportion that an individual expected exposure represents of the entire time interval. When calculating the minimum capital requirement, the average is taken over the first year or, if all the contracts within the netting set mature within less than one year, over the time period of the longest maturity contract in the netting set.

23. ‘Effective Expected Positive Exposure (Effective EPE)’ means the weighted average over time of effective expected exposure over the first year, or, if all the contracts within the netting set mature within less than one year, over the time period of the longest maturity contract in the netting set, where the weights are the proportion that an individual expected exposure represents of the entire time interval.

24. ‘Credit Valuation Adjustment’ means an adjustment to the mid-market valuation of the portfolio of transactions with a counterparty. This adjustment reflects the market value of the credit risk due to any failure to perform on contractual agreements with a counterparty. This adjustment may reflect the market value of the credit risk of the counterparty or the market value of the credit risk of both the credit institution and the counterparty.

25. ‘One-Sided Credit Valuation Adjustment’ means a credit valuation adjustment that reflects the market value of the credit risk of the counterparty to the credit institution, but does not reflect the market value of the credit risk of the credit institution to the counterparty.

CCR related risks

26. ‘Rollover Risk’ means the amount by which expected positive exposure is understated when future transactions with a counterpart are expected to be conducted on an ongoing basis. The additional exposure generated by those future transactions is not included in calculation of EPE.

27. ‘General Wrong-Way Risk’ arises when the PD of counterparties is positively correlated with general market risk factors.

28. ‘Specific Wrong-Way Risk’ arises when the exposure to a particular counterparty is positively correlated with the PD of the counterparty due to the nature of the transactions with the counterparty. A credit institution shall be considered to be exposed to Specific Wrong-Way Risk if the future exposure to a specific counterparty is expected to be high when the counterparty's PD is also high.

PART 2

Choice of the method

1. Subject to paragraphs 2 to 7, credit institutions shall determine the exposure value for the contracts listed in Annex IV with one of the methods set out in Parts 3 to 6. Credit institutions which are not eligible for the treatment set out in Article 18(2) of Directive 2006/49/EC are not permitted to use the method set out in Part 4. To determine the exposure value for the contracts listed in point 3 of Annex IV, credit institutions are not permitted to use the method set out in Part 4.

The combined use of the methods set out in Parts 3 to 6 shall be permitted on a permanent basis within a group, but not within a single legal entity. Combined use of the methods set out in Parts 3 and 5 within a legal entity shall be permitted where one of the methods is used for the cases set out in Part 5, point 19.

2. Subject to the approval of the competent authorities, credit institutions may determine the exposure value for:
- (i) the contracts listed in Annex IV,
 - (ii) repurchase transactions,
 - (iii) securities or commodities lending or borrowing transactions,
 - (iv) margin lending transactions, and
 - (v) long settlement transactions
- using the Internal Model Method as set out in Part 6.

- [^{F43} When a credit institution purchases credit derivative protection against a non-trading book exposure, or against a CCR exposure, it may compute its capital requirement for the hedged asset in accordance with Annex VIII, Part 3, points 83 to 92, or subject to the approval of the competent authorities, in accordance with Annex VII, Part 1, point 4 or Annex VII, Part 4, points 96 to 104.

In those cases, and where the option in the second sentence of point 11 in Annex II of Directive 2006/49/EC is not applied, the exposure value for CCR for those credit derivatives is set to zero.

However, an institution may choose consistently to include for the purposes of calculating capital requirements for counterparty credit risk all credit derivatives not included in the trading book and purchased as protection against a non-trading book exposure or against a CCR exposure where the credit protection is recognised under this Directive.]

Textual Amendments

- F4** Substituted by [Directive 2009/111/EC of the European Parliament and of the Council of 16 September 2009 amending Directives 2006/48/EC, 2006/49/EC and 2007/64/EC as regards banks affiliated to](#)

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central institutions, certain own funds items, large exposures, supervisory arrangements, and crisis management (Text with EEA relevance).

4. The exposure value for CCR from sold credit default swaps in the non-trading book, where they are treated as credit protection provided by the credit institution and subject to a capital requirement for credit risk for the full notional amount, is set to zero.
5. Under all methods set out in Parts 3 to 6, the exposure value for a given counterparty is equal to the sum of the exposure values calculated for each netting set with that counterparty.
6. An exposure value of zero for CCR can be attributed to derivative contracts, or repurchase transactions, securities or commodities lending or borrowing transactions, long settlement transactions and margin lending transactions outstanding with a central counterparty and that have not been rejected by the central counterparty. Furthermore, an exposure value of zero can be attributed to credit risk exposures to central counterparties that result from the derivative contracts, repurchase transactions, securities or commodities lending or borrowing transactions, long settlement transactions and margin lending transactions or other exposures, as determined by the competent authorities, that the credit institution has outstanding with the central counterparty. The central counterparty CCR exposures with all participants in its arrangements shall be fully collateralised on a daily basis.
7. Exposures arising from long settlement transactions can be determined using any of the methods set out in Parts 3 to 6, regardless of the methods chosen for treating OTC derivatives and repurchase transactions, securities or commodities lending or borrowing transactions, and margin lending transactions. In calculating capital requirements for long settlement transactions, credit institutions that use the approach set out in Articles 84 to 89 may assign the risk weights under the approach set out in Articles 78 to 83 on a permanent basis and irrespective of the materiality of such positions.
8. For the methods set out in Parts 3 and 4 the competent authorities must ensure that the notional amount to be taken into account is an appropriate yardstick for the risk inherent in the contract. Where, for instance, the contract provides for a multiplication of cash flows, the notional amount must be adjusted in order to take into account the effects of the multiplication on the risk structure of that contract.

PART 3

Mark-to-Market Method

- Step (a): by attaching current market values to contracts (mark-to-market), the current replacement cost of all contracts with positive values is obtained.
- Step (b): to obtain a figure for potential future credit exposure, except in the case of single-currency 'floating/floating' interest rate swaps in which only the current replacement cost will be calculated, the notional principal amounts or underlying values are multiplied by the percentages in Table 1:

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TABLE 1⁰⁰

Residual maturity^c	Interest-rate contracts	Contracts concerning foreign-exchange rates and gold	Contracts concerning equities	Contracts concerning precious metals except gold	Contracts concerning commodities other than precious metals
One year or less	0 %	1 %	6 %	7 %	10 %
Over one year, not exceeding five years	0,5 %	5 %	8 %	7 %	12 %
Over five years	1,5 %	7,5 %	10 %	8 %	15 %

a Contracts which do not fall within one of the five categories indicated in this table shall be treated as contracts concerning commodities other than precious metals.

b For contracts with multiple exchanges of principal, the percentages have to be multiplied by the number of remaining payments still to be made according to the contract.

c For contracts that are structured to settle outstanding exposure following specified payment dates and where the terms are reset such that the market value of the contract is zero on these specified dates, the residual maturity would be equal to the time until the next reset date. In the case of interest-rate contracts that meet these criteria and have a remaining maturity of over one year, the percentage shall be no lower than 0,5 %.

For the purpose of calculating the potential future credit exposure in accordance with step (b) the competent authorities may allow credit institutions to apply the percentages in Table 2 instead of those prescribed in Table 1 provided that the institutions make use of the option set out in Annex IV, point 21 to Directive 2006/49/EC for contracts relating to commodities other than gold within the meaning of paragraph 3 of Annex IV, to this Directive:

TABLE 2

Residual maturity	Precious metals (except gold)	Base metals	Agricultural products (softs)	Other, including energy products
One year or less	2 %	2,5 %	3 %	4 %
Over one year, not exceeding five years	5 %	4 %	5 %	6 %
Over five years	7,5 %	8 %	9 %	10 %

Step (c): the sum of current replacement cost and potential future credit exposure is the exposure value.

PART 4

Original Exposure Method

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Step (a): the notional principal amount of each instrument is multiplied by the percentages given in Table 3.

TABLE 3

Original maturity^a	Interest-rate contracts	Contracts concerning foreign-exchange rates and gold
One year or less	0,5 %	2 %
Over one year, not exceeding two years	1 %	5 %
Additional allowance for each additional year	1 %	3 %

^a In the case of interest-rate contracts, credit institutions may, subject to the consent of their competent authorities, choose either original or residual maturity.

Step (b): the original exposure thus obtained shall be the exposure value.

PART 5

Standardised Method

- The Standardised Method (SM) can be used only for OTC derivatives and long settlement transactions. The exposure value shall be calculated separately for each netting set. It shall be determined net of collateral, as follows:

exposure value =

$$\beta^* \max (CMV - CMC; j | i RPT_{ij} - iRPC_{ij} | * CCRM_j)$$

where:

CMV = current market value of the portfolio of transactions within the netting set with a counterparty gross of collateral, that is, where:

$$CMV = iCMV_i$$

where:

CMV_i = the current market value of transaction i;

CMC = the current market value of the collateral assigned to the netting set, that is, where:

$$CMC = iCMC_l$$

where

CMC_l = the current market value of collateral l;

i = index designating transaction;

l = index designating collateral;

j = index designating hedging set category. These hedging sets correspond to risk factors for which risk positions of opposite sign can be offset to yield a net risk position on which the exposure measure is then based;

RPT_{ij} = risk position from transaction i with respect to hedging set j ;

RPC_{lj} = risk position from collateral l with respect to hedging set j ;

$CCRM_j$ = CCR Multiplier set out in Table 5 with respect to hedging set j ;

$\beta = 1.4$.

Collateral received from a counterparty has a positive sign and collateral posted to a counterparty has a negative sign.

Collateral that is recognised for this method is confined to the collateral that is eligible under point 11 of Part 1 of Annex VIII to this Directive and point 9 of Annex II to Directive 2006/49/EC.

2. When an OTC derivative transaction with a linear risk profile stipulates the exchange of a financial instrument for a payment, the payment Part is referred to as the payment leg. Transactions that stipulate the exchange of payment against payment consist of two payment legs. The payment legs consist of the contractually agreed gross payments, including the notional amount of the transaction. Credit institutions may disregard the interest rate risk from payment legs with a remaining maturity of less than one year for the purposes of the following calculations. Credit institutions may treat transactions that consist of two payment legs that are denominated in the same currency, such as interest rate swaps, as a single aggregate transaction. The treatment for payment legs applies to the aggregate transaction.
3. Transactions with a linear risk profile with equities (including equity indices), gold, other precious metals or other commodities as the underlying financial instruments are mapped to a risk position in the respective equity (or equity index) or commodity (including gold and other precious metals) and an interest rate risk position for the payment leg. If the payment leg is denominated in a foreign currency, it is additionally mapped to a risk position in the respective currency.
4. Transactions with a linear risk profile with a debt instrument as the underlying instrument are mapped to an interest rate risk position for the debt instrument and another interest rate risk position for the payment leg. Transactions with a linear risk profile that stipulate the exchange of payment against payment, including foreign exchange forwards, are mapped to an interest rate risk position for each of the payment legs. If the underlying debt instrument is denominated in a foreign currency, the debt instrument is mapped to a risk position in this currency. If a payment leg is denominated in foreign currency, the payment leg is again mapped to a risk position in this currency. The exposure value assigned to a foreign exchange basis swap transaction is zero.
5. The size of a risk position from a transaction with linear risk profile is the effective notional value (market price multiplied by quantity) of the underlying financial instruments (including commodities) converted to the credit institution's domestic currency, except for debt instruments.
6. For debt instruments and for payment legs, the size of the risk position is the effective notional value of the outstanding gross payments (including the notional amount) converted to the credit institution's domestic currency, multiplied by the modified duration of the debt instrument, or payment leg, respectively.

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7. The size of a risk position from a credit default swap is the notional value of the reference debt instrument multiplied by the remaining maturity of the credit default swap.
8. The size of a risk position from an OTC derivative with a non-linear risk profile, including options and swaptions, is equal to the delta equivalent effective notional value of the financial instrument that underlies the transaction, except in the case of an underlying debt instrument.
9. The size of a risk position from an OTC derivative with a non-linear risk profile, including options and swaptions, of which the underlying is a debt instrument or a payment leg, is equal to the delta equivalent effective notional value of the financial instrument or payment leg multiplied by the modified duration of the debt instrument, or payment leg, respectively.
10. For the determination of risk positions, collateral received from a counterparty is to be treated as a claim on the counterparty under a derivative contract (long position) that is due today, while collateral posted is to be treated like an obligation to the counterparty (short position) that is due today.
11. Credit institutions may use the following formulae to determine the size and sign of a risk position:

for all instruments other than debt instruments:

effective notional value, or

$$\text{delta equivalent notional value} = P_{\text{ref}} \frac{\delta V}{\delta p}$$

where:

P_{ref} = price of the underlying instrument, expressed in the reference currency;

V = value of the financial instrument (in the case of an option this is the option price and in the case of a transaction with a linear risk profile this is the value of the underlying instrument itself);

p = price of the underlying instrument, expressed in the same currency as V ;

for debt instruments and the payment legs of all transactions:

effective notional value multiplied by the modified duration, or

delta equivalent in notional value multiplied by the modified duration

$$\frac{\delta V}{\delta r}$$

where:

V = value of the financial instrument (in the case of an option this is the option price and in the case of a transaction with a linear risk profile this is the value of the underlying instrument itself or of the payment leg, respectively);

r = interest rate level.

If V is denominated in a currency other than the reference currency, the derivative must be converted into the reference currency by multiplication with the relevant exchange rate.

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12. The risk positions are to be grouped into hedging sets. For each hedging set, the absolute value amount of the sum of the resulting risk positions is computed. This sum is termed the ‘net risk position’ and is represented by:

$$|iRPT_{ij} - iRPC_{ij}|$$

in the formulae set out in paragraph 1.

13. For interest rate risk positions from money deposits received from the counterparty as collateral, from payment legs and from underlying debt instruments, to which according to Table 1 of Annex I to Directive 2006/49/EC a capital charge of 1,6 % or less applies, there are six hedging sets for each currency, as set out in Table 4 below. Hedging sets are defined by a combination of the criteria ‘maturity’ and ‘referenced interest rates’.

TABLE 4

	Government referenced interest rates	Non-government referenced interest rates
Maturity	← 1 year	← 1 year
Maturity	>1 — ← 5 years	>1 — ← 5 years
Maturity	> 5 years	> 5 years

14. For interest rate risk positions from underlying debt instruments or payment legs for which the interest rate is linked to a reference interest rate that represents a general market interest level, the remaining maturity is the length of the time interval up to the next re-adjustment of the interest rate. In all other cases, it is the remaining life of the underlying debt instrument or in the case of a payment leg, the remaining life of the transaction.

[^{F4}15. There is one hedging set for each issuer of a reference debt instrument that underlies a credit default swap. ‘Nth to default’ basket credit default swaps shall be treated as follows:

- (a) the size of a risk position in a reference debt instrument in a basket underlying an ‘nth to default’ credit default swap is the effective notional value of the reference debt instrument, multiplied by the modified duration of the ‘nth to default’ derivative with respect to a change in the credit spread of the reference debt instrument;
- (b) there is one hedging set for each reference debt instrument in a basket underlying a given ‘nth to default’ credit default swap; risk positions from different ‘nth to default’ credit default swaps shall not be included in the same hedging set;
- (c) the CCR multiplier applicable to each hedging set created for one of the reference debt instruments of an ‘nth to default’ derivative is 0,3 % for reference debt instruments that have a credit assessment from a recognised ECAI equivalent to credit quality step 1 to 3 and 0,6 % for other debt instruments.]

16. For interest rate risk positions from money deposits that are posted with a counterparty as collateral when that counterparty does not have debt obligations of low specific risk outstanding and from underlying debt instruments, to which according to Table 1 of Annex I to Directive 2006/49/EC a capital charge of more than 1,6 % applies, there is one hedging set for each issuer. When a payment leg emulates such a debt instrument, there is also one hedging set for each issuer of the reference debt instrument. Credit

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institutions may assign risk positions that arise from debt instruments of a certain issuer, or from reference debt instruments of the same issuer that are emulated by payment legs, or that underlie a credit default swap, to the same hedging set.

17. Underlying financial instruments other than debt instruments shall be assigned to the same respective hedging sets only if they are identical or similar instruments. In all other cases they shall be assigned to separate hedging sets. The similarity of instruments is established as follows:
- for equities, similar instruments are those of the same issuer. An equity index is treated as a separate issuer;
 - for precious metals, similar instruments are those of the same metal. A precious metal index is treated as a separate precious metal;
 - for electric power, similar instruments are those delivery rights and obligations that refer to the same peak or off-peak load time interval within any 24-hour interval; and
 - for commodities, similar instruments are those of the same commodity. A commodity index is treated as a separate commodity.
18. The CCR multipliers (CCRM) for the different hedging set categories are set out in Table 5 below:

TABLE 5

	Hedging set categories	CCRM
1.	Interest Rates	0,2 %
2.	Interest Rates for risk positions from a reference debt instrument that underlies a credit default swap and to which a capital charge of 1,6 %, or less, applies under Table 1 of Annex I to Directive 2006/49/EC	0,3 %
3.	Interest Rates for risk positions from a debt instrument or reference debt instrument to which a capital charge of more than 1,6 % applies under Table 1 of Annex I to Directive 2006/49/EC	0,6 %
4.	Exchange Rates	2,5 %
5.	Electric Power	4 %
6.	Gold	5 %
7.	Equity	7 %
8.	Precious Metals (except gold)	8,5 %
9.	Other Commodities (excluding precious metals and electricity power)	10 %

10.	Underlying instruments of OTC derivatives that are not in any of the above categories	10 %
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Underlying instruments of OTC derivatives, as referred to in point 10 of Table 5, shall be assigned to separate individual hedging sets for each category of underlying instrument.

19. For transactions with a non-linear risk profile or for payment legs and transactions with debt instruments as underlying for which the credit institution cannot determine the delta or the modified duration, respectively, with an instrument model that the competent authority has approved for the purposes of determining the minimum capital requirements for market risk, the competent authority shall determine the size of the risk positions and the applicable CCRMjs conservatively. Alternatively, competent authorities may require the use of the method set out in Part 3. Netting shall not be recognised (that is, the exposure value shall be determined as if there were a netting set that comprises just the individual transaction).
20. A credit institution shall have internal procedures to verify that, prior to including a transaction in a hedging set, the transaction is covered by a legally enforceable netting contract that meets the requirements set out in Part 7.
21. A credit institution that makes use of collateral to mitigate its CCR shall have internal procedures to verify that, prior to recognising the effect of collateral in its calculations, the collateral meets the legal certainty standards set out in Annex VIII.

PART 6

Internal Model Method

1. Subject to the approval of the competent authorities, a credit institution may use the Internal Model Method (IMM) to calculate the exposure value for the transactions in Part 2, paragraph 2(i), or for the transactions in Part 2, point 2(ii), (iii) and (iv), or for the transactions in Part 2, point 2(i) to (iv). In each of these cases the transactions in Part 2, point 2(v) may be included as well. Notwithstanding Part 2, point 1, second paragraph, credit institutions may choose not to apply this method to exposures that are immaterial in size and risk. To apply the IMM, a credit institution shall meet the requirements set out in this Part.
2. Subject to the approval of the competent authorities, implementation of the IMM may be carried out sequentially across different transaction types, and during this period a credit institution may use the methods set out in Part 3 or Part 5. Notwithstanding the remainder of this Part, credit institutions shall not be required to use a specific type of model.
3. For all OTC derivative transactions and for long settlement transactions for which a credit institution has not received approval to use the IMM, the credit institution shall use the methods set out in Part 3 or Part 5. Combined use of these two methods is permitted on a permanent basis within a group. Combined use of these two methods within a legal entity is only permitted where one of the methods is used for the cases set out in Part 5, point 19.
4. Credit institutions which have obtained permission to use the IMM shall not revert to the use of the methods set out in Part 3 or Part 5 except for demonstrated good cause and subject to approval of the competent authorities. If a credit institution ceases to comply with the requirements set out in this Part, it shall either present to the competent

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authority a plan for a timely return to compliance or demonstrate that the effect of non-compliance is immaterial.

Exposure value

5. The exposure value shall be measured at the level of the netting set. The model shall specify the forecasting distribution for changes in the market value of the netting set attributable to changes in market variables, such as interest rates, foreign exchange rates. The model shall then compute the exposure value for the netting set at each future date given the changes in the market variables. For margined counterparties, the model may also capture future collateral movements.
6. Credit institutions may include eligible financial collateral as defined in point 11 of Part 1 of Annex VIII to this Directive and point 9 of Annex II to Directive 2006/49/EC in their forecasting distributions for changes in the market value of the netting set, if the quantitative, qualitative and data requirements for the IMM are met for the collateral.
7. The exposure value shall be calculated as the product of α times Effective EPE, as follows:

Exposure value = $\alpha \times$ Effective EPE

where:

alpha (α) shall be 1.4, but competent authorities may require a higher α , and Effective EPE shall be computed by estimating expected exposure (EE_t) as the average exposure at future date t, where the average is taken across possible future values of relevant market risk factors. The model estimates EE at a series of future dates t₁, t₂, t₃, etc.

8. Effective EE shall be computed recursively as:

Effective EE_{t_k} = max(Effective EE_{t_{k-1}}; EE_{t_k})

where:

the current date is denoted as t₀ and Effective EE_{t₀} equals current exposure.

9. In this regard, Effective EPE is the average Effective EE during the first year of future exposure. If all contracts in the netting set mature within less than one year, EPE is the average of EE until all contracts in the netting set mature. Effective EPE is computed as a weighted average of Effective EE:

$$\text{Effective EPE} = \sum_{k=1}^{\min(1 \text{ year}, \text{maturity})} \text{Effective EE}_{t_k} \cdot \Delta t_k$$

where:

the weights $\Delta t_k = t_k - t_{k-1}$ allow for the case when future exposure is calculated at dates that are not equally spaced over time.

10. EE or peak exposure measures shall be calculated based on a distribution of exposures that accounts for the possible non-normality of the distribution of exposures.
11. Credit institutions may use a measure that is more conservative than α multiplied by Effective EPE as calculated according to the equation above for every counterparty.
12. Notwithstanding point 7, competent authorities may permit credit institutions to use their own estimates of α , subject to a floor of 1,2, where α shall equal the ratio of internal capital from a full simulation of CCR exposure across counterparties

(numerator) and internal capital based on EPE (denominator). In the denominator, EPE shall be used as if it were a fixed outstanding amount. Credit institutions shall demonstrate that their internal estimates of α capture in the numerator material sources of stochastic dependency of distribution of market values of transactions or of portfolios of transactions across counterparties. Internal estimates of α shall take account of the granularity of portfolios.

13. A credit institution shall ensure that the numerator and denominator of α are computed in a consistent fashion with respect to the modelling methodology, parameter specifications and portfolio composition. The approach used shall be based on the credit institution's internal capital approach, be well documented and be subject to independent validation. In addition, credit institutions shall review their estimates on at least a quarterly basis, and more frequently when the composition of the portfolio varies over time. Credit institutions shall also assess the model risk.
14. Where appropriate, volatilities and correlations of market risk factors used in the joint simulation of market and credit risk should be conditioned on the credit risk factor to reflect potential increases in volatility or correlation in an economic downturn.
15. If the netting set is subject to a margin agreement, credit institutions shall use one of the following EPE measures:
 - (a) Effective EPE without taking into account the margin agreement;
 - (b) the threshold, if positive, under the margin agreement plus an add-on that reflects the potential increase in exposure over the margin period of risk. The add-on is computed as the expected increase in the netting set's exposure beginning from a current exposure of zero over the margin period of risk. A floor of five business days for netting sets consisting only of repo-style transactions subject to daily remargining and daily mark-to-market, and ten business days for all other netting sets is imposed on the margin period of risk used for this purpose; or
 - (c) if the model captures the effects of margining when estimating EE, the model's EE measure may be used directly in the equation in point 8 subject to the approval of the competent authorities.

Minimum requirements for EPE models

16. A credit institution's EPE model shall meet the operational requirements set out in points 17 to 41.

CCR control

17. The credit institution shall have a control unit that is responsible for the design and implementation of its CCR management system, including the initial and on-going validation of the model. This unit shall control input data integrity and produce and analyse reports on the output of the credit institution's risk measurement model, including an evaluation of the relationship between measures of risk exposure and credit and trading limits. This unit shall be independent from units responsible for originating, renewing or trading exposures and free from undue influence; it shall be adequately staffed; it shall report directly to the senior management of the credit institution. The work of this unit shall be closely integrated into the day-to-day credit risk management process of the credit institution. Its output shall, accordingly, be an integral Part of the process of planning, monitoring and controlling the credit institution's credit and overall risk profile.

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18. A credit institution shall have CCR management policies, processes and systems that are conceptually sound and implemented with integrity. A sound CCR management framework shall include the identification, measurement, management, approval and internal reporting of CCR.
19. A credit institution's risk management policies shall take account of market, liquidity, and legal and operational risks that can be associated with CCR. The credit institution shall not undertake business with a counterparty without assessing its creditworthiness and shall take due account of settlement and pre-settlement credit risk. These risks shall be managed as comprehensively as practicable at the counterparty level (aggregating CCR exposures with other credit exposures) and at the firm-wide level.
20. A credit institution's board of directors and senior management shall be actively involved in the CCR control process and shall regard this as an essential aspect of the business to which significant resources need to be devoted. Senior management shall be aware of the limitations and assumptions of the model used and the impact these can have on the reliability of the output. Senior management shall also consider the uncertainties of the market environment and operational issues and be aware of how these are reflected in the model.
21. The daily reports prepared on a credit institution's exposures to CCR shall be reviewed by a level of management with sufficient seniority and authority to enforce both reductions of positions taken by individual credit managers or traders and reductions in the credit institution's overall CCR exposure.
22. A credit institution's CCR management system shall be used in conjunction with internal credit and trading limits. Credit and trading limits shall be related to the credit institution's risk measurement model in a manner that is consistent over time and that is well understood by credit managers, traders and senior management.
23. A credit institution's measurement of CCR shall include measuring daily and intra-day usage of credit lines. The credit institution shall measure current exposure gross and net of collateral. At portfolio and counterparty level, the credit institution shall calculate and monitor peak exposure or PFE at the confidence interval chosen by the credit institution. The credit institution shall take account of large or concentrated positions, including by groups of related counterparties, by industry, by market, etc.
24. A credit institution shall have a routine and rigorous program of stress testing in place as a supplement to the CCR analysis based on the day-to-day output of the credit institution's risk measurement model. The results of this stress testing shall be reviewed periodically by senior management and shall be reflected in the CCR policies and limits set by management and the board of directors. Where stress tests reveal particular vulnerability to a given set of circumstances, prompt steps shall be taken to manage those risks appropriately.
25. A credit institution shall have a routine in place for ensuring compliance with a documented set of internal policies, controls and procedures concerning the operation of the CCR management system. The credit institution's CCR management system shall be well documented and shall provide an explanation of the empirical techniques used to measure CCR.
26. A credit institution shall conduct an independent review of its CCR management system regularly through its own internal auditing process. This review shall include both the activities of the business units referred to in point 17 and of the independent

CCR control unit. A review of the overall CCR management process shall take place at regular intervals and shall specifically address, at a minimum:

- (a) the adequacy of the documentation of the CCR management system and process;
- (b) the organisation of the CCR control unit;
- (c) the integration of CCR measures into daily risk management;
- (d) the approval process for risk pricing models and valuation systems used by front and back-office personnel;
- (e) the validation of any significant change in the CCR measurement process;
- (f) the scope of CCR captured by the risk measurement model;
- (g) the integrity of the management information system;
- (h) the accuracy and completeness of CCR data;
- (i) the verification of the consistency, timeliness and reliability of data sources used to run models, including the independence of such data sources;
- (j) the accuracy and appropriateness of volatility and correlation assumptions;
- (k) the accuracy of valuation and risk transformation calculations; and
- (l) the verification of the model's accuracy through frequent back-testing.

Use test

27. The distribution of exposures generated by the model used to calculate effective EPE shall be closely integrated into the day-to-day CCR management process of the credit institution. The model's output shall accordingly play an essential role in the credit approval, CCR management, internal capital allocation and corporate governance of the credit institution.
28. A credit institution shall have a track record in the use of models that generate a distribution of exposures to CCR. Thus, the credit institution shall demonstrate that it has been using a model to calculate the distributions of exposures upon which the EPE calculation is based that meets, broadly, the minimum requirements set out in this Part for at least one year prior to approval by the competent authorities.
29. The model used to generate a distribution of exposures to CCR shall be Part of a CCR management framework that includes the identification, measurement, management, approval and internal reporting of CCR. This framework shall include the measurement of usage of credit lines (aggregating CCR exposures with other credit exposures) and internal capital allocation. In addition to EPE, a credit institution shall measure and manage current exposures. Where appropriate, the credit institution shall measure current exposure gross and net of collateral. The use test is satisfied if a credit institution uses other CCR measures, such as peak exposure or (PFE), based on the distribution of exposures generated by the same model to compute EPE.
30. A credit institution shall have the systems capability to estimate EE daily if necessary, unless it demonstrates to its competent authorities that its exposures to CCR warrant less frequent calculation. The credit institution shall compute EE along a time profile of forecasting horizons that adequately reflects the time structure of future cash flows and maturity of the contracts and in a manner that is consistent with the materiality and composition of the exposures.

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31. Exposure shall be measured, monitored and controlled over the life of all contracts in the netting set (not just to the one year horizon). The credit institution shall have procedures in place to identify and control the risks for counterparties where the exposure rises beyond the one-year horizon. The forecast increase in exposure shall be an input into the credit institution's internal capital model.

Stress testing

32. A credit institution shall have in place sound stress testing processes for use in the assessment of capital adequacy for CCR. These stress measures shall be compared with the measure of EPE and considered by the credit institution as Part of the process set out in Article 123. Stress testing shall also involve identifying possible events or future changes in economic conditions that could have unfavourable effects on a credit institution's credit exposures and an assessment of the credit institution's ability to withstand such changes.
33. The credit institution shall stress test its CCR exposures, including jointly stressing market and credit risk factors. Stress tests of CCR shall consider concentration risk (to a single counterparty or groups of counterparties), correlation risk across market and credit risk, and the risk that liquidating the counterparty's positions could move the market. Stress tests shall also consider the impact on the credit institution's own positions of such market moves and integrate that impact in its assessment of CCR.

Wrong-Way Risk

34. Credit institutions shall give due consideration to exposures that give rise to a significant degree of General Wrong-Way Risk.
35. Credit institutions shall have procedures in place to identify, monitor and control cases of Specific Wrong-Way Risk, beginning at the inception of a transaction and continuing through the life of the transaction.

Integrity of the modelling process

36. The model shall reflect transaction terms and specifications in a timely, complete, and conservative fashion. Such terms shall include at least contract notional amounts, maturity, reference assets, margining arrangements, netting arrangements. The terms and specifications shall be maintained in a database that is subject to formal and periodic audit. The process for recognising netting arrangements shall require signoff by legal staff to verify the legal enforceability of netting and be input into the database by an independent unit. The transmission of transaction terms and specifications data to the model shall also be subject to internal audit and formal reconciliation processes shall be in place between the model and source data systems to verify on an ongoing basis that transaction terms and specifications are being reflected in EPE correctly or at least conservatively.
37. The model shall employ current market data to compute current exposures. When using historical data to estimate volatility and correlations, at least three years of historical data shall be used and shall be updated quarterly or more frequently if market conditions warrant. The data shall cover a full range of economic conditions, such as a full business cycle. A unit independent from the business unit shall validate the price supplied by the business unit. The data shall be acquired independently of the lines of business, fed into the model in a timely and complete fashion, and maintained in a database subject to formal and periodic audit. A credit institution shall also have a well-developed data integrity process to clean the data of erroneous and/or anomalous observations. To the extent that the model relies on proxy market data, including, for new products, where three years of historical data may not be available, internal

policies shall identify suitable proxies and the credit institution shall demonstrate empirically that the proxy provides a conservative representation of the underlying risk under adverse market conditions. If the model includes the effect of collateral on changes in the market value of the netting set, the credit institution shall have adequate historical data to model the volatility of the collateral.

38. The model shall be subject to a validation process. The process shall be clearly articulated in credit institutions' policies and procedures. The validation process shall specify the kind of testing needed to ensure model integrity and identify conditions under which assumptions are violated and may result in an understatement of EPE. The validation process shall include a review of the comprehensiveness of the model.
39. A credit institution shall monitor the appropriate risks and have processes in place to adjust its estimation of EPE when those risks become significant. This includes the following:
 - (a) the credit institution shall identify and manage its exposures to specific wrong-way risk;
 - (b) for exposures with a rising risk profile after one year, the credit institution shall compare on a regular basis the estimate of EPE over one year with EPE over the life of the exposure; and
 - (c) for exposures with a residual maturity below one year, the credit institution shall compare on a regular basis the replacement cost (current exposure) and the realised exposure profile, and/or store data that would allow such a comparison.
40. A credit institution shall have internal procedures to verify that, prior to including a transaction in a netting set, the transaction is covered by a legally enforceable netting contract that meets the requirements set out in Part 7.
41. A credit institution that makes use of collateral to mitigate its CCR shall have internal procedures to verify that, prior to recognising the effect of collateral in its calculations, the collateral meets the legal certainty standards set out in Annex VIII.

Validation requirements for EPE models

42. A credit institution's EPE model shall meet the following validation requirements:
 - (a) the qualitative validation requirements set out in Annex V to Directive 2006/49/EC;
 - (b) interest rates, foreign exchange rates, equity prices, commodities, and other market risk factors shall be forecast over long time horizons for measuring CCR exposure. The performance of the forecasting model for market risk factors shall be validated over a long time horizon;
 - (c) the pricing models used to calculate CCR exposure for a given scenario of future shocks to market risk factors shall be tested as Part of the model validation process. Pricing models for options shall account for the nonlinearity of option value with respect to market risk factors;
 - (d) the EPE model shall capture transaction-specific information in order to aggregate exposures at the level of the netting set. A credit institution shall verify that transactions are assigned to the appropriate netting set within the model;
 - (e) the EPE model shall also include transaction-specific information to capture the effects of margining. It shall take into account both the current amount of margin and margin that would be passed between counterparties in the future. Such a model shall account

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for the nature of margin agreements (unilateral or bilateral), the frequency of margin calls, the margin period of risk, the minimum threshold of unmarginated exposure the credit institution is willing to accept, and the minimum transfer amount. Such a model shall either model the mark-to-market change in the value of collateral posted or apply the rules set out in Annex VIII; and

- (f) static, historical back-testing on representative counterparty portfolios shall be Part of the model validation process. At regular intervals, a credit institution shall conduct such back-testing on a number of representative counterparty portfolios (actual or hypothetical). These representative portfolios shall be chosen based on their sensitivity to the material risk factors and correlations to which the credit institution is exposed.

If back-testing indicates that the model is not sufficiently accurate, the competent authorities shall revoke the model approval or impose appropriate measures to ensure that the model is improved promptly. They may also require additional own funds to be held by credit institutions pursuant to Article 136.

PART 7

Contractual netting (contracts for novation and other netting agreements)

- (a) Types of netting that competent authorities may recognise

For the purpose of this Part, ‘counterparty’ means any entity (including natural persons) that has the power to conclude a contractual netting agreement and ‘contractual cross product netting agreement’ means a written bilateral agreement between a credit institution and a counterparty which creates a single legal obligation covering all included bilateral master agreements and transactions belonging to different product categories. Contractual cross product netting agreements do not cover netting other than on a bilateral basis.

For the purposes of cross product netting, the following are considered different product categories:

- (i) repurchase transactions, reverse repurchase transactions, securities and commodities lending and borrowing transactions,
- (ii) margin lending transactions, and
- (iii) the contracts listed in Annex IV.

The competent authorities may recognise as risk-reducing the following types of contractual netting:

- (i) bilateral contracts for novation between a credit institution and its counterparty under which mutual claims and obligations are automatically amalgamated in such a way that this novation fixes one single net amount each time novation applies and thus creates a legally binding, single new contract extinguishing former contracts,
- (ii) other bilateral agreements between a credit institution and its counterparty, and
- (iii) contractual cross product netting agreements for credit institutions that have received approval by their competent authorities to use the method set out in Part 6, for transactions falling under the scope of that method. Netting

across transactions entered by members of a group is not recognised for the purposes of calculating capital requirements.

(b) Conditions for recognition

The competent authorities may recognise contractual netting as risk-reducing only under the following conditions:

- (i) a credit institution must have a contractual netting agreement with its counterparty which creates a single legal obligation, covering all included transactions, such that, in the event of a counterparty's failure to perform owing to default, bankruptcy, liquidation or any other similar circumstance, the credit institution would have a claim to receive or an obligation to pay only the net sum of the positive and negative mark-to-market values of included individual transactions,
- (ii) a credit institution must have made available to the competent authorities written and reasoned legal opinions to the effect that, in the event of a legal challenge, the relevant courts and administrative authorities would, in the cases described under (i), find that the credit institution's claims and obligations would be limited to the net sum, as described in (i), under:
 - the law of the jurisdiction in which the counterparty is incorporated and, if a foreign branch of an undertaking is involved, also under the law of the jurisdiction in which the branch is located,
 - the law that governs the individual transactions included, and
 - the law that governs any contract or agreement necessary to effect the contractual netting,
- (iii) a credit institution must have procedures in place to ensure that the legal validity of its contractual netting is kept under review in the light of possible changes in the relevant laws,
- (iv) the credit institution maintains all required documentation in its files,
- (v) the effects of netting shall be factored into the credit institution's measurement of each counterparty's aggregate credit risk exposure and the credit institution manages its CCR on such a basis, and
- (vi) credit risk to each counterparty is aggregated to arrive at a single legal exposure across transactions. This aggregation shall be factored into credit limit purposes and internal capital purposes.

The competent authorities must be satisfied, if necessary after consulting the other competent authorities concerned, that the contractual netting is legally valid under the law of each of the relevant jurisdictions. If any of the competent authorities are not satisfied in that respect, the contractual netting agreement will not be recognised as risk-reducing for either of the counterparties.

The competent authorities may accept reasoned legal opinions drawn up by types of contractual netting.

No contract containing a provision which permits a non-defaulting counterparty to make limited payments only, or no payments at all, to the estate of the defaulter, even if the defaulter is a net creditor (a 'walkaway' clause), may be recognised as risk-reducing.

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In addition, for contractual cross-product netting agreements the following criteria shall be met:

- (a) the net sum referred to in subpoint (b)(i) of this Part shall be the net sum of the positive and negative close out values of any included individual bilateral master agreement and of the positive and negative mark-to-market value of the individual transactions (the ‘Cross-Product Net Amount’);
- (b) the written and reasoned legal opinions referred to in subpoint (b)(ii) of this Part shall address the validity and enforceability of the entire contractual cross-product netting agreement under its terms and the impact of the netting arrangement on the material provisions of any included individual bilateral master agreement. A legal opinion shall be generally recognised as such by the legal community in the Member State in which the credit institution is authorised or a memorandum of law that addresses all relevant issues in a reasoned manner;
- (c) the credit institution shall have procedures in place under subpoint (b)(iii) of this Part to verify that any transaction which is to be included in a netting set is covered by a legal opinion; and
- (d) taking into account the contractual cross product netting agreement, the credit institution shall continue to comply with the requirements for the recognition of bilateral netting and the requirements of Articles 90 to 93 for the recognition of credit risk mitigation, as applicable, with respect to each included individual bilateral master agreement and transaction.

(c) Effects of recognition

Netting for the purposes of Parts 5 and 6 shall be recognised as set out therein.

(i) Contracts for novation

The single net amounts fixed by contracts for novation, rather than the gross amounts involved, may be weighted. Thus, in the application of Part 3, in:

- step (a): the current replacement cost, and in
- step (b): the notional principal amounts or underlying values

may be obtained taking account of the contract for novation. In the application of Part 4, in step (a) the notional principal amount may be calculated taking account of the contract for novation; the percentages of Table 3 must apply.

(ii) Other netting agreements

In application of Part 3:

- in step (a) the current replacement cost for the contracts included in a netting agreement may be obtained by taking account of the actual hypothetical net replacement cost which results from the agreement; in the case where netting leads to a net obligation for the credit institution calculating the net replacement cost, the current replacement cost is calculated as ‘0’, and
- in step (b) the figure for potential future credit exposure for all contracts included in a netting agreement may be reduced according to the following formula:

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$$PCE_{red} = 0,4 * PCE_{gross} + 0,6 * NGR * PCE_{gross}$$

where:

PCE_{red}
= the reduced figure for potential future credit exposure for all contracts with a given counterparty included in a legally valid bilateral netting agreement

PCE_{gross}
= the sum of the figures for potential future credit exposure for all contracts with a given counterparty which are included in a legally valid bilateral netting agreement and are calculated by multiplying their notional principal amounts by the percentages set out in Table 1

NGR
= 'net-to-gross ratio': at the discretion of the competent authorities either:

- (i) separate calculation: the quotient of the net replacement cost for all contracts included in a legally valid bilateral netting agreement with a given counterparty (numerator) and the

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- gross replacement cost for all contracts included in a legally valid bilateral netting agreement with that counterparty (denominator), or
- (ii) aggregate calculation: the quotient of the sum of the net replacement cost calculated on a bilateral basis for all counterparties taking into account the contracts included in legally valid netting agreements (numerator) and the gross replacement cost for all contracts included in legally valid netting agreements (denominator).

If Member States permit credit institutions a choice of methods, the method chosen is to be used consistently.

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For the calculation of the potential future credit exposure according to the above formula perfectly matching contracts included in the netting agreement may be taken into account as a single contract with a notional principal equivalent to the net receipts. Perfectly matching contracts are forward foreign-exchange contracts or similar contracts in which a notional principal is equivalent to cash flows if the cash flows fall due on the same value date and fully or partly in the same currency.

In the application of Part 4, in step (a)

- perfectly matching contracts included in the netting agreement may be taken into account as a single contract with a notional principal equivalent to the net receipts, the notional principal amounts are multiplied by the percentages given in Table 3, and
- for all other contracts included in a netting agreement, the percentages applicable may be reduced as indicated in Table 6:

TABLE 6

Original maturity^a	Interest-rate contracts	Foreign-exchange contracts
One year or less	0,35 %	1,5 %
More than one year but not more than two years	0,75 %	3,75 %
Additional allowance for each additional year	0,75 %	2,25 %

a In the case of interest-rate contracts, credit institutions may, subject to the consent of their competent authorities, choose either original or residual maturity.

ANNEX IV

TYPES OF DERIVATIVES

1. Interest-rate contracts:
 - (a) single-currency interest rate swaps;
 - (b) basis-swaps;
 - (c) forward rate agreements;
 - (d) interest-rate futures;
 - (e) interest-rate options purchased; and
 - (f) other contracts of similar nature.
2. Foreign-exchange contracts and contracts concerning gold:
 - (a) cross-currency interest-rate swaps;
 - (b) forward foreign-exchange contracts;

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- (c) currency futures;
 - (d) currency options purchased;
 - (e) other contracts of a similar nature; and
 - (f) contracts concerning gold of a nature similar to (a) to (e).
3. Contracts of a nature similar to those in points 1(a) to (e) and 2(a) to (d) concerning other reference items or indices. This includes as a minimum all instruments specified in points 4 to 7, 9 and 10 of Section C of Annex I to Directive 2004/39/EC not otherwise included in points 1 or 2.

ANNEX V

TECHNICAL CRITERIA CONCERNING THE ORGANISATION AND TREATMENT OF RISKS

1. GOVERNANCE
 1. Arrangements shall be defined by the management body described in Article 11 concerning the segregation of duties in the organisation and the prevention of conflicts of interest.
2. TREATMENT OF RISKS
 2. The management body described in Article 11 shall approve and periodically review the strategies and policies for taking up, managing, monitoring and mitigating the risks the credit institution is or might be exposed to, including those posed by the macroeconomic environment in which it operates in relation to the status of the business cycle.
3. CREDIT AND COUNTERPARTY RISK
 3. Credit-granting shall be based on sound and well-defined criteria. The process for approving, amending, renewing, and re-financing credits shall be clearly established.
 4. The ongoing administration and monitoring of their various credit risk-bearing portfolios and exposures, including for identifying and managing problem credits and for making adequate value adjustments and provisions, shall be operated through effective systems.
 5. Diversification of credit portfolios shall be adequate given the credit institution's target markets and overall credit strategy.
4. RESIDUAL RISK
 6. The risk that recognised credit risk mitigation techniques used by the credit institution prove less effective than expected shall be addressed and controlled by means of written policies and procedures.
5. CONCENTRATION RISK
 7. The concentration risk arising from exposures to counterparties, groups of connected counterparties, and counterparties in the same economic sector, geographic region or from the same activity or commodity, the application of credit risk mitigation

techniques, and including in particular risks associated with large indirect credit exposures (e.g. to a single collateral issuer), shall be addressed and controlled by means of written policies and procedures.

6. SECURITISATION RISK

[^{F4}8. The risks arising from securitisation transactions in relation to which the credit institutions are investor, originator or sponsor, including reputational risks (such as arise in relation to complex structures or products) shall be evaluated and addressed through appropriate policies and procedures, to ensure in particular that the economic substance of the transaction is fully reflected in the risk assessment and management decisions.]

9. Liquidity plans to address the implications of both scheduled and early amortization shall exist at credit institutions which are originators of revolving securitisation transactions involving early amortisation provisions.

7. MARKET RISK

10. Policies and processes for the measurement and management of all material sources and effects of market risks shall be implemented.

8. INTEREST RATE RISK ARISING FROM NON-TRADING ACTIVITIES

11. Systems shall be implemented to evaluate and manage the risk arising from potential changes in interest rates as they affect a credit institution's non-trading activities.

9. OPERATIONAL RISK

12. Policies and processes to evaluate and manage the exposure to operational risk, including to low-frequency high-severity events, shall be implemented. Without prejudice to the definition laid down in Article 4(22), credit institutions shall articulate what constitutes operational risk for the purposes of those policies and procedures.

13. Contingency and business continuity plans shall be in place to ensure a credit institution's ability to operate on an ongoing basis and limit losses in the event of severe business disruption.

10. LIQUIDITY RISK

[^{F4}14. Robust strategies, policies, processes and systems shall exist for the identification, measurement, management and monitoring of liquidity risk over an appropriate set of time horizons, including intra-day, so as to ensure that credit institutions maintain adequate levels of liquidity buffers. Those strategies, policies, processes and systems shall be tailored to business lines, currencies and entities and shall include adequate allocation mechanisms of liquidity costs, benefits and risks.]

[^{F3}14a. The strategies, policies, processes and systems referred to in point 14 shall be proportionate to the complexity, risk profile, scope of operation of the credit institution and risk tolerance set by the management body and reflect the credit institution's importance in each Member State, in which it carries on business. Credit institutions shall communicate risk tolerance to all relevant business lines.]

[^{F4}15. Credit institutions shall develop methodologies for the identification, measurement, management and monitoring of funding positions. Those methodologies shall include the current and projected material cash-flows in and arising from assets, liabilities,

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- off-balance-sheet items, including contingent liabilities and the possible impact of reputational risk.
16. Credit institutions shall distinguish between pledged and unencumbered assets that are available at all times, in particular during emergency situations. They shall also take into account the legal entity in which assets reside, the country where assets are legally recorded either in a register or in an account as well as their eligibility and shall monitor how assets can be mobilised in a timely manner.
 17. Credit institutions shall also have regard to existing legal, regulatory and operational limitations to potential transfers of liquidity and unencumbered assets amongst entities, both within and outside the EEA.
 18. A credit institution shall consider different liquidity risk mitigation tools, including a system of limits and liquidity buffers in order to be able to withstand a range of different stress events and an adequately diversified funding structure and access to funding sources. Those arrangements shall be reviewed regularly.
 19. Alternative scenarios on liquidity positions and on risk mitigants shall be considered and the assumptions underlying decisions concerning the funding position shall be reviewed regularly. For these purposes, alternative scenarios shall address, in particular, off-balance sheet items and other contingent liabilities, including those of SSPEs or other special purpose entities, in relation to which the credit institution acts as sponsor or provides material liquidity support.
 20. Credit institutions shall consider the potential impact of institution-specific, market-wide and combined alternative scenarios. Different time horizons and varying degrees of stressed conditions shall be considered.
 21. Credit institutions shall adjust their strategies, internal policies and limits on liquidity risk and develop effective contingency plans, taking into account the outcome of the alternative scenarios referred to in point 19.
 22. In order to deal with liquidity crises, credit institutions shall have in place contingency plans setting out adequate strategies and proper implementation measures in order to address possible liquidity shortfalls. Those plans shall be regularly tested, updated on the basis of the outcome of the alternative scenarios set out in point 19, be reported to and approved by senior management, so that internal policies and processes can be adjusted accordingly.]

ANNEX VI

STANDARDISED APPROACH

PART 1

RISK WEIGHTS

1. EXPOSURES TO CENTRAL GOVERNMENTS OR CENTRAL BANKS
 - 1.1. Treatment

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1. Without prejudice to points 2 to 7, exposures to central governments and central banks shall be assigned a 100 % risk weight.
2. Subject to point 3, exposures to central governments and central banks for which a credit assessment by a nominated ECAI is available shall be assigned a risk weight according to Table 1 in accordance with the assignment by the competent authorities of the credit assessments of eligible ECAIs to six steps in a credit quality assessment scale.

TABLE 1

Credit quality step	1	2	3	4	5	6
Risk weight	0 %	20 %	50 %	100 %	100 %	150 %

3. Exposures to the European Central Bank shall be assigned a 0 % risk weight.
- 1.2. Exposures in the national currency of the borrower
4. Exposures to Member States' central governments and central banks denominated and funded in the domestic currency of that central government and central bank shall be assigned a risk weight of 0 %.
5. When the competent authorities of a third country which apply supervisory and regulatory arrangements at least equivalent to those applied in the Community assign a risk weight which is lower than that indicated in point 1 to 2 to exposures to their central government and central bank denominated and funded in the domestic currency, Member States may allow their credit institutions to risk weight such exposures in the same manner.
- 1.3. Use of credit assessments by Export Credit Agencies
6. Export Credit Agency credit assessments shall be recognised by the competent authorities if either of the following conditions is met:
 - (a) it is a consensus risk score from Export Credit Agencies participating in the OECD 'Arrangement on Guidelines for Officially Supported Export Credits'; or
 - (b) the Export Credit Agency publishes its credit assessments, and the Export Credit Agency subscribes to the OECD agreed methodology, and the credit assessment is associated with one of the eight minimum export insurance premiums (MEIP) that the OECD agreed methodology establishes.
7. Exposures for which a credit assessment by an Export Credit Agency is recognised for risk weighting purposes shall be assigned a risk weight according to Table 2.

TABLE 2

MEIP	0	1	2	3	4	5	6	7
Risk weight	0 %	0 %	20 %	50 %	100 %	100 %	100 %	150 %

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2. EXPOSURES TO REGIONAL GOVERNMENTS OR LOCAL AUTHORITIES

8. Without prejudice to points 9 to 11, exposures to regional governments and local authorities shall be risk weighted as exposures to institutions. This treatment is independent of the exercise of discretion as specified in Article 80(3). The preferential treatment for short-term exposures specified in points 31, 32 and 37 shall not be applied.
9. Exposures to regional governments and local authorities shall be treated as exposures to the central government in whose jurisdiction they are established where there is no difference in risk between such exposures because of the specific revenue-raising powers of the former, and the existence of specific institutional arrangements the effect of which is to reduce their risk of default.

Competent authorities shall draw up and make public the list of the regional governments and local authorities to be risk-weighted like central governments.

10. Exposures to churches and religious communities constituted in the form of a legal person under public law shall, in so far as they raise taxes in accordance with legislation conferring on them the right to do so, be treated as exposures to regional governments and local authorities, except that point 9 shall not apply. In this case for the purposes of Article 89(1)(a), permission to apply Title V, Chapter 2, Section 3, subsection 1 shall not be excluded.
11. When competent authorities of a third country jurisdiction which apply supervisory and regulatory arrangements at least equivalent to those applied in the Community treat exposures to regional governments and local authorities as exposures to their central government, Member States may allow their credit institutions to risk weight exposures to such regional governments and local authorities in the same manner.

3. EXPOSURES TO ADMINISTRATIVE BODIES AND NON-COMMERCIAL UNDERTAKINGS

3.1. Treatment

12. Without prejudice to points 13 to 17, exposures to administrative bodies and non-commercial undertakings shall be assigned a 100 % risk weight.

3.2. Public Sector Entities

13. Without prejudice to points 14 to 17, exposures to public sector entities shall be assigned a 100 % risk weight.
14. Subject to the discretion of competent authorities, exposures to public sector entities may be treated as exposures to institutions. Exercise of this discretion by competent authorities is independent of the exercise of discretion as specified in Article 80(3). The preferential treatment for short-term exposures specified in points 31, 32 and 37 shall not be applied.
15. In exceptional circumstances, exposures to public-sector entities may be treated as exposures to the central government in whose jurisdiction they are established where in the opinion of the competent authorities there is no difference in risk between such exposures because of the existence of an appropriate guarantee by the central government.

16. When the discretion to treat exposures to public-sector entities as exposures to institutions or as exposures to the central government in whose jurisdiction they are established is exercised by the competent authorities of one Member State, the competent authorities of another Member State shall allow their credit institutions to risk-weight exposures to such public-sector entities in the same manner.
17. When competent authorities of a third country jurisdiction, which apply supervisory and regulatory arrangements at least equivalent to those applied in the Community, treat exposures to public sector entities as exposures to institutions, Member States may allow their credit institutions to risk weight exposures to such public sector entities in the same manner.
4. EXPOSURES TO MULTILATERAL DEVELOPMENT BANKS
 - 4.1. Scope
 18. For the purposes of Articles 78 to 83, the Inter-American Investment Corporation, the Black Sea Trade and Development Bank and the Central American Bank for Economic Integration are considered to be Multilateral Development Banks (MDB).
 - 4.2. Treatment
 19. Without prejudice to points 20 and 21, exposures to multilateral development banks shall be treated in the same manner as exposures to institutions in accordance with points 29 to 32. The preferential treatment for short-term exposures as specified in points 31, 32 and 37 shall not apply.
 - [^{F5}20. Exposures to the following multilateral development banks shall be assigned a 0 % risk weight:
 - (a) the International Bank for Reconstruction and Development;
 - (b) the International Finance Corporation;
 - (c) the Inter-American Development Bank;
 - (d) the Asian Development Bank;
 - (e) the African Development Bank;
 - (f) the Council of Europe Development Bank;
 - (g) the Nordic Investment Bank;
 - (h) the Caribbean Development Bank;
 - (i) the European Bank for Reconstruction and Development;
 - (j) the European Investment Bank;
 - (k) the European Investment Fund;
 - (l) the Multilateral Investment Guarantee Agency;
 - (m) the International Finance Facility for Immunisation; and
 - (n) the Islamic Development Bank.]

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Textual Amendments

F5 Substituted by [Commission Directive 2007/18/EC of 27 March 2007 amending Directive 2006/48/EC of the European Parliament and of the Council as regards the exclusion or inclusion of certain institutions from its scope of application and the treatment of exposures to multilateral development banks \(Text with EEA relevance\)](#).

21. A risk weight of 20 % shall be assigned to the portion of unpaid capital subscribed to the European Investment Fund.
5. EXPOSURES TO INTERNATIONAL ORGANISATIONS
22. Exposures to the following international organisations shall be assigned a 0 % risk weight:
- (a) the European Community;
- (b) the International Monetary Fund;
- (c) the Bank for International Settlements.
6. EXPOSURES TO INSTITUTIONS
- 6.1. Treatment
23. One of the two methods described in points 26 to 27 and 29 to 32 shall apply in determining the risk weights for exposures to institutions.
24. Without prejudice to the other provisions of points 23 to 39, exposures to financial institutions authorised and supervised by the competent authorities responsible for the authorisation and supervision of credit institutions and subject to prudential requirements equivalent to those applied to credit institutions shall be risk-weighted as exposures to institutions.
- 6.2. Risk-weight floor on exposures to unrated institutions
25. Exposures to an unrated institution shall not be assigned a risk weight lower than that applied to exposures to its central government.
- 6.3. Central government risk weight based method
26. Exposures to institutions shall be assigned a risk weight according to the credit quality step to which exposures to the central government of the jurisdiction in which the institution is incorporated are assigned in accordance with Table 3.

TABLE 3

Credit quality step to which central government is assigned	1	2	3	4	5	6

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Risk weight of exposure	20 %	50 %	100 %	100 %	100 %	150 %
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27. For exposures to institutions incorporated in countries where the central government is unrated, the risk weight shall be not more than 100 %.

28. For exposures to institutions with an original effective maturity of three months or less, the risk weight shall be 20 %.

6.4. Credit assessment based method

[^{F6}29. Exposures to institutions with a residual maturity of more than three months for which a credit assessment by a nominated ECAI is available shall be assigned a risk weight according to Table 4 in accordance with the assignment by the competent authorities of the credit assessments of eligible ECAIs to six steps in a credit quality assessment scale.]

TABLE 4

Credit quality step	1	2	3	4	5	6
Risk weight	20 %	50 %	50 %	100 %	100 %	150 %

Textual Amendments

F6 Substituted by [Commission Directive 2009/83/EC of 27 July 2009 amending certain Annexes to Directive 2006/48/EC of the European Parliament and of the Council as regards technical provisions concerning risk management \(Text with EEA relevance\).](#)

30. Exposures to unrated institutions shall be assigned a risk weight of 50 %.

[^{F6}31. Exposures to an institution of up to three months residual maturity for which a credit assessment by a nominated ECAI is available shall be assigned a risk-weight according to Table 5 in accordance with the assignment by the competent authorities of the credit assessments of eligible ECAIs to six steps in a credit quality assessment scale:]

TABLE 5

Credit quality step	1	2	3	4	5	6
Risk weight	20 %	20 %	20 %	50 %	50 %	150 %

32. Exposures to unrated institutions having an original effective maturity of three months or less shall be assigned a 20 % risk weight.

6.5. Interaction with short-term credit assessments

33. If the method specified in points 29 to 32 is applied to exposures to institutions, then the interaction with specific short-term assessments shall be as follows.

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34. If there is no short-term exposure assessment, the general preferential treatment for short-term exposures as specified in point 31 shall apply to all exposures to institutions of up to three months residual maturity.
35. If there is a short-term assessment and such an assessment determines the application of a more favourable or identical risk weight than the use of the general preferential treatment for short-term exposures, as specified in point 31, then the short-term assessment shall be used for that specific exposure only. Other short-term exposures shall follow the general preferential treatment for short-term exposures, as specified in point 31.
36. If there is a short-term assessment and such an assessment determines a less favourable risk weight than the use of the general preferential treatment for short-term exposures, as specified in point 31, then the general preferential treatment for short-term exposures shall not be used and all unrated short-term claims shall be assigned the same risk weight as that applied by the specific short-term assessment.
- 6.6. Short-term exposures in the national currency of the borrower
37. Exposures to institutions of a residual maturity of 3 months or less denominated and funded in the national currency may, subject to the discretion of the competent authority, be assigned, under both methods described in points 26 to 27 and 29 to 32, a risk weight that is one category less favourable than the preferential risk weight, as described in points 4 and 5, assigned to exposures to its central government.
38. No exposures of a residual maturity of 3 months or less denominated and funded in the national currency of the borrower shall be assigned a risk weight less than 20 %.
- 6.7. Investments in regulatory capital instruments
39. Investments in equity or regulatory capital instruments issued by institutions shall be risk weighted at 100 %, unless deducted from the own funds.
- 6.8. Minimum reserves required by the ECB
40. Where an exposure to an institution is in the form of minimum reserves required by the ECB or by the central bank of a Member State to be held by the credit institution, Member States may permit the assignment of the risk weight that would be assigned to exposures to the central bank of the Member State in question provided:
- (a) the reserves are held in accordance with Regulation (EC) No 1745/2003 of the European Central Bank of 12 September 2003 on the application of minimum reserves⁽³⁾ or a subsequent replacement regulation or in accordance with national requirements in all material respects equivalent to that Regulation; and
- (b) in the event of the bankruptcy or insolvency of the institution where the reserves are held, the reserves are fully repaid to the credit institution in a timely manner and are not made available to meet other liabilities of the institution.
7. EXPOSURES TO CORPORATES
- 7.1. Treatment
41. Exposures for which a credit assessment by a nominated ECAI is available shall be assigned a risk weight according to Table 6 in accordance with the assignment by the competent authorities of the credit assessments of eligible ECAIs to six steps in a credit quality assessment scale.

TABLE 6

Credit quality step	1	2	3	4	5	6
Risk weight	20 %	50 %	100 %	100 %	150 %	150 %

42. Exposures for which such a credit assessment is not available shall be assigned a 100 % risk weight or the risk weight of its central government, whichever is the higher.
8. RETAIL EXPOSURES
43. Exposures that comply with the criteria listed in Article 79(2) shall be assigned a risk weight of 75 %.
9. EXPOSURES SECURED BY REAL ESTATE PROPERTY
44. Without prejudice to points 45 to 60, exposures fully secured by real estate property shall be assigned a risk weight of 100 %.
- 9.1. Exposures secured by mortgages on residential property
45. Exposures or any part of an exposure fully and completely secured, to the satisfaction of the competent authorities, by mortgages on residential property which is or shall be occupied or let by the owner, or the beneficial owner in the case of personal investment companies, shall be assigned a risk weight of 35 %.
46. Exposures fully and completely secured, to the satisfaction of the competent authorities, by shares in Finnish residential housing companies, operating in accordance with the Finnish Housing Company Act of 1991 or subsequent equivalent legislation, in respect of residential property which is or shall be occupied or let by the owner shall be assigned a risk weight of 35 %.
47. Exposures to a tenant under a property leasing transaction concerning residential property under which the credit institution is the lessor and the tenant has an option to purchase, shall be assigned a risk weight of 35 % provided that the competent authorities are satisfied that the exposure of the credit institution is fully and completely secured by its ownership of the property.
48. In the exercise of their judgement for the purposes of points 45 to 47, competent authorities shall be satisfied only if the following conditions are met:
- (a) the value of the property does not materially depend upon the credit quality of the obligor. This requirement does not preclude situations where purely macro-economic factors affect both the value of the property and the performance of the borrower;
- (b) the risk of the borrower does not materially depend upon the performance of the underlying property or project, but rather on the underlying capacity of the borrower to repay the debt from other sources. As such, repayment of the facility does not materially depend on any cash flow generated by the underlying property serving as collateral;
- (c) the minimum requirements set out in Annex VIII, Part 2, point 8 and the valuation rules set out in Annex VIII, Part 3, points 62 to 65 are met; and
- (d) the value of the property exceeds the exposures by a substantial margin.

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49. Competent authorities may dispense with the condition contained in point 48(b) for exposures fully and completely secured by mortgages on residential property which is situated within their territory, if they have evidence that a well-developed and long-established residential real estate market is present in their territory with loss rates which are sufficiently low to justify such treatment.
50. When the discretion contained in point 49 is exercised by the competent authorities of a Member State, the competent authorities of another Member State may allow their credit institutions to assign a risk weight of 35 % to such exposures fully and completely secured by mortgages on residential property.
- 9.2. Exposures secured by mortgages on commercial real estate
51. Subject to the discretion of the competent authorities, exposures or any part of an exposure fully and completely secured, to the satisfaction of the competent authorities, by mortgages on offices or other commercial premises situated within their territory may be assigned a risk weight of 50 %.
52. Subject to the discretion of the competent authorities, exposures fully and completely secured, to the satisfaction of the competent authorities, by shares in Finnish housing companies, operating in accordance with the Finnish Housing Company Act of 1991 or subsequent equivalent legislation, in respect of offices or other commercial premises may be assigned a risk weight of 50 %.
53. Subject to the discretion of the competent authorities, exposures related to property leasing transactions concerning offices or other commercial premises situated in their territories under which the credit institution is the lessor and the tenant has an option to purchase may be assigned a risk weight of 50 % provided that the exposure of the credit institution is fully and completely secured to the satisfaction of the competent authorities by its ownership of the property.
54. The application of points 51 to 53 is subject to the following conditions:
- (a) the value of the property must not materially depend upon the credit quality of the obligor. This requirement does not preclude situations where purely macro-economic factors affect both the value of the property and the performance of the borrower;
 - (b) the risk of the borrower must not materially depend upon the performance of the underlying property or project, but rather on the underlying capacity of the borrower to repay the debt from other sources. As such, repayment of the facility must not materially depend on any cash flow generated by the underlying property serving as collateral; and
 - (c) the minimum requirements set out in Annex VIII, Part 2, point 8, and the valuation rules set out in Annex VIII, Part 3, points 62 to 65 are met.
55. The 50 % risk weight shall be assigned to the Part of the loan that does not exceed a limit calculated according to either of the following conditions:
- (a) 50 % of the market value of the property in question;
 - (b) 50 % of the market value of the property or 60 % of the mortgage lending value, whichever is lower, in those Member States that have laid down rigorous criteria for the assessment of the mortgage lending value in statutory or regulatory provisions.

56. A 100 % risk weigh shall be assigned to the Part of the loan that exceeds the limits set out in point 55.
57. When the discretion contained in points 51 to 53 is exercised by the competent authorities of one Member State, the competent authorities of another Member State may allow their credit institutions to risk weight at 50 % such exposures fully and completely secured by mortgages on commercial property.
58. Competent authorities may dispense with the condition contained in point 54(b) for exposures fully and completely secured by mortgages on commercial property which is situated within their territory, if they have evidence that a well-developed and long-established commercial real estate market is present in their territory with loss-rates which do not exceed the following limits:
- (a) losses stemming from lending collateralised by commercial real estate property up to 50 % of the market value (or where applicable and if lower 60 % of the mortgage lending value (MLV)) do not exceed 0,3 % of the outstanding loans collateralised by commercial real estate property in any given year; and
- (b) overall losses stemming from lending collateralised by commercial real estate property must not exceed 0,5 % of the outstanding loans collateralised by commercial real estate property in any given year.
59. If either of the limits referred to in point 58 is not satisfied in a given year, the eligibility to use point 58 shall cease and the condition contained in point 54(b) shall apply until the conditions in point 58 are satisfied in a subsequent year.
60. When the discretion contained in point 58 is exercised by the competent authorities of a Member State, the competent authorities of another Member State may allow their credit institutions to assign a risk weight of 50 % to such exposures fully and completely secured by mortgages on commercial property.
10. PAST DUE ITEMS
61. Without prejudice to the provisions contained in points 62 to 65, the unsecured part of any item that is past due for more than 90 days and which is above a threshold defined by the competent authorities and which reflects a reasonable level of risk shall be assigned a risk weight of:
- (a) 150 %, if value adjustments are less than 20 % of the unsecured part of the exposure gross of value adjustments; and
- (b) 100 %, if value adjustments are no less than 20 % of the unsecured part of the exposure gross of value adjustments.
62. For the purpose of defining the secured part of the past due item, eligible collateral and guarantees shall be those eligible for credit risk mitigation purposes.
63. Nonetheless, where a past due item is fully secured by forms of collateral other than those eligible for credit risk mitigation purposes, a 100 % risk weight may be assigned subject to the discretion of competent authorities based upon strict operational criteria to ensure the good quality of the collateral when value adjustments reach 15 % of the exposure gross of value adjustments.
64. Exposures indicated in points 45 to 50 shall be assigned a risk weight of 100 % net of value adjustments if they are past due for more than 90 days. If value adjustments

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are no less than 20 % of the exposure gross of value adjustments, the risk weight to be assigned to the remainder of the exposure may be reduced to 50 % at the discretion of competent authorities.

65. Exposures indicated in points 51 to 60 shall be assigned a risk weight of 100 % if they are past due for more than 90 days.

11. ITEMS BELONGING TO REGULATORY HIGH-RISK CATEGORIES

66. Subject to the discretion of competent authorities, exposures associated with particularly high risks such as investments in venture capital firms and private equity investments shall be assigned a risk weight of 150 %.

67. Competent authorities may permit non past due items to be assigned a 150 % risk weight according to the provisions of this Part and for which value adjustments have been established to be assigned a risk weight of:

- (a) 100 %, if value adjustments are no less than 20 % of the exposure value gross of value adjustments; and
- (b) 50 %, if value adjustments are no less than 50 % of the exposure value gross of value adjustments.

12. EXPOSURES IN THE FORM OF COVERED BONDS

68. 'Covered bonds', shall mean bonds as defined in Article 22(4) of Directive 85/611/EEC and collateralised by any of the following eligible assets:

- (a) exposures to or guaranteed by central governments, central banks, public sector entities, regional governments and local authorities in the EU;
- (b) exposures to or guaranteed by non-EU central governments, non-EU central banks, multilateral development banks, international organisations that qualify for the credit quality step 1 as set out in this Annex, and exposures to or guaranteed by non-EU public sector entities, non-EU regional governments and non-EU local authorities that are risk weighted as exposures to institutions or central governments and central banks according to points 8, 9, 14 or 15 respectively and that qualify for the credit quality step 1 as set out in this Annex, and exposures in the sense of this point that qualify as a minimum for the credit quality step 2 as set out in this Annex, provided that they do not exceed 20 % of the nominal amount of outstanding covered bonds of issuing institutions;
- (c) exposures to institutions that qualify for the credit quality step 1 as set out in this Annex. The total exposure of this kind shall not exceed 15 % of the nominal amount of outstanding covered bonds of the issuing credit institution. Exposures caused by transmission and management of payments of the obligors of, or liquidation proceeds in respect of, loans secured by real estate to the holders of covered bonds shall not be comprised by the 15 % limit. Exposures to institutions in the EU with a maturity not exceeding 100 days shall not be comprised by the step 1 requirement but those institutions must as a minimum qualify for credit quality step 2 as set out in this Annex;
- (d) loans secured by residential real estate or shares in Finnish residential housing companies as referred to in point 46 up to the lesser of the principal amount of the liens that are combined with any prior liens and 80 % of the value of the pledged properties or by senior units issued by French Fonds Communs de Créances or by equivalent securitisation entities governed by the laws of a Member State securitising residential real estate exposures provided that at least 90 % of the assets of such Fonds

Communs de Créances or of equivalent securitisation entities governed by the laws of a Member State are composed of mortgages that are combined with any prior liens up to the lesser of the principal amounts due under the units, the principal amounts of the liens, and 80 % of the value of the pledged properties and the units qualify for the credit quality step 1 as set out in this Annex where such units do not exceed 20 % of the nominal amount of the outstanding issue. Exposures caused by transmission and management of payments of the obligors of, or liquidation proceeds in respect of, loans secured by pledged properties of the senior units or debt securities shall not be comprised in calculating the 90 % limit;

- (e) loans secured by commercial real estate or shares in Finnish housing companies as referred to in point 52 up to the lesser of the principal amount of the liens that are combined with any prior liens and 60 % of the value of the pledged properties or by senior units issued by French Fonds Communs de Créances or by equivalent securitisation entities governed by the laws of a Member State securitising commercial real estate exposures provided that, at least, 90 % of the assets of such Fonds Communs de Créances or of equivalent securitisation entities governed by the laws of a Member State are composed of mortgages that are combined with any prior liens up to the lesser of the principal amounts due under the units, the principal amounts of the liens, and 60 % of the value of the pledged properties and the units qualify for the credit quality step 1 as set out in this Annex where such units do not exceed 20 % of the nominal amount of the outstanding issue. The competent authorities may recognise loans secured by commercial real estate as eligible where the Loan to Value ratio of 60 % is exceeded up to a maximum level of 70 % if the value of the total assets pledged as collateral for the covered bonds exceed the nominal amount outstanding on the covered bond by at least 10 %, and the bondholders' claim meets the legal certainty requirements set out in Annex VIII. The bondholders' claim must take priority over all other claims on the collateral. Exposures caused by transmission and management of payments of the obligors of, or liquidation proceeds in respect of, loans secured by pledged properties of the senior units or debt securities shall not be comprised in calculating the 90 % limit; or
- (f) loans secured by ships where only liens that are combined with any prior liens within 60 % of the value of the pledged ship.

For these purposes 'collateralised' includes situations where the assets as described in subpoints (a) to (f) are exclusively dedicated in law to the protection of the bond-holders against losses.

Until 31 December 2010 the 20 % limit for senior units issued by French Fonds Communs de Créances or by equivalent securitisation entities as specified in subpoints (d) and (e) does not apply, provided that those senior units have a credit assessment by a nominated ECAI which is the most favourable category of credit assessment made by the ECAI in respect of covered bonds. Before the end of this period this derogation shall be reviewed and consequent to such review the Commission may as appropriate extend this period in accordance with the procedure referred to in Article 151(2) with or without a further review clause.

Until 31 December 2010 the figure of 60 % indicated in subpoint (f) can be replaced with a figure of 70 %. Before the end of this period this derogation shall be reviewed and consequent to such review the Commission may as appropriate extend this period in accordance with the procedure referred to in Article 151(2) with or without a further review clause.

69. Credit institutions shall for real estate collateralising covered bonds meet the minimum requirements set out in Annex VIII Part 2, point 8 and the valuation rules set out in Annex VIII, Part 3, points 62 to 65.

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70. Notwithstanding points 68 and 69, covered bonds meeting the definition of Article 22(4) of Directive 85/611/EEC and issued before 31 December 2007 are also eligible for the preferential treatment until their maturity.
71. Covered bonds shall be assigned a risk weight on the basis of the risk weight assigned to senior unsecured exposures to the credit institution which issues them. The following correspondence between risk weights shall apply:
- (a) if the exposures to the institution are assigned a risk weight of 20 %, the covered bond shall be assigned a risk weight of 10 %;
 - (b) if the exposures to the institution are assigned a risk weight of 50 %, the covered bond shall be assigned a risk weight of 20 %;
 - (c) if the exposures to the institution are assigned a risk weight of 100 %, the covered bond shall be assigned a risk weight of 50 %; and
 - (d) if the exposures to the institution are assigned a risk weight of 150 %, the covered bond shall be assigned a risk weight of 100 %.
13. ITEMS REPRESENTING SECURITISATION POSITIONS
72. Risk weight exposure amounts for securitisation positions shall be determined in accordance with Articles 94 to 101.
- [^{F6}14. EXPOSURES TO INSTITUTIONS AND CORPORATES WITH A SHORT-TERM CREDIT ASSESSMENT]
- [^{F6}73. Exposures to institutions where points 29 to 32 apply, and exposures to corporates for which a short-term credit assessment by a nominated ECAI is available shall be assigned a risk weight according to Table 7, in accordance with the mapping by the competent authorities of the credit assessments of eligible ECAIs to six steps in a credit quality assessment scale:]

TABLE 7

Credit Quality Step	1	2	3	4	5	6
Risk weight	20 %	50 %	100 %	150 %	150 %	150 %

15. EXPOSURES IN THE FORM OF COLLECTIVE INVESTMENT UNDERTAKINGS (CIUS)
74. Without prejudice to points 75 to 81, exposures in collective investment undertakings (CIUs) shall be assigned a risk weight of 100 %.
75. Exposures in the form of CIUs for which a credit assessment by a nominated ECAI is available shall be assigned a risk weight according to Table 8, in accordance with the assignment by the competent authorities of the credit assessments of eligible ECAIs to six steps in a credit quality assessment scale.

TABLE 8

Credit quality step	1	2	3	4	5	6
Risk weight	20 %	50 %	100 %	100 %	150 %	150 %

76. Where competent authorities consider that a position in a CIU is associated with particularly high risks they shall require that that position is assigned a risk weight of 150 %.
77. Credit institutions may determine the risk weight for a CIU as set out in points 79 to 81, if the following eligibility criteria are met:
- (a) the CIU is managed by a company which is subject to supervision in a Member State or, subject to approval of the credit institution's competent authority, if:
- (i) the CIU is managed by a company which is subject to supervision that is considered equivalent to that laid down in Community law; and
- (ii) cooperation between competent authorities is sufficiently ensured;
- (b) the CIU's prospectus or equivalent document includes:
- (i) the categories of assets in which the CIU is authorised to invest; and
- (ii) if investment limits apply, the relative limits and the methodologies to calculate them; and
- (c) the business of the CIU is reported on at least an annual basis to enable an assessment to be made of the assets and liabilities, income and operations over the reporting period.
78. If a competent authority approves a third country CIU as eligible, as set out in point 77(a), then a competent authority in another Member State may make use of this recognition without conducting its own assessment.
79. Where the credit institution is aware of the underlying exposures of a CIU, it may look through to those underlying exposures in order to calculate an average risk weight for the CIU in accordance with the methods set out in Article 78 to 83.
80. Where the credit institution is not aware of the underlying exposures of a CIU, it may calculate an average risk weight for the CIU in accordance with the methods set out in Articles 78 to 83 subject to the following rules: it will be assumed that the CIU first invests, to the maximum extent allowed under its mandate, in the exposure classes attracting the highest capital requirement, and then continues making investments in descending order until the maximum total investment limit is reached.
81. Credit institutions may rely on a third party to calculate and report, in accordance with the methods set out in points 79 and 80, a risk weight for the CIU provided that the correctness of the calculation and report shall be adequately ensured.
16. OTHER ITEMS
- 16.1. Treatment

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82. Tangible assets within the meaning of Article 4(10) of Directive 86/635/EEC shall be assigned a risk weight of 100 %.
83. Prepayments and accrued income for which an institution is unable to determine the counterparty in accordance with Directive 86/635/EEC, shall be assigned a risk weight of 100 %.
84. Cash items in the process of collection shall be assigned a 20 % risk weight. Cash in hand and equivalent cash items shall be assigned a 0 % risk weight.
85. Member States may allow a risk weight of 10 % for exposures to institutions specialising in the inter-bank and public-debt markets in their home Member States and subject to close supervision by the competent authorities where those asset items are fully and completely secured, to the satisfaction of the competent authorities of the home Member States, by a items assigned a 0 % or a 20 % risk weight and recognised by the latter as constituting adequate collateral.
86. Holdings of equity and other participations, except where deducted from own funds, shall be assigned a risk weight of at least 100 %.
87. Gold bullion held in own vaults or on an allocated basis to the extent backed by bullion liabilities shall be assigned a 0 % risk weight.
88. In the case of asset sale and repurchase agreements and outright forward purchases, the risk weight shall be that assigned to the assets in question and not to the counterparties to the transactions.
89. Where a credit institution provides credit protection for a number of exposures under terms that the *n*th default among the exposures shall trigger payment and that this credit event shall terminate the contract, and where the product has an external credit assessment from an eligible ECAI, the risk weights prescribed in Articles 94 to 101 shall be assigned. If the product is not rated by an eligible ECAI, the risk weights of the exposures included in the basket will be aggregated, excluding *n*-1 exposures, up to a maximum of 1 250 % and multiplied by the nominal amount of the protection provided by the credit derivative to obtain the risk weighted asset amount. 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.
- [^{F7}90. The exposure value for leases shall be the discounted minimum lease payments. Minimum lease payments are 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). Any guaranteed residual value fulfilling the set of conditions in Annex VIII, Part 1, points 26, 27 and 28 regarding the eligibility of protection providers as well as the minimum requirements for recognising other types of guarantees provided in Annex VIII, Part 2, points 14 to 19 shall also be included in the minimum lease payments. These exposures shall be assigned to the relevant exposure class in accordance with Article 79. When the exposure is a residual value of leased properties, the risk weighted exposure amounts shall be calculated as follows: $1/t * 100 \% * \text{exposure value}$, where *t* is the greater of 1 and the nearest number of whole years of the lease remaining.]

Textual Amendments

- F7** Inserted by [Commission Directive 2009/83/EC of 27 July 2009 amending certain Annexes to Directive 2006/48/EC of the European Parliament and of the Council as regards technical provisions concerning risk management \(Text with EEA relevance\)](#).

PART 2

Recognition of ECAIs and mapping of their credit assessments

1. METHODOLOGY
 - 1.1. Objectivity
 1. Competent authorities shall verify that the methodology for assigning credit assessments is rigorous, systematic, continuous and subject to validation based on historical experience.
 - 1.2. Independence
 2. Competent authorities shall verify that the methodology is free from external political influences or constraints, and from economic pressures that may influence the credit assessment.
 3. Independence of the ECAI's methodology shall be assessed by competent authorities according to factors such as the following:
 - (a) ownership and organisation structure of the ECAI;
 - (b) financial resources of the ECAI;
 - (c) staffing and expertise of the ECAI; and
 - (d) corporate governance of the ECAI.
 - 1.3. Ongoing review
 4. Competent authorities shall verify that ECAI's credit assessments are subject to ongoing review and shall be responsive to changes in the financial conditions. Such review shall take place after all significant events and at least annually.
 5. Before any recognition, competent authorities shall verify that the assessment methodology for each market segment is established according to standards such as the following:
 - (a) the back-testing must be established for at least one year;
 - (b) the regularity of the review process by the ECAI must be monitored by the competent authorities; and
 - (c) the competent authorities must be able to receive from the ECAI the extent of its contacts with the senior management of the entities which it rates.
 6. Competent authorities shall take the necessary measures to be promptly informed by ECAIs of any material changes in the methodology they use for assigning credit assessments.

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- 1.4. Transparency and disclosure
7. Competent authorities shall take the necessary measures to assure that the principles of the methodology employed by the ECAI for the formulation of its credit assessments are publicly available as to allow all potential users to decide whether they are derived in a reasonable way.
2. INDIVIDUAL CREDIT ASSESSMENTS
- 2.1. Credibility and market acceptance
8. Competent authorities shall verify that ECAIs' individual credit assessments are recognised in the market as credible and reliable by the users of such credit assessments.
9. Credibility shall be assessed by competent authorities according to factors such as the following:
 - (a) market share of the ECAI;
 - (b) revenues generated by the ECAI, and more in general financial resources of the ECAI;
 - (c) whether there is any pricing on the basis of the rating; and
 - (d) at least two credit institutions use the ECAI's individual credit assessment for bond issuing and/or assessing credit risks.
- 2.2. Transparency and Disclosure
10. Competent authorities shall verify that individual credit assessments are accessible at equivalent terms at least to all credit institutions having a legitimate interest in these individual credit assessments.
11. In particular, competent authorities shall verify that individual credit assessments are available to non-domestic parties on equivalent terms as to domestic credit institutions having a legitimate interest in these individual credit assessments.
3. 'MAPPING'
12. In order to differentiate between the relative degrees of risk expressed by each credit assessment, competent authorities shall consider quantitative factors such as the long-term default rate associated with all items assigned the same credit assessment. For recently established ECAIs and for those that have compiled only a short record of default data, competent authorities shall ask the ECAI what it believes to be the long-term default rate associated with all items assigned the same credit assessment.
13. In order to differentiate between the relative degrees of risk expressed by each credit assessment, competent authorities shall consider qualitative factors such as the pool of issuers that the ECAI covers, the range of credit assessments that the ECAI assigns, each credit assessment meaning and the ECAI's definition of default.
14. Competent authorities shall compare default rates experienced for each credit assessment of a particular ECAI and compare them with a benchmark built on the basis of default rates experienced by other ECAIs on a population of issuers that the competent authorities believes to present an equivalent level of credit risk.
15. When competent authorities believe that the default rates experienced for the credit assessment of a particular ECAI are materially and systematically higher than the

benchmark, competent authorities shall assign a higher credit quality step in the credit quality assessment scale to the ECAI credit assessment.

16. When competent authorities have increased the associated risk weight for a specific credit assessment of a particular ECAI, if the ECAI demonstrates that the default rates experienced for its credit assessment are no longer materially and systematically higher than the benchmark, competent authorities may decide to restore the original credit quality step in the credit quality assessment scale for the ECAI credit assessment.

PART 3

Use of ECAIs' credit assessments for the determination of risk weights

1. TREATMENT
 1. A credit institution may nominate one or more eligible ECAIs to be used for the determination of risk weights to be assigned to asset and off-balance sheet items.
 2. A credit institution which decides to use the credit assessments produced by an eligible ECAI for a certain class of items must use those credit assessments consistently for all exposures belonging to that class.
 3. A credit institution which decides to use the credit assessments produced by an eligible ECAI must use them in a continuous and consistent way over time.
 4. A credit institution can only use ECAIs credit assessments that take into account all amounts both in principal and in interest owed to it.
 5. If only one credit assessment is available from a nominated ECAI for a rated item, that credit assessment shall be used to determine the risk weight for that item.
 6. If two credit assessments are available from nominated ECAIs and the two correspond to different risk weights for a rated item, the higher risk weight shall be assigned.
 7. If more than two credit assessments are available from nominated ECAIs for a rated item, the two assessments generating the two lowest risk weights shall be referred to. If the two lowest risk weights are different, the higher risk weight shall be assigned. If the two lowest risk weights are the same, that risk weight shall be assigned.
2. ISSUER AND ISSUE CREDIT ASSESSMENT
 8. Where a credit assessment exists for a specific issuing program or facility to which the item constituting the exposure belongs, this credit assessment shall be used to determine the risk weight to be assigned to that item.
 9. Where no directly applicable credit assessment exists for a certain item, but a credit assessment exists for a specific issuing program or facility to which the item constituting the exposure does not belong or a general credit assessment exists for the issuer, then that credit assessment shall be used if it produces a higher risk weight than would otherwise be the case or if it produces a lower risk weight and the exposure in question ranks pari passu or senior in all respects to the specific issuing program or facility or to senior unsecured exposures of that issuer, as relevant.
10. Points 8 and 9 are not to prevent the application of points 68 to 71 of Part 1.

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11. Credit assessments for issuers within a corporate group cannot be used as credit assessment of another issuer within the same corporate group.
3. LONG-TERM AND SHORT-TERM CREDIT ASSESSMENTS
12. Short-term credit assessments may only be used for short-term asset and off-balance sheet items constituting exposures to institutions and corporates.
13. Any short-term credit assessment shall only apply to the item the short-term credit assessment refers to, and it shall not be used to derive risk weights for any other item.
14. Notwithstanding point 13, if a short-term rated facility is assigned a 150 % risk weight, then all unrated unsecured exposures on that obligor whether short-term or long-term shall also be assigned a 150 % risk weight.
15. Notwithstanding point 13, if a short-term rated facility is assigned a 50 % risk-weight, no unrated short-term exposure shall be assigned a risk weight lower than 100 %.
4. DOMESTIC AND FOREIGN CURRENCY ITEMS
16. A credit assessment that refers to an item denominated in the obligor's domestic currency cannot be used to derive a risk weight for another exposure on that same obligor that is denominated in a foreign currency.
17. Notwithstanding point 16, when an exposure arises through a credit institution's participation in a loan that has been extended by a Multilateral Development Bank whose preferred creditor status is recognised in the market, competent authorities may allow the credit assessment on the obligors' domestic currency item to be used for risk weighting purposes.

ANNEX VII

INTERNAL RATINGS BASED APPROACH

PART 1

Risk weighted exposure amounts and expected loss amounts

1. CALCULATION OF RISK WEIGHTED EXPOSURE AMOUNTS FOR CREDIT RISK
 1. Unless noted otherwise, the input parameters PD, LGD, and maturity value (M) shall be determined as set out in Part 2 and the exposure value shall be determined as set out in Part 3.
 2. The risk weighted exposure amount for each exposure shall be calculated in accordance with the following formulae.
 - 1.1. Risk weighted exposure amounts for exposures to corporates, institutions and central governments and central banks.

3. Subject to points 5 to 9, the risk weighted exposure amounts for exposures to corporates, institutions and central governments and central banks shall be calculated according to the following formulae:

$$\text{Correlation (R)} = 0.12 \times \left(\frac{1 - \text{EXP}(-50 \cdot \text{PD})}{1 - \text{EXP}(-50)} \right) + 0.24 \cdot \left[1 - \left(\frac{1 - \text{EXP}(-50 \cdot \text{PD})}{1 - \text{EXP}(-50)} \right) \right]$$

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

$$\left(\text{LGD} \cdot N \left[(1 - \text{R})^{-0.5} \cdot G(\text{PD}) + (\text{R} / (1 - \text{R}))^{0.5} \cdot G(0.999) \right] - \text{PD} \cdot \text{LGD} \right)^* \left(1 - 1.5 \cdot b \right)^{-1} \left(1 + (\text{M} - 2.5) \cdot b \right)^* 12.5 \cdot 1.06$$

N(x) denotes 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)

For PD = 0, RW shall be 0.

For PD = 1:

- for defaulted exposures where credit institutions apply the LGD values set out in Part 2, point 8, RW shall be 0; and
- for defaulted exposures where credit institutions use own estimates of LGDs, RW shall be $\text{Max}\{0, 12.5 \cdot (\text{LGD} - \text{EL}_{\text{BE}})\}$;

where EL_{BE} shall be the credit institution's best estimate of expected loss for the defaulted exposure according to point 80 of Part 4.

Risk—weighted exposure amount = RW * exposure value.

4. The risk weighted exposure amount for each exposure which meets the requirements set out in Annex VIII, Part 1, point 29 and Annex VIII, Part 2, point 22 may be adjusted according to the following formula:

$$\text{Risk—weighted exposure amount} = \text{RW} \cdot \text{exposure value} \cdot ((0.15 + 160 \cdot \text{PD}_{\text{pp}}))$$

where:

PD_{pp} = PD of the protection provider.

RW shall be calculated using the relevant risk weight formula set out in point 3 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.

5. 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, credit institutions may use the following correlation formula 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 $\leq S \leq$ 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.

$$\text{Correlation (R)} = 0.12 \times \left(\frac{1 - \text{EXP}(-50 \cdot \text{PD})}{1 - \text{EXP}(-50)} \right) + 0.24 \cdot \left[1 - \left(\frac{1 - \text{EXP}(-50 \cdot \text{PD})}{1 - \text{EXP}(-50)} \right) \right] - 0.04 \cdot (1 - (S - 5) / 45)$$

Credit 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.

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6. For specialised lending exposures in respect of which a credit institution cannot demonstrate that its PD estimates meet the minimum requirements set out in Part 4 it 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 %

The competent authorities may authorise a credit institution generally to assign preferential risk weights of 50 % to exposures in category 1, and a 70 % risk weight to exposures in category 2, provided the credit institution's underwriting characteristics and other risk characteristics are substantially strong for the relevant category.

In assigning risk weights to specialised lending exposures credit 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.

7. For their purchased corporate receivables credit institutions shall comply with the minimum requirements set out in points 105 to 109 of Part 4. For purchased corporate receivables that comply in addition with the conditions set out in point 14, and where it would be unduly burdensome for a credit institution to use the risk quantification standards for corporate exposures as set out in Part 4 for these receivables, the risk quantification standards for retail exposures as set out in Part 4 may be used.
8. 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.
9. 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 eligible ECAI the risk weights set out in Articles 94 to 101 will be applied. If the product is not rated by an eligible 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.
- 1.2. Risk weighted exposure amounts for retail exposures
10. Subject to points 12 and 13, the risk weighted exposure amounts for retail exposures shall be calculated according to the following formulae:

$$\text{Correlation (R)} = 0.03 \times \left(\frac{1 - \text{EXP}(-35 * PD)}{1 - \text{EXP}(-35)} \right) + 0.16 * \left[1 - \left(\frac{1 - \text{EXP}(-35 * PD)}{1 - \text{EXP}(-35)} \right) \right]$$

Risk weighted(RW)

$$(LGD \cdot N \{ (1-R)^{-0.5} G(PD) + (R / (1-R))^{0.5} G(0.999) \} - PD \cdot 12.5 \cdot 1.06)$$

$N(x)$ denotes 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 $N(x) = z$).

For $PD = 1$ (defaulted exposure), RW shall be $\text{Max} \{0, 12.5 \cdot (LGD - EL_{BE})\}$,

where EL_{BE} shall be the credit institution's best estimate of expected loss for the defaulted exposure according to point 80 of Part 4.

Risk—weighted exposure amount = RW * exposure value.

11. The risk weighted exposure amount for each exposure to small and medium sized entities as defined in Article 86(4) which meets the requirements set out in Annex VIII, Part 1, point 29 and Annex VIII, Part 2, point 22 may be calculated according to point 4.
12. For retail exposures secured by real estate collateral a correlation (R) of 0,15 shall replace the figure produced by the correlation formula in point 10.
13. For qualifying revolving retail exposures as defined in points (a) to (e), a correlation (R) of 0,04 shall replace the figure produced by the correlation formula in point 10.

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 credit 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 credit institution.). Undrawn commitments may be considered as unconditionally cancellable if the terms permit the credit 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 credit institution can demonstrate that the use of the correlation of this point 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. 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 intend to share information on the typical characteristics of qualifying revolving retail loss rates across jurisdictions; and
- (e) The competent authority concurs that treatment as a qualifying revolving retail exposure is consistent with the underlying risk characteristics of the sub-portfolio.

By way of derogation from point (b), competent authorities may waive the requirement that the exposure be unsecured 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.

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14. To be eligible for the retail treatment, purchased receivables shall comply with the minimum requirements set out in Part 4, points 105 to 109 and the following conditions:
- (a) The credit 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 credit 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 credit 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.
15. 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.
16. For hybrid pools of purchased retail receivables where purchasing credit institutions cannot separate exposures secured by real estate 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.
- 1.3. Risk weighted exposure amounts for equity exposures
17. A credit institution may employ different approaches to different portfolios where the credit institution itself uses different approaches internally. Where a credit institution uses different approaches, the credit institution shall demonstrate to the competent authorities that the choice is made consistently and is not determined by regulatory arbitrage considerations.
18. Notwithstanding point 17, competent authorities may allow the attribution of risk weighted exposure amounts for equity exposures to ancillary services undertakings according to the treatment of other non credit-obligation assets.
- 1.3.1. Simple risk weight approach
19. The risk weighted exposure amount shall be calculated according to the following formula:
- 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.
- Risk-weighted exposure amount = RW * exposure value.
20. 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 point 16 of Annex VII, Part 2.

21. Credit institutions may recognise unfunded credit protection obtained on an equity exposure in accordance with the methods set out in Articles 90 to 93.

1.3.2. PD/LGD approach

22. The risk weighted exposure amounts shall be calculated according to the formulas in point 3. If credit institutions do not have sufficient information to use the definition of default set out in points 44 to 48 of Part 4, a scaling factor of 1,5 shall be assigned to the risk weights.

23. 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.

24. Credit institutions may recognise unfunded credit protection obtained on an equity exposure in accordance with the methods set out in Articles 90 to 93. 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 5 years.

1.3.3. Internal models approach

- [^{F6}25. The risk weighted exposure amount shall be the potential loss on the credit 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 minimum risk weighted exposure amounts required under the PD/LGD Approach and the corresponding expected loss amounts multiplied by 12.5 and calculated on the basis of the PD values set out in Part 2, point 24 and the corresponding LGD values set out in Part 2, points 25 and 26.]

26. Credit institutions may recognise unfunded credit protection obtained on an equity position.

1.4. Risk weighted exposure amounts for other non credit-obligation assets

- [^{F6}27. The risk weighted exposure amounts shall be calculated according to the following formula:

Risk-weighted exposure amount = 100 % * exposure value,

except for when the exposure is a residual value of leased properties in which case it shall be calculated as follows:

$1/t * 100 \% * \text{exposure value,}$

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

2. CALCULATION OF RISK WEIGHTED EXPOSURE AMOUNTS FOR DILUTION RISK OF PURCHASED RECEIVABLES

28. Risk weights for dilution risk of purchased corporate and retail receivables:

The risk weights shall be calculated according to the formula in point 3. The input parameters PD and LGD shall be determined as set out in Part 2, the exposure value shall be determined as

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set out in Part 3 and M shall be 1 year. If credit institutions can demonstrate to the competent authorities that dilution risk is immaterial, it need not be recognised.

3. CALCULATION OF EXPECTED LOSS AMOUNTS

29. Unless noted otherwise, the input parameters PD and LGD shall be determined as set out in Part 2 and the exposure value shall be determined as set out in Part 3.

30. The expected loss amounts for exposures to corporates, institutions, central governments and central banks and retail exposures shall be calculated according to the following formulae:

$$\text{Expected loss (EL)} = \text{PD} \times \text{LGD}.$$

$$\text{Expected loss amount} = \text{EL} \times \text{exposure value}.$$

For defaulted exposures (PD = 1) where credit institutions use own estimates of LGDs, EL shall be EL_{BE} , the credit institution's best estimate of expected loss for the defaulted exposure according to Part 4, point 80.

For exposures subject to the treatment set out in Part 1, point 4, EL shall be 0.

31. The EL values for specialised lending exposures where credit institutions use the methods set out in point 6 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 %

Where competent authorities have authorised a credit institution generally to assign preferential risk weights of 50 % to exposures in category 1, and 70 % to exposures in category 2, the EL value for exposures in category 1 shall be 0 %, and for exposures in category 2 shall be 0,4 %.

32. The expected loss amounts for equity exposures where the risk weighted exposure amounts are calculated according to the methods set out in points 19 to 21, shall be calculated according to the following formula:

$$\text{Expected loss amount} = \text{EL} \times \text{exposure value}$$

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.

33. The expected loss amounts for equity exposures where the risk weighted exposure amounts are calculated according to the methods set out in points 22 to 24 shall be calculated according to the following formulae:

$$\text{Expected loss (EL)} = \text{PD} \times \text{LGD} \text{ and}$$

Expected loss amount = EL × exposure value

34. The expected loss amounts for equity exposures where the risk weighted exposure amounts are calculated according to the methods set out in points 25 to 26 shall be 0 %.
35. The expected loss amounts for dilution risk of purchased receivables shall be calculated according to the following formula:
Expected loss (EL) = PD × LGD and
Expected loss amount = EL × exposure value
4. TREATMENT OF EXPECTED LOSS AMOUNTS
36. The expected loss amounts calculated in accordance with points 30, 31 and 35 shall be subtracted from the sum of value adjustments and provisions related to these exposures. Discounts on balance sheet exposures purchased when in default according to Part 3, point 1 shall be treated in the same manner as value adjustments. Expected loss amounts for securitised exposures and value adjustments and provisions related to these exposures shall not be included in this calculation.

PART 2

PD, LGD and Maturity

1. The input parameters PD, LGD and maturity value (M) into the calculation of risk weighted exposure amounts and expected loss amounts specified in Part 1 shall be those estimated by the credit institution in accordance with Part 4, subject to the following provisions.
 1. EXPOSURES TO CORPORATES, INSTITUTIONS AND CENTRAL GOVERNMENTS AND CENTRAL BANKS
 - 1.1. PD
 2. The PD of an exposure to a corporate or an institution shall be at least 0,03 %.
 3. For purchased corporate receivables in respect of which a credit institution cannot demonstrate that its PD estimates meet the minimum requirements set out in Part 4, the PDs for these exposures shall be determined according to the following methods: for senior claims on purchased corporate receivables PD shall be the credit institutions estimate of EL divided by LGD for these receivables. For subordinated claims on purchased corporate receivables PD shall be the credit institution's estimate of EL. If a credit institution is permitted to use own LGD estimates for corporate exposures and it can decompose its EL estimates for purchased corporate receivables into PDs and LGDs in a reliable manner, the PD estimate may be used
 4. The PD of obligors in default shall be 100 %.
 5. Credit institutions may recognise unfunded credit protection in the PD in accordance with the provisions of Articles 90 to 93. For dilution risk, however, competent authorities may recognise as eligible unfunded credit protection providers other than those indicated in Annex VIII, Part 1.
 6. Credit institutions using own LGD estimates may recognise unfunded credit protection by adjusting PDs subject to point 10.

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7. For dilution risk of purchased corporate receivables, PD shall be set equal to EL estimate for dilution risk. If a credit institution is permitted to use own LGD estimates for corporate exposures and it can decompose its EL estimates for dilution risk of purchased corporate receivables into PDs and LGDs in a reliable manner, the PD estimate may be used. Credit institutions may recognise unfunded credit protection in the PD in accordance with the provisions of Articles 90 to 93. Competent authorities may recognise as eligible unfunded credit protection providers other than those indicated in Annex VIII, Part 1. If a credit institution is permitted to use own LGD estimates for dilution risk of purchased corporate receivables, it may recognise unfunded credit protection by adjusting PDs subject of point 10.

1.2. LGD

8. Credit institutions shall use the following LGD values:
- (a) Senior exposures without eligible collateral: 45 %;
 - (b) Subordinated exposures without eligible collateral: 75 %;
 - (c) Credit institutions may recognise funded and unfunded credit protection in the LGD in accordance with Articles 90 to 93;
 - (d) Covered bonds as defined in Annex VI, Part 1, points 68 to 70 may be assigned an LGD value of 12,5 %;
 - (e) For senior purchased corporate receivables exposures where a credit institution cannot demonstrate that its PD estimates meet the minimum requirements set out in Part 4: 45 %;
 - (f) For subordinated purchased corporate receivables exposures where a credit institution cannot demonstrate that its PD estimates meet the minimum requirements set out in Part 4: 100 %; and
 - (g) For dilution risk of purchased corporate receivables: 75 %.

Until 31 December 2010, covered bonds as defined in Annex VI, Part 1, points 68 to 70 may be assigned an LGD value of 11,25 % if:

- assets as set out in Annex VI, Part 1, point 68(a) to (c) collateralising the bonds all qualify for credit quality step 1 as set out in that Annex;
- where assets set out in Annex VI, Part 1, point 68(d) and (e) are used as collateral, the respective upper limits laid down in each of those points is 10 % of the nominal amount of the outstanding issue;
- assets as set out in Annex VI, Part 1, point 68(f) are not used as collateral; or
- the covered bonds are the subject of a credit assessment by a nominated ECAI, and the ECAI places them in the most favourable category of credit assessment that the ECAI could make in respect of covered bonds.

By 31 December 2010, this derogation shall be reviewed and consequent to such review the Commission may make proposals in accordance with the procedure referred to in Article 151(2).

9. Notwithstanding point 8, for dilution and default risk if a credit institution is permitted to use own LGD estimates for corporate exposures and it can decompose its EL estimates for purchased corporate receivables into PDs and LGDs in a reliable manner, the LGD estimate for purchased corporate receivables may be used.

10. Notwithstanding point 8, if a credit institution is permitted to use own LGD estimates for exposures to corporates, institutions, central governments and central banks, unfunded credit protection may be recognised by adjusting PD and/or LGD subject to minimum requirements as specified in Part 4 and approval of competent authorities. A credit 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.
11. Notwithstanding points 8 and 10, for the purposes of Part 1, point 4, 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.
- 1.3. Maturity
12. Subject to point 13, credit institutions 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. Competent authorities may require all credit institutions in their jurisdiction to use M for each exposure as set out under point 13.
13. Credit institutions permitted to use own LGDs and/or own conversion factors for exposures to corporates, institutions or central governments and central banks shall calculate M for each of these exposures as set out in (a) to (e) and subject to points 14 to 16. In all cases, M shall be no greater than 5 years:
- (a) For an instrument subject to a cash flow schedule, M shall be calculated according to the following formula:

$$M = \text{MAX} \{1; \text{MIN} \{t^* CF_t / tCF_t, 5\}\}$$
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. The notional amount of each exposure shall be used for weighting the maturity;
- (c) [F⁶For exposures arising from fully or nearly-fully collateralised derivative instruments (listed in Annex IV) transactions 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. 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 5 days. The notional amount of each transaction shall be used for weighting the maturity;]
- (d) If a credit institution is permitted 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

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that protect the purchasing credit 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;

- (e) For any other instrument than those mentioned in this point or when a credit 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;
- (f) for credit institutions using the Internal Model Method set out in Annex III, Part 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:

$$M = \text{MIN} \left(\frac{\sum_{k=1}^{t_k \leq 1 \text{ year}} \text{EffectiveEE}_k \cdot \Delta t_k \cdot df_k + \sum_{k=1}^{\text{maturity}} \text{EE}_k \cdot \Delta t_k \cdot df_k}{\sum_{k=1}^{t_k \leq 1 \text{ year}} \text{EffectiveEE}_k \cdot \Delta t_k \cdot df_k}; 5 \right)$$

where:

df = the risk-free discount factor for future time period t_k and the remaining symbols are defined in Annex III, Part 6.

Notwithstanding the first paragraph of point 13(f), a credit institution that uses an internal model to calculate a one-sided credit valuation adjustment (CVA) may use, subject to the approval of the competent authorities, the effective credit duration estimated by the internal model as M.

Subject to paragraph 14, for netting sets in which all contracts have an original maturity of less than one year the formula in point (a) shall apply; and

- (g) for the purposes of Part 1, point 4, M shall be the effective maturity of the credit protection but at least 1 year.

[^{F6}14. Notwithstanding point 13(a), (b), (c), (d) and (e), M shall be at least one-day for:]

- fully or nearly-fully collateralised derivative instruments listed in Annex IV;
- fully or nearly-fully collateralised margin lending transactions; and
- repurchase transactions, securities or commodities lending or borrowing transactions

provided the documentation requires daily re-margining and daily revaluation and includes provisions that allow for the prompt liquidation or setoff of collateral in the event of default or failure to re-margin.

In addition, for other short-term exposures specified by the competent authorities which are not Part of the credit institution's ongoing financing of the obligor, M shall be at least one-day. A careful review of the particular circumstances shall be made in each case.

15. The competent authorities may allow for exposures to corporates situated in the Community and having consolidated sales and consolidated assets of less than EUR 500 million the use of M as set out in point 12. Competent authorities may replace EUR 500 million total assets with EUR 1 000 million total assets for corporates which primarily invest in real estate.
16. Maturity mismatches shall be treated as specified in Articles 90 to 93.

2. RETAIL EXPOSURES

2.1. PD

17. The PD of an exposure shall be at least 0,03 %.
18. The PD of obligors or, where an obligation approach is used, of exposures in default shall be 100 %.
19. For dilution risk of purchased receivables PD shall be set equal to EL estimates for dilution risk. If a credit institution can decompose its EL estimates for dilution risk of purchased receivables into PDs and LGDs in a reliable manner, the PD estimate may be used.
20. Unfunded credit protection may be recognised as eligible by adjusting PDs subject to point 22. For dilution risk, where credit institutions do not use own estimates of LGDs, this shall be subject to compliance with Articles 90 to 93; for this purpose competent authorities may recognise as eligible unfunded protection providers other than those indicated in Annex VIII, Part 1.

2.2. LGD

21. Credit institutions shall provide own estimates of LGDs subject to minimum requirements as specified in Part 4 and approval of competent authorities. For dilution risk of purchased receivables, an LGD value of 75 % shall be used. If a credit institution can decompose its EL estimates for dilution risk of purchased receivables into PDs and LGDs in a reliable manner, the LGD estimate may be used.
22. Unfunded credit protection may be recognised as eligible by adjusting PD or LGD estimates subject to minimum requirements as specified in Part 4, points 99 to 104 and approval of competent authorities either in support of an individual exposure or a pool of exposures. A credit 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.
23. Notwithstanding point 22, for the purposes of Part 1, point 11 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.

3. EQUITY EXPOSURES SUBJECT TO PD/LGD METHOD

3.1. PD

24. 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;

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- (c) 0,4 % for exchange traded equity exposures including other short positions as set out in part 1, point 20; and
 - (d) 1,25 % for all other equity exposures including other short positions as set out in Part 1, point 20.
- 3.2. LGD
- 25. Private equity exposures in sufficiently diversified portfolios may be assigned an LGD of 65 %.
 - 26. All other exposures shall be assigned an LGD of 90 %.
- 3.3. Maturity
- 27. M assigned to all exposures shall be 5 years.

PART 3

Exposure value

1. 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 measured gross of value adjustments. 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 net value recorded on the balance-sheet of credit institutions is denoted discount if the amount owed is larger, and premium if it is smaller.
 2. Where credit 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 Articles 90 to 93.
 3. For on-balance sheet netting of loans and deposits, credit institutions shall apply for the calculation of the exposure value the methods set out in Articles 90 to 93.
 4. The exposure value for leases shall be the discounted minimum lease payments.

‘Minimum lease payments’ are 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). Any guaranteed residual value fulfilling the set of conditions in Annex VIII, Part 1, points 26 to 28 regarding the eligibility of protection providers as well as the minimum requirements for recognising other types of guarantees provided in Annex VIII, Part 2, points 14 to 19 should also be included in the minimum lease payments.
 5. In the case of any item listed in Annex IV, the exposure value shall be determined by the methods set out in Annex III.
 6. The exposure value for the calculation of risk weighted exposure amounts of purchased receivables shall be the outstanding amount minus the capital 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 74. Where the Financial Collateral Comprehensive Method as set out under Annex VIII, Part 3 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 Annex III or Annex VIII, Part 3, points 12 to 21.

8. Notwithstanding point 7, the exposure value of credit risk exposures outstanding, as determined by the competent authorities, with a central counterparty shall be determined in accordance with Annex III, Part 2, point 6, provided that the central counterparty's counterparty credit risk exposures with all participants in its arrangements are fully collateralised on a daily basis.
9. The exposure value for the following items shall be calculated as the committed but undrawn amount multiplied by a conversion factor.

Credit institutions shall use the following conversion factors:

- (a) for credit lines which are uncommitted, that are unconditionally cancellable at any time by the credit 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 %, credit 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. Undrawn retail credit lines may be considered as unconditionally cancellable if the terms permit the credit 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 unconditionally cancellable 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 %, credit 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; and
 - (e) credit institutions which meet the minimum requirements for the use of own estimates of conversion factors as specified in Part 4 may use their own estimates of conversion factors across different product types as mentioned in points (a) to (d), subject to approval of the competent authorities.
10. 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.
 11. For all off-balance sheet items other than those mentioned in points 1 to 9, the exposure value shall be the following percentage of its value:
 - 100 % if it is a full risk item,
 - 50 % if it is a medium-risk item,
 - 20 % if it is a medium/low-risk item, and

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— 0 % if it is a low-risk item.

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

2. EQUITY EXPOSURES

12. The exposure value shall be the value presented in the financial statements. Admissible equity exposure measures are the following:

- (a) For investments held at fair value with changes in value flowing directly through income and into own funds, the exposure value is the fair value presented in the balance sheet;
- (b) For investments held at fair value with changes in value not flowing through income but into a tax-adjusted separate component of equity, the exposure value is the fair value presented in the balance sheet; and
- (c) For investments held at cost or at the lower of cost or market, the exposure value is the cost or market value presented in the balance sheet.

3. OTHER NON CREDIT-OBLIGATION ASSETS

13. The exposure value of other non credit-obligation assets shall be the value presented in the financial statements.

PART 4

Minimum requirements for IRB Approach

1. RATING SYSTEMS

1. A 'rating system' shall comprise all of the methods, processes, controls, data collection and IT systems that support the assessment of credit risk, the assignment of exposures to grades or pools (rating), and the quantification of default and loss estimates for a certain type of exposure.
2. If a credit 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.
3. Assignment criteria and processes shall be periodically reviewed to determine whether they remain appropriate for the current portfolio and external conditions.
 - 1.1. Structure of rating systems
 4. Where a credit institution uses direct estimates of risk parameters these may be seen as the outputs of grades on a continuous rating scale.
 - 1.1.1. Exposures to corporates, institutions and central governments and central banks
 5. A rating system shall take into account obligor and transaction risk characteristics.
 6. 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.

7. An ‘obligor grade’ shall mean a risk category within a rating system's obligor rating scale, to which obligors are assigned on the basis of a specified and distinct set of rating criteria, from which estimates of PD are derived. A credit 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.
8. Credit 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.
9. To qualify for recognition by the competent authorities of the use for capital requirement calculation of own estimates of LGDs, a rating system shall incorporate a distinct facility rating scale which exclusively reflects LGD-related transaction characteristics.
10. A ‘facility grade’ shall mean 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 LGDs are derived. The 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.
11. 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.
12. Credit institutions using the methods set out in Part 1, point 6 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. Notwithstanding point 6, these institutions shall have for these exposures at least 4 grades for non-defaulted obligors and at least one grade for defaulted obligors.
- 1.1.2. Retail exposures
 13. Rating systems shall reflect both obligor and transaction risk, and shall capture all relevant obligor and transaction characteristics.
 14. 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.
 15. Credit institutions shall demonstrate that the process of assigning exposures to grades or pools provides for a meaningful differentiation of risk, provides for a grouping of sufficiently homogenous exposures, and allows 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.
 16. Credit institutions shall consider the following risk drivers when assigning exposures to grades or pools.
 - (a) Obligor risk characteristics;

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- (b) Transaction risk characteristics, including product or collateral types or both. Credit institutions shall explicitly address cases where several exposures benefit from the same collateral; and
 - (c) Delinquency, unless the credit institution demonstrates to its competent authority that delinquency is not a material risk drivers for the exposure;
- 1.2. Assignment to grades or pools
17. A credit institution shall have specific definitions, processes and criteria for assigning exposures to grades or pools within a rating system.
- (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; and
 - (c) The criteria shall also be consistent with the credit institution's internal lending standards and its policies for handling troubled obligors and facilities.
18. A credit 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 credit institution to forecast the future performance of the exposure. The less information a credit institution has, the more conservative shall be its assignments of exposures to obligor and facility grades or pools. If a credit institution uses an external rating as a primary factor determining an internal rating assignment, the credit institution shall ensure that it considers other relevant information.
- 1.3. Assignment of exposures
- 1.3.1. Exposures to corporates, institutions and central governments and central banks
19. Each obligor shall be assigned to an obligor grade as Part of the credit approval process.
20. For those credit institutions permitted to use own estimates of LGDs and/or conversion factors, each exposure shall also be assigned to a facility grade as Part of the credit approval process.
21. Credit institutions using the methods set out in Part 1, point 6 for assigning risk weights for specialised lending exposures shall assign each of these exposures to a grade in accordance with point 12.
22. Each separate legal entity to which the credit institution is exposed shall be separately rated. A credit institution shall demonstrate to its competent authority that it has acceptable policies regarding the treatment of individual obligor clients and groups of connected clients.
23. 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. Exceptions, where separate exposures are allowed to result in multiple grades for the same obligor are:

- (a) country transfer risk, this being dependent on whether the exposures are denominated in local or foreign currency;
 - (b) where the treatment of associated guarantees to an exposure may be reflected in an adjusted assignment to an obligor grade; and
 - (c) where consumer protection, bank secrecy or other legislation prohibit the exchange of client data.
- 1.3.2. Retail exposures
24. Each exposure shall be assigned to a grade or a pool as part of the credit approval process.
- 1.3.3. Overrides
25. For grade and pool assignments credit 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. Credit institutions shall document these overrides and the personnel responsible. Credit institutions shall analyse the performance of the exposures whose assignments have been overridden. This analysis shall include assessment of the performance of exposures whose rating has been overridden by a particular person, accounting for all the responsible personnel.
- 1.4. Integrity of assignment process
- 1.4.1. Exposures to corporates, institutions and central governments and central banks
26. 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.
27. Credit institutions shall update assignments at least annually. High risk obligors and problem exposures shall be subject to more frequent review. Credit institutions shall undertake a new assignment if material information on the obligor or exposure becomes available.
28. A credit 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 and/or conversion factors.
- 1.4.2. Retail exposures
29. A credit institution shall at least annually update obligor and facility assignments or review the loss characteristics and delinquency status of each identified risk pool, whichever applicable. A credit 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.
- 1.5. Use of models
30. If a credit institution uses statistical models and other mechanical methods to assign exposures to obligors or facilities grades or pools, then:
- (a) the credit institution shall demonstrate to its competent authority that the model has good predictive power and that capital requirements are not 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;

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- (b) the credit 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 credit institution shall demonstrate that the data used to build the model is representative of the population of the credit institution's actual obligors or exposures;
- (d) the credit 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; and
- (e) the credit 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 credit institution shall document how human judgement and model results are to be combined.

1.6. Documentation of rating systems

- 31. The credit institutions shall document the design and operational details of its rating systems. The documentation shall evidence compliance with the minimum requirements in this part, 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.
- 32. The credit institution shall document the rationale for and analysis supporting its choice of rating criteria. A credit 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.
- 33. The credit institutions shall document the specific definitions of default and loss used internally and demonstrate consistency with the definitions set out in this Directive.
- 34. If the credit institution employs statistical models in the rating process, the credit institution shall document their methodologies. This material shall:
 - (a) provide a detailed outline of the theory, assumptions and/or 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; and
 - (c) indicate any circumstances under which the model does not work effectively.
- 35. Use of a model obtained from a third-party vendor that claims proprietary technology is not a justification for exemption from documentation or any other of the requirements for rating systems. The burden is on the credit institution to satisfy competent authorities.

1.7. Data maintenance

- 36. Credit institutions shall collect and store data on aspects of their internal ratings as required under Articles 145 to 149.

1.7.1. Exposures to corporates, institutions and central governments and central banks

37. Credit 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; and
- (g) data on the PDs and realised default rates associated with rating grades and ratings migration;

Credit institutions not using own estimates of LGDs and/or conversion factors shall collect and store data on comparisons of realised LGDs to the values as set out in Part 2, point 8 and realised conversion factors to the values as set out in Part 3, point 9.

38. Credit institutions using own estimates of LGDs and/or 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 credit institutions that reflect the credit risk mitigating effects of guarantees or credit derivatives through LGD; and
- (g) data on the components of loss for each defaulted exposure.

1.7.2. Retail exposures

39. Credit 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; and

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- (e) data on loss rates for qualifying revolving retail exposures.
- 1.8. Stress tests used in assessment of capital adequacy
- 40. A credit 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 a credit institution's credit exposures and assessment of the credit institution's ability to withstand such changes.
- 41. A credit 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 credit institution, subject to supervisory review. The test to be employed shall be meaningful and reasonably conservative, considering at least the effect of mild recession scenarios. A credit institution shall assess migration in its ratings under the stress test scenarios. Stressed portfolios shall contain the vast majority of a credit institution's total exposure.
- 42. Credit institutions using the treatment set out in Part 1, point 4 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.
- 2. RISK QUANTIFICATION
- 43. In determining the risk parameters to be associated with rating grades or pools, credit institutions shall apply the following requirements.
- 2.1. Definition of default
- 44. A 'default' shall be considered to have occurred with regard to a particular obligor when either or both of the two following events has taken place:
 - (a) the credit institution considers that the obligor is unlikely to pay its credit obligations to the credit institution, the parent undertaking or any of its subsidiaries in full, without recourse by the credit institution to actions such as realising security (if held);
 - (b) the obligor is past due more than 90 days on any material credit obligation to the credit institution, the parent undertaking or any of its subsidiaries.

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.

An 'advised limit' shall mean a limit which has been brought to the knowledge of the obligor.

Days past due for credit cards commence on the minimum payment due date.

In the case of retail exposures and exposures to public sector entities (PSE) the competent authorities shall set a number of days past due as specified in point 48.

In the case of corporate exposures the competent authorities may set a number of days past due as specified in Article 154(7).

In the case of retail exposures credit institutions may apply the definition of default at a facility level.

In all cases, the exposure past due shall be above a threshold defined by the competent authorities and which reflects a reasonable level of risk.

45. Elements to be taken as indications of unlikelihood to pay shall include:
- (a) The credit institution puts the credit obligation on non-accrued status,
 - (b) The credit institution makes a value adjustment resulting from a significant perceived decline in credit quality subsequent to the credit institution taking on the exposure,
 - (c) The credit institution sells the credit obligation at a material credit-related economic loss,
 - (d) The credit 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 credit institution has filed for the obligor's bankruptcy or a similar order in respect of an obligor's credit obligation to the credit institution, the parent undertaking or any of its subsidiaries, and
 - (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 credit institution, the parent undertaking or any of its subsidiaries.
46. Credit institutions that use external data that is not itself consistent with the definition of default, shall demonstrate to their competent authorities that appropriate adjustments have been made to achieve broad equivalence with the definition of default.
47. If the credit institution considers that a previously defaulted exposure is such that no trigger of default continues to apply, the credit institution shall rate the obligor or facility as they would for a non-defaulted exposure. Should the definition of default subsequently be triggered, another default would be deemed to have occurred.
48. For retail and PSE exposures, the competent authorities of each Member State shall set the exact number of days past due that all credit institutions in its jurisdiction shall abide by under the definition of default set out in point 44, for exposures to such counterparts situated within this Member State. The specific number shall fall within 90-180 days and may differ across product lines. For exposures to such counterparts situated in the territories of other Member States, the competent authorities shall set a number of days past due which is not higher than the number set by the competent authority of the respective Member State.
- 2.2. Overall requirements for estimation
49. A credit 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 a credit institution has, the more conservative it shall be in its estimation.
50. The credit 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

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are used, by the factors it sees as the drivers of the respective risk parameters. The credit institution shall demonstrate that its estimates are representative of long run experience.

51. Any changes in lending practice or the process for pursuing recoveries over the observation periods referred to in points 66, 71, 82, 86, 93 and 95 shall be taken into account. A credit institution's estimates shall reflect the implications of technical advances and new data and other information, as it becomes available. Credit institutions shall review their estimates when new information comes to light but at least on an annual basis.
52. 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 credit institution's exposures and standards. The credit institution shall also demonstrate that the economic or market conditions that underlie the data are 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 credit institution with confidence in the accuracy and robustness of its estimates.
53. For purchased receivables the estimates shall reflect all relevant information available to the purchasing credit institution regarding the quality of the underlying receivables, including data for similar pools provided by the seller, by the purchasing credit institution, or by external sources. The purchasing credit institution shall evaluate any data relied upon which is provided by the seller.
54. A credit 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 less satisfactory and the expected range of errors is larger, the margin of conservatism shall be larger.
55. If credit institutions use different estimates for the calculation of risk weights and for internal purposes, it shall be documented and their reasonableness shall be demonstrated to the competent authority.
56. If credit institutions can demonstrate to their competent authorities that for data that have been collected prior to the date of implementation of this Directive appropriate adjustments have been made to achieve broad equivalence with the definitions of default or loss, competent authorities may allow the credit institutions some flexibility in the application of the required standards for data.
57. If a credit institution uses data that is pooled across credit institutions it shall demonstrate that:
 - (a) the rating systems and criteria of other credit institutions in the pool are similar with its own;
 - (b) the pool is representative of the portfolio for which the pooled data is used; and
 - (c) the pooled data is used consistently over time by the credit institution for its estimates.
58. If a credit institution uses data that is pooled across credit institutions, it shall remain responsible for the integrity of its rating systems. The credit institution shall demonstrate to the competent authority that it has sufficient in-house understanding of its rating systems, including effective ability to monitor and audit the rating process.

2.2.1. Requirements specific to PD estimation

Exposures to corporates, institutions and central governments and central banks

59. Credit institutions shall estimate PDs by obligor grade from long run averages of one-year default rates.
60. For purchased corporate receivables credit institutions may estimate ELs by obligor grade from long run averages of one-year realised default rates.
61. If a credit 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 point 73.
62. Credit institutions shall use PD estimation techniques only with supporting analysis. Credit institutions shall recognise the importance of judgmental considerations in combining results of techniques and in making adjustments for limitations of techniques and information.
63. To the extent that a credit institution uses data on internal default experience for the estimation of PDs, it shall demonstrate in its analysis that the estimates are 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 credit institution shall add a greater margin of conservatism in its estimate of PD.
64. To the extent that a credit 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 credit 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 external organisation's criteria underlying the data used for quantification shall be oriented to default risk only and not reflect transaction characteristics. The credit institution's analysis shall include a comparison of the default definitions used, subject to the requirements in points 44 to 48. The credit institution shall document the basis for the mapping.
65. To the extent that a credit 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 credit institution's use of default probability models for this purpose shall meet the standards specified in point 30.
66. Irrespective of whether a credit 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. Member States may allow credit institutions which are not permitted to use own estimates of LGDs or conversion factors to have, 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.

Retail exposures

67. Credit institutions shall estimate PDs by obligor grade or pool from long run averages of one-year default rates.

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68. Notwithstanding point 67, PD estimates may also be derived from realised losses and appropriate estimates of LGDs.
69. Credit institutions shall regard internal data for assigning exposures to grades or pools as the primary source of information for estimating loss characteristics. Credit institutions are permitted to use external data (including pooled data) or statistical models for quantification provided a strong link can be demonstrated between:
- (a) the credit institution's process of assigning exposures to grades or pools and the process used by the external data source; and
 - (b) the credit institution's internal risk profile and the composition of the external data.

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

70. If a credit 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 73.
71. Irrespective of whether a credit 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. A credit institution need not give equal importance to historic data if it can convince its competent authority that more recent data is a better predictor of loss rates. Member States may allow credit institutions to have, 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.
72. Credit institutions shall identify and analyse expected changes of risk parameters over the life of credit exposures (seasoning effects).
- 2.2.2. Requirements specific to own-LGD estimates
73. Credit 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).
74. Credit 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, credit institutions shall make adjustments to their estimates of risk parameters by grade or pool to limit the capital impact of an economic downturn.
75. A credit 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.
76. Currency mismatches between the underlying obligation and the collateral shall be treated conservatively in the credit institution's assessment of LGD.

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77. 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 credit institutions to expeditiously gain control of their collateral and liquidate it.
78. To the extent that LGD estimates take into account the existence of collateral, credit institutions must establish internal requirements for collateral management, legal certainty and risk management that are generally consistent with those set out in Annex VIII, Part 2.
79. To the extent that a credit institution recognises collateral for determining the exposure value for counterparty credit risk according to Annex III, Part 5 or 6, any amount expected to be recovered from the collateral shall not be taken into account in the LGD estimates.
80. For the specific case of exposures already in default, the credit institution shall use the sum of its best estimate of expected loss for each exposure given current economic circumstances and exposure status and the possibility of additional unexpected losses during the recovery period.
81. To the extent that unpaid late fees have been capitalised in the credit institution's income statement, they shall be added to the credit institution's measure of exposure and loss.

Exposures to corporates, institutions and central governments and central banks

82. 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.

Retail exposures

83. Notwithstanding point 73, LGD estimates may be derived from realised losses and appropriate estimates of PDs.
84. Notwithstanding point 89, credit institutions may reflect future drawings either in their conversion factors or in their LGD estimates.
85. For purchased retail receivables credit institutions may use external and internal reference data to estimate LGDs.
86. Estimates of LGD shall be based on data over a minimum of five years. Notwithstanding point 73, a credit institution needs not give equal importance to historic data if it can demonstrate to its competent authority that more recent data is a better predictor of loss rates. Member States may allow credit institutions to have, 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.

2.2.3. Requirements specific to own-conversion factor estimates

87. Credit 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 all observed defaults within the data sources (default weighted average).
88. Credit 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

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extent a rating system is expected to deliver realised conversion factors at a constant level by grade or pool over time, credit institutions shall make adjustments to their estimates of risk parameters by grade or pool to limit the capital impact of an economic downturn.

89. Credit 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.

90. In arriving at estimates of conversion factors credit institutions shall consider their specific policies and strategies adopted in respect of account monitoring and payment processing. Credit 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.

91. Credit 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 credit institution shall be able to monitor outstanding balances on a daily basis.

92. If credit institutions use different estimates of conversion factors for the calculation of risk weighted exposure amounts and internal purposes it shall be documented and their reasonableness shall be demonstrated to the competent authority.

Exposures to corporates, institutions and central governments and central banks

93. 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.

Retail exposures

94. Notwithstanding point 89, credit institutions may reflect future drawings either in their conversion factors or in their LGD estimates.

95. Estimates of conversion factors shall be based on data over a minimum of five years. Notwithstanding point 87, a credit institution need not give equal importance to historic data if it can demonstrate to its competent authority that more recent data is a better predictor of draw downs. Member States may allow credit institutions to have, 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.

2.2.4. Minimum requirements for assessing the effect of guarantees and credit derivatives

Exposures to corporates, institutions and central governments and central banks where own estimates of LGD are used and retail exposures

- [^{F6}96. The requirements in points 97 to 104 shall not apply for guarantees provided by institutions, central governments and central banks, and corporate entities which meet the requirements laid down in Annex VIII, Part 1, point 26(g) if the credit institution has received approval to apply the rules of Articles 78 to 83 for exposures to such entities. In this case the requirements of Articles 90 to 93 shall apply.]

97. For retail guarantees, these requirements also apply to the assignment of exposures to grades or pools, and the estimation of PD.

Eligible guarantors and guarantees

98. Credit institutions shall have clearly specified criteria for the types of guarantors they recognise for the calculation of risk weighted exposure amounts.

99. For recognised guarantors the same rules as for obligors as set out in points 17 to 29 shall apply.

100. 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. Guarantees prescribing conditions under which the guarantor may not be obliged to perform (conditional guarantees) may be recognised subject to approval of competent authorities. The credit institution shall demonstrate that the assignment criteria adequately address any potential reduction in the risk mitigation effect.

Adjustment criteria

101. A credit 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 minimum requirements set out in points 17 to 29.

102. 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.

Credit derivatives

103. The minimum requirements for guarantees in this part 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 Annex VIII Part 2, point 21 shall apply. For retail exposures and eligible purchased receivables, this point applies to the process of allocating exposures to grades or pools.

104. 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 credit institution shall consider the extent to which other forms of residual risk remain.

2.2.5. Minimum requirements for purchased receivables

Legal certainty

105. The structure of the facility shall ensure that under all foreseeable circumstances the credit 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 credit institution shall verify regularly that payments are forwarded completely and within the contractually agreed terms. 'Servicer' shall mean an entity that manages a pool of purchased receivables or the underlying credit exposures on a day-to-day basis. Credit institutions shall have procedures to ensure that ownership over the receivables and cash receipts is protected against bankruptcy stays or legal challenges that could

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materially delay the lender's ability to liquidate or assign the receivables or retain control over cash receipts.

Effectiveness of monitoring systems

106. The credit institution shall monitor both the quality of the purchased receivables and the financial condition of the seller and servicer. In particular:

- (a) the credit 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 credit institution shall have clear and effective policies and procedures for determining seller and servicer eligibility. The credit 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 credit 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 credit institution shall have effective policies and procedures for monitoring on an aggregate basis single-obligor concentrations both within and across purchased receivables pools; and
- (e) the credit institution shall ensure that it receives from the servicer timely and sufficiently detailed reports of receivables ageings and dilutions to ensure compliance with the credit 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.

Effectiveness of work-out systems

107. The credit 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 credit 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.

Effectiveness of systems for controlling collateral, credit availability, and cash

108. The credit 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.

Compliance with the credit institution's internal policies and procedures

109. The credit 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 credit 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.
3. VALIDATION OF INTERNAL ESTIMATES
110. Credit 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. A credit institution shall demonstrate to its competent authority that the internal validation process enables it to assess the performance of internal rating and risk estimation systems consistently and meaningfully.
111. Credit 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, credit institutions shall specifically analyse the reasons for the deviation. Credit institutions using own estimates of LGDs and/or 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 credit institution shall document the methods and data used in such comparisons. This analysis and documentation shall be updated at least annually.
112. Credit 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. Credit institutions' internal assessments of the performance of their rating systems shall be based on as long a period as possible.
113. 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.
114. Credit 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, credit institutions shall revise estimates upward to reflect their default and loss experience.
4. CALCULATION OF RISK WEIGHTED EXPOSURE AMOUNTS FOR EQUITY EXPOSURES UNDER THE INTERNAL MODELS APPROACH
- 4.1. Capital requirement and risk quantification
115. For the purpose of calculating capital requirements credit 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 credit institution's specific holdings. The data used to represent return distributions shall reflect the longest sample period for

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which data is available and meaningful in representing the risk profile of the credit 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. Credit institutions shall demonstrate to competent authorities that the shock employed provides a conservative estimate of potential losses over a relevant long-term market or business cycle. The credit 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, credit 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 credit institution shall add appropriate margins of conservatism;

- (b) the models used shall be able to capture adequately all of the material risks embodied in equity returns including both the general market risk and specific risk exposure of the credit 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 credit institution's equity exposures;
- (c) the internal model shall be appropriate for the risk profile and complexity of a credit institution's equity portfolio. Where a credit 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) credit 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; and
- (g) a rigorous and comprehensive stress-testing programme shall be in place;

4.2. Risk management process and controls

116. With regard to the development and use of internal models for capital requirement purposes, credit 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 credit institution and in the management of the non-trading book equity portfolio. Internal models shall be fully integrated into the credit 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; and
- (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.

4.3. Validation and documentation

- 117. Credit institutions shall have a robust system 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.
- 118. Credit institutions shall use the internal validation process to assess the performance of its internal models and processes in a consistent and meaningful way.
- 119. 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.
- 120. Credit 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 credit institution shall document the methods and data used in such comparisons. This analysis and documentation shall be updated at least annually.
- 121. Credit 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. Credit institutions' internal assessments of the performance of their models shall be based on as long a period as possible.
- 122. Credit institutions shall have sound internal standards for 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 credit institution's model review standards.
- 123. 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.

5. CORPORATE GOVERNANCE AND OVERSIGHT

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5.1. Corporate Governance

124. All material aspects of the rating and estimation processes shall be approved by the credit institution's management body described in Article 11 or a designated committee thereof and senior management. These parties shall possess a general understanding of the credit institution's rating systems and detailed comprehension of its associated management reports.
125. Senior management shall provide notice to the management body described in Article 11 or a designated committee thereof of material changes or exceptions from established policies that will materially impact the operations of the credit institution's rating systems.
126. Senior management shall have a good understanding of the rating systems designs and operations. Senior management 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.
127. Internal ratings-based analysis of the credit 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.

5.2. Credit risk control

128. 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.
129. The areas of responsibility for the credit risk control unit(s) shall include:
- (a) testing and monitoring grades and pools;
 - (b) production and analysis of summary reports from the credit 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; and

- (h) ongoing review and alterations to models used in the rating process.
130. Notwithstanding point 129, credit institutions using pooled data according to points 57 and 58 may outsource the following tasks:
- (a) production of information relevant to testing and monitoring grades and pools;
 - (b) production of summary reports from the credit 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; and
 - (e) production of information relevant to ongoing review and alterations to models used in the rating process.

Credit institutions making use of this point shall ensure that the competent authorities have access to all relevant information from the third party that is necessary for examining compliance with the minimum requirements and that the competent authorities may perform on-site examinations to the same extent as within the credit institution.

5.3. Internal Audit

131. Internal audit or another comparable independent auditing unit shall review at least annually the credit 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 minimum requirements.

ANNEX VIII

CREDIT RISK MITIGATION

PART 1

Eligibility

1. This part sets out eligible forms of credit risk mitigation for the purposes of Article 92.
 2. For the purposes of this Annex:
 - ‘Secured lending transaction’ shall mean any transaction giving rise to an exposure secured by collateral which does not include a provision conferring upon the credit institution the right to receive margin frequently.
 - ‘Capital market-driven transaction’ shall mean any transaction giving rise to an exposure secured by collateral which includes a provision conferring upon the credit institution the right to receive margin frequently.
1. FUNDED CREDIT PROTECTION
 - 1.1. On-balance sheet netting

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3. The on-balance sheet netting of mutual claims between the credit institution and its counterparty may be recognised as eligible.
4. Without prejudice to point 5, eligibility is limited to reciprocal cash balances between the credit institution and the counterparty. Only loans and deposits of the lending credit institution may be subject to a modification of risk-weighted exposure amounts and, as relevant, expected loss amounts as a result of an on-balance sheet netting agreement.
- 1.2. Master netting agreements covering repurchase transactions and/or securities or commodities lending or borrowing transactions and/or other capital market-driven transactions
5. For credit institutions adopting the Financial Collateral Comprehensive Method under Part 3, the effects of bilateral netting contracts covering repurchase transactions, securities or commodities lending or borrowing transactions, and/or other capital market-driven transactions with a counterparty may be recognised. Without prejudice to Annex II to Directive 2006/49/EC to be recognised the collateral taken and securities or commodities borrowed within such agreements must comply with the eligibility requirements for collateral set out at points 7 to 11.
- 1.3. Collateral
6. Where the credit risk mitigation technique used relies on the right of the credit institution to liquidate or retain assets, eligibility depends upon whether risk-weighted exposure amounts, and, as relevant, expected loss amounts, are calculated under Articles 78 to 83 or Articles 84 to 89. Eligibility further depends upon whether the Financial Collateral Simple Method is used or the Financial Collateral Comprehensive Method under Part 3. In relation to repurchase transactions and securities or commodities lending or borrowing transactions, eligibility also depends upon whether the transaction is booked in the non-trading book or the trading book.
- 1.3.1. Eligibility under all approaches and methods
7. The following financial items may be recognised as eligible collateral under all approaches and methods:
 - (a) cash on deposit with, or cash assimilated instruments held by, the lending credit institution;
 - (b) debt securities issued by central governments or central banks, which securities have a credit assessment by an ECAI or export credit agency recognised as eligible for the purposes of Articles 78 to 83 which has been determined by the competent authority to be associated with credit quality step 4 or above under the rules for the risk weighting of exposures to central governments and central banks under Articles 78 to 83;
 - (c) debt securities issued by institutions, which securities have a credit assessment by an eligible ECAI which has been determined by the competent authority to be associated with credit quality step 3 or above under the rules for the risk weighting of exposures to credit institutions under Articles 78 to 83;
 - (d) debt securities issued by other entities, which securities have a credit assessment by an eligible ECAI which has been determined by the competent authority to be associated with credit quality step 3 or above under the rules for the risk weighting of exposures to corporates under Articles 78 to 83;

- (e) debt securities with a short-term credit assessment by an eligible ECAI which has been determined by the competent authority to be associated with credit quality step 3 or above under the rules for the risk weighting of short term exposures under Articles 78 to 83;
- (f) equities or convertible bonds that are included in a main index; and
- (g) gold.

For the purposes of point (b), ‘debt securities issued by central governments or central banks’ shall include:

- (i) 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 Articles 78 to 83;
- (ii) debt securities issued by public sector entities which are treated as exposures to central governments in accordance with point 15 of Part 1 of Annex VI;
- (iii) debt securities issued by multilateral development banks to which a 0 % risk weight is assigned under Articles 78 to 83; and
- (iv) debt securities issued by international organisations which are assigned a 0 % risk weight under Articles 78 to 83.

For the purposes of point (c), ‘debt securities issued by institutions’ include:

- (i) debt securities issued by regional governments or local authorities other than those exposures to which are treated as exposures to the central government in whose jurisdiction they are established under Articles 78 to 83;
- (ii) debt securities issued by public sector entities, exposures to which are treated as exposures to credit institutions under Articles 78 to 83; and
- (iii) debt securities issued by multilateral development banks other than those to which a 0 % risk weight is assigned under Articles 78 to 83.

8. Debt securities issued by institutions which securities do not have a credit assessment by an eligible ECAI may be recognised as eligible collateral if they fulfil the following criteria:

- (a) they are listed on a recognised exchange;
- (b) they qualify as senior debt;
- (c) all other rated issues by the issuing institution of the same seniority have a credit assessment by an eligible ECAI which has been determined by the competent authorities to be associated with credit quality step 3 or above under the rules for the risk weighting of exposures to institutions or short term exposures under Articles 78 to 83;
- (d) the lending credit institution has no information to suggest that the issue would justify a credit assessment below that indicated in (c); and
- (e) the credit institution can demonstrate to the competent authorities that the market liquidity of the instrument is sufficient for these purposes.

9. Units in collective investment undertakings may be recognised as eligible collateral if the following conditions are satisfied:

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- (a) they have a daily public price quote; and
- (b) the collective investment undertaking is limited to investing in instruments that are eligible for recognition under points 7 and 8.

The use (or potential use) by a collective investment undertaking of derivative instruments to hedge permitted investments shall not prevent units in that undertaking from being eligible.

[^{F7}If the collective investment undertaking is not limited to investing in instruments that are eligible for recognition under points 7 and 8, units may be recognised with the value of the eligible assets as collateral under the assumption that the CIU has invested to the maximum extent allowed under its mandate in non-eligible assets. In cases where non-eligible assets can have a negative value due to liabilities or contingent liabilities resulting from ownership, the credit institution shall calculate the total value of the non-eligible assets and shall reduce the value of the eligible assets by that of the non-eligible assets in case the latter is negative in total.]

- 10. In relation to points (b) to (e) of point 7, where a security has two credit assessments by eligible ECAIs, the less favourable assessment shall be deemed to apply. In cases where a security has more than two credit assessments by eligible ECAIs, the two most favourable assessments shall be deemed to apply. If the two most favourable credit assessments are different, the less favourable of the two shall be deemed to apply.

1.3.2. Additional eligibility under the Financial Collateral Comprehensive Method

- 11. In addition to the collateral set out in points 7 to 10, where a credit institution uses the Financial Collateral Comprehensive Method under Part 3, the following financial items may be recognised as eligible collateral:

- (a) equities or convertible bonds not included in a main index but traded on a recognised exchange; and
- (b) units in collective investment undertakings if the following conditions are met:
 - (i) they have a daily public price quote; and
 - (ii) the collective investment undertaking is limited to investing in instruments that are eligible for recognition under point 7 and 8 and the items mentioned in point (a) of this point.

The use (or potential use) by a collective investment undertaking of derivative instruments to hedge permitted investments shall not prevent units in that undertaking from being eligible.

[^{F7}If the collective investment undertaking is not limited to investing in instruments that are eligible for recognition under point 7 and 8 and the items mentioned in point (a) of this point, units may be recognised with the value of the eligible assets as collateral under the assumption that the CIU has invested to the maximum extent allowed under its mandate in non-eligible assets. In cases where non-eligible assets can have a negative value due to liabilities or contingent liabilities resulting from ownership, the credit institution shall calculate the total value of the non-eligible assets and shall reduce the value of the eligible assets by that of the non-eligible assets in case the latter is negative in total.]

1.3.3. Additional eligibility for calculations under Articles 84 to 89

- 12. In addition to the collateral set out above the provisions of points 13 to 22 apply where a credit institution calculates risk-weighted exposure amounts and expected loss amounts under the approach set out in Articles 84 to 89:

- (a) Real estate collateral
13. Residential real estate property which is or will be occupied or let by the owner, or the beneficial owner in the case of personal investment companies, and commercial real estate property, that is, offices and other commercial premises, may be recognised as eligible collateral where the following conditions are met:
- (a) the value of the property does not materially depend upon the credit quality of the obligor. This requirement does not preclude situations where purely macro-economic factors affect both the value of the property and the performance of the borrower; and
- (b) the risk of the borrower does not materially depend upon the performance of the underlying property or project, but rather on the underlying capacity of the borrower to repay the debt from other sources. As such, repayment of the facility does not materially depend on any cash flow generated by the underlying property serving as collateral.
14. Credit institutions may also recognise as eligible collateral shares in Finnish residential housing companies operating in accordance with the Finnish Housing Company Act of 1991 or subsequent equivalent legislation in respect of residential property which is or will be occupied or let by the owner, as residential real estate collateral, provided that these conditions are met.
15. The competent authorities may also authorise their credit institutions to recognise as eligible collateral shares in Finnish housing companies operating in accordance with the Finnish Housing Company Act of 1991 or subsequent equivalent legislation as commercial real estate collateral, provided that these conditions are met.
16. The competent authorities may waive the requirement for their credit institutions to comply with condition (b) in point 13 for exposures secured by residential real estate property situated within the territory of that Member State, if the competent authorities have evidence that the relevant market is well-developed and long-established with loss-rates which are sufficiently low to justify such action. This shall not prevent the competent authorities of a Member State, which do not use this waiver from recognising as eligible residential real estate property recognised as eligible in another Member State by virtue of the waiver. Member States shall disclose publicly the use they make of this waiver.
17. The competent authorities of the Member States may waive the requirement for their credit institutions to comply with the condition in point 13(b) for commercial real estate property situated within the territory of that Member State, if the competent authorities have evidence that the relevant market is well-developed and long-established and that loss-rates stemming from lending secured by commercial real estate property satisfy the following conditions:
- (a) losses stemming from loans collateralised by commercial real estate property up to 50 % of the market value (or where applicable and if lower 60 % of the mortgage-lending-value) do not exceed 0,3 % of the outstanding loans collateralised by commercial real estate property in any given year; and
- (b) overall losses stemming from loans collateralised by commercial real estate property do not exceed 0,5 % of the outstanding loans collateralised by commercial real estate property in any given year.

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18. If either of these conditions is not satisfied in a given year, the eligibility to use this treatment will cease until the conditions are satisfied in a subsequent year.
19. The competent authorities of a Member State may recognise as eligible collateral commercial real estate property recognised as eligible collateral in another Member State by virtue of the waiver provided for in point 17.
 - (b) Receivables
20. The competent authorities may recognise as eligible collateral amounts receivable linked to a commercial transaction or transactions with an original maturity of less than or equal to one year. Eligible receivables do not include those associated with securitisations, sub-participations or credit derivatives or amounts owed by affiliated parties.
 - (c) Other physical collateral
21. The competent authorities may recognise as eligible collateral physical items of a type other than those types indicated in points 13 to 19 if satisfied as to the following:
 - (a) the existence of liquid markets for disposal of the collateral in an expeditious and economically efficient manner; and
 - (b) the existence of well-established publicly available market prices for the collateral. The credit institution must be able to demonstrate that there is no evidence that the net prices it receives when collateral is realised deviates significantly from these market prices.
 - (d) Leasing
22. Subject to the provisions of Part 3, point 72, where the requirements set out in Part 2, point 11 are met, exposures arising from transactions whereby a credit institution leases property to a third party will be treated the same as loans collateralised by the type of property leased.
 - 1.4. Other funded credit protection
 - 1.4.1. Cash on deposit with, or cash assimilated instruments held by, a third party institution.
 23. Cash on deposit with, or cash assimilated instruments held by, a third party institution in a non-custodial arrangement and pledged to the lending credit institution may be recognised as eligible credit protection.
 - 1.4.2. Life insurance policies pledged to the lending credit institution
 24. Life insurance policies pledged to the lending credit institution may be recognised as eligible credit protection.
 - 1.4.3. Institution instruments repurchased on request
 25. Instruments issued by third party institutions which will be repurchased by that institution on request may be recognised as eligible credit protection.
2. UNFUNDED CREDIT PROTECTION
 - 2.1. Eligibility of protection providers under all approaches

26. The following parties may be recognised as eligible providers of unfunded credit protection:
- (a) central governments and central banks;
 - (b) regional governments or local authorities;
 - (c) multilateral development banks;
 - (d) international organisations exposures to which a 0 % risk weight under Articles 78 to 83 is assigned;
 - (e) public sector entities, claims on which are treated by the competent authorities as claims on institutions or central governments under Articles 78 to 83;
 - (f) institutions; and
 - (g) other corporate entities, including parent, subsidiary and affiliate corporate entities of the credit institution, that:
 - (i) have a credit assessment by a recognised ECAI which has been determined by the competent authorities to be associated with credit quality step 2 or above under the rules for the risk weighting of exposures to corporates under Articles 78 to 83; and
 - (ii) in the case of credit institutions calculating risk-weighted exposure amounts and expected loss amounts under Articles 84 to 89, do not have a credit assessment by a recognised ECAI and are internally rated as having a PD equivalent to that associated with the credit assessments of ECAIs determined by the competent authorities to be associated with credit quality step 2 or above under the rules for the risk weighting of exposures to corporate under Articles 78 to 83.
27. Where risk-weighted exposure amounts and expected loss amounts are calculated under Articles 84 to 89, to be eligible a guarantor must be internally rated by the credit institution in accordance with the provisions of Annex VII, Part 4.
28. By way of derogation from point 26, the Member States may also recognise as eligible providers of unfunded credit protection, other financial institutions authorised and supervised by the competent authorities responsible for the authorisation and supervision of credit institutions and subject to prudential requirements equivalent to those applied to credit institutions.
- 2.2 Eligibility of protection providers under the IRB Approach which qualify for the treatment set out in Annex VII, Part 1, point 4.
29. Institutions, insurance and reinsurance undertakings and export credit agencies which fulfil the following conditions may be recognised as eligible providers of unfunded credit protection which qualify for the treatment set out in Annex VII, Part 1, point 4:
- the protection provider has sufficient expertise in providing unfunded credit protection;
 - the protection provider is regulated in a manner equivalent to the rules laid down in this Directive, or had, at the time the credit protection was provided, a credit assessment by a recognised ECAI which had been determined by the competent authorities to be associated with credit quality step 3, or above, under the rules for the risk weighting of exposures to corporate under Articles 78 to 83;

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- the protection provider had, at the time the credit protection was provided, or for any period of time thereafter, an internal rating with a PD equivalent to or lower than that associated with credit quality step 2 or above under the rules for the risk weighting of exposures to corporates under Articles 78 to 83; and
- the provider has an internal rating with a PD equivalent to or lower than that associated with credit quality step 3 or above under the rules for the risk weighting of exposures to corporates under Articles 78 to 83.

For the purpose of this point, credit protection provided by export credit agencies shall not benefit from any explicit central government counter-guarantee.

3. TYPES OF CREDIT DERIVATIVES

30. The following types of credit derivatives, and instruments that may be composed of such credit derivatives or that are economically effectively similar, may be recognised as eligible:

- (a) credit default swaps;
- (b) total return swaps; and
- (c) credit linked notes to the extent of their cash funding.

31. Where a credit institution buys credit protection through a total return swap and records the net payments received on the swap as net income, but does not record offsetting deterioration in the value of the asset that is protected (either through reductions in fair value or by an addition to reserves), the credit protection shall not be recognised as eligible.

3.1. Internal hedges

32. When a credit institution conducts an internal hedge using a credit derivative — i.e. hedges the credit risk of an exposure in the non-trading book with a credit derivative booked in the trading book — in order for the protection to be recognised as eligible for the purposes of this Annex the credit risk transferred to the trading book shall be transferred out to a third party or parties. In such circumstances, subject to the compliance of such transfer with the requirements for the recognition of credit risk mitigation set out in this Annex, the rules set out in Parts 3 to 6 for the calculation of risk-weighted exposure amounts and expected loss amounts where unfunded credit protection is acquired shall be applied.

PART 2

Minimum Requirements

1. The credit institution must satisfy the competent authorities that it has adequate risk management processes to control those risks to which the credit institution may be exposed as a result of carrying out credit risk mitigation practices.
2. Notwithstanding the presence of credit risk mitigation taken into account for the purposes of calculating risk-weighted exposure amounts and as relevant expected loss amounts, credit institutions shall continue to undertake full credit risk assessment of the underlying exposure and be in a position to demonstrate the fulfilment of this requirement to the competent authorities. In the case of repurchase transactions and/or securities or commodities lending or borrowing transactions the underlying exposure

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shall, for the purposes of this point only, be deemed to be the net amount of the exposure.

1. FUNDED CREDIT PROTECTION
 - 1.1. On-balance sheet netting agreements (other than master netting agreements covering repurchase transactions, securities or commodities lending or borrowing transactions and/or other capital market-driven transactions).
 3. For on-balance sheet netting agreements — other than master netting agreements covering repurchase transactions, securities or commodities lending or borrowing transactions and/or other capital market-driven transactions — to be recognised for the purposes of Articles 90 to 93, the following conditions shall be satisfied:
 - (a) they must be legally effective and enforceable in all relevant jurisdictions, including in the event of the insolvency or bankruptcy of a counterparty;
 - (b) the credit institution must be able to determine at any time those assets and liabilities that are subject to the on-balance sheet netting agreement;
 - (c) the credit institution must monitor and control the risks associated with the termination of the credit protection; and
 - (d) the credit institution must monitor and control the relevant exposures on a net basis.
 - 1.2. Master netting agreements covering repurchase transactions and/or securities or commodities lending or borrowing transactions and/or other capital market driven transactions
 4. For master netting agreements covering repurchase transactions and/or securities or commodities lending or borrowing transactions and/or other capital market driven transactions to be recognised for the purposes of Articles 90 to 93, they shall:
 - (a) be legally effective and enforceable in all relevant jurisdictions, including in the event of the bankruptcy or insolvency of the counterparty;
 - (b) give the non-defaulting party the right to terminate and close-out in a timely manner all transactions under the agreement upon the event of default, including in the event of the bankruptcy or insolvency of the counterparty; and
 - (c) provide for the netting of gains and losses on transactions closed out under a master agreement so that a single net amount is owed by one party to the other.
 5. In addition, the minimum requirements for the recognition of financial collateral under the Financial Collateral Comprehensive Method set out in point 6 shall be fulfilled.
 - 1.3. Financial collateral
 - 1.3.1. Minimum requirements for the recognition of financial collateral under all Approaches and Methods
 6. For the recognition of financial collateral and gold, the following conditions shall be met.
 - (a) Low correlation

The credit quality of the obligor and the value of the collateral must not have a material positive correlation.

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Securities issued by the obligor, or any related group entity, are not eligible. This notwithstanding, the obligor's own issues of covered bonds falling within the terms of Annex VI, Part 1, points 68 to 70 may be recognised as eligible when they are posted as collateral for repurchase transactions, provided that the first paragraph of this point is complied with.

(b) Legal certainty

Credit institutions shall fulfil any contractual and statutory requirements in respect of, and take all steps necessary to ensure, the enforceability of the collateral arrangements under the law applicable to their interest in the collateral.

Credit institutions shall have conducted sufficient legal review confirming the enforceability of the collateral arrangements in all relevant jurisdictions. They shall re-conduct such review as necessary to ensure continuing enforceability.

(c) Operational requirements

The collateral arrangements shall be properly documented, with a clear and robust procedure for the timely liquidation of collateral.

Credit institutions shall employ robust procedures and processes to control risks arising from the use of collateral — including risks of failed or reduced credit protection, valuation risks, risks associated with the termination of the credit protection, concentration risk arising from the use of collateral and the interaction with the credit institution's overall risk profile.

The credit institution shall have documented policies and practices concerning the types and amounts of collateral accepted.

Credit institutions shall calculate the market value of the collateral, and revalue it accordingly, with a minimum frequency of once every six months and whenever the credit institution has reason to believe that there has occurred a significant decrease in its market value.

Where the collateral is held by a third party, credit institutions must take reasonable steps to ensure that the third party segregates the collateral from its own assets.

1.3.2. Additional minimum requirements for the recognition of financial collateral under the Financial Collateral Simple Method

7. In addition to the requirements set out in point 6, for the recognition of financial collateral under the Financial Collateral Simple Method the residual maturity of the protection must be at least as long as the residual maturity of the exposure.

1.4. Minimum requirements for the recognition of real estate collateral

8. For the recognition of real estate collateral the following conditions shall be met.

(a) Legal certainty

The mortgage or charge shall be enforceable in all jurisdictions which are relevant at the time of the conclusion of the credit agreement, and the mortgage or charge shall be properly filed on a timely basis. The arrangements shall reflect a perfected lien (i.e. all legal requirements for establishing the pledge shall be fulfilled). The protection agreement and the legal process underpinning it shall enable the credit institution to realise the value of the protection within a reasonable timeframe.

(b) Monitoring of property values

The value of the property shall be monitored on a frequent basis and at a minimum once every year for commercial real estate and once every three years for residential real estate. More frequent monitoring shall be carried out where the market is subject to significant changes in conditions. Statistical methods may be used to monitor the value of the property and to identify property that needs revaluation. The property valuation shall be reviewed by an independent valuer when information indicates that the value of the property may have declined materially relative to general market prices. For loans exceeding EUR 3 million or 5 % of the own funds of the credit institution, the property valuation shall be reviewed by an independent valuer at least every three years.

‘Independent valuer’ shall mean a person who possesses the necessary qualifications, ability and experience to execute a valuation and who is independent from the credit decision process.

(c) Documentation

The types of residential and commercial real estate accepted by the credit institution and its lending policies in this regard shall be clearly documented.

(d) Insurance

The credit institution shall have procedures to monitor that the property taken as protection is adequately insured against damage.

1.5. Minimum requirements for the recognition of receivables as collateral

9. For the recognition of receivables as collateral the following conditions shall be met:

(a) Legal certainty

(i) The legal mechanism by which the collateral is provided shall be robust and effective and ensure that the lender has clear rights over the proceeds;

(ii) Credit institutions must take all steps necessary to fulfil local requirements in respect of the enforceability of security interest. There shall be a framework which allows the lender to have a first priority claim over the collateral subject to national discretion to allow such claims to be subject to the claims of preferential creditors provided for in legislative or implementing provisions;

(iii) Credit institutions shall have conducted sufficient legal review confirming the enforceability of the collateral arrangements in all relevant jurisdictions; and

(iv) The collateral arrangements must be properly documented, with a clear and robust procedure for the timely collection of collateral. Credit institution's procedures shall ensure that any legal conditions required for declaring the default of the borrower and timely collection of collateral are observed. In the event of the borrower's financial distress or default, the credit institution shall have legal authority to sell or assign the receivables to other parties without consent of the receivables obligors.

(b) Risk management

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- (i) The credit institution must have a sound process for determining the credit risk associated with the receivables. Such a process shall include, among other things, analyses of the borrower's business and industry and the types of customers with whom the borrower does business. Where the credit institution relies on the borrower to ascertain the credit risk of the customers, the credit institution must review the borrower's credit practices to ascertain their soundness and credibility;
- (ii) The margin between the amount of the exposure and the value of the receivables must reflect all appropriate factors, including the cost of collection, concentration within the receivables pool pledged by an individual borrower, and potential concentration risk within the credit institution's total exposures beyond that controlled by the credit institution's general methodology. The credit institution must maintain a continuous monitoring process appropriate to the receivables. Additionally, compliance with loan covenants, environmental restrictions, and other legal requirements shall be reviewed on a regular basis;
- (iii) The receivables pledged by a borrower shall be diversified and not be unduly correlated with the borrower. Where there is material positive correlation, the attendant risks shall be taken into account in the setting of margins for the collateral pool as a whole;
- (iv) Receivables from affiliates of the borrower (including subsidiaries and employees) shall not be recognised as risk mitigants; and
- (v) The credit institution shall have a documented process for collecting receivable payments in distressed situations. The requisite facilities for collection shall be in place, even when the credit institution normally looks to the borrower for collections.

1.6. Minimum requirements for the recognition of other physical collateral

10. For the recognition of other physical collateral the following conditions shall be met:

- (a) the collateral arrangement shall be legally effective and enforceable in all relevant jurisdictions and shall enable the credit institution to realise the value of the property within a reasonable timeframe;
- (b) with the sole exception of permissible prior claims referred to in point 9(a)(ii), only first liens on, or charges over, collateral are permissible. As such, the credit institution shall have priority over all other lenders to the realised proceeds of the collateral;
- (c) the value of the property shall be monitored on a frequent basis and at a minimum once every year. More frequent monitoring shall be required where the market is subject to significant changes in conditions;
- (d) the loan agreement shall include detailed descriptions of the collateral plus detailed specifications of the manner and frequency of revaluation;
- (e) the types of physical collateral accepted by the credit institution and policies and practices in respect of the appropriate amount of each type of collateral relative to the exposure amount shall be clearly documented in internal credit policies and procedures available for examination;

- (f) the credit institution's credit policies with regard to the transaction structure shall address appropriate collateral requirements relative to the exposure amount, the ability to liquidate the collateral readily, the ability to establish objectively a price or market value, the frequency with which the value can readily be obtained (including a professional appraisal or valuation), and the volatility or a proxy of the volatility of the value of the collateral;
 - (g) both initial valuation and revaluation shall take fully into account any deterioration or obsolescence of the collateral. Particular attention must be paid in valuation and revaluation to the effects of the passage of time on fashion- or date-sensitive collateral;
 - (h) the credit institution must have the right to physically inspect the property. It shall have policies and procedures addressing its exercise of the right to physical inspection; and
 - (i) the credit institution must have procedures to monitor that the property taken as protection is adequately insured against damage.
- 1.7. Minimum requirements for treating lease exposures as collateralised
11. For the exposures arising from leasing transactions to be treated as collateralised by the type of property leased, the following conditions shall be met:
- (a) the conditions set out in points 8 or 10 as appropriate for the recognition as collateral of the type of property leased shall be met;
 - (b) there shall be robust risk management on the part of the lessor with respect to the use to which the leased asset is put, its age and the planned duration of its use, including appropriate monitoring of the value of the security;
 - (c) there shall be in place a robust legal framework establishing the lessor's legal ownership of the asset and its ability to exercise its rights as owner in a timely fashion; and
 - (d) where this has not already been ascertained in calculating the LGD level, the difference between the value of the unamortised amount and the market value of the security must not be so large as to overstate the credit risk mitigation attributed to the leased assets.
- 1.8. Minimum requirements for the recognition of other funded credit protection
- 1.8.1. Cash on deposit with, or cash assimilated instruments held by, a third party institution
12. To be eligible for the treatment set out at Part 3, point 79, the protection referred to in Part 1, point 23 must satisfy the following conditions:
- (a) the borrower's claim against the third party institution is openly pledged or assigned to the lending credit institution and such pledge or assignment is legally effective and enforceable in all relevant jurisdictions;
 - (b) the third party institution is notified of the pledge or assignment;
 - (c) as a result of the notification, the third party institution is able to make payments solely to the lending credit institution or to other parties with the lending credit institution's consent; and
 - (d) the pledge or assignment is unconditional and irrevocable.
- 1.8.2. Life insurance policies pledged to the lending credit institution.

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- [^{F6}13. For life insurance policies pledged to the lending credit institution to be recognised, all the following conditions shall be met:
- (a) the life insurance policy is openly pledged or assigned to the lending credit institution;
 - (b) the company providing the life insurance is notified of the pledge or assignment and as a result may not pay amounts payable under the contract without the consent of the lending credit institution;
 - (c) the lending credit institution has the right to cancel the policy and receive the surrender value in the event of the default of the borrower;
 - (d) the lending credit institution is informed of any non-payments under the policy by the policy-holder;
 - (e) the credit protection is provided for the maturity of the loan. Where this is not possible because the insurance relationship ends before the loan relationship expires, the credit institution must ensure that the amount deriving from the insurance contract serves the credit institution as security until the end of the duration of the credit agreement;
 - (f) the pledge or assignment is legally effective and enforceable in all jurisdictions which are relevant at the time of the conclusion of the credit agreement;
 - (g) the surrender value is declared by the company providing the life insurance and is non-reducible;
 - (h) the surrender value is to be paid in a timely manner upon request;
 - (i) the surrender value cannot be requested without the consent of the credit institution;
 - (j) the company providing the life insurance is subject to Directive 2002/83/EC and Directive 2001/17/EC of the European Parliament and of the Council⁽⁴⁾ or is subject to supervision by a competent authority of a third country which applies supervisory and regulatory arrangements at least equivalent to those applied in the Community.]
2. UNFUNDED CREDIT PROTECTION AND CREDIT LINKED NOTES
- 2.1. Requirements common to guarantees and credit derivatives
14. Subject to point 16, for the credit protection deriving from a guarantee or credit derivative to be recognised the following conditions shall be met:
- (a) the credit protection shall be direct;
 - (b) the extent of the credit protection shall be clearly defined and incontrovertible;
 - (c) the credit protection contract shall not contain any clause, the fulfilment of which is outside the direct control of the lender, that:
 - (i) would allow the protection provider unilaterally to cancel the protection;
 - (ii) would increase the effective cost of protection as a result of deteriorating credit quality of the protected exposure;
 - (iii) could prevent the protection provider from being obliged to pay out in a timely manner in the event that the original obligor fails to make any payments due; or

- (iv) could allow the maturity of the credit protection to be reduced by the protection provider; and
- (d) it must be legally effective and enforceable in all jurisdictions which are relevant at the time of the conclusion of the credit agreement.

2.1.1. Operational requirements

15. The credit institution shall satisfy the competent authority that it has systems in place to manage potential concentration of risk arising from the credit institution's use of guarantees and credit derivatives. The credit institution must be able to demonstrate how its strategy in respect of its use of credit derivatives and guarantees interacts with its management of its overall risk profile.

2.2. Sovereign and other public sector counter-guarantees

- [^{F6}16. Where an exposure is protected by a guarantee which is counter-guaranteed by a central government or central bank, a regional government or local authority, a public sector entity, claims on which are treated as claims on the central government in whose jurisdiction they are established under Articles 78 to 83, a multi-lateral development bank or an international organisation, to which a 0 % risk weight is assigned under or by virtue of Articles 78 to 83, or a public sector entity, claims on which are treated as claims on credit institutions under Articles 78 to 83, the exposure may be treated as protected by a guarantee provided by the entity in question, provided the following conditions are satisfied:]

- (a) the counter-guarantee covers all credit risk elements of the claim;
- (b) both the original guarantee and the counter-guarantee meet the requirements for guarantees set out in points 14, 15 and 18, except that the counter-guarantee need not be direct; and
- (c) the competent authority is satisfied that the cover is robust and that nothing in the historical evidence suggests that the coverage of the counter-guarantee is less than effectively equivalent to that of a direct guarantee by the entity in question.

17. The treatment set out in point 16 also applies to an exposure which is not counter-guaranteed by an entity listed in that point if that exposure's counter-guarantee is in turn directly guaranteed by one of the listed entities and the conditions listed in that point are satisfied.

2.3. Additional requirements for guarantees

18. For a guarantee to be recognised the following conditions shall also be met:

- (a) on the qualifying default of and/or non-payment by the counterparty, the lending credit institution shall have the right to pursue, in a timely manner, the guarantor for any monies due under the claim in respect of which the protection is provided. Payment by the guarantor shall not be subject to the lending credit institution first having to pursue the obligor.

In the case of unfunded credit protection covering residential mortgage loans, the requirements in point 14(c)(iii) and in the first subparagraph of this point have only to be satisfied within 24 months;

- (b) the guarantee shall be an explicitly documented obligation assumed by the guarantor; and

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- (c) subject to the following sentence, the guarantee shall cover all types of payments the obligor is expected to make in respect of the claim. Where certain types of payment are excluded from the guarantee, the recognised value of the guarantee shall be adjusted to reflect the limited coverage.
19. In the case of guarantees provided in the context of mutual guarantee schemes recognised for these purposes by the competent authorities or provided by or counter-guaranteed by entities referred to in point 16, the requirements in point 18(a) shall be considered to be satisfied where either of the following conditions are met:
- (a) the lending credit institution has the right to obtain in a timely manner a provisional payment by the guarantor calculated to represent a robust estimate of the amount of the economic loss, including losses resulting from the non-payment of interest and other types of payment which the borrower is obliged to make, likely to be incurred by the lending credit institution proportional to the coverage of the guarantee; or
- (b) the lending credit institution can demonstrate that the loss-protecting effects of the guarantee, including losses resulting from the non-payment of interest and other types of payments which the borrower is obliged to make, justify such treatment.
- 2.4. Additional requirements for credit derivatives
20. For a credit derivative to be recognised the following conditions shall also be met:
- (a) subject to point (b), the credit events specified under the credit derivative shall at a minimum include:
- (i) the failure to pay the amounts due under the terms of the underlying obligation that are in effect at the time of such failure (with a grace period that is closely in line with or shorter than the grace period in the underlying obligation);
- (ii) the bankruptcy, insolvency or inability of the obligor to pay its debts, or its failure or admission in writing of its inability generally to pay its debts as they become due, and analogous events; and
- (iii) the restructuring of the underlying obligation involving forgiveness or postponement of principal, interest or fees that results in a credit loss event (i.e. value adjustment or other similar debit to the profit and loss account);
- (b) where the credit events specified under the credit derivative do not include restructuring of the underlying obligation as described in point (a)(iii), the credit protection may nonetheless be recognised subject to a reduction in the recognised value as specified in point 83 of Part 3;
- (c) in the case of credit derivatives allowing for cash settlement, a robust valuation process shall be in place in order to estimate loss reliably. There shall be a clearly specified period for obtaining post-credit-event valuations of the underlying obligation;
- (d) if the protection purchaser's right and ability to transfer the underlying obligation to the protection provider is required for settlement, the terms of the underlying obligation shall provide that any required consent to such transfer may not be unreasonably withheld; and
- (e) the identity of the parties responsible for determining whether a credit event has occurred shall be clearly defined. This determination shall not be the sole

- responsibility of the protection provider. The protection buyer shall have the right/ability to inform the protection provider of the occurrence of a credit event.
21. A mismatch between the underlying obligation and the reference obligation under the credit derivative (i.e. the obligation used for the purposes of determining cash settlement value or the deliverable obligation) or between the underlying obligation and the obligation used for purposes of determining whether a credit event has occurred is permissible only if the following conditions are met:
- (a) the reference obligation or the obligation used for purposes of determining whether a credit event has occurred, as the case may be, ranks *pari passu* with or is junior to the underlying obligation; and
 - (b) the underlying obligation and the reference obligation or the obligation used for purposes of determining whether a credit event has occurred, as the case may be, share the same obligor (i.e., the same legal entity) and there are in place legally enforceable cross-default or cross-acceleration clauses.
- 2.5. Requirements to qualify for the treatment set out in Annex VII, Part 1, point 4
22. To be eligible for the treatment set out in Annex VII, Part 1, point 4, credit protection deriving from a guarantee or credit derivative shall meet the following conditions:
- (a) the underlying obligation shall be to:
 - a corporate exposure as defined in Article 86, excluding insurance and reinsurance undertakings;
 - an exposure to a regional government, local authority or Public Sector Entity which is not treated as an exposure to a central government or a central bank according to Article 86; or
 - an exposure to a small or medium sized entity, classified as a retail exposure according to Article 86(4);
 - (b) the underlying obligors shall not be members of the same group as the protection provider;
 - (c) the exposure shall be hedged by one of the following instruments:
 - single-name unfunded credit derivatives or single-name guarantees,
 - first-to-default basket products — the treatment shall be applied to the asset within the basket with the lowest risk-weighted exposure amount, or
 - *n*th-to-default basket products — the protection obtained is only eligible for consideration under this framework if eligible (n-1)th default protection has also be obtained or where (n-1) of the assets within the basket has/have already defaulted. Where this is the case the treatment shall be applied to the asset within the basket with the lowest risk-weighted exposure amount;
 - (d) the credit protection meets the requirements set out in points 14, 15, 18, 20 and 21;
 - (e) the risk weight that is associated with the exposure prior to the application of the treatment in Annex VII, Part 1, point 4, does not already factor in any aspect of the credit protection;
 - (f) a credit institution shall have the right and expectation to receive payment from the protection provider without having to take legal action in order to pursue the counterparty for payment. To the extent possible, a credit institution shall take steps

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- to satisfy itself that the protection provider is willing to pay promptly should a credit event occur;
- (g) the purchased credit protection shall absorb all credit losses incurred on the hedged portion of an exposure that arise due to the occurrence of credit events outlined in the contract;
 - (h) if the payout structure provides for physical settlement, then there shall be legal certainty with respect to the deliverability of a loan, bond, or contingent liability. If a credit institution intends to deliver an obligation other than the underlying exposure, it shall ensure that the deliverable obligation is sufficiently liquid so that the credit institution would have the ability to purchase it for delivery in accordance with the contract;
 - (i) the terms and conditions of credit protection arrangements shall be legally confirmed in writing by both the protection provider and the credit institution;
 - (j) credit institutions shall have a process in place to detect excessive correlation between the creditworthiness of a protection provider and the obligor of the underlying exposure due to their performance being dependent on common factors beyond the systematic risk factor; and
 - (k) in the case of protection against dilution risk, the seller of purchased receivables shall not be a member of the same group as the protection provider.

PART 3

Calculating the effects of credit risk mitigation

1. Subject to Parts 4 to 6, where the provisions in Parts 1 and 2 are satisfied, the calculation of risk-weighted exposure amounts under Articles 78 to 83 and the calculation of risk-weighted exposure amounts and expected loss amounts under Articles 84 to 89 may be modified in accordance with the provisions of this Part.
2. Cash, securities or commodities purchased, borrowed or received under a repurchase transaction or securities or commodities lending or borrowing transaction shall be treated as collateral.
1. FUNDED CREDIT PROTECTION
 - 1.1. Credit linked notes
 3. Investments in credit linked notes issued by the lending credit institution may be treated as cash collateral.
 - 1.2. On-balance sheet netting
 4. Loans and deposits with the lending credit institution subject to on-balance sheet netting are to be treated as cash collateral.
 - 1.3. Master netting agreements covering repurchase transactions and/or securities or commodities lending or borrowing transactions and/or other capital market-driven transactions
 - 1.3.1. Calculation of the fully-adjusted exposure value

- (a) Using the ‘Supervisory’ volatility adjustments or the ‘Own Estimates’ volatility adjustments approaches
5. Subject to points 12 to 21, in calculating the ‘fully adjusted exposure value’ (E*) for the exposures subject to an eligible master netting agreement covering repurchase transactions and/or securities or commodities lending or borrowing transactions and/or other capital market-driven transactions, the volatility adjustments to be applied shall be calculated either using the Supervisory Volatility Adjustments Approach or the Own Estimates Volatility Adjustments Approach as set out in points 30 to 61 for the Financial Collateral Comprehensive Method. For the use of the Own estimates approach, the same conditions and requirements shall apply as apply under the Financial Collateral Comprehensive Method
 6. The net position in each ‘type of security’ or commodity shall be calculated by subtracting from the total value of the securities or commodities of that type lent, sold or provided under the master netting agreement, the total value of securities or commodities of that type borrowed, purchased or received under the agreement.
 7. For the purposes of point 6, ‘type of security’ means securities which are issued by the same entity, have the same issue date, the same maturity and are subject to the same terms and conditions and are subject to the same liquidation periods as indicated in points 34 to 59.
 8. The net position in each currency, other than the settlement currency of the master netting agreement, shall be calculated by subtracting from the total value of securities denominated in that currency lent, sold or provided under the master netting agreement added to the amount of cash in that currency lent or transferred under the agreement, the total value of securities denominated in that currency borrowed, purchased or received under the agreement added to the amount of cash in that currency borrowed or received under the agreement.
 9. The volatility adjustment appropriate to a given type of security or cash position shall be applied to the absolute value of the positive or negative net position in the securities of that type.
 10. The foreign exchange risk (fx) volatility adjustment shall be applied to the net positive or negative position in each currency other than the settlement currency of the master netting agreement.
 11. E* shall be calculated according to the following formula:

$$E^* = \max \{0, [(E) - (C)] + (\text{netpositive in elk effect} \times H_{\text{sec}}) + (E_{\text{fx}} \times H_{\text{fx}})\}$$

Where risk-weighted exposure amounts are calculated under Articles 78 to 83, E is the exposure value for each separate exposure under the agreement that would apply in the absence of the credit protection.

Where risk-weighted exposure amounts and expected loss amounts are calculated under Articles 84 to 89, E is the exposure value for each separate exposure under the agreement that would apply in the absence of the credit protection.

C is the value of the securities or commodities borrowed, purchased or received or the cash borrowed or received in respect of each such exposure.

S(E) is the sum of all Es under the agreement.

S(C) is the sum of all Cs under the agreement.

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E_{fx} is the net position (positive or negative) in a given currency other than the settlement currency of the agreement as calculated under point 8.

H_{sec} is the volatility adjustment appropriate to a particular type of security.

H_{fx} is the foreign exchange volatility adjustment.

E^* is the fully adjusted exposure value.

- (b) Using the Internal Models approach
12. As an alternative to using the Supervisory volatility adjustments approach or the Own Estimates volatility adjustments 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, and/or other capital market driven transactions other than derivative transactions, credit institutions may be permitted to 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. Internal models used in this approach shall provide estimates of the potential change in value of the unsecured exposure amount ($E - C$). Subject to the approval of the competent authorities, credit institutions may also use their internal models for margin lending transactions, if the transactions are covered under a bilateral master netting agreement that meets the requirements set out in Annex III, Part 7.
 13. A credit institution may choose to use an internal models approach independently of the choice it has made between Articles 78 to 83 and Articles 84 to 89 for the calculation of risk-weighted exposure amounts. However, if a credit institution seeks to use an internal models approach, it must do so for all counterparties and securities, excluding immaterial portfolios where it may use the Supervisory volatility adjustments approach or the Own estimates volatility adjustments approach as set out in points 5 to 11.
 14. The internal models approach is available to credit institutions that have received recognition for an internal risk-management model under Annex V to Directive 2006/49/EC.
 15. Credit institutions which have not received supervisory recognition for use of such a model under Directive 2006/49/EC, may apply to the competent authorities for recognition of an internal risk-measurement model for the purposes of points 12 to 21.
 16. Recognition shall only be given if the competent authority is satisfied that the credit institution's risk-management system for managing the risks arising on the transactions covered by the master netting agreement is conceptually sound and implemented with integrity and that, in particular, the following qualitative standards are met:
 - (a) the internal risk-measurement model used for calculation of potential price volatility for the transactions is closely integrated into the daily risk-management process of the credit institution and serves as the basis for reporting risk exposures to senior management of the credit institution;
 - (b) the credit institution has a risk control unit that is independent from business trading units and reports directly to senior management. The unit must be responsible for designing and implementing the credit institution's risk-management system. It shall produce and analyse 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 credit institution has sufficient staff skilled in the use of sophisticated models in the risk control unit;
 - (e) the credit 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 credit 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 credit 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 credit institution must conduct, as Part of its regular internal auditing process, an independent review of its risk-measurement system. This review must include both the activities of the business trading units and of the independent risk-control unit;
 - (i) at least once a year, the credit institution must conduct a review of its risk-management system; and
 - (j) the internal model shall meet the requirements set out in Annex III, Part 6, points 40 to 42.
17. The calculation of the potential change in value shall be subject to the following minimum standards:
- (a) at least daily calculation of the potential change in value;
 - (b) a 99th percentile, one-tailed confidence interval;
 - (c) 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) 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; and
 - (e) three-monthly data set updates.
18. The competent authorities shall require that the internal risk-measurement model captures a sufficient number of risk factors in order to capture all material price risks.
19. The competent authorities may allow credit institutions to use empirical correlations within risk categories and across risk categories if they are satisfied that the credit institution's system for measuring correlations is sound and implemented with integrity.
20. The fully adjusted exposure value (E*) for credit institutions using the Internal models approach shall be calculated according to the following formula:

$$E^* = \max \{0, [(E - C) + (\text{uitkomst van het interne model})]\}$$

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Where risk-weighted exposure amounts are calculated under Articles 78 to 83, E is the exposure value for each separate exposure under the agreement that would apply in the absence of the credit protection.

Where risk-weighted exposure amounts and expected loss amounts are calculated under Articles 84 to 89, E is the exposure value for each separate exposure under the agreement that would apply in the absence of the credit protection.

C is the value of the securities borrowed, purchased or received or the cash borrowed or received in respect of each such exposure.

(E) is the sum of all Es under the agreement.

(C) is the sum of all Cs under the agreement.

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

1.3.2. Calculating risk-weighted exposure amounts and expected loss amounts for repurchase transactions and/or securities or commodities lending or borrowing transactions and/or other capital market-driven transactions covered by master netting agreements

Standardised Approach

22. E* as calculated under points 5 to 21 shall be taken 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 80.

IRB Approach

23. E* as calculated under points 5 to 21 shall be taken as the exposure value of the exposure to the counterparty arising from the transactions subject to the master netting agreement for the purposes of Annex VII.

1.4. Financial collateral

1.4.1. Financial Collateral Simple Method

[^{F6}24. The Financial Collateral Simple Method shall be available only where risk-weighted exposure amounts are calculated under Articles 78 to 83. A credit institution shall not use both the Financial Collateral Simple Method and the Financial Collateral Comprehensive Method, unless for the purposes of Articles 85(1) and 89(1). Credit institutions shall demonstrate to the competent authorities that this exceptional application of both methods is not used selectively with the purpose of achieving reduced minimum capital requirements and does not lead to regulatory arbitrage.]

Valuation

25. Under this method, recognised financial collateral is assigned a value equal to its market value as determined in accordance with Part 2, point 6.

Calculating risk-weighted exposure amounts

[^{F6}26. The risk weight that would be assigned under Articles 78 to 83 if the lender had a direct exposure to the collateral instrument shall be assigned to those portions of exposure values collateralised by the market value of recognised collateral. For this purpose, the exposure value of an off-balance sheet item listed in Annex II shall be 100 % of

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its value rather than the exposure value indicated in Article 78(1). The risk weight of the collateralised portion shall be a minimum of 20 % except as specified in points 27 to 29. The remainder of the exposure value shall receive the risk weight that would be assigned to an unsecured exposure to the counterparty under Articles 78 to 83.]

Repurchase transactions and securities lending or borrowing transactions

27. A risk weight of 0 % shall be assigned to the collateralised portion of the exposure arising from transactions which fulfil the criteria enumerated in points 58 and 59. If the counterparty to the transaction is not a core market participant a risk weight of 10 % shall be assigned.

OTC derivative transactions subject to daily mark-to-market

28. A risk weight of 0 % shall, to the extent of the collateralisation, be assigned to the exposure values determined under Annex III for the derivative instruments listed in Annex IV and subject to daily marking-to-market, collateralised by cash or cash-assimilated instruments where there is no currency mismatch. A risk weight of 10 % shall be assigned 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 Articles 78 to 83.

For the purposes of this point 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 Articles 78 to 83;
- (b) debt securities issued by multilateral development banks to which a 0 % risk weight is assigned under or by virtue of Articles 78 to 83; and
- (c) debt securities issued by international organisations which are assigned a 0 % risk weight under Articles 78 to 83.

Other transactions

29. A 0 % risk weight may be assigned where the exposure and the collateral are denominated in the same currency, and either:
- (a) the collateral is cash on deposit or a cash assimilated instrument; or
 - (b) the collateral is in the form of debt securities issued by central governments or central banks eligible for a 0 % risk weight under Articles 78 to 83, and its market value has been discounted by 20 %.

For the purposes of this point ‘debt securities issued by central governments or central banks’ shall to include those indicated under point 28.

1.4.2. Financial Collateral Comprehensive Method

30. In valuing financial collateral for the purposes of the Financial Collateral Comprehensive Method, ‘volatility adjustments’ shall be applied to the market value of collateral, as set out in points 34 to 59 below, in order to take account of price volatility.
31. Subject to the treatment for currency mismatches in the case of OTC derivatives transactions set out in point 32, where collateral is denominated in a currency that

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differs from that in which the underlying exposure is denominated, an adjustment reflecting currency volatility shall be added to the volatility adjustment appropriate to the collateral as set out in points 34 to 59.

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

(a) Calculating adjusted values

33. The volatility-adjusted value of the collateral to be taken into account is calculated as follows in the case of all transactions except those transactions subject to recognised master netting agreements to which the provisions set out in points 5 to 23 are applied:

$$C_{VA} = C \times (1 - H_C - H_{FX})$$

The volatility-adjusted value of the exposure to be taken into account is calculated as follows:

$$E_{VA} = E \times (1 + H_E), \text{ and, in the case of OTC derivative transactions, } E_{VA} = E.$$

The fully adjusted value of the exposure, taking into account both volatility and the risk-mitigating effects of collateral is calculated as follows:

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

Where:

[^{F6}E is the exposure value as would be determined under Articles 78 to 83 or Articles 84 to 89 as appropriate if the exposure was not collateralised. For this purpose, for credit institutions calculating risk-weighted exposure amounts under Articles 78 to 83, the exposure value of an off-balance sheet item listed in Annex II shall be 100 % of its value rather than the exposure value indicated in Article 78(1), and for credit institutions calculating risk-weighted exposure amounts under Articles 84 to 89, the exposure value of the items listed in Annex VII, Part 3, points 9 to 11 shall be calculated using a conversion factor of 100 % rather than the conversion factors or percentages indicated in those points.]

E_{VA} is the volatility-adjusted exposure amount.

C_{VA} is the volatility-adjusted value of the collateral.

C_{VAM} is C_{VA} further adjusted for any maturity mismatch in accordance with the provisions of Part 4.

H_E is the volatility adjustment appropriate to the exposure (E), as calculated under points 34 to 59.

H_C is the volatility adjustment appropriate to the collateral, as calculated under points 34 to 59.

H_{FX} is the volatility adjustment appropriate to currency mismatch, as calculated under points 34 to 59.

E^* is the fully adjusted exposure value taking into account volatility and the risk-mitigating effects of the collateral.

(b) Calculation of volatility adjustments to be applied

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34. Volatility adjustments may be calculated in two ways: the Supervisory volatility adjustments approach and the Own estimates of volatility adjustments approach (the 'Own estimates' approach).

35. A credit institution may choose to use the Supervisory volatility adjustments approach or the Own estimates approach independently of the choice it has made between the Articles 78 to 83 and Articles 84 to 89 for the calculation of risk-weighted exposure amounts. However, if credit institutions seek to use the Own estimates approach, they must do so for the full range of instrument types, excluding immaterial portfolios where they may use the Supervisory volatility adjustments approach.

Where the collateral consists of a number of recognised items, the volatility adjustment shall be

$$H_i = \alpha_i H_i$$

, where α_i is the proportion of an item to the collateral as a whole and H_i is the volatility adjustment applicable to that item.

(i) Supervisory volatility adjustments

36. The volatility adjustments to be applied under the Supervisory volatility adjustments approach (assuming daily revaluation) shall be those set out in Tables 1 to 4.

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 Part 1, point 7(b)			Volatility adjustments for debt securities issued by entities described in Part 1, point 7(c) and (d)		
		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
	>1 ≤ 5 years	2,828	2	1,414	5,657	4	2,828
	> 5 years	5,657	4	2,828	11,314	8	5,657
2-3	≤ 1 year	1,414	1	0,707	2,828	2	1,414
	>1 ≤ 5 years	4,243	3	2,121	8,485	6	4,243
	> 5 years	8,485	6	4,243	16,971	12	8,485

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4	≤ 1 year	21,213	15	10,607	N/A	N/A	N/A
	>1 ≤ 5 years	21,213	15	10,607	N/A	N/A	N/A
	> 5 years	21,213	15	10,607	N/A	N/A	N/A

TABLE 2

Credit quality step with which the credit assessment of a short term debt security is associated	Volatility adjustments for debt securities issued by entities described in Part 1, point 7(b) with short-term credit assessments			Volatility adjustments for debt securities issued by entities described in Part 1, point 7(c) and (d) with short-term credit assessments		
	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
2-3	1,414	1	0,707	2,828	2	1,414

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

37. For secured lending transactions the liquidation period shall be 20 business days. 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. For other capital market driven transactions, the liquidation period shall be 10 business days.
 38. In Tables 1 to 4 and in points 39 to 41, 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 the competent authorities to be associated under Articles 78 to 83. For the purpose of this point, Part 1, point 10 also applies.
 39. 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.
 40. For eligible units in collective investment undertakings the volatility adjustment is the weighted average volatility adjustments that would apply, having regard to the liquidation period of the transaction as specified in point 37, to the assets in which the fund has invested. If the assets in which the fund has invested are not known to the credit 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.
 41. For unrated debt securities issued by institutions and satisfying the eligibility criteria in Part 1, point 8 the volatility adjustments shall be the same as for securities issued by institutions or corporates with an external credit assessment associated with credit quality steps 2 or 3.
- (ii) Own estimates of volatility adjustments
42. The competent authorities shall permit credit institutions complying with the requirements set out in points 47 to 56 to use their own volatility estimates for calculating the volatility adjustments to be applied to collateral and exposures.
 43. When debt securities have a credit assessment from a recognised ECAI equivalent to investment grade or better, the competent authorities may allow credit institutions to calculate a volatility estimate for each category of security.
 44. In determining relevant categories, credit 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 must be representative of the securities included in the category by the credit institution.
 45. For debt securities having a credit assessment from a recognised ECAI equivalent to below investment grade, and for other eligible collateral, the volatility adjustments must be calculated for each individual item.
 46. Credit institutions using the Own estimates approach must estimate volatility of the collateral or foreign exchange mismatch without taking into account any correlations between the unsecured exposure, collateral and/or exchange rates.

Quantitative Criteria

47. In calculating the volatility adjustments, a 99th percentile one-tailed confidence interval shall be used.

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48. The liquidation period shall be 20 business days for secured lending transactions; 5 business days 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, and 10 business days for other capital market driven transactions.

49. Credit 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 48 for the type of transaction in question, using the square root of time formula:

$$H_M = H_N \sqrt{T_M / T_N}$$

where T_M is the relevant liquidation period;

H_M is the volatility adjustment under T_M and

H_N is the volatility adjustment based on the liquidation period T_N .

50. Credit institutions shall take into account the illiquidity of lower-quality assets. The liquidation period shall be adjusted upwards in cases where there is doubt concerning the liquidity of the collateral. They shall also identify where historical data may understate potential volatility, e.g., a pegged currency. Such cases shall be dealt with by means of a stress scenario.

51. The historical observation period (sample period) for calculating volatility adjustments shall be a minimum length of one year. For credit institutions that use a weighting scheme or other methods for the historical observation period, the effective observation period shall be at least one year (that is, the weighted average time lag of the individual observations shall not be less than 6 months). The competent authorities may also require a credit institution to calculate its volatility adjustments using a shorter observation period if, in the competent authorities' judgement, this is justified by a significant upsurge in price volatility.

52. Credit institutions shall update their data sets at least once every three months and shall also reassess them whenever market prices are subject to material changes. This implies that volatility adjustments shall be computed at least every three months.

Qualitative Criteria

53. The volatility estimates shall be used in the day-to-day risk management process of the credit institution including in relation to its internal exposure limits.

54. If the liquidation period used by the credit institution in its day-to-day risk management process is longer than that set out in this Part for the type of transaction in question, the credit institution's volatility adjustments shall be scaled up in accordance with the square root of time formula set out in point 49.

55. The credit institution shall have 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.

56. An independent review of the credit institution's system for the estimation of volatility adjustments shall be carried out regularly in the credit institution's own internal auditing process. A review of the overall system for the estimation of volatility adjustments and for integration of those adjustments into the credit institution's risk

management process shall take place at least once a year and shall specifically address, at a minimum:

- (a) the integration of estimated volatility adjustments into daily risk management;
 - (b) the validation of any significant change in the process for the estimation of volatility adjustments;
 - (c) 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; and
 - (d) the accuracy and appropriateness of the volatility assumptions.
- (iii) Scaling up of volatility adjustments

57. The volatility adjustments set out in points 36 to 41 are the volatility adjustments to be applied where there is daily revaluation. Similarly, where a credit institution uses its own estimates of the volatility adjustments in accordance with points 42 to 56, these must be calculated in the first instance on the basis of daily revaluation. If the frequency of revaluation is less than daily, larger volatility adjustments shall be applied. These shall be calculated by scaling up the daily revaluation volatility adjustments, using the following 'square root of time' formula:

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

where:

H is the volatility adjustment to be applied

H_M is the volatility adjustment where there is daily revaluation

N_R is the actual number of business days between revaluations

T_M is the liquidation period for the type of transaction in question.

- (iv) Conditions for applying a 0 % volatility adjustment

58. In relation to repurchase transactions and securities lending or borrowing transactions, where a credit institution uses the Supervisory Volatility Adjustments Approach or the Own Estimates Approach and where the conditions set out in points (a) to (h) are satisfied, credit institutions may, instead of applying the volatility adjustments calculated under points 34 to 57, apply a 0 % volatility adjustment. This option is not available in respect of credit institutions using the internal models approach set out in points 12 to 21:

- (a) Both the exposure and the collateral are cash or debt securities issued by central governments or central banks within the meaning of Part 1, point 7(b) and eligible for a 0 % risk weight under Articles 78 to 83,
- (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 remargining,
- (d) It is considered that the time between the last marking-to-market before a failure to remargin by the counterparty and the liquidation of the collateral shall be no more than four business days,

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- (e) The transaction is settled across a settlement system proven for that type of transaction,
 - (f) The documentation covering the agreement 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 if 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, and
 - (h) The counterparty is considered a ‘core market participant’ by the competent authorities. Core market participants shall include the following entities:
 - the entities mentioned in point 7(b) of Part 1 exposures to which are assigned a 0 % risk weight under Articles 78 to 83;
 - institutions;
 - other financial companies (including insurance companies) exposures to which are assigned a 20 % risk weight under Articles 78 to 83 or which, in the case of credit institutions calculating risk-weighted exposure amounts and expected loss amounts under Articles 83 to 89, do not have a credit assessment by a recognised ECAI and are internally rated as having a PD equivalent to that associated with the credit assessments of ECAIs determined by the competent authorities to be associated with credit quality step 2 or above under the rules for the risk weighting of exposures to corporates under Articles 78 to 83
 - regulated collective investment undertakings that are subject to capital or leverage requirements;
 - regulated pension funds; and
 - recognised clearing organisations.
59. Where a competent authority permits the treatment set out in point 58 to be applied in the case of repurchase transactions or securities lending or borrowing transactions in securities issued by its domestic government, then other competent authorities may choose to allow credit institutions incorporated in their jurisdiction to adopt the same approach to the same transactions.
- (c) Calculating risk-weighted exposure amounts and expected loss amounts

Standardised Approach

60. E^* as calculated under point 33 shall be taken as the exposure value for the purposes of Article 80. In the case of off-balance sheet items listed in Annex II, E^* shall be taken as the value at which the percentages indicated in Article 78(1) shall be applied to arrive at the exposure value.

IRB Approach

61. LGD^* (the effective LGD) calculated as set out in this point shall be taken as the LGD for the purposes of Annex VII.

$$LGD^* = LGD \times (E^*/E)$$

where:

LGD is the LGD that would apply to the exposure under Articles 84 to 89 if the exposure was not collateralised;

E is the exposure value as described under point 33;

E* is as calculated under point 33.

1.5. Other eligible collateral for Articles 84 to 89

1.5.1. Valuation

(a) Real estate collateral

62. The property shall be valued by an independent valuer at or less than the market value. 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 less than the mortgage lending value.

63. 'Market value' means the estimated amount for which the property should exchange on the date of valuation between a willing buyer and a willing seller in an arm's-length transaction after proper marketing wherein the parties had each acted knowledgeably, prudently and without compulsion. The market value shall be documented in a transparent and clear manner.

64. 'Mortgage lending value' means the value of the property as determined by a prudent assessment of the future marketability of the property taking into account long-term sustainable aspects of the property, the normal and local market conditions, the current use and alternative appropriate uses of the property. Speculative elements shall not be taken into account in the assessment of the mortgage lending value. The mortgage lending value shall be documented in a transparent and clear manner.

65. 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 Part 2, point 8 and to take account of the any prior claims on the property.

(b) Receivables

66. The value of receivables shall be the amount receivable.

(c) Other physical collateral

67. The property shall be valued at its market value — that 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.

1.5.2. Calculating risk-weighted exposure amounts and expected loss amounts

(a) General treatment

68. LGD* calculated as set out in points 69 to 72 shall be taken as the LGD for the purposes of Annex VII.

69. Where the ratio of the value of the collateral (C) to the exposure value (E) is below a threshold level of C* (the required minimum collateralisation level for the exposure) as laid down in Table 5, LGD* shall be the LGD laid down in Annex VII for uncollateralised exposures to the counterparty.^[F7] For this purpose, the exposure value of the items listed in Annex VII, Part 3, points 9, 10 and 11 shall be calculated using a conversion factor or percentage of 100 % rather than the conversion factors or percentages indicated in those points.]

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70. Where the ratio of the value of the collateral to the exposure value exceeds a second, higher threshold level of C^{**} (i.e. the required level of collateralisation to receive full LGD recognition) as laid down in Table 5, LGD* shall be that prescribed in Table 5.
71. Where the required level of collateralisation C^{**} is not achieved in respect of the exposure as a whole, the exposure shall be considered to be two exposures — that part in respect of which the required level of collateralisation C^{**} is achieved and the remainder.
72. Table 5 sets out the applicable LGD* and required collateralisation levels for the secured parts of exposures.

TABLE 5

Minimum LGD for secured parts of exposures

	LGD* for senior claims or contingent claims	LGD* for subordinated claims or contingent claims	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 %

By way of derogation, until 31 December 2012 the competent authorities may, subject to the levels of collateralisation indicated in Table 5:

- (a) allow credit institutions to assign a 30 % LGD for senior exposures in the form of Commercial Real Estate leasing;
- (b) allow credit institutions to assign a 35 % LGD for senior exposures in the form of equipment leasing; and
- (c) allow credit institutions to assign a 30 % LGD for senior exposures secured by residential or commercial real estate.

At the end of this period, this derogation shall be reviewed.

- (b) Alternative treatment for real estate collateral
73. Subject to the requirements of this point and point 74 and as an alternative to the treatment in points 68 to 72, the competent authorities of a Member State may authorise credit institutions to assign a 50 % risk weight to the Part of the exposure fully collateralised by residential real estate property or commercial real estate property situated within the territory of the Member State if they have evidence that the relevant markets are well-developed and long-established with loss-rates from lending collateralised by residential real estate property or commercial real estate property respectively that do not exceed the following limits:

- (a) losses stemming from lending collateralised by residential real estate property or commercial real estate property respectively up to 50 % of the market value (or where applicable and if lower 60 % of the mortgage-lending-value) do not exceed 0,3 % of the outstanding loans collateralised by that form of real estate property in any given year; and
 - (b) overall losses stemming from lending collateralised by residential real estate property or commercial real estate property respectively do not exceed 0,5 % of the outstanding loans collateralised by that form of real estate property in any given year.
74. If either of the conditions in point 73 is not satisfied in a given year, the eligibility to use this treatment shall cease until the conditions are satisfied in a subsequent year.
- [^{F675} Where the discretion provided for in point 73 is exercised by the competent authorities of a Member State, the competent authorities of another Member State may authorise their credit institutions to assign the risk weights permitted under the treatment of point 73 in respect of exposures collateralised by residential real estate property or commercial real estate property located in the territory of the former Member State subject to the same conditions as apply in the former Member State.]
- 1.6. Calculating risk-weighted exposure amounts and expected loss amounts in the case of mixed pools of collateral
76. Where risk-weighted exposure amounts and expected loss amounts are calculated under Articles 84 to 89, and an exposure is collateralised by both financial collateral and other eligible collateral, LGD*, to be taken as the LGD for the purposes of Annex VII, shall be calculated as follows.
77. The credit institution shall be required to subdivide the volatility-adjusted value of the exposure (i.e. the value after the application of the volatility adjustment as set out in point 33) into parts each covered by only one type of collateral. That is, the credit institution must divide the exposure into the part covered by eligible financial collateral, the portion covered by receivables, the portions covered by commercial real estate property collateral and/or residential real estate property collateral, the part covered by other eligible collateral, and the unsecured portion, as relevant.
78. LGD* for each part of exposure shall be calculated separately in accordance with the relevant provisions of this Annex.
- 1.7. Other funded credit protection
- 1.7.1. Deposits with third party institutions
79. Where the conditions set out in Part 2, point 12 are satisfied, credit protection falling within the terms of Part 1, point 23 may be treated as a guarantee by the third party institution.
- 1.7.2. Life insurance policies pledged to the lending credit institution
- [^{F680} Where the conditions set out in Part 2, point 13 are satisfied, the portion of the exposure collateralised by the current surrender value of credit protection falling within the terms of Part 1, point 24 shall be either of the following:
- (a) subject to the risk weights specified in point 80a where the exposure is subject to Articles 78 to 83;

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- (b) assigned an LGD of 40 % where the exposure is subject to Articles 84 to 89 but not subject to the credit institution's own estimates of LGD.

In case of a currency mismatch, the current surrender value shall be reduced according to point 84, the value of the credit protection being the current surrender value of the life insurance policy.]

[^{F780a} For purposes of point 80(a), the following risk weights shall be assigned on the basis of the risk weight assigned to a senior unsecured exposure to the company providing the life insurance:

- (a) a risk weight of 20 %, where the senior unsecured exposure to the company providing the life insurance is assigned a risk weight of 20 %;
- (b) a risk weight of 35 %, where the senior unsecured exposure to the company providing the life insurance is assigned a risk weight of 50 %;
- (c) a risk weight of 70 %, where the senior unsecured exposure to the company providing the life insurance is assigned a risk weight of 100 %;
- (d) a risk weight of 150 %, where the senior unsecured exposure to the company providing the life insurance is assigned a risk weight of 150 %.]

1.7.3. Institution instruments repurchased on request

- 81. Instruments eligible under Part 1, point 25 may be treated as a guarantee by the issuing institution.
- 82. The value of the credit protection recognised 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 specified in Part 1, point 8.

2. UNFUNDED CREDIT PROTECTION

2.1. Valuation

- 83. 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. 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 (e.g. value adjustment, the making of a value adjustment or other similar debit to the profit and loss account),
 - (a) where the amount that the protection provider has undertaken to pay is not higher than the exposure value, the value of the credit protection calculated under the first sentence of this point shall be reduced by 40 %; or
 - (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.

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84. Where unfunded credit protection is denominated in a currency different from that in which the exposure is denominated (a currency mismatch) the value of the credit protection shall be reduced by the application of a volatility adjustment H_{FX} as follows:

$$G^* = G \times (1 - H_{FX})$$

where:

G is the nominal amount of the credit protection,

G^* is G adjusted for any foreign exchange risk, and

H_{FX} is the volatility adjustment for any currency mismatch between the credit protection and the underlying obligation.

Where there is no currency mismatch

$$G^* = G$$

85. The volatility adjustments for any currency mismatch may be calculated based on the Supervisory volatility adjustments approach or the Own estimates approach as set out in points 34 to 57.

2.2. Calculating risk-weighted exposure amounts and expected loss amounts

2.2.1. Partial protection — tranching

86. Where the credit institution transfers a part of the risk of a loan in one or more tranches, the rules set out in Articles 94 to 101 shall apply. Materiality thresholds on payments below which no payment shall be made in the event of loss are considered to be equivalent to retained first loss positions and to give rise to a tranching transfer of risk.

2.2.2. Standardised Approach

(a) Full protection

[^{F687} For the purposes of Article 80, g shall be the risk weight to be assigned to an exposure, the exposure value (E) of which is fully protected by unfunded protection (G_A), where: E is the exposure value according to Article 78; for this purpose, the exposure value of an off-balance sheet item listed in Annex II shall be 100 % of its value rather than the exposure value indicated in Article 78(1);

g is the risk weight of exposures to the protection provider as specified under Articles 78 to 83; and

G_A is the value of G^* as calculated under point 84 further adjusted for any maturity mismatch as laid down in Part 4.]

(b) Partial protection — equal seniority

88. Where the protected amount is less than the exposure value and the protected and unprotected parts are of equal seniority — i.e. the credit institution and the protection provider share losses on a pro-rata basis, proportional regulatory capital relief shall be afforded. For the purposes of Article 80, risk-weighted exposure amounts shall be calculated in accordance with the following formula:

$$(E - G_A) \times r + G_A \times g$$

where:

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[^{F6}E is the exposure value according to Article 78. For this purpose, the exposure value of an off-balance sheet item listed in Annex II shall be 100 % of its value rather than the exposure value indicated in Article 78(1);]

G_A is the value of G^* as calculated under point 84 further adjusted for any maturity mismatch as laid down in Part 4;

r is the risk weight of exposures to the obligor as specified under Articles 78 to 83; and

g is the risk weight of exposures to the protection provider as specified under Articles 78 to 83.

(c) Sovereign guarantees

89. The competent authorities may extend the treatment provided for in Annex VI, Part 1, points 4 and 5 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.

2.2.3. IRB Approach

Full protection/Partial protection — equal seniority

[^{F690}. 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 Annex VII, Part 2 may be the PD of the protection provider, or a PD between that of the borrower and that of the guarantor if 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 for the purposes of Annex VII, Part 2 may be that associated with senior claims.

91. 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.

92. G_A is the value of G^* as calculated under point 84 further adjusted for any maturity mismatch as laid down in Part 4. E is the exposure value according to Annex VII, Part 3. For this purpose, the exposure value of the items listed in Annex VII, Part 3, points 9 to 11 shall be calculated using a conversion factor or percentage of 100 % rather than the conversion factors or percentages indicated in those points.]

PART 4

Maturity Mismatches

1. For the purposes of calculating risk-weighted exposure amounts, a maturity mismatch occurs when the residual maturity of the credit protection is less than that of the protected exposure. Protection of less than three months residual maturity, the maturity of which is less than the maturity of the underlying exposure, shall not be recognised.

2. Where there is a maturity mismatch the credit protection shall not be recognised where:

(a) the original maturity of the protection is less than 1 year; or

(b) the exposure is a short term exposure specified by the competent authorities as being subject to a one-day floor rather than a one-year floor in respect of the maturity value (M) under Annex VII, Part 2, point 14.

1. DEFINITION OF MATURITY

3. Subject to a maximum of 5 years, the effective maturity of the underlying shall be the longest possible remaining time before the obligor is scheduled to fulfil its obligations. Subject to point 4, the maturity of the credit protection shall be the time to the earliest date at which the protection may terminate or be terminated.
4. Where there is an option to terminate the protection which is at the discretion of the protection seller, the maturity of the protection shall be taken to be the time to the earliest date at which that option may be exercised. Where there is an option to terminate the protection which is at the discretion of the protection buyer and the terms of the arrangement at origination of the protection contain a positive incentive for the credit institution to call the transaction before contractual maturity, the maturity of the protection shall be taken to be the time to the earliest date at which that option may be exercised; otherwise such an option may be considered not to affect the maturity of the protection.
5. Where a credit derivative is not prevented from terminating prior to expiration of any grace period required for a default on the underlying obligation to occur as a result of a failure to pay the maturity of the protection shall be reduced by the amount of the grace period.

2. VALUATION OF PROTECTION

- 2.1. Transactions subject to funded credit protection — Financial Collateral Simple Method
6. Where there is a mismatch between the maturity of the exposure and the maturity of the protection, the collateral shall not be recognised.
- 2.2. Transactions subject to funded credit protection — Financial Collateral Comprehensive Method
7. The maturity of the credit protection and that of the exposure must be reflected in the adjusted value of the collateral according to the following formula:

$$C_{VAM} = C_{VA} \times (t-t^*) / (T-t^*)$$

where:

C_{VA} is the volatility adjusted value of the collateral as specified in Part 3, point 33 or the amount of the exposure, whichever is the lowest;

t is the number of years remaining to the maturity date of the credit protection calculated in accordance with points 3 to 5, or the value of T , whichever is the lower;

T is the number of years remaining to the maturity date of the exposure calculated in accordance with points 3 to 5, or 5 years, whichever is the lower; and

t^* is 0,25.

C_{VAM} shall be taken as C_{VA} further adjusted for maturity mismatch to be included in the formula for the calculation of the fully adjusted value of the exposure (E^*) set out at Part 3, point 33.

- 2.3. Transactions subject to unfunded credit protection
8. The maturity of the credit protection and that of the exposure must be reflected in the adjusted value of the credit protection according to the following formula

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$$G_A = G^* \times (t-t^*) / (T-t^*)$$

where:

G^* is the amount of the protection adjusted for any currency mismatch

G_A is G^* adjusted for any maturity mismatch

t is the number of years remaining to the maturity date of the credit protection calculated in accordance with points 3 to 5, or the value of T , whichever is the lower;

T is the number of years remaining to the maturity date of the exposure calculated in accordance with points 3 to 5, or 5 years, whichever is the lower; and

t^* is 0,25.

G_A is then taken as the value of the protection for the purposes of Part 3, points 83 to 92.

PART 5

Combinations of credit risk mitigation in the Standardised Approach

1. In the case where a credit institution calculating risk-weighted exposure amounts under Articles 78 to 83 has more than one form of credit risk mitigation covering a single exposure (e.g. a credit institution has both collateral and a guarantee partially covering an exposure), the credit institution shall be required to subdivide the exposure into parts covered by each type of credit risk mitigation tool (e.g. a part covered by collateral and a portion covered by guarantee) and the risk-weighted exposure amount for each portion must be calculated separately in accordance with the provisions of Articles 78 to 83 and this Annex.
2. When credit protection provided by a single protection provider has differing maturities, a similar approach to that described in point 1 shall be applied.

PART 6

Basket CRM techniques

1. FIRST-TO-DEFAULT CREDIT DERIVATIVES
 1. Where a credit institution obtains credit protection for a number of exposures under terms that the first default among the exposures shall trigger payment and that this credit event shall terminate the contract, the credit institution may modify the calculation of the risk-weighted exposure amount and, as relevant, the expected loss amount of the exposure which would, in the absence of the credit protection, produce the lowest risk-weighted exposure amount under Articles 78 to 83 or Articles 84 to 89 as appropriate in accordance with this Annex, but only if the exposure value is less than or equal to the value of the credit protection.
2. NTH-TO-DEFAULT CREDIT DERIVATIVES
 2. Where the n th default among the exposures triggers payment under the credit protection, the credit institution purchasing the protection may only recognise the protection for the calculation of risk-weighted exposure amounts and, as relevant, expected loss amounts if protection has also been obtained for defaults 1 to $n-1$ or

when n-1 defaults have already occurred. In such cases, the methodology shall follow that set out in point 1 for first-to-default derivatives appropriately modified for nth-to-default products.

ANNEX IX

SECURITISATION

PART 1

Definitions for the purposes of Annex IX

1. For the purposes of this Annex:
 - ‘Excess spread’ means finance charge collections and other fee income received in respect of the securitised exposures net of costs and expenses;
 - ‘Clean-up call option’ means a contractual option for the originator to repurchase or extinguish the securitisation positions before all of the underlying exposures have been repaid, when the amount of outstanding exposures falls below a specified level;
 - ‘Liquidity facility’ means the securitisation position arising from a contractual agreement to provide funding to ensure timeliness of cash flows to investors;
 - ‘Kirb’ means 8 % of the risk-weighted exposure amounts that would be calculated under Articles 84 to 89 in respect of the securitised exposures, had they not been securitised, plus the amount of expected losses associated with those exposures calculated under those Articles;
 - ‘Ratings based method’ means the method of calculating risk-weighted exposure amounts for securitisation positions in accordance with Part 4, points 46 to 51;
 - ‘Supervisory formula method’ means the method of calculating risk-weighted exposure amounts for securitisation positions in accordance with Part 4, points 52 to 54;
 - ‘Unrated position’ means a securitisation position which does not have an eligible credit assessment by an eligible ECAI as defined in Article 97;
 - ‘Rated position’ means a securitisation position which has an eligible credit assessment by an eligible ECAI as defined in Article 97; and
 - ‘Asset-backed commercial paper (ABCP) programme’ means a programme of securitisations the securities issued by which predominantly take the form of commercial paper with an original maturity of one year or less.

PART 2

Minimum requirements for recognition of significant credit risk transfer and calculation of risk-weighted exposure amounts and expected loss amounts for securitised exposures

1. MINIMUM REQUIREMENTS FOR RECOGNITION OF SIGNIFICANT CREDIT RISK TRANSFER IN A TRADITIONAL SECURITISATION

[^{F61}]. The originator credit institution of a traditional securitisation may exclude securitised exposures from the calculation of risk-weighted exposure amounts and expected loss amounts if either of the following conditions is fulfilled:

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- (a) significant credit risk associated with the securitised exposures is considered to have been transferred to third parties;
 - (b) the originator credit institution applies a 1 250 % risk weight to all securitisation positions it holds in this securitisation or deducts these securitisation positions from own funds according to Article 57 (r).]
- [^{F7}1a. Unless the competent authority decides in a specific instance that the possible reduction in risk weighted exposure amounts which the originator credit institution would achieve by this securitisation is not justified by a commensurate transfer of credit risk to third parties, significant credit risk shall be considered to have been transferred in the following cases:
- (a) the risk-weighted exposure amounts of the mezzanine securitisation positions held by the originator credit institution in this securitisation do not exceed 50 % of the risk weighted exposure amounts of all mezzanine securitisation positions existing in this securitisation;
 - (b) where there are no mezzanine securitisation positions in a given securitisation and the originator can demonstrate that the exposure value of the securitisation positions that would be subject to deduction from own funds or a 1 250 % risk weight exceeds a reasoned estimate of the expected loss on the securitised exposures by a substantial margin, the originator credit institution does not hold more than 20 % of the exposure values of the securitisation positions that would be subject to deduction from own funds or a 1 250 % risk weight.
- 1b. For the purposes of point 1a, mezzanine securitisation positions mean securitisation positions to which a risk weight lower than 1 250 % applies and that are more junior than the most senior position in this securitisation and more junior than any securitisation position in this securitisation to which:
- (a) in the case of a securitisation position subject to points 6 to 36 of part 4 a credit quality step 1; or
 - (b) in the case of a securitisation position subject to points 37 to 76 of part 4 a credit quality step 1 or 2 is assigned under Part 3.
- 1c. As an alternative to points 1a and 1b significant credit risk may be considered to have been transferred if the competent authority is satisfied that a credit institution has policies and methodologies in place, ensuring that the possible reduction of capital requirements which the originator achieves by the securitisation is justified by a commensurate transfer of credit risk to third parties. The competent authorities shall only be satisfied if the originator credit institution can demonstrate that such transfer of credit risk to third parties is also recognised for purposes of the credit institution's internal risk management and its internal capital allocation.
- 1d. In addition to points 1 to 1c, all the following conditions shall be met:]
- (a) The securitisation documentation reflects the economic substance of the transaction;
 - (b) The securitised exposures are put beyond the reach of the originator credit institution and its creditors, including in bankruptcy and receivership. This shall be supported by the opinion of qualified legal counsel;
 - (c) The securities issued do not represent payment obligations of the originator credit institution;

- (d) The transferee is a securitisation special-purpose entity (SSPE);
- (e) The originator credit institution does not maintain effective or indirect control over the transferred exposures. An originator shall be considered to have maintained effective control over the transferred exposures if it has the right to repurchase from the transferee the previously transferred exposures in order to realise their benefits or if it is obligated to re-assume transferred risk. The originator credit institution's retention of servicing rights or obligations in respect of the exposures shall not of itself constitute indirect control of the exposures;
- (f) Where there is a clean-up call option, the following conditions are satisfied:
 - (i) The clean-up call option is exercisable at the discretion of the originator credit institution;
 - (ii) The clean-up call option may only be exercised when 10 % or less of the original value of the exposures securitised remains unamortised; and
 - (iii) The clean-up call option is not structured to avoid allocating losses to credit enhancement positions or other positions held by investors and is not otherwise structured to provide credit enhancement; and
- (g) The securitisation documentation does not contain clauses that
 - (i) other than in the case of early amortisation provisions, require positions in the securitisation to be improved by the originator credit institution including but not limited to altering the underlying credit exposures or increasing the yield payable to investors in response to a deterioration in the credit quality of the securitised exposures; or
 - (ii) increase the yield payable to holders of positions in the securitisation in response to a deterioration in the credit quality of the underlying pool.

2. MINIMUM REQUIREMENTS FOR RECOGNITION OF SIGNIFICANT CREDIT RISK TRANSFER IN A SYNTHETIC SECURITISATION

[^{F6}2. An originator credit institution of a synthetic securitisation may calculate risk-weighted exposure amounts, and, as relevant, expected loss amounts, for the securitised exposures in accordance with points 3 and 4, if either of the following is met:

- (a) significant credit risk is considered to have been transferred to third parties either through funded or unfunded credit protection;
- (b) the originator credit institution applies a 1 250 % risk weight to all securitisation positions he holds in this securitisation or deducts these securitisation positions from own funds according to Article 57 (r).]

[^{F7}2a. Unless the competent authority decides on a case- by-case basis that the possible reduction in risk weighted exposure amounts which the originator credit institution would achieve by this securitisation is not justified by a commensurate transfer of credit risk to third parties, significant credit risk shall be considered to have been transferred if either of the following conditions is met:

- (a) the risk-weighted exposure amounts of the mezzanine securitisation positions which are held by the originator credit institution in this securitisation do not exceed 50 % of

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the risk weighted exposure amounts of all mezzanine securitisation positions existing in this securitisation;

- (b) where there are no mezzanine securitisation positions in a given securitisation and the originator can demonstrate that the exposure value of the securitisation positions that would be subject to deduction from own funds or a 1 250 % risk weight exceeds a reasoned estimate of the expected loss on the securitised exposures by a substantial margin, the originator credit institution does not hold more than 20 % of the exposure values of the securitisation positions that would be subject to deduction from own funds or a 1 250 % risk weight.
- 2b. For the purposes of point 2a, mezzanine securitisation positions means securitisation positions to which a risk weight lower than 1 250 % applies and that are more junior than the most senior position in this securitisation and more junior than any securitisation positions in this securitisation to which:
- (a) in the case of a securitisation position subject to points 6 to 36 of part 4 a credit quality step 1; or
 - (b) in the case of a securitisation position subject to points 37 to 76 of part 4 a credit quality step 1 or 2 is assigned under Part 3.
- 2c. As an alternative to points 2a and 2b, significant credit risk may be considered to have been transferred if the competent authority is satisfied that a credit institution has policies and methodologies in place to ensure that a possible reduction of capital requirements that the originator achieves by the securitisation is justified by a commensurate transfer of credit risk to third parties. The competent authorities shall only be satisfied if the originator credit institution can demonstrate that such transfer of credit risk to third parties is also recognised for purposes of the credit institutions internal risk management and its internal capital allocation.
- 2d. In addition, the transfer shall comply with the following conditions:]
- (a) The securitisation documentation reflects the economic substance of the transaction;
 - (b) The credit protection by which the credit risk is transferred complies with the eligibility and other requirements under Articles 90 to 93 for the recognition of such credit protection. For the purposes of this point, special purpose entities shall not be recognised as eligible unfunded protection providers;
 - (c) The instruments used to transfer credit risk do not contain terms or conditions that:
 - (i) impose significant materiality thresholds below which credit protection is deemed not to be triggered if a credit event occurs;
 - (ii) allow for the termination of the protection due to deterioration of the credit quality of the underlying exposures;
 - (iii) other than in the case of early amortisation provisions, require positions in the securitisation to be improved by the originator credit institution;
 - (iv) increase the credit institutions' cost of credit protection or the yield payable to holders of positions in the securitisation in response to a deterioration in the credit quality of the underlying pool; and
 - (d) An opinion is obtained from qualified legal counsel confirming the enforceability of the credit protection in all relevant jurisdictions.

3. ORIGINATOR CREDIT INSTITUTIONS' CALCULATION OF RISK-WEIGHTED EXPOSURE AMOUNTS FOR EXPOSURES SECURITISED IN A SYNTHETIC SECURITISATION

3. In calculating risk-weighted exposure amounts for the securitised exposures, where the conditions in point 2 are met, the originator credit institution of a synthetic securitisation shall, subject to points 5 to 7, use the relevant calculation methodologies set out in Part 4 and not those set out in Articles 78 to 89. For credit institutions calculating risk-weighted exposure amounts and expected loss amounts under Articles 84 to 89, the expected loss amount in respect of such exposures shall be zero.
4. For clarity, point 3 refers to the entire pool of exposures included in the securitisation. Subject to points 5 to 7, the originator credit institution is required to calculate risk-weighted exposure amounts in respect of all tranches in the securitisation in accordance with the provisions of Part 4 including those relating to the recognition of credit risk mitigation. For example, where a tranche is transferred by means of unfunded credit protection to a third party, the risk weight of that third party shall be applied to the tranche in the calculation of the originator credit institution's risk-weighted exposure amounts.
- 3.1. Treatment of maturity mismatches in synthetic securitisations
5. For the purposes of calculating risk-weighted exposure amounts in accordance with point 3, any maturity mismatch between the credit protection by which the tranching is achieved and the securitised exposures shall be taken into consideration in accordance with points 6 to 7.
6. The maturity of the securitised exposures shall be taken to be the longest maturity of any of those exposures subject to a maximum of five years. The maturity of the credit protection shall be determined in accordance with Annex VIII .
7. An originator credit institution shall ignore any maturity mismatch in calculating risk-weighted exposure amounts for tranches appearing pursuant to Part 4 with a risk weighting of 1 250 %. For all other tranches, the maturity mismatch treatment set out in Annex VIII shall be applied in accordance with the following formula:

$$RW^* \text{ is } \left[RW(SP) \times (t - t^*) / (T - t^*) \right] + \left[RW(Ass) \times (T - t) / (T - t^*) \right]$$

Where:

RW^* is Risk-weighted exposure amounts for the purposes of Article 75(a) ;

$RW(Ass)$ is Risk-weighted exposure amounts for exposures if they had not been securitised, calculated on a pro-rata basis;

$RW(SP)$ is Risk-weighted exposure amounts calculated under point 3 if there was no maturity mismatch;

T is maturity of the underlying exposures expressed in years;

t is maturity of credit protection. expressed in years; and

t^* is 0,25.

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PART 3

External credit assessments

1. REQUIREMENTS TO BE MET BY THE CREDIT ASSESSMENTS OF ECAIS
 1. To be used for the purposes of calculating risk-weighted exposure amounts under Part 4, a credit assessment of an eligible ECAI shall comply with the following conditions.
 - (a) There shall be no mismatch between the types of payments reflected in the credit assessment and the types of payment to which the credit institution is entitled under the contract giving rise to the securitisation position in question; and
 - (b) The credit assessments shall be available publicly to the market. Credit assessments are considered to be publicly available only if they have been published in a publicly accessible forum and they are included in the ECAI's transition matrix. Credit assessments that are made available only to a limited number of entities shall not be considered to be publicly available.
 2. USE OF CREDIT ASSESSMENTS
 2. A credit institution may nominate one or more eligible ECAIs the credit assessments of which shall be used in the calculation of its risk-weighted exposure amounts under Articles 94 to 101 (a 'nominated ECAI').
 3. Subject to points 5 to 7 below, a credit institution must use credit assessments from nominated ECAIs consistently in respect of its securitisation positions.
 4. Subject to points 5 and 6, a credit institution may not use an ECAI's credit assessments for its positions in some tranches and another ECAI's credit assessments for its positions in other tranches within the same structure that may or may not be rated by the first ECAI.
 5. Where a position has two credit assessments by nominated ECAIs, the credit institution shall use the less favourable credit assessment.
 6. Where a position has more than two credit assessments by nominated ECAIs, the two most favourable credit assessments shall be used. If the two most favourable assessments are different, the least favourable of the two shall be used.
 7. Where credit protection eligible under Articles 90 to 93 is provided directly to the SSPE, and that protection is reflected in the credit assessment of a position by a nominated ECAI, the risk weight associated with that credit assessment may be used. If the protection is not eligible under Articles 90 to 93, the credit assessment shall not be recognised. In the situation where the credit protection is not provided to the SSPE but rather directly to a securitisation position, the credit assessment shall not be recognised.
 - [^{F3}7a. Competent authorities shall, furthermore, take the necessary measures to ensure that, with regard to credit assessments relating to structured finance instruments, the ECAI is committed to make available publicly the explanation how the performance of pool assets affects its credit assessments.]
3. MAPPING
 8. The competent authorities shall determine with which credit quality step in the tables set out in Part 4 each credit assessment of an eligible ECAI shall be associated. In doing

so the competent authorities shall differentiate between the relative degrees of risk expressed by each assessment. They shall consider quantitative factors, such as default and/or loss rates, and qualitative factors such as the range of transactions assessed by the ECAI and the meaning of the credit assessment.

9. The competent authorities shall seek to ensure that securitisation positions to which the same risk weight is applied on the basis of the credit assessments of eligible ECAIs are subject to equivalent degrees of credit risk. This shall include modifying their determination as to the credit quality step with which a particular credit assessment shall be associated, as appropriate.

PART 4

Calculation

1. CALCULATION OF RISK-WEIGHTED EXPOSURE AMOUNTS
 1. For the purposes of Article 96, the risk-weighted exposure amount of a securitisation position shall be calculated by applying to the exposure value of the position the relevant risk weight as set out in this Part.
 2. Subject to point 3:
 - (a) where a credit institution calculates risk-weighted exposure amounts under points 6 to 36, the exposure value of an on-balance sheet securitisation position shall be its balance sheet value;
 - (b) where a credit institution calculates risk-weighted exposure amounts under points 37 to 76, the exposure value of an on-balance sheet securitisation position shall be measured gross of value adjustments; and
 - (c) the exposure value of an off-balance sheet securitisation position shall be its nominal value multiplied by a conversion figure as prescribed in this Annex. This conversion figure shall be 100 % unless otherwise specified.
 3. The exposure value of a securitisation position arising from a derivative instrument listed in Annex IV, shall be determined in accordance with Annex III.
 4. Where a securitisation position is subject to funded credit protection, the exposure value of that position may be modified in accordance with and subject to the requirements in Annex VIII as further specified in this Annex.
 5. Where a credit institution has two or more overlapping positions in a securitisation, it will be required to the extent that they overlap to include in its calculation of risk-weighted exposure amounts only the position or portion of a position producing the higher risk-weighted exposure amounts. For the purpose of this point 'overlapping' means that the positions, wholly or partially, represent an exposure to the same risk such that to the extent of the overlap there is a single exposure.
2. CALCULATION OF RISK-WEIGHTED EXPOSURE AMOUNTS UNDER THE STANDARDISED APPROACH
 6. Subject to point 8, the risk-weighted exposure amount of a rated securitisation position shall be calculated by applying to the exposure value the risk weight associated with the credit quality step with which the credit assessment has been determined to be

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associated by the competent authorities in accordance with Article 98 as laid down in Tables 1 and 2.

TABLE 1

Positions other than ones with short-term credit assessments

Credit quality step	1	2	3	4	5 and below
Risk weight	20 %	50 %	100 %	350 %	1 250 %

TABLE 2

Positions with short-term credit assessments

Credit quality step	1	2	3	All other credit assessments
Risk weight	20 %	50 %	100 %	1 250 %

7. Subject to points 10 to 15, the risk-weighted exposure amount of an unrated securitisation position shall be calculated by applying a risk weight of 1 250 %.
- 2.1. Originator and sponsor credit institutions
8. For an originator credit institution or sponsor credit institution, the risk-weighted exposure amounts calculated in respect of its positions in a securitisation may be limited to the risk-weighted exposure amounts which would be calculated for the securitised exposures had they not been securitised subject to the presumed application of a 150 % risk weight to all past due items and items belonging to ‘regulatory high risk categories’ amongst the securitised exposures.
- 2.2. Treatment of unrated positions
9. Credit institutions having an unrated securitisation position may apply the treatment set out in point 10 for calculating the risk-weighted exposure amount for that position provided the composition of the pool of exposures securitised is known at all times.
10. A credit institution may apply the weighted-average risk weight that would be applied to the securitised exposures under Articles 78 to 83 by a credit institution holding the exposures, multiplied by a concentration ratio. This concentration ratio is equal to the sum of the nominal amounts of all the tranches divided by the sum of the nominal amounts of the tranches junior to or pari passu with the tranche in which the position is held including that tranche itself. The resulting risk weight shall not be higher than 1 250 % or lower than any risk weight applicable to a rated more senior tranche. Where the credit institution is unable to determine the risk weights that would be applied to the securitised exposures under Articles 78 to 83, it shall apply a risk weight of 1 250 % to the position.
- 2.3. Treatment of securitisation positions in a second loss tranche or better in an ABCP programme
11. Subject to the availability of a more favourable treatment by virtue of the provisions concerning liquidity facilities in points 13 to 15, a credit institution may apply to securitisation positions meeting the conditions set out in point 12 a risk weight that is

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the greater of 100 % or the highest of the risk weights that would be applied to any of the securitised exposures under Articles 78 to 83 by a credit institution holding the exposures.

12. For the treatment set out in point 11 to be available, the securitisation position shall be:

- (a) in a tranche which is economically in a second loss position or better in the securitisation and the first loss tranche must provide meaningful credit enhancement to the second loss tranche;
- (b) of a quality the equivalent of investment grade or better; and
- (c) held by a credit institution which does not hold a position in the first loss tranche.

2.4. Treatment of unrated liquidity facilities

2.4.1. Eligible liquidity facilities

13. [^{F6}When the following conditions are met, to determine its exposure value a conversion figure of 50 % may be applied to the nominal amount of a liquidity facility:]

- (a) The liquidity facility documentation shall clearly identify and limit the circumstances under which the facility may be drawn;
- (b) It shall not be possible for the facility to be drawn so as to provide credit support by covering losses already incurred at the time of draw — for example, by providing liquidity in respect of exposures in default at the time of draw or by acquiring assets at more than fair value;
- (c) The facility shall not be used to provide permanent or regular funding for the securitisation;
- (d) Repayment of draws on the facility shall not be subordinated to the claims of investors other than to claims arising in respect of interest rate or currency derivative contracts, fees or other such payments, nor be subject to waiver or deferral;
- (e) It shall not be possible for the facility to be drawn after all applicable credit enhancements from which the liquidity facility would benefit are exhausted; and
- (f) The facility must include a provision that results in an automatic reduction in the amount that can be drawn by the amount of exposures that are in default, where ‘default’ has the meaning given to it under Articles 84 to 89, or where the pool of securitised exposures consists of rated instruments, that terminates the facility if the average quality of the pool falls below investment grade.

The risk weight to be applied shall be the highest risk weight that would be applied to any of the securitised exposures under Articles 78 to 83 by a credit institution holding the exposures.

^{F8}2.4.2. Liquidity facilities that may be drawn only in the event of a general market disruption

Textual Amendments

F8 Deleted by [Commission Directive 2009/83/EC of 27 July 2009 amending certain Annexes to Directive 2006/48/EC of the European Parliament and of the Council as regards technical provisions concerning risk management \(Text with EEA relevance\)](#).

2.4.3. Cash advance facilities

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15. To determine its exposure value, a conversion figure of 0 % may be applied to the nominal amount of a liquidity facility that is unconditionally cancellable provided that the conditions set out at point 13 are satisfied and that repayment of draws on the facility are senior to any other claims on the cash flows arising from the securitised exposures.
- 2.5. Additional capital requirements for securitisations of revolving exposures with early amortisation provisions
16. In addition to the risk-weighted exposure amounts calculated in respect of its securitisation positions, an originator credit institution shall calculate a risk-weighted exposure amount according to the method set out in points 17 to 33 when it sells revolving exposures into a securitisation that contains an early amortisation provision.
17. The credit institution shall calculate a risk-weighted exposure amount in respect of the sum of the originator's interest and the investors' interest.
18. For securitisation structures where the securitised exposures comprise revolving and non-revolving exposures, an originator credit institution shall apply the treatment set out in point 19 to 31 to that portion of the underlying pool containing revolving exposures.
19. For the purposes of point 16 to 31, 'originator's interest' means the exposure value of that notional Part of a pool of drawn amounts sold into a securitisation, the proportion of which in relation to the amount of the total pool sold into the structure determines the proportion of the cash flows generated by principal and interest collections and other associated amounts which are not available to make payments to those having securitisation positions in the securitisation.

To qualify as such, the originator's interest may not be subordinate to the investors' interest.

'Investors' interest' means the exposure value of the remaining notional Part of the pool of drawn amounts.

20. The exposure of the originator credit institution, associated with its rights in respect of the originator's interest, shall not be considered a securitisation position but as a pro rata exposure to the securitised exposures as if they had not been securitised.
- 2.5.1. Exemptions from early amortisation treatment
21. Originators of the following types of securitisation are exempt from the capital requirement in point 16:
- (a) securitisations of revolving exposures whereby investors remain fully exposed to all future draws by borrowers so that the risk on the underlying facilities does not return to the originator credit institution even after an early amortisation event has occurred, and
- (b) securitisations where any early amortisation provision is solely triggered by events not related to the performance of the securitised assets or the originator credit institution, such as material changes in tax laws or regulations.
- 2.5.2. Maximum capital requirement
22. For an originator credit institution subject to the capital requirement in point 16 the total of the risk-weighted exposure amounts in respect of its positions in the investors' interest and the risk-weighted exposure amounts calculated under point 16 shall be no greater than the greater of:

- (a) the risk-weighted exposure amounts calculated in respect of its positions in the investors' interest; and
- (b) the risk-weighted exposure amounts that would be calculated in respect of the securitised exposures by a credit institution holding the exposures as if they had not been securitised in an amount equal to the investors' interest.
23. Deduction of net gains, if any, arising from the capitalisation of future income required under Article 57, shall be treated outside the maximum amount indicated in point 22.
- 2.5.3. Calculation of risk-weighted exposure amounts
24. The risk-weighted exposure amount to be calculated in accordance with point 16 shall be determined by multiplying the amount of the investors' interest by the product of the appropriate conversion figure as indicated in points 26 to 33 and the weighted average risk weight that would apply to the securitised exposures if the exposures had not been securitised.
25. An early amortisation provision shall be considered to be 'controlled' where the following conditions are met:
- (a) the originator credit institution has an appropriate capital/liquidity plan in place to ensure that it has sufficient capital and liquidity available in the event of an early amortisation;
- (b) throughout the duration of the transaction there is pro-rata sharing between the originator's interest and the investor's interest of payments of interest and principal, expenses, losses and recoveries based on the balance of receivables outstanding at one or more reference points during each month;
- (c) the amortisation period is considered sufficient for 90 % of the total debt (originator's and investors' interest) outstanding at the beginning of the early amortisation period to have been repaid or recognised as in default; and
- (d) the speed of repayment is no more rapid than would be achieved by straight-line amortisation over the period set out in point (c).
26. In the case of securitisations subject to an early amortisation provision of retail exposures which are uncommitted and unconditionally cancellable without prior notice, where the early amortisation is triggered by the excess spread level falling to a specified level, credit institutions shall compare the three-month average excess spread level with the excess spread levels at which excess spread is required to be trapped.
27. Where the securitisation does not require excess spread to be trapped, the trapping point is deemed to be 4,5 percentage points greater than the excess spread level at which an early amortisation is triggered.
28. The conversion figure to be applied shall be determined by the level of the actual three month average excess spread in accordance with Table 3.

TABLE 3

	Securitisations subject to a controlled early amortisation provision	Securitisations subject to a non-controlled early amortisation provision
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3 months average excess spread	Conversion figure	Conversion figure
Above level A	0 %	0 %
Level A	1 %	5 %
Level B	2 %	15 %
Level C	10 %	50 %
Level D	20 %	100 %
Level E	40 %	100 %

29. In Table 3, ‘Level A’ means levels of excess spread less than 133,33 % of the trapping level of excess spread but not less than 100 % of that trapping level, ‘Level B’ means levels of excess spread less than 100 % of the trapping level of excess spread but not less than 75 % of that trapping level, ‘Level C’ means levels of excess spread less than 75 % of the trapping level of excess spread but not less than 50 % of that trapping level, ‘Level D’ means levels of excess spread less than 50 % of the trapping level of excess spread but not less than 25 % of that trapping level and ‘Level E’ means levels of excess spread less than 25 % of the trapping level of excess spread.
30. In the case of securitisations subject to an early amortisation provision of retail exposures which are uncommitted and unconditionally cancellable without prior notice and where the early amortisation is triggered by a quantitative value in respect of something other than the three months average excess spread, the competent authorities may apply a treatment which approximates closely to that prescribed in points 26 to 29 for determining the conversion figure indicated.
31. Where a competent authority intends to apply a treatment in accordance with point 30 in respect of a particular securitisation, it shall first inform the relevant competent authorities of all the other Member States. Before the application of such a treatment becomes Part of the general policy approach of the competent authority to securitisations containing early amortisation clauses of the type in question, the competent authority shall consult the relevant competent authorities of all the other Member States and take into consideration the views expressed. The views expressed in such consultation and the treatment applied shall be publicly disclosed by the competent authority in question.
32. All other securitisations subject to a controlled early amortisation provision of revolving exposures shall be subject to a conversion figure of 90 %.
33. All other securitisations subject to a non-controlled early amortisation provision of revolving exposures shall be subject to a conversion figure of 100 %.
- 2.6. Recognition of credit risk mitigation on securitisation positions
34. Where credit protection is obtained on a securitisation position, the calculation of risk-weighted exposure amounts may be modified in accordance with Annex VIII.
- 2.7. Reduction in risk-weighted exposure amounts
35. As provided in Article 66(2), in respect of a securitisation position in respect of which a 1 250 % risk weight is assigned, credit institutions may, as an alternative to including the position in their calculation of risk-weighted exposure amounts, deduct from own

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funds the exposure value of the position. For these purposes, the calculation of the exposure value may reflect eligible funded credit protection in a manner consistent with point 34.

36. Where a credit institution makes use of the alternative indicated in point 35, 12,5 times the amount deducted in accordance with that point shall, for the purposes of point 8, be subtracted from the amount specified in point 8 as the maximum risk-weighted exposure amount to be calculated by the credit institutions there indicated.

3. CALCULATION OF RISK-WEIGHTED EXPOSURE AMOUNTS UNDER THE INTERNAL RATINGS BASED APPROACH

3.1. Hierarchy of methods

37. For the purposes of Article 96, the risk-weighted exposure amount of a securitisation positions shall be calculated in accordance with points 38 to 76.

38. For a rated position or a position in respect of which an inferred rating may be used, the Ratings Based Method set out in points 46 to 51 shall be used to calculate the risk-weighted exposure amount.

39. For an unrated position the Supervisory Formula Method set out in points 52 to 54 shall be used except where the Internal Assessment Approach is permitted to be used as set out in points 43 and 44.

40. A credit institution other than an originator credit institution or a sponsor credit institution may only use the Supervisory Formula Method with the approval of the competent authorities.

41. In the case of an originator or sponsor credit institution unable to calculate K_{irb} and which has not obtained approval to use the Internal Assessment Approach for positions in ABCP programmes, and in the case of other credit institutions where they have not obtained approval to use the Supervisory Formula Method or, for positions in ABCP programmes, the Internal Assessment Approach, a risk weight of 1 250 % shall be assigned to securitisation positions which are unrated and in respect of which an inferred rating may not be used.

3.1.1. Use of inferred ratings

42. When the following minimum operational requirements are satisfied, an institution shall attribute to an unrated position an inferred credit assessment equivalent to the credit assessment of those rated positions (the 'reference positions') which are the most senior positions which are in all respects subordinate to the unrated securitisation position in question:

- (a) the reference positions must be subordinate in all respects to the unrated securitisation position;
- (b) the maturity of the reference positions must be equal to or longer than that of the unrated position in question; and
- (c) on an ongoing basis, any inferred rating must be updated to reflect any changes in the credit assessment of the reference positions.

3.1.2. The 'Internal Assessment Approach' for positions in ABCP programmes

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43. Subject to the approval of the competent authorities, when the following conditions are satisfied a credit institution may attribute to an unrated position in an ABCP programme a derived rating as laid down in point 44:
- (a) positions in the commercial paper issued from the ABCP programme shall be rated positions;
 - (b) the credit institution shall satisfy the competent authorities that its internal assessment of the credit quality of the position reflects the publicly available assessment methodology of one or more eligible ECAIs, for the rating of securities backed by the exposures of the type securitised;
 - (c) the ECAIs, the methodology of which shall be reflected as required by the point (b), shall include those ECAIs which have provided an external rating for the commercial paper issued from the ABCP programme. Quantitative elements, such as stress factors, used in assessing the position to a particular credit quality must be at least as conservative as those used in the relevant assessment methodology of the ECAIs in question;
 - (d) in developing its internal assessment methodology the credit institution shall take into consideration relevant published ratings methodologies of the eligible ECAIs that rate the commercial paper of the ABCP programme. This consideration shall be documented by the credit institution and updated regularly, as outlined in point (g);
 - (e) the credit institution's internal assessment methodology shall include rating grades. There shall be a correspondence between such rating grades and the credit assessments of eligible ECAIs. This correspondence shall be explicitly documented;
 - (f) the internal assessment methodology shall be used in the credit institution's internal risk management processes, including its decision making, management information and capital allocation processes;
 - (g) internal or external auditors, an ECAI, or the credit institution's internal credit review or risk management function shall perform regular reviews of the internal assessment process and the quality of the internal assessments of the credit quality of the credit institution's exposures to an ABCP programme. If the credit institution's internal audit, credit review, or risk management functions perform the review, then these functions shall be independent of the ABCP programme business line, as well as the customer relationship;
 - (h) the credit institution shall track the performance of its internal ratings over time to evaluate the performance of its internal assessment methodology and shall make adjustments, as necessary, to that methodology when the performance of the exposures routinely diverges from that indicated by the internal ratings;
 - (i) the ABCP programme shall incorporate underwriting standards in the form of credit and investment guidelines. In deciding on an asset purchase, the ABCP programme administrator shall consider the type of asset being purchased, the type and monetary value of the exposures arising from the provision of liquidity facilities and credit enhancements, the loss distribution, and the legal and economic isolation of the transferred assets from the entity selling the assets. A credit analysis of the asset seller's risk profile shall be performed and shall include analysis of past and expected future financial performance, current market position, expected future competitiveness, leverage, cash flow, interest coverage and debt rating. In addition, a review of the

- seller's underwriting standards, servicing capabilities, and collection processes shall be performed;
- (j) the ABCP programme's underwriting standards shall establish minimum asset eligibility criteria that, in particular:
 - (i) exclude the purchase of assets that are significantly past due or defaulted;
 - (ii) limit excess concentration to individual obligor or geographic area; and
 - (iii) limits the tenor of the assets to be purchased;
 - (k) the ABCP programme shall have collections policies and processes that take into account the operational capability and credit quality of the servicer. The ABCP programme shall mitigate seller/servicer risk through various methods, such as triggers based on current credit quality that would preclude commingling of funds;
 - (l) the aggregated estimate of loss on an asset pool that the ABCP programme is considering purchasing must take into account all sources of potential risk, such as credit and dilution risk. If the seller-provided credit enhancement is sized based only on credit-related losses, then a separate reserve shall be established for dilution risk, if dilution risk is material for the particular exposure pool. In addition, in sizing the required enhancement level, the program shall review several years of historical information, including losses, delinquencies, dilutions, and the turnover rate of the receivables; and
 - (m) the ABCP programme shall incorporate structural features — for example wind down triggers — into the purchase of exposures in order to mitigate potential credit deterioration of the underlying portfolio.

The requirement for the assessment methodology of the ECAI to be publicly available may be waived by the competent authorities where they are satisfied that due to the specific features of the securitisation — for example its unique structure — there is as yet no publicly available ECAI assessment methodology.

44. The unrated position shall be assigned by the credit institution to one of the rating grades described in point 43. The position shall be attributed a derived rating the same as the credit assessments corresponding to that rating grade as laid down in point 43. Where this derived rating is, at the inception of the securitisation, at the level of investment grade or better, it shall be considered the same as an eligible credit assessment by an eligible ECAI for the purposes of calculating risk-weighted exposure amounts.

3.2. Maximum risk-weighted exposure amounts

45. For an originator credit institution, a sponsor credit institution, or for other credit institutions which can calculate K_{IRB} , the risk-weighted exposure amounts calculated in respect of its positions in a securitisation may be limited to that which would produce a capital requirement under Article 75(a) equal to the sum of 8 % of the risk-weighted exposure amounts which would be produced if the securitised assets had not been securitised and were on the balance sheet of the credit institution plus the expected loss amounts of those exposures.

3.3. Ratings Based Method

46. Under the Ratings Based Method, the risk-weighted exposure amount of a rated securitisation position shall be calculated by applying to the exposure value the risk

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weight associated with the credit quality step with which the credit assessment has been determined to be associated by the competent authorities in accordance with Article 98, as set out in the Tables 4 and 5, multiplied by 1,06.

TABLE 4

Positions other than ones with short-term credit assessments

Credit Quality Step (CQS)	Risk weight		
	A	B	C
CQS 1	7 %	12 %	20 %
CQS 2	8 %	15 %	25 %
CQS 3	10 %	18 %	35 %
CQS 4	12 %	20 %	35 %
CQS 5	20 %	35 %	35 %
CQS 6	35 %	50 %	50 %
CQS 7	60 %	75 %	75 %
CQS 8	100 %	100 %	100 %
CQS 9	250 %	250 %	250 %
CQS 10	425 %	425 %	425 %
CQS 11	650 %	650 %	650 %
Below CQS 11	1 250 %	1 250 %	1 250 %

TABLE 5

Positions with short term credit assessments

Credit Quality Step (CQS)	Risk weight		
	A	B	C
CQS 1	7 %	12 %	20 %
CQS 2	12 %	20 %	35 %
CQS 3	60 %	75 %	75 %
All other credit assessments	1 250 %	1 250 %	1 250 %

47. Subject to points 48 and 49, the risk weights in column A of each table shall be applied where the position is in the most senior tranche of a securitisation. When determining whether a tranche is the most senior, it is not required to take into consideration amounts due under interest rate or currency derivative contracts, fees due, or other similar payments.

^{F8}48. A risk weight of 6 % may be applied to a position in the most senior tranche of a securitisation where that tranche is senior in all respects to another tranche of the

securitisation positions which would receive a risk weight of 7 % under point 46, provided that:

-
49. The risk weights in column C of each table shall be applied where the position is in a securitisation where the effective number of exposures securitised is less than six. In calculating the effective number of exposures securitised multiple exposures to one obligor must be treated as one exposure. The effective number of exposures is calculated as:

$$N = \frac{(iEAD_1)^2}{iEAD_2}$$

where EAD_i represents the sum of the exposure values of all exposures to the ith obligor. In the case of resecuritisation (securitisation of securitisation exposures), the credit institution must look at the number of securitisation exposures in the pool and not the number of underlying exposures in the original pools from which the underlying securitisation exposures stem. If the portfolio share associated with the largest exposure, C₁, is available, the credit institution may compute N as 1/C₁.

50. The risk weights in Column B shall be applied to all other positions.
51. Credit risk mitigation on securitisation positions may be recognised in accordance with points 60 to 62.
- 3.4. Supervisory Formula Method
52. Subject to points 58 and 59, under the Supervisory Formula Method, the risk weight for a securitisation position shall be the greater of 7 % or the risk weight to be applied in accordance with point 53.
53. Subject to points 58 and 59, the risk weight to be applied to the exposure amount shall be:

$$12,5 \times (S[L+T] - S[L])/T$$

where:

$$S[x] = \left\{ \begin{array}{l} x \quad \text{when } x \leq Kirbr \\ Kirbr + K[x] - K[Kirbr] + (d \cdot Kirbr/\omega)(1 - e^{\alpha(Kirbr - x)/Kirbr}) \quad \text{when } Kirbr < x \end{array} \right\}$$

where:

$$h = (1 - Kirbr / ELGD)^N$$

$$c = Kirbr / (1 - h)$$

$$\nu = \frac{(ELGD - Kirbr) Kirbr + 0.25(1 - ELGD) Kirbr}{N}$$

$$f = \left(\frac{\nu + Kirbr^2}{1 - h} - c^2 \right) + \frac{(1 - Kirbr) Kirbr - \nu}{(1 - h)r}$$

$$g = \frac{(1 - c)c}{f} - 1$$

$$a = g \cdot c$$

$$b = g \cdot (1 - c)$$

$$d = 1 - (1 - h) \cdot (1 - Beta[Kirbr; a, b])$$

$$K[x] = (1 - h) \cdot ((1 - Beta[x; a, b])x + Beta[x; a + 1, b]c)$$

τ = 1 000, and

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$\omega = 20$.

In these expressions, Beta [x; a, b] refers to the cumulative beta distribution with parameters a and b evaluated at x.

T (the thickness of the tranche in which the position is held) is measured as the ratio of (a) the nominal amount of the tranche to (b) the sum of the exposure values of the exposures that have been securitised. For the purposes of calculating T the exposure value of a derivative instrument listed in Annex IV shall, where the current replacement cost is not a positive value, be the potential future credit exposure calculated in accordance with Annex III.

Kirbr is the ratio of (a) Kirb to (b) the sum of the exposure values of the exposures that have been securitised. Kirbr is expressed in decimal form (e.g. Kirb equal to 15 % of the pool would be expressed as Kirbr of 0,15).

L (the credit enhancement level) is measured as the ratio of the nominal amount of all tranches subordinate to the tranche in which the position is held to the sum of the exposure values of the exposures that have been securitised. Capitalised future income shall not be included in the measured L. Amounts due by counterparties to derivative instruments listed in Annex IV that represent tranches more junior than the tranche in question may be measured at their current replacement cost (without the potential future credit exposures) in calculating the enhancement level.

N is the effective number of exposures calculated in accordance with point 49.

ELGD, the exposure-weighted average loss-given-default, is calculated as follows:

$$ELGD = \frac{\sum LGD_i \cdot EAD_i}{\sum EAD_i}$$

where LGD_i represents the average LGD associated with all exposures to the i^{th} obligor, where LGD is determined in accordance with Articles 84 to 89. In the case of resecuritisation, an LGD of 100 % shall be applied to the securitised positions. When default and dilution risk for purchased receivables are treated in an aggregate manner within a securitisation (e.g. a single reserve or over-collateralisation is available to cover losses from either source), the LGD_i input shall be constructed as a weighted average of the LGD for credit risk and the 75 % LGD for dilution risk. The weights shall be the stand-alone capital charges for credit risk and dilution risk respectively.

Simplified inputs

If the exposure value of the largest securitised exposure, C_1 , is no more than 3 % of the sum of the exposure values of the securitised exposures, then, for the purposes of the Supervisory Formula Method, the credit institution may set $LGD = 50\%$ and N equal to either:

$$N = \left(C_1 C_m + \left(\frac{C_m - C_1}{m-1} \right) \max \{1 - m C_1, 0\} \right)^{-1}$$

or

$$N = 1/C_1.$$

C_m is the ratio of the sum of the exposure values of the largest 'm' exposures to the sum of the exposure values of the exposures securitised. The level of 'm' may be set by the credit institution.

For securitisations involving retail exposures, the competent authorities may permit the Supervisory Formula Method to be implemented using the simplifications: $h = 0$ and $v = 0$.

54. Credit risk mitigation on securitisation positions may be recognised in accordance with points 60, 61 and 63 to 67.

3.5. Liquidity Facilities

55. The provisions in points 56 to 59 apply for the purposes of determining the exposure value of an unrated securitisation position in the form of certain types of liquidity facility.

^{F8}3.5.1. Liquidity Facilities Only Available in the Event of General Market Disruption

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3.5.2. Cash advance facilities

57. A conversion figure of 0 % may be applied to the nominal amount of a liquidity facility that meets the conditions set out in point 15.

3.5.3. Exceptional treatment where K_{irb} cannot be calculated.

58. When it is not practical for the credit institution to calculate the risk-weighted exposure amounts for the securitised exposures as if they had not been securitised, a credit institution may, on an exceptional basis and subject to the consent of the competent authorities, temporarily be allowed to apply the method set out in point 59 for the calculation of risk-weighted exposure amounts for an unrated securitisation position in the form of a liquidity facility that meets the conditions to be an 'eligible liquidity facility' set out in point 13 or that falls within the terms of point 56.

59. The highest risk weight that would be applied under Articles 78 to 83 to any of the securitised exposures, had they not been securitised, may be applied to the securitisation position represented by the liquidity facility. To determine the exposure value of the position a conversion figure of 50 % may be applied to the nominal amount of the liquidity facility if the facility has an original maturity of one year or less. If the liquidity facility complies with the conditions in point 56 a conversion figure of 20 % may be applied. In other cases a conversion factor of 100 % shall be applied.

3.6. Recognition of credit risk mitigation in respect of securitisation positions

3.6.1. Funded credit protection

60. Eligible funded protection is limited to that which is eligible for the calculation of risk-weighted exposure amounts under Articles 78 to 83 as laid down under Articles 90 to 93 and recognition is subject to compliance with the relevant minimum requirements as laid down under those Articles.

3.6.2. Unfunded credit protection

61. Eligible unfunded credit protection and unfunded protection providers are limited to those which are eligible under Articles 90 to 93 and recognition is subject to compliance with the relevant minimum requirements laid down under those Articles.

3.6.3. Calculation of capital requirements for securitisation positions with credit risk mitigation

Ratings Based Method

62. Where risk-weighted exposure amounts are calculated using the Ratings Based Method, the exposure value and/or the risk-weighted exposure amount for a securitisation position in respect of which credit protection has been obtained may

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be modified in accordance with the provisions of Annex VIII as they apply for the calculation of risk-weighted exposure amounts under Articles 78 to 83.

Supervisory Formula Method — full credit protection

63. Where risk-weighted exposure amounts are calculated using the Supervisory Formula Method, the credit institution shall determine the ‘effective risk weight’ of the position. It shall do this by dividing the risk-weighted exposure amount of the position by the exposure value of the position and multiplying the result by 100.
64. In the case of funded credit protection, the risk-weighted exposure amount of the securitisation position shall be calculated by multiplying the funded protection-adjusted exposure amount of the position (E^* , as calculated under Articles 90 to 93 for the calculation of risk-weighted exposure amounts under Articles 78 to 83 taking the amount of the securitisation position to be E) by the effective risk weight.
65. In the case of unfunded credit protection, the risk-weighted exposure amount of the securitisation position shall be calculated by multiplying G_A (the amount of the protection adjusted for any currency mismatch and maturity mismatch in accordance with the provisions of Annex VIII) by the risk weight of the protection provider; and adding this to the amount arrived at by multiplying the amount of the securitisation position minus G_A by the effective risk weight.

Supervisory formula method — partial protection

66. If the credit risk mitigation covers the ‘first loss’ or losses on a proportional basis on the securitisation position, the credit institution may apply points 63 to 65.
 67. In other cases, the credit institution shall treat the securitisation position as two or more positions with the uncovered portion being considered the position with the lower credit quality. For the purposes of calculating the risk-weighted exposure amount for this position, the provisions in points 52 to 54 shall apply subject to the modifications that ‘T’ shall be adjusted to e^* in the case of funded credit protection; and to $T-g$ in the case of unfunded credit protection, where e^* denotes the ratio of E^* to the total notional amount of the underlying pool, where E^* is the adjusted exposure amount of the securitisation position calculated in accordance with the provisions of Annex VIII as they apply for the calculation of risk-weighted exposure amounts under Articles 78 to 83 taking the amount of the securitisation position to be E ; and g is the ratio of the nominal amount of credit protection (adjusted for any currency or maturity mismatch in accordance with the provisions of Annex VIII) to the sum of the exposure amounts of the securitised exposures. In the case of unfunded credit protection the risk weight of the protection provider shall be applied to that portion of the position not falling within the adjusted value of ‘T’.
- 3.7. Additional capital requirements for securitisations of revolving exposures with early amortisation provisions
68. In addition to the risk-weighted exposure amounts calculated in respect of its securitisation positions, an originator credit institution shall be required to calculate a risk-weighted exposure amount according to the methodology set out in points 16 to 33 when it sells revolving exposures into a securitisation that contains an early amortisation provision.
 69. For the purposes of point 68, points 70 and 71 shall replace points 19 and 20.
 70. For the purposes of these provisions, ‘originators interest’ shall be the sum of:

- (a) the exposure value of that notional Part of a pool of drawn amounts sold into a securitisation, the proportion of which in relation to the amount of the total pool sold into the structure determines the proportion of the cash flows generated by principal and interest collections and other associated amounts which are not available to make payments to those having securitisation positions in the securitisation; plus
- (b) the exposure value of that Part of the pool of undrawn amounts of the credit lines, the drawn amounts of which have been sold into the securitisation, the proportion of which to the total amount of such undrawn amounts is the same as the proportion of the exposure value described in point (a) to the exposure value of the pool of drawn amounts sold into the securitisation.

To qualify as such, the originator's interest may not be subordinate to the investors' interest.

'Investors' interest' means the exposure value of the notional part of the pool of drawn amounts not falling within point (a) plus the exposure value of that part of the pool of undrawn amounts of credit lines, the drawn amounts of which have been sold into the securitisation, not falling within point (b).

71. The exposure of the originator credit institution associated with its rights in respect of that Part of the originator's interest described in point 70(a) shall not be considered a securitisation position but as a pro rata exposure to the securitised drawn amounts exposures as if they had not been securitised in an amount equal to that described in point 70(a). The originator credit institution shall also be considered to have a pro rata exposure to the undrawn amounts of the credit lines, the drawn amounts of which have been sold into the securitisation, in an amount equal to that described in point 70(b).

3.8. Reduction in risk-weighted exposure amounts

72. The risk-weighted exposure amount of a securitisation position to which a 1 250 % risk weight is assigned may be reduced by 12,5 times the amount of any value adjustments made by the credit institution in respect of the securitised exposures. To the extent that value adjustments are taken account of for this purpose they shall not be taken account of for the purposes of the calculation indicated in Annex VII, Part 1, point 36.
73. The risk-weighted exposure amount of a securitisation position may be reduced by 12,5 times the amount of any value adjustments made by the credit institution in respect of the position.
74. As provided in Article 66(2), in respect of a securitisation position in respect of which a 1 250 % risk weight applies, credit institutions may, as an alternative to including the position in their calculation of risk-weighted exposure amounts, deduct from own funds the exposure value of the position.
75. For the purposes of point 74:
- (a) the exposure value of the position may be derived from the risk-weighted exposure amounts taking into account any reductions made in accordance with points 72 and 73;
 - (b) the calculation of the exposure value may reflect eligible funded protection in a manner consistent with the methodology prescribed in points 60 to 67; and
 - (c) where the Supervisory Formula Method is used to calculate risk-weighted exposure amounts and $L < K_{IRBR}$ and $[L+T] > K_{IRBR}$ the position may be treated as two positions with L equal to K_{IRBR} for the more senior of the positions.

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76. Where a credit institution makes use of the alternative indicated in point 74, 12,5 times the amount deducted in accordance with that point shall, for the purposes of point 45, be subtracted from the amount specified in point 45 as the maximum risk-weighted exposure amount to be calculated by the credit institutions there indicated.

ANNEX X

OPERATIONAL RISK

PART 1

Basic Indicator Approach

1. CAPITAL REQUIREMENT
 1. Under the Basic Indicator Approach, the capital requirement for operational risk is equal to 15 % of the relevant indicator defined in points 2 to 9.
2. RELEVANT INDICATOR
 2. The relevant indicator is the average over three years of the sum of net interest income and net non-interest income.
 3. The three-year average is calculated on the basis of the last three twelve-monthly observations at the end of the financial year. When audited figures are not available, business estimates may be used.
 4. If for any given observation, the sum of net interest income and net non-interest income is negative or equal to zero, this figure shall not be taken into account in the calculation of the three-year average. The relevant indicator shall be calculated as the sum of positive figures divided by the number of positive figures.
- 2.1. Credit institutions subject to Directive 86/635/EEC
 5. Based on the accounting categories for the profit and loss account of credit institutions under Article 27 of Directive 86/635/EEC, the relevant indicator shall be expressed as the sum of the elements listed in Table 1. Each element shall be included in the sum with its positive or negative sign.
 6. These elements may need to be adjusted to reflect the qualifications in points 7 and 8.

TABLE 1

1	Interest receivable and similar income
2	Interest payable and similar charges
3	Income from shares and other variable/fixed-yield securities
4	Commissions/fees receivable

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5	Commissions/fees payable
6	Net profit or net loss on financial operations
7	Other operating income

2.1.1. Qualifications

7. The indicator shall be calculated before the deduction of any provisions and operating expenses. Operating expenses shall include fees paid for outsourcing services rendered by third parties which are not a parent or subsidiary of the credit institution or a subsidiary of a parent which is also the parent of the credit institution. Expenditure on the outsourcing of services rendered by third parties may reduce the relevant indicator if the expenditure is incurred from an undertaking subject to supervision under, or equivalent to, this Directive.
8. The following elements shall not be used in the calculation of the relevant indicator:
 - (a) Realised profits/losses from the sale of non-trading book items;
 - (b) Income from extraordinary or irregular items;
 - (c) Income derived from insurance.

When revaluation of trading items is part of the profit and loss statement, revaluation could be included. When Article 36 (2) of Directive 86/635/EEC is applied, revaluation booked in the profit and loss account should be included.

2.2. Credit institutions subject to a different accounting framework

9. When credit institutions are subject to an accounting framework different from the one established by Directive 86/635/EEC, they should calculate the relevant indicator on the basis of data that best reflect the definition set out in points 2 to 8.

PART 2

Standardised Approach

1. CAPITAL REQUIREMENT

- [^{F61}]. The capital requirement for operational risk shall be calculated as the three-year average of the yearly summations of the capital requirements across business lines referred to in Table 2. In any given year, negative capital requirements (resulting from negative gross income) in any business line may offset positive capital requirements in other business lines without limit. However, where the aggregate capital requirements across all business lines within a given year are negative, the input to the numerator for that year shall be zero.]
2. The three-year average is calculated on the basis of the last three twelve-monthly observations at the end of the financial year. When audited figures are not available, business estimates may be used.

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TABLE 2

Business line	List of activities	Percentage
Corporate finance	Underwriting of financial instruments and/or placing of financial instruments on a firm commitment basis Services related to underwriting Investment advice Advice to undertakings on capital structure, industrial strategy and related matters and advice and services relating to the mergers and the purchase of undertakings Investment research and financial analysis and other forms of general recommendation relating to transactions in financial instruments	18 %
Trading and sales	Dealing on own account Money broking Reception and transmission of orders in relation to one or more financial instruments Execution of orders on behalf of clients Placing of financial instruments without a firm commitment basis Operation of Multilateral Trading Facilities	18 %
Retail brokerage (Activities with a individual physical persons or with small and medium sized entities meeting the criteria set out in Article 79 for the retail exposure class)	Reception and transmission of orders in relation to one or more financial instruments Execution of orders on behalf of clients Placing of financial instruments without a firm commitment basis	12 %
Commercial banking	Acceptance of deposits and other repayable funds Lending Financial leasing Guarantees and commitments	15 %
Retail banking (Activities with a individual physical persons or with	Acceptance of deposits and other repayable funds Lending	12 %

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small and medium sized entities meeting the criteria set out in Article 79 for the retail exposure class)	Financial leasing Guarantees and commitments	
Payment and settlement	Money transmission services, Issuing and administering means of payment	18 %
Agency services	Safekeeping and administration of financial instruments for the account of clients, including custodianship and related services such as cash/collateral management	15 %
Asset management	Portfolio management Managing of UCITS Other forms of asset management	12 %

3. Competent authorities may authorise a credit institution to calculate its capital requirement for operational risk using an alternative standardised approach, as set out in points 5 to 11.

2. PRINCIPLES FOR BUSINESS LINE MAPPING

4. Credit institutions must develop and document specific policies and criteria for mapping the relevant indicator for current business lines and activities into the standardised framework. The criteria must be reviewed and adjusted as appropriate for new or changing business activities and risks. The principles for business line mapping are:

- (a) all activities must be mapped into the business lines in a mutually exclusive and jointly exhaustive manner;
- (b) any activity which cannot be readily mapped into the business line framework, but which represents an ancillary function to an activity included in the framework, must be allocated to the business line it supports. If more than one business line is supported through the ancillary activity, an objective-mapping criterion must be used;
- (c) if an activity cannot be mapped into a particular business line then the business line yielding the highest percentage must be used. The same business line equally applies to any associated ancillary activity;
- (d) credit institutions may use internal pricing methods to allocate the relevant indicator between business lines. Costs generated in one business line which are imputable to a different business line may be reallocated to the business line to which they pertain, for instance by using a treatment based on internal transfer costs between the two business lines;
- (e) the mapping of activities into business lines for operational risk capital purposes must be consistent with the categories used for credit and market risks;

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- (f) senior management is responsible for the mapping policy under the control of the governing bodies of the credit institution; and
 - (g) the mapping process to business lines must be subject to independent review.
3. ALTERNATIVE INDICATORS FOR CERTAIN BUSINESS LINES
- 3.1. Modalities
5. The competent authorities may authorise the credit institution to use an alternative relevant indicator for the business lines: retail banking and commercial banking.
6. For these business lines, the relevant indicator shall be a normalised income indicator equal to the three-year average of the total nominal amount of loans and advances multiplied by 0,035.
7. For the retail and/or commercial banking business lines, the loans and advances shall consist of the total drawn amounts in the corresponding credit portfolios. For the commercial banking business line, securities held in the non trading book shall also be included.
- 3.2. Conditions
8. The authorisation to use alternative relevant indicators shall be subject to the conditions in points 9 to 11.
- 3.2.1. General condition
9. The credit institution meets the qualifying criteria set out in point 12.
- 3.2.2. Conditions specific to retail banking and commercial banking
10. The credit institution is overwhelmingly active in retail and/or commercial banking activities, which shall account for at least 90 % of its income.
11. The credit institution is able to demonstrate to the competent authorities that a significant proportion of its retail and/or commercial banking activities comprise loans associated with a high PD, and that the alternative standardised approach provides an improved basis for assessing the operational risk.
4. QUALIFYING CRITERIA
12. Credit institutions must meet the qualifying criteria listed below, in addition to the general risk management standards set out in Article 22 and Annex V. Satisfaction of these criteria shall be determined having regard to the size and scale of activities of the credit institution and to the principle of proportionality.
- (a) Credit institutions shall have a well-documented assessment and management system for operational risk with clear responsibilities assigned for this system. They shall identify their exposures to operational risk and track relevant operational risk data, including material loss data. This system shall be subject to regular independent review.
 - (b) The operational risk assessment system must be closely integrated into the risk management processes of the credit institution. Its output must be an integral Part of the process of monitoring and controlling the credit institution's operational risk profile.

- (c) Credit institutions shall implement a system of management reporting that provides operational risk reports to relevant functions within the credit institution. Credit institutions shall have procedures for taking appropriate action according to the information within the management reports.

PART 3

Advanced Measurement Approaches

1. QUALIFYING CRITERIA
 1. To be eligible for an Advanced Measurement Approach, credit institutions must satisfy the competent authorities that they meet the qualifying criteria below, in addition to the general risk management standards in Article 22 and Annex V.
 - 1.1. Qualitative Standards
 2. The credit institution's internal operational risk measurement system shall be closely integrated into its day-to-day risk management processes.
 3. The credit institution must have an independent risk management function for operational risk.
 4. There must be regular reporting of operational risk exposures and loss experience. The credit institution shall have procedures for taking appropriate corrective action.
 5. The credit institution's risk management system must be well documented. The credit institution shall have routines in place for ensuring compliance and policies for the treatment of non-compliance.
 6. The operational risk management processes and measurement systems shall be subject to regular reviews performed by internal and/or external auditors.
 7. The validation of the operational risk measurement system by the competent authorities shall include the following elements:
 - (a) verifying that the internal validation processes are operating in a satisfactory manner;
 - (b) making sure that data flows and processes associated with the risk measurement system are transparent and accessible.
 - 1.2. Quantitative Standards
 - 1.2.1. Process
 8. Credit institutions shall calculate their capital requirement as comprising both expected loss and unexpected loss, unless they can demonstrate that expected loss is adequately captured in their internal business practices. The operational risk measure must capture potentially severe tail events, achieving a soundness standard comparable to a 99,9 % confidence interval over a one year period.
 9. The operational risk measurement system of a credit institution must have certain key elements to meet the soundness standard set out in point 8. These elements must include the use of internal data, external data, scenario analysis and factors reflecting the business environment and internal control systems as set out in points 13 to 24. A credit institution needs to have a well documented approach for weighting the use of these four elements in its overall operational risk measurement system.

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10. The risk measurement system shall capture the major drivers of risk affecting the shape of the tail of the loss estimates.
11. Correlations in operational risk losses across individual operational risk estimates may be recognised only if credit institutions can demonstrate to the satisfaction of the competent authorities that their systems for measuring correlations are sound, implemented with integrity, and take into account the uncertainty surrounding any such correlation estimates, particularly in periods of stress. The credit institution must validate its correlation assumptions using appropriate quantitative and qualitative techniques.
12. The risk measurement system shall be internally consistent and shall avoid the multiple counting of qualitative assessments or risk mitigation techniques recognised in other areas of the capital adequacy framework.
- 1.2.2. Internal data
 13. Internally generated operational risk measures shall be based on a minimum historical observation period of five years. When a credit institution first moves to an Advanced Measurement Approach, a three-year historical observation period is acceptable.
 - [^{F6}14. Credit institutions shall be able to map their historical internal loss data into the business lines defined in Part 2 and into the event types defined in Part 5, and to provide these data to competent authorities upon request. Loss events which affect the entire institution may be allocated to an additional business line ‘corporate items’ due to exceptional circumstances. There must be documented, objective criteria for allocating losses to the specified business lines and event types. The operational risk losses that are related to credit risk and have historically been included in the internal credit risk databases must be recorded in the operational risk databases and be separately identified. Such losses shall not be subject to the operational risk charge, as long as they continue to be treated as credit risk for the purposes of calculating minimum capital requirements. Operational risk losses that are related to market risks shall be included in the scope of the capital requirement for operational risk.]
 15. The credit institution's internal loss data must be comprehensive in that it captures all material activities and exposures from all appropriate sub-systems and geographic locations. Credit institutions must be able to justify that any excluded activities or exposures, both individually and in combination, would not have a material impact on the overall risk estimates. Appropriate minimum loss thresholds for internal loss data collection must be defined.
 16. Aside from information on gross loss amounts, credit institutions shall collect information about the date of the event, any recoveries of gross loss amounts, as well as some descriptive information about the drivers or causes of the loss event.
 17. There shall be specific criteria for assigning loss data arising from an event in a centralised function or an activity that spans more than one business line, as well as from related events over time.
 18. Credit institutions must have documented procedures for assessing the on-going relevance of historical loss data, including those situations in which judgement overrides, scaling, or other adjustments may be used, to what extent they may be used and who is authorised to make such decisions.
- 1.2.3. External data

19. The credit institution's operational risk measurement system shall use relevant external data, especially when there is reason to believe that the credit institution is exposed to infrequent, yet potentially severe, losses. A credit institution must have a systematic process for determining the situations for which external data must be used and the methodologies used to incorporate the data in its measurement system. The conditions and practices for external data use must be regularly reviewed, documented and subject to periodic independent review.
- 1.2.4. Scenario analysis
20. The credit institution shall use scenario analysis of expert opinion in conjunction with external data to evaluate its exposure to high severity events. Over time, such assessments need to be validated and re-assessed through comparison to actual loss experience to ensure their reasonableness.
- 1.2.5. Business environment and internal control factors
21. The credit institution's firm-wide risk assessment methodology must capture key business environment and internal control factors that can change its operational risk profile.
22. The choice of each factor needs to be justified as a meaningful driver of risk, based on experience and involving the expert judgment of the affected business areas.
23. The sensitivity of risk estimates to changes in the factors and the relative weighting of the various factors need to be well reasoned. In addition to capturing changes in risk due to improvements in risk controls, the framework must also capture potential increases in risk due to greater complexity of activities or increased business volume.
24. This framework must be documented and subject to independent review within the credit institution and by competent authorities. Over time, the process and the outcomes need to be validated and re-assessed through comparison to actual internal loss experience and relevant external data.
2. IMPACT OF INSURANCE AND OTHER RISK TRANSFER MECHANISMS
25. Credit institutions shall be able to recognise the impact of insurance subject to the conditions set out in points 26 to 29 and other risk transfer mechanisms where the credit institution can demonstrate to the satisfaction of the competent authorities that a noticeable risk mitigating effect is achieved.
26. The provider is authorised to provide insurance or re-insurance and the provider has a minimum claims paying ability rating by an eligible ECAI which has been determined by the competent authority to be associated with credit quality step 3 or above under the rules for the risk weighting of exposures to credit institutions under Articles 78 to 83.
27. The insurance and the credit institutions' insurance framework shall meet the following conditions:
 - (a) the insurance policy must have an initial term of no less than one year. For policies with a residual term of less than one year, the credit institution must make appropriate haircuts reflecting the declining residual term of the policy, up to a full 100 % haircut for policies with a residual term of 90 days or less;

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- (b) the insurance policy has a minimum notice period for cancellation of the contract of 90 days;
 - (c) the insurance policy has no exclusions or limitations triggered by supervisory actions or, in the case of a failed credit institution, that preclude the credit institution receiver or liquidator, from recovering for damages suffered or expenses incurred by the credit institution, except in respect of events occurring after the initiation of receivership or liquidation proceedings in respect of the credit institution; provided that the insurance policy may exclude any fine, penalty, or punitive damages resulting from actions by the competent authorities;
 - (d) the risk mitigation calculations must reflect the insurance coverage in a manner that is transparent in its relationship to, and consistent with, the actual likelihood and impact of loss used in the overall determination of operational risk capital;
 - (e) the insurance is provided by a third party entity. In the case of insurance through captives and affiliates, the exposure has to be laid off to an independent third party entity, for example through re-insurance, that meets the eligibility criteria; and
 - (f) the framework for recognising insurance is well reasoned and documented.
28. The methodology for recognising insurance shall capture the following elements through discounts or haircuts in the amount of insurance recognition:
- (a) the residual term of an insurance policy, where less than one year, as noted above;
 - (b) a policy's cancellation terms, where less than one year; and
 - (c) the uncertainty of payment as well as mismatches in coverage of insurance policies.
- [^{F629}. The capital alleviation from the recognition of insurances and other risk transfer mechanisms shall not exceed 20 % of the capital requirement for operational risk before the recognition of risk mitigation techniques.]
3. APPLICATION TO USE AN ADVANCED MEASUREMENT APPROACH ON A GROUP-WIDE BASIS
30. When an Advanced Measurement Approach is intended to be used by the EU parent credit institution and its subsidiaries, or by the subsidiaries of an EU parent financial holding company, the application shall include a description of the methodology used for allocating operational risk capital between the different entities of the group.
31. The application shall indicate whether and how diversification effects are intended to be factored in the risk measurement system.

PART 4

Combined use of different methodologies

1. USE OF AN ADVANCED MEASUREMENT APPROACH IN COMBINATION WITH OTHER APPROACHES
1. A credit institution may use an Advanced Measurement Approach in combination with either the Basic Indicator Approach or the Standardised Approach, subject to the following conditions:

- (a) all operational risks of the credit institution are captured. The competent authority shall be satisfied with the methodology used to cover different activities, geographical locations, legal structures or other relevant divisions determined on an internal basis; and
- (b) the qualifying criteria set out in Parts 2 and 3 are fulfilled for the Part of activities covered by the Standardised Approach and Advanced Measurement Approaches respectively.
2. On a case-by case basis, the competent authority may impose the following additional conditions:
- (a) on the date of implementation of an Advanced Measurement Approach, a significant part of the credit institution's operational risks are captured by the Advanced Measurement Approach; and
- (b) the credit institution takes a commitment to roll out the Advanced Measurement Approach across a material Part of its operations within a time schedule agreed with its competent authorities.
2. COMBINED USE OF THE BASIC INDICATOR APPROACH AND OF THE STANDARDISED APPROACH
3. A credit institution may use a combination of the Basic Indicator Approach and the Standardised Approach only in exceptional circumstances such as the recent acquisition of new business which may require a transition period for the roll out of the Standardised Approach.
4. The combined use of the Basic Indicator Approach and the Standardised Approach shall be conditional upon a commitment by the credit institution to roll out the Standardised Approach within a time schedule agreed with the competent authorities.

PART 5

Loss event type classification

TABLE 3

Event-Type Category	Definition
Internal fraud	Losses due to acts of a type intended to defraud, misappropriate property or circumvent regulations, the law or company policy, excluding diversity/discrimination events, which involves at least one internal party
External fraud	Losses due to acts of a type intended to defraud, misappropriate property or circumvent the law, by a third party
Employment Practices and Workplace Safety	Losses arising from acts inconsistent with employment, health or safety laws or agreements, from payment of personal injury

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	claims, or from diversity/discrimination events
Clients, Products & Business Practices	Losses arising from an unintentional or negligent failure to meet a professional obligation to specific clients (including fiduciary and suitability requirements), or from the nature or design of a product
Damage to Physical Assets	Losses arising from loss or damage to physical assets from natural disaster or other events
Business disruption and system failures	Losses arising from disruption of business or system failures
Execution, Delivery & Process Management	Losses from failed transaction processing or process management, from relations with trade counterparties and vendors

ANNEX XI

TECHNICAL CRITERIA ON REVIEW AND EVALUATION BY THE COMPETENT AUTHORITIES

1. In addition to credit, market and operational risks, the review and evaluation performed by competent authorities pursuant to Article 124 shall include the following:
 - (a) the results of the stress test carried out by the credit institutions applying an IRB approach;
 - (b) the exposure to and management of concentration risk by the credit institutions, including their compliance with the requirements laid down in Articles 108 to 118;
 - (c) the robustness, suitability and manner of application of the policies and procedures implemented by credit institutions for the management of the residual risk associated with the use of recognized credit risk mitigation techniques;
 - (d) the extent to which the own funds held by a credit institution in respect of assets which it has securitised are adequate having regard to the economic substance of the transaction, including the degree of risk transfer achieved;
 - (e) [F⁴the exposure to, measurement and management of liquidity risk by the credit institutions, including the development of alternative scenario analyses, the management of risk mitigants (in particular the level, composition and quality of liquidity buffers) and effective contingency plans;]
 - (f) the impact of diversification effects and how such effects are factored into the risk measurement system; and
 - (g) the results of stress tests carried out by institutions using an internal model to calculate market risk capital requirements under Annex V to Directive 2006/49/EC.

- [^{F3}1a. For the purposes of point 1(e), the competent authorities shall regularly carry out a comprehensive assessment of the overall liquidity risk management by credit institutions and promote the development of sound internal methodologies. While conducting those reviews, the competent authorities shall have regard to the role played by credit institutions in the financial markets. The competent authorities in one Member State shall duly consider the potential impact of their decisions on the stability of the financial system in all other Member States concerned.]
2. Competent authorities shall monitor whether a credit institution has provided implicit support to a securitisation. If a credit institution is found to have provided implicit support on more than one occasion the competent authority shall take appropriate measures reflective of the increased expectation that it will provide future support to its securitisation thus failing to achieve a significant transfer of risk.
 3. For the purposes of the determination to be made under Article 124(3), competent authorities shall consider whether the value adjustments and provisions taken for positions/portfolios in the trading book, as set out in Part B of Annex VII to Directive 2006/49/EC, enable the credit institution to sell or hedge out its positions within a short period without incurring material losses under normal market conditions.

ANNEX XII

TECHNICAL CRITERIA ON DISCLOSURE

PART 1

General criteria

1. Information shall be regarded as material in disclosures if its omission or misstatement could change or influence the assessment or decision of a user relying on that information for the purpose of making economic decisions.
2. Information shall be regarded as proprietary to a credit institution if sharing that information with the public would undermine its competitive position. It may include information on products or systems which, if shared with competitors, would render a credit institution's investments therein less valuable.
3. Information shall be regarded as confidential if there are obligations to customers or other counterparty relationships binding a credit institution to confidentiality.
4. Competent authorities shall require credit institution to assess the need to publish some or all disclosures more frequently than annually in the light of the relevant characteristics of their business such as scale of operations, range of activities, presence in different countries, involvement in different financial sectors, and participation in international financial markets and payment, settlement and clearing systems. That assessment shall pay particular attention to the possible need for more frequent disclosure of items of information laid down in Part 2, points 3(b) and 3(e) and 4(b) to 4(e), and information on risk exposure and other items prone to rapid change.
5. The disclosure requirement in Part 2, points 3 and 4 shall be provided pursuant to Article 72(1) and (2).

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PART 2

General requirements

1. The risk management objectives and policies of the credit institution shall be disclosed for each separate category of risk, including the risks referred to under points 1 to 14. These disclosures shall include:
 - (a) the strategies and processes to manage those risks;
 - (b) the structure and organisation of the relevant risk management function or other appropriate arrangements;
 - (c) the scope and nature of risk reporting and measurement systems; and
 - (d) the policies for hedging and mitigating risk, and the strategies and processes for monitoring the continuing effectiveness of hedges and mitigants.
2. The following information shall be disclosed regarding the scope of application of the requirements of this Directive:
 - (a) the name of the credit institution to which the requirements of this Directive apply;
 - (b) an outline of the differences in the basis of consolidation for accounting and prudential purposes, with a brief description of the entities that are:
 - (i) fully consolidated;
 - (ii) proportionally consolidated;
 - (iii) deducted from own funds; or
 - (iv) neither consolidated nor deducted;
 - (c) any current or foreseen material practical or legal impediment to the prompt transfer of own funds or repayment of liabilities among the parent undertaking and its subsidiaries;
 - (d) the aggregate amount by which the actual own funds are less than the required minimum in all subsidiaries not included in the consolidation, and the name or names of such subsidiaries; and
 - (e) if applicable, the circumstance of making use of the provisions laid down in Articles 69 and 70.
3. The following information shall be disclosed by the credit institutions regarding their own funds:
 - (a) [F⁴summary information on the terms and conditions of the main features of all own-funds items and components thereof, including instruments referred to in Article 57(ca), instruments the provisions of which provide an incentive for the credit institution to redeem them, and instruments subject to Article 154(8) and (9);
 - (b) the amount of the original own funds, with separate disclosure of all positive items and deductions; the overall amount of instruments referred to in Article 57(ca) and instruments the provisions of which provide an incentive for the credit institution to redeem them, shall also be disclosed separately; those disclosures shall each specify instruments subject to Article 154(8) and (9);]

- (c) the total amount of additional own funds, and own funds as defined in Chapter IV of Directive 2006/49/EC;
 - (d) deductions from original and additional own funds pursuant to Article 66(2), with separate disclosure of items referred to in Article 57(q); and
 - (e) total eligible own funds, net of deductions and limits laid down in Article 66.
4. The following information shall be disclosed regarding the compliance by the credit institution with the requirements laid down in Articles 75 and 123:
- (a) a summary of the credit institution's approach to assessing the adequacy of its internal capital to support current and future activities;
 - (b) for credit institutions calculating the risk-weighted exposure amounts in accordance with Articles 78 to 83, 8 per cent of the risk-weighted exposure amounts for each of the exposure classes specified in Article 79;
 - (c) for credit institutions calculating risk-weighted exposure amounts in accordance with Articles 84 to 89, 8 per cent of the risk-weighted exposure amounts for each of the exposure classes specified in Article 86. For the retail exposure class, this requirement applies to each of the categories of exposures to which the different correlations in Annex VII, Part 1, points 10 to 13 correspond. For the equity exposure class, this requirement applies to:
 - (i) each of the approaches provided in Annex VII, Part 1, points 17 to 26;
 - (ii) exchange traded exposures, private equity exposures in sufficiently diversified portfolios, and other exposures;
 - (iii) exposures subject to supervisory transition regarding capital requirements; and
 - (iv) exposures subject to grandfathering provisions regarding capital requirements;
 - (d) minimum capital requirements calculated in accordance with Article 75, points (b) and (c); and
 - (e) minimum capital requirements calculated in accordance with Articles 103 to 105, and disclosed separately.
5. The following information shall be disclosed regarding the credit institution's exposure to counterparty credit risk as defined in Annex III, Part 1:
- (a) a discussion of the methodology used to assign internal capital and credit limits for counterparty credit exposures;
 - (b) a discussion of policies for securing collateral and establishing credit reserves;
 - (c) a discussion of policies with respect to wrong-way risk exposures;
 - (d) a discussion of the impact of the amount of collateral the credit institution would have to provide given a downgrade in its credit rating;
 - (e) gross positive fair value of contracts, netting benefits, netted current credit exposure, collateral held and net derivatives credit exposure. Net derivatives credit exposure is the credit exposure on derivatives transactions after considering both the benefits from legally enforceable netting agreements and collateral arrangements;

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- (f) measures for exposure value under the methods set out in Parts 3 to 6 of Annex III, whichever method is applicable;
 - (g) the notional value of credit derivative hedges, and the distribution of current credit exposure by types of credit exposure;
 - (h) credit derivative transactions (notional), segregated between use for the credit institution's own credit portfolio, as well as in its intermediation activities, including the distribution of the credit derivatives products used, broken down further by protection bought and sold within each product group; and
 - (i) the estimate of α if the credit institution has received the approval of the competent authorities to estimate α .
6. The following information shall be disclosed regarding the credit institution's exposure to credit risk and dilution risk:
- (a) the definitions for accounting purposes of 'past due' and 'impaired';
 - (b) a description of the approaches and methods adopted for determining value adjustments and provisions;
 - (c) the total amount of exposures after accounting offsets and without taking into account the effects of credit risk mitigation, and the average amount of the exposures over the period broken down by different types of exposure classes;
 - (d) the geographic distribution of the exposures, broken down in significant areas by material exposure classes, and further detailed if appropriate;
 - (e) the distribution of the exposures by industry or counterparty type, broken down by exposure classes, and further detailed if appropriate;
 - (f) the residual maturity breakdown of all the exposures, broken down by exposure classes, and further detailed if appropriate;
 - (g) by significant industry or counterparty type, the amount of:
 - (i) impaired exposures and past due exposures, provided separately;
 - (ii) value adjustments and provisions; and
 - (iii) charges for value adjustments and provisions during the period;
 - (h) the amount of the impaired exposures and past due exposures, provided separately, broken down by significant geographical areas including, if practical, the amounts of value adjustments and provisions related to each geographical area;
 - (i) the reconciliation of changes in the value adjustments and provisions for impaired exposures, shown separately. The information shall comprise:
 - (i) a description of the type of value adjustments and provisions;
 - (ii) the opening balances;
 - (iii) the amounts taken against the provisions during the period;
 - (iv) the amounts set aside or reversed for estimated probable losses on exposures during the period, any other adjustments including those determined by

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exchange rate differences, business combinations, acquisitions and disposals of subsidiaries, and transfers between provisions; and

(v) the closing balances.

Value adjustments and recoveries recorded directly to the income statement shall be disclosed separately.

7. For credit institutions calculating the risk-weighted exposure amounts in accordance with Articles 78 to 83, the following information shall be disclosed for each of the exposure classes specified in Article 79:
 - (a) the names of the nominated ECAIs and ECAs and the reasons for any changes;
 - (b) the exposure classes for which each ECAI or ECA is used;
 - (c) a description of the process used to transfer the issuer and issue credit assessments onto items not included in the trading book;
 - (d) the association of the external rating of each nominated ECAI or ECA with the credit quality steps prescribed in Annex VI, taking into account that this information needs not be disclosed if the credit institution complies with the standard association published by the competent authority; and
 - (e) the exposure values and the exposure values after credit risk mitigation associated with each credit quality step prescribed in Annex VI, as well as those deducted from own funds.
8. The credit institutions calculating the risk-weighted exposure amounts in accordance with Annex VII, Part 1, points 6 or 19 to 21 shall disclose the exposures assigned to each category in Table 1 in point 6 of Annex VII, Part 1, or to each risk weight mentioned in points 19 to 21 of Annex VII, Part 1.
9. The credit institutions calculating their capital requirements in accordance with Article 75, points (b) and (c) shall disclose those requirements separately for each risk referred to in those provisions.
10. The following information shall be disclosed by each credit institution which calculates its capital requirements in accordance with Annex V to Directive 2006/49/EC:
 - (a) for each sub-portfolio covered:
 - (i) the characteristics of the models used;
 - (ii) a description of stress testing applied to the sub-portfolio;
 - (iii) a description of the approaches used for back-testing and validating the accuracy and consistency of the internal models and modelling processes;
 - (b) the scope of acceptance by the competent authority;^[F8] and]
 - (c) a description of the extent and methodologies for compliance with the requirements set out in Annex VII, Part B to Directive 2006/49/EC^{[F6];}
 - (d) ^[F7]the highest, the lowest and the mean of the daily value-at-risk measures over the reporting period and the value-at-risk measure as per the end of the period; and

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- (e) a comparison of the daily end-of-day value-at-risk measures to the one-day changes of the portfolio's value by the end of the subsequent business day together with an analysis of any important overshootings during the reporting period.]
11. The following information shall be disclosed by the credit institutions on operational risk:
- (a) the approaches for the assessment of own funds requirements for operational risk that the credit institution qualifies for; and
 - (b) a description of the methodology set out in Article 105, if used by the credit institution, including a discussion of relevant internal and external factors considered in the credit institution's measurement approach. In the case of partial use, the scope and coverage of the different methodologies used.
12. The following information shall be disclosed regarding the exposures in equities not included in the trading book:
- (a) the differentiation between exposures based on their objectives, including for capital gains relationship and strategic reasons, and an overview of the accounting techniques and valuation methodologies used, including key assumptions and practices affecting valuation and any significant changes in these practices;
 - (b) the balance sheet value, the fair value and, for those exchange-traded, a comparison to the market price where it is materially different from the fair value;
 - (c) the types, nature and amounts of exchange-traded exposures, private equity exposures in sufficiently diversified portfolios, and other exposures;
 - (d) the cumulative realised gains or losses arising from sales and liquidations in the period; and
 - (e) the total unrealised gains or losses, the total latent revaluation gains or losses, and any of these amounts included in the original or additional own funds.
13. The following information shall be disclosed by credit institutions on their exposure to interest rate risk on positions not included in the trading book:
- (a) the nature of the interest rate risk and the key assumptions (including assumptions regarding loan prepayments and behaviour of non-maturity deposits), and frequency of measurement of the interest rate risk; and
 - (b) the variation in earnings, economic value or other relevant measure used by the management for upward and downward rate shocks according to management's method for measuring the interest rate risk, broken down by currency.
14. The credit institutions calculating risk weighted exposure amounts in accordance with Articles 94 to 101 shall disclose the following information:
- (a) a description of the credit institution's objectives in relation to securitisation activity;
 - (b) the roles played by the credit institution in the securitisation process;
 - (c) an indication of the extent of the credit institution's involvement in each of them;
 - (d) the approaches to calculating risk weighted exposure amounts that the credit institution follows for its securitisation activities;

- (e) a summary of the credit institution's accounting policies for securitisation activities, including:
 - (i) whether the transactions are treated as sales or financings;
 - (ii) the recognition of gains on sales;
 - (iii) the key assumptions for valuing retained interests; and
 - (iv) the treatment of synthetic securitisations if this is not covered by other accounting policies;
- (f) the names of the ECAs used for securitisations and the types of exposure for which each agency is used;
- (g) the total outstanding amount of exposures securitised by the credit institution and subject to the securitisation framework (broken down into traditional and synthetic), by exposure type;
- (h) for exposures securitised by the credit institution and subject to the securitisation framework, a breakdown by exposure type of the amount of impaired and past due exposures securitised, and the losses recognised by the credit institution during the period;
- (i) the aggregate amount of securitisation positions retained or purchased, broken down by exposure type;
- (j) the aggregate amount of securitisation positions retained or purchased, broken down into a meaningful number of risk weight bands. Positions that have been risk weighted at 1 250 % or deducted shall be disclosed separately;
- (k) the aggregate outstanding amount of securitised revolving exposures segregated by the originator's interest and the investors' interest; and
- (l) a summary of the securitisation activity in the period, including the amount of exposures securitised (by exposure type), and recognised gain or loss on sale by exposure type.

PART 3

Qualifying requirements for the use of particular instruments or methodologies

1. The credit institutions calculating the risk-weighted exposure amounts in accordance with Articles 84 to 89 shall disclose the following information:
 - (a) the competent authority's acceptance of approach or approved transition;
 - (b) an explanation and review of:
 - (i) the structure of internal rating systems and relation between internal and external ratings;
 - (ii) the use of internal estimates other than for calculating risk-weighted exposure amounts in accordance with Articles 84 to 89;
 - (iii) the process for managing and recognising credit risk mitigation; and

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- (iv) the control mechanisms for rating systems including a description of independence, accountability, and rating systems review;
- (c) a description of the internal ratings process, provided separately for the following exposure classes:
 - (i) central governments and central banks;
 - (ii) institutions;
 - (iii) corporate, including SMEs, specialised lending and purchased corporate receivables;
 - (iv) retail, for each of the categories of exposures to which the different correlations in Annex VII, Part 1, points 10 to 13 correspond; and
 - (v) equities;
- (d) the exposure values for each of the exposure classes specified in Article 86. Exposures to central governments and central banks, institutions and corporates where credit institutions use own estimates of LGDs or conversion factors for the calculation of risk-weighted exposure amounts shall be disclosed separately from exposures for which the credit institutions do not use such estimates;
- (e) for each of the exposure classes central governments and central banks, institutions, corporate and equity, and across a sufficient number of obligor grades (including default) to allow for a meaningful differentiation of credit risk, credit institutions shall disclose:
 - (i) the total exposures (for the exposure classes central governments and central banks, institutions and corporate, the sum of outstanding loans and exposure values for undrawn commitments; for equities, the outstanding amount);
 - (ii) for the credit institutions using own LGD estimates for the calculation of risk-weighted exposure amounts, the exposure-weighted average LGD in percentage;
 - (iii) the exposure-weighted average risk weight; and
 - (iv) for the credit institutions using own estimates of conversion factors for the calculation of risk-weighted exposure amounts, the amount of undrawn commitments and exposure-weighted average exposure values for each exposure class;
- (f) for the retail exposure class and for each of the categories as defined under point (c)(iv), either the disclosures outlined under (e) above (if applicable, on a pooled basis), or an analysis of exposures (outstanding loans and exposure values for undrawn commitments) against a sufficient number of EL grades to allow for a meaningful differentiation of credit risk (if applicable, on a pooled basis);
- (g) the actual value adjustments in the preceding period for each exposure class (for retail, for each of the categories as defined under point (c)(iv) and how they differ from past experience;
- (h) a description of the factors that impacted on the loss experience in the preceding period (for example, has the credit institution experienced higher than average default rates, or higher than average LGDs and conversion factors); and

- (i) the credit institution's estimates against actual outcomes over a longer period. At a minimum, this shall include information on estimates of losses against actual losses in each exposure class (for retail, for each of the categories as defined under point (c)(iv) over a period sufficient to allow for a meaningful assessment of the performance of the internal rating processes for each exposure class (for retail for each of the categories as defined under point (c)(iv)). Where appropriate, the credit institutions shall further decompose this to provide analysis of PD and, for the credit institutions using own estimates of LGDs and/or conversion factors, LGD and conversion factor outcomes against estimates provided in the quantitative risk assessment disclosures above.

For the purposes of point (c), the description shall include the types of exposure included in the exposure class, the definitions, methods and data for estimation and validation of PD and, if applicable, LGD and conversion factors, including assumptions employed in the derivation of these variables, and the descriptions of material deviations from the definition of default as set out in Annex VII, Part 4, points 44 to 48, including the broad segments affected by such deviations.

2. The credit institutions applying credit risk mitigation techniques shall disclose the following information:
- (a) the policies and processes for, and an indication of the extent to which the entity makes use of, on- and off-balance sheet netting;
 - (b) the policies and processes for collateral valuation and management;
 - (c) a description of the main types of collateral taken by the credit institution;
 - (d) the main types of guarantor and credit derivative counterparty and their creditworthiness;
 - (e) information about market or credit risk concentrations within the credit mitigation taken;
 - (f) for credit institutions calculating risk-weighted exposure amounts in accordance with Articles 78 to 83 or 84 to 89, but not providing own estimates of LGDs or conversion factors in respect of the exposure class, separately for each exposure class, the total exposure value (after, where applicable, on- or off-balance sheet netting) that is covered — after the application of volatility adjustments — by eligible financial collateral, and other eligible collateral; and
 - (g) for credit institutions calculating risk-weighted exposure amounts in accordance with Articles 78 to 83 or 84 to 89, separately for each exposure class, the total exposure (after, where applicable, on- or off-balance sheet netting) that is covered by guarantees or credit derivatives. For the equity exposure class, this requirement applies to each of the approaches provided in Annex VII, Part 1, points 17 to 26.
- [^{F63}. The credit institutions using the approach set out in Article 105 for the calculation of their own funds requirements for operational risk shall disclose a description of the use of insurances and other risk transfer mechanisms for the purpose of mitigation of this risk.]

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ANNEX XIII

PART A

**Repealed Directives Together With Their Successive
Amendments (referred To In Article 158)**

Directive 2000/12/EC of the European Parliament and of the Council of 20 March 2000 relating to the taking up and pursuit of the business of credit institutions

Directive 2000/28/EC of the European Parliament and of the Council of 18 September 2000 amending Directive 2000/12/EC relating to the taking up and pursuit of the business of credit institutions

Directive 2002/87/EC of the European Parliament and of the Council of 16 December 2002 on the supplementary supervision of credit institutions, insurance undertakings and investment firms in a financial conglomerate and amending Council Directives 73/239/EEC, 79/267/EEC, 92/49/EEC, 92/96/EEC, 93/6/EEC and 93/22/EEC, and Directives 98/78/EC and 2000/12/EC of the European Parliament and of the Council

Only Art. 29.1(a)(b), Art. 29.2, Art. 29.4(a)(b), Art. 29.5, Art. 29.6, Art. 29.7, Art. 29.8, Art. 29.9, Art. 29.10, Art. 29.11

Directive 2004/39/EC of the European Parliament and of the Council of 21 April 2004 on markets in financial instruments amending Council Directives 85/611/EEC and 93/6/EEC and Directive 2000/12/EC of the European Parliament and of the Council and repealing Council Directive 93/22/EEC

Only Art. 68

Commission Directive 2004/69/EC of 27 April 2004 amending Directive 2000/12/EC of the European Parliament and of the Council as regards the definition of ‘multilateral development banks’

Directive 2005/1/EC of the European Parliament and of the Council of 9 March 2005 amending Council Directives 73/239/EEC, 85/611/EEC, 91/675/EEC, 92/49/EEC and 93/6/EEC and Directives 94/19/EC, 98/78/EC, 2000/12/EC, 2001/34/EC, 2002/83/EC and 2002/87/EC in order to establish a new organisational structure for financial services committees

Only Article 3

NON-REPEALED MODIFICATIONS

Act of Accession 2003

PART B

deadlines for transposition (referred to in Article 158)

Directive	Deadline for transposition
Directive 2000/12/EC	-----
Directive 2000/28/EC	27.4.2002
Directive 2002/87/EC	11.8.2004

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Directive 2004/39/EC		30.04.2006/31.1.2007
Directive 2004/69/EC		30.6.2004
Directive 2005/1/EC		13.5.2005

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- (1) [^{F1}OJ L 319, 5.12.2007, p. 1]
- (2) OJ L 145, 30.4.2004, p. 1. Directive as amended by Directive 2006/31/EC (OJ L 114, 27.4.2006, p. 60).
- (3) OJ L 250, 2.10.2003, p. 10.
- (4) [^{F6}OJ L 110, 20.4.2001, p. 28.]

Textual Amendments

- F1** Substituted by Directive 2007/64/EC of the European Parliament and of the Council of 13 November 2007 on payment services in the internal market amending Directives 97/7/EC, 2002/65/EC, 2005/60/EC and 2006/48/EC and repealing Directive 97/5/EC (Text with EEA relevance).
- F6** Substituted by Commission Directive 2009/83/EC of 27 July 2009 amending certain Annexes to Directive 2006/48/EC of the European Parliament and of the Council as regards technical provisions concerning risk management (Text with EEA relevance).