PART 9

CALCULATION OF OPERATIONAL RISK

Division 1—General

323. Interpretation of Part 9

In this Part, unless the context otherwise requires—

"first year" (第一年度), in relation to the last 3 years, means the last calendar quarter of those years and the 3 immediately preceding calendar quarters;

"gross income" (總收入) means the sum of an authorized institution's net interest income and non-interest income before the deduction from any such income of—

(*a*) the operating expenses of the institution; and

(*b*) any collective provisions and specific provisions made by the institution;

"interest expenses" (利息開支) means the sum of—

(*a*) the interest paid by an authorized institution on its interest-bearing liabilities; and

(*b*) the accrued interest payable by the institution on its interest-bearing liabilities;

"interest income" (利息收入) means the sum of—

(*a*) the interest received by an authorized institution on its interest-bearing assets; and

(*b*) the accrued interest receivable by the institution on its interest-bearing assets;

"last 3 years" (最近 3 個年度) means the last 3 years ending on a calendar quarter end date;

"net interest income" (淨利息收入) means the interest income of an authorized institution after deducting the interest expenses of the institution;

"non-interest income" (非利息收入)—

(*a*) subject to paragraph (*b*), means income recognized by an authorized institution from—

(i) gains minus losses arising from the institution's trading in—

(A) foreign currencies;

(B) exchange rate contracts;

(C) interest rate contracts;

(D) equity contracts;

(E) precious metal contracts;

(F) other commodity contracts;

(G) credit derivative contracts; and

(H) securities;

(ii) dividends earned from the institution's shareholdings in other companies (except dividends earned from a member of the institution's consolidation group);

(iii) fees and commission income after deducting fees and commission expenses (except fees and commission expenses for outsourcing services); and

(iv) any other income (except interest income) earned in the ordinary course of the business of the institution;

(*b*) does not include—

(i) reversals of—

(A) write-downs of inventories, real property, plant and equipment of the institution; or

(B) provisions for bad and doubtful debts of the institution;

(ii) income recognized by the institution from disposals of items of real property, plant and equipment of the institution;

(iii) income recognized by the institution from disposals of non-trading investments of the institution;

(iv) payment of litigation compensation made to the institution; and

(v) income recognized by the institution from insurance claims for the benefit of the institution;

"second year" (第二年度), in relation to the last 3 years, means the year immediately preceding the first year;

"standardized business line" (標準業務線) means a business line specified in section 330(*a*), (*b*), (*c*), (*d*), (*e*), (*f*), (*g*) or (*h*);

"third year" (第三年度), in relation to the last 3 years, means the year immediately preceding the second year;

"year" (年度) means a period of 4 consecutive calendar quarters.

324. Meaning of "loans and advances in the standardized business line of commercial banking"

(1) In this Part, "loans and advances in the standardized business line of commercial banking" (商業銀行標準業務線的貸款及放款)—

(*a*) in relation to an authorized institution which uses the STC approach, means the amounts drawn down from the institution and for the time being outstanding in respect of—

(i) any borrowers who fall within any of the descriptions of exposures in subsection (2)(*a*), (*b*) and (*c*); or

(ii) any on-balance sheet exposures (other than equity exposures) of the institution which fall within any of the descriptions of exposures in subsection (2)(*a*), (*b*) and (*c*);

(*b*) in relation to an authorized institution which uses the BSC approach, means the amounts drawn down from the institution and for the time being outstanding in respect of—

(i) any borrowers who fall within any of the descriptions of exposures in subsection (3)(*a*) and (*b*); or

(ii) any on-balance sheet exposures (other than equity exposures) of the institution which fall within any of the descriptions of exposures in subsection (3)(*a*) and (*b*);

(*c*) in relation to an authorized institution which uses the IRB approach, means the amounts drawn down from the institution and for the time being outstanding in respect of—

(i) any borrowers who fall within any of the descriptions of exposures in subsection (4)(*a*) and (*b*); or

(ii) any on-balance sheet exposures (other than equity exposures) of the institution which fall within any of the descriptions of exposures in subsection (4)(*a*) and (*b*).

(2) The exposures referred to in subsection (1)(*a*)(i) and (ii) are—

(*a*) exposures which are classified into a class of exposures referred to in section 54(*a*), (*b*), (*c*), (*d*), (*e*) or (*f*);

(*b*) any other exposures—

(i) which are classified into a class of exposures referred to in section 54(*k*); and

(ii) which the institution regards as falling within the standardized business line of commercial banking;

(*c*) exposures which would have been classified into a class of exposures referred to in section 54(*a*), (*b*), (*c*), (*d*), (*e*) or (*f*) if they had not been classified into a class of exposures referred to in section 54(*l*).

(3) The exposures referred to in subsection (1)(*b*)(i) and (ii) are—

(*a*) exposures which are classified into a class of exposures referred to in section 108(*a*), (*b*), (*c*) or (*d*);

(*b*) any other exposures—

(i) which are classified into a class of exposures referred to in section 108(*g*); and

(ii) which the institution regards as falling within the standardized business line of commercial banking.

(4) The exposures referred to in subsection (1)(*c*)(i) and (ii) are—

(*a*) exposures which are classified into an IRB class of exposures referred to in item 1, 2 or 3 of Table 16;

(*b*) any other exposures—

(i) which are classified into an IRB class of exposures referred to in item 6 of Table 16; and

(ii) which the institution regards as falling within the standardized business line of commercial banking.

325. Meaning of "loans and advances in the standardized business line of retail banking"

(1) In this Part, "loans and advances in the standardized business line of retail banking" (零售銀行標準業務線的貸款及放款)—

(*a*) in relation to an authorized institution which uses the STC approach, means the amounts drawn down from the institution and for the time being outstanding in respect of—

(i) any borrowers who fall within any of the descriptions of exposures in subsection (2)(*a*), (*b*) and (*c*); or

(ii) any on-balance sheet exposures (other than equity exposures) of the institution which fall within any of the descriptions of exposures in subsection (2)(*a*), (*b*) and (*c*);

(*b*) in relation to an authorized institution which uses the BSC approach, means the amounts drawn down from the institution and for the time being outstanding in respect of—

(i) any borrowers who fall within any of the descriptions of exposures in subsection (3)(*a*) and (*b*); or

(ii) any on-balance sheet exposures (other than equity exposures) of the institution which fall within any of the descriptions of exposures in subsection (3)(*a*) and (*b*);

(*c*) in relation to an authorized institution which uses the IRB approach, means the amounts drawn down from the institution and for the time being outstanding in respect of—

(i) any borrowers who fall within any of the descriptions of exposures in subsection (4)(*a*) and (*b*); or

(ii) any on-balance sheet exposures (other than equity exposures) of the institution which fall within any of the descriptions of exposures in subsection (4)(*a*) and (*b*).

(2) The exposures referred to in subsection (1)(*a*)(i) and (ii) are—

(*a*) exposures which are classified into a class of exposures referred to in section 54(*i*) or (*j*);

(*b*) any other exposures—

(i) which are classified into a class of exposures referred to in section 54(*k*); and

(ii) which the institution regards as falling within the standardized business line of retail banking;

(*c*) exposures which would have been classified into a class of exposures referred to in section 54(*i*) or (*j*) if they had not been classified into a class of exposures referred to in section 54(*l*).

(3) The exposures referred to in subsection (1)(*b*)(i) and (ii) are—

(*a*) exposures which are classified into a class of exposures referred to in section 108(*f*);

(*b*) any other exposures—

(i) which are classified into a class of exposures referred to in section 108(*g*); and

(ii) which the institution regards as falling within the standardized business line of retail banking.

(4) The exposures referred to in subsection (1)(*c*)(i) and (ii) are—

(*a*) exposures which are classified into an IRB class of exposures referred to in item 4 of Table 16;

(*b*) any other exposures—

(i) which are classified into an IRB class of exposures referred to in item 6 of Table 16; and

(ii) which the institution regards as falling within the standardized business line of retail banking.

Division 2—Calculation of operational risk under BIA approach

326. Application of Division 2

(1) This Division applies to an authorized institution which uses the BIA approach to calculate the capital charge for its operational risk.

(2) Unless the context otherwise requires, a reference to an authorized institution in this Division is a reference to an authorized institution which uses the BIA approach to calculate the capital charge for its operational risk.

327. Calculation of capital charge for operational risk under BIA approach

(1) An authorized institution shall calculate the capital charge for its operational risk for the last 3 years by—

(*a*) aggregating the gross income recognized by the institution in the first year;

(*b*) aggregating the gross income recognized by the institution in the second year;

(*c*) aggregating the gross income recognized by the institution in the third year;

(*d*) multiplying the gross income of the institution in each of the first year, second year and third year, where positive, by a capital charge factor of 15%; and

(*e*) aggregating the capital charges calculated under paragraph (*d*) for the last 3 years and obtaining the arithmetic mean of the aggregate capital charge for the last 3 years by dividing that aggregate figure by the number of the last 3 years in which the gross income is positive.

(2) The calculation method described in subsection (1) is expressed by Formula 29.

FORMULA 29

CALCULATION OF CAPITAL CHARGE FOR OPERATIONAL RISK UNDER BIA APPROACH

$$K_{BIA} = [\Sigma(GI_{1...n} \times \alpha)] / n$$

where—

K_{BIA} = capital charge for operational risk calculated under the BIA approach;

GI = gross income, where positive, of the last 3 years;

α = 15%; and

n = number of the last 3 years for which gross income is positive.

(3) For the avoidance of doubt, an authorized institution shall, in using Formula 29—

(*a*) exclude from the numerator (GI) any of its gross income for a year which is negative or zero;

(*b*) exclude from the denominator (n) any year for which its gross income is negative or zero.

328. Calculation of risk-weighted amount for operational risk under BIA approach

An authorized institution shall calculate the risk-weighted amount for its operational risk by multiplying the capital charge for its operational risk as calculated under section 327 by 12.5.

Division 3—Calculation of operational risk under STO approach

329. Application of Division 3

(1) This Division applies to an authorized institution which uses the STO approach to calculate the capital charge for its operational risk.

(2) Unless the context otherwise requires, a reference to an authorized institution in this Division is a reference to an authorized institution which uses the STO approach to calculate the capital charge for its operational risk.

330. Classification of authorized institution's business activities into standardized business lines

An authorized institution shall, based on the principles specified in section 2 of Schedule 4, classify its business activities, and the gross income in respect of each of those business activities, into the standardized business lines set out in the following paragraphs and more particularly described in Schedule 15—

(*a*) corporate finance;
(*b*) trading and sales;
(*c*) retail banking;
(*d*) commercial banking;
(*e*) payment and settlement;
(*f*) agency services;
(*g*) asset management; and
(*h*) retail brokerage.

331. Calculation of capital charge for operational risk under STO approach

(1) An authorized institution shall calculate the capital charge for each standardized business line for the last 3 years by—

(*a*) aggregating the gross income recognized by the institution in respect of each of the standardized business lines in the first year;
(*b*) aggregating the gross income recognized by the institution in respect of each of the standardized business lines in the second year;
(*c*) aggregating the gross income recognized by the institution in respect of each of the standardized business lines in the third year; and

(*d*) multiplying the gross income of the institution for each standardized business line in each of the first year, second year and third year calculated under paragraphs (*a*), (*b*) and (*c*) by the capital charge factor applicable to that standardized business line set out in Table 33.

TABLE 33

CAPITAL CHARGE FACTOR APPLICABLE TO STANDARDIZED BUSINESS LINES

Standardized business line	Capital charge factor
Corporate finance	18%
Trading and sales	18%
Retail banking	12%
Commercial banking	15%
Payment and settlement	18%
Agency services	15%
Asset management	12%
Retail brokerage	12%

(2) Subject to subsection (4), an authorized institution shall calculate the capital charge for its operational risk by—

(*a*) adding together the capital charges calculated under subsection (1) in respect of the 8 standardized business lines for each of the last 3 years; and

(*b*) aggregating the capital charges calculated under paragraph (*a*) for the last 3 years and obtaining the arithmetic mean of the aggregate capital charge for the last 3 years by dividing that aggregate figure by 3.

(3) The calculation method described in subsections (1) and (2) is expressed by Formula 30.

FORMULA 30

CALCULATION OF CAPITAL CHARGE FOR OPERATIONAL RISK UNDER STO APPROACH

$$K_{STO} = \{\Sigma_{\text{years } 1\text{–}3} \max\,[\Sigma(GI_{1\text{–}8} \times \beta_{1\text{–}8}),\ 0]\}\ /\ 3$$

where—

K_{STO} = capital charge for operational risk calculated under the STO approach;

GI_{1-8} = gross income for each of the standardized business lines for each of the last 3 years; and

β_{1-8} = capital charge factor applicable to each of the standardized business lines set out in Table 33.

(4) An authorized institution, when calculating the capital charge for its operational risk—

(*a*) may, in any given year of the last 3 years, offset a positive capital charge for any standardized business line in the given year with a negative capital charge for any other standardized business line in the given year;

(*b*) shall not offset positive or negative capital charges for standardized business lines between any of the last 3 years;

(*c*) if the aggregate capital charge for all the standardized business lines in any given year of the last 3 years is negative, shall assign a zero value to that aggregate capital charge and count the given year in the denominator when calculating the last 3 years arithmetic mean.

332. Calculation of risk-weighted amount for operational risk under STO approach

An authorized institution shall calculate the risk-weighted amount for its operational risk by multiplying the capital charge for its operational risk as calculated under section 331 by 12.5.

Division 4—Calculation of operational risk under ASA approach

333. Application of Division 4

(1) This Division applies to an authorized institution which uses the ASA approach to calculate the capital charge for its operational risk.

(2) Unless the context otherwise requires, a reference to an authorized institution in this Division is a reference to an authorized institution which uses the ASA approach to calculate the capital charge for its operational risk.

334. Application of section 330 in classification of authorized institution's business activities into standardized business lines

Section 330 applies to an authorized institution which uses the ASA approach to calculate the capital charge for its operational risk as it applies to an authorized institution which uses the STO approach to calculate the capital charge for its operational risk.

335. Calculation of capital charge for operational risk in all standardized business lines except retail banking and commercial banking under ASA approach

Section 331(1) applies, with all necessary modifications, to an authorized institution which uses the ASA approach to calculate the capital charge for its operational risk in respect of the following 6 standardized business lines—

(*a*) corporate finance;
(*b*) trading and sales;
(*c*) payment and settlement;
(*d*) agency services;
(*e*) asset management; and
(*f*) retail brokerage,

as it applies to an authorized institution which uses the STO approach to calculate the capital charge for its operational risk in respect of all the 8 standardized business lines.

336. Calculation of capital charge for operational risk in retail banking under ASA approach

(1) An authorized institution shall calculate the amount of loans and advances in the standardized business line of retail banking for the last 3 years by—

(*a*) taking the arithmetic mean of the amount of loans and advances in the standardized business line of retail banking as at each of the 4 calendar quarter end dates of the first year;
(*b*) taking the arithmetic mean of the amount of loans and advances in the standardized business line of retail banking as at each of the 4 calendar quarter end dates of the second year; and

(*c*) taking the arithmetic mean of the amount of loans and advances in the standardized business line of retail banking as at each of the 4 calendar quarter end dates of the third year.

(2) An authorized institution shall multiply each of the 3 figures calculated under subsection (1)(*a*), (*b*) and (*c*) by a factor of 0.035.

(3) An authorized institution shall calculate the capital charge for its operational risk in respect of the standardized business line of retail banking for each of the last 3 years by multiplying the figures obtained by the application of subsection (2) for the first year, second year and third year by a capital charge factor of 12%.

(4) The calculation method described in subsections (1), (2) and (3) is expressed by Formula 31.

FORMULA 31

CALCULATION OF CAPITAL CHARGE FOR OPERATIONAL RISK IN RETAIL BANKING UNDER ASA APPROACH

$$K_{RB} = LA_{RB} \times 0.035 \times \beta_{RB}$$

where—

K_{RB} = capital charge for the standardized business line of retail banking;

LA_{RB} = loans and advances in the standardized business line of retail banking for each year; and

β_{RB} = capital charge factor for the standardized business line of retail banking.

337. Calculation of capital charge for operational risk in commercial banking under ASA approach

An authorized institution shall comply with section 336 in respect of the standardized business line of commercial banking as if—

(*a*) every reference in section 336 (including Formula 31) to the standardized business line of retail banking were a reference to the standardized business line of commercial banking; and

(*b*) a capital charge factor of 15% were substituted for the capital charge factor of 12% specified in section 336(3).

338. Calculation of capital charge for operational risk under ASA approach

(1) Subject to subsections (2), (3) and (4), an authorized institution shall calculate the capital charge for its operational risk by—

(*a*) adding together for each of the last 3 years—

(i) the capital charges calculated under section 335 in respect of the following 6 standardized business lines—

(A) corporate finance;

(B) trading and sales;

(C) payment and settlement;

(D) agency services;

(E) asset management; and

(F) retail brokerage;

(ii) the capital charge calculated under section 336 in respect of the standardized business line of retail banking; and

(iii) the capital charge calculated under section 337 in respect of the standardized business line of commercial banking; and

(*b*) aggregating the capital charges calculated under paragraph (*a*) for the last 3 years and obtaining the arithmetic mean of the aggregate capital charge for the last 3 years by dividing that aggregate figure by 3.

(2) An authorized institution, when calculating the capital charge for its operational risk, may, in any given year of the last 3 years, offset a positive capital charge for any standardized business line, other than retail banking and commercial banking, in the given year with a negative capital charge for any other standardized business line, other than retail banking and commercial banking, in the given year.

(3) Where the aggregate capital charge for all the standardized business lines, other than retail banking and commercial banking, of an authorized institution in any given year of the last 3 years is negative, the institution—

(*a*) shall assign a zero value to that aggregate capital charge; and

(*b*) shall not offset the capital charge for the standardized business line of retail banking or commercial banking with that negative aggregate capital charge.

(4) An authorized institution may—

(*a*) aggregate the total gross income for all of its standardized business lines, other than retail banking and commercial banking, if the institution applies a capital charge factor of 18% to those standardized business lines;

(*b*) aggregate the loans and advances in the standardized business line of retail banking and the loans and advances in the standardized business line of commercial banking if the institution applies a capital charge factor of 15% to those standardized business lines.

339. Calculation of risk-weighted amount for operational risk under ASA approach

An authorized institution shall calculate the risk-weighted amount for its operational risk by multiplying the capital charge for its operational risk as calculated under section 338 by 12.5.

Division 5—Exceptions

340. Provisions applicable where certain authorized institutions have difficulties with BIA approach, STO approach or ASA approach

Where an authorized institution—

(*a*) has been in operation for less than 18 months on any calendar quarter end date subsequent to the date on which this section comes into operation;

(*b*) has recorded negative gross income for the last 3 years immediately preceding any calendar quarter end date subsequent to the date on which this section comes into operation; or

(*c*) is undergoing a merger, acquisition or material restructuring,

the institution—

(*d*) shall not use the BIA approach, STO approach or ASA approach to calculate the capital charge for its operational risk except with the prior approval of the Monetary Authority;

(*e*) may, with the prior approval of the Monetary Authority, use an alternative to the BIA approach, STO approach or ASA approach to calculate the capital charge for its operational risk.

341. Transitional arrangements

(1) Where, on any calendar quarter end date subsequent to the date on which this section comes into operation, an authorized institution has been in operation for 18 months or more but less than 3 years, the institution shall treat any partial year of operation of 6 months or more as a full year, and any

partial year of operation of less than 6 months as zero, for the purposes of calculating all or any of the following under the BIA approach, STO approach or ASA approach—

(*a*) the gross income for the last 3 years;

(*b*) the loans and advances in the standardized business line of retail banking for the last 3 years;

(*c*) the loans and advances in the standardized business line of commercial banking for the last 3 years.

(2) Without prejudice to subsection (1), on any calendar quarter end date subsequent to the date on which this section comes into operation—

(*a*) where an authorized institution has been in operation for 2 years and 6 months or more but less than 3 years, the institution shall—

(i) annualize the gross income for the partial year and use a denominator of 3;

(ii) if the institution uses the ASA approach, calculate the amount of its loans and advances in the standardized business line of retail banking and its loans and advances in the standardized business line of commercial banking for the partial year by taking the arithmetic mean of the amount outstanding at the end of each full calendar quarter within the partial year;

(*b*) where an authorized institution has been in operation for 2 years or more but less than 2 years and 6 months, the institution shall treat its gross income for the partial year or its loans and advances in the standardized business line of retail banking and its loans and advances in the standardized business line of commercial banking, for the partial year, as the case requires, as zero and use a denominator of 2;

(*c*) where an authorized institution has been in operation for 18 months or more but less than 2 years, the institution shall—

(i) annualize the gross income for the partial year and use a denominator of 2;

(ii) if the institution uses the ASA approach, calculate the amount of its loans and advances in the standardized business line of retail banking and its loans and advances in the standardized business line of commercial banking for the partial year by taking the arithmetic mean of the amount outstanding at the end of each full calendar quarter within the partial year.