



COMMISSION OF THE EUROPEAN COMMUNITIES

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Annexes techniques

Proposal for

DIRECTIVES OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

Re-casting 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 and Council Directive 93/6/EEC of 15 March 1993 on the capital adequacy of investment firms and credit institutions.

(presented by the Commission)

{SEC(2004) 921}

EXPLANATORY MEMORANDUM

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Proposal for a
COUNCIL DIRECTIVE

on [...]

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article [...] thereof,

Having regard to the proposal from the Commission¹,

Having regard to the opinion of the European Parliament²,

Having regard to the opinion of the European Economic and Social Committee³,

Having regard to the opinion of the Committee of the Regions⁴,

Whereas:

(1) [Initial capital...].

(2) [Initial capital...],

HAS ADOPTED THIS DIRECTIVE:

Article 1

[...]

Article [...]

Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by [...] at the latest. They shall forthwith inform the Commission thereof.

When Member States adopt those provisions, they shall contain a reference to this Directive or be accompanied by such a reference on the occasion of their official publication. Member States shall determine how such reference is to be made.

¹ OJ C [...], [...], p. [...].

² OJ C [...], [...], p. [...].

³ OJ C [...], [...], p. [...].

⁴ OJ C [...], [...], p. [...].

Article [...]

This Directive shall enter into force on the [...] day following that of its publication in the *Official Journal of the European Union*.

Article [...]

This Directive is addressed to the Member States.

Done at Brussels, [...]

For the Council
The President
[...]

ANNEX

↓ new

Annex V - Technical criteria on organisation and treatment of risks

1. GOVERNANCE

1. Arrangements shall be defined by the management body referred to 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 referred to 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 RISKS

8. The risks arising from securitisation transactions in relation to which the credit institutions are originator or sponsor 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. INTEREST RATE RISK ARISING FROM NON-TRADING ACTIVITIES

10. 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.

8. OPERATIONAL RISK

11. 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.

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

9. LIQUIDITY RISK

13. Policies and processes for the measurement and management of their net funding position and requirements on an ongoing and forward-looking basis shall exist. Alternative scenarios shall be considered and the assumptions underpinning decisions concerning the net funding position shall be reviewed regularly.

14. Contingency plans to deal with liquidity crises shall be in place.

ANNEX VI

Standardised Approach

Part 1 - Risk weights

1. EXPOSURES TO CENTRAL GOVERNMENTS OR CENTRAL BANKS

1.1. Treatment

1. Without prejudice to paragraphs 2 to 8, exposures to central governments and central banks shall receive a 100% risk weight.
2. 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. Subject to the discretion of competent authorities, exposures to their central government and central bank denominated and funded in the domestic currency may be assigned a risk weight which is lower than that indicated in paragraph 2.
5. When the discretion in paragraph 4 is exercised by the competent authorities of one Member State, the competent authorities of another Member State may also allow their credit institutions to apply the same risk weight to exposures to that central government or central bank denominated and funded in that currency.
6. When the competent authorities of a third country which apply supervisory and regulatory arrangements at least equivalent to those applied in the Community assigns a risk weight which is lower than that indicated in paragraph 1 to 2 to exposures to its 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

7. A credit assessment by an Export Credit Agency may be recognised only if either of the following conditions are met:
- (a) the credit assessment is a consensus risk score from an Export Credit Agency participating in the OECD “Arrangement on Guidelines for Officially Supported Export Credits”
 - (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 seven minimum export insurance premiums (MEIP) that the OECD agreed methodology establishes.
8. 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	1	2	3	4	5	6	7
Risk weight	0%	20%	50%	100%	100%	100%	150%

2. EXPOSURES TO REGIONAL GOVERNMENTS OR LOCAL AUTHORITIES

9. Without prejudice to paragraphs 10 to 12, exposures to regional governments and local authorities shall be risk weighted as exposures to institutions. Exercise of this discretion by competent authorities is independent of the exercise of discretion by competent authorities as specified in Article 80. The preferential treatment for short-term exposures specified in paragraphs 30, 31 and 36 shall not be applied.
10. Subject to the discretion of competent authorities, exposures to regional governments and local authorities may 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 risks of default.
11. When the discretion of paragraph 10 is exercised by the competent authorities of one Member State, the competent authorities of another Member States may also allow their credit institutions to apply the same risk weight to exposures to those regional governments and local authorities.
12. 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 ON ADMINISTRATIVE BODIES AND NON-COMMERCIAL UNDERTAKINGS

3.1. Treatment

13. Without prejudice to paragraphs 14 to 18, exposures to administrative bodies and non-commercial undertakings shall receive a 100% risk weight.

3.2. Public Sector Entities

14. Without prejudice to paragraphs 15 to 17, exposures to public sector entities shall receive a 100% risk weight.

15. 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 by competent authorities as specified in Article 80. The preferential treatment for short-term exposures specified in paragraphs 30, 31 and 36 shall not be applied.

16. When the discretion to treat exposures to public sector entities as exposures to institutions 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 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.

3.3. Churches and religious communities

18. 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 public sector entities.

4. EXPOSURES TO MULTILATERAL DEVELOPMENT BANKS

4.1. Scope

19. For the purposes of Articles 78 to 83, the Inter-American Investment Corporation is considered to be a Multilateral Development Bank (MDB).

4.2. Treatment

20. Without prejudice to paragraphs 21 and 22, exposures to multilateral development banks shall be treated in the same manner as exposures to credit institutions in accordance with paragraphs 28 to 31. The preferential treatment for short-term exposures as specified in paragraph 30, 31 and 36 shall not apply.

21. Exposures to the following multilateral development banks shall attract 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

22. A risk weight of 20% shall be applied to the portion of unpaid capital subscribed to the European Investment Fund.

5. EXPOSURES TO INTERNATIONAL ORGANISATIONS

23. 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

24. One of the two methods described in paragraphs 26 to 27 and 28 to 31 shall apply in determining the risk weights for exposures to institutions.

6.2. Risk-weight floor on exposures to unrated institutions

25. Exposures to an unrated institution shall not receive 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
Risk weight of exposure	20%	50%	100%	100%	100%	150%

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

6.4. Credit assessment based method

28. Exposures to institutions with an original effective 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%

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

30. Exposures to an institution with an original effective maturity of three months or less for which a credit assessment by a nominated ECAI is available shall receive 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%

31. 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

32. If the method specified in paragraphs 28 to 31 is applied to exposures to institutions, then the interaction with specific short-term assessments shall be the following.

33. If there is no short-term exposure assessment, the general preferential treatment for short-term exposures as specified in paragraph 30 shall apply to all exposures to institutions of up to three months initial maturity.

34. 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 paragraph 30, 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 paragraph 30.

35. 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 paragraph 30, then the general preferential treatment for short-term exposures shall not be used and all unrated short-term claims shall receive 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

36. When competent authorities have adopted for exposures to central governments and central banks the method described in paragraphs 4 to 6, subject to their discretion, exposures to institutions of an original effective maturity of 3 months or less denominated and funded in the national currency may be assigned, under both methods described in paragraphs 26 to 27 and 28 to 31, a risk weight that is one category less favourable than the preferential risk weight, as described in paragraphs 4 to 6, assigned to exposures to its central government.

37. No exposures of an original effective 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

38. Investments in equity or regulatory capital instruments issued by institutions shall be risk weighted at 100%, unless deducted from the own funds.

7. EXPOSURES TO CORPORATES

7.1. Treatment

39. Exposures 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%	50%	100%	100%	150%	150%

40. Exposures for which such a credit assessment is not available shall receive a 100% risk weight or the risk weight of its central government, whichever is the higher.

8. RETAIL EXPOSURES

41. Exposures that comply with the criteria listed in Article 79(2) may, subject to the discretion of competent authorities, be assigned a risk weight of 75%.

9. EXPOSURES SECURED BY REAL ESTATE PROPERTY

42. Without prejudice to paragraphs 43 to 57, exposures fully secured by real estate property shall be assigned a risk weight of 100%.

9.1. Exposures secured by mortgages on residential property

43. Exposures 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 shall be assigned a risk weight of 35%.

44. 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%.

45. In the exercise of their judgement, 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, paragraph 8 and the valuation rules set out in Annex VIII, Part 3, paragraphs 63 to 66 are met;
- (d) the value of the property exceeds by a substantial margin the exposures.

46. Competent authorities may dispense with the condition contained in paragraph 45(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.

47. When the discretion contained in paragraph 46 is exercised by the competent authorities of a Member State, the competent authorities of another Member State may allow their credit institutions to apply 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

48. Subject to the discretion of competent authorities, exposures 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%.

49. Subject to the discretion of 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%.

50. Subject to the discretion of competent authorities, exposures related to property leasing transactions concerning offices or other commercial premises situated in their territory and governed by statutory provisions whereby the lessor retains full ownership of the rented assets until the tenant exercises his option to purchase, may be assigned a risk weight of 50%.

51. The application of paragraphs 48 to 50 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;

(c) the minimum requirements set out in Annex VIII, Part 2, paragraph 8, and the valuation rules set out in Annex VIII, Part 3, paragraphs 63 to 66 are met.

52. The 50 % risk weight shall apply 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.

53. A 100% risk weight shall apply to the part of the loan that exceeds the limits set out in paragraph 52.

54. When the discretion contained in paragraph 48 to 50 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.

55. Competent authorities may dispense with the condition contained in paragraph 51(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) up to 50% of the market value (or where applicable and if lower 60 % of the mortgage lending value (MLV)) must not exceed 0.3 % of the outstanding loans in any given year;

(b) overall losses stemming from commercial real estate lending must not exceed 0.5% of the outstanding loans in any given year.

56. If either of the limits referred to in paragraph 55 is not satisfied in a given year, the eligibility to use this treatment shall cease and the second condition contained in paragraph 51(b) shall need to be satisfied again before it can be applied any more.

57. When the discretion contained in paragraph 55 is exercised by the competent authorities of a Member State, the competent authorities of another Member State may allow their credit institutions to apply a risk weight of 50% to such exposures fully and completely secured by mortgages on commercial property.

10. PAST DUE ITEMS

58. Without prejudice to the provisions contained in paragraphs 59 to 62, the unsecured portion of any item that is past due for more than 90 days 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 value;
- (b) 100% if value adjustments are no less than 20% of the unsecured part of the exposure gross of value adjustments;
- (c) 50%, subject to the discretion of competent authorities, if value adjustments are no less than 50% of the unsecured part of the exposure gross of value adjustments.

59. For the purpose of defining the secured portion of the past due item, eligible collateral and guarantees shall be those eligible for credit risk mitigation purposes.

60. 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 apply 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.

61. Exposures indicated in paragraphs 43 to 47 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 are no less than 20% of the exposures gross of value adjustments, the risk weight applicable to the remainder of the exposure may be reduced to 50% at the discretion of competent authorities.

62. Exposures indicated in paragraphs 48 to 57 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

63. 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%.

64. Competent authorities may permit non past due items receiving a 150% risk weight according to the provisions of the previous sections 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;
- (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

65. '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, multilateral development banks, international organisations that qualify for the credit quality assessment step 1 as set out in this Annex;
- (b) exposures to or guaranteed by public sector entities, regional governments and local authorities that are risk weighted as exposures to institutions or central governments and central banks according to paragraphs 15, 9 or 10 respectively and that qualify for the credit quality assessment step 1 as set out in this Annex;
- (c) exposures to institutions that qualify for the credit quality assessment step 1 as set out in this Annex. The total exposure of this kind shall not exceed 10% of the nominal amount of outstanding covered bonds of the issuing credit institution. Exposures caused by transmission of payments from the obligors of loans secured by real estate to the holders of covered bonds shall not be comprised by the 10% limit;
- (d) loans secured by residential real estate or shares in Finnish residential housing companies as referred to in paragraph 44 where only liens that are combined with any prior liens within 80% of the value of the pledged property;
- (e) loans secured by commercial real estate or shares in Finnish housing companies as referred to in paragraph 49 where only liens that are combined with any prior liens within 60% of the value of the pledged property. 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 IX. The bondholders' claim must take priority over all other claims on the collateral.

66. Credit institutions shall for real estate collateralising covered bonds meet the minimum requirements set out in Annex VIII part 2, paragraph 8 and the valuation rules set out in Annex VIII, Part 3, paragraphs 63 to 66.

67. Notwithstanding paragraphs 65 and 66, 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.

68. Covered bonds shall be assigned a risk weight on the basis of the risk weight attributed 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 receive a risk weight of 20%, the covered bond shall receive a risk weight of 10%;
- (b) if the exposures to the institution receive a risk weight of 50%, the covered bond shall receive a risk weight of 20%;

(c) if the exposures to the institution receive a risk weight of 100%, the covered bond shall receive a risk weight of 50%;

(d) if the exposures to the institution receive a risk weight of 150%, the covered bond shall receive a risk weight of 100%;

13. ITEMS REPRESENTING SECURITISATION POSITIONS

69. Risk weights exposure amounts for securitisation positions shall be determined in accordance with the provisions of Articles 94 to 101.

14. SHORT-TERM EXPOSURES ON CREDIT INSTITUTIONS AND CORPORATES

70. Short-term exposures on an institution or corporate 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 mapping 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%	150%	150%	150%

15. EXPOSURES IN THE FORM OF COLLECTIVE INVESTMENT UNDERTAKINGS (CIUS)

71. Without prejudice to paragraphs 72 to 78, exposures in collective investment undertakings (CIUs) shall be assigned a risk weight of 100%.

72. 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 7 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 7

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

73. 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%.

74. Credit institutions may determine the risk weight for a CIU as set out in paragraphs 76 to 78, 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) they are managed by a company which is subject to supervision that is considered equivalent to that laid down in Community law; and

(ii) co-operation between competent authorities is sufficiently ensured;

(b) the CIU's prospectus or equivalent document includes:

– the categories of assets the CIU is authorised to invest in,

– if investment limits apply, the relative limits and the methodologies to calculate them;

(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.

75. If a competent authority approves a third country CIU as eligible, as set out in paragraph 74, point (a), then a competent authority in another Member State may make use of this recognition without conducting their own assessment.

76. Where the credit institution is aware of the underlying exposures of a CIU, it may look though 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.

77. 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.

78. Credit institutions may rely on a third party to calculate and report, in accordance with the methods set out in paragraphs 76 and 77, 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

79. Tangible assets within the meaning of Article 4(10) of Directive 86/635/EEC shall be assigned a risk weight of 100%.

80. 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%.

81. Cash items in the process of collection shall receive a 20% risk weight. Cash in hand and equivalent cash items shall receive a 0% risk weight;
82. 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.
83. Holdings of equity and other participations except where deducted from own funds shall be assigned a risk weight of at least 100%.
84. Gold bullion held in own vaults or on an allocated basis to the extent backed by bullion liabilities shall receive a 0% risk weight.
85. In the case of asset sale and repurchase agreements and outright forward purchases, the risk weight shall be those attached to the assets in question and not to the counterparties to the transactions.
86. 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, if the product has an external credit assessment from an eligible ECAI the risk weights prescribed Articles 78 to 83 shall 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, up to a maximum of 1250% 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.

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;

- (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 backtesting 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;

- (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.

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.

2.2. Transparency and Disclosure

10. Competent authorities shall verify that individual credit assessments are accessible at equivalent terms at least to all parties 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 parties 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 risk 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 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. An institution may nominate one or more eligible ECAIs to be used for the determination of risk weights applicable 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. An 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 applied.
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 applied. If the two lowest risk weights are the same, that risk weight shall be applied.
8. Credit institutions shall use solicited credit assessments. The competent authorities may allow credit institutions to use unsolicited credit assessments.

2. ISSUER AND ISSUE CREDIT ASSESSMENT

9. 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 applicable to that item.
10. 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.
11. Paragraphs 9 and 10 are not to prevent the application of paragraphs 65 to 68 of Part 1 of this Annex.

12. 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

13. Short-term credit assessments may only be used for short-term asset and off-balance sheet items constituting exposures to institutions and corporates.

14. 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.

15. Notwithstanding paragraph 14, if a short-term rated facility receives a 150% risk weight, then all unrated unsecured exposures on that obligor whether short-term or long-term shall also receive a 150% risk weight.

16. Notwithstanding paragraph 14, if a short-term rated facility attracts a 50% risk-weight, no unrated short-term exposure shall attract a risk weight lower than 100%.

4. DOMESTIC AND FOREIGN CURRENCY ITEMS

17. 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.

18. Notwithstanding paragraph 17, when an exposure arises through a bank'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 obligor's 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 probability of default (PD), loss given default (LGD), and maturity value (M) shall be determined as set out in Part 2, 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 formulas:

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

3. Subject to paragraphs 4 to 8 the risk weighted exposure amounts for exposures to corporates, institutions and central governments and central banks shall be calculated according to the following formulas:

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

$$\text{Maturity factor (b)} = (0.11852 - 0.05478 * \ln(PD))^2$$

$$\text{Risk weight (RW)} = \frac{LGD * (N[(1 - R)^{-0.5} * G(PD)] + (R / (1 - R))^{0.5} * G(0.999)) - PD * LGD}{(1 - 1.5 * b)^{-1} * (1 + (M - 2.5) * b) * 12.5 * 1.06}$$

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

$$\text{Risk-weighted exposure amount} = \text{RW} * \text{exposure value}$$

4. For exposures to companies where the total annual sales for the consolidated group of which the firm is a part is less than EUR 50 million 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.

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

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.

- For specialised lending exposures that 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.

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

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

- To be eligible for the corporate treatment purchased corporate receivables shall comply with the minimum requirements set out in Part 4, paragraphs 104 to 108. For purchased corporate receivables that comply in addition with the conditions set out in paragraph 12, 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.
- For purchased corporate receivables, refundable purchase discounts, collateral or partial guarantees that provide first-loss protection for default losses, or both, may be treated as first-loss positions under the IRB securitisation framework.
- Where an 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, if the product has an external credit assessment from an eligible ECAI the risk weights set out in Articles 94-101 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:

9. Subject to paragraphs 10 and 11 the risk weighted exposure amounts for retail exposures shall be calculated according to the following formulas:

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

Risk weight:

$$LGD * (N[(1 - R)^{-0.5} * G(PD) + (R / (1 - R))^{0.5} * G(0.999)] - PD * LGD) * 12.5 * 1.06$$

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

Risk-weighted exposure amount = RW * exposure value

10. For retail exposures secured by real estate collateral a correlation (R) of 0.15 shall replace the figure produced by the correlation formula in paragraph 9.

11. For qualifying revolving retail exposures as defined in (a) to (e), a correlation (R) of 0.04 shall replace the figure produced by the correlation formula in paragraph 9.

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 formula of this paragraph is constrained to portfolios that have exhibited low volatility of loss rates, relative to their average level of loss rates, especially within the low PD bands. Supervisors shall review the relative volatility of loss rates across the qualifying revolving retail subportfolios, 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.
- (e) The competent authority concurs that treatment as a qualifying revolving retail exposure is consistent with the underlying risk characteristics of the sub-portfolio.

12. To be eligible for the retail treatment purchased receivables shall comply with the minimum requirements set out in Part 4, paragraphs 104 to 108 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, intercompany 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.
- (d) The portfolio of purchased receivables is sufficiently diversified.

13. 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.

14. 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:

15. Subject to approval of the competent authorities, a credit institution may employ different approaches to different portfolios where the credit institution itself uses different approaches internally. Where a credit institution is permitted to use 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.

16. Notwithstanding paragraph 15 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

17. The risk weighted exposure amounts 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

18. 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 applied to the absolute value of each position. In the context of maturity mismatched positions, the method is that for corporate exposures.

19. 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

20. The risk weighted exposure amounts shall be calculated according to the formulas in paragraph 3. If institutions do not have sufficient information to use the definition of default set out in Part 4, paragraphs 44 to 48, a scaling factor of 1.5 shall be applied to the risk weights.

21. 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.

22. Credit institutions may recognise unfunded credit protection obtained on an equity exposure in accordance with the methods set out in of 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

23. The risk weighted exposure amounts shall be the potential loss on the institution's equity exposures as derived using internal value-at-risk models subject to the 99th percentile, one-tailed confidence interval of the difference between quarterly returns and an appropriate risk-free rate computed over a long-term sample period, multiplied by 12.5. The risk weighted exposure amounts at the individual exposure level shall not be less than the sum of minimum risk weighted exposure amounts required under the PD/LGD Approach and the corresponding expected loss amounts multiplied by 12.5.

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

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

25. The risk weighted exposure amounts shall be calculated according to the formula:

$$\text{Risk-weighted exposure amount} = 100\% * \text{exposure value}$$

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

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

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

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

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

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

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

Premiums on purchased exposures shall be treated as EL.

29. The EL values for specialised lending exposures where credit institutions use the methods set out in paragraph 5 for assigning risk weights shall be assigned according to table 2.

Table 2

Remaining Maturity	category 1	category 2	category 3	category 4	category 5
Less than 2.5 years	0%	5%	35%	100%	625%
Equal or more than 2.5 years EL	5%	10%	35%	100%	625%

Where competent authorities have authorised a credit institution to generally 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 5%.

30. The expected loss amounts for equity exposures where the risk weighted exposure amounts are calculated according to the methods set out in paragraphs 17 to 19, 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:

$$\text{Expected loss (EL)} = 10\% \text{ for private equity exposures in sufficiently diversified portfolios}$$

$$\text{Expected loss (EL)} = 10\% \text{ for exchange traded equity exposures.}$$

$$\text{Expected loss (EL)} = 30\% \text{ for all other equity exposures.}$$

31. The expected loss amounts for equity exposures where the risk weighted exposure amounts are calculated according to the methods set out paragraphs 20 to 22 shall be calculated according to the following formulas:

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

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

32. The expected loss amounts for equity exposures where the risk weighted exposure amounts are calculated according to the methods set out in paragraphs 23 to 24 shall be 0%.

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

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

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

4. TREATMENT OF EXPECTED LOSS AMOUNTS

34. The expected loss amounts calculated in accordance with paragraphs 28, 29 and 33 shall be subtracted from the sum of value adjustments and provisions related to these exposures. Discounts on purchased exposures according to Part 3, paragraph 1 shall be treated in the same manner as value adjustments, premiums on purchased exposures according to Part 3, paragraph 1 shall be added to the expected loss amounts. 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 probability of default (PD), loss given default (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 institutions 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
6. Credit institutions using own LGD estimates may recognise unfunded credit protection by adjusting PDs subject to paragraph 11.
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.

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 the provisions of Articles 90 to 93.
 - (d) Covered bonds as defined in Annex VI, Part 1, paragraphs 65 to 67 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%.
- (g) For dilution risk of purchased corporate receivables: 75%

9. Notwithstanding paragraph 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 paragraph 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 or LGD estimates 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.

1.3. Maturity

11. Subject to paragraph 12, 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 paragraph 12.

12. Credit institutions permitted to use own LGDs 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 paragraphs 13 to 15. 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:

$$M = \text{MAX}\{1; \text{MIN}\{\sum_t t * CF_t / \sum_t CF_t ; 5\}\}$$

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) For exposures arising from 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 1 year. This same value of M shall also be used for undrawn amounts under a committed purchase facility provided the facility contains effective covenants, early amortisation triggers, or other features that protect the purchasing 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 1 year.

(e) For any other instrument than mentioned in this paragraph 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.

13. Notwithstanding paragraph 12 (a), (b), (d) and (e), for short-term exposures specified by the competent authorities with a remaining maturity below one year and which are not part of the credit institutions ongoing financing of the obligor M shall be at least one-day.

14. 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 paragraph 11.

15. Maturity mismatches shall be treated as specified in Articles 90-93.

2. RETAIL EXPOSURES

2.1. PD

16. The PD of an exposure shall be at least 0.03%.

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

18. 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.

19. Unfunded credit protection may be recognised by adjusting PDs subject to paragraph 21.

2.2. LGD

20. 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 PD estimate may be used.
21. Unfunded credit protection may be recognised by adjusting PD or LGD estimates subject to minimum requirements as specified in Part 4, paragraphs 95 to 103 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.

3. EQUITY EXPOSURES SUBJECT TO PD/LGD METHOD

3.1. PD

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

The following minimum PDs shall apply:

- (a) 0.09% for exchange traded equity exposures where the investment is part of a long-term customer relationship;
- (b) 0.09% for non-exchange traded equity exposures where the returns on the investment are based on regular and periodic cash flows not derived from capital gains;
- (c) 0.40% for exchange traded equity exposures including other short positions as set out in Part 1, paragraph 17;
- (d) 1.25% for all other equity exposures including other short positions as set out in Part 1, paragraph 17.

3.2. LGD

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

3.3. Maturity

25. 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/security 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 lease payment stream.
5. In the case of any item listed in Annex IV, the exposure value shall be determined by means of one of the two 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. Notwithstanding paragraph 5, contracts traded on recognised exchanges, and foreign-exchange contracts (except contracts concerning gold) with an original maturity of 14 calendar days or less are exempt from the application of the methods set out in Annex III, and will be attributed an exposure value of zero.
8. Notwithstanding paragraph 5, competent authorities may exempt from the application of the methods set out in Annex III and attribute an exposure value of zero to over-the-counter (OTC) contracts cleared by a clearing house where the latter acts as the legal counterparty and all participants fully collateralise on a daily basis the exposure they present to the clearing house, thereby providing a protection covering both the current replacement cost and the potential future exposure.

The posted collateral shall either:

- (a) qualify for a 0% risk weight
- (b) be cash deposits placed with the lending credit institution
- (c) be certificates of deposit or similar instruments issued by and lodged with the latter

The competent authority shall be satisfied that the risk of a build-up of the clearing house's exposures beyond the market value of posted collateral is eliminated.

9. The exposure value for undrawn purchased commitments of revolving purchased corporate receivables exposures shall be calculated as the committed but undrawn amount multiplied by 75%.

10. Where an exposure takes the form of securities sold, posted or lent under a repurchase transaction or securities or commodities lending or borrowing transaction, 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.

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

(d) 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, subject to approval of the competent authorities.

12. 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.

13. For all other off-balance sheet items than mentioned in paragraphs 1 to 11, the exposure value shall be determined according to Annex II.

2. EQUITY EXPOSURES

14. 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.
- (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

- 15. 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. To qualify for recognition by the competent authorities of the use for capital requirement calculation of own estimates of conversion factors a rating system shall incorporate a distinct facility rating scale which exclusively reflects conversion factor related transaction characteristics.

11. 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 either LGDs or conversion factors 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.
12. Significant concentrations within a single facility grade shall be supported by convincing empirical evidence that the facility grade covers a reasonably narrow LGD or conversion factor band, respectively, and that the risk posed by all exposures in the grade falls within that band.
13. Credit institutions using the methods set out in Part 1, paragraph 5 for assigning risk weights for specialised lending exposures are exempt from the requirement to have an obligor rating scale which reflects exclusively quantification of the risk of obligor default for these exposures. Notwithstanding paragraph 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

14. Rating systems shall reflect both obligor and transaction risk, and shall capture all relevant obligor and transaction characteristics.
15. 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.
16. 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 their customers.
17. Credit institutions shall consider the following risk drivers when assigning exposures to grades or pools:
 - Obligor risk characteristics
 - (a) Transaction risk characteristics, including product or collateral types or both. Credit institutions shall explicitly address cases where several exposures benefit from the same collateral
 - (b) Delinquency, unless the credit institution demonstrates to its competent authority that delinquency is not a material driver of risk for the exposure
 - (c) Assignment to grades or pools
18. 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.
- (c) The criteria shall also be consistent with the credit institution's internal lending standards and its policies for handling troubled obligors and facilities.

19. 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.

1.2. Assignment of exposures

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

20. Each obligor shall be assigned to an obligor grade as part of the credit approval process.
21. For those credit institutions permitted to use own estimates of LGDs or conversion factors, each exposure shall also be assigned to a facility grade as part of the credit approval process.
22. Credit institutions using the methods set out in Part 1, paragraph 5 for assigning risk weights for specialised lending exposures shall assign each of these exposures to a grade in accordance with paragraph 13.
23. 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.
24. 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

1.2.2. Retail exposures

25. Each exposure shall be assigned to a grade or a pool as part of the credit approval process.

1.2.3. Overrides

26. 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 that are 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.

1.3. Integrity of assignment process

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

27. 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.

28. 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.

29. 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 conversion factors.

1.3.2. Retail exposures

30. 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.

1.4. Use of models

31. 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.

- (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.
- (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.

1.5. Documentation of rating systems

- 32. 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.
- 33. 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.
- 34. 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.
- 35. 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
- 36. 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.

1.6. Data maintenance

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

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

38. 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,
- (g) Data on the PDs and realised default rates associated with rating grades and ratings migration.
- (h) 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, paragraph 8 and realised conversion factors to the values as set out in Part 3, paragraph 11.

39. 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.

(g) Data on the components of loss for each defaulted exposure.

1.6.2. Retail exposures

40. 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.

(e) Data on loss rates and margin income for qualifying revolving retail exposures.

1.7. Stress tests used in assessment of capital adequacy

41. 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.

42. 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 to be employed 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.

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.

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.

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

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 paragraph 48.

In the case of corporate exposures the competent authorities may set a number of days past due as specified in Article 154, paragraph 4.

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

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.

(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 States 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 paragraph 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 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 paragraphs 66, 71, 81, 85, 92 and 94 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 is 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 from 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 internal purposes it shall be documented and their reasonableness shall be demonstrated to the competent authority.
56. If credit institutions can demonstrate to its 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 shall be representative for the portfolio for which the pooled data is used;
 - (c) The pooled data is used consistently over time by the credit institution for its permanent 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 paragraph 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 paragraphs 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 paragraph 31.
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 paragraph also applies to the PD/LGD Approach to equity.

Retail exposures

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

(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 paragraph 73.

71. Irrespective of whether a credit institution is using external, internal, 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.

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 constant realised LGDs 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.

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 a credit institution does not meet the minimum requirements for collateral set out in Annex VIII any amount expected to be recovered from such collateral shall not be taken into account in its LGD estimates.

79. For the specific case of exposures already in default, the credit institution shall use its best estimate of expected loss for each exposure given current economic circumstances and exposure status.

80. 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

81. Estimates of LGD shall be based on data over a minimum of seven years 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

82. Notwithstanding paragraph 73, LGD estimates may be derived from realised losses and appropriate estimates of PDs.

83. Notwithstanding paragraph 88, credit institutions may reflect future drawings either in its conversion factor or in its LGD estimates.

84. For purchased retail receivables credit institutions may use external and internal reference data to estimate LGDs.

85. Estimates of LGD shall be based on data over a minimum of five years. Notwithstanding paragraph 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.

2.2.3. *Requirements specific to own-conversion factor estimates*

86. 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).

87. 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 extent a rating system is expected to deliver constant realised conversion factors 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.

88. Credit institutions estimates of conversion factor 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.

89. 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.

90. 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.

91. 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

92. Estimates of conversion factor shall be based on data over a minimum of seven years 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

93. Notwithstanding paragraph 88, credit institutions may reflect future drawings either in their conversion factors or in their LGD estimates.

94. Estimates of conversion factors shall be based on data over a minimum of five years. Notwithstanding paragraph 86, 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.

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.

95. The requirements in paragraphs 96 to 103 shall not apply for guarantees provided by institutions and central governments and central banks 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.

96. 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

97. Credit institutions shall have clearly specified criteria for the types of guarantors they recognise for the calculation of risk weighted exposures.

98. For recognised guarantors the same rules as for obligors as set out in paragraphs 18 to 30 shall apply.

99. 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

100. 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 assets. These criteria shall comply with the minimum requirements set out in paragraphs 18 to 30.

101. 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

102. 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, paragraph 20 shall apply. For retail exposures and eligible purchased receivables, this paragraph applies to the process of allocating exposures to grades or pools.

103. 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

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

Effectiveness of monitoring systems

105. 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 such 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.

(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

106. 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

107. 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's 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

108. 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

109. 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.

110. 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 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.

111. 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.

112. 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.

113. 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

114. Credit institutions shall meet for the purpose of calculating capital requirements 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 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.
- (g) A rigorous and comprehensive stress-testing programme shall be in place.

4.2. Risk management process and controls

115. 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 banking 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.
- (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

116. 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.

117. Credit institutions shall use the internal validation process to assess the performance of its internal models and processes in a consistent and meaningful way.
118. 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.
119. 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 is over 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.
120. 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.
121. 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.
122. 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

5.1. Corporate Governance

123. All material aspects of the rating and estimation processes shall be approved by the credit institution's board of directors 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.
124. Senior management shall provide notice to the board of directors 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.
125. 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.

126. 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 own estimates of LGDs and 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

127. The credit risk control unit shall be independent from the personal and management functions responsible for originating or renewing exposures and that reports 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.

128. 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;
- (h) Ongoing review and alterations to models used in the rating process.

129. Notwithstanding paragraph 128, credit institutions using pooled data according to paragraphs 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;

- (e) Production of information relevant to ongoing review and alterations to models used in the rating process.

Credit institutions making use of this paragraph 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

- 130. Internal audit 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

3. The on-balance sheet netting of mutual claims between the credit institution and its counterparty may be recognised.

4. Without prejudice to paragraph 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 of this Annex, 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 of Directive [93/6/EEC] 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 paragraphs 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;
- (g) Gold.

For the purposes of sub-paragraph (b), ‘debt securities issued by central governments or central banks shall be deemed to 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 Annex VI;
- (ii) debt securities issued by multilateral development banks to which a 0% risk weight is applied under Articles 78 to 83;
- (iii) debt securities issued by international organisations which are assigned a 0% risk weight under Articles 78 to 83;

For the purposes of sub-paragraph (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;
- (iii) debt securities issued by multilateral development banks other than those to which a 0% risk weight is applied under;

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 having a credit assessment by a recognised ECAI 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);
- (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:

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

10. In relation to points (b) to (e) of Paragraph 7, where a security has two credit assessments by eligible ECAs, the less favourable assessment shall be deemed to apply. In cases where a security has more than two credit assessments by eligible ECAs, 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 paragraphs 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.
- (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 paragraph 7 and 8 and the items mentioned in the point (a) of this paragraph.

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.

1.3.3. Additional eligibility for calculations under Articles 84 to 89

12. In addition to the collateral set out above the provisions of paragraphs 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 and commercial real estate i.e. 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 is not intended to 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.

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 paragraph 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 institutions to comply with condition (b) in paragraph 13 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) up to 50 % of the market value (or where applicable and if lower 60 % of the mortgage-lending-value) does not exceed 0.3 % of the outstanding loans secured by commercial real estate property in any given year.

(b) overall losses stemming from lending secured by commercial real estate does not exceed 0.5 % of the outstanding loans in any given year.

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, which do not use the waiver in paragraph 17, may recognise as eligible commercial real estate property recognised as eligible in another Member State by virtue of the waiver.

(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 paragraphs 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 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, Paragraph 73, where the requirements set out in Part 2, paragraph 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 protection:

(a) Central governments and central banks;

(b) regional governments or local authorities;

(c) multi-lateral development banks;

(d) international organisations exposures to which receive a 0% risk weight under Articles 78 to 83;

(e) public sector entities, claims on which are treated by the competent authorities as claims on institutions under Articles 78 to 83;

(f) institutions;

- (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;
 - (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 probability of default equivalent to that associated with the credit assessments of ECAs 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.

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 paragraph 26, the Member States may also recognise as eligible providers of unfunded 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.

3. TYPES OF CREDIT DERIVATIVES

29. 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
- (c) credit linked notes to the extent of their cash funding

30. 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.

3.1. Internal hedges

31. 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 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 for the calculation of risk-weighted exposure amounts and expected loss amounts where unfunded credit protection is acquired set out in Parts 3 to 6 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 shall, for the purposes of this paragraph only, be deemed to be the net amount of the exposure.

1. FUNDED CREDIT PROTECTION

1.1. On-balance sheet netting (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 have a well-founded legal basis and be legally enforceable under applicable law, 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 netting agreement;
 - (c) the credit institution must monitor and control the risks associated with the termination of the credit protection;
 - (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) have a well founded legal basis and be legally enforceable under applicable law, 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

(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 paragraph 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.

Securities issued by the obligor, or any related group entity are not eligible.

(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 paragraph 6 above, 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 legally enforceable in all relevant jurisdictions, 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. 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 shall be valued 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 shall be evaluated 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 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.
- (iv) The collateral arrangements must be properly documented, with a clear and robust procedure for the timely collection of collateral. Credit institutions procedures shall ensure that any legal conditions required for declaring the default of the customer 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

- (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. Observance of the credit institution's overall concentration limits shall be monitored. 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.
- (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 enforceable under all applicable laws 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 paragraph 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 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.
- (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 paragraphs 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 location of the asset, the use to which it is put, its age, and planned obsolescence;
- (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) The difference between the rate of depreciation of the physical asset and the rate of amortisation of the lease payments 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, Paragraph 80, the protection referred to in Part 1, paragraph 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;
- (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.
- (d) The pledge or assignment is unconditional and irrevocable.

1.8.2. Life insurance policies pledged to the lending credit institution.

13. For life insurance policies pledged to the lending credit institution to be recognised the following conditions shall be met:

- (a) the company providing the life insurance may be recognised as an eligible unfunded protection provider under Part 1, paragraph 26;
- (b) the life insurance policy is openly pledged or assigned to the lending credit institution;

- (c) the company providing the life insurance is notified of the pledge or assignment and as a result may not cancel the contract or pay amounts payable under the contract without the consent of the lending credit institution;
- (d) the policy must have a declared surrender value which is a non-reducible amount;
- (e) the lending credit institution must have the right to cancel the policy and receive the surrender value in a timely way in the event of the default of the borrower;
- (f) the lending credit institution is informed of any non-payments under the policy by the policy-holder;
- (g) the credit protection must be provided for the maturity of the loan; and
- (h) the pledge must be legally enforceable in all relevant jurisdictions.

2. UNFUNDED CREDIT PROTECTION AND CREDIT LINKED NOTES

2.1. Requirements common to guarantees and credit derivatives

14. Subject to paragraph 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.
- (d) It must be legally enforceable in all relevant jurisdictions.

2.1.1. Operational requirements

15. The credit institution shall satisfy its supervisor that it has systems in place to manage potential concentration of risk arising from the credit institution's use of guarantees or 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

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 claims on which are treated as claims on the sovereign in whose jurisdiction they are established under Articles 78 to 83, a multi-lateral development bank to which a 0% risk weight is applied 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 paragraphs 14, 15 and 17, except that the counter-guarantee need not be direct;
- (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.

2.3. Additional requirements for guarantees

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

- (a) On the qualifying default/non-payment of 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.
- (b) The guarantee shall be an explicitly documented obligation assumed by the guarantor.
- (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.

18. 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 paragraph 16, the requirements in paragraph (a) may be considered to be satisfied where either of the following conditions are met:

- (a) the competent authorities are satisfied that 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;

- (b) the competent authorities are otherwise satisfied as to the loss-protecting effects of the guarantee, including losses resulting from the non-payment of interest and other types of payment which the borrower is obliged to make.

2.4. Additional requirements for credit derivatives

19. For a credit derivative to be recognised the following conditions shall also be met:

- (a) Subject to (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); and
 - (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.
 - (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 the third indent of (a), the credit protection may nonetheless be recognised subject to a reduction in the recognised value as specified in Part 3, paragraph 84.
- (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.
- (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 seller. The protection buyer shall have the right/ability to inform the protection provider of the occurrence of a credit event;

20. 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;
- (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.

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 Subsection 1 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 paragraphs 12 to 22, 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 in the manner set out below either using the Supervisory volatility adjustments approach or the Own estimates volatility adjustments approach as set out in paragraphs 35 to 60 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 shall be calculated by subtracting from the total value of the securities of that type lent, sold or provided under the master netting agreement, the total value of securities of that type borrowed, purchased or received under the agreement.

7. For the purposes of paragraph 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 paragraphs 35 to 60.

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 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:

$$E^* = \max \{0, [(\sum(E) - \sum(C)) + \sum(|\text{net position in each security}| \times H_{\text{sec}}) + \sum(|E_{\text{fx}}| \times H_{\text{fx}})]\}$$

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.

$\sum(E)$ is the sum of all E s under the agreement.

$\sum(C)$ is the sum of all C s under the agreement.

E_{fx} is the net position (positive or negative) in a given currency other than the settlement currency of the agreement as calculated under paragraph 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 ($\sum E - \sum C$).

13. A credit institution may choose to use an internal models approach independently of the choice it has made between the Standardised Approach and the IRB Foundation Approach to credit risk. 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 paragraphs 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 of Directive [93/6/EEC].
15. Credit institutions which have not received supervisory recognition for use of such a model under Directive 93/6/EEC, may apply to the competent authorities for recognition of an internal risk-measurement model for the purposes of these paragraphs.
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 numbers of 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 backtesting 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.

17. The calculation of potential change in value shall be subject to the following minimum standards:

- (a) at least daily calculation of 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 repurchase transactions or securities or commodities lending or borrowing transactions when 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;
- (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 institution's system for measuring correlations is sound and implemented with integrity`.

20. A credit institution using the internal models approach shall be required to backtest the output of the model using a sample of 20 counterparties, identified on an annual basis. These counterparties shall include the 10 largest as determined by the credit institution according to its own exposure measurement approach and 10 others selected at random. For each day and for each counterparty, the credit institution should compare the actual change in the value of the exposure to the counterparty over a 1-day horizon with the estimated change in the exposure value using the

internal models approach calculated as of the previous close of business. An exception occurs for each observation in which the actual change in exposure exceeds the internal model estimate. Depending on the number of exceptions in the observations for the 20 counterparties over the most recent 250 business days (encompassing 5000 observations), the estimate output of the internal model shall be increased using the multiplier set out in Table 1 .

Table 1

Zone	Number of exceptions	Multiplier
Green Zone	0-99	1
Yellow Zone	100-119	1.13
	120-139	1.17
	140-159	1.22
	160-179	1.25
	180-199	1.28
Red Zone	200 or more	1.33

As part of its backtesting, the credit institution shall confirm that exceptions are not concentrated in its exposures to one or more counterparties.

21. The fully adjusted exposure value (E*) for credit institutions using the Internal models approach shall be calculated according to the following formula:

$$E^* = \max \{0, [(\sum E - \sum C) + (\text{estimate output of of the internal models x multiplier as appropriate})]\}$$

Where risk-weighted exposure amounts are calculated under Subsection 1 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 current market value of the securities borrowed, purchased or received or the cash borrowed or received in respect of each such exposure.

$\sum(E)$ is the sum of all Es under the agreement

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

22. In calculating capital requirements 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

23. E* as calculated under paragraphs 5 to 22 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 Foundation Approach

24. E* as calculated under paragraphs 5 to 22 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*

25. 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.

Valuation

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

Calculating risk-weighted exposure amounts

27. The risk weight that would apply under Articles 78 to 83 if the lender had a direct exposure to the collateral instrument shall apply to those portions of claims collateralised by the market value of recognised collateral. The risk weight on the collateralised portion shall be a minimum of 20% except as specified in paragraphs 28 to 30. The remainder of the exposure shall receive the risk weight that would be applied to an unsecured exposure to the counterparty under Articles 78 to 83.

Repurchase transactions and securities lending or borrowing transactions

28. A risk weight of 0% shall be applied to the collateralised portion of the exposure arising from transactions which fulfil the criteria enumerated in paragraphs 59 and 60. If the counterparty to the transaction is not a core market participant a risk weight of 10% shall be applied.

OTC derivative transactions subject to daily mark-to-market

29. A risk weight of 0% shall, to the extent of the collateralisation, be applied 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 apply 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 receive a 0% risk weight under Articles 78 to 83.

For the purposes of this paragraph ‘debt securities issued by central governments or central banks shall be deemed to 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 applied under or by virtue of Articles 78 to 83;
- (c) debt securities issued by international organisations which are assigned a 0% risk weight under Articles 78 to 83.

Other transactions

30. A 0% risk weight may be applied 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 paragraph ‘debt securities issued by central governments or central banks shall be deemed to include those indicated under the previous heading.

1.4.2. *Financial Collateral Comprehensive Method*

31. 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 paragraphs 35 to 60 below, in order to take account of price volatility.

32. Subject to the treatment for currency mismatches in the case of OTC derivatives transactions set out in paragraph 33, where collateral is denominated in a currency that 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 paragraphs 35 to 60.

33. 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

34. 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 paragraphs 5 to 24 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

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.

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 paragraphs 35 to 60.

H_C is the volatility adjustment appropriate for the collateral, as calculated under paragraphs 35 to 60.

H_{FX} is the volatility adjustment appropriate for currency mismatch, as calculated under paragraphs 35 to 60.

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

35. 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).

36. 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

$$H = \sum_i a_i H_i$$

adjustment shall be , where a_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*

37. The volatility adjustments to be applied under the Supervisory volatility adjustments approach (assuming daily revaluation) shall be those set out in tables 2 to 5.

VOLATILITY ADJUSTMENTS

Table 2

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, paragraph 7 (b)			Volatility adjustments for debt securities issued by entities described in Part 1, paragraph 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

	years						
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 3

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, paragraph 7 (b) with short-term credit assessments			Volatility adjustments for debt securities issued by entities described in Part 1, paragraph 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 4

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 5

Volatility adjustment for currency mismatch		
20 day liquidation period (%)	20 day liquidation period (%)	5 day liquidation period (%)
11.314	8	5.657

38. 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.

39. In tables 2 to 5 and in paragraphs 40 to 42, the credit quality step with which a credit assessment of the debt security is associated is the credit quality step with which the external credit assessment is determined by the competent authorities to be associated under Articles 78 to 83. For these purposes Part 1, paragraph 10 also applies.

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

41. For eligible units in collective investment undertakings the volatility adjustment is the highest volatility adjustment that would be apply, having regard to the liquidation period of the transaction as specified in paragraph 38, to any of the assets in which the fund has the right to invest.

42. For unrated debt securities issued by institutions and satisfying the eligibility criteria in Part 1, paragraph 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

43. The competent authorities may permit institutions complying with the requirements set out in paragraphs 48 to 57 to use their own estimates of volatility for calculating the volatility adjustments to be applied to collateral and exposures.

44. 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.

45. 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.

46. 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.
47. 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

48. In calculating the volatility adjustments, a 99th percentile one-tailed confidence interval shall be used.
49. 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.
50. 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 paragraph 49 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 the relevant liquidation period;

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

51. 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.
52. 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.
53. Credit institutions shall update their data sets no less frequently than 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

54. 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.
55. 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 paragraph 50.
56. 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.
57. 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;
 - (d) the accuracy and appropriateness of the volatility assumptions.

(iii) *Scaling up of volatility adjustments*

58. The volatility adjustments set out in paragraphs 37 to 42 are the volatility adjustments to be applied where there is daily revaluation. Similarly where an credit institution uses its own estimates of the volatility adjustments in accordance with paragraphs 43 to 57, 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 revaluation

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

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

59. 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, the competent authorities may allow credit institutions not to apply the volatility adjustments calculated under paragraphs 35 to 58 and to instead apply a 0% volatility adjustment. This option is not available in respect of credit institutions using the internal models approach set out in paragraphs 12 to 22.

(a) Both the exposure and the collateral are cash or securities falling within Part 1, paragraph 7(b);

(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;

(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;

(h) The counterparty is considered a 'core market participant' by the competent authorities. Core market participants may include the following entities :

– The entities mentioned in paragraph 7(b) of Part 1 exposures to which receive a 0% risk weight under Articles 78 to 83;

– institutions;

– other financial companies (including insurance companies) exposures to which receive 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 probability of default

equivalent to that associated with the credit assessments of ECAs 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.

60. Where a competent authority permits the treatment set out in paragraph 59 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

61. E^* as calculated under paragraph 34 shall be taken as the exposure value for the purposes of Article 80.

IRB Foundation Approach

62. LGD* (the effective Loss Given Default) calculated as set out in this paragraph shall be taken as the LGD for the purposes of Annex VII.

$$\text{LGD}^* = \text{Max} \{0, \text{LGD} \times [(E^*/E)]\}$$

where

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

E is the exposure value under Articles 84 to 89;

E^* is as calculated under paragraph 34.

1.5. Other eligible collateral for Articles 84 to 89

1.5.1. Valuation

(a) Real estate collateral

63. 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.

64. 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.

65. 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.

66. 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, paragraph 8 and to take account of the any prior claims on the property.

(b) Receivables

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

(c) Other physical collateral

68. 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

69. LGD* (the effective Loss Given Default) calculated as set out in paragraphs 70 to 73 shall be taken as the LGD for the purposes of Annex VII.

70. 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 6, LGD* shall be the LGD laid down in Annex VII for uncollateralised exposures to the counterparty.

71. 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 6, LGD* shall be that prescribed in the following table.

72. For these purposes, 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.

73. Table 6 sets out the applicable LGD* and required collateralisation levels for the secured parts of exposures:

Table 6

Minimum LGD for secured portion 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 indicated levels of collateralisation

- (a) allow credit institutions to assign a 30% LGD for senior exposures in the form of Commercial Real Estate leasing; and
- (b) allow credit institutions to assign a 35% LGD for senior exposures in the form of equipment leasing.

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

(b) Alternative treatment for real estate collateral

74. Subject to the requirements of this paragraphs and paragraph 75 and as an alternative to the treatment in paragraphs 69 to 73, the competent authorities of a Member State may authorise credit institutions to apply a 50% risk weighting 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) up to 50 % of the market value (or where applicable and if lower 60 % of the mortgage-lending-value) must not exceed 0.3 % of the outstanding residential real estate and/or commercial real estate loans in any given year.
- (b) overall losses stemming from lending collateralised by residential real estate property or commercial real estate property respectively must not exceed 0.5 % of the outstanding loans collateralised by that form of real estate property in any given year.

75. If either of the conditions in paragraph 74 is not satisfied in a given year, the eligibility to use this treatment shall cease until the conditions are satisfied in a subsequent year.

76. The competent authorities, which do not authorise the treatment in paragraph 73, may authorise credit institutions to apply the risk weights permitted under this treatment in respect of exposures collateralised by residential real estate property of commercial real estate property respectively located in the territory of those Member States the competent authorities of which authorise this treatment subject to the same conditions as apply in that Member State.

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

77. 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* (the effective Loss Given Default) to be taken as the LGD for the purposes of Annex VII shall be calculated as follows.

78. 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 paragraph 34) into portions each covered by only one type of collateral. That is, the credit institution must divide the exposure into the portion 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 portion covered by other eligible collateral, and the unsecured portion, as relevant.

79. LGD* for each portion 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

80. Where the conditions set out in Part 2, paragraph 12 are satisfied, credit protection falling within the terms of Part 1, paragraph 23 may be treated as a guarantee by the third party institution.

1.7.2. Life insurance policies pledged to the lending credit institution

81. Where the conditions set out in Part 2, paragraph 13 are satisfied, credit protection falling within the terms of Part 1, paragraph 24 may be treated as a guarantee by the company providing the life insurance. The value of the credit protection recognised shall be the surrender value of the life insurance policy.

1.7.3. Institution instruments repurchased on request

82. Instruments eligible under Part 1, paragraph 25 may be treated as a guarantee by the issuing institution.

83. For these purposes 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, paragraph 8.

2. UNFUNDED CREDIT PROTECTION

2.1. Valuation

84. 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), the value of the credit protection calculated under the first sentence of this paragraph shall be reduced by 40%.

85. 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

$$G^* = G$$

86. The volatility adjustments to be applied for any currency mismatch may be calculated based on the Supervisory volatility adjustments approach or the Own estimates approach as set out in paragraphs 35 to 58.

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

2.2.1. Partial protection – tranching

87. Where the credit institution transfers a portion 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

88. For the purposes of Article 80, g shall be the risk weight to be assigned to an exposure which is fully protected by unfunded protection (G_A),

where

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 paragraph 85 further adjusted for any maturity mismatch as laid down in Part 4.

(b) Partial protection – equal seniority

89. Where the protected amount is less than the exposure value and the protected and unprotected portions are of equal seniority – ie 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

E is the exposure value;

G_A is the value of G^* as calculated under paragraph 85 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;

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

(c) Sovereign guarantees

90. The competent authorities may extend the treatment provided for in Annex VI, paragraphs 4 to 6 to exposures or portions 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 Foundation Approach*

Full protection / Partial protection – equal seniority

91. For the covered portion of the exposure (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.
92. For any uncovered portion of the exposure the PD shall be that of the borrower and the LGD shall be that of the underlying exposure.
93. G_A is the value of G^* as calculated under paragraph 85 above further adjusted for any maturity mismatch as laid down in Part 4.

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, paragraph 13.

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 paragraph 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, paragraph 34 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 paragraphs 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 paragraphs 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, paragraph 34.

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

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

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 paragraphs 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 paragraphs 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, paragraphs 84 to 93.

Part 5 - Combinations of credit risk mitigation in the Standardised Approach

9. 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 portions covered by each type of credit risk mitigation tool (e.g. a portion 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.
10. When credit protection provided by a single protection provider has differing maturities, a similar approach to that described in paragraph 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. *n*TH-TO-DEFAULT CREDIT DERIVATIVES

2. In the case 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 paragraph 1 for first-to-default derivatives appropriately modified for *n*th-to-default products.

ANNEX IX – Securitisation

Part 1 - Definitions for purposes of Annex X

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 cashflows 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, paragraphs 45 to 49.
- ‘Supervisory formula method’ means the method of calculating risk-weighted exposure amounts for securitisation positions in accordance with Part 4, paragraphs 50 to 52.
- ‘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.
- ‘Asset-backed commercial paper programme’ (‘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

1. 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 significant credit risk associated with the securitised exposures has been transferred to third parties and the transfer complies with the following conditions:

- (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.
- (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

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 paragraphs 3 and 4 below, if significant credit risk has been transferred to third parties either through funded or unfunded credit protection and the transfer complies 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 these purposes, 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.

- (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 paragraph 2 are met, the originator credit institution of a synthetic securitisation shall, subject to paragraphs 5 to 8, 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, paragraph 3 refers to the entire pool of exposures included in the securitisation. Subject to paragraphs 5 to 8, 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 IV 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 paragraph 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 paragraphs 6 to 8. 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.

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. Where an originator credit institution uses Part 4, paragraphs 6 to 35 for the calculation of risk-weighted exposure amounts, it shall ignore any maturity mismatch in calculating risk-weighted exposure amounts for tranches that are unrated or rated below investment grade. For all other tranches the maturity mismatch treatment set out in Annex VIII shall be applied in accordance with the following formula:

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

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 paragraph 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;

t^* is 0.25.

8. Where an originator credit institution uses Part 4, paragraphs 36 to 74 for the calculation of risk-weighted exposure amounts, it shall ignore any maturity mismatch in calculating risk-weighted exposure amounts for tranches or parts of tranches

which are associated with a risk weight of 1250% under those paragraphs. For all other tranches or parts of tranches the maturity mismatch treatment set out in Annex VIII shall be applied in accordance with the formula in paragraph 7.

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 of this Annex, 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.
 - (b) It 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 paragraphs 5 to 7 below, a credit institution must use credit assessments from nominated ECAIs consistently in respect of its securitisation positions.
4. Subject to paragraphs 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. In cases where a position has two credit assessments by nominated ECAIs, the credit institution shall use the less favourable credit assessment.
6. In cases 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.

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 paragraph 3,
 - (a) where a credit institution calculates risk-weighted exposure amounts under paragraphs 6 to 35, 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 paragraphs 36 to 74, 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 these purposes '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 paragraph 8 and 9, 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 associated by the competent authorities in accordance with Article 98 as laid down in the following 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%	1250%

Table 2

Positions with short-term credit assessments

Credit quality step	1	2	3	All other credit assessments
Risk weight	20%	50%	100%	1250%

7. Subject to paragraphs 10 to 16, the risk-weighted exposure amount of an unrated securitisation position shall be calculated by applying a risk weight of 1250%.

2.1. Originator and sponsor credit institutions

8. Originator credit institutions and sponsor credit institutions shall apply a risk weight of 1250% to all retained and repurchased securitisation positions which have a credit assessment by a nominated ECAI which has been determined by the competent authorities to be associated with a credit quality step below credit quality step 3. In determining whether a position has such a credit assessment the provisions of Part 3, paragraphs 2 to 7 shall apply.

9. For an originator credit institution or sponsor credit 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

10. Competent authorities may permit a credit institution having an unrated securitisation position to apply the treatment set out in paragraph 11 for calculating the risk-weighted exposure amount for that position provided the composition of the pool of exposures securitised is known at all times.

11. A credit institution may apply the weighted-average risk weight that would be applied to the securitised exposures 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 1250% 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 1250% to the position.

2.3. Treatment of securitisation positions in a second loss tranche or better in an ABCP programme

12. Subject to the availability of a more favourable treatment by virtue of the provisions concerning liquidity facilities in paragraphs 14 to 16, a credit institution may apply to securitisation positions meeting the conditions set out in paragraph 13 a risk weight that is the greater of (i) 100% or (ii) 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.

13. For the treatment in the paragraph 12 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

14. When the following conditions are met, to determine its exposure value a conversion figure of 20% may be applied to the nominal amount of a liquidity facility with an original maturity of one year or less and a conversion figure of 50% may be applied to the nominal amount of a liquidity facility with an original maturity of more than one year.

- (a) The liquidity facility documentation shall clearly identify and limit the circumstances under which the facility may be drawn.
- (b) The facility shall not be able 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;
- (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.

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

- 15. To determine its exposure value a conversion figure of 0% may be applied to the nominal amount of a liquidity facility that may be drawn only in the event of a general market disruption (i.e. where more than one SPE across different transactions are unable to roll over maturing commercial paper and that inability is not the result of an impairment of the SPE's credit quality of the credit quality of the securitised exposures), provided that the conditions set out in paragraph 14 are satisfied.

2.4.3. Cash advance facilities

- 16. 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 paragraph 14 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

- 17. 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 paragraphs 18 to 32 when it sells revolving exposures into a securitisation that contains an early amortisation provision.
- 18. The credit institution shall calculate a risk-weighted exposure amount in respect of the sum of the originator's interest and the investors' interest.
- 19. For securitisation structures where the securitised exposures comprise revolving and non-revolving exposures, an originator credit institution shall apply the treatment set out below to that portion of the underlying pool containing revolving exposures.
- 20. For these purposes, 'originator's interest' means the nominal amount 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 cashflows 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 nominal amount of the remaining notional part of the pool of drawn amounts.

21. 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

22. Originators of the following types of securitisation are exempt from the capital requirement in paragraph 17:

- (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 are exempt from the early amortisation treatment, 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

23. For an originator credit institution subject to the requirement in paragraph 17 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 paragraph 17 shall be no greater than the greater of

- (a) the risk-weighted exposure amounts calculated in respect of its positions in the investors' interest,
- (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.

24. 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 paragraph 23.

2.5.3. Calculation of risk-weighted exposure amounts

25. The risk-weighted exposure amount to be calculated in accordance with paragraph 17 shall be determined by multiplying the amount of the investors' interest by the product of the appropriate conversion figure as indicated in paragraphs 27 to 32 and

the weighted average risk weight that would apply to the securitised exposures if the exposures had not been securitised.

26. 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 a pro rata sharing between the originator’s interest and the investors’ interest of payments of interest and principal, expenses, losses and recoveries based on the beginning of the month balance of receivables outstanding.
 - (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;
 - (d) The speed of repayment is no more rapid than would be achieved by straight-line amortisation over the period set out in condition (c).
27. 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.
28. In cases 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.
29. 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
3 months average excess spread	Conversion factor	Conversion factor
Above level A	0%	0%
Level A	1%	5%
Level B	2%	15%

Level C	20%	50%
Level D	20%	100%
Level E	40%	100%

30. 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.

31. All other securitisations subject to a controlled early amortisation provision of revolving exposures shall be subject to a credit conversion figure of 90%.

32. All other securitisations subject to a non-controlled early amortisation provision of revolving exposures shall be subject to a credit conversion figure of 100%.

2.6. Recognition of credit risk mitigation on securitisation positions

33. 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

34. As provided in Article 66(2), in respect of a securitisation position in respect of which a 1250% 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. For these purposes, the calculation of the exposure value may reflect eligible funded protection in a manner consistent with paragraph 33.

35. Where a credit institution makes use of the alternative indicated in paragraph 34, 12.5 times the amount deducted in accordance with that paragraph shall, for the purposes of paragraph 9, be subtracted from the amount specified in that paragraph 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

36. For the purposes of Article 96, the risk-weighted exposure amount of a securitisation positions shall be calculated in accordance with paragraphs 36 to 74.

37. For a rated position or a position in respect of which an inferred rating may be used, the Ratings Based Method set out in paragraphs 45 to 49 shall be used to calculate the risk-weighted exposure amount.

38. For an unrated position the Supervisory Formula Method as set out in paragraphs 50 to 52 shall be used except where the Internal Assessment Approach is permitted to be used as set out in paragraphs 42 and 43.

39. 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.

40. 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 1250% shall be applied 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

41. When the following minimum operational requirements are satisfied a 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 tranche.

(b) The maturity of the reference positions must be equal to or longer than that of the unrated position in question.

(c) On an ongoing basis, any inferred rating must be updated to reflect any changes in the credit assessment of the reference securitisation positions.

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

42. 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 asset backed commercial paper programme a derived rating as laid down in paragraph 43.

- (a) Positions in the commercial paper issued from the 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 ECAs, for the rating of securities backed by the exposures of the type securitised..
- (c) The ECAs, the methodology of which shall be reflected as required by the point (b), shall include those ECAs which have provided an external rating for the commercial paper issued from the 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 ECAs in question
- (d) In developing its internal assessment methodology the credit institution shall take into consideration all published ratings methodologies of eligible ECAs for the the rating of securities backed by the exposures of the type securitised. This consideration shall be documented by the credit institution and updated at least once a year.
- (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 ECAs. 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 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, and 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) excludes the purchase of assets that are significantly past due or defaulted;
 - (ii) limits excess concentration to individual obligor or geographic area; and
 - (iii) limits the tenor of the assets to be purchased.
- (k) The ABCP program shall have collections policies and processes that take into account the operational capability and credit quality of the servicer. The programme shall mitigate seller/servicer risk through various methods, such as triggers based on current credit quality that would preclude co-mingling 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 on only 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.
- (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.

- 43. The unrated position shall be assigned by the credit institution to one of the rating grades described in paragraph 42. The position shall be attributed a derived rating the same as the credit assessments corresponding to that rating grade as laid down in paragraph 42. 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

- 44. 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

45. 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 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.

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% ³
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	1250%	1250%	1250%

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	1250%	1250%	1250%

46. Subject to paragraph 47, 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 for these purposes, it is not required take into consideration amounts due under interest rate or currency derivative contracts, fees due, or other similar payments.

47. 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:

$$N = \frac{(\sum_i EAD_i)^2}{\sum_i EAD_i^2}$$

where EAD_i represents the sum of the exposure values of all exposures to the i^{th} 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, C_1 , is available, the credit institution may compute N as $1/C_1$.

48. The risk weights in Column B shall be applied to all other positions.

49. Credit risk mitigation on securitisation positions may be recognised in accordance with paragraphs 58 to 60.

3.4. Supervisory Formula Method

50. Subject to paragraphs 56 and 57, 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 paragraph 51.

51. Subject to paragraphs 56 and 57, the risk weight to be applied to the exposure amount shall be

$$12.5 \times (S[L+T] - S[L]) / T$$

where

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

where

$$\tau = 1000,$$

$$\text{and } \omega = 20.$$

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 these purposes 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 paragraph 47.

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

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

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 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 $v = 0$.

52. Credit risk mitigation on securitisation positions may be recognised in accordance with paragraphs 58, 59 and 61 to 65.

3.5. Liquidity Facilities

53. The provisions in paragraphs 54 and 55 apply for the purposes of determining the exposure value of an unrated securitisation position in the form of certain types of liquidity facility.

3.5.1. Liquidity Facilities Only Available in the Event of General Market Disruption

54. A conversion figure of 20% may be applied to the nominal amount of a liquidity facility that may only be drawn in the event of a general market disruption and that meets the conditions to be an 'eligible liquidity facility' set out in paragraph 14.

3.5.2. Cash advance facilities

55. A conversion figure of 0% may be applied to the nominal amount of a liquidity facility that meets the conditions set out in paragraph 16.

Exceptional treatment where K_{itb} cannot be calculated.

56. 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 following method for the calculation of risk-weighted exposure amounts for an unrated securitisation position in the form of a liquidity facility.

57. 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 paragraph 54 a conversion figure of 20% may be applied.

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

3.6.1. Funded protection

58. 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 protection

59. Eligible unfunded 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

60. 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 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 protection

61. 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.

62. 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.

63. 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

64. If the credit risk mitigation covers the 'first loss' or losses on a proportional basis on the securitisation position, the credit institution may apply the provisions in paragraphs 61 to 63.

65. 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 paragraphs 50 to 52 shall apply subject to the modifications that 'T' shall be adjusted to e^* in the case of funded protection; and to $T-g$ in the case of unfunded 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

66. 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 paragraphs 17 to 32 when it sells revolving exposures into a securitisation that contains an early amortisation provision.

67. For the purposes of paragraph 66, paragraphs 68 and 69 shall replace paragraphs 20 and 21.

68. For the purposes of these provisions, "originator's interest" shall be the sum of
- (a) the nominal amount 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 cashflows 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 nominal amount 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 nominal amount described in point (a) to the nominal amount 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 nominal amount of the notional part of the pool of drawn amounts not falling within point (a) plus the nominal amount 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).

- 69. The exposure of the originator credit institution associated with its rights in respect of that part of the originator's interest described in paragraph 68 point (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 paragraph 68 point (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 paragraph 68 point (b).

3.8. Reduction in risk-weighted exposure amounts

- 70. The risk-weighted exposure amount of a securitisation position to which a 1250% risk weight is applied 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, paragraph 34.

- 71. 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.

- 72. As provided in Article 66(2), in respect of a securitisation position in respect of which a 1250% 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.

- 73. For the purposes of paragraph 73

- (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 paragraphs 70 and 71;

- (b) the calculation of the exposure value may reflect eligible funded protection in a manner consistent with the methodology prescribed in paragraphs 58 to 65;

(c) where the Supervisory Formula Method is used to calculate risk-weighted exposure amounts and $L \leq K_{IRBR}$ 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.

74. Where a credit institution makes use of the alternative indicated in paragraph 72, 12.5 times the amount deducted in accordance with that paragraph shall, for the purposes of paragraph 44, be subtracted from the amount specified in that paragraph 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 below.

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 six twelve-monthly observations at the middle and 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 paragraphs 7 and 8.

Table 1:

1	Interest receivable and similar income
2	Interest payable and similar charges
3	Income from securities:
	a) from shares and other variable-yield securities
	b) from participating interests
	c) from shares in affiliated undertakings

4	Commissions/fees receivable
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.
8. The following elements shall not be used in the calculation of the 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/EC, they should calculate the relevant indicator on the basis of data that best reflect the above definition.

Part 2 - Standardised Approach

1. CAPITAL REQUIREMENT

1. Under the Standardised Approach, the capital requirement for operational risk is the simple sum of the capital requirements calculated for each of the business lines in table 2.
2. The capital requirement for a given business line is equal to a certain percentage of a relevant indicator.
3. The indicator is calculated for each business line individually.
4. For each business line, the relevant indicator is the average over three years of the sum of net interest income, and annual net non-interest income, as defined in Part 1, paragraphs 5 to 9.
5. The three-year average is calculated on the basis of the last six twelve-monthly observations at the middle and at the end of the financial year. When audited figures are not available, business estimates may be used.
6. If for any given observation, the sum of net interest income and net non-interest income is negative, this figure shall be assigned the value zero.

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	18%

	<p>Reception and transmission of orders in relation to one or more financial instruments</p> <p>Execution of orders on behalf of clients</p> <p>Placing of financial instruments without a firm commitment basis</p> <p>Operation of Multilateral Trading Facilities</p>	
<p>Retail brokerage</p> <p>(Activities with a individual physical persons or with small and medium sized entities meeting the criteria set out in Article 55 for the retail exposure class)</p>	<p>Reception and transmission of orders in relation to one or more financial instruments</p> <p>Execution of orders on behalf of clients</p> <p>Placing of financial instruments without a firm commitment basis</p>	12%
<p>Commercial banking</p>	<p>Acceptance of deposits and other repayable funds</p> <p>Lending</p> <p>Financial leasing</p> <p>Guarantees and commitments</p>	15%
<p>Retail banking</p> <p>(Activities with a individual physical persons or with small and medium sized entities meeting the criteria set out in Article 55 for the retail exposure class)</p>	<p>Acceptance of deposits and other repayable funds</p> <p>Lending</p> <p>Financial leasing</p> <p>Guarantees and commitments</p>	12%
<p>Payment and settlement</p>	<p>Money transmission services,</p> <p>Issuing and administering means of payment</p>	18%
<p>Agency services</p>	<p>Safekeeping and administration of financial instruments for the account of clients, including custodianship and related services such as cash/collateral management</p>	15%
<p>Asset management</p>	<p>Portfolio management</p>	12%

	Managing of UCITS	
	Other forms of asset management	

7. Competent authorities may authorise a credit institution to calculate its capital requirement for operational risk using an alternative standardised approach, as set out in paragraphs 9 to 16.

2. PRINCIPLES FOR BUSINESS LINE MAPPING

8. Credit institutions must develop and document specific policies and criteria for mapping the 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 criteria 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 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.
- (f) Senior management is responsible for the mapping policy under the control of the governing bodies of the credit institution;
- (g) The mapping process to business lines must be subject to independent review.

3. ALTERNATIVE INDICATORS FOR CERTAIN BUSINESS LINES

3.1. Modalities

9. The competent authorities may authorise the credit institution to use an alternative indicator for the business lines: retail banking and commercial banking.
10. 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.
11. For the retail banking business line, the loans and advances shall consist of the total drawn amounts in the following credit portfolios: retail, SMEs treated as retail, and purchased retail receivables.
12. For the commercial banking business line, the loans and advances shall consist of the drawn amounts in the following credit portfolios: Corporate, Sovereign, Institutions, Specialised Lending, SMEs treated as Corporate and Purchased Corporate Receivables. Securities held in the non-trading book shall also be included.

3.2. Conditions

13. The authorization to use alternative indicators shall be subject to the conditions in paragraphs 14 to 16.

3.2.1. General condition

14. The credit institution meets the qualifying criteria set out in paragraph 17.

3.2.2. Conditions specific to retail banking and commercial banking

15. The credit institution is overwhelmingly active in retail and commercial banking activities, which shall account for at least 90% of its income.
16. 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 probability of default, and that the alternative standardised approach provides an improved basis for assessing the operational risk.

4. QUALIFYING CRITERIA

17. Credit institutions must meet the following qualifying criteria listed below, in addition to the general risk management standards set out in Article 22 and Annex V.
 - (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 above. 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 paragraphs 13 to 24 below. 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.

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.
14. Credit institutions must 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. 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 will 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. An appropriate minimum loss threshold 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, relevant external data.

2. IMPACT OF INSURANCE

25. Credit institutions shall be able to recognise the impact of insurance subject to the conditions set out in paragraphs 26 to 29.

26. The provider is authorised to provide insurance or re-insurance.

27. The provider has a minimum claims paying ability rating of A (or equivalent);

- (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;
- (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;
- (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 a policy, where less than one year, as noted above;
- (b) A policy's cancellation terms, where less than one year;
- (c) The uncertainty of payment as well as mismatches in coverage of insurance policies.

29. The capital alleviation arising from the recognition of insurance 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.

(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;

(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 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 the review and evaluation by the competent authorities

1. In addition to credit, market and operational risk, 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 liquidity risk and 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.
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 securitisations thus failing to achieve a significant transfer of risk.

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, paragraphs 3(b) and 3(e), and 4(b) to 4(f), and information on risk exposure and other items prone to rapid change.
5. The disclosure requirement in Part 2, paragraph 4, letter (f) shall be provided pursuant to Article 72 (1) and (2).

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 paragraphs 1 to 13. 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;
 - (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,
 - (iv) neither consolidated nor deducted;
- (c) any current or foreseen material or legal impediments 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;
- (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) summary information on the terms and conditions of the main features of all own funds items and components thereof;
- (b) the amount of the original own funds, with separate disclosure of all positive items and deductions;
- (c) the total amount of additional own funds, and own funds as defined in [Annex V of Directive 93/6/EEC];
- (d) deductions from original and additional own funds pursuant to Article 66(1) point (c), with separate disclosure of items referred to in Article 57, point (q);
- (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, paragraphs 9 to 11 correspond to. For the equity exposure class, this requirement applies to:
 - (i) each of the approaches provided in Annex VII, Part 1, paragraphs 15 to 25;
 - (ii) exchange traded exposures, private equity exposures in sufficiently diversified portfolios, and other exposures;
 - (iii) exposures subject to supervisory transition regarding capital requirements;
 - (iv) exposures subject to grandfathering provisions regarding capital requirements;
- (d) minimum capital requirements calculated in accordance with Article 75, points (b) and (c);
- (e) minimum capital requirements calculated in accordance with Articles 103 to 105, and disclosed separately;
- (f) the solvency ratios calculated on the basis of total own funds and original own funds.

5. 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,

- (iii) charges for value adjustments during the period;
- (h) the amount of the impaired exposures and past due exposures, provided separately, broken down by the 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 exchange rate differences, business combinations, acquisitions and disposals of subsidiaries, and transfers between provisions,
 - (v) the closing balances.

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

6. 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 issues 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;
 - (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.
7. The credit institutions calculating the risk-weighted exposure amounts in accordance with Annex VII, Part 1, paragraphs 5 or 17 to 19 shall disclose the exposures assigned to each category of the table in the paragraph 5 referred to above, or to each risk weight mentioned in the paragraphs 17 to 19 referred to above.

8. 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.
9. The following information shall be disclosed by each credit institution which calculates its capital requirements in accordance with [Annex VIII of Directive 93/6/EEC]:
 - (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 approach used for backtesting and validating the accuracy and consistency of the internal models and modelling processes;
 - (b) the scope of acceptance by the competent authority;
 - (c) for the sub-portfolios under the model:
 - (i) the high, mean and low value-at-risk measures over the reporting period and at period-end,
 - (ii) a comparison of the value-at-risk measures with actual gains and losses experienced by the credit institution, with analysis of important outliers in backtesting results .
10. 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;
 - (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.
11. 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;
- (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.

12. 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 measurement of the interest rate risk;
- (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.

13. The credit institutions calculating risk weighted exposure amounts in accordance with Articles 94 to 101 shall disclose the following information:

- (a) a discussion 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,
 - (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 1250% 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;
- (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.

3. Part 3 - Qualifying requirements for the use of particular instruments or methodologies

14. 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,
 - (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, paragraphs 9 to 11 correspond to,
- (v) equities;
- (d) the exposure values for each of the exposure classes specified in Article 86. Exposures to central governments and central banks, credit 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,
 - (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 (c) above, 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 (c) above) and how this differs 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);

- (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 (c) above) 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 (c) above). 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 (c) above, 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, paragraphs 44 to 48, including the broad segments affected by such deviations.

15. 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;
- (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, paragraphs 15 to 24.

16. 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 insurance for the purpose of mitigating the risk.