FORMULA 18

Determination of Effective LGD

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

where—

LGD* = the effective LGD;
LGD = the supervisory estimate of 45% for the LGD of a senior exposure before adjusting for the credit risk mitigating effect of recognized financial collateral;
E* = net credit exposure (being the EAD of the exposure after adjusting for the credit risk mitigating effect of recognized financial collateral); and
E = the EAD of the exposure.

FORMULA 19

Determination of Net Credit Exposure

$$E^* = \max \{0, [E \times (1 + H_e) - C \times (1 - H_c - H_{fx})]\}$$

where—

E* = net credit exposure;
E = the EAD of the exposure;
H_e = the haircut applicable to the authorized institution's exposure to the obligor pursuant to the standard supervisory haircuts for the comprehensive approach to treatment of recognized collateral subject to adjustment as set out in section 92;
C = the current market value of recognized financial collateral before adjustment required by the comprehensive approach to treatment of recognized collateral;
H_c = the haircut applicable to recognized financial collateral pursuant to the standard supervisory haircuts for the comprehensive approach to treatment of recognized collateral subject to adjustment as set out in section 92; and
H_{fx} = the haircut applicable in consequence of a currency mismatch, if any, pursuant to the standard supervisory haircuts for the comprehensive approach to treatment of recognized collateral subject to adjustment as set out in section 92.

(4) For the purposes of subsection (2)(b), an authorized institution shall determine, for inclusion into the risk-weight function specified in Formula 16 or 17, as the case requires, the LGD* applicable to an exposure secured by recognized IRB collateral by—

(*a*) if the ratio of the current market value of the collateral received in respect of the exposure (C) to the EAD of the exposure (E) is below a threshold of level C* as set out in Table 19, assigning as the LGD* of that exposure the supervisory estimate of the LGD of 45% specified in subsection (1)(*a*);

(*b*) if the ratio of C to E in respect of the exposure exceeds a threshold of level C** as set out in Table 19, assigning as the LGD* of that exposure the supervisory estimate of the LGD applicable pursuant to that Table;

(*c*) if the ratio of C to E in respect of the exposure exceeds a threshold of level C* but not a threshold of level C**—

(i) dividing the exposure into—

(A) a fully collateralized portion (C/C**); and

(B) the uncollateralized portion (E – C/C**);

(ii) assigning as the LGD* of the fully collateralized portion the supervisory estimate of the LGD specified in respect of the type of recognized IRB collateral concerned in Table 19;

(iii) assigning as the LGD* of the uncollateralized portion the supervisory estimate of the LGD of 45% specified in subsection (1)(*a*);

(*d*) if the institution has obtained more than one type of recognized collateral in respect of the exposure—

(i) dividing the exposure into—

(A) the portion fully collateralized by recognized financial collateral (after taking into account the haircuts H_c and H_{fx} and the adjustment for maturity mismatch in determining the value of the recognized financial collateral);

(B) the portion fully collateralized by recognized financial receivables;

(C) the portion fully collateralized by recognized commercial real estate and recognized residential real estate;

(D) the portion fully collateralized by other recognized IRB collateral; and

(E) the portion, if any, which is uncollateralized; and

(ii) calculating the risk-weighted amount of each portion separately;

(*e*) if the ratio, expressed as a percentage, of the sum of the current market value of recognized commercial real estate, recognized residential real estate and other recognized collateral in respect of an exposure to the EAD of the exposure, after taking into account the credit risk mitigating effect of recognized financial collateral and recognized financial receivables, is below C* (that is 30%), assigning as the LGD* of that exposure the supervisory estimate of the LGD of 45% specified in subsection (1)(*a*).

TABLE 19

DETERMINATION OF EFFECTIVE LGD

Recognized IRB collateral	Supervisory estimate of LGD	Required minimum level of collateralization for collateral to be partially taken into account (C*)	Required level of over-collateralization for collateral to be taken into account (C**)
Recognized financial receivables	35%	0%	125%
Recognized commercial real estate and recognized residential real estate	35%	30%	140%
Other recognized IRB collateral	40%	30%	140%

(5) In this section—

"senior exposure" (優先風險承擔), in relation to an authorized institution, means an exposure of the institution to an obligor which is not a subordinated exposure;

"subordinated exposure" (後償風險承擔), in relation to an authorized institution, means an exposure of the institution to an obligor which—

(*a*) is lower in ranking, or junior, to other claims against the obligor in terms of the priority of repayment; or

(*b*) will be repaid only after all the senior claims against the obligor have been repaid.

161. Loss given default under advanced IRB approach

(1) An authorized institution which uses the advanced IRB approach shall estimate the LGD of each of its facility types such that—

(*a*) subject to paragraph (*b*), the estimate of the LGD reflects the effect on the severity of the loss suffered in respect of an exposure which falls within a facility type of economic downturn conditions where credit losses are expected to be substantially higher than average;

(*b*) the estimate of the LGD is not less than the long run default-weighted average loss rate given default calculated as the average loss rate of all observed defaults within the data source used by the institution for the estimation of the LGD of a facility type;

(*c*) the estimate of the LGD of a facility type—

(i) is based on historical recovery rates of exposures which fall within the facility type; and

(ii) is not solely based on the estimated market value of collateral in any case where the institution holds collateral in respect of an exposure which falls within the facility type;

(*d*) the estimate of the LGD of a facility type reflects the possibility that the institution will have to incur unexpected losses during the debt recovery period applicable to an exposure which falls within the facility type;

(*e*) the estimate of the LGD of a facility type is based on not less than one source of data—

(i) which is relevant to the exposures which fall within the facility type;

(ii) which covers a period of not less than 7 years; and

(iii) which covers at least one economic cycle;

(*f*) if the process of estimating the LGD of a facility type involves data mapping in respect of the institution's exposures which fall within the facility type to the factors in reference data sets used by ECAIs—

(i) the mapping process is based on a comparison of available common elements in the ECAIs' reference data and the institution's exposures; and

(ii) in any case where the institution combines multiple sets of reference data used by ECAIs, the institution has in place a policy—

(A) setting out the manner in which the combination is effected; and

(B) ensuring that the institution avoids biases or inconsistencies in the mapping process.

(2) For the purposes of subsection (1), an authorized institution shall—

(*a*) have in place an effective and well-documented process for assessing the effects, if any, of economic downturn conditions on debt recovery rates in respect of different facility types and for producing estimates of LGD which reflect those conditions;

(*b*) take into account all major factors relevant to measuring loss, including the time value of money, the risk premium, and any direct and indirect costs associated with collection in respect of exposures which fall within the facility type;

(*c*) take into account the extent of any positive correlation between the credit risk of an obligor to whom the institution has an exposure which falls within a facility type and that of any collateral provided in respect of that exposure or that of the provider of such collateral and address the effect of such correlation, if any, in a prudent manner; and

(*d*) address any currency mismatch and maturity mismatch in a prudent manner.

162. Loss given default under double default framework

For the purposes of Formula 17, an authorized institution shall—

(*a*) only use, as the LGD_g, the LGD of—

(i) the exposure to the credit protection provider; or

(ii) an unhedged exposure to the underlying obligor in respect of the hedged exposure concerned (referred to in this section as "underlying obligor"),

depending upon whether, in the event that both the credit protection provider and the underlying obligor default during the contractual period of the hedged exposure, available evidence and the structure of the guarantee or credit derivative contract indicate that the amount recovered will depend on the financial condition of the credit protection provider or underlying obligor, as the case may be;

(*b*) in estimating the LGD_g, only recognize collateral provided in respect of the exposure to the credit protection provider or underlying obligor concerned if the collateral is provided exclusively in respect of the exposure to the credit protection provider or underlying obligor, as the case may be, in a manner consistent with section 216(3)(*c*) or 217, as the case requires, such that no account is taken of double recovery.

163. Exposure at default under foundation IRB approach—on-balance sheet exposures and off-balance sheet exposures other than OTC derivative transactions and credit derivative contracts

(1) An authorized institution which uses the foundation IRB approach shall, in relation to an on-balance sheet exposure of the institution—

(*a*) use the current drawn amount of the exposure, after taking into account the credit risk mitigating effect of any recognized netting as specified in section 209, as an estimate of the EAD of the exposure such that the EAD of the exposure is not less than the sum of—

(i) the amount by which the institution's core capital would be reduced if the exposure were fully written-off; and

(ii) any specific provisions and partial write-offs in respect of the exposure; and

(*b*) not take into account any discount in respect of the exposure in calculating the risk-weighted amount of the exposure.

(2) An authorized institution which uses the foundation IRB approach shall, for the purposes of estimating the EAD of an off-balance sheet exposure of the institution specified in column 2 of Table 20, calculate the credit equivalent amount of the exposure by multiplying the principal amount of the exposure by the CCF specified in column 3 of that Table opposite the type of off-balance sheet exposure.

TABLE 20

DETERMINATION OF CCF FOR OFF-BALANCE SHEET EXPOSURES OTHER THAN OTC DERIVATIVE TRANSACTIONS OR CREDIT DERIVATIVE CONTRACTS

Item	Off-balance sheet exposures	CCF
1.	Direct credit substitutes	100%
2.	Transaction-related contingencies	50%
3.	Trade-related contingencies	20%
4.	Asset sales with recourse	100%
5.	Forward asset purchases	100%

Item	Off-balance sheet exposures	CCF
6.	Partly paid-up securities (being securities the unpaid portion of which an authorized institution may be called upon by the issuer to pay on a predetermined or unspecified future date)	100%
7.	Forward forward deposits placed	100%
8.	Note issuance and revolving underwriting facilities	75%
9.	Commitments which do not fall within any of items 1, 2, 3, 4, 5, 6, 7 and 8 and—	
	(*a*) which may be cancelled at any time unconditionally by an authorized institution or which provide for automatic cancellation due to a deterioration in the creditworthiness of the person to whom the commitment has been made;	0%
	(*b*) subject to paragraph (*c*), which do not fall within paragraph (*a*); and	75%
	(*c*) the drawdown of which will give rise to an off-balance sheet exposure falling within any of items 1, 2, 3, 4, 5, 6, 7 and 8 or any item specified in section 166	the lower of 75% or the CCF applicable to the off-balance sheet exposure arising from the drawdown of the commitment concerned

(3) In subsection (1)(*b*)—

"discount" (折讓), in relation to an on-balance sheet exposure of an authorized institution, means the amount by which the institution's estimate of the EAD of the exposure exceeds the sum referred to in subsection (1)(*a*).

164. Exposure at default under advanced IRB approach—on-balance sheet exposures and off-balance sheet exposures other than OTC derivative transactions and credit derivative contracts

(1) An authorized institution which uses the advanced IRB approach shall, in relation to an on-balance sheet exposure of the institution—

(*a*) estimate the EAD of the exposure such that the estimate is not less than—

(i) the current drawn amount of the exposure, after taking into account the credit risk mitigating effect of any recognized netting as specified in section 209;

(ii) the sum of—

(A) the amount by which the institution's core capital would be reduced if the exposure were fully written-off; and

(B) any specific provisions and partial write-offs in respect of the exposure; and

(*b*) not take into account any discount in respect of the exposure in calculating the risk-weighted amount of the exposure.

(2) Subject to subsection (3), an authorized institution which uses the advanced IRB approach shall estimate the EAD of an off-balance sheet exposure of the institution specified in column 2 of Table 20.

(3) Subject to subsection (4), an authorized institution shall use its own estimates of CCF to calculate the EAD of those types of off-balance sheet exposures which are not subject to a CCF of 100% in Table 20.

(4) An authorized institution shall estimate the EAD of an off-balance sheet exposure of the institution such that—

(*a*) in the case of a facility, the estimate of the EAD of the facility reflects the possibility of additional drawings by the obligor in respect of that facility up to and after the time a default event is triggered in respect of the facility;

(*b*) subject to paragraph (*c*), the estimate of the EAD is a prudent estimate of the long run default-weighted average EAD of exposures which fall within a facility type with allowance made for the likely margin of error and for any identified positive correlation between the frequency of defaults in respect of exposures which fall within the facility type and any increase in the estimate of the EAD of those exposures;

(*c*) in the case of a facility type for which the estimate of the EAD is volatile over an economic cycle, the institution uses an estimate of the EAD of the facility type which is appropriate for an economic downturn if that estimate is more prudent than the long run default-weighted average EAD of exposures which fall within the facility type;

(*d*) the estimate of the EAD to be used for each facility type is based on procedures established by the institution which provide a clear and unambiguous delineation of each facility type to which the estimate relates;

(*e*) the estimate of the EAD to be used for each facility type—

(i) is based on all relevant data and information available to the institution in respect of exposures which fall within the facility type; and

(ii) is derived from criteria which are material drivers for the estimation of the EAD of exposures which fall within the facility type;

(*f*) the estimate of the EAD of a facility type is based on not less than one source of data—

(i) which is relevant to exposures which fall within the facility type;

(ii) which covers a period of not less than 7 years; and

(iii) which covers at least one economic cycle.

(5) In subsection (1)(*b*)—

"discount" (折讓), in relation to an on-balance sheet exposure of an authorized institution, means the amount by which the institution's estimate of the EAD of the exposure exceeds the sum referred to in subsection (1)(*a*)(ii).

165. Exposure at default under foundation IRB approach or advanced IRB approach—OTC derivative transactions and credit derivative contracts

(1) Subject to subsection (2), an authorized institution which uses the foundation IRB approach or advanced IRB approach shall, for the purposes of estimating the EAD of an off-balance sheet exposure of the institution—

(*a*) specified in column 2 of Table 11; and

(*b*) booked in the institution's banking book or trading book,

calculate the credit equivalent amount of the exposure in accordance with sections 71(2) and 72.

(2) For the purposes of subsection (1), the definitions of "credit equivalent amount" and "principal amount" in section 139(1) apply to references to those expressions in section 71(2).

166. Exposure at default under foundation IRB approach or advanced IRB approach— other off-balance sheet exposures not specified in Table 11 or 20

An authorized institution which uses the foundation IRB approach or advanced IRB approach shall, for the purposes of estimating the EAD of an off-balance sheet exposure of the institution which is not specified in Table 11 or 20, calculate the credit equivalent amount of the exposure by applying—

(*a*) subject to paragraph (*b*), a CCF of 100%;

(*b*) the CCF applicable to the exposure pursuant to Part 2 of Schedule 1,

in accordance with section 163, 164 or 165, as the case requires, with all necessary modifications.

167. Maturity under foundation IRB approach

An authorized institution which uses the foundation IRB approach—

(*a*) subject to paragraphs (*b*) and (*c*), shall use 2.5 years for the M of a corporate, sovereign or bank exposure of the institution for inclusion into the risk-weight function specified in Formula 16;

(*b*) subject to paragraph (*c*), shall use 6 months for the M of a corporate, sovereign or bank exposure of the institution in the case of such an exposure in respect of a repo-style transaction;

(*c*) may, with the prior consent of the Monetary Authority, calculate the M of a corporate, sovereign or bank exposure of the institution in accordance with section 168.

168. Maturity under advanced IRB approach

(1) An authorized institution which uses the advanced IRB approach shall calculate the M of a corporate, sovereign or bank exposure of the institution such that—

(*a*) subject to subsections (2) and (3), the M of the exposure is the greater of—

(i) one year; or

(ii) the remaining effective maturity, in years, of the exposure as calculated in accordance with paragraph (*b*) or (*c*), as the case requires;

(*b*) subject to paragraph (*c*), if the exposure is subject to a predetermined cash flow schedule, the M of the exposure is calculated by the use of Formula 20;

(*c*) if it is not practicable for the institution to comply with paragraph (*b*) in respect of the exposure, the institution shall use a more prudent measure of M which is not less than the maximum remaining time, in years, that the obligor is permitted to take to fully perform the contractual obligations (including principal payments, interest payments and fees) of the obligor under the terms of the agreement governing the exposure;

(*d*) if the exposure is a net credit exposure resulting from the netting of more than one nettable OTC derivative transaction or credit derivative contract, the weighted average maturity of the transactions or contracts (using the notional amount of each transaction or contract for weighting the maturity of the transactions or contracts) subject to a valid bilateral netting agreement is used as the M.

FORMULA 20

CALCULATION OF MATURITY FOR CORPORATE, SOVEREIGN AND BANK EXPOSURES SUBJECT TO PREDETERMINED CASH FLOW SCHEDULE

$$M = \sum_t t \times CF_t / \sum_t CF_t$$

where—

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

(*b*) t is expressed in years (that is, where a payment is due to be received in 18 months, $t = 1.5$).

(2) An authorized institution shall use 5 years as the M of any exposure referred to in subsection (1) which would, but for this subsection, have an M of greater than 5 years.

(3) Where an authorized institution has a relevant short-term exposure—

(*a*) subsection (1)(*a*) shall not apply to the exposure; and

(*b*) the M of the exposure shall be the greater of—

(i) one day; or

(ii) the remaining effective maturity, in years, of the exposure as calculated in accordance with subsection (1)(*b*) or (*c*), as the case requires.

(4) Where an exposure of an authorized institution falls within paragraph (*a*) of the definition of "relevant short-term exposure" in subsection (5) and is a nettable exposure against other relevant short-term exposures under a valid bilateral netting agreement (referred to in this subsection as "relevant exposures"), the institution shall—

(*a*) subject to paragraphs (*b*) and (*c*), use the weighted average maturity of the relevant exposures as the M;

(*b*) subject to paragraph (*c*), in determining the M, apply a minimum level of M equal to—

(i) 10 days for the relevant exposures which are OTC derivative transactions or securities margin lending transactions;

(ii) 5 days for the relevant exposures which are repo-style transactions; and

(iii) 10 days where the relevant exposures concerned consist of relevant exposures which fall within both subparagraphs (i) and (ii); and

(*c*) use the notional amount of each of the relevant exposures for weighting the M of the exposures.

(5) In this section—

"relevant short-term exposure" (有關短期風險承擔), in relation to an authorized institution—

(*a*) means an exposure in respect of an OTC derivative transaction or securities margin lending transaction which is fully or almost fully collateralized, or in respect of a repo-style transaction with an original maturity of less than one year, where the documentation for the transaction contains clauses—

(i) requiring daily revaluation or re-margining; and

(ii) allowing for the prompt realization or set-off of the collateral in the event of default or failure to revalue or re-margin, as the case may be;

(*b*) means an exposure with an original maturity of less than one year which is not part of the institution's ongoing financing of the obligor in respect of the exposure (there being no intent or legal obligation to roll over the exposure concerned in the future), and includes—

(i) an import or export letter of credit, or a similar exposure, which can be accounted for at its actual remaining maturity;

(ii) a securities purchase, securities sale, cash settlement by wire transfer, foreign exchange settlement, or any other exposure arising from an unsettled non-delivery-versus-payment transaction, if the exposure does not continue for 5 business days or more after the settlement date; and

(iii) any other short-term exposure in respect of which the institution demonstrates to the satisfaction of the Monetary Authority that the institution has no intent or legal obligation to roll over the exposure and will not in practice roll over the exposure.

169. Maturity under double default framework

For the purposes of Formula 17, an authorized institution shall use as the M_{os} of a hedged exposure the greater of—

(*a*) one year; or

(*b*) the M of the credit protection in respect of the hedged exposure as calculated in accordance with section 168(1)(*b*) or (*c*), as the case requires.

Division 6—Specific requirements for retail exposures

170. Rating dimensions

(1) An authorized institution shall—

(*a*) ensure that its rating system for retail exposures—

(i) reflects the risk of default of the obligors and transaction-specific factors affecting loss severity in the case of default of obligors in respect of retail exposures; and

(ii) captures the risk characteristics of the obligors, the risk characteristics of the transactions and the frequency and duration of the delinquency of retail exposures;

(*b*) assign each of its retail exposures to not more than one pool of retail exposures in accordance with its rating criteria and based on all relevant information available regarding the risk characteristics of the obligor in respect of the exposure, the risk characteristics of the transaction to which the exposure relates and the frequency and duration of the delinquency (if any) of the exposure; and

(*c*) estimate the PD, LGD and EAD of each pool of retail exposures.

(2) For the avoidance of doubt, it is hereby declared that different pools of retail exposures of an authorized institution may have the same estimates of PD, LGD and EAD.

171. Rating structure

An authorized institution shall ensure that its process for assigning its retail exposures to various pools of retail exposures results in the grouping of exposures which provides for a consistent, logical and cogent differentiation of credit risk inherent in those retail exposures—

(*a*) with no excessive concentrations on particular pools of retail exposures; and

(*b*) allowing for reasonably accurate, consistent and verifiable estimation of credit risk components for each pool of retail exposures.

172. Rating criteria

An authorized institution shall ensure that—

(*a*) its rating definitions in respect of the pools of retail exposures; and

(*b*) its rating processes and criteria for assigning exposures to such pools,

are specific, logical, sufficiently detailed and consistently applied and result in a clear differentiation of credit risk inherent in the exposures.

173. Rating assignment horizon

An authorized institution shall—

(*a*) use a time horizon of more than one year for the purposes of assigning its retail exposures to its pools of retail exposures;

(*b*) subject to paragraph (*c*), ensure that its assignment of a retail exposure to a pool of retail exposures of the institution accurately represents the institution's assessment of the willingness and ability of an obligor in respect of the exposure to perform the obligor's contractual obligations, after taking into account any potentially adverse economic conditions over a business cycle within the industry or geographic region relevant to the obligor; and

(*c*) act prudently in assessing information relating to the willingness and ability of an obligor in respect of a retail exposure to perform the obligor's contractual obligations.

174. Rating coverage

An authorized institution shall, in the case of each exposure which falls within the IRB class of retail exposures, assign the exposure to a pool of retail exposures as part of the institution's process for giving credit approvals.

175. Integrity of rating process

An authorized institution shall ensure that—

(*a*) the institution has in place policies and procedures to ensure that the rating process for retail exposures is independent of the institution's staff and management responsible for originating such exposures;

(*b*) a review is conducted, not less than once in every 12 months, of—

(i) the risk characteristics and delinquency status of each pool of retail exposures; and

(ii) the status of an obligor under an exposure which falls within a pool of retail exposures to ensure that the exposure is assigned to the pool that accurately reflects the credit risk of the exposure; and

(*c*) the institution has in place an effective process for—

(i) identifying and documenting the circumstances in which officers of the institution may override the inputs to, or the outputs of, the institution's rating system; and

(ii) monitoring the nature and performance of such overrides which have occurred.

176. Calculation of risk-weighted amount of retail exposures

(1) An authorized institution shall, for the purposes of calculating the risk-weighted amount of the institution's retail exposures, provide its own estimates of the PD, LGD and EAD of each pool of retail exposures.

(2) An authorized institution shall use Formula 21 to calculate the risk-weighted amount of the institution's retail exposures which—

(*a*) fall within the IRB subclass of residential mortgages to individuals or residential mortgages to property-holding shell companies; and

(*b*) are not in default.

FORMULA 21

RISK-WEIGHT FUNCTION FOR RESIDENTIAL MORTGAGES

Correlation (R) = 0.15

Capital charge factor (K) = LGD × N[(1 – R)^–0.5 × G(PD) + (R / (1 – R))^0.5 × G(0.999)] – PD × LGD

Risk-weight (RW) = K × 12.5

Risk-weighted amount = RW × EAD

where—

(*a*) PD and LGD are expressed in decimals and EAD is expressed in Hong Kong dollars;

(*b*) N(x) denotes the cumulative distribution function for a standard normal random variable; and

(*c*) G(z) denotes the inverse cumulative distribution function for a standard normal random variable.

(3) An authorized institution shall use Formula 22 to calculate the risk-weighted amount of the institution's retail exposures which—

(*a*) fall within the IRB subclass of qualifying revolving retail exposures; and

(*b*) are not in default.

FORMULA 22

RISK-WEIGHT FUNCTION FOR QUALIFYING REVOLVING RETAIL EXPOSURES

Correlation (R) = 0.04

Capital charge factor (K) = LGD × N[(1 – R)^–0.5 × G(PD) + (R / (1 – R))^0.5 × G(0.999)] – PD × LGD

Risk-weight (RW) = K × 12.5

Risk-weighted amount = RW × EAD

where—

(*a*) PD and LGD are expressed in decimals and EAD is expressed in Hong Kong dollars;

(*b*) N(x) denotes the cumulative distribution function for a standard normal random variable; and

(*c*) G(z) denotes the inverse cumulative distribution function for a standard normal random variable.

(4) An authorized institution shall use Formula 23 to calculate the risk-weighted amount of the institution's retail exposures which—

(*a*) fall within the IRB subclass of small business retail exposures or other retail exposures to individuals; and

(*b*) are not in default.

FORMULA 23

Risk-weight Function for Small Business Retail Exposures or other Retail Exposures to Individuals

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

Capital charge factor (K) $= \text{LGD} \times \text{N}[(1 - \text{R})\char`^{-0.5} \times \text{G(PD)} + (\text{R} / (1 - \text{R}))\char`^{0.5} \times \text{G}(0.999)] - \text{PD} \times \text{LGD}$

Risk-weight (RW) $= \text{K} \times 12.5$

Risk-weighted amount $= \text{RW} \times \text{EAD}$

where—

(*a*) PD and LGD are expressed in decimals and EAD is expressed in Hong Kong dollars;

(*b*) EXP denotes exponential;

(*c*) N(x) denotes the cumulative distribution function for a standard normal random variable; and

(*d*) G(z) denotes the inverse cumulative distribution function for a standard normal random variable.

(5) An authorized institution shall use the risk-weight function set out in subsection (2), (3) or (4) as applicable to the IRB subclass within which a retail exposure falls to calculate the risk-weighted amount of any such retail exposure which is in default except that the capital charge factor (K) for a defaulted retail exposure shall be equal to the greater of—

(*a*) zero; or

(*b*) the figure resulting from the subtraction of the institution's best estimate of the EL of the exposure from the LGD of the exposure.

177. Probability of default

(1) An authorized institution which uses the retail IRB approach shall estimate the PD of each pool of retail exposures of the institution such that—

(*a*) subject to paragraphs (*b*) and (*c*), the estimate of the PD is a long run average of one-year default rates for obligors in respect of retail exposures which fall within the pool to which the estimate relates;

(*b*) the estimate of the PD to be assigned to a pool of retail exposures of the institution which are not in default is the greater of—

(i) the estimate of the PD referred to in paragraph (*a*) associated with the pool; or

(ii) 0.03%;

(*c*) the estimate of the PD to be assigned to a pool of retail exposures of the institution which are in default is 100%;

(*d*) the estimate of the PD of a pool of retail exposures of the institution takes into account the effect of seasoning in respect of exposures which fall within the pool of retail exposures;

(*e*) the estimate of the PD of a pool of retail exposures of the institution is based on not less than one source of data—

(i) which is relevant to the institution's retail exposures; and

(ii) which, subject to section 14, covers a period of not less than 5 years.

(2) For the purposes of subsection (1), an authorized institution shall—

(*a*) use internal data as the primary source of information for estimating the risk characteristics for each of its pools of retail exposures;

(*b*) only use external data or models for any estimate of the PD if the institution demonstrates to the satisfaction of the Monetary Authority that there is a strong correlation—

(i) between the institution's process of assigning exposures to a pool of retail exposures and the classification process used by the external data source; and

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

(*c*) use all relevant data sources as points of comparison for internal data referred to in paragraph (*a*), or external data or models referred to in paragraph (*b*), used by the institution.

(3) For the purposes of subsection (1)(*a*), an authorized institution may, based on its estimate of the expected long run loss rate for a pool of retail exposures, use its long run default-weighted average loss rate given default as calculated in section 178(1)(*b*) to infer its estimate of the PD of the pool of retail exposures.

(4) Where an authorized institution does not take into account the effect of seasoning as required in subsection (1)(*d*) in any estimate of the PD made by it for the purposes of this section, the Monetary Authority may, by notice in writing given to the institution, require the institution to use the higher PD specified in the notice in place of the institution's own estimate of the PD in calculating the institution's credit risk.

(5) An authorized institution shall comply with the requirements of a notice given to it under subsection (4).

178. Loss given default

(1) An authorized institution which uses the retail IRB approach shall estimate the LGD of each pool of retail exposures of the institution such that—

(*a*) subject to paragraph (*b*), the estimate of the LGD of the pool reflects the effect on the severity of the loss suffered in respect of the retail exposures which fall within the pool of economic downturn conditions where credit losses are expected to be substantially higher than average;

(*b*) subject to subsection (3), the estimate of the LGD of the pool is not less than the long run default-weighted average loss rate given default calculated as the average loss rate of all observed defaults within the data source used by the institution for the estimation of the LGD of that pool;

(*c*) subject to paragraph (*d*), the estimate of the LGD of a retail exposure which falls within the IRB subclass of residential mortgages to individuals or residential mortgages to property-holding shell companies is not less than 10% during the transitional period;

(*d*) paragraph (*c*) does not apply to any such retail exposures of the institution which are the subject of recognized guarantees issued by sovereigns;

(*e*) the estimate of the LGD of a pool of retail exposures of the institution—

(i) is based on historical recovery rates of exposures which fall within the pool; and

(ii) is not solely based on the estimated market value of collateral in any case where the institution holds collateral in respect of an exposure which falls within the pool;

(*f*) the estimate of the LGD of a pool of retail exposures of the institution reflects the possibility that the institution will have to incur unexpected losses during the debt recovery period applicable to an exposure which falls within the pool;

(*g*) the estimate of the LGD of a pool of retail exposures of the institution is based on not less than one source of data—

(i) which is relevant to the exposures which fall within the pool;

(ii) which, subject to section 14, covers a period of not less than 5 years; and

(iii) which covers at least one economic cycle; and

(*h*) if the process of estimating the LGD of a pool of retail exposures of the institution involves data mapping in respect of the institution's exposures which fall within the pool to the factors in reference data sets used by ECAIs—

(i) the mapping process is based on a comparison of available common elements in the ECAIs' reference data and the pool; and

(ii) in any case where the institution combines multiple sets of reference data used by ECAIs, the institution has in place a policy—

(A) setting out the manner in which the combination is effected; and

(B) ensuring that the institution avoids biases or inconsistencies in the mapping process.

(2) For the purposes of subsection (1), an authorized institution shall—

(*a*) have in place an effective and well-documented process for assessing the effect, if any, of economic downturn conditions on debt recovery rates in respect of different pools of retail exposures and for producing estimates of LGD which reflect those conditions;

(*b*) take into account all major factors relevant to measuring loss, including the time value of money, the risk premium, and any direct and indirect costs associated with collection in respect of retail exposures which fall within a pool;

(*c*) take into account the extent of any positive correlation between the credit risk of an obligor to whom the institution has an exposure which falls within a pool of retail exposures and that of any collateral provided in respect of that exposure or that of the provider of such collateral and address the effect of such correlation, if any, in a prudent manner; and

(*d*) address any currency mismatch and maturity mismatch in a prudent manner.

(3) For the purposes of subsection (1)(*b*), an authorized institution may, based on its estimate of the expected long run loss rate for a pool of retail exposures, use its estimate of the PD as referred to in section 177 to infer its long run default-weighted average loss rate given default for the pool of retail exposures.

179. Exposure at default—on-balance sheet exposures

Section 164(1), with all necessary modifications, applies to an authorized institution which uses the retail IRB approach in respect of the estimation by the institution of the EAD of each pool of its on-balance sheet retail exposures as it applies to the institution's estimation of the EAD of its on-balance sheet corporate, sovereign and bank exposures.

180. Exposure at default—off-balance sheet exposures other than OTC derivative transactions and credit derivative contracts

(1) Subject to subsection (2), an authorized institution which uses the retail IRB approach shall estimate its own CCFs for each type of off-balance sheet exposure specified in column 2 of Table 20 in respect of its retail exposures.

(2) Section 164(4)(*a*), (*b*), (*c*), (*d*) and (*e*), with all necessary modifications, applies to an authorized institution's estimation of the EAD of its off-balance sheet retail exposures specified in Table 20 as it applies to the institution's estimation of the EAD of its off-balance sheet corporate, sovereign and bank exposures specified in that Table.

(3) An authorized institution shall estimate the EAD of its off-balance sheet exposures specified in Table 20 for each pool of retail exposures such that—

(*a*) in the case of the estimate of the EAD of a retail facility with an uncertain future drawdown—

(i) the institution takes into account—

(A) the institution's overall drawdown and repayment history with regard to its retail exposures which fall within the same facility type as the retail facility concerned; or

(B) the institution's expectation based on the history of additional drawings by the obligors in respect of facilities which fall within such facility type up to and after the time a default event has been triggered in respect of such a facility;

(ii) if the CCF used by the institution for the calculation of the credit equivalent amount of the retail facility does not reflect the expectation of additional drawings on the retail facility extended up to and after the time a default event has been triggered, the institution reflects in its estimate of the LGD of the retail exposures the likelihood of such additional drawings; and

(*b*) the estimate of the EAD of off-balance sheet exposures which fall within a pool of retail exposures is based on not less than one source of data—

(i) which is relevant to such retail exposures; and

(ii) which, subject to section 14, covers a period of not less than 5 years.

181. Exposure at default—OTC derivative transactions and credit derivative contracts

Section 165, with all necessary modifications, applies to an authorized institution which uses the retail IRB approach in respect of the estimation by the institution of the EAD of its retail exposures in respect of OTC derivative transactions or credit derivative contracts as it applies to the institution's estimation of the EAD of its corporate, sovereign and bank exposures in respect of OTC derivative transactions or credit derivative contracts.

182. Exposure at default—other off-balance sheet exposures not specified in Table 11 or 20

An authorized institution which uses the retail IRB approach shall, for the purposes of estimating the EAD of an off-balance sheet exposure of the institution which is not specified in Table 11 or 20, calculate the credit equivalent amount of the exposure by applying—

(*a*) subject to paragraph (*b*), a CCF of 100%;

(*b*) the CCF applicable to the exposure pursuant to Part 2 of Schedule 1,

in accordance with section 180 or 181, as the case requires, with all necessary modifications.

Division 7—Specific requirements for equity exposures

183. Equity exposures—general

(1) Subject to subsection (2), an authorized institution shall calculate the risk-weighted amount of the institution's equity exposures booked in its banking book by using—

(*a*) the market-based approach; or

(*b*) the PD/LGD approach.

(2) An authorized institution shall demonstrate to the satisfaction of the Monetary Authority that the market-based approach or PD/LGD approach used by the institution to calculate the risk-weighted amount of its equity exposures—

(*a*) is appropriate for the institution's portfolios of equity exposures;

(*b*) is applied consistently to those portfolios; and

(*c*) is not used for the purpose of regulatory capital arbitrage.

(3) An authorized institution shall determine the EAD of an equity exposure of the institution as the value of the equity exposure presented in the institution's balance sheet.

(4) Where an authorized institution has holdings in a collective investment scheme which invests in investments which would constitute both equity exposures and non-equity exposures (being those exposures falling within the IRB class of corporate, sovereign, bank, retail or other exposures)—

(*a*) subject to paragraphs (*b*) and (*c*), the institution shall treat the holdings as equity exposures or non-equity exposures, as the case requires, and allocate or apportion them, insofar as is practicable, in a consistent manner by reference to the proportions of the collective investment scheme's investments which would constitute equity exposures and non-equity exposures, as the case may be;

(*b*) if it is not practicable to comply with paragraph (*a*) and subject to paragraph (*c*), the institution shall treat the holdings as equity exposures or non-equity exposures based on whether equity exposures or non-equity exposures constitute the majority of the scheme's investments;

(*c*) if only the investment mandate of the scheme is known to the institution, the institution shall treat the holdings as exposures of the institution on the assumptions that—

(i) the scheme first invests, to the maximum extent allowed under the mandate, in investments which would constitute exposures falling within the IRB class attracting the highest capital charge of all the investments permissible under the scheme's investment mandate; and

(ii) the scheme then continues making investments which would constitute exposures falling within other IRB classes in descending order of the level of the capital charge required in respect of such exposures.

184. Market-based approach

(1) Subject to subsections (2) and (3), an authorized institution which uses the market-based approach to calculate the risk-weighted amount of the institution's equity exposures booked in its banking book shall use—

(*a*) the simple risk-weight method;

(*b*) the internal models method; or

(*c*) the simple risk-weight method and the internal models method.

(2) Subject to section 186(1), an authorized institution shall only use a market-based approach which is—

(*a*) suitable for the amount and complexity of the institution's equity exposures; and

(*b*) commensurate with the sophistication of the institution's internal risk management functions.

(3) An authorized institution which uses more than one market-based approach for different portfolios of the institution's equity exposures booked in its banking book shall demonstrate to the satisfaction of the Monetary Authority that—

(*a*) this course of action is justified having regard to the respective risk profiles of the portfolios; and

(*b*) the institution uses different risk assessment methods for the portfolios in its internal risk management functions.

185. Simple risk-weight method

An authorized institution which uses the simple risk-weight method shall—

(*a*) calculate the risk-weighted amount of an equity exposure of the institution by multiplying the EAD of the equity exposure by a risk-weight of—

(i) 300% for an equity exposure in a publicly traded company (being an equity security traded on a recognized exchange); and

(ii) 400% for any equity exposure of the institution which does not fall within subparagraph (i);

(*b*) in relation to a short position in an equity exposure which is not permitted to set off a long position in the same equity exposure in accordance with paragraph (*c*)—

(i) treat the short position as if it were a long position in that equity exposure; and

(ii) risk-weight the short position in accordance with paragraph (*a*);

(*c*) subject to paragraphs (*d*) and (*e*), set off a short position in an equity exposure against a long position in the same equity exposure only if that short position—

(i) has been explicitly designated by the institution as a hedge of the long position in that equity exposure; and

(ii) has a remaining maturity of not less than one year;

(*d*) where the institution's short position in an equity exposure has a residual maturity which is shorter or longer than the residual maturity of the institution's long position in the same equity exposure, adjust, with all necessary modifications, the value of the institution's short position in the equity exposure in accordance with section 103;

(*e*) where a net short position remains after the set-off of the institution's short position in an equity exposure against the institution's long position in the same equity exposure—

(i) treat the net short position as if it were a long position in that equity exposure; and

(ii) risk-weight the net short position in accordance with paragraph (*a*).

186. Internal models method

(1) An authorized institution shall not use the internal models method to calculate the risk-weighted amount of the institution's equity exposures booked in its banking book unless the institution demonstrates to the satisfaction of the Monetary Authority that the use by the institution of the internal models method is in compliance with subsection (2).

(2) An authorized institution which uses the internal models method shall—

(*a*) use its internal models in respect of equity exposures to estimate the potential loss on the institution's portfolio of equity exposures arising from an assumed instantaneous shock equivalent to a one-tailed 99% confidence interval of the difference between quarterly returns on the portfolio and an appropriate risk-free rate computed over an observation period of not less than 3 years;

(*b*) ensure that the institution's estimate of potential loss in respect of its equity exposures is—

(i) arrived at using data, information and methods which are relevant to the institution's equity exposures;

(ii) prudent, statistically reliable and resilient; and

(iii) able to reflect the risk profile of the institution's portfolio of equity exposures against adverse market movements;

(*c*) ensure that the internal models are capable of taking sufficient account of the risk profile (including general market risk and specific risk) and constituent elements of its portfolio of equity exposures;

(*d*) ensure that the outputs of the internal models can be quantified in the form of the loss percentile specified in paragraph (*a*);

(*e*) ensure that if market data are used in an internal model, the institution updates the data used not less than once in every 3 months and, in any case, reassesses the data whenever market prices are subject to material change;

(*f*) ensure that the institution fully documents and supports by empirical analysis the portfolio correlations (being the correlation of changes in the returns on an equity exposure to changes in the returns on another equity exposure in response to market movements) it has integrated into its measures of potential loss in respect of a portfolio of equity exposures;

(*g*) ensure that the institution has clear and effective policies, procedures and controls in place to enable it to manage the risk of its portfolio of equity exposures and to ensure the integrity of the internal models and modelling process used to estimate its potential loss in respect of the portfolio; and

(*h*) ensure that the institution's internal models are fully integrated into the institution's credit approval, risk management and corporate governance functions and, if section 1(*b*)(vi)(A) of Schedule 2 is applicable to the institution, internal capital allocation function.

(3) An authorized institution which uses the internal models method shall—

(*a*) calculate the risk-weighted amount of each equity exposure by—

(i) multiplying the potential loss of the equity exposure as calculated using its internal models by 12.5; and

(ii) using the simple risk-weight method to multiply the EAD of the equity exposure by a risk-weight of—

(A) 200% for an equity exposure in a publicly traded company (being an equity security traded on a recognized exchange); and

(B) 300% for any equity exposure of the institution which does not fall within sub-subparagraph (A); and

(*b*) apply to each of its equity exposures the greater of the risk-weighted amount calculated under paragraph (*a*)(i) or (ii) for the equity exposure concerned.

(4) Where an authorized institution which uses the internal models method is not able to demonstrate to the satisfaction of the Monetary Authority that the institution complies with subsection (2), the Monetary Authority may, by notice in writing given to the institution, require the institution to use the simple risk-weight method to calculate the risk-weighted amount of the institution's equity exposures booked in its banking book for such period, or until the occurrence of such event, as specified in the notice.

(5) An authorized institution shall comply with the requirements of a notice given to it under subsection (4).

187. PD/LGD approach

An authorized institution shall not use the PD/LGD approach to calculate the risk-weighted amount of the institution's equity exposures booked in its banking book unless the institution demonstrates to the satisfaction of the Monetary Authority that the use by the institution of the PD/LGD approach is in compliance with sections 188, 189, 190, 191, 192, 193 and 194.

188. PD/LGD approach—rating dimensions

(1) An authorized institution which uses the PD/LGD approach shall ensure that its rating system for equity exposures comprises—

(*a*) obligor grades which reflect, exclusively, the risk of default of obligors; and

(*b*) facility grades which reflect—

(i) factors affecting loss severity in the case of default of obligors; and

(ii) where relevant, the characteristics of obligors to the extent that the characteristics are predictive of LGD.

(2) An authorized institution which uses the PD/LGD approach shall be regarded as complying with subsection (1)(*b*) if its rating system has a rating scale which reflects the EL of its equity exposures assigned to each grade.

(3) An authorized institution which uses the PD/LGD approach shall, in respect of its equity exposures—

(*a*) rank and assign its equity exposures to the obligor grades and facility grades in accordance with its rating criteria and based on all relevant information available regarding the creditworthiness of the obligor or loss severity of the exposure; and

(*b*) in the case of separate equity exposures to the same obligor, assign the exposures to the same obligor grade unless the institution demonstrates to the satisfaction of the Monetary Authority that the risk of default of the obligor in respect of such exposures is different.

189. PD/LGD approach—rating structure

An authorized institution which uses the PD/LGD approach shall ensure that—

(*a*) its process for assigning equity exposures to its obligor grades or facility grades results in a consistent, logical and cogent differentiation of credit risk inherent in those exposures—

(i) with no excessive concentrations on particular obligor grades or facility grades;

(ii) with the level of perceived and measured credit risk increasing as credit quality declines from one grade to the next; and

(iii) allowing for reasonably accurate, consistent and verifiable estimation of credit risk components for each equity exposure; and

(*b*) its rating system has—

(i) not less than 7 obligor grades for equity exposures which are not in default; and

(ii) not less than one obligor grade for equity exposures which are in default.

190. PD/LGD approach—rating criteria

An authorized institution which uses the PD/LGD approach shall ensure that—

(*a*) its rating definitions in respect of obligor grades and facility grades; and

(*b*) its rating processes and criteria for assigning equity exposures to such grades,

are specific, logical, sufficiently detailed and consistently applied and result in a clear differentiation of credit risk inherent in the exposures.

191. PD/LGD approach—rating assignment horizon

An authorized institution which uses the PD/LGD approach shall—

(*a*) use a time horizon of more than one year for the purposes of assigning its equity exposures to obligor grades;

(*b*) subject to paragraph (*c*), ensure that an obligor grade accurately represents the institution's assessment of the willingness and ability of an obligor in respect of an equity exposure to perform the obligor's obligations, after taking into account any potentially adverse economic conditions over a business cycle within the industry or geographic region relevant to the obligor; and

(*c*) act prudently in assessing information relating to the willingness and ability of an obligor in respect of an equity exposure to perform the obligor's obligations.

192. PD/LGD approach—rating coverage

An authorized institution which uses the PD/LGD approach shall, in the case of each equity exposure subject to the PD/LGD approach—

(*a*) assign the equity exposure to an obligor grade or facility grade as part of the institution's process for giving credit approvals; and

(*b*) assign the equity exposure to the obligor grade which accurately reflects the level of credit risk of the obligor in respect of the exposure.

193. PD/LGD approach—integrity of rating process

An authorized institution which uses the PD/LGD approach shall ensure that—

(*a*) the institution has in place policies and procedures to ensure that the rating process for equity exposures is independent of the institution's staff and management responsible for originating such exposures;

(*b*) the assignment of equity exposures to obligor grades and facility grades is reviewed and updated not less than once in every 12 months and exposures to obligors which are more likely to default are subject to more frequent review and updating;

(*c*) whenever the institution becomes aware of any new material information on an equity exposure (including in relation to the obligor in respect of that exposure), a review is conducted, within a reasonable period after the institution becomes so aware, of whether the equity exposure should be assigned to a different obligor grade or facility grade, as the case may be;

(*d*) the institution has in place an effective process to obtain and update relevant information on the financial conditions and on other credit risk characteristics of the obligors in respect of the institution's equity exposures which affect assigned estimates of PD; and

(*e*) the institution has in place an effective process for—

(i) identifying and documenting the circumstances in which officers of the institution may override the inputs to, or the outputs of, the institution's rating system; and

(ii) monitoring the nature and performance of such overrides which have occurred.

194. PD/LGD approach—calculation of risk-weighted amount of equity exposures

(1) An authorized institution which uses the PD/LGD approach shall calculate the risk-weighted amount of the institution's equity exposures in accordance with sections 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166 and 167, insofar as those sections relate to the use of the foundation IRB approach for corporate exposures, except that—

(*a*) the EAD of an equity exposure shall be determined in accordance with section 183(3);

(*b*) if the institution has an equity exposure to a corporate but does not have an exposure to that corporate which falls within its IRB class of corporate, sovereign, bank or retail exposures such that the institution does not have sufficient information on the corporate for the application of the prescribed default criteria as set out in section 149, the institution shall calculate the risk-weighted amount of the equity exposure such that—

(i) if the EAD of the institution's equity exposure to the corporate is not more than 15% of the institution's total equity exposures, the institution calculates the risk-weighted amount of the equity exposure by multiplying the EAD of the exposure by the product of the risk-weight as derived from using the risk-weight function set out in Formula 16 (if applicable, adjusted in accordance with section 157(1)(*a*) in respect of exposures to small-and-medium sized corporates) and a factor of 1.5;

(ii) if the EAD of the institution's equity exposure to the corporate exceeds 15% of the institution's total equity exposures, the institution applies the simple risk-weight method set out in section 185;

(*c*) an LGD of 90% shall be used in the risk-weight function set out in Formula 16 for deriving the risk-weight of an equity exposure;

(*d*) an M of 5 years shall be used in the risk-weight function set out in Formula 16 for deriving the risk-weight of an equity exposure;

(*e*) a minimum risk-weight of 100% shall be applied in the calculation of the risk-weighted amount of a relevant equity exposure if the risk-weight calculated in accordance with paragraphs (*a*), (*b*), (*c*) and (*d*) for the relevant equity exposure plus the EL associated with the relevant equity exposure multiplied by 12.5 is less than 100%;

(*f*) for any equity exposure (including any net short position as referred to in section 185(*e*)) other than a relevant equity exposure, the institution shall, in the calculation of the risk-weighted amount of any such equity exposure if the risk-weight calculated in accordance with paragraphs (*a*), (*b*), (*c*) and (*d*) for the equity exposure plus the EL associated with the equity exposure multiplied by 12.5 is less than the minimum risk-weight of—

(i) 200% for an equity exposure in a publicly traded company (being an equity security traded on a recognized exchange); or

(ii) 300% for any equity exposure which does not fall within subparagraph (i),

apply the minimum risk-weight specified in subparagraph (i) or (ii), as the case may be;

(*g*) if the risk-weight calculated in accordance with paragraphs (*a*), (*b*), (*c*) and (*d*) for an equity exposure of the institution plus the EL associated with the equity exposure multiplied by 12.5 exceeds 1,250%, the institution shall—

(i) apply a maximum risk-weight of 1,250% in the calculation of the risk-weighted amount of the equity exposure; or

(ii) deduct the EAD of the equity exposure, in accordance with section 223(2)(*c*), from the institution's core capital and supplementary capital; and

(*h*) if the institution has entered into any hedging arrangement in respect of an equity exposure which is subject to the PD/LGD approach, the institution shall—

(i) assign an LGD of 90% to its exposure to the seller of the hedge; and

(ii) treat its exposure to the seller of the hedge as having an M of 5 years.

(2) In this section—

"relevant equity exposure" (有關股權風險承擔), in relation to an authorized institution, means an equity exposure of the institution consisting of—

(*a*) an equity exposure in a publicly traded company where—

(i) the institution's equity exposure is part of a long-term customer relationship;

(ii) any capital gains on the institution's equity exposure are not expected to be realized in the short-term in accordance with the institution's investment policy; and

(iii) the institution has no expectation of above trend capital gains (being capital gains in excess of those which would be anticipated by the institution based on the historical performance of the equity exposure over a reasonable period) in the long-term in accordance with the institution's investment policy; or

(*b*) an equity exposure in a privately owned company where—

(i) the returns on the institution's equity exposure are based on regular and periodic cash flows not derived from capital gains;

(ii) any capital gains on the institution's equity exposure are not expected to be realized in the short-term in accordance with the institution's investment policy; and

(iii) the institution has no expectation of above trend capital gains in the long-term in accordance with the institution's investment policy.

Division 8—Specific requirements for other exposures

195. Cash items

(1) An authorized institution which uses the specific risk-weight approach shall calculate the risk-weighted amount of its cash items by multiplying the EAD of each item by the relevant risk-weight set out in Table 21.

TABLE 21

RISK-WEIGHTS FOR CASH ITEMS

Item	Cash items	Risk-weight
1.	Cash items which fall within paragraphs (*a*), (*b*), (*c*), (*f*) and (*g*) of the definition of "cash items" in section 139(1)	0%
2.	Cash items which fall within paragraphs (*d*) and (*i*) of the definition of "cash items" in section 139(1)	100%
3.	Cash items which fall within paragraph (*e*) of the definition of "cash items" in section 139(1)	20%

Item	Cash items	Risk-weight
4.	Cash items falling within paragraph (*h*) of the definition of "cash items" in section 139(1) which are outstanding—	
	(*a*) up to and including the fourth business day after the settlement date;	0%
	(*b*) including the fifth business day and up to and including the fifteenth business day after the settlement date;	100%
	(*c*) including the sixteenth business day and up to and including the thirtieth business day after the settlement date;	625%
	(*d*) including the thirty-first business day and up to and including the forty-fifth business day after the settlement date; and	937.5%
	(*e*) including and after the forty-sixth business day after the settlement date	1,250%

(2) For the purposes of subsection (1), unless the context otherwise requires, the EAD of a cash item is the principal amount of the cash item.

196. Other items

(1) Subject to subsection (2), an authorized institution which uses the specific risk-weight approach shall calculate the risk-weighted amount of its exposures which fall within the IRB subclass of other items by multiplying the EAD of each exposure by a risk-weight of 100%.

(2) The Monetary Authority may, by notice in writing given to an authorized institution, require the institution to calculate the risk-weighted amount of an exposure (or a portfolio of exposures) to which this section applies, by multiplying the EAD of the exposure (or the portfolio of exposures) by a risk-weight of more than 100% as specified in the notice.

(3) An authorized institution shall comply with the requirements of a notice given to it under subsection (2).

(4) For the purposes of subsections (1) and (2), unless the context otherwise requires, the EAD of an exposure which falls within the IRB subclass of other items is the principal amount of the exposure.