



**Interim Prudential—Investment,
Insurance Mediation and Banking
Business Rulebook
(PIIB)**

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Background to this Rulebook

1. The Interim Prudential – Investment, Insurance Mediation & Banking Business Rulebook (*PIIB*) sets out an interim version of the rulebook. The *Regulatory Authority* is currently considering international developments (including the Basel II accord) in respect of prudential standards and capital adequacy and will reflect these most recent developments in the final *PIIB Rulebook*.
2. This rulebook sets out the detailed financial resources and prudential standards which the *Regulatory Authority* applies to *Authorised Firms*. The *Rules* and guidance in this rulebook will assist the *Regulatory Authority* to meet its objective of providing appropriate protection to those authorised to carry on business in the *QFC* and their *Clients* or *Customers*. This rulebook does so by setting minimal capital and other risk management standards thereby mitigating the possibility that *Authorised Firms* will be unable to meet their liabilities and commitments to *Customers* and *Clients*.
3. This rulebook is set out in:
 - a. two general chapters setting overall requirements: General Requirements and Capital; and
 - b. six chapters setting specific requirements relating to the following particular risks or issues: *Islamic Financial Business* (including *Displaced Commercial Risk Capital Requirement*), *Credit Risk*, *Market Risk*, *Liquidity Risk*, *Group Risk* and *Operational Risk*.
4. The application of this *Rulebook* is premised upon a categorisation system which ensures that every *Authorised Firm* is a member of one of the five *PIIB Categories* of *Authorised Firm*. The *PIIB Categories* are defined in section 1.3 and are also set out diagrammatically in Rule 1.3.7. The *PIIB Category* into which an *Authorised Firm* falls is determined by reference to the *Regulated Activities* it is authorised to conduct (except for *PIIB Category 5* which includes only *Islamic Financial Institutions*) as follows:

a.	PIIB Category 1	<i>Deposit Taking or Providing Credit Facilities;</i>
b.	PIIB Category 2	<i>Dealing in Investments (as principal);</i>
c.	PIIB Category 3	<i>Dealing in Investments as Agent, Managing Investments, Operating a Collective Investment Fund, or Providing Custody Services;</i>
d.	PIIB Category 4	<i>Arranging Credit Facilities, Arranging Deals in Investments, Advising on Investments or Arranging the Provision of Custody Services; and</i>
e.	PIIB Category 5	<i>Islamic Financial Institutions which manage a Profit Sharing Investment Account.</i>

5. The application of each section of this rulebook as it applies to each *PIIB Category* of *Authorised Firm* is set out in the table in section 1.6, but broadly stated the chapters of this rulebook apply as follows:

a.	Chapter 1 (General requirements)	is applicable to all <i>Authorised Firms</i> ;
b.	Chapter 2 (Capital)	is applicable to all <i>Authorised Firms</i> except section 2.9 which is only applicable to <i>PIIB Category 5 Authorised Firms</i> and other <i>Authorised Firms</i> that operate an <i>Islamic Window</i> ;
c.	Chapter 3 (Prudential requirements for <i>Authorised Firms</i> undertaking <i>Islamic Financial Business</i>)	is applicable to <i>PIIB Category 5 Authorised Firms</i> and other <i>Authorised Firms</i> that operate an <i>Islamic Window</i> . Sections 3.4, 3.6 and 3.7 are not applicable to <i>PIIB Category 4 Authorised Firms</i> ;
d.	Chapter 4 (Credit Risk)	is applicable to all <i>Authorised Firms</i> with the exception of <i>Category 4 Authorised Firms</i> . Section 4.10 – (Application of

		Credit Risk methodology to Authorised Firms undertaking Islamic Financial Business) is applicable to <i>PIIB Categories 1 to 3 Authorised Firms</i> only if they operation an <i>Islamic Window</i> ;
e.	Chapter 5 (Market Risk)	is applicable to all <i>Authorised Firms</i> except <i>PIIB Category 4 Authorised Firms</i> . Some specific sections do not apply to <i>PIIB Category 3 Authorised Firms</i> ;
f.	Chapter 6 (Liquidity Risk)	is applicable to all <i>Authorised Firms</i> with the exception of <i>PIIB Categories 3 and 4 Authorised Firms</i> ; and
g.	Chapter 7 (Group Risk)	is only applicable only if the <i>Authorised Firm</i> is a member of a <i>Financial Group</i> or a <i>Group</i> .

1 General Requirements

1.1 Application

- 1.1.1** (1) This rulebook applies to every *Authorised Firm* other than an *Insurer*.
- (2) The *Rules* in this rulebook apply to an *Authorised Firm* in accordance with its *PIIB Category* determined under section 1.3.

Guidance

The effect of Rule 1.1.1 is that these *Rules* apply to all *Authorised Firms*, except those carrying on *Insurance Business*, that is, *Insurers*. Those *Authorised Firms* that are authorised to effect or carry out *Contracts of Insurance* should refer to the *Rulebook* relating to prudential requirements for *Insurers*. These *Rules* apply both to *Authorised Firms* incorporated in the *QFC* and *Authorised Firms* conducting *Regulated Activities* through a branch in the *QFC*. The *Regulatory Authority* may modify or waive the operation of certain *Rules* or specified parts of such *Rules* in appropriate circumstances. The *Regulatory Authority* is more likely to consider such modifications or waivers in the case of those *Authorised Firms* operating in the *QFC* through a branch. It is unlikely however that the *Regulatory Authority* will waive or modify the system and control requirements. *Rules* and guidance on applying for a waiver or modification are contained in GENE chapter 7.

1.2 Financial Resources

1.2.1 An *Authorised Firm* must:

- (A) have and maintain at all times financial resources of the kinds and amounts specified in, and calculated in accordance with the *Rules* in this rulebook; and
- (B) ensure that it maintains financial resources in addition to the requirement in (A) which are adequate in relation to the nature, size and complexity of its business to ensure that there is no significant risk that liabilities cannot be met as they fall due.

Guidance

For the purposes of Rule 1.2.1, the *Authorised Firm's Governing Body* should assess whether the minimum financial resources which are required by the *Regulatory Authority* as set out in this rulebook are adequate in relation to the *Authorised Firm's* specific business. Additional financial resources should be maintained by the *Authorised Firm* where its *Governing Body* has considered that the required minimum financial resources do not adequately reflect the nature and risks of the *Authorised Firm's* business.

1.3 PIIB Categories of Authorised Firms

Guidance

- Authorised Firms* are divided into *PIIB Categories* to provide a clear framework for determining which specific *Rules* in *PIIB* apply to each *Authorised Firm*. The *Rules* in this section enable an *Authorised Firm* to determine into which *PIIB Category* it falls.
- The table in Rule 1.3.7 sets out the categorisation process diagrammatically.

3. In the table in Rule 1.3.7, an emboldened box indicates the *Regulated Activity* that is determinative of the *PIIB Category* into which an *Authorised Firm* falls. A box that is not emboldened indicates that an *Authorised Firm* in that *PIIB Category* may be authorised to conduct that *Regulated Activity* but that it will not, of itself, determine the *PIIB Category*.

PIIB Category 1

1.3.1 An *Authorised Firm*:

- (A) whose *Authorisation* authorises it to carry on the *Regulated Activity* of *Deposit Taking* or *Providing Credit Facilities*; and
- (B) which does not meet the criteria of *PIIB Category 5*
- is in *PIIB Category 1*.

Guidance

A *PIIB Category 1 Authorised Firm* may be authorised to conduct other *Regulated Activities* but it is the authorisation for *Deposit Taking* or *Providing Credit Facilities* that is determinative of it as belonging to *PIIB Category 1*.

PIIB Category 2

1.3.2 An *Authorised Firm*:

- (A) whose *Authorisation* authorises it to carry on the *Regulated Activity* of *Dealing in Investments*
- (B) as principal; and
- (C) does not meet the criteria of *PIIB Categories 1* or *5*
- is in *PIIB Category 2*.

Guidance

A *PIIB Category 2 Authorised Firm* may be authorised to conduct other *Regulated Activities* but it is the *Authorisation* for *Dealing in Investments* as principal and the absence of an authorisation to conduct the *Deposit Taking* or *Providing Credit Facilities* that is determinative of it as belonging to *PIIB Category 2*.

PIIB Category 3

1.3.3 An *Authorised Firm*:

- (A) whose *Authorisation* authorises it to carry on one or more of the *Regulated Activities* of *Dealing in Investments* as agent, *Managing Investments*, *Operating a Collective Investment Fund* or *Providing Custody Services*;
- (B) and does not meet the criteria of *PIIB Categories 1, 2* or *5*
- is in *PIIB Category 3*.

Guidance

A *PIIB Category 3 Authorised Firm* may be authorised to conduct other *Regulated Activities* but it is the *Authorisation for Dealing in Investments as agent, Managing Investments, Operating a Collective Investment Fund or Providing Custody Services*, and the absence of *Authorisation* for the activities specified in Rules 1.3.1 and 1.3.2 that are determinative of it as belonging to *PIIB Category 3*.

PIIB Category 4

1.3.4 An *Authorised Firm*:

(A) whose *Authorisation* authorises it to carry on one or more of the *Regulated Activities* of *Arranging Credit Facilities, Arranging Deals in Investments, Advising on Investments, or Arranging the Provision of Custody Services*; and

(B) does not meet the criteria of *PIIB Categories 1, 2, 3 or 5*;

is in *PIIB Category 4*.

Guidance

An *Authorised Firm* in *PIIB Category 4* may not be authorised to conduct any other *Regulated Activity* as if it was so authorised it would belong to another *PIIB Category*.

PIIB Category 5

1.3.5 An *Islamic Financial Institution* which manages a *Profit Sharing Investment Account* is in *PIIB Category 5*.

Guidance

Authorised Firms in *PIIB Categories 1 to 4* may also carry out *Islamic Financial Business*. They will not fall within *PIIB Category 5* unless the whole of the business is conducted in accordance with *Shari'a* and they manage a *Profit Sharing Investment Account*.

1.3.6 The table below is the *PIIB Categorisation* table.

PIIB Categorisation table

PIIB Category 1	PIIB Category 2	PIIB Category 3	PIIB Category 4	PIIB Category 5
Deposit Taking				Islamic Financial Institution Entire business conducted in accordance with Shari'a and manages a Profit Sharing Investment Account
Providing Credit Facilities				
Dealing in Investments (as principal)	Dealing in Investments (as principal)			
Dealing in Investments (as agent)	Dealing in Investments (as agent)	Dealing in Investments (as agent)		
Operating a Collective Investment Fund	Operating a Collective Investment Fund	Operating a Collective Investment Fund		
Managing Investments	Managing Investments	Managing Investments		
Providing Custody Services	Providing Custody Services	Providing Custody Services		
Arranging Deals in Investments	Arranging Deals in Investments	Arranging Deals in Investments	Arranging Deals in Investments	
Advising on Investments	Advising on Investments	Advising on Investments	Advising on Investments	
Arranging the Provision of Custody Services	Arranging the Provision of Custody Services	Arranging the Provision of Custody Services	Arranging the Provision of Custody Services	
Arranging Credit Facilities	Arranging Credit Facilities	Arranging Credit Facilities	Arranging Credit Facilities	

Guidance

The *Regulated Activities* in the emboldened boxes are determinates for the *PIIB Category*.

The Trading Book

1.3.7 An *Authorised Firm* must have a *Trading Book* if:

- (A) it has positions that must be included in the *Trading Book* under the criteria set out in Appendix 1;
- (B) those positions are held with trading intent in accordance with Rule A1.3.3; and
- (C) the total value of the positions eligible for inclusion in the *Trading Book* pursuant to (A) and (B):
 - (i) normally exceeds USD\$15 million or 5% of its combined on and off-balance sheet positions; or
 - (ii) has exceeded USD\$20 million or 6% of its combined on and off-balance sheet positions at any time in the preceding 12 month period.

Guidance

Additional detail regarding the definition of the *Trading Book* is provided in Appendix 1.

1.3.8 An *Authorised Firm* that must have a *Trading Book* in accordance with Rule 1.3.8 must:

- (A) comply with the requirements of Appendix 1; and
- (B) differentiate its business between *Trading Book* activity and *Non-Trading Book* activity on a consistent basis.

1.3.9 (1) An *Authorised Firm* which has a *Trading Book* must have adequate systems and controls to:

- (A) monitor the size of its *Trading Book*; and
 - (B) ensure that positions are included consistently in its *Trading Book* and *Non-Trading Book* so that:
 - (i) the inclusion of hedging positions in the *Trading Book* or the *Non-Trading Book* at all times reflect the intent of the *Authorised Firm* in holding the position; and
 - (ii) adequate records are made if positions are transferred between *Trading Book* and *Non-Trading Books* so that the transfers may be identified.
- (2) An *Authorised Firm* must retain records in accordance with the record keeping requirements of the *GENE Rulebook* for at least six years.

1.4 Reporting

- 1.4.1** (1) An *Authorised Firm* must comply with the prudential reporting requirements set out in Appendix 7 which apply to it.
- (2) The *Regulatory Authority* may impose additional reporting requirements on an *Authorised Firm*.
- 1.4.2** An *Authorised Firm* must prepare and submit its prudential returns in accordance with the *Rules* in section A7.1 and the instructions in each return.
- 1.4.3** Prudential returns must be submitted in accordance with the reporting provisions of GENE chapter 5.

1.5 Submission of Prudential Returns

- 1.5.1** (1) Annual prudential returns must be signed by two officers of an *Authorised Firm* who are either *Directors* or *Persons* previously approved in writing by the *Regulatory Authority* for this purpose.
- (2) All other prudential returns must be signed by one officer of an *Authorised Firm* who is either a *Director*, *Partner* or *Person* previously approved in writing by the *Regulatory Authority* for this purpose.
- 1.5.2** If the *Regulatory Authority* notifies an *Authorised Firm*, or the *Authorised Firm* itself forms the view, that a prudential return that has been submitted to the *Regulatory Authority* appears to be inaccurate or incomplete, the *Authorised Firm* must consider the matter and within a reasonable time of the date of notification by the *Regulatory Authority* it must correct, if applicable, any inaccuracies and make good any omissions, and re-submit the relevant parts of the return.

Annual

- 1.5.3** (1) An *Authorised Firm* must submit to the *Regulatory Authority* any annual returns required by Appendix 7 within four months of the *Authorised Firm's* financial year end.

Biannual

- (2) An *Authorised Firm* must submit to the *Regulatory Authority* bi-annual returns required by Appendix 7, within one month of the end of the standard biannual period.
- (3) In (2), the standard bi-annual period is the six month period ending on 30 June and 31 December of each year.

Quarterly

- (4) An *Authorised Firm* must submit to the *Regulatory Authority* quarterly returns required by Appendix 7 within one month of the end of each standard quarter.
- (5) In (4), the standard quarter is each of the three month periods ending on 31 March, 30 June, 30 September and 31 December of each year.

Guidance

If an *Authorised Firm's* financial year end does not align with the standard quarters and standard bi-annual periods, the *Authorised Firm* may wish to contact the *Regulatory Authority*.

1.6 Application Table

Guidance

This table summarises the application of the *PIIB Rulebook* to each *Authorised Firm* based on their *PIIB Category*.

Chapter		PIIB Category 1	PIIB Category 2	PIIB Category 3	PIIB Category 4	PIIB Category 5
1	General requirements					
1.1	Application	✓	✓	✓	✓	✓
1.2	Financial Resources	✓	✓	✓	✓	✓
1.3	PIIB Categories of Authorised Firms	✓	✓	✓	✓	✓
1.4	Reporting	✓	✓	✓	✓	✓
1.5	Submission of Prudential returns	✓	✓	✓	✓	✓
1.6	Application Table	✓	✓	✓	✓	✓
App1	General Requirement - Detail in the Trading Book	✓	✓	✓	✓	✓
2	Capital					
2.1	Application	✓	✓	✓	✓	✓
2.2	Basic Requirements	✓	✓	✓	✓	✓
2.3	Initial and Ongoing Capital Requirements	✓	✓	✓	✓	✓
2.4	Base Capital Requirement	✓	✓	✓	✓	✓
2.5	Expenditure Based Capital Minimum		✓	✓	✓	
2.6	Calculation of Capital Resources	✓	✓	✓	✓	✓
2.7	Components of Capital	✓	✓	✓	✓	✓
2.8	Limits on the use of different forms of Capital	✓	✓	✓	✓	✓
2.9	Components of capital specific to Authorised Firms which undertake Islamic Financial Business	✓ *	✓ *	✓ *	✓ *	✓
2.10	Subordinated debt	✓	✓	✓	✓	
App2	Capital	✓	✓	✓	✓	✓
3	Prudential Requirements for Authorised Firms undertaking Islamic Financial Business					
3.1	Application	✓*	✓*	✓*	✓*	✓

3.2	Initial and Ongoing Capital Requirements	✓*	✓*	✓*	✓*	✓
3.3	Systems and Control Requirements	✓*	✓*	✓*	✓*	✓
3.4	Displaced Commercial Risk	✓*	✓*	✓*		✓
3.5	Risk Weightings for Islamic Contracts in the Non-Trading Book	✓*	✓*	✓*	✓*	✓
3.6	Concentration Risk	✓*	✓*	✓*		✓
3.7	Management of PSIAs	✓*	✓*	✓*		✓
App3	Operational Risk [not currently used]					
4	Credit Risk					
4.1	Application	✓	✓	✓		✓
4.2	Credit Risk Systems and Controls	✓	✓	✓		✓
4.3	Credit Risk in the Non-Trading Book	✓	✓	✓		✓
4.4	Counterparty Risk in the Trading Book	✓	✓	✓		✓
4.5	Concentration Risk	✓	✓	✓		✓
4.6	Collateral	✓	✓	✓		✓
4.7	Netting	✓	✓	✓		✓
4.8	Securitisation	✓	✓	✓		✓
4.9	Credit Derivatives	✓	✓	✓		✓
4.10	Application of Credit Risk methodology to Authorised Firms undertaking Islamic Financial Business	✓*	✓*	✓*		✓
App4	Credit Risk	✓	✓	✓		✓
5	Market Risk					
5.1	Application	✓	✓	✓		✓
5.2	Market Risk Systems and Controls	✓	✓			✓
5.3	Use of internal Market Risk models	✓	✓			✓
5.4	Interest Rate Risk Capital Requirement	✓	✓			
5.5	Equity Risk Capital Requirement	✓	✓			✓
5.6	Foreign Exchange Risk Capital Requirement	✓	✓	✓		✓
5.7	Commodities Risk Capital Requirement	✓	✓			✓
5.8	Option Risk Capital Requirement	✓	✓			✓
5.9	Securities Underwriting Capital Requirement	✓	✓			✓
App5	Market Risk	✓	✓	✓		✓
6	Liquidity Risk					
6.1	Application	✓	✓			✓
6.2	Liquidity Systems and Controls	✓	✓			✓
6.3	Liquidity Requirements	✓				✓
App6	Liquidity	✓	✓			✓
7	Group Risk					
7.1	Application	✓**	✓**	✓**	✓**	✓**
7.2	Systems and Controls Requirements	✓** +	✓** +	✓** +		✓** +
7.3	Financial Group Capital Requirements and Financial Group Capital Resources	✓**	✓**	✓**		✓**
7.4	Financial Group Concentration Risk Limits	✓**	✓**	✓**		✓**
App7	Reporting to Regulatory Authority	✓	✓	✓	✓	✓
8	Operational Risk					
*	Where the <i>Authorised Firm</i> operates an <i>Islamic Window</i>					
**	The requirements apply where the <i>Authorised Firm</i> is a member of a <i>Financial Group</i>					
+	The requirements apply where the <i>Authorised Firm</i> is a member of a <i>Group</i>					

2 Capital

Guidance

1. *Authorised Firms* require capital to run their operations and to ensure the continuity of operations during periods of loss.
2. The *Regulatory Authority* has, through these *Rules*, specified the *Capital Requirements* for the various categories of *Authorised Firms* to minimise the risk of an *Authorised Firm* becoming insolvent.
3. The *Regulatory Authority* seeks to avoid *Authorised Firm's* becoming insolvent as insolvency may lead to a loss of confidence in the financial system, causing financial problems for *Clients*, other *Authorised Firms* and perhaps the *QFC* itself. As such, the *Capital Requirement* is used as an indicator to protect *Clients* and to promote the stability, efficiency and integrity of the *QFC*.
4. The calculation of *Capital Resources* in accordance with this chapter may require some adjustments to be made to the amount of capital shown on the balance sheet.
5. Should an *Authorised Firm* appear to be at risk of having inadequate *Capital Resources*, the *Regulatory Authority* will expect to see from the *Authorised Firm*, or will itself take, immediate action aimed at restoring the *Authorised Firm's Capital Resources* to at least the minimum level required.
6. Even though an *Authorised Firm* may satisfy its *Capital Requirement*, this is no guarantee that the financial resources of the *Authorised Firm* are sufficient. Additional financial resources may be required by the *Authorised Firm* where its *Governing Body* considers that the *Capital Requirement* does not adequately reflect the nature and risks of the *Authorised Firm's* business.

2.1 Application

- 2.1.1** (1) This chapter applies to every *Authorised Firm* in accordance with (2), (3) and (4).
- (2) Sections 2.1 – 2.8 apply to every *Authorised Firm*.
- (3) Section 2.9 also applies to an *Authorised Firm* which undertakes *Islamic Financial Business*.
- (4) Section 2.10 also applies to an *Authorised Firm* in *PIIB Category 1, 2, 3 or 4*.

2.2 Basic Requirements

- 2.2.1** An *Authorised Firm* must have, at all times, *Capital Resources* of at least the amount of its *Capital Requirement*.

Guidance

If the *Regulatory Authority* considers that a higher capital requirement may be appropriate for a particular *Authorised Firm*, the *Regulatory Authority* may impose higher requirements by the imposition of a condition on the relevant firm's *Authorisation*.

2.2.2 An *Authorised Firm* must have systems and controls to enable it to determine and monitor:

- (A) its *Capital Requirement*; and
- (B) whether the amount of its *Capital Resources* is, and is likely to remain at least equal to the amount of its *Capital Requirement*.

2.2.3 An *Authorised Firm's* systems and controls for the purposes of Rule 2.2.2 must include an analysis of:

- (A) realistic scenarios which are relevant to the circumstances of the *Authorised Firm*; and
- (B) the effects on the *Capital Requirements* of the *Authorised Firm* and on its *Capital Resources* if those scenarios occurred.

Guidance

1. Appendix 2 provides guidance on the nature and type of stress and scenario testing that *Authorised Firms* should be undertaking to support their view that they have adequate financial resources to meet their obligations.
2. The requirements in this chapter apply to *Authorised Firms* on a solo basis. An *Authorised Firm* may also be subject to *Capital Resources* requirements at a *Group* level. *Group* requirements are addressed in chapter 7.

2.2.4 An *Authorised Firm* must notify the *Regulatory Authority* immediately of any breach, or expected breach, of any of the provisions of this chapter and confirm that notification in writing.

Guidance

For the purposes of section 2.2, an *Authorised Firm* should have systems and controls in place to enable it to be certain that it has adequate *Capital Resources* to comply with Rule 2.2.1 at all times. An *Authorised Firm's* systems and controls should be such as to allow it to demonstrate its capital adequacy at any particular time if required to do so by the *Regulatory Authority*. Where through the operation of those systems and controls an *Authorised Firm* forms the view that it may not be able to satisfy the requirements of Rule 2.2.1 in the future, that *Authorised Firm* is required immediately to inform the *Regulatory Authority* in accordance with Rule 2.2.4.

2.3 Initial and Ongoing Capital Requirements

2.3.1 An *Authorised Firm's Capital Requirement* is the highest of:

- (A) the applicable *Base Capital Requirement* as set out in section 2.4;
- (B) in respect of an *Authorised Firm* in *PIIB Category 2, 3 and 4*, the *Expenditure Based Capital Minimum* as set out in section 2.5; or

- (C) the sum of the *Credit Risk Capital Requirement*, the *Market Risk Capital Requirement* and, for *Authorised Firms* engaging in *Islamic Financial Business* that manage *Profit Sharing Investment Accounts*, the *Displaced Commercial Risk Capital Requirement*.

Guidance

1. An *Authorised Firm* should refer to chapters 4 and 5 to determine whether it is required to calculate a *Credit Risk Capital Requirement* and a *Market Risk Capital Requirement* respectively.
2. The *Market Risk Capital Requirement* will generally not be applicable to *Authorised Firms* in *PIIB Category 4*. The *Displaced Commercial Risk Capital Requirement* will only apply to *Authorised Firms* conducting *Islamic Financial Business* that manage a *Profit Sharing Investment Account*.

2.3.2 An *Authorised Firm* must have initial *Tier One Capital*, as defined in section 2.6, of not less than the relevant *Base Capital Requirement* set out in section 2.4 at the time that it obtains *Authorisation*.

Credit Risk Capital Requirement

2.3.3 An *Authorised Firm* must calculate its *Credit Risk Capital Requirement* as the sum of:

- (A) the *Credit Risk Capital Component*; and
- (B) the *Counterparty Risk Capital Component*.

Guidance

Detailed *Rules* and guidance in respect of the *Credit Risk Capital Requirement* are contained in chapter 4.

Market Risk Capital Requirement

2.3.4 An *Authorised Firm* must calculate its *Market Risk Capital Requirement* as the sum of:

- (A) the *Interest Rate Risk Capital Requirement*;
- (B) the *Equity Risk Capital Requirement*;
- (C) the *Foreign Exchange Risk Capital Requirement*;
- (D) the *Commodities Risk Capital Requirement*;
- (E) the *Options Risk Capital Requirement*; and
- (F) the *Securities Underwriting Capital Requirement*.

Guidance

Detailed *Rules* and guidance in respect of the *Market Risk Capital Requirement* and the components set out in Rule 2.3.4 are contained in chapter 5.

Displaced Commercial Risk

- 2.3.5** An *Authorised Firm* which undertakes *Islamic Financial Business* and manages a *Profit Sharing Investment Account* must calculate its *Displaced Commercial Risk Capital Requirement* in accordance with chapter 3.

2.4 Base Capital Requirement

- 2.4.1** The table below sets out the *Base Capital Requirement*.

PIIB Category	Base Capital Requirement
<i>PIIB Category 1</i>	US \$10 million
<i>PIIB Category 2 other than those PIIB Category 2 Authorised Firms included elsewhere in this table.</i>	US \$2 million
<i>PIIB Category 3 other than those PIIB Category 3 Authorised Firms included elsewhere in this table.</i>	US \$500,000
<i>PIIB Categories 2 or 3 that provide custodial services to Collective Investment Funds.</i>	US \$10 million
<i>PIIB Category 4</i>	US \$250,000
<i>PIIB Category 5</i>	US \$10 million

2.5 Expenditure Based Capital Minimum

- 2.5.1** An *Authorised Firm* in *PIIB Category 2, 3 or 4* must calculate its *Expenditure Based Capital Minimum* as:

- (A) in the case of an *Authorised Firm* which holds *Client Money* or *Insurance Money*, 18/52;
- (B) in the case of an *Authorised Firm* in *PIIB Category 2 or 3* which does not hold *Client Money* or *Insurance Money*, 13/52; or
- (C) in the case of an *Authorised Firm* in *PIIB Category 4*, which does not hold *Insurance Money*, 6/52

of the *Annual Audited Expenditure*, calculated in accordance with Rule 2.5.2.

- 2.5.2** (1) *Annual Audited Expenditure* is all expenses and losses that arise in the *Authorised Firm's* normal course of business, excluding exceptional items, and which are recorded in the *Authorised Firm's* audited profit and loss account, less the following items (if they are included in the *Authorised Firm's* audited profit and loss account):
- (A) staff bonuses, except to the extent that they are non-discretionary;
 - (B) *Employees'* and directors' *Shares* in profits, including *Share* options, except to the extent that they are non-discretionary;
 - (C) other appropriations of profits, except to the extent that they are automatic;
 - (D) shared *Commissions* payable that are directly related to *Commissions* receivable;
 - (E) interest charges in respect of borrowings made to finance the acquisition of the *Authorised Firm's* *Readily Realisable Investments*;
 - (F) interest paid to *Clients* on *Client Money* or *Insurance Money*;
 - (G) interest paid to counterparties in the *Trading Book*;
 - (H) fees, brokerage and other charges paid to clearing houses, exchanges and intermediate brokers for the purposes of executing, registering or clearing transactions;
 - (I) foreign exchange losses; and
 - (J) contributions to charities.
- (2) For the purposes of (1)(C) a management charge must not be treated as an appropriation of profits.

2.5.3 Subject to Rule 2.5.4, for the purposes of Rule 2.5.2 an *Authorised Firm* must calculate its relevant *Annual Audited Expenditure* with reference to the *Authorised Firm's* most recent audited financial statements.

- 2.5.4** (1) If an *Authorised Firm's* most recent audited financial statements do not represent a 12 month period during which the *Authorised Firm* was trading and Authorised, the *Authorised Firm* must calculate its relevant *Annual Audited Expenditure* by prorating the amount calculated under Rule 2.5.2 so as to produce an equivalent annual amount.
- (2) If the *Authorised Firm*:
- (A) has not produced audited financial statements; or

- (B) the *Authorised Firm* was not in *PIIB Category 3, 4 or 5* for anytime during the relevant period

the *Authorised Firm* must base its relevant *Annual Audited Expenditure* on the budgeted or forecast accounts which it submitted to the *Regulatory Authority* as part of its *Application* for *Authorisation* or variation.

2.5.5 If since the period covered by the accounts or other documents on which the *Authorised Firm* is calculating its *Annual Audited Expenditure*, an *Authorised Firm's*:

- (A) expenditure materially changes; or
- (B) *Authorisation* has been varied

the *Authorised Firm* must adjust its *Annual Audited Expenditure* and notify the *Regulatory Authority*.

2.6 Calculation of Capital Resources

2.6.1 (1) An *Authorised Firm* must calculate its *Capital Resources* in accordance with the table in Rule 2.6.2 and the provisions in sections 2.7 to 2.10.

- (2) A ✓ in the table in Rule 2.6.2 denotes that the item is included in the calculation of an *Authorised Firm's Capital Resources*, whereas an X denotes that the item is not included.

Guidance

The *Regulatory Authority* may recognise forms of capital *Instruments* in addition to those set out in the table in Rule 2.6.2 for inclusion in an *Authorised Firm's Capital Resources* where those instruments comply with accepted international standards.

2.6.2 The *Capital Resources* calculation table:

	PIIB Categories 1 - 4	PIIB Category 5
(A) Tier One Capital:		
<i>Permanent Share Capital</i>	✓	✓
<i>Partnership capital</i>	✓	✓
Audited reserves	✓	✓
Share premium account	✓	✓
Externally verified interim net profits	✓	✓
(B) Deductions from Tier One Capital:		
Investments in own <i>Shares</i>	✓	✓
Intangible assets	✓	✓
Interim net losses	✓	✓
Excess of drawings over profits (for <i>Partnerships</i>)	✓	✓
(C) Tier One Capital after deductions = A-B		
(D) Upper Tier Two Capital:		
Perpetual qualifying hybrid capital <i>Instruments</i>	✓	X
Fixed dividend ordinary <i>Shares</i>	✓	X
Revaluation reserves	✓	✓
General provisions	✓	✓
<i>Profit Equalisation Reserve</i>	✓	✓
Investment risk reserve	✓	✓

(E) Lower Tier Two Capital		
Subordinated debt	✓	X
Fixed term preference <i>Shares</i>	✓	✓
(F) Total Tier One Capital plus Tier Two Capital = C+D+E		
(G) Deductions from Total of Tier One and Two Capital:		
Investments in subsidiaries and <i>Associates</i>	✓	✓
Connected lending of a capital nature	✓	✓
Material holdings of capital <i>Instruments</i> issued by <i>Regulated Financial Institutions</i>	✓	✓
<i>Qualifying holdings</i>	✓	✓
Liquid assets	✓ **	X
(H) Total Tier One Capital plus Tier Two Capital after deductions = F-G = Total Capital Resources		
** <i>Authorised Firms</i> in <i>PIIB Categories 2 - 4</i> are required to deduct illiquid assets (see Rule 2.7.8)		

2.7 Components of Capital

2.7.1 (1) For the purposes of the table in Rule 2.6.2:

- (A) *Permanent Share Capital* means ordinary paid-up *Share* capital or members' equity, or equivalent however called, which meets the following conditions:
- (i) it is fully paid up;
 - (ii) any dividends in relation to it are non-cumulative;
 - (iii) it is available to absorb losses on a going concern basis;
 - (iv) it ranks for repayment upon winding up or insolvency after all other debts and liabilities;
 - (v) it is undated;
 - (vi) the proceeds of an issue of *Permanent Share Capital* is immediately and fully available to the *Authorised Firm*;
 - (vii) the *Authorised Firm* is not obliged to pay any dividends on the *Shares* (except in the form of *Shares* that themselves comply with this Rule);
 - (viii) the *Authorised Firm* does not have any other obligation or commitment to transfer any economic benefit in relation to that *Permanent Share Capital*; and
 - (ix) dividends and other charges on the *Shares* can only be paid out of accumulated realised profits.

- (B) *Partnership* capital is made up of the partners' capital account which is an account:
 - (i) into which capital contributed by the *Partners* is paid; and
 - (ii) from which under the terms of the *Partnership* agreement an amount representing capital may be withdrawn by a *Partner* only if:
 - (A) he ceases to be a *Partner* and an equal amount is transferred to another such account by his former *Partners* or any *Person* replacing him as their *Partner*; or
 - (B) the *Partnership* is otherwise dissolved or wound up;
 - (C) audited reserves are audited accumulated profits retained by the *Authorised Firm* after deduction of tax and dividends, and other reserves created by appropriations of *Share* premiums and similar realised appropriations;
 - (D) audited reserves also include capital contributions if those contributions:
 - (i) meet the requirements of Rule 2.7.1(1)(A); and
 - (ii) the *Authorised Firm* has notified the *Regulatory Authority* at least one month before the inclusion of the capital contributions of its intention to include them;
 - (E) cumulative losses and other negative reserves must be deducted from *Tier One Capital*;
 - (F) externally verified interim net profits are interim profits verified by an *Authorised Firm's* external auditor net of tax, anticipated dividends or other appropriations; and
 - (G) intangible assets include goodwill, capitalised development costs, brand names, trademarks and similar rights, licences, and exchange seats held as part of the *Authorised Firm's* trading requirement.
- (2) *Partnership* capital is eligible for inclusion in *Tier One Capital* only to the extent that it is permanent and there is no obligation that cannot be cancelled to pay costs.

Guidance

The *Regulatory Authority* may request an *Authorised Firm* to provide it with a copy of its external auditor's opinion referred to in Rule 2.7.1(1)(F) on whether the interim profits are reasonably stated.

Perpetual Qualifying Hybrid Capital Instruments

2.7.2 An *Authorised Firm* may only include perpetual qualifying hybrid capital *Instruments* as part of its upper *Tier Two Capital* if:

- (A) the *Instrument* is perpetual;
- (B) it is available to absorb losses on a going concern basis; and
- (C) in the case of perpetual subordinated debt, it meets the general conditions set out in section 2.10.

General Provisions

2.7.3 (1) An *Authorised Firm* must ensure that the value of general provisions included in *Tier Two Capital* does not exceed 1.25% of risk weighted assets.

(2) General provisions are provisions that:

- (A) an *Authorised Firm* holds against potential losses not yet specifically identified, but which experience indicates are present in the *Authorised Firm's* portfolio of assets; and
- (B) are verified by the *Authorised Firm's* external auditors and disclosed in the *Authorised Firm's* annual report and accounts.

Connected Lending of a Capital Nature

2.7.4 An *Authorised Firm* must deduct connected lending of a capital nature from the total of *Tier One* and *Tier Two Capital*.

Guidance

The *Regulatory Authority* regards connected lending of a capital nature to be any lending to a *Company* in the same *Group* as the *Authorised Firm* for activities which that *Company* would find hard to finance from another source, and is typically on a long term basis. Unless there is a genuine ability for the funds to be repaid within a short time, it is generally considered that the loan is of a capital nature.

Material Holdings

2.7.5 For the purposes of the table in Rule 2.6.2 a material holding of capital *Instruments* issued by a *Regulated Financial Institution* is:

- (A) an *Authorised Firm's* holdings of *Shares* or any other interest in the capital of a *Regulated Financial Institution* (held in the *Non-Trading Book* or the *Trading Book* or both) exceeding 10% of the *Share* capital of the *Issuer*. Where this is the case, any holdings of a subordinated debt of the same *Issuer* are included and the full amount of the holding of *Shares*, capital and subordinated debt is the material holding;

- (B) an *Authorised Firm's* holdings of *Shares*, any other interest in the capital or subordinated debt in a *Regulated Financial Institution* (held in the *Non-Trading Book* or the *Trading Book* or both) not included in (A) if the total amount of such holdings exceeds 10% of the *Authorised Firm's* total *Tier One* and *Tier Two Capital* before deductions from *Tier One* and *Tier Two Capital*. Where this is the case, the full amount of the holding of *Shares*, capital and subordinated debt is the material holding; or
- (C) the aggregate of an *Authorised Firm's* holdings in the *Non-Trading Book* of *Shares*, any other interest in the capital and subordinated debt in all other *Regulated Financial Institutions* not included in (A) or (B) if the total amount of such holdings exceeds 10% of the *Authorised Firm's* total *Tier One* and *Tier Two Capital* before deductions from *Tier One* and *Tier Two Capital*. Where this is the case, only the amount above 10% of the *Authorised Firm's* *Tier One* and *Tier Two Capital Resources* (calculated before deduction of its holdings) is a material holding.

Guidance

Holdings of capital *Instruments* issued by *Regulated Financial Institutions* that are not material holdings are subject to *Credit Risk Capital Requirements* if held in the *Non-Trading Book* or *Market Risk Capital Requirements* if held in the *Trading Book*.

Qualifying Holdings

2.7.6 An *Authorised Firm* must deduct from the total of *Tier One* and *Tier Two Capital* the amount which is the greater of the following:

- (A) if the *Authorised Firm* has any *Qualifying Holding* that exceeds 15% of the total of *Tier One* and *Tier Two Capital*, after the deduction of material holdings but not the other deductions from the total of *Tier One* and *Tier Two Capital*, the sum of such excess amounts; or
- (B) the amount by which the sum of each of the *Authorised Firm's* *Qualifying Holdings* exceeds 60% of the total of *Tier One* and *Tier Two Capital*, after the deduction of material holdings but not the other deductions from the total of *Tier One* and *Tier Two Capital*.

2.7.7 An *Authorised Firm* is not required to carry out deductions in respect of *Qualifying Holdings* when:

- (A) the *Shares* held are not held as investments;
- (B) the *Shares* are held temporarily during the normal course of *Underwriting*; or
- (C) the *Shares* are held in the *Authorised Firm's* name on behalf of others.

Illiquid Assets

2.7.8 For the purposes of the table in Rule 2.6.2 illiquid assets are:

- (A) tangible fixed assets (except land and buildings if they are used by the *Authorised Firm* as *Security* for loans, but only up to the value of the principal outstanding of the loans);
- (B) holdings in the capital of, and holdings of subordinated loans to *Regulated Financial Institutions* except to the extent that:
 - (i) they have already been deducted as a material holding from the total of *Tier One* and *Tier Two Capital*; or
 - (ii) they are included in the *Authorised Firm's Trading Book* and included in the calculation of the *Authorised Firm's Market Risk Capital Requirement*;
- (C) holdings of other investments which are not *Readily Realisable Investments*;
- (D) deficiencies of net assets in subsidiaries;
- (E) *Deposits* which are not repayable within 90 days (except for payments in connection with margined futures or *Options* contracts);
- (F) loans and other amounts owed to the *Authorised Firm* except where they are to be repaid within 90 days; and
- (G) physical stocks except for positions in physical commodities that are included in the calculation of the *Authorised Firm's Market Risk Capital Requirement*.

Client Assets

2.7.9 The *Rules* in this rulebook apply to the whole business of an *Authorised Firm* except in relation to *Clients'* assets that are held by an *Authorised Firm* which are not included in any prudential calculation.

2.8 Limits on the use of Different Forms of Capital**Guidance**

The table in Rule 2.6.2 describes the following terms that are used in this section:

- a. '*Tier Two Capital*' means the sum of line D and line E in the table;
- b. '*Tier One Capital after deductions*' is equal to line C in the table;
- c. '*Lower Two Tier Capital*' is equal to line E in the table; and
- d. '*Tier One Capital*' is equal to line A in the table.

2.8.1 In the calculation of its *Capital Resources*, an *Authorised Firm* without a *Trading Book* must:

- (A) exclude *Tier Two Capital* to the extent that it exceeds two thirds of *Tier One Capital* after deductions; and
- (B) exclude *Lower Tier Two Capital* to the extent that it exceeds 50% of *Tier One Capital*.

2.8.2 In the calculation of its *Capital Resources*, an *Authorised Firm* with a *Trading Book* must:

- (A) exclude *Tier Two Capital* to the extent that it exceeds two thirds of *Tier One Capital* after deductions; and
- (B) calculate its *Capital Resources* in accordance with Rule 2.8.3.

2.8.3 An *Authorised Firm* with a *Trading Book* must:

- (A) ensure its *Non-Trading Book Capital* meets or exceeds its *Non-Trading Book Capital Requirement* by:
 - (i) designating part of its *Tier One* capital after deductions as supporting its *Non-Trading Book (Tier One NTB)*;
 - (ii) designating part of its *Tier Two Capital* as supporting its *Non-Trading Book (Tier Two NTB)*; and, as an element of this, designating part of its *Lower Tier Two* capital (*Lower Tier Two NTB*) as supporting its *Non-Trading Book*;
 - (iii) excluding from these amounts:
 - (a) *Tier Two NTB* to the extent that it exceeds two thirds of *Tier One NTB*; and
 - (b) *Lower Tier Two NTB* to the extent that it exceeds 50% of *Tier One NTB*; and
 - (iv) ensuring that *Tier One NTB* plus *Tier Two NTB* (reduced by any exclusions calculated pursuant to (iii)) exceeds its *Non-Trading Book Capital Requirement* as defined in Rule 2.8.4; and
- (B) calculate its *Capital Resources* by:
 - (i) calculating the excess (*Tier One TB*) of its total *Tier One Capital* after deductions over its *Tier One NTB* designated in (A)(i);
 - (ii) calculating the excess (*Tier Two TB*) of its total *Tier Two Capital* over its *Tier Two NTB* (as reduced in (A)(iii));
 - (iii) excluding from its *Tier Two TB*:

- (a) in the case of an *Authorised Firm* in *PIIB Category 2, 3 or 4*, any excess over 250% of *Tier One TB*; or
- (b) in the case of an *Authorised Firm* in *PIIB Category 1 or 5*, any excess over 200% of *Tier One TB*; and
- (iv) summing:
 - (a) *Tier One* capital after deductions;
 - (b) *Tier Two NTB* (as reduced in (A)(iii) above); and
 - (c) *Tier Two TB* (as reduced in (B)(iii) above);

and deducting the required deductions from the total of *Tier One* and *Tier Two* capital set out in line (G) of the table in Rule 2.6.2.

2.8.4 For the purposes of Rule 2.8.3:

- (A) an *Authorised Firm's Non-Trading Book Capital Requirement* must be calculated as the sum of the following components, regardless of whether they were calculated taking into account *Non-Trading Book* items or *Trading Book* items:
 - (i) *Credit Risk Capital Component* calculated in accordance with section 4.3;
 - (ii) subject to Rule 2.8.5, the *Foreign Exchange Risk Capital Requirement* calculated in accordance with section 5.6; and
 - (iii) subject to Rule 2.8.6, *Displaced Commercial Risk Capital Requirement* calculated in accordance with section 3.4; and
- (B) an *Authorised Firm's Trading Book Capital Requirement* must be calculated as the sum of the following components, regardless of whether they were calculated taking into account *Non-Trading Book* items or *Trading Book* items:
 - (i) *Counterparty Risk Capital Component* calculated in accordance with section 4.4;
 - (ii) *Interest Rate Risk Capital Requirement* calculated in accordance with section 5.4;
 - (iii) *Equity Risk Capital Requirement* calculated in accordance with section 5.5;
 - (iv) *Commodities Risk Capital Requirement* calculated in accordance with section 5.7;
 - (v) *Option Risk Capital Requirement* calculated in accordance with section 5.8; and

- (vi) *Securities Underwriting Capital Requirement* calculated in accordance with section 5.9.

2.8.5 For the purposes of Rule 2.8.4 an *Authorised Firm* which uses an internally developed model to determine its *Foreign Exchange Risk Capital Requirement* may include that item in its *Trading Book Capital Requirement* instead of its *Non-Trading Book Capital Requirement*.

2.8.6 For the purposes of Rule 2.8.4, an *Authorised Firm* may include that part of its *Displaced Commercial Risk Capital Requirement* that relates to *Market Risk* in its *Trading Book Capital Requirement* instead of its *Non-Trading Book Capital Requirement*.

2.9 Components of capital specific to Authorised Firms which undertake Islamic Financial Business

Guidance

This section is based on AAOIFI's FAS 11: Provisions and Reserves.

2.9.1 An *Authorised Firm* must exclude from *Tier Two Capital* any amount by which the total of the *Profit Equalisation Reserve* and the *Investment Risk Reserve* exceeds the *Displaced Commercial Risk Capital Requirement* calculated in accordance with Rule 3.4.1.

2.10 Subordinated Debt

2.10.1 (1) An *Authorised Firm* must not include subordinated debt as part of its *Capital Resources* unless it meets the following conditions:

- (A) the claims of the subordinated creditors must rank behind those of all unsubordinated creditors;
- (B) no interest or principal may be payable:
 - (i) at a time when the *Authorised Firm* is in breach of solo or *Financial Group Capital Requirements*; or
 - (ii) if the payment would mean that the *Authorised Firm* would be in breach of the *Rules* in this rulebook;
- (C) the only events of default must be non-payment of any interest or principal under the debt agreement or the winding-up of the *Authorised Firm*;
- (D) the remedies available to the subordinated creditor in the event of non-payment in respect of the subordinated debt must be limited to petitioning for the winding up of the *Authorised Firm* or proving for the debt and claiming in the liquidation of the *Authorised Firm*;

- (E) any events of default and any remedy described in (D) must not prejudice the matters in (A) and (B);
 - (F) in addition to the requirements about repayment in (A) and (B), the subordinated debt must not become due and payable before its stated final maturity date except on an event of default complying with (C);
 - (G) the agreement and the debt are governed by an acceptable law;
 - (H) to the fullest extent permitted under the *Rules* of the relevant jurisdictions, creditors must waive their right to set off amounts they owe the *Authorised Firm* against subordinated amounts owed to them by the *Authorised Firm*;
 - (I) the terms of the subordinated debt must be set out in a written agreement or Instrument that contains terms that provide for the conditions set in (A) to (H);
 - (J) the debt must be unsecured and fully paid up; and
 - (K) the *Authorised Firm* has notified the *Regulatory Authority* in writing that it intends to include subordinated debt as part of its *Capital Resources* and the *Regulatory Authority* has not advised the *Authorised Firm* in writing within thirty days of the date of the notification that the subordinated debt must not form part of its *Capital Resources*.
- (2) An *Authorised Firm* must satisfy the requirement of 1(G) by obtaining an external legal opinion confirming that an appropriate degree of subordination has been achieved under the law that governs the debt that meets the requirements set out in this section.
- (3) An *Authorised Firm* must not include a subordinated debt issue with step-ups in the first five years following the date of issue, in its *Capital Resources*.
- (4) An *Authorised Firm* may include subordinated debt in its lower *Tier Two Capital* only if:
- (A) it has an *Original Maturity* of at least five years or is subject to five years' notice of repayment; and
 - (B) payment of interest or principal is permitted only if after such payment the *Authorised Firm's Capital Resources* would be greater than the amount required by Rule 2.2.1.

2.10.2 For the purposes of calculating the amount of subordinated debt that may be included in its *Capital Resources*, an *Authorised Firm* must amortise the principal amount on a straight-line basis by 20% per annum in its final four years to maturity.

Step-up in Interest

2.10.3 For the purposes of this section, a step-up in interest means, in relation to any rate, dividend or similar payment:

- (A) in the case of a fixed rate, an increase in that rate; or
- (B) in any other case, any change in the way that the interest or other payment is calculated that may result in an increase in the amount payable at any time, including a change already provided in the original terms governing those payments.

2.10.4 Where subordinated debt is subject to a step-up in interest, its final maturity is, for the purposes of this chapter, no later than the date that the first step-up can take effect, unless the total amount (taking into account all the step-ups) by which the rate of interest can exceed the amount it would have been without any step-up is no more than:

- (A) 50 basis points in the first ten years of the life of the subordinated debt; and
- (B) 100 basis points over the whole life of the subordinated debt.

3 Prudential Requirements for Authorised Firms undertaking Islamic Financial Business

3.1 Application

3.1.1 This chapter applies to:

- (A) an *Authorised Firm* in *PIIB Category 5*; and
- (B) an *Authorised Firm* in *PIIB Category 1, 2, 3 or 4* which operates an *Islamic Window*.

3.1.2 Only an *Authorised Firm* in *PIIB Category 1, 2 or 3* may manage a *Profit Sharing Investment Account* through an *Islamic Window*.

Guidance

1. In this chapter the term '*Authorised Firms* which conduct *Islamic Financial Business*' will be used where the requirements in this chapter apply to both *Islamic Financial Institutions* and *Authorised Firms* operating an *Islamic Window*.
2. An *Authorised Firm* which conducts *Islamic Financial Business* is required to comply with the requirements in the *ISFI Rulebook* and any other relevant regulatory requirements.
3. For the purposes of applying the requirements in this chapter, the following definitions from the *INAP Rulebook* are important:
 - a. *Islamic Financial Institution* means an *Authorised Firm* whose entire business operations are conducted in accordance with Shari'a;
 - b. *Islamic Window* is an *Authorised Firm* which conducts *Islamic Financial Business* as part of its business operations; and
 - c. *Islamic Financial Business* is the business of carrying on one or more *Regulated Activities* in accordance with Shari'a.
4. An *Authorised Firm* which conducts *Islamic Financial Business* must also comply with the requirements in *PIIB* in relation to specific prudential requirements relating to *Trading Book* and *Non-Trading Book* activities, including *Credit Risk*, *Market Risk*, *Liquidity Risk* and *Group Risk*.

3.2 Initial and ongoing Capital Requirements

Guidance

1. An *Authorised Firm* conducting *Islamic Financial Business* is required to maintain initial and ongoing capital, in accordance with Rule 2.2.1.
2. In accordance with Rule 2.6.1, an *Authorised Firm* conducting *Islamic Financial Business* is required to ensure that only the components of capital which are set out in the table in Rule 2.6.2 are included in the calculation of capital.

3. In accordance with Rule 2.9.1, an *Authorised Firm* is required to exclude from *Tier Two Capital* any amount by which the total of the *Profit Equalisation Reserve* and the *Investment Risk Reserve* exceeds the *Displaced Commercial Risk Capital Requirement*.

3.3 Systems and Controls Requirements

Guidance

The requirements in section 3.3 amplify the requirements in the *CTRL Rulebook*.

3.3.1 An *Authorised Firm* which conducts *Islamic Financial Business* must ensure that its *Senior Management* establishes and maintains systems and controls that ensure that the *Authorised Firm* is financially sound and able at all times to satisfy the specific prudential requirements arising out of its *Islamic Financial Business*.

3.3.2 (1) An *Authorised Firm* which conducts *Islamic Financial Business* must set out in a written policy how it proposes to organise and control the activities that arise from its *Islamic Financial Business* and ensure that its activities are conducted in accordance with Shari'a.

(2) The policy must as a minimum address, where appropriate, the following matters:

- (A) how the interests of shareholders and *PSIA* holders are safeguarded;
- (B) how the *Authorised Firm* will limit Exposures of *PSIA* holders to the *Authorised Firm*;
- (C) a description of the controls to ensure that the funds of the *PSIA* are invested in accordance with the investment guidelines agreed in the investment contract;
- (D) the basis for allocating profits and losses to the *PSIA* holders;
- (E) the policy for making provisions and reserves (Provisions and Reserves are set out in AAOIFI FAS 11) and, in respect of *PSIAs*, to whom these provisions and reserves revert in the event of a write-off or recovery;
- (F) the *Authorised Firm's* policy on the prioritisation of investment of own funds and those of *Unrestricted PSIA* holders;
- (G) how liquidity mismatch will be monitored;
- (H) the basis for allocating expenses to *PSIA* holders; and
- (I) how the *Authorised Firm* will monitor the value of its assets.

Guidance

Guidance on the conditions for treatment of *PSIA* as restricted or unrestricted is found in paragraphs 12 and 13 of the AAOIFI's Statement of Concepts of Financial Accounting for Islamic Banks and Financial Institutions, and Appendix D of Financial Accounting Standard FAS 5.

3.4 Displaced Commercial Risk**3.4.1** An *Authorised Firm* which undertakes *Islamic Financial Business* must:

- (A) calculate a *Displaced Commercial Risk Capital Requirement* in respect of its *PSIA* business; and
- (B) apply the *Capital Requirements* specified in chapters 4 and 5 to any other business it carries on.

Guidance

1. *Authorised Firms* that accept *PSIAs*, whether restricted or unrestricted, are subject to a unique type of risk referred to as displaced commercial risk. This risk reflects the fact that an *Authorised Firm* may find itself under commercial pressure to pay a rate of return to its *PSIA* holders which is sufficient to induce those investors to maintain their funds with the *Authorised Firm*, rather than withdrawing them and investing them elsewhere. If this "required" rate of return is higher than that which would be payable under the normal terms of the investment contract, the *Authorised Firm* may be under pressure to forgo some of the share of profit which would normally have been attributed to its shareholders (e.g. part of the *Mudarib's* share). Failure to do this might result in a volume of withdrawals of funds by investors large enough to jeopardise the *Authorised Firm's* commercial position (or, in an extreme case, its solvency). Thus, part of the commercial risk attaching to the returns attributable to the *PSIA* is, in effect, transferred to the shareholders' funds or the *Authorised Firm's* own capital. It also reflects situations whereby an investor may be permitted to exit from an asset pool at par while the fair value of such assets may be lower than their carrying amounts and where the *Islamic Financial Institution* in certain circumstances may provide for the short falls.
2. In an *Unrestricted PSIA*, the account holder authorises the *Authorised Firm* to invest the account holder's funds in a manner which the *Authorised Firm* deems appropriate without specifying any restrictions as to where, how or for what purpose the funds should be invested, provided that they are *Shari'a* compliant. Under this arrangement, the *Authorised Firm* can commingle the investment account holder's funds with its own funds or with other funds which the *Authorised Firm* has the *Right to Use*. The investment account holders and the *Authorised Firm* generally participate in the returns on the invested funds.
3. In a *Restricted PSIA*, the account holder imposes certain restrictions as to where, how and for what purpose the funds are to be invested. Further, the *Authorised Firm* may be restricted from commingling its own funds with the restricted investment account funds for purposes of investment. In addition, there may be other restrictions that the investment account holders may impose. In other words, the funds provided by holders of *Restricted PSIAs* are managed by the *Authorised Firm* which does not have the *Right to Use* or dispose of the investments except within the conditions of the contract.
4. *Authorised Firms* which undertake *Islamic Financial Business* are also exposed to fiduciary risk which arises where the terms of the contract between the *Authorised Firm* and the investor are breached and where the *Authorised Firm* does not act in compliance with *Shari'a*.

- 3.4.2** (1) An *Authorised Firm's Displaced Commercial Risk Capital Requirement* is based on 35% of the *Credit Risk and Market Risk* of assets financed by *PSIA* holders, both *Restricted Profit Sharing Investment Accounts* and *Unrestricted Profit Sharing Investment Accounts*, and is calculated using the following formula:

$$PSIACOM = [PSIACOM_{credit} + PSIACOM_{market}] \times 35\%.$$

- (2) *PSIACOM* is the *Displaced Commercial Risk Capital Requirement*.
- (3) *PSIACOM_{credit}* is the credit risk of assets financed by *PSIA* holders and is calculated in accordance with section 3.5 and, where applicable, the *Credit Risk* requirement section in chapter 4.
- (4) *PSIACOM_{market}* is the market risk of assets financed by *PSIA* holders and is calculated in accordance with the *Market Risk* requirement section in chapter 5 as if the assets were equities.

Guidance

Exposures financed by the *Authorised Firm* are dealt with in chapter 4.

3.5 Risk weightings for Islamic Contracts in the Non-Trading Book

- 3.5.1** An *Authorised Firm* which conducts *Islamic Financial Business* and manages *PSIAs* must apply a risk weighting to those contracts financed by those *PSIAs* according to the type of *Islamic Contract* used.

- 3.5.2** (1) Subject to Rule 3.5.5, an *Authorised Firm* must calculate its *PSIACOM* credit for *Islamic Contracts* as the sum, for all contracts, of:

$$ICX \times ICW \times 8\%.$$

- (2) In (1):

ICX = *Islamic Contract* value, and

ICW = *Islamic Contract* weighting.

- 3.5.3** (1) For the purposes of the calculation in Rule 3.5.2 the table in (3) lists the *Credit Risk* weightings applicable to *Islamic Contracts* (relevant *ICW*).
- (2) An *Authorised Firm* must consult with the *Regulatory Authority* to determine the risk weights for *Islamic Contracts* not listed in the table in (3) on a case-by-case basis.

(3) Risk weightings for *Islamic Contracts* table.

Islamic Contract type	Underlying investment	Relevant ICW
Murabaha	Receivables	Risk weight of <i>Counterparty</i>
Mudaraba and Musharaka	Where the underlying investment would meet the requirements for inclusion in the <i>Trading Book</i>	Contract risk weighting determined in accordance with the <i>Market Risk</i> chapter
	Other	100%
Ijarah/Ijarah Muntahia Bittamleek	Residential real estate where the lessee has the right to purchase <i>Property</i> at the end of the lease and the lessor has a legally enforceable first charge over the property	50%
	All other assets	100%
Istisna'a and Parallel Istisna'a	Net balance of the work-in-progress	100%
	Balance in relevant accounts receivable	Risk weight of <i>Counterparty</i>
Salam and Parallel Salam	Salam financing	Risk weight of <i>Counterparty</i>
	Assets acquired	100%
	Balance in relevant accounts receivable	Risk weight of <i>Counterparty</i>
Kefala	The amount of the guarantee	Risk weight of <i>Counterparty</i>
Sukuk	Salam Istisna'a Ijarah Murabaha Mudaraba Musharaka	The higher of the ICW of the underlying investment and that of the <i>Issuer</i>
	Usufructs/services	The higher of the ICW of the underlying service provider and that of the <i>Issuer</i>
	Leased assets	The higher ICW of the underlying leased assets and that of the <i>Issuer</i>
	Investment agency	The higher ICW of the underlying assets and that of the <i>Issuer</i>
	Muzara'a (share of produce of the land) Musaqa (share of produce of the trees) Mugarasa (share in the land and the trees)	100%

<i>Islamic type</i>	<i>Contract</i>	<i>Underlying investment</i>	<i>Relevant ICW</i>
		Mixture of tangible and intangible assets	The higher ICW of the underlying assets and that of the <i>Issuer</i>
		Where the underlying investment would meet the requirements for inclusion in the <i>Trading Book</i>	Contract risk weighting determined in accordance with the Market chapter
Bai' Bithaman Ajil		Residential and commercial properties Plant and equipment Motor vehicles Shares Land	Risk weight of <i>Counterparty</i>
Arboun		Where the <i>Authorised Firm</i> has made the purchase <i>Deposit</i>	Risk weight of <i>Counterparty</i>
		Where the <i>Authorised Firm</i> has received the purchase <i>Deposit</i>	No ICW is applied
		Where the contract would meet the requirements for inclusion in the <i>Trading Book</i>	Contract risk weighting determined in accordance with the <i>Market Risk</i> chapter

3.5.4 For the purposes of Rule 3.5.3, the risk weight of the *Counterparty* is determined in accordance with section A4.3.

3.5.5 Where under Rule 3.5.3 the ICW of a contract is determined in accordance with the *Market Risk* chapter, the *PSIACOMcredit* for that contract is calculated as:

$$\text{ICX} \times \text{ICW}.$$

3.6 Concentration Risk

Guidance

1. This section sets specific *Large Exposure* limits for assets financed by *PSIAs*. The *Regulatory Authority* uses these limits to provide constraints on the amount of *Concentration Risk* to which *Authorised Firms* are subject in respect of their *PSIA* holdings. In assessing *PSIA Large Exposures*, *Authorised Firms* may take advantage of the exemptions and partial exemptions set out in section A4.8.
2. An *Authorised Firm* has a *Large Exposure* where its *PSIA* holders' credit *Exposure* to a single *Counterparty* or *Issuer*, or group of *Closely Related Counterparties* or *Connected Counterparties*, is large in relation to the *Authorised Firm's Capital Resources*. Where the *Authorised Firm's PSIA* holders' *Exposure* to its *Counterparty* or *Issuer* is large, *PSIA* holders risk a large loss should the *Counterparty* default.
3. *Exposures* arising from assets that are financed by the *Authorised Firm's* own funds are dealt with in section 4.5.

Exposure Limits

3.6.1 An *Authorised Firm* conducting *Islamic Financial Business* which offers *PSIAs* must not have an *Exposure* to a *Counterparty* or to a group of *Closely Related Counterparties* or to a group of *Connected Counterparties* that exceeds any one of the following percentages of its *Capital Resources*:

- (A) 25% if financed by its *Capital Resources* or *Unrestricted PSIAs*;
- (B) 30% if financed by *Restricted PSIAs*; or
- (C) 40% if financed by the total of its own *Capital Resources*, *Unrestricted PSIAs* and *Restricted PSIAs*.

Guidance

1. In respect of its *PSIAs*, an *Authorised Firm* may apply to the *Regulatory Authority* for a modification of the limits set out in Rule 3.6.1(B) and (C). The *Authorised Firm* will have to demonstrate to the *Regulatory Authority* that it has met some or all of the following conditions:
 - a. the *Authorised Firm* has no or very limited discretion regarding the manner in which the funds will be invested;
 - b. the *PSIA* holders are fully aware of how their money is to be invested;
 - c. the *PSIA* holders are provided with monthly net asset valuations; or
 - d. the accounts of the *PSIA* are externally audited.
2. In accordance with section 4.5, the aggregate of an *Authorised Firm's Exposure* to a *Counterparty* or to a group of *Closely Related Counterparties* may not exceed 25% of the *Authorised Firm's Capital Resources*.

3.6.2 The sum of an *Authorised Firm's non-exempt Large Exposures* must not exceed the following percentage of its *Capital Resources*:

- (A) 800% for *Exposures* funded by an *Authorised Firm's Capital Resources* and *Unrestricted PSIAs*; or
- (B) 1200% for *Exposures* funded by *Restricted PSIAs*.

3.6.3 An *Authorised Firm* must:

- (A) monitor and control its *Exposures* arising from *PSIAs* on a daily basis to ensure they remain within the risk concentration limits specified in section 3.6; and
- (B) if a breach occurs, notify the *Regulatory Authority* immediately and confirm it in writing.

3.7 Management of PSIAs

- 3.7.1** Unless stipulated in the contract between the *Authorised Firm* and the *PSIA* holder, an *Authorised Firm* may not use funds provided by *PSIA* holders to fund its own corporate activities.

4 Credit Risk

4.1 Application

4.1.1 This chapter applies to an *Authorised Firm* in *PIIB Category 1, 2, 3 or 5*.

Guidance

1. Rule 2.3.3 provides that the *Credit Risk Capital Requirement* of an *Authorised Firm* is calculated as the sum of:
 - a. the *Credit Risk Capital Component*; and
 - b. the *Counterparty Risk Capital Component*.
2. This chapter sets out the manner in which each of those components must be calculated, monitored and controlled by an *Authorised Firm*.

4.1.2 The following abbreviations are used in this chapter and in Appendix 4:

- (A) *CCF* = credit conversion factor;
- (B) *CEA* = the *Credit Equivalent Amount*;
- (C) *CPCOM* = the *Counterparty Risk Capital Component*;
- (D) *CPW* = the appropriate *Counterparty* weighting;
- (E) *CPX* = the amount of the *Exposure*;
- (F) *CRCOM* = the *Credit Risk Capital Component*;
- (G) *CV* = contracted value for delivery;
- (H) *MV* = market value;
- (I) *NP* = nominal principal amount;
- (J) *OTC* = over the counter;
- (K) *PFCE* = amount to capture *Potential Future Credit Exposure*; and
- (L) *T* = trade date which is the date on which a transaction is entered into.

4.2 Credit Risk Systems and Controls

Guidance

1. The *Regulatory Authority* expects all *Authorised Firms* to have comprehensive *Credit Risks* management systems appropriate to the nature, scale and complexity of its operations. These systems should enable *Authorised Firms* to identify, quantify, monitor and control *Credit Risks* and to ensure that *Capital Resources* are available to cover the risks assumed.
2. *Credit Risk* is the risk that a borrower or *Counterparty* fails to meet its obligations. It exists in both the banking book and the trading book and both on and off the balance sheet of an *Authorised Firm*. Obviously, *Credit Risk* arises from loans but there are other sources of *Credit Risk* such as:
 - a. trade finance and acceptances;
 - b. inter-bank transactions;
 - d. commitments and guarantees;
 - e. interest rate, foreign exchange and *Credit Derivatives* (including swaps, options, forward rate agreements and financial futures);
 - f. bond and equity holdings; and
 - g. settlement of transactions.
3. Every *Authorised Firm* must hold sufficient capital to cover *Credit Risk* and seek to strike an appropriate balance between risk and reward. This can be done not by avoiding *Credit Risk* exposure but by managing the risk the *Authorised Firm* has chosen to take on so that potential credit losses are minimised.

4.2.1 Section 4.2 applies to an *Authorised Firm* with respect to both its *Non-Trading Book* and *Trading Book* transactions.

- 4.2.2** (1) An *Authorised Firm* must develop, implement and maintain a written *Credit Risk* strategy and policy consistent with its degree of risk tolerance, level of capital available for credit activities and credit management expertise. This policy must:
- (A) provide sound, well-defined risk management criteria that are to be applied when granting credit;
 - (B) clearly indicate the amount and nature of credit risk that the *Authorised Firm* wishes to incur;
 - (C) set out, where appropriate, the amounts and terms and conditions under which counterparties or *Clients* may be eligible or ineligible for credit; and
 - (D) include a provisioning policy approved by the *Authorised Firm's Governing Body* or other appropriate body within the *Authorised Firm* to which the *Authorised Firm's Governing Body* has delegated this responsibility; and
- be approved by the *Governing Body*.

- (2) An *Authorised Firm* must ensure that its risk management systems enable it to:
 - (A) implement the *Credit Risk* policy; and
 - (B) identify, measure, monitor, classify and control its *Credit Risk*.
- (3) An *Authorised Firm* must, at intervals that are appropriate to the nature, scale and complexity of its activities, review and update the *Credit Risk* policy.

Guidance

1. The appropriate level at which credit decisions are taken will vary according to the type of credit offered and the size and structure of the *Authorised Firm*. For some *Authorised Firms*, a credit committee may be appropriate, with formal terms of reference. In other *Authorised Firms*, individuals may be given pre-assigned authority limits. It will usually be appropriate for the final credit approval authority to be given by staff reporting independently from those staff interacting with *Clients*.
2. Further guidance on *Credit Risk* systems and controls, and on the specific areas which the *Credit Risk* policy should cover, are set out in section A4.2.

4.3 Credit risk in the Non-Trading Book

- 4.3.1** (1) Section 4.3 applies to an *Authorised Firm* only in respect of:
- (A) its *Non-Trading Book* transactions not otherwise dealt with in chapter 5; and
 - (B) any other transactions or balances not dealt with in section 4.4 (relating to the *Counterparty Risk* in the *Trading Book*) or chapter 5.
- (2) Section 4.3 does not apply to an *Authorised Firm* in respect of items deducted from an *Authorised Firm's Capital Resources*.

Guidance

1. An *Authorised Firm* should have regard to sections A4.3 and A4.4 in conjunction with this section. In particular, section A4.3 sets out *Rules* relating to the calculation of *CPW* and *CCF* and section A4.4 sets out *Rules* relating to the measurement of *Original Maturity*.
2. Much of the detail in section 4.3 and the relevant parts of App4 may not be applicable to an *Authorised Firm* in *PIIB Category 3*. Nevertheless, such an *Authorised Firm* should calculate the *Credit Risk Capital Component* by applying the appropriate risk weightings and credit conversion factors.
3. An *Authorised Firm* with a *Trading Book* also needs to take into account the *Counterparty Risk Component*, as set out in section 4.4
4. The requirements in this and all other sections of chapter 4 apply to an *Authorised Firm* on a solo basis. Additional requirements for an *Authorised Firm* which is part of a *Financial Group* or *Group* are set out in chapter 7.

4.3.2 An *Authorised Firm* must calculate its *CRCOM* by:

- (A) identifying all the items to which the *CRCOM* calculation applies;
- (B) valuing each item to which the *CRCOM* calculation applies;
- (C) reducing the value of any items, at its discretion, by any one or more of the following:
 - (i) the amount of any specific provision made, where the provision relates to the risk of a credit loss occurring on that item and is not held as part of a general provision or reserve against the *Authorised Firm's Credit Risks*;
 - (ii) netting its claims on and liabilities to a *Counterparty* provided that the conditions in section 4.7 are met;
 - (iii) the amount of *Acceptable Collateral* held, provided that the enforceability requirements in section 4.6 are met; or
 - (iv) the value of a *Credit Derivative*, where the *Credit Derivative* is an Instrument included in section 4.9 and the transaction meets the conditions set out in that section;
- (D) calculating the *CRCOM* for each item according to whether it is an:
 - (iii) on-balance sheet item in accordance with Rule 4.3.3;
 - (ii) off-balance sheet item in accordance with Rule 4.3.4; or
 - (iii) *Unsettled Transaction*, a free delivery or an *OTC Derivative* in accordance with Rule 4.3.5; and
- (E) summing of the *CRCOMs* calculated for each item.

On-balance Sheet Items

- 4.3.3** (1) An *Authorised Firm* must calculate its *CRCOM* for an on-balance sheet item by using the following formula: $CRCOM = CPX \times CPW \times 8\%$.
- (2) For the purposes of (1) an *Authorised Firm* must determine the *CPW* for each on-balance sheet item in accordance with Rules A4.3.5 to A4.3.9.

Guidance

Before completing the calculation in Rule 4.3.3(1), an *Authorised Firm* needs to take account of the adjustments regarding the reduction in the risk weighting on *Non-Trading Book* items where they are the subject of appropriate guarantees in accordance with the *Rules* in section A4.3.

Off-balance Sheet Items

- 4.3.4** (1) Subject to Rule 4.3.5, an *Authorised Firm* must calculate its *CRCOM* for an off-balance sheet item by using the following formula: $CRCOM = NP \times CCF \times CPW \times 8\%$.
- (2) For the purposes of (1), an *Authorised Firm* must determine the *CCF* for each off-balance sheet item in accordance with Rules A4.3.10 to A4.3.14.
- (3) For the purposes of (1), an *Authorised Firm* must determine the *CPW* for each off-balance sheet item in accordance with Rules A4.3.15 to A4.3.17.
- (4) For the purposes of (1), *NP* is the overall amount of an off-balance sheet commitment to which an *Authorised Firm* is exposed.

Guidance

The *Credit Risk* for off-balance sheet transactions, other than *OTC Derivative* contracts, free deliveries and *Unsettled Transactions*, is measured by multiplying the *NP* by a *CCF*. The resultant figure is then multiplied by the *CPW* and 8%. This formula is used to convert off-balance sheet nominal *Exposures* to a level which allows comparison with on-balance sheet *Exposures* for risk weighting purposes.

Unsettled Transactions, Free Deliveries and OTC Derivatives

- 4.3.5** (1) Rule 4.3.4 does not apply to *Unsettled Transactions*, free deliveries or *OTC Derivative* contracts.
- (2) An *Authorised Firm* must calculate its *CRCOM* for *Unsettled Transactions*, free deliveries and *OTC Derivative* contracts in accordance with the *Rules* in section A4.5.

4.4 Counterparty Risk in the Trading Book**Guidance**

1. *Counterparty Risk* is the risk to each party of a contract that the other party will not live up to their contractual obligations. It is also known as default risk.
2. This section should be read in conjunction with the *Rules* in sections A4.5, A4.6 and A4.7 which set out the *Rules* in respect of the calculation of *CPCOM* for particular items.

4.4.1 This section applies to an *Authorised Firm* in respect of its *Trading Book* transactions.

Guidance

An *Authorised Firm* with a *Non-Trading Book* needs to take into account the *Credit Risk Component* under section 4.3.

4.4.2 An *Authorised Firm* with a *Trading Book* must calculate its *CPCOM* by:

- (A) identifying all the items to which the *CPCOM* calculation applies;
- (B) valuing each item to which the *CPCOM* calculation applies;
- (C) reducing the value of any items, at its discretion, by any one or more of the following:
 - (i) the amount of any specific provision made, where the provision relates to the risk of a credit loss occurring on that item and is not held as part of a general provision or reserve against the *Authorised Firm's Credit Risks*;
 - (ii) netting its claims on and liabilities to a *Counterparty* provided that the conditions in section 4.7 are met;
 - (iii) the amount of *Acceptable Collateral* held, provided that the enforceability requirements in section 4.6 are met; and
 - (iv) the value of a *Credit Derivative* where the *Credit Derivative* is an *Instrument* included in section 4.9 and the transaction meets the conditions set out in that section;
- (D) calculating the *CPCOM* for each item according to whether it is:
 - (i) an *Unsettled Transaction*, a free delivery, or an *OTC Derivative*;
 - (ii) a repurchase agreement, reverse repurchase agreement, similar transactions, and a deferred settlement; or
 - (iii) another *Trading Book* transaction; and
- (E) summing of the *CPCOMs* calculated for each item.

Guidance

If an *Authorised Firm* chooses not to reduce the amount of an item by the amount of any specific provision made on it, the *Authorised Firm* will receive a higher capital charge on the item than it would otherwise.

4.4.3 An *Authorised Firm* must calculate its *CPCOM* for each item referred to in Rule 4.4.2(D) in accordance with the *Rules* in sections A4.5, A4.6 and A4.7 respectively.

4.5 Concentration Risk

4.5.1 This section applies with respect to *Trading Book* transactions and *Non-Trading Book* transactions.

4.5.2 Subject to Rule 3.6.1, an *Authorised Firm* must ensure that *Exposures* in its *Non-Trading Book* to a *Counterparty* or to a group of *Closely Related Counterparties* or to a group of *Connected Counterparties* do not exceed 25% of its *Capital Resources*.

4.5.3 Where an *Authorised Firm's Trading Book Exposure* to a *Counterparty* or to a group of *Closely Related Counterparties* or to a group of *Connected Counterparties*, on its own or when added to any *Non-Trading Book Exposure*, is likely to exceed 25% of its *Capital Resources*, the *Authorised Firm* must immediately give the *Regulatory Authority* written notice, explaining the nature of its *Trading Book Exposure* and seeking specific guidance from the *Regulatory Authority* regarding the prudential treatment of any such *Exposure*.

4.5.4 Subject to Rule 3.6.2, an *Authorised Firm* must ensure that the sum of its non-exempt *Large Exposures* does not exceed 800% of its *Capital Resources*.

Guidance

1. *Exposures* can arise in the *Non-Trading Book* and in the *Trading Book* from *Credit Risk* (for example on loans and advances) *Counterparty Risk* (for example, on unsettled trades and on *Derivative* contracts) and from *Issuer risk* (for example, on holdings of equities and bonds).
2. Some derivatives contracts may result in an *Authorised Firm* being exposed to an *Issuer* as well as the *Derivatives Counterparty*. For example, a *Derivative* referenced on a *Security* may result in an *Exposure* to the *Counterparty* to the transaction and to the *Issuer* of the underlying *Security*.
3. Examples of an *Exposure* are actual or potential claims on a *Counterparty* including contingent liabilities arising in the normal course of an *Authorised Firm's* business.
4. Section A4.8 includes further *Rules* and guidance on:
 - a. fully and partially exempt *Exposures*, *Exposures* to undisclosed *Counterparties*, parental guarantees and capital maintenance agreements;
 - b. identification of *Exposures*;
 - c. identification of *Closely Related* and *Connected Counterparties*, and exemptions for *Connected Counterparties*;
 - d. measuring *Exposures* to *Counterparties* and *Issuers* in relation to *Derivatives*, equity indices, and other items; and
 - e. country risk *Exposure*.

4.5.5 For the purposes of this section, *Exposure* excludes:

- (A) claims and other assets required to be deducted for the purposes of calculating an *Authorised Firm's Capital Resources*;
- (B) a transaction entered into by an *Authorised Firm* as a depository or as agent that does not create any legal liability on the part of the *Authorised Firm*;

- (C) claims resulting from foreign exchange transactions where an *Authorised Firm* has paid its side of the transaction and the countervalue remains unsettled during the two business days following the due payment or due delivery date. After two days the claim becomes an *Exposure*; and
- (D) claims resulting from the purchase and sale of *Securities* during settlement where both the *Authorised Firm* and the *Counterparty* are up to five business days overdue in settling. The five business days include the due payment or due delivery date. After five business days, the claim becomes an *Exposure*.

4.5.6 An *Authorised Firm* must:

- (A) identify its *Exposures*;
- (B) identify its *Counterparties*, including whether any are *Closely Related* to each other or *Connected* to the *Authorised Firm*;
- (C) measure the size of its *Exposures*;
- (D) identify whether it has *Exposures* which are subject to the requirements of this section by:
 - (i) establishing the value of its *Exposures*;
 - (ii) reducing the value of its *Exposures*, at its discretion, by any one or more of the following:
 - (a) the amount of any specific provision made, where the provision relates to the risk of a credit loss occurring on that *Exposure* and is not held as part of a general provision or reserve against its *Credit Risks*;
 - (b) netting its claims on and liabilities to a *Counterparty* provided that the conditions in section 4.7 are met;
 - (c) the amount of *Collateral* held against its *Exposures*, where that *Collateral* is of a type listed in section 4.6 and provided that the enforceability requirements in that section are met;
 - (d) the value of a *Credit Derivative*, where the *Credit Derivative* is an Instrument included in section 4.9 and the transaction meets the conditions set out in that section; and
 - (e) the effects of transactions transferring *Credit Risks* from the *Authorised Firm* to another party through *Securitisation*, provided that the conditions in section 4.8 are met; and

- (iii) determining the size of its *Exposures* as a proportion of its *Capital Resources*;
- (E) identify which, if any, of its *Exposures* are fully or partially exempt (as defined in section A4.8) from the limits set out above because they are:
 - (i) fully or partially exempt *Exposures*; or
 - (ii) subject to a *Connected Counterparty* exemption;
- (F) aggregate its *Exposures* to the same *Counterparty* or group of *Closely Related Counterparties* or group of *Connected Counterparties*;
- (G) monitor and control its *Exposures* on a daily basis within the risk concentration limits; and
- (H) notify the *Regulatory Authority* immediately of any breach of the limits and confirm it in writing.

Determining the Size of an Exposure Relative to Capital Resources

4.5.7 An *Authorised Firm* need not include exempt *Exposures* when monitoring whether the aggregate of its *Exposures* to a particular *Counterparty* is within the 25% limits in Rule 4.5.2.

4.5.8 An *Authorised Firm* may exclude an *Exposure* from the concentration risk limits set out in section 4.5 if:

- (A) the *Authorised Firm's Parent Entity*:
 - (i) guarantees the *Exposure* to a *Counterparty* or to a group of *Closely Related Counterparties* which are not *Connected* to the *Authorised Firm*; or
 - (ii) is set to increase, on the basis of a legally binding agreement, the *Authorised Firm's Capital Resources*, promptly and on demand, by:
 - (a) an amount that is sufficient to reverse completely the effect of any loss the *Authorised Firm* may sustain in connection with that *Exposure*; or
 - (b) the amount required to ensure that the *Authorised Firm* complies with its *Capital Requirement* set out in chapter 2; and
- (B) the *Authorised Firm* has advised the *Regulatory Authority* in writing that this *Rule* applies to the *Authorised Firm*.

4.6 Collateral

4.6.1 The requirements set out in this section apply to an *Authorised Firm* in relation to both *Trading Book* and *Non-Trading Book* positions, and apply where an *Authorised Firm* receives *Collateral*.

4.6.2 (1) To the extent that an *Authorised Firm* holds *Acceptable Collateral* that secures an *Exposure*, it may, subject to Rule 4.6.5, take that *Acceptable Collateral* into account for the purposes of calculating *CRCOM*, *CPCOM* and *Exposure* limits provided that:

(A) the requirements of this section are met; and

(B) the *Acceptable Collateral* is not issued by the *Counterparty* to the transaction, nor by an *Associate* of that *Counterparty*.

(2) *Acceptable Collateral* for the purposes of this section is set out in Rule A4.8.32.

(3) Where a *Credit* or *Counterparty Risk Exposure* is partially collateralised, only the portion to which *Acceptable Collateral* is applied will attract the lower risk weight when calculating *Capital Requirements*. Similarly, only the collateralised portion may be exempt from the *Large Exposures* limits.

Guidance

Appendix 4 contains a list of *Acceptable Collateral* for the purposes of calculating *CRCOM* and *CPCOM* together with the amount of the applicable *CPW*.

4.6.3 An *Authorised Firm* must:

(A) value the *Collateral* and set an appropriate margin over the *Exposure* to take account of fluctuations in the market value of the *Collateral*; and

(B) monitor the validity and enforceability of *Collateral* arrangements.

4.6.4 An *Authorised Firm* must calculate *CRCOM* and *CPCOM* as defined in sections 4.3 and 4.4, using the *CPW* of the *Acceptable Collateral* where equal to or lower than that of the underlying *Counterparty Exposure*.

4.6.5 An *Authorised Firm* must not adopt the treatment in Rule 4.6.2 unless:

(A) it has an unconditional right to apply the *Collateral* to discharge (or to use the proceeds of realising the *Collateral* to discharge) the liability of the *Counterparty* on the default, liquidation, bankruptcy or other similar circumstance of the *Counterparty*;

(B) the *Collateral* arrangements are:

(i) legally well-founded in all relevant jurisdictions; and

- (ii) enforceable in the default, liquidation, bankruptcy or other similar circumstance of the *Counterparty* or the *Authorised Firm*;
- (C) it has taken reasonable steps to satisfy itself that:
 - (i) the *Counterparty* providing the *Collateral* is entitled to give the *Collateral*; and
 - (ii) there are no *Third Party* claims over the *Collateral* that would prejudice the *Authorised Firm's* ability to apply or realise the *Collateral* to repay the *Counterparty's* obligation should any of the events in (A) or (B) occur; and
- (D) it has a written and reasoned legal opinion which:
 - (i) was provided by an external source of legal advice of appropriate professional standing;
 - (ii) confirms that the requirements of (A) are met for all relevant jurisdictions; and
 - (iii) is kept under review to ensure that it remains correct and up to date in the event of changes to the relevant laws.

4.6.6 An *Authorised Firm* wishing to collateralise *Exposures* arising from off-balance sheet items other than *OTC Derivative* contracts must set the value of the *Acceptable Collateral* against the nominal principal amount of the *Exposure* before the relevant CCF is applied.

4.6.7 An *Authorised Firm* may collateralise the *Exposures* arising under an *OTC Derivative* contract as measured using CEA.

4.7 Netting

4.7.1 The requirements set out in this section apply to an *Authorised Firm* with respect to both *Trading Book* and *Non-Trading Book* transactions.

4.7.2 An *Authorised Firm* must have systems and controls for measuring, monitoring and controlling the netting of transactions.

Guidance

An *Authorised Firm's* systems and controls would be expected to:

- a. monitor the validity and enforceability of the contractual *Netting* agreement in the light of the possible changes to the relevant laws;
- b. calculate its off- balance sheet *Exposures* on transactions falling under the *Netting* agreement using the methodology set out in sections 4.3 and 4.4, and A4.9;

- c. ensure that *Exposures* on *Trading Book* transactions subject to *Netting* agreements which are reporting on a net basis are calculated on a net marked-to-market basis;
- d. monitor the limits to the *Counterparty* in terms of net and gross *Exposures*; and
- e. monitor potential roll-off *Exposures* (where short dated *Exposures* are netted against longer dated ones).

4.7.3 An *Authorised Firm* which nets its claims on and liabilities to a *Counterparty* for the purposes of calculating its *CRCOM*, *CPCOM* and *Large Exposure* requirements must not net on-balance sheet items against off- balance sheet items.

On-balance Sheet Netting

4.7.4 An *Authorised Firm* must not net an on-balance sheet item against an offsetting on-balance sheet item unless:

- (A)
 - (i) both those items are owing between the *Authorised Firm* and the same *Counterparty*;
 - (ii) the *Authorised Firm* nets those items in a way that is consistent with its legal rights against the *Counterparty*;
 - (iii) a legal right of set-off exists;
 - (iv) agreement between the *Authorised Firm* and the *Counterparty* does not contain a *Walkaway Clause*;
 - (v) the *Netting* provided for in the agreement between the *Authorised Firm* and the *Counterparty* is effective and enforceable in the default, bankruptcy, liquidation or other similar circumstances affecting either the *Counterparty* or the *Authorised Firm*;
 - (vi) the items are controlled and managed on a net basis;
 - (vii) the potential for roll-off *Exposure* is monitored and controlled where there is a *Maturity Mismatch*; and
 - (viii) debit and credit balances are denominated in the same currency or are in different currencies that are freely convertible; and
- (B) it has, in respect of each relevant jurisdiction, a written and reasoned legal opinion which:
 - (i) has been provided by an external source of legal advice of appropriate professional standing;
 - (ii) confirms that the requirements of (A)(i), (ii), (iii), (iv) and (v) are met for all relevant jurisdictions; and

- (iii) is kept under review to ensure that it remains correct and up to date in the event of changes to the relevant laws.

Off-balance Sheet Netting

- 4.7.5** (1) An *Authorised Firm* must not net an off-balance sheet item against an offsetting off-balance sheet item, unless:
- (A) both those items are owing between the *Authorised Firm* and the same *Counterparty*;
 - (B) those items have been *Netted* by novation or the *Authorised Firm* has a right to exercise *Close Out Netting* over them;
 - (C) that *Netting* creates the single net sum referred to in the definition of *Netting by Novation* or *Close Out Netting*;
 - (D) the *Authorised Firm* nets those items in a way that is consistent with its legal rights against the *Counterparty*;
 - (E) the *Authorised Firm* has a contractual *Netting* agreement with the *Counterparty* that covers those items and gives the *Authorised Firm* the rights referred to above;
 - (F) the contractual *Netting* agreement between the *Authorised Firm* and the *Counterparty* does not contain a *Walkaway Clause*;
 - (G) the *Netting* provided for in the contractual *Netting* agreement between the *Authorised Firm* and the *Counterparty* is effective and enforceable in the default, bankruptcy, liquidation or other similar circumstances affecting either the *Counterparty* or the *Authorised Firm*; and it has, in respect of each relevant jurisdiction, a written and reasoned legal opinion which:
 - (i) has been provided by an external source of legal advice of appropriate professional standing;
 - (ii) confirms that the requirements in (1)(A) to (G) are met; and
 - (iii) is kept under review to ensure that it remains correct and up to date in the event of changes to the relevant laws; and in the case of multi-jurisdictional transactions, the *Authorised Firm* must obtain for each relevant jurisdiction an appropriate legal opinion that complies with the requirements in this section.

- (2) In the event that (1)(G) cannot be demonstrated as a result of the inclusion of jurisdictions that do not permit effective and enforceable netting agreements, the validity of the netting agreement for the purposes of Rule 4.7.5 will not be impaired insofar as it relates to jurisdictions that do permit effective and enforced netting.

Guidance

1. An *Authorised Firm* should assess whether any qualifications, assumptions or reservations contained in the legal opinion cast doubt upon the enforceability of the *Netting* agreement. If, as a result of the qualifications, assumptions or reservations, there is material doubt about the enforceability of the agreement, the *Authorised Firm* should assume that the requirements for *Netting* have not been met.
2. An *Authorised Firm* using a standard form *Netting* agreement and a supporting legal opinion should ensure that the relevant requirements in section 4.7 are met. A standard form *Netting* agreement is a form of agreement which is prepared by a reputable, internationally recognised industry association and is supported by its own legal opinion. Where additional clauses are added to a standard form *Netting* agreement, the *Authorised Firm* should satisfy itself that the amended *Netting* agreement continues to meet the legal and contractual requirements in section 4.7. For instance, in such cases, an *Authorised Firm* may wish to obtain a second legal opinion to confirm that the relevant requirements in section 4.7 are still satisfied.
3. Appendix 4 sets out the calculation of the *Potential Future Credit Exposure* (PFCE) arising from *OTC Derivative* contracts, on a net basis.

4.8 Securitisation

Guidance

Securitisation is the process of aggregating similar instruments such as loans and mortgages into a negotiable security.

4.8.1 This section and section A4.10 apply to an *Authorised Firm* which:

- (A) acts as an *Originator* in a *Securitisation*;
- (B) transfers *Credit Risk* on a single item or on a pool of items by any of the legal transfer methods set out in Rule 4.8.3(A);
- (C) acts as a *Sponsor* in a *Securitisation*; or
- (D) provides *Credit Enhancement*, liquidity support, or *Underwriting* or dealing facilities relating to the items being transferred.

Guidance

Further detailed *Rules* and guidance are set out in section A4.10 which cover the specific circumstances of undrawn down commitments to lend, transfers of financed equipment and consumer goods, *Revolving Securitisations*, transfers to *Special Purpose Vehicles*, repurchasing, *Credit Enhancement*, liquidity support, and underwriting and dealing.

4.8.2 An *Authorised Firm* must have risk management systems to identify, manage, monitor and, where applicable, control:

- (A) the liquidity and capital implications that may arise from the items returning to the balance sheet; and
- (B) the operational risks that may arise under a *Securitisation*.

Guidance

By way of example, Rule 4.8.2(A) may require an *Authorised Firm* to have in place committed facilities that could be drawn down to the extent necessary to fund items returning to the balance sheet.

4.8.3 An *Authorised Firm* which is an *Originator* or a *Sponsor* must include every item that has been transferred by *Securitisation* in the calculation of its *Capital Requirement* unless:

- (A) the legal transfer has been effected by:
 - (i) novation;
 - (ii) legal or equitable assignment;
 - (iii) sub-participation; or
 - (iv) declaration of trust;
- (B) the legal transfer does not infringe the rights of any *Person*;
- (C) the economic interests or risks associated with the item are effectively transferred for the whole of the life of that item such that the *Authorised Firm* does not have any interest, economic or otherwise, in, or *Exposure* to, the item; and
- (D) the *Authorised Firm* has, at the outset of the proposed *Securitisation*, provided the *Regulatory Authority* with:
 - (i) a statement which sets out the assets which are to be the subject of *Securitisation* and the accounting treatment to be adopted;
 - (ii) a written opinion from an external accountant in good standing which confirms that the accounting treatment is in accordance with the relevant accounting standard and *PIIB*;
 - (iii) a written legal opinion from external legal advisers of appropriate professional standing confirming that the requirements of this *Rule*, which a legal adviser is able to address, have been met;
 - (iv) where the assets relate to the *Islamic Financial Business* of an *Authorised Firm*, a written confirmation from the appointed *Shari'a Supervisory Board* that the securitisation complies with *Shari'a*; and

- (v) the *Regulatory Authority* has not, within a period of thirty days from the date of receipt of the material, objected to the proposed *Securitisation*.

Guidance

The transfer of economic interests includes the transfer of substantially all of the risks and rewards of ownership including any right or obligation to repurchase or reacquire the asset. An *Authorised Firm* may however retain certain links with the transferred assets, which should be limited to existing contractual obligations or service of the items, or both.

4.8.4 For the purposes of Rule 4.8.3(A), the economic interests or risks associated with the items are effectively transferred if:

- (A) the *Authorised Firm* notifies the buyer of the items, investors in a scheme, or other parties having an economic interest, that it is not legally required, and recognises no other obligation, to repurchase the items or support any losses sustained by the buyer, investors or other party; and
- (B) the terms of the transfer:
 - (i) ensure that the *Authorised Firm* has no residual economic interest in the principal amount of the item (or the part transferred) and the buyer has no formal recourse to the seller for losses;
 - (ii) state that the buyer and not the *Authorised Firm* will be subject to any rescheduled or renegotiated terms;
 - (iii) ensure that, where payments from the debtor are to be made through the *Authorised Firm*, the *Authorised Firm* is under no obligation to remit funds until they are received from the debtor; and
 - (iv) do not confer any right or obligation upon the seller to repurchase the items transferred except where the obligation arises from a warranty given by the *Authorised Firm* in respect of the items at the time of transfer, provided the warranty is not:
 - (a) in respect of the future creditworthiness of the debtors; or
 - (b) in respect of matters outside the control of the *Authorised Firm*.

Guidance

Payments made by the *Authorised Firm* before and in anticipation of receipt of funds represent liquidity support. In such cases, the payment should be immediately recoverable if the funds are not received when due.

4.9 Credit Derivatives

Guidance

1. *Credit Derivatives* are financial instruments based on forward contracts, swaps, options or a mixture of the three and may be entered into through exchanges or over the counter. They allow market participants to transfer *Credit Risk* on loans and other assets but they give rise to complex issues. The market is evolving rapidly and financial institutions are becoming increasingly involved in the *Credit Derivatives* market. The *Regulatory Authority* will continue to assess the development and use of *Credit Derivatives* in the *QFC*. The supervision approach may therefore be revised from time to time.
2. The *Credit Derivative* activity of an *Authorised Firm* should be under the adequate oversight of its *Governing Body* and senior management. Relevant written policies and procedures should be approved by the *Governing Body*. There should be adequate separation of duties among the functions of transacting *Credit Derivatives* business, monitoring, reporting and risk control.
3. An *Authorised Firm* could include those *Credit Derivatives* in the *Trading Book* only if such instruments are genuinely held for trading purposes and in line with the *Authorised Firm's* policy statement for the *Trading Book*. These *Credit Derivatives* should be marked to market on a daily basis. Valuation should be prudent and consistent.
4. This section, which sets out the *Trading Book* and *Non-Trading Book* requirements for *Credit Derivatives*, should be read in conjunction with section A4.11. In that section, Rules A4.11.2 to A4.11.20 set out *Rules* in respect of the treatment of *Credit Derivatives* in the *Trading Book* and Rules A4.11.21 to A4.11.45 set out *Rules* in respect of the treatment of *Credit Derivatives* in the *Non-Trading Book*.

4.9.1 An *Authorised Firm* which uses *Credit Derivatives* must comply with the *Rules* set out in section A4.11.

4.9.2 An *Authorised Firm* which uses *Credit Derivatives* must have systems and controls to manage the associated risks.

Guidance

1. Systems and controls requirements relating to *Credit Risk* are set out in section 4.2. In respect of *Credit Derivatives*, an *Authorised Firm* should, in particular, maintain:
 - a. appropriate information systems to make *Senior Management* aware of the risks being undertaken. This might include information on the level of activity in each of the different products; the ability of the *Authorised Firm* (if it is the *Protection Seller*) to pursue the underlying borrower when a *Credit Event Payment* has been triggered; and contractual characteristics of the products (such as tailoring of standard documentation for particular transactions);
 - b. adequate procedures for ensuring that the *Credit Risk* of a *Reference Asset* acquired through a *Credit Derivative* transaction and any *Counterparty Risk* arising from unfunded *Credit Derivatives* are captured within the *Authorised Firm's* normal credit approval and monitoring regime. An *Authorised Firm* should be able to assess the initial *Credit Risk* involved in undertaking the transaction and also to monitor the *Credit Risk* on a continuing basis. Information asymmetry (between the buyer and seller of *Credit Risk*) may be a significant issue if there is no widely traded asset of the reference name;
 - c. systems to assess and take account of the possibility of default correlation between the *Reference Asset* and the *Protection Seller*; and

- d. valuation procedures (including assessment and monitoring of the *Liquidity* of the *Credit Derivative* and the *Reference Asset*) and procedures to determine an appropriate Liquidity reserve to be held against uncertainty in valuation; this is particularly important for *Credit Derivatives* where the *Reference Asset* is illiquid (for example, a loan), or if the *Derivative* has multiple reference obligors.
2. An *Authorised Firm* should consider:
 - a. how to identify, assess, mitigate, control and monitor any legal and reputational risk associated with *Credit Derivatives*;
 - b. whether *Credit Derivatives* are subject to regulation as *Insurance Business* in any of the relevant jurisdictions;
 - c. whether conflicts of interest might arise within the institution in respect of privileged information if there is no widely traded asset of the reference obligor;
 - d. whether the transfer of *Credit Risk* through a *Credit Derivative* contravenes any terms and conditions relating to the *Reference Asset*, and where necessary that all consents have been obtained; and
 - e. where *Credit Risk* to many obligors has been transferred as a package, whether the reputation of the *Authorised Firm* might be damaged by subsequent deterioration in the quality of these assets.
 3. Where an *Authorised Firm* has transferred significant *Credit Risk* using funded *Credit Derivatives*, it should be able to re-finance the *Exposures* that have been transferred. For example, where the *Authorised Firm* has bought protection of shorter maturity than the assets being protected, it should consider how it would obtain funding if a replacement contract were not to be found on maturity of the protection.
 4. Where an *Authorised Firm* has hedged significant *Credit Risk* using unfunded *Credit Derivatives* of shorter maturity than the underlying *Exposures*, it should consider whether it would have sufficient *Capital Resources* to support the risk in the event of a replacement contract being unavailable immediately on maturity of the *Credit Risk* protection, or how such roll-over risk could otherwise be avoided or limited.

4.10 Application of Credit Risk methodology to Authorised Firms undertaking Islamic Financial Business

4.10.1 For any *Islamic Contracts* that are funded by an *Authorised Firm* (including its own investments via any *PSIAs*) the *Authorised Firm* must calculate a *CRCOM* on the basis set out in section 3.4 as if the contracts were *PSIA* funded assets except that the 35% weighting must be replaced by a 100% weighting.

4.10.2 In addition to the issues specified in section 4.5, the *Authorised Firm's* policy must set out how provisions relating to assets financed by its own funds are segregated from those financed by *PSIA* holders.

5 Market Risk

Guidance

Market Risk is the risk of losses in both on and off balance sheet positions arising from movements in market prices and sales. These risks include the risk pertaining to interest rate related instruments and equities in the *Trading Book* and foreign exchange risk and commodities risk throughout the *Authorised Firm*.

5.1 Application

- 5.1.1** (1) Sections 5.1 to 5.9 of this chapter apply to an *Authorised Firm* in *PIIB Category 1* or *2*.
- (2) Sections 5.1 to 5.6 of this chapter apply to an *Authorised Firm* in *PIIB Category 3*.
- (3) Sections 5.1, 5.2, 5.3 and 5.5 to 5.9 apply to an *Authorised Firm* in *PIIB Category 5*.

Guidance

1. Rule 2.3.4 provides that the *Market Risk Capital Requirement* of an *Authorised Firm* is calculated as the sum of:
 - a. the *Interest Rate Risk Capital Requirement* (section 5.4);
 - b. the *Equity Risk Capital Requirement* (section 5.5);
 - c. the *Foreign Exchange Risk Capital Requirement* (section 5.6.);
 - d. the *Commodities Risk Capital Requirement* (section 5.7);
 - e. the *Options Risk Capital Requirement* (section 5.8); and
 - f. the *Securities Underwriting Capital Requirement* (section 5.9).
2. This chapter sets out the manner in which each of those *Capital Requirements* must be calculated, monitored and controlled by an *Authorised Firm*.

5.2 Market Risk Systems and Controls

- 5.2.1** (1) An *Authorised Firm* must implement and maintain a *Market Risk* policy which enables it to identify, assess, control and monitor *Market Risk*.
- (2) The policy must be documented and include the *Authorised Firm's* risk appetite and how it identifies, assesses, mitigates, controls and monitors that risk.
- (3) An *Authorised Firm* must:
- (A) ensure that its risk management systems enable it to implement the *Market Risk* policy;
 - (B) identify, assess, mitigate, control and monitor its *Market Risk*.

- (4) An *Authorised Firm* must, at intervals that are appropriate to the nature, scale and complexity of its activities, review and update the policy.

Guidance

Guidance in respect of what an *Authorised Firm's Market Risk* policy should include is provided in section A5.1.

5.3 Use of internal Market Risk models

5.3.1 An *Authorised Firm* in *PIIB Category 1, 2 or 5* may use an internal model to calculate its *Market Risk Capital Requirement* or any components of its *Market Risk Capital Requirement* if its internal model and its use have been approved in writing by the *Regulatory Authority*.

5.3.2 If the *Regulatory Authority* approves an internal model or an internal model's use, it may:

- (A) impose, withdraw or amend at any time conditions in respect of the use of the internal model; and
- (B) withdraw approval if it forms the view that the internal model or its use is no longer suitable for the calculation of the *Authorised Firm's Market Risk Capital Requirement* or any component of it.

5.3.3 An *Authorised Firm* which uses an internal model in accordance with Rule 5.3.1 must have in place a rigorous and comprehensive stress-testing programme which meets the criteria set out in Rule A5.8.1.

5.3.4 An *Authorised Firm* that has received approval for the use of an internal model may only revert to calculating its *Market Risk Capital Requirement* or any component of it in accordance with Appendix 5 with the prior written consent of the *Regulatory Authority*.

Guidance

1. This section sets out the conditions under which an *Authorised Firm* is permitted to use an internal model to calculate its *Market Risk Capital Requirement* or any component of its *Market Risk Capital Requirement*. An *Authorised Firm* that wishes to use an internal model to calculate any part of this requirement is required to apply to the *Regulatory Authority*. Internal models will commonly permit more extensive netting of long and short positions and have greater risk sensitivity.
2. In assessing whether to give approval, the *Regulatory Authority* will consider an *Authorised Firm's* risk management standards; the quantitative model standards; the stress-testing and back-testing standards and the process surrounding the calculation of the appropriate regulatory *Capital Requirement*.
3. The *Regulatory Authority* will usually only give its approval for the use of an internal risk model if:
 - a. the use of the model to calculate the *Market Risk* capital requirement has been approved by another appropriate regulator or the *Regulatory Authority* is satisfied having been provided by the *Authorised Firm* with such opinions from independent experts as it may require, that the model adequately addresses *Market Risk* requirements;
 - b. use of the methodology is integrated into the governance and control framework of the *Authorised Firm*. Specifically, the *Governing Body* and *Senior Management* of the *Authorised Firm* receives and reviews appropriate reports in respect of the *Entity*;

- c. it is satisfied that the *Authorised Firm's* risk management system is conceptually sound and is implemented with integrity;
 - d. the *Authorised Firm* has sufficient numbers of staff skilled in the use of sophisticated models not only in the trading area but also in the risk control, audit, and if necessary, back office areas;
 - e. the *Authorised Firm's* models have a proven track record of reasonable accuracy in measuring risk; and
 - f. the *Authorised Firm* regularly conducts stress tests.
4. In determining whether an internal value at risk model meets the standard for approval, the *Regulatory Authority* will apply the criteria set out in section A5.8, which are based on the Basel Market Risk Capital Amendment 1996 and which can be grouped under the following headings:
 - a. qualitative standards;
 - b. specification of *Market Risk* factors;
 - c. quantitative standards;
 - d. stress testing; and
 - e. combination of internally developed models and the standardised methodology.
 5. In addition to value-at-risk models, the *Regulatory Authority* recognises *Option* risk aggregation models and interest rate 'pre-processing' or sensitivity models, as set out under the EU's Capital Adequacy Directive.
 6. *Option* risk aggregation models analyse and aggregate *Options* risks for interest rate, equity, foreign exchange and commodity *Options*.
 7. Interest rate pre-processing models are used to calculate weighted positions for inclusion in an *Authorised Firm's* interest rate *Market Risk Capital Requirement* calculation under the *Duration Method*.

5.4 Interest Rate Risk Capital Requirement

5.4.1 This section applies to an *Authorised Firm* in *PIIB Category 1* or *2* in respect of *Trading Book Transactions*.

Guidance

This section sets out how *Authorised Firms* with *Trading Book* positions in interest rate *Instruments* must calculate an *Interest Rate Risk Capital Requirement*.

Calculation of the Interest Rate Risk Capital Requirement

5.4.2 An *Authorised Firm* must calculate its *Interest Rate Risk Capital Requirement*:

- (A) by applying its internally developed *Market Risk* model which has been approved by the *Regulatory Authority* for this purpose; or
- (B) by applying the *Rules* set out in section A5.2.

5.5 Equity Risk Capital Requirement

5.5.1 This section applies to an *Authorised Firm* in *PIIB Category 1, 2, or 5*, which has a *Trading Book*.

Guidance

This section sets out how *Authorised Firms* must calculate an *Equity Risk Capital Requirement*, and which equity and equity-like positions are included in the capital requirement calculation.

Calculation of the Equity Risk Capital Requirement

5.5.2 An *Authorised Firm* must calculate its *Equity Risk Capital Requirement*:

- (A) by applying its internally developed *Market Risk* model which has been approved by the *Regulatory Authority* for this purpose; or
- (B) by applying the *Rules* set out in section A5.3.

5.6 Foreign Exchange Risk Capital Requirement

5.6.1 This section applies to an *Authorised Firm* in *PIIB Category 1, 2, 3, or 5* in respect of *Trading Book* and *Non-Trading Book* foreign exchange positions.

Guidance

This section sets out the manner of calculating the *Foreign Exchange Risk Capital Requirement* to cover the risk of holding or taking positions in *Foreign Currencies* and gold.

Calculation of the Foreign Exchange Risk Capital Requirement

5.6.2 An *Authorised Firm* must, subject to Rule 5.6.3, calculate its *Foreign Exchange Risk Capital Requirement* by:

- (A) applying its internally developed *Market Risk* model which has been approved by the *Regulatory Authority* for this purpose; or
- (B) by applying the *Rules* in section A5.4.

5.6.3 An *Authorised Firm* need not calculate a *Foreign Exchange Risk Capital Requirement* if:

- (A) its *Foreign Currency* business, defined as the greater of the sum of its gross long positions and the sum of its gross short positions in all *Foreign Currencies*, does not exceed 100% of *Capital Resources* as defined in chapter 2; and
- (B) its overall net open position as defined in Rule A5.4.4 does not exceed 2% of its *Capital Resources* as defined in chapter 2.

5.7 Commodities Risk Capital Requirement

5.7.1 This section applies to an *Authorised Firm* in *PIIB Category 1, 2 or 5* in respect of *Trading Book* and *Non-Trading Book* commodity positions.

Guidance

This section establishes a minimum capital standard to cover the risk of holding or taking positions in commodities, including precious metals, but excluding gold (which is covered in section 5.6).

Calculation of Commodities Risk Capital Requirement

5.7.2 An *Authorised Firm* must calculate its *Commodities Risk Capital Requirement* by:

- (A) applying its internally developed *Market Risk* model which has been approved by the *Regulatory Authority* for this purpose; or
- (B) applying the *Rules* set out in section A5.5.

5.8 Option Risk Capital Requirement

5.8.1 This section applies to an *Authorised Firm* in *PIIB Category 1, 2 or 5* that has a *Trading Book*.

Calculation of Option Risk Capital Requirement

- 5.8.2** (1) An *Authorised Firm* must calculate an *Option Risk Capital Requirement* if it has positions in *Options* in its *Trading Book*.
- (2) An *Authorised Firm* must calculate its *Option Risk Capital Requirement* by:
- (A) applying its internally developed *Market Risk* model which has been approved by the *Regulatory Authority* for this purpose; or
 - (B) by applying the *Rules* set out in section A5.6.

5.9 Securities Underwriting Capital Requirement

5.9.1 This section applies to an *Authorised Firm* in *PIIB Category 1, 2 or 5* in respect of *Trading Book* securities underwriting positions.

Guidance

1. This section sets out a framework for calculating the amount of *Capital Requirement* when an *Authorised Firm* has commitments to underwrite an issue of *Securities*, and the associated risk management standards which an *Authorised Firm Underwriting Securities* must meet.

2. Underwriting is defined in the *INAP* Rulebook as an arrangement under which a party agrees to buy, before issue, a specified quantity of *Securities* in an issue of *Securities* on a given date and at a given price, if no other party has purchased or acquired them.

5.9.2 An *Authorised Firm* must establish and maintain such systems and controls to monitor and manage its *Underwriting* and sub-underwriting business as are appropriate to the nature, scale and complexity of its *Underwriting* and sub-underwriting business.

Guidance

An *Authorised Firm* should take reasonable steps to:

- a. allocate responsibility for the management of its *Underwriting* and sub-underwriting business;
- b. allocate adequate resources of the *Authorised Firm* to monitor and control its *Underwriting* and sub-underwriting business;
- c. satisfy itself that its systems to monitor its *Exposure* to a *Counterparty* will calculate, revise and update its *Underwriting Exposure* to each *Counterparty* and its *Capital Requirements*;
- d. satisfy itself of the suitability of each *Person* who performs functions for it in connection with the *Authorised Firm's Underwriting* business, having regard to the *Person's* skill and experience; and
- e. satisfy itself that its procedures and controls to monitor and manage its *Underwriting* business address the capacity of sub-underwriters to meet sub-underwriting commitments.

5.9.3 (1) An *Authorised Firm* must calculate a *Securities Underwriting Capital Requirement* if it has a commitment to underwrite or sub-underwrite an issue of *Securities*.

(2) An *Authorised Firm* has a commitment to underwrite or sub-underwrite an issue of *Securities* where:

- (A) it gives a commitment to an *Issuer* of *Securities* to underwrite an issue of *Securities*;
- (B) it gives a commitment to sub-underwrite an issue of *Securities*; or
- (C) it is a member of a syndicate or group that gives a commitment to an *Issuer* to underwrite an issue of *Securities* or a commitment to sub-underwrite an issue of *Securities*.

5.9.4 An *Authorised Firm* must regard a commitment to underwrite an issue of *Securities*, subject to any right set out in Rule 5.9.6, as the initial commitment to underwrite from the earlier of:

- (A) the time the *Authorised Firm* signs an agreement with the *Issuer* of *Securities* to underwrite those *Securities*; or
- (B) the time the price and allocation of the issue are set.

5.9.5 Where the issue price has not been fixed, an *Authorised Firm* must use the highest estimate of the price and its allocation for the purpose of calculating its initial gross commitment.

5.9.6 If an *Authorised Firm* has at its discretion an irrevocable right to withdraw from an *Underwriting* commitment, exercisable within a certain period, the commitment commences when that right expires.

5.9.7 An *Authorised Firm* must calculate its *Securities Underwriting Capital Requirement* by:

- (A) applying its internally developed *Market Risk* model which has been approved by the *Regulatory Authority* for this purpose; or
- (B) by applying the *Rules* in section A5.7.

6 Liquidity Risk

Guidance

1. *Liquidity Risk* is the financial risk due to uncertain liquidity. An *Authorised Firm* may lose liquidity if:
 - a. its credit rating falls;
 - b. it experiences sudden unexpected cash outflows;
 - c. its *Counterparties* decide to avoid trading with or lending to it; or
 - d. the markets on which it depends are subject to loss of liquidity.
2. *Liquidity Risk* tends to compound other risks. If an *Authorised Firm* has a position in an illiquid asset, its limited ability to liquidate that position at short notice will compound its *Market Risk*. For example if an *Authorised Firm* has off-setting cash flows with two different *Counterparties* on the same day, if the *Counterparty* that owes it a payment default then the *Authorised Firm* will have to raise cash from other sources to make its own payment. Should it be unable to do so, it too will default. Here, *Liquidity Risk* is compounding *Credit Risk*. Although a localised problem, it has the potential to cause a chain of events which ultimately cripple the markets. For example a default by a major market participant might cause liquidity problems for a number of the institution's *Counterparties*. This might cause those *Counterparties* to fail to make payment on their own obligations and a liquidity crisis could spread through out the market.

6.1 Application

- 6.1.1** (1) This chapter applies to an *Authorised Firm* in *PIIB Category 1* or *5*.
- (2) Rule 6.2.2(3) applies to an *Authorised Firm* in *PIIB Category 2*.

Guidance

In accordance with Rule 1.2.1, an *Authorised Firm* is required to ensure that there is no significant risk that liabilities cannot be met as they fall due. With specific reference to liquidity, an *Authorised Firm* may meet its obligations in a number of ways, including:

- a. by holding sufficient immediately available cash or readily marketable assets;
- b. by securing an appropriate matching future profile of cash flows; and
- c. by further borrowing.

6.2 Liquidity Systems and Controls

- 6.2.1** (1) An *Authorised Firm* must establish and maintain a *Liquidity Risk* policy.
- (2) The policy must be documented and include the strategy for the daily and long-term management of *Liquidity Risk* appropriate to the nature, scale and complexity of the activities conducted.
- (3) The strategy must include a system for identifying and assessing *Liquidity Risk* in accordance with Rule 6.2.4.

- (4) The strategy must include a process for the measurement and monitoring of *Liquidity Risk* using a robust and consistent method which enables the *Authorised Firm* to implement the requirements set out in Rule 6.2.5.
- (5) The strategy must include a system for controlling *Liquidity Risk* which enables the *Authorised Firm* to implement the requirements set out in Rule 6.2.6.
- (6) An *Authorised Firm* must ensure that it has risk management systems to implement the policy.

Guidance

1. The *Regulatory Authority* expects that an *Authorised Firm's Liquidity Risk* strategy will set out the approach that the *Authorised Firm* will take to *Liquidity Risk* management, including various quantitative and qualitative targets. It should be communicated to all relevant functions and staff within the organisation and be set out in the *Authorised Firm's Liquidity Risk* policy.
2. The *Regulatory Authority* expects that an *Authorised Firm's* strategy for managing *Liquidity Risk* will specify:
 - a. the basis for managing liquidity, for example, regional or central;
 - b. the degree of asset concentration potentially affecting *Liquidity Risk* that is acceptable to the *Authorised Firm*;
 - c. ways of managing both the *Authorised Firm's* aggregate *Foreign Currency* liquidity needs and its needs in each individual currency;
 - d. ways of managing market access;
 - e. where appropriate, the use of *Derivatives* to minimise *Liquidity Risk*;
 - f. where appropriate, the management of intra-day liquidity; and
 - g. where appropriate, the management of liquidity issues associated with *PSIA* and *Islamic Contracts*.

- 6.2.2** (1) An *Authorised Firm* must ensure that its *Governing Body* is responsible for monitoring the nature and level of *Liquidity Risk* assumed by the *Authorised Firm* and the process used to manage that risk.
- (2) Without limiting the operation of (1) the responsibilities of an *Authorised Firm's* *Governing Body* in respect of *Liquidity Risk* include:
- (A) approving the *Authorised Firm's Liquidity Risk* strategy;
 - (B) establishing and maintaining a *Senior Management* structure for the management of *Liquidity Risk* and for ensuring compliance with the *Authorised Firm's Risk* strategy;

- (C) monitoring the *Authorised Firm's* overall *Liquidity Risk* profile on a regular basis and being aware of any material changes in the *Authorised Firm's* current or prospective *Liquidity Risk* profile; and
 - (D) ensuring that *Liquidity Risk* is adequately identified, assessed, mitigated, controlled and monitored.
- (3) An *Authorised Firm* in *PIIB Category 2* must:
- (A) establish and maintain a *Senior Management* structure to manage *Liquidity Risk*;
 - (B) identify, assess, mitigate, control and monitor *Liquidity Risk*; and
 - (C) monitor the *Authorised Firm's* overall *Liquidity Risk* profile on a regular basis.

Guidance

In respect of Rule 6.2.2(2)(B), *Senior Management* are expected to:

- a. oversee the development, establishment and maintenance of procedures and practices that translate the goals, *Objectives* and risk tolerances approved by the *Governing Body* into operating standards that are consistent with the *Governing Body's* intent and which are understood by the relevant members of an *Authorised Firm's* staff;
- b. adhere to the lines of authority and responsibility that the *Governing Body* has established for managing *Liquidity Risk*;
- c. oversee the establishment and maintenance of management information and other systems that identify, assess, control and monitor the *Authorised Firm's Liquidity Risk*; and
- d. oversee the establishment of effective internal controls over the *Liquidity Risk* management process.

- 6.2.3** (1) An *Authorised Firm* may delegate the day-to-day management of its *Liquidity Risk* to another *Entity* in the same *Group* for management on a *Group* basis only if:
- (A) the *Governing Body* of the *Authorised Firm*:
 - (i) has formally approved the delegation; and
 - (ii) keeps the delegation under review; and
 - (B) the *Authorised Firm* notifies the *Regulatory Authority* in writing of the delegation immediately upon it being made.
- (2) If an *Authorised Firm* delegates the management of its *Liquidity Risk* in accordance with (1), the requirements in this chapter continue to apply to the *Authorised Firm*.

Guidance

If *Liquidity Risk* management is delegated as set out in Rule 6.2.3, responsibility for its effectiveness remains with the *Authorised Firm's Governing Body*.

Identifying Liquidity Risk

- 6.2.4** (1) An *Authorised Firm* must assess the repayment profiles of its assets under both normal market conditions and stressed conditions resulting from either general market turbulence or firm-specific difficulties.
- (2) An *Authorised Firm* must assess the extent to which committed facilities can be relied upon under stressed conditions identified in accordance with Rule 6.2.9.
- (3) An *Authorised Firm* must consider potential liability concentrations when determining the appropriate mix of liabilities.
- (4) An *Authorised Firm* must consider how its off-balance sheet activities affect its cash flows and *Liquidity Risk* profile under both normal and stressed conditions.
- (5) If an *Authorised Firm* has significant, un-hedged liquidity mismatches in particular currencies, it must assess:
- (A) the volatilities of the exchange rates of the mismatched currencies;
 - (B) likely access to the foreign exchange markets in normal and stressed conditions; and
 - (C) the stability of *Deposits* in those currencies with the *Authorised Firm* in stressed conditions.

Guidance

1. As part of the assessment for the purposes of Rule 6.2.4(1), an *Authorised Firm* should identify significant concentrations within its asset portfolio.
2. For the purposes of Rule 6.2.4(3), an *Authorised Firm* should consider factors including:
 - a. the term structure of its liabilities;
 - b. the credit-sensitivity of its liabilities;
 - c. the mix of secured and unsecured funding;
 - d. concentrations among its liability providers or related groups of liability providers;
 - e. reliance on particular *Instruments* or products;
 - f. the geographical location of liability providers; and
 - g. reliance on intra-Group funding.

3. As appropriate, an *Authorised Firm* would be expected to consider the amount of funding required by:
 - a. commitments given;
 - b. standby facilities given;
 - c. wholesale overdraft facilities given;
 - d. proprietary *Derivatives* positions; and
 - e. liquidity facilities given for *Securitisation* transactions.

Measuring and monitoring liquidity risk

- 6.2.5** (1) An *Authorised Firm* must ensure that the method referred to in Rule 6.2.1(4) for measuring *Liquidity Risk* is capable of:
- (A) measuring the extent of the *Liquidity Risk* it is incurring;
 - (B) dealing with the dynamic aspects of the *Authorised Firm's* liquidity profile;
 - (C) where appropriate, measuring the *Authorised Firm's Exposure to Foreign Currency Liquidity Risk*;
 - (D) where appropriate, measuring the *Authorised Firm's* intra-day liquidity positions; and
 - (E) where appropriate, measuring the *Authorised Firm's Exposure to PSIA and Islamic Contract Liquidity Risk*.
- (2) An *Authorised Firm* must establish and maintain a system of management reporting which provides relevant, accurate, comprehensive, timely and reliable *Liquidity Risk* reports to relevant functions within the *Authorised Firm*.

Guidance

1. Management information should include the following:
 - a. a cash-flow or funding gap report;
 - b. a funding maturity schedule;
 - c. a list of large providers of funding;
 - d. where appropriate, a schedule of Islamic funding sources;
 - e. a limit monitoring and exception report;
 - f. asset quality and trends;
 - g. earnings projections; and
 - h. the *Authorised Firm's* reputation in the market and the condition of the market itself.

2. Where an *Authorised Firm* is a member of a *Group*, it should be able to assess the potential impact on it of *Liquidity Risk* arising in other parts of the *Group*.

Controlling liquidity risk

6.2.6 An *Authorised Firm* must ensure that the system referred to in Rule 6.2.1(5):

- (A) enables the *Authorised Firm's Governing Body* and *Senior Management* to review compliance with limits set in accordance with Rule 6.2.7 and operating procedures; and
- (B) has appropriate approval processes, limits and other mechanisms designed to provide reasonable assurance that the *Authorised Firm's Liquidity Risk* management processes are adhered to.

6.2.7 (1) An *Authorised Firm's Governing Body* must set appropriate liquidity limits covering *Liquidity Risk* management in both day-to-day and stressed conditions.

(2) An *Authorised Firm* must periodically review and, where appropriate, adjust the limits referred to in (1) when its *Liquidity Risk* policy changes.

(3) An *Authorised firm* must promptly resolve any policy or limit exceptions according to the processes described in its *Liquidity Risk* policy.

6.2.8 An *Authorised Firm* must assess market access under a variety of normal and stressed conditions.

6.2.9 (1) An *Authorised Firm* must use stress and scenario testing to assess the *Liquidity Risk* it would face in different circumstances.

(2) When using stress and scenario testing in accordance with (1), an *Authorised Firm* must:

(A) use scenarios based on varying degrees of stress and both *Authorised Firm*-specific and market-wide difficulties; and

(B) include a cash-flow projection for each scenario tested, based on reasonable estimates of the impact (both on and off-balance sheet) of that scenario on the *Authorised Firm's* funding needs and sources.

(3) An *Authorised Firm* must frequently review the assumptions used in stress testing scenarios to ensure they remain appropriate.

Guidance

1. The identification of the possible balance sheet and off-balance sheet impact referred to in Rule 6.2.9(2)(B) should take into account:

a. possible changes in the market's perception of the *Authorised Firm* and the effects that this might have on the *Authorised Firm's* access to the markets, including:

- b.
 - i. where the *Authorised Firm* funds its holdings of assets in one currency with liabilities in another, access to foreign exchange markets, particularly in less frequently traded currencies;
 - ii. access to secured funding, including by way of repurchase agreement transactions; and
 - iii. the extent to which the *Authorised Firm* may rely on committed facilities made available to it;
- c. whenever applicable the possible effect of each scenario tested on currencies whose exchange rates are currently pegged or fixed; and
- d. that:
 - i. general market turbulence may trigger a substantial increase in the extent to which *Persons* exercise rights against the *Authorised Firm* under off-balance sheet *Instruments* to which the *Authorised Firm* is party;
 - ii. access to *OTC Derivative* and foreign exchange markets is sensitive to credit-ratings;
 - iii. early amortisation in asset *Securitisation* transactions with which the *Authorised Firm* has a connection may be triggered; and
 - iv. its ability to securitise assets may be reduced.

6.2.10 (1) An *Authorised Firm* must have a documented contingency funding plan to ensure that, for each of the tested scenarios, the *Authorised Firm* has sufficient liquid financial resources to meet its liabilities as they fall due.

(2) The contingency funding plan referred to in (1) must:

- (A) list the events or circumstances that will lead the *Authorised Firm* to put any part of the plan into action;
- (B) set out the extent to which the plan relies upon:
 - (i) asset sales, using assets as *Collateral* on secured funding (including repurchase agreements), securitising its assets or otherwise reducing its assets;
 - (ii) modifying the structure of, or increasing, its liabilities; and
 - (iii) the use of committed facilities; and
- (C) contain administrative policies and procedures that will enable the *Authorised Firm* to manage the implementation of the plan including:
 - (i) the responsibilities of *Senior Management*;

- (ii) the names, location and contact details of members of the team responsible for implementing the plan;
- (iii) the details of who is responsible for contact with the *Authorised Firm's* head office (if appropriate), analysts, investors, external auditors, media, significant *Customers*, regulators and others; and
- (iv) the mechanisms that enable *Senior Management* and the *Governing Body* to receive relevant, accurate, comprehensive, timely and reliable management information.

6.3 Liquidity Requirements

6.3.1 This section applies to an *Authorised Firm* in *PIIB Category 1* or *5*.

Global Liquidity Concession

- 6.3.2** (1) An *Authorised Firm* which carries on business in the *QFC* through a branch may apply to the *Regulatory Authority* for a global liquidity concession.
- (2) If the *Regulatory Authority* grants a global liquidity concession to an *Authorised Firm*, that *Authorised Firm* need not comply with the quantitative liquidity requirements of this section.

Guidance

Section A6.1 provides guidance in respect of the type of information upon which the *Regulatory Authority* will base its assessment of an application for a global liquidity concession.

The Maturity Mismatch approach

Guidance

The *Maturity Mismatch* approach measures an *Authorised Firm's* liquidity by assessing the mismatch between its inflows (assets) and outflows (liabilities) within different time bands on a *Maturity Ladder*.

- 6.3.3** (1) An *Authorised Firm* in *PIIB Category 1* or *5* must use the *Maturity Mismatch* approach as set out in this section measure liquidity.
- (2) When using the *Maturity Mismatch* approach, an *Authorised Firm* must determine the net cumulative *Maturity Mismatch* position for each timeband by:
- (A) determining, in accordance with the Rules in sections A6.2 and A6.3, the inflows (assets) and outflows (liabilities) which are, subject to their falling within one of the time bands, to be included in the *Maturity Ladder* and at what maturities;
 - (B) inserting each inflow (asset) and outflow (liability) into one or more of the following time bands on the *Maturity Ladder*:

- (i) sight - 8 days; or
 - (ii) sight - 1 month; and
- (C) subtracting outflows (liabilities) from inflows (assets) in each time band.

Measuring liquidity for PIIB Category 1 and PIIB Category 5

6.3.4 (1) An *Authorised Firm* in *PIIB Category 1* or *5* must determine a net cumulative *Maturity Mismatch* position for each time band in respect of each of the following means of funding used by the *Authorised Firm*:

- (A) *Unrestricted PSIA*s;
- (B) *Restricted PSIA*s; and
- (C) *Deposits*.

(2) An *Authorised Firm* in *PIIB Category 1* or *5* must calculate its liquidity by using the net cumulative *Maturity Mismatch* position separately for each means of funding used by the *Authorised Firm* as a percentage of the means of funding in each time band as follows:

(A) *Unrestricted PSIA*s net cumulative *Maturity Mismatch* % =

$$\frac{\text{Net cumulative Maturity Mismatch} \times 100}{\text{Total Unrestricted PSIA}s}$$

(B) *Restricted PSIA*s net cumulative *Maturity Mismatch* % =

$$\frac{\text{Net cumulative Maturity Mismatch} \times 100}{\text{Total Restricted PSIA}s}$$

(C) Total Deposit liabilities net cumulative *Maturity Mismatch* % =

$$\frac{\text{Net cumulative Maturity Mismatch} \times 100}{\text{Total Deposits}}$$

(3) If an *Authorised Firm* exceeds one or both of the following net cumulative *Maturity Mismatch* limits in respect of any of the means of funding it must immediately inform the *Regulatory Authority* in writing and clearly explain what steps the *Authorised Firm* will take to bring its liquidity position back within the limits:

- (A) sight - 8 days, negative 15%; and
- (B) sight - 1 month, negative 25%.

7 Group Risk

7.1 Application

- 7.1.1** (1) This chapter applies to an *Authorised Firm* in *PIIB Category 1, 2, 3 or 5* which is a member of a *Financial Group*.
- (2) Section 7.2 applies to an *Authorised Firm* in *PIIB Category 1, 2, 3 or 5* which is a member of a *Group*.

Guidance

Group membership may be a source of both strength and weakness to an *Authorised Firm*. The purpose of *Group Risk* requirements is to ensure that an *Authorised Firm* takes proper account of the risks related to the *Authorised Firm's* membership of a *Group*. The *Group Risk* requirements form a key part of the *Regulatory Authority's* overall approach to prudential supervision.

- 7.1.2** (1) If an *Authorised Firm* is a member of a *Financial Group* and the *Regulatory Authority* considers it necessary to extend the scope of the *Financial Group* to include entities otherwise outside of the *Financial Group* to ensure appropriate *Financial Group* supervision, an *Authorised Firm* must also include in the scope of the *Financial Group* any *Entity* the *Regulatory Authority* may direct the *Authorised Firm* in writing to include.
- (2) An *Authorised Firm* may, for the purposes of this section, exclude from its *Financial Group* any *Entity* the inclusion of which would be misleading or inappropriate for the purposes of *Financial Group* supervision, provided the *Authorised Firm* has obtained the *Regulatory Authority's* prior written approval.
- (3) An *Authorised Firm* must provide the *Regulatory Authority*, if requested, with information regarding other *Group* entities, the *Group* structure and the systems and controls in place to manage *Group Risk*.

Guidance

If more than one member of the same *Group* is subject to an obligation to provide information in respect of a position of the *Group*, one or more of those *Authorised Firms* may make application to the *Regulatory Authority* for an appropriate waiver or modification.

7.2 Systems and Controls Requirements

- 7.2.1** If an *Authorised Firm* is a member of a *Group* it must establish and maintain systems and controls for the purpose of:
- (A) monitoring the effect on the *Authorised Firm* of:
- (i) its relationship with other members of its *Group*;

- (ii) its membership in its *Group*; and
 - (iii) the activities of other members of its *Group*;
- (B) monitoring compliance with *Financial Group* supervision requirements below, including systems for the production of relevant data;
- (C) monitoring funding within the *Group*; and
- (D) monitoring compliance with *Financial Group* reporting requirements.

Guidance

For the purposes of the above requirement, an *Authorised Firm* may take into account its position within its *Group*. For instance, it would be reasonable for a small *Authorised Firm* within a larger *Group* to place some reliance on its parent to ensure that appropriate systems and controls are in place.

7.3 Financial Group Capital Requirements and Financial Group Capital Resources

7.3.1 (1) Section 7.3 does not apply to an *Authorised Firm* if:

- (A) the *Authorised Firm's Financial Group* is already the subject of *Financial Group* prudential supervision by the *Regulatory Authority* as a result of the authorisation of another *Financial Group* member; or
 - (B) the *Regulatory Authority* has confirmed in writing, in response to an application from the *Authorised Firm*, that it is satisfied that the *Authorised Firm's Group* is the subject of consolidated prudential supervision by an appropriate regulator; or
 - (C) except where the *Regulatory Authority* has directed the inclusion of an *Entity* pursuant to Rule 7.1.2, the percentage of total assets of *Authorised Firms* and *Financial Institutions* in the *Financial Group* is less than 40% of the total *Financial Group* assets.
- (2) If an *Authorised Firm* receives confirmation in writing from the *Regulatory Authority* in accordance with (1)(B), it must immediately advise the *Regulatory Authority* in writing if the circumstances upon which the confirmation was based change.

7.3.2 An *Authorised Firm* must ensure at all times that its *Financial Group Capital Resources*, as calculated in Rule 7.3.4, are equal to or in excess of its *Financial Group Capital Requirement* as calculated in Rule 7.3.3.

Guidance

If an *Authorised Firm* breaches Rule 7.3.2, the *Regulatory Authority* will take into account the full circumstances of the case including any remedial steps taken by another regulator or the *Authorised Firm*, in determining what enforcement action, if any, it will take.

Financial Group Capital Requirement

- 7.3.3** (1) An *Authorised Firm* must calculate its *Financial Group Capital Requirement* as the sum of the *Entity* requirements calculated in accordance with (2) and (3);
- (2) Entity requirements for this purpose are:
- (A) an *Authorised Firm's Capital Requirement* calculated in accordance with the requirements of chapter 2, or in the case of an *Authorised Firm* which is authorised to effect or carry out *Contracts of Insurance*, calculated in accordance with the requirements of the prudential rules for *Insurers*.
- (B) in the case of regulated entities supervised by a regulator other than the *Regulatory Authority*, then, with the written agreement of the *Regulatory Authority*, the capital requirement of that *Entity*; and
- (C) for other entities in the *Financial Group*, a notional *Capital Requirement* calculated as directed by the *Regulatory Authority*.
- (3) Where an *Authorised Firm's Financial Group* includes an *Entity* under (2)(C) of the definition of *Financial Group* in the *INAP Rulebook* that *Financial Institution's* capital requirement is included on a proportionate basis.

Financial Group Capital Resources

- 7.3.4** (1) An *Authorised Firm* must calculate its *Financial Group Capital Resources* by applying either of the following methods, excluding those amounts referred to in Rule 7.3.5:
- (A) the accounting consolidation method, which calculates the *Capital Resources* of the *Financial Group* based on the *Financial Group's* consolidated financial statements; or
- (B) the aggregation method, which is the sum of:
- (i) the *Capital Resources* of the *Parent Entity* of the *Financial Group*;
- (ii) subject to (4), the *Capital Resources* of any *Authorised Firms* and *Financial Institutions* included in the *Financial Group*; and
- (iii) subject to (4), the *Financial Group's* proportionate *Share of Capital Resources* in *Financial Institution* participations included in the *Financial Group*.
- (2) If an *Authorised Firm* uses the accounting consolidation method in (1)(A), the *Authorised Firm's Financial Group* need not deduct illiquid assets from the *Financial Group's Capital Resources*.

- (3) An *Authorised Firm* whose *Financial Group* does not deduct illiquid assets from the *Financial Group's Capital Resources* must:
- (A) ensure that its *Financial Group* complies with the liquidity systems and control requirements set out in section 6.2; and
 - (B) notify the *Regulatory Authority* in writing that the *Financial Group* will not deduct illiquid assets from its *Financial Group's Capital Resources*.
- (4) For the purposes of (1)(B)(i) and (ii) an investment by one *Financial Group* member in another must not be included.
- (5) An *Authorised Firm* applying the consolidation method referred to in Rule 7.3.4(1)(A) must:
- (A) exclude *Tier Two Capital* to the extent that it exceeds two thirds of *Tier One Capital* after deductions; and
 - (B) calculate its *Financial Group Capital Resources* in accordance with Rule 2.8.3 as if a reference to *Authorised Firm* was a reference to the *Financial Group*.

Guidance

The calculation of the *Capital Resources* on a solo basis of an *Authorised Firm* which is a member of a *Financial Group* is subject to section 2.8 which describes the limits on the use of different forms of capital.

7.3.5 When calculating its *Financial Group Capital Resources*, an *Authorised Firm* must not include *Capital Resources* of subsidiaries or participations to the extent that those *Capital Resources* are not freely transferable within the *Financial Group*.

7.3.6 Deductions for material holdings and *Qualifying Holdings* under Rules 2.7.5 and 2.7.6 respectively may be calculated based on the *Group's* total *Tier One* and *Tier Two Capital*.

7.4 Financial Group Concentration Risk Limits

7.4.1 An *Authorised Firm* must ensure that its *Financial Group Exposure*, including the *Financial Group PSIA*s, to a *Counterparty* or group of *Closely Related Counterparties* does not exceed 25% of its *Group's Capital Resources*.

7.4.2 An *Authorised Firm* must ensure that the sum of its *Financial Group Large Exposures*, including the *Financial Group's PSIA*s, to a *Counterparty* or group of *Closely Related Counterparties* does not exceed 800% of its *Financial Group's Capital Resources*.

8 Operational Risk

Guidance

No *Rules* are currently in existence in respect of the prudential treatment of operational risk. However, *Rules* and guidance are included in other *Rulebooks*, primarily in *GENE*, which address systems and controls in respect of risk.

App1 General Requirement - Detail in the Trading Book

A1.1 How to include positions in the Trading Book

- A1.1.1** An *Authorised Firm* which is required to have a *Trading Book* must include positions in its *Trading Book* on a consistent basis.
- A1.1.2** An *Authorised Firm* must include every position that is not included in the *Trading Book* in its *Non-Trading Book*.
- A1.1.3** An *Authorised Firm* must value every position included in its *Trading Book* and the *Non-Trading Book* in accordance with the relevant accounting standards and practices.

A1.2 Value of Trading Book Positions

- A1.2.1** (1) In calculating the value of positions for the purposes of Rule A1.4.1(C) an *Authorised Firm* must value:
- (A) equities and *Debt Instruments* at their market prices;
 - (B) *Derivatives* according to the values of the underlying *Instrument*; and
 - (C) underwriting positions according to the market value of the underlying *Securities*.
- (2) An *Authorised Firm* must sum all long and short positions (ignoring the sign) to calculate its total *Trading Book* size.

A1.3 Positions included in the Trading Book

- A1.3.1** An *Authorised Firm* must include in its *Trading Book*, subject to the *Rules* on trading intent and hedging *Non-Trading Book Exposures*:
- (A) each proprietary position in a *Financial Instrument*, commodity and commodity *Derivative* which is held for resale or which is taken on with the intention of benefiting in the short term from actual or expected differences between buying and selling prices, or from other price or interest rate variations;
 - (B) each matched principal broking position in a *Financial Instrument*, commodity and commodity *Derivative*;
 - (C) each position taken in order to hedge another element of the *Trading Book*;

- (D) each *Exposure* due to a repurchase agreement (repo), or *Securities* and commodities lending, which is based on a *Security* or commodity included in the *Trading Book*;
- (E) each *Exposure* due to a reverse repurchase agreement (reverse repo), or *Securities* and commodities borrowing transaction included in the *Trading Book*;
- (F) each *Exposure* arising from an unsettled transaction, free delivery or over-the-counter (OTC) *Derivative*; and
- (G) each *Exposure* in the form of a fee, *Commission*, interest, dividend or margin on an exchange-traded *Derivative* directly related to the items included in the *Trading Book*.

Guidance

1. Whenever an *Authorised Firm* acts as principal (even in the context of activity normally described as 'broking' or 'Customer business'), positions should be assigned to the *Trading Book*. This applies even if the nature of the business means that the only risks being incurred by the *Authorised Firm* are *Counterparty* risks (that is, no *Market Risk Capital Requirements* apply).
2. Based on Rule A1.3.1, a position includes any interest, dividends or other benefits accruing where these are recognised and included in the quoted prices of an investment.

A1.3.2 Loans and traded loans are not *Financial Instruments* for the purposes of *PIIB* and an *Authorised Firm* must not include them in its *Trading Book* unless the loans have been used to hedge a *Trading Book* transaction.

Trading Intent

- A1.3.3**
- (1) An *Authorised Firm* must not include in its *Trading Book* a position in a *Financial Instrument*, commodity or commodity *Derivative* unless held with trading intent.
 - (2) A position in a *Financial Instrument*, commodity or commodity *Derivative* is held with trading intent if:
 - (A) it is taken on with the intention of:
 - (i) benefiting in the short term from actual or expected differences between buying and selling prices not including positions held for *Liquidity* management purposes;
 - (ii) benefiting from other price or interest-rate variations;
 - (iii) locking in arbitrage profits; or
 - (iv) market making;
 - (B) it is marked to market or marked to model regularly on a prudent and consistent basis, as part of the *Authorised Firm's* internal risk management processes;

- (C) position-takers at the *Authorised Firm* have autonomy in entering into or changing transactions within pre-determined limits, or the position satisfies other criteria which the *Authorised Firm* applies to the composition of its *Trading Book*;
- (D) there is an appropriate documented trading strategy for the position, approved by *Senior Management*; and
- (E) active monitoring of the position is undertaken using market information sources.

A1.4 Repurchase and Reverse Repurchase Agreements

A1.4.1 If an *Authorised Firm* has a *Trading Book* it may include in it an *Exposure* due to a repurchase agreement, reverse repurchase agreement, *Securities* and commodities borrowing, or *Securities* and commodities lending transactions if:

- (A) the *Exposure* is marked to market daily (cash borrowed or lent under a repurchase agreement or a reverse repurchase agreement may be included in the *Trading Book* even if not marked to market provided that the *Residual Maturity* of the borrowing or lending is one month or less);
- (B) the *Collateral* is adjusted to take account of changes in the value of the *Securities* or commodities involved;
- (C) the agreement or transaction provides for the *Authorised Firm's* claims to be automatically and immediately offset against its *Counterparty's* claims if the latter defaults; and
- (D) such agreements and transactions are confined to their accepted and appropriate use and artificial transactions, especially those not of a short-term nature, are excluded.

Guidance

Cash items include loans and *Deposits* and the cash legs of repurchase, stock borrowing, reverse repurchase and *Stock Lending* transactions.

A1.4.2 Where the conditions under Rule A1.4.1 are not met, an *Authorised Firm* must include an *Exposure* arising under a repurchase agreement, reverse repurchase agreement *Securities* and commodities borrowing or *Securities* and commodities lending in its *Non-Trading Book*.

Guidance

The *Non-Trading Book* treatment for such *Exposures* is set out in Rule A4.8.28 and Rule A4.8.29.

A1.5 Hedging of a Trading Book Exposure by a Non-Financial Instrument

A1.5.1 An *Authorised Firm* may hedge a *Trading Book Exposure*, completely or partially, by a specific *Instrument* that is not listed in A1.3.1. The *General Market Risk Exposure* associated with the non-*Financial Instrument* may be incorporated into the calculation of *General Market Risk* in the *Trading Book* if:

- (A) the specific *Instrument* is used to hedge an *Exposure* in an *Authorised Firm's Trading Book*;
- (B) the hedge position satisfies the *Netting Rules* contained in the relevant sections of the *Market Risk* section; and
- (C) the hedge position is marked to market or marked to model and is valued regularly on a prudent and consistent basis.

Guidance

If the conditions for incorporating the non-*Financial Instrument* in the calculation of *General Market Risk* in the *Trading Book* under Rule A1.5.1 are not met, they will be treated as *Non-Trading Book* items.

A1.5.2 For the purposes of Rule A1.5.1, the specific *Instrument* must be treated as attracting capital charges as if it were a *Financial Instrument*.

Guidance

For the purposes of section A1.5, a loan will attract *General Market Risk* (see chapter 5) and *Counterparty Risk* (see chapter 4) on the marked-to-market valuation.

A1.6 Hedging a Non-Trading Book Exposure by a Specific Financial Instrument

Guidance

A *Non-Trading Book Exposure* may be hedged, completely or partially, by a specific *Financial Instrument* that is normally considered to be eligible to be part of the *Trading Book*.

A1.6.1 If a specific *Financial Instrument* is used to hedge an *Exposure* in an *Authorised Firm's Non-Trading Book*, an *Authorised Firm* may take it out of the *Trading Book* for the period of the hedge and include it in the *Non-Trading Book*.

A1.7 Transfer of general Market Risk between the Trading Book and the Non-Trading Book

Guidance

1. *General Market Risk* arising from the *Trading Book* may hedge *Non-Trading Book* positions without reference to specific *Financial Instruments*. This is distinct from the guidance to section A1.6, which relates to the use of specific *Financial Instruments* to hedge *Non-Trading Book Exposures*.
2. An *Authorised Firm* may achieve the transfer of *General Market Risk* between the *Trading Book* and *Non-Trading Book* by entering into a notional legal agreement between the *Trading Book* and *Non-Trading Book* as if they were third parties.

A1.7.1 An *Authorised Firm* must ensure that:

- (A) a transfer of *General Market Risk* between its *Trading Book* and *Non-Trading Book* is subject to appropriate documentation and evidenced by a clear audit trail;
- (B) positions held in its *Non-Trading Book* that are being hedged by *General Market Risk* arising from positions in the *Trading Book* remain in the *Non-Trading Book*; and
- (C) the *General Market Risk Exposure* associated with the positions in the *Non-Trading Book* is incorporated into the calculation of *General Market Risk* in the *Trading Book*.

Guidance

An example of the application of Rule A1.7.1(c) is as follows:

- a. An *Authorised Firm* may have a fixed-rate loan portfolio in the *Non-Trading Book*. Although the *Non-Trading Book* does not attract a regulatory capital charge for interest rate risk, the portfolio is subject to interest rate risk. *Authorised Firms* may prefer to transfer this risk to the *Trading Book* where it may be actively managed.
- b. The *Authorised Firm* may transfer this interest rate risk by entering into, for example, a fixed versus floating rate swap between the *Trading Book* and the *Non-Trading Book*. The notional long and short positions created as result of the swap are recorded in the *Trading Book*, and the swap positions may be treated as *Financial Instruments* provided that appropriate documentation is in place (see Rule A1.7.2 below). The *General Market Risk Requirements* associated with the swap legs are allocated to the appropriate *Trading Book General Market Risk* bucket and thus may reduce the overall *General Market Risk Requirement* in the *Trading Book*.
- c. For an *Authorised Firm* to undertake such a transaction there should be existing positions in the *Trading Book*, which result in a sufficient *General Market Risk Requirement* to offset the *General Market Risk* created as a result of the swap.

A1.7.2 Appropriate documentation under Rule A1.7.1 must cover:

- (A) details of the *Instruments* or *Exposures* being transferred and the method used to transfer; and
- (B) the pricing of the transfer.

Guidance

1. Separate documentation need not be produced for every transfer. If the same method is used for a number of transfers, a single document detailing the procedures will suffice. However, an *Authorised Firm* must still be able to distinguish transactions that have been undertaken for risk transfer purposes from other transactions.
2. Arm's-length prices must be used in any transfer. 'Arm's-length' means the prevailing market price for the particular transaction.

App2 Capital

A2.1 Stress and Scenario Testing

Guidance

1. Stress and scenario testing seeks to anticipate possible losses or risks that might occur or become manifest. In applying them an *Authorised Firm* needs to decide how far forward to forecast and may want to consider the following factors:
 - a. how quickly it would be able to identify events or changes in circumstances that might lead to a loss occurring or risk crystallising; and
 - b. after the event or circumstance has been identified, how quickly and effectively the *Authorised Firm* could act to prevent or mitigate any resulting loss occurring or risk crystallising and to reduce its *Exposure* to any further adverse event or change in circumstance.
2. For example, the time horizon over which stress and scenario testing would need to be carried out for the *Market Risk* arising from the holding of investments would depend upon:
 - a. the extent to which there is a regular, open and transparent market in those assets, which would allow fluctuations in the value of the investment to be more readily and quickly identified; and
 - b. the extent to which the market in those assets is liquid (and would remain liquid in the changed circumstances contemplated in the stress or scenario test) which would allow the *Authorised Firm*, if needed, to sell its holding so as to prevent or reduce its *Exposure* to future price fluctuations.
3. *Authorised Firms* should focus on those scenarios and combinations of scenarios that are considered reasonably likely to occur. For this purpose other risks and losses include business risk, i.e. the potential impact of changes in business plans, future activities, and the business or economic environment.
4. In identifying what realistic combinations of losses or risks might occur or crystallise, an *Authorised Firm* should take into account scenarios in which expected correlations occur and where they might break down.
5. In identifying scenarios and assessing their impact, an *Authorised Firm* should take into account how changes in circumstances might impact upon:
 - a. the nature, scale and mix of future activities; and
 - b. the behaviour of *Counterparties*, and of the *Authorised Firm* itself, including the exercise of choices (including *Options* embedded in *Financial Instruments*).
6. In determining whether it would have adequate financial resources in the event of each identified adverse scenario, an *Authorised Firm* should:
 - a. only include financial resources that could reasonably be relied upon as being available in the circumstances of the identified scenario; and
 - b. consider any legal or other restriction on the purposes for which financial resources may be used, including any restriction on the transfer to the *QFC* of assets held overseas.

App3 Operational Risk [not currently used]

App4 Credit Risk

A4.1 Abbreviations

Guidance

Rule 4.1.2 sets out the abbreviations which are used in respect of *Credit Risk* as follows:

- a. CCF = credit conversion factor;
- b. CEA = the *Credit Equivalent Amount*;
- c. CPCOM = an *Authorised Firm's Counterparty Risk Capital Component*;
- d. CPW = the appropriate *Counterparty* weighting;
- e. CPX = the amount of the *Exposure*;
- f. CRCOM = an *Authorised Firm's Credit Risk Component*;
- g. CV = contracted value for delivery;
- h. MV = market value;
- i. NP = nominal principal amount;
- j. OTC = over the counter;
- k. PFCE = amount to capture *Potential Future Credit Exposure*; and
- l. T = trade date, the date on which a transaction is entered into.

A4.2 Credit Risk Systems and Controls

Guidance

1. Depending on an *Authorised Firm's* nature, scale, frequency, and complexity of *Credit Risk* granted or incurred, *Senior Management* of an *Authorised Firm* should consider whether the *Credit Risk* policy should include the following:
 - a. how, with particular reference to its activities, the *Authorised Firm* defines and measures *Credit Risk*;
 - b. the *Authorised Firm's* business aims in incurring *Credit Risk* including:
 - i. identifying the types and sources of *Credit Risk* to which the *Authorised Firm* wishes to be exposed (and the limits on that *Exposure*) and those to which the *Authorised Firm* wishes not to be exposed;
 - ii. specifying the level of diversification required by the *Authorised Firm* and the *Authorised Firm's* tolerance for risk concentrations and the limits on those *Exposures* and concentrations; and

- iii. stating the risk-return that the *Authorised Firm* is seeking to achieve on *Credit Risk Exposures*.
- c. how *Credit Risk* is assessed both when credit is granted or incurred and subsequently, including how the adequacy of any *Security* and other risk mitigation techniques are assessed;
- d. the detailed limit structure for *Credit Risk*, which should:
 - i. address all key risk factors, including *intra-Group Exposures*;
 - ii. be commensurate with the volume and complexity of activity; and
 - iii. be consistent with the *Authorised Firm's* business aims, historical performance, and the level of capital the *Authorised Firm* is willing to risk;
- e. procedures for:
 - i. approving new products and activities which give rise to *Credit Risk*;
 - ii. regular risk position and performance reporting;
 - iii. limit exception reporting and approval; and
 - iv. identifying and dealing with problem *Exposures*;
- f. the allocation of responsibilities for implementing the *Credit Risk* policy and for monitoring adherence to, and the effectiveness of, the policy; and
- g. the required information systems, staff and other resources.

Counterparty Risk Assessment

2. The *Authorised Firm* should make a suitable assessment of the risk profile of its *Counterparties*. The factors to be considered will vary according to both the type of credit and *Counterparty* such as whether the *Counterparty* is a *Company* or a sovereign *Counterparty* and may include:
 - a. the purpose of the credit and the source of repayment;
 - b. an assessment of the skill, integrity and quality of management and overall reputation of the *Counterparty*;
 - c. the legal capacity of the *Counterparty* to assume the liability to the *Authorised Firm*;
 - d. an assessment of the nature and amount of risk attached to the *Counterparty* in the context of the industrial sector or geographical region or country in which it operates and the potential impact on the *Counterparty* of political, economic and market changes; this assessment may include consideration of the extent and nature of the *Counterparty's* other financial obligations;
 - e. the *Counterparty's* repayment history as well as an assessment of the *Counterparty's* current and future capacity to repay obligations based on financial statements, financial trends, cashflow projections and the potential impact of adverse economic scenarios;
 - f. an analysis of the risk-return trade-off, with regard to the proposed price of the *Credit Facility*;

- g. the proposed terms and conditions attached to the granting of credit, including ongoing provision of information by the *Counterparty*, covenants attached to the facility, the adequacy and enforceability of *Collateral* and guarantees; and
 - h. the *Authorised Firm's* existing *Exposure* to the individual *Counterparty*, sector, country or product and the availability of credit given *Exposure* limits.
3. An *Authorised Firm* should document any variation from the usual credit policy.
 4. An *Authorised Firm* involved in loan syndications or consortia should not rely on other parties' assessments of the *Credit Risk* involved but should conduct a full assessment against its own *Credit Risk* policy.
 5. *Connected Counterparties* should be identified and the procedures for the management of the combined *Credit Risk* considered. It may be appropriate for *Authorised Firms* to monitor and report the aggregate *Exposure* against combined limits in addition to monitoring the constituent *Exposures* to the individual *Counterparties*.
 6. An *Authorised Firm* should consider whether it needs to assess the credit-worthiness of suppliers of goods and services to whom it makes material prepayments or advances.

Risk Assessment: Derivative Counterparties

7. An *Authorised Firm* should include in its *Credit Risk* policy an adequate description of:
 - a. how it determines with which *Derivative Counterparties* to do business;
 - b. how it assesses and continues to monitor the credit-worthiness of those *Counterparties*;
 - c. how it identifies its actual and contingent *Exposure* to the *Counterparty*; and
 - d. whether and how it uses credit loss mitigation techniques, e.g., margining, taking *Security* or *Collateral* or purchasing credit insurance.
8. In assessing its contingent *Exposure* to a *Counterparty*, the *Authorised Firm* should identify the amount which would be due from the *Counterparty* if the value, index or other factor upon which that amount depends were to change.

Risk Control

9. An *Authorised Firm* should consider setting credit limits for maximum *Exposures* to single and *Connected Counterparties*, as well as limits for aggregate *Exposures* to economic sectors, geographic areas, and on total *Credit Risk* arising from specific types of products. By limiting *Exposures* in these categories, an *Authorised Firm* can manage credit *Exposure* more carefully and avoid excessive concentrations of risk.
10. An *Authorised Firm* in *PIIB Category 1, 2, 3 or 5* is also subject to concentration limits and notification requirements in chapter 4.

Risk Measurement

11. An *Authorised Firm* should measure its *Credit Risk* using a robust and consistent methodology, which should be described in its *Credit Risk* policy. The *Authorised Firm* should consider whether the measurement methodology should be back-tested and the frequency of any such back-testing.
12. An *Authorised Firm* should also be able to measure its total *Exposure* across the entire credit portfolio or within particular categories such as *Exposures* to particular industries, economic sectors or geographical areas.

13. Where an *Authorised Firm* is a member of a *Group*, the *Group* should be able to monitor credit *Exposures* on a consolidated basis.
14. An *Authorised Firm* should have the capability to measure its credit *Exposure* to individual *Counterparties* on at least a daily basis.

Risk Monitoring

15. An *Authorised Firm* should implement an effective system for monitoring its *Credit Risk*, which should be described in its *Credit Risk* policy. The system may monitor the use of facilities, adherence to servicing requirements and covenants, and monitor the value of *Collateral* and identify problem accounts.
16. An *Authorised Firm* should consider the implementation of a system of management reporting which provides relevant, accurate, comprehensive, timely and reliable *Credit Risk* reports to relevant functions within the *Authorised Firm*.
17. An *Authorised Firm* should have procedures for taking appropriate action according to the information within the management reports, such as a review of *Counterparty* limits.
18. Particular attention should be given to the monitoring of credit that does not conform to usual *Credit Risk* policy, or which exceeds predetermined credit limits and criteria, but is sanctioned because of particular circumstances. Unauthorised exceptions to policies, procedures and limits should be reported in a timely manner to the appropriate level of management.
19. Individual credit facilities and overall limits and sub-limits should be periodically reviewed in order to check their performance and appropriateness for both the current circumstances of the *Counterparty* and in the *Authorised Firm's* current internal and external economic environment. The frequency of review will usually be more intense for higher-risk *Counterparties* or larger *Exposures* or in fluctuating economic conditions.
20. Appropriate stress testing of credit *Exposures* can be an essential part of the credit management process. Examination of the potential effects of economic or industry downturns, market events, changes in interest rates, changes in foreign exchange rates and changes in *Liquidity* conditions can provide valuable information about an *Authorised Firm's* *Credit Risk*. This information can be utilised to inform the *Authorised Firm's* ongoing credit strategy.
21. As new techniques for *Credit Risk* management, monitoring and reporting are developed, the *Authorised Firm* should ensure they are tested and evaluated before undue reliance is placed upon them.

Problem Exposures

22. An *Authorised Firm* should have processes for the timely identification and management of problem *Exposures*. These processes should be described in the *Credit Risk* policy.
23. Depending on the size and nature of the *Authorised Firm*, it may be appropriate for problem *Exposures* to be managed by a specialised function, independent of the functions that originate the business or maintain the ongoing business relationship with the *Counterparty*.
24. *Exposures* identified as problems or potential problems should be closely monitored by management, and an *Authorised Firm* should set out, for example, whether a loan grading system or a watch or problem list is used and, in the latter case, the criteria for adding an asset to or taking an asset off that list.
25. An *Authorised Firm* should have adequate procedures for recovering *Exposures* in arrears or those which had provisions made against them. These should allocate responsibility both internally and externally for its arrears management and recovery and define the involvement of the *Authorised Firm's* solicitors.

26. Requirements relating to provisioning against loss on problem *Exposures* are covered in chapter 4.

Risk Mitigation

27. Various methods can be used to mitigate *Credit Risk*, such as taking *Security* or *Collateral*, obtaining a guarantee from a *Third Party*, purchasing insurance or *Credit Derivatives*. *Authorised Firms* should view these as complementary to, rather than a replacement for, thorough credit analysis and procedures.
28. If an *Authorised Firm* takes *Security* or *Collateral* on credit facilities, appropriate policies and procedures should be documented covering:
- a. the types of *Security* or *Collateral* considered;
 - b. procedures governing the valuation and revaluation of *Security* or *Collateral* including the basis of valuation;
 - c. policies governing the taking of *Security* or *Collateral*, including obtaining appropriate legal title; and
 - d. policies governing possession of *Security* or *Collateral*.
29. The value of *Security* and *Collateral* should be monitored at an appropriate frequency. For example, commercial Property might be revalued annually, whereas *Securities* provided as *Collateral* should be marked to market usually on a daily basis. Residential Property may not need to be revalued annually, but information should be sought as to general market conditions.
30. When taking *Collateral* in support of an *Exposure*, an *Authorised Firm* should ensure that legal procedures have been followed, to ensure the *Collateral* can be enforced if required.
31. An *Authorised Firm* should consider the legal and financial ability of a guarantor to fulfil the guarantee if called upon to do so.
32. The *Authorised Firm* should analyse carefully the protection afforded by risk mitigants such as *Netting* agreements or *Credit Derivatives*, to ensure that any residual *Credit Risk* is identified, measured, monitored and controlled.
33. An *Authorised Firm* providing mortgages at high loan-to-value ratios should consider the need for alternative forms of protection against the risks of such lending, including mortgage indemnity insurance, to protect against the risk of a fall in the value of the *Property*.

Record Keeping

34. The *Authorised Firm* should maintain appropriate records of:
- a. credit *Exposures*, including aggregations of credit *Exposures*, by:
 - i. *Groups of Connected Counterparties*; and
 - ii. types of *Counterparty* as defined, for example, by the nature or geographical location of the *Counterparty*;
 - b. credit decisions, including details of the facts or circumstances upon which a decision was made; and
 - c. information relevant to assessing current credit quality.

35. Credit records should be retained for at least six years, subject to any requirement in the *Rules* requiring such records to be kept for a longer period.
36. It is important that sound and legally enforceable documentation is in place for each credit agreement as this may be called upon in the event of a default or dispute. An *Authorised Firm* should therefore consider whether it is appropriate for an independent legal opinion to be sought on documentation used by the *Authorised Firm*. Documentation should be in place before the *Authorised Firm* enters into a contractual obligation or releases funds.

Country Risk Exposure

37. Chapter 4 does not provide limits on the size of an *Authorised Firm's Exposure* to a particular country or region. However, an *Authorised Firm* which has *Large Exposures* in a country or region should include in its *Credit Risk* policy:
 - a. the geographical areas in which the *Authorised Firm* does or intends to do business;
 - b. its definition of 'Credit Risk' and 'Exposure' in each country or region;
 - c. how to measure its total *Exposure* in each country or region and across several countries or regions;
 - d. the types of business the *Authorised Firm* intends to undertake in each country or region;
 - e. limits on *Exposures* to an individual country or region which the *Authorised Firm* deals with, and sub-limits for different types of business if appropriate;
 - f. the procedure for setting and reviewing country or regional limits; and
 - g. the process by which the *Authorised Firm's* actual country or regional *Exposures* will be monitored against limits and the procedure to be followed if the limits are breached.
38. When setting country or regional limits, an *Authorised Firm* should consider:
 - a. the economic and political circumstances prevailing in the country or region;
 - b. the type and maturity of business undertaken by the *Authorised Firm* in a particular country or region;
 - c. the *Authorised Firm's* existing concentration of country or regional risk;
 - d. the source of funding for the country or regional *Exposure*; and
 - e. sovereign or other guarantees offered.

Provisioning

39. Depending upon the nature of the *Authorised Firm* and its business, the *Authorised Firm's* provisioning policy should set out:
 - a. who has responsibility for reviewing the provisioning policy and approving any changes;
 - b. how frequently the policy should be reviewed;
 - c. when the review will take place, including the circumstances in which a review might be more frequent;

- d. who has primary responsibility for ensuring the provisioning policy remains appropriate, including any division of responsibilities;
- e. the areas of its business to which the provisioning policy relates;
- f. where it takes different approaches to different lines of its business and the key features of those differences; and
- g. who has responsibility for monitoring its asset portfolio on a regular basis in order to identify problem or potential problem assets and the factors it takes into account in identifying them.
- h. whether a loan grading system or a watch or problem list is used and, in the latter case, the criteria for adding an asset to or taking an asset off that list;
- i. the extent to which the value of any *Collateral*, guarantees or insurance which the *Authorised Firm* holds affects the need for or size of provision;
- j. on what basis the *Authorised Firm* makes its provisions, including the extent to which the level of provisioning is left to managerial judgement or to a committee or involves specified formulae and the methodologies or debt management systems and other formulae used to determine provisioning levels for different business lines and the factors applied within these methodologies;
- k. who is responsible for ensuring that the *Authorised Firm's* provisioning policy is being implemented properly, and the measures the *Authorised Firm* has in place if its provisioning policies are not adhered to;
- l. who is responsible for the regular reviews of the *Authorised Firm's* specific and general provisions and who decides whether provision levels are satisfactory. The reviews should take account of changes in the status of the *Exposures* and potential losses and changes in the conditions associated with them;
- m. the reports used to enable management to ensure that the *Authorised Firm's* provisioning levels remain satisfactory, the frequency and purpose of those reports and their circulation;
- n. the procedures for recovering *Exposures* in arrears or *Exposures* which have had provisions made against them, including who has responsibility both internally and externally for its arrears management and recovery and the involvement of the *Authorised Firm's* solicitors;
- o. the procedures and methodologies for writing off and writing back provisions, including treatment of interest and who has the relevant responsibility for determining these; and
- p. the frequency of any review of its write off experience against provisions raised; such a review can help identify whether an *Authorised Firm's* policies result in over or under provisioning across the business cycle, and contribute to a general review of an *Authorised Firm's* provisioning policy and the design of any loan grading systems, *Credit Risk* models, and risk pricing; and
- q. the *Authorised Firm's* procedures and methodologies for calculating and raising provisions for contingent and other liabilities, how frequently they should be reviewed and who has the relevant responsibilities. Other liabilities include the crystallisation of contingent liabilities such as acceptances, endorsements, guarantees, performance bonds, indemnities, irrevocable letters of credit and the confirmation of documentary credits.

40. Provisions may be general (against the whole of a given portfolio) or specific (against particular *Exposures* identified as bad or doubtful), or both. The *Regulatory Authority* expects contingent liabilities and anticipated losses to be recognised in accordance with the applicable accounting standards.
41. Appropriate systems and controls for provisions vary with the nature, scale and complexity of the credit granted. An *Authorised Firm* for which the extension of credit is a substantial part of its business is expected to have greater regard to developing, implementing and documenting a provisioning policy than an *Authorised Firm* for which *Credit Risk* is incidental to the operation of its business.
42. The *Regulatory Authority* recognises that the frequency with which an *Authorised Firm* reviews its provisioning policy once it has been established will vary from *Authorised Firm* to *Authorised Firm*. However, the *Regulatory Authority* expects an *Authorised Firm* to review its policy to ensure it remains appropriate for the business it undertakes and the economic environment in which it operates.

A4.3 Credit Risk in the Non-Trading Book

Guarantees

A4.3.1 An *Authorised Firm* may reduce the risk weighting on a *Non-Trading Book* item that has been directly, explicitly, irrevocably and unconditionally guaranteed by a *Third Party* to the risk weighting of the guarantor where the risk weighting of the guarantor is lower than that for the underlying borrower or *Counterparty*.

A4.3.2 In Rule A4.3.1:

- (A) ‘Directly’ means that the guarantee must represent a direct claim on the guarantor;
- (B) ‘Explicitly’ means that the guarantee must be linked to a specific *Exposure* or *Exposures*, so that the extent of the guarantee’s coverage is clearly defined;
- (C) ‘Irrevocably’ means that the guarantee must contain no clause that would allow the guarantor unilaterally to cancel the guarantee; and
- (D) ‘Unconditionally’ means that the guarantee must contain no clause that might prevent the guarantor from being obliged to pay out in a timely manner if the borrower or obligor fails to make the payment or payments due to the *Authorised Firm*.

A4.3.3 The *Authorised Firm* must also obtain a written, reasoned and reputable external legal opinion confirming that the guarantee is:

- (A) legally well founded in all relevant jurisdictions; and
- (B) enforceable in the default, bankruptcy, liquidation or other similar circumstances affecting either the *Counterparty* or the *Authorised Firm*.

Guidance

An *Authorised Firm* may rely on standard guarantee agreements but should check with its legal advisors in respect of each such transaction that the above requirements are met.

A4.3.4 An *Authorised Firm* that has guaranteed an *Exposure* to a borrower jointly and severally must consider its *Share* of the guarantee, as explicitly defined or otherwise equal to the total value of the guarantee divided by the number of guarantors, as an *Exposure* on the borrower and the balance as an *Exposure* on the other guarantors.

Risk Weighting Framework**100% Weightings**

A4.3.5 The *CPW* is 100% for all on-balance sheet assets unless a reduced risk weighting applies.

Guidance

1. The items below are examples of assets which attract a 100% *CPW*:
 - a. claims on individual and corporate *Persons*, and on commercial entities owned by the public sector;
 - b. claims on *Deposit-takers* and principal dealers authorised in a *Zone 2* country, with a *Residual Maturity* over one year;
 - c. claims on *Zone 2* central governments and central banks (unless the claim is denominated in the national currency of the borrower and funded by the borrower by liabilities in the same currency);
 - d. claims on *Zone 2* regional governments or *Local Authorities*;
 - e. claims on *Zone 2 Public Sector Entities*;
 - f. *Collective Investment Funds*;
 - g. premises, plant, equipment and other fixed assets;
 - h. real estate, and *Property* developments; and
 - i. trade investments, unsecured loans, prepayments, accrued income, and sundry debtors.
2. Other risk weightings are set at 50% related to residential mortgages, 20%, 10%, and 0%.

50% Weightings

A4.3.6 The following items attract a 50% *CPW*:

- (A) loans fully secured on residential *Property* which is (or is to be) owned and occupied by the borrower, or is rented by the borrower;
- (B) mortgage-backed *Securities* (MBS) issued by a mortgagor or a *Special Purpose Vehicle*, provided that the following conditions are met:

- (i) the MBS embody an express promise to repay the bearer;
 - (ii) the issue documentation contains provisions which would enable any noteholder to initiate legal proceedings directly against the *Issuer* of the MBS;
 - (iii) the issue documentation contains provisions which should ultimately enable the noteholders, individually or collectively, to acquire the legal title to the underlying mortgage assets and to realise these assets if the *Issuer* defaults;
 - (iv) the mortgage loans meet the conditions in (A);
 - (v) the mortgage loans are not in default when they are transferred to the vehicle; and
 - (vi) subject to (G), the *Special Purpose Vehicle's* activities are restricted to mortgage business.
- (C) 'fully secured' means a first priority charge on the *Property*, the value of which is greater than or equal to the amount of the loan. A second charge may also be included where an *Authorised Firm* already has a first priority charge on the *Property* concerned;
- (D) if a mortgage loan subsequently becomes less than fully secured, the *CPW* of that loan increases to 100% unless the shortfall in *Security* is fully covered by a specific provision, in which case the *CPW* remains 50%;
- (E) for the purposes of interpretation, there is no requirement for an *Authorised Firm* to revalue a *Property* on a regular basis, but where a revaluation has taken place and reveals that the loan to value ratio has risen above 100% (that is the loan is not fully secured), the *CPW* on that loan increases to 100%. Conversely, where a revaluation indicates that the loan to value ratio has fallen to or below 100%, the loan may be weighted at 50% because it is fully secured;
- (F) in relation to a mortgage loan, 'in default' means that the borrower has missed more than two monthly payments, or that the *Authorised Firm* has taken enforcement proceedings or other legal steps to recover any amount overdue; and
- (G) a *Special Purpose Vehicle* still qualifies as such if it holds assets (such as government bonds or *Securities*) qualifying for a *CPW* of 50% or less.

20% Weightings

A4.3.7 The following items attract a 20% CPW:

- (A) claims on *Multilateral Development Banks*;
- (B) claims on *Deposit-takers* authorised in a *Zone 1* country;
- (C) claims on *Deposit-takers*, authorised in a *Zone 2* country, with a *Residual Maturity* of one year or less;
- (D) cash items in the course of collection;
- (E) claims on *Zone 1* regional governments, *Local Authorities*, and *Public Sector Entities*;
- (F) claims on principal dealers authorised in a *Zone 1* country;
- (G) claims on *Zone 1* clearing houses and exchanges;
- (H) *Zone 1* central government and central bank fixed rate bills and *Securities* with a *Residual Maturity* of over one year;
- (I) *Zone 2* central government and central bank bills and *Securities* with a *Residual Maturity* of over one year, denominated in the national currency of the borrower and funded by the *Authorised Firm* by liabilities in the same currency; and
- (J) claims on *PIIB Category 5 Authorised Firms*.

10% Weightings

A4.3.8 The following items attract a 10% CPW:

- (A) *Zone 1* central government and central bank fixed interest-rate paper with a *Residual Maturity* of one year or less;
- (B) *Zone 1* central government and central bank floating-rate paper of any maturity; and
- (C) *Zone 2* central government and central bank paper with a *Residual Maturity* of one year or less, denominated in the national currency of the borrower and funded by the *Authorised Firm* in the same currency.

0% Weightings

A4.3.9 The following items attract a 0% CPW:

- (A) cash;

- (B) gold bullion;
- (C) claims on *Zone 1* central governments and central banks, other than holdings of bills, paper or *Securities* issued by them;
- (D) claims on *Zone 2* central governments and central banks, other than holdings of bills, paper and *Securities* issued by them, if the claims are denominated in the national currency of the borrower and funded by the *Authorised Firm* in the same currency; and
- (E) claims on a *Connected Counterparty* which is a member of an *Authorised Firm's Group* and which is incorporated in the *QFC*.

Off-balance Sheet Risk: Credit Conversion Factors

100% CCF

A4.3.10 For the purpose of calculating the *Credit Risk* for off-balance sheet transactions, other than *OTC Derivatives* contracts, free deliveries and *Unsettled Transactions*, the CCF will be 100% unless reduced CCF applies.

Guidance

1. The following are examples of transactions which attract a 100% CCF:
 - a. direct credit substitutes;
 - b. sale and repurchase agreements, and transactions with recourse where the *Credit Risk* remains with the *Authorised Firm*; and
 - c. forward asset purchases, forward *Deposits* placed and the unpaid part of partly-paid *Securities*.
2. Direct credit substitutes are transactions where the risk of loss to the *Authorised Firm* on the transaction is equivalent to a direct claim on the *Counterparty*, i.e. the risk of loss depends on the creditworthiness of the *Counterparty*. Examples of direct credit substitutes include general guarantees of indebtedness, irrevocable standby letters of credit (serving as financial guarantees), acceptances and endorsements.
3. A forward *Deposit* is an agreement between two parties under which one will pay and the other receive an agreed rate of interest on a *Deposit* to be placed by one party with the other party at some predetermined date in the future. The weight is determined according to the *Counterparty* with which the *Deposit* will be placed.
4. *Foreign Currency* spot *Deposits* with value dates one or two business days after the trade date are not treated as forward *Deposits*.
5. If an *Authorised Firm* holds partly-paid *Securities*, the unpaid part attracts a 100% CCF.

50% CCF

A4.3.11 The following transactions attract a 50% CCF:

- (A) transaction-related contingent items not having the character of direct credit substitutes;
- (B) note issuance facilities and revolving underwriting facilities;
- (C) other undrawn credit commitments with an *Original Maturity* of over one year and which are not unconditionally cancellable at any time; and
- (D) undrawn credit facilities with an *Original Maturity* of up to one year and rolling undated or open ended commitments that do not meet the requirements of Rules A4.3.13 and A4.3.14.

Guidance

1. Transaction-related contingent items are transactions where the risk of loss to the *Authorised Firm* depends on the likelihood of a future event, which is independent of the creditworthiness of the *Counterparty*. Examples include the calling of performance bonds, bid bonds, customs and tax bonds, warranties, and standby letters of credit related to specific transactions, not having the character of credit substitutes.
2. Examples of undrawn commitments include formal standby facilities and unused lines of credit.
3. An *Authorised Firm* should refer to section A4.4 to determine the *Original Maturity* of a commitment.

20% CCF

A4.3.12 Documentary credits in which the underlying shipment acts as *Collateral* and other self-liquidating trade-related contingencies must attract a 20% CCF.

0% CCF

A4.3.13 Endorsements of bills which had previously been accepted by any *Authorised Firm* in *PIIB Category 1* or *PIIB Category 5* or by a *Zone 1 Deposit taker* and undrawn credit facilities with an *Original Maturity* of up to one year or which can be cancelled unconditionally at any time must attract a 0% CCF.

Guidance

An *Authorised Firm* should refer to section A4.4 to determine the *Original Maturity* of a commitment.

A4.3.14 Rolling, undated or open-ended commitments (for example, overdrafts) do not attract 0% CCF unless they are also cancellable unconditionally at any time without notice, and subject to a credit review by the *Authorised Firm* at least annually. Such commitments which are not unconditionally cancellable at any time attract 50% CCF.

Off-balance Sheet Risk: CPW

A4.3.15 The *CPW* of a repurchase agreement must be determined by reference to the *Issuer* of (or, if not applicable, the obligor under) the asset subject to the agreement, and not to the *Counterparty* to the repurchase agreement.

Guidance

An *Authorised Firm* that has sold the *Securities* in a repurchase agreement transaction retains *Issuer* risk on the *Securities* and not risk on the repurchase agreement *Counterparty*.

A4.3.16 The *CPW* of a reverse repurchase agreement must be determined as if the agreement were a *Collateralised* loan to the *Counterparty* to the repurchase agreement.

Guidance

1. *Counterparty* risk only arises on reverse repurchase agreements when the *Securities* are not *Acceptable Collateral* or are worth less than the cash paid out. In both cases, an *Authorised Firm's Counterparty Risk* may be reduced by *Netting*.
2. *Netting* against reverse repurchase agreement *Exposures* where the *Collateral* is *Acceptable* is not possible because the *Exposure* is against the *Issuer* of the *Collateral*; similarly, *Netting* against repurchase agreement *Exposures* is not possible because the *Exposure* is to the *Issuer* and not to the repurchase agreement *Counterparty*.

A4.3.17 The *CPW* of a transaction under which an *Authorised Firm* sells an asset with recourse, with the result that the *Credit Risk* remains with the *Authorised Firm*, must be determined by reference to the asset and not to the *Counterparty* to the sale.

A4.4 The Maturity of a Commitment

A4.4.1 For the purposes of section A4.3, the *Original Maturity* of a commitment, including forward commitments, must be measured from the earlier of:

- (A) 30 days or, in the case of syndicated facilities, 60 days following the date of the firm offer; and
- (B) the date at which the facility becomes available to be drawn down

until the facility expires.

Guidance

The window provided above gives a reasonable period after the date of the *Authorised Firm's* offer to allow the practicalities of arranging a facility such as finalising documentation to be completed.

A4.4.2 A commitment must be excluded from the *CRCOM* calculation following its expiry date when the facility is no longer available to be drawn down.

Guidance

Even if the formal facility agreement provides for an *Original Maturity* of a set period of time, an *Authorised Firm* should satisfy itself that it has not assumed an additional legal or moral obligation to maintain the facility for longer than that period. If the *Authorised Firm* has assumed an additional legal or moral obligation, the *Authorised Firm* should regard the commitment as having an *Original Maturity* in excess of the specified period of time, and in such cases *CRCOM* should be calculated. This line of reasoning also applies to facilities which the Customer reasonably expects to be extended automatically.

A4.4.3 For the purposes of section A4.4, an offer is:

- (A) a legally binding offer that gives rise to a binding contract if it is accepted; or
- (B) a non-legally binding offer except one that is expressly made on terms that:
 - (i) it is subject to credit assessment; or
 - (ii) there are express circumstances under which it may be withdrawn.

Guidance

1. Examples of such circumstances include an *Authorised Firm* reserving the right to withdraw at its discretion an offer where it is subject to documentation or force majeure and material adverse change clauses.
2. It follows from the above that the date of an offer is often before the date of signature of an agreement to provide a facility.

A4.4.4 Where the terms of a commitment have been renegotiated or the maturity of a commitment has been extended, or both, an *Authorised Firm* must measure the *Original Maturity* from the start of the initial commitment until the expiry date of the renegotiated or extended facility. The only exception is where the renegotiation or extension involves a full credit assessment of the *Customer* and the *Authorised Firm* has the unconditional right, without notice, to withdraw the existing commitment at the time when the renegotiation or extension is requested. In that case, an *Authorised Firm* must treat the extended or renegotiated facility as a new commitment.

A4.4.5 Where an *Authorised Firm* enters into two or more commitments, which are arranged simultaneously for the same or connected *Customers*, the *Authorised Firm* must view them as linked. An *Authorised Firm* must aggregate the commitments and treat their maturity as that of the longest of the individual commitment.

A4.4.6 Where an *Authorised Firm* enters into linked commitments that begin or mature at different dates, it must measure the maturity of the combined commitment from the start of the first commitment to the expiry date of the last commitment.

A4.4.7 Where a commitment provides for a *Customer* to have a facility limit, which varies during the commitment period, an *Authorised Firm* must take the amount of the commitment as the maximum amount which can be outstanding during the commitment.

A4.5 Unsettled Transactions, Free Deliveries and OTC Derivatives

Guidance

1. The section applies to both *Trading Book* and *Non-Trading Book* transactions.
2. Where settlement does not occur on the due date and neither party has released the relevant cash or *Securities*, an *Authorised Firm* faces *Market Risk*, namely the differential between the contract price of the *Securities* and their current value in the market. In this case an *Authorised Firm* faces a *CPCOM* or *CRCOM* charge for the unsettled transaction.
3. An *Authorised Firm* is at risk for the whole amount of the contract (as well as any further movement in price) if it has delivered its leg of a contract before receipt of the other leg. In this case an *Authorised Firm* faces a *CPCOM* or *CRCOM* charge for the free delivery transaction.
4. For *OTC Derivatives* and other contracts, an *Authorised Firm* is exposed to settlement risk. For an *OTC Derivative* contract, the risk is that the price moves in an *Authorised Firm's* favour so that it makes a book profit but at maturity the *Authorised Firm* cannot realise that profit because the other party defaults. The amount at risk is therefore less than the *Authorised Firm's* nominal *Exposure* and is measured by calculating the proportion of the nominal *Exposure* considered to be at risk - the *Credit Equivalent Amount*.

A4.5.1 *CPWs* must be calculated on the *Counterparty* to the transaction, not on the *Issuer* of the *Security*.

A4.5.2 When calculating its total *CPCOM* or *CRCOM*, an *Authorised Firm* must not include *CPCOM* or *CRCOM* on a transaction if it is a negative amount.

A4.5.3 *CPW* is applied in accordance with section A4.3 except that the maximum *CPW* for an *OTC Derivative* is 50%.

Unsettled Delivery Versus Payment Transactions

A4.5.4 The *CPCOM* or *CRCOM* for transactions on a delivery versus payments basis where the transaction remains unsettled after the due date is given by the formula:

CPCOM or *CRCOM* on *Unsettled Transactions* = *CPX* x the appropriate percentage from the second column in the table below:

Number of business days after due settlement date	Percentages used for calculation of <i>CPCOM</i> or <i>CRCOM</i> on <i>Unsettled Transactions</i>
5-15	8%
16-30	50%
31-45	75%
46 or more	100%

A4.5.5 If *Securities* are to be received by the *Authorised Firm* and the transaction remains unsettled: $CPX = MV - CV$.

A4.5.6 If *Securities* are to be delivered by the *Authorised Firm* and the transaction remains unsettled: $CPX = CV - MV$.

A4.5.7 If the values for CPX calculated above are negative, $CPCOM$ or $CRCOM = 0$

Free Delivery Transactions

A4.5.8 The $CPCOM$ or $CRCOM$ for transactions in which an *Authorised Firm* has:

- (A) delivered *Securities* or commodities before receiving payment; or
- (B) paid for *Securities* or commodities before receiving the items purchased; or
- (C) entered into a foreign exchange contract undertaken in the spot market or contracted for forward settlement and has released funds to its *Counterparty* but has not yet received the funds in the other currency

is calculated by the formula: $CPCOM$ or $CRCOM$ on free deliveries = $CPX \times CPW \times$ the appropriate percentage from the table below:

Number of business days since delivery	Percentages used for calculation of $CPCOM$ or $CRCOM$ on free deliveries
0-15	8%
16-30	50%
31-45	75%
46 or more	100%

A4.5.9 If an *Authorised Firm* has delivered commodities or *Securities* to a *Counterparty* and has not received payment: $CPX = CV$ due to the *Authorised Firm*.

A4.5.10 If an *Authorised Firm* has made payment to a *Counterparty* for commodities or *Securities* and has not received them: $CPX = MV$ of the commodities or *Securities*.

A4.5.11 If the settlement of the transaction is to be effected across a national border: $CPCOM$ or $CRCOM = 0$ (provided the gap between the due date for delivery and receipt is no more than one business day; otherwise the formula for free delivery transactions must apply).

OTC Derivatives

A4.5.12 (1) For *OTC Derivative* transactions: $CPCOM$ or $CRCOM = CEA \times CPW \times 8\%$.

- (2) Contracts traded on exchanges, where they are subject to daily margining requirements, are excluded.

A4.5.13 $CEA = MV$ of the *OTC Derivative* contract (if positive, otherwise zero) + *PFCE*.

Guidance

Details of how to net the *PFCE* are given in section A4.9.1.

A4.5.14 *PFCE* is calculated by multiplying the *NP* of the contract by the appropriate percentage from the table below.

Type of contract		Residual Maturity of contract		
		<1 Year	1-5 Years	>5 Years
Single currency interest rate basis swaps		0%	0%	0%
Interest rate	Single currency interest rate swaps other than basis swaps Multiple currency basis swaps Forward-rate agreements Interest rate futures Interest rate <i>Options</i> purchased Derivatives referenced on an <i>Investment Grade</i> debt item Other contracts of a similar nature to those in this box.	0%	0.5%	1.5%
Foreign exchange (including gold) except as referred to in A4.5.15	Cross-currency interest-rate swaps. Forward foreign exchange contracts. Currency futures. Currency <i>Options</i> purchased. Other contracts of a similar nature to those in this box, including gold.	1.0%	5%	7.5%
Equities	Cash settled forward contracts Contracts of a nature similar to those in the interest rate and foreign exchange boxes. Derivatives referenced on a bond which is not an <i>Investment Grade</i> Debt Item.	6%	8%	10%
Precious metals (except gold)	Contracts of a nature similar to those in the interest rate and foreign exchange boxes concerning precious metals, except gold.	7%	7%	8%
Commodities (except precious metals) and any other contracts	Contracts of a nature similar to those in the interest rate or foreign exchange boxes concerning commodities other than precious metals.	10%	12%	15%

A4.5.15 If the contract is an *OTC* foreign exchange contract (not including gold) with an *Original Maturity* of fourteen calendar days or less: $CEA = 0$.

A4.5.16 Where a contract price is based upon more than one underlying *Instrument*, the higher of the relevant *PFCE* multipliers must be used.

Guidance

Authorised Firms should refer to section A4.9 for *Rules* in respect of calculating a net *PFCE* on *OTC Derivative* contracts.

A4.6 Repurchase Agreements, Reverse Repurchase Agreements, Similar Transactions and other Deferred Settlements

A4.6.1 This section applies to transactions in the *Trading Book* in relation to repurchase agreements, reverse repurchase agreements, similar transactions and deferred settlements.

A4.6.2 For repurchase agreements and reverse repurchase agreements the formula for *CPCOM*, which must be calculated from *T*, is as follows: $CPCOM = CPX \times CPW \times 8\%$.

A4.6.3 For repurchase agreements: $CPX = MV$ of the *Securities* sold - value of the *Collateral* or cash received.

A4.6.4 For reverse repurchase agreements: $CPX =$ Amount paid or *Collateral* given - *MV* of the *Securities* received.

A4.6.5 If the *CPX* calculated is negative: $CPCOM = 0$.

A4.6.6 The *MV* of *Securities* and the value of cash lodged must include accrued interest.

A4.6.7 For deferred settlement purchases and sales transactions over the spot period: $CPCOM = 0$.

A4.6.8 The 'spot period' means the shortest time between *T* and:

- (A) the contractual settlement date;
- (B) the normal local market settlement date; and
- (C) $T + 20$ business days.

A4.6.9 For deferred settlement purchases and sales transactions with a contractual settlement date after the spot period as set out above but less than $T + 30$ business days: $CPCOM = CPX \times CPW \times 8\%$.

- A4.6.10** For deferred settlement purchases and sales transactions with a contractual settlement date exceeding $T + 30$ business days: $CPCOM$ for deferred settlement transactions = $CPX \times CPW \times$ the appropriate percentage from the table below:

Number of business days calculated from T	Percentages used for calculation of CPCOM on deferred settlement transactions where the contractual settlement date exceeds $T + 30$ business days
0-15	8%
16-30	50%
31-45	75%
46 or more	100%

Guidance

$CPCOM$ for deferred settlement transactions applies even if the deferred settlement contract is not overdue.

A4.7 Other Trading Book Transactions

- A4.7.1** For *Counterparty Exposures* in the *Trading Book* not covered by sections A4.5 and A4.6, the following formula applies: $CPCOM = CPX \times CPW \times 8\%$.

Guidance

Examples include *Counterparty Exposures* in relation to exchange-traded *Derivatives*, unpaid margin requirements, *Trading Book* qualifying *Deposits*, and fees and interest.

- A4.7.2** Where a *Counterparty* has not fully paid a margin requirement on a *Derivative* transaction listed on an exchange or cleared through a clearing house: $CPX =$ the shortfall.
- A4.7.3** Where an *Authorised Firm* sells or writes an *Option* to a *Counterparty* or buys an *Option* on behalf of a *Counterparty* and the *Counterparty* has not paid the full *Option* premium: $CPX =$ the uncovered premium on the transaction.
- A4.7.4** Where a *Counterparty* has not fully met amounts owed to an *Authorised Firm* arising out of losses on closed-out *Derivative* transactions or has not fully settled amounts owed in respect of periodic or final settlement of transactions: $CPX =$ the unpaid loss.

A4.8 Concentration Risk

Fully-Exempt Exposures

- A4.8.1** An *Authorised Firm* may treat the following *Exposures* as exempt from the *Concentration Risk* limits in chapter 4 if they are to *Counterparties* not connected to the *Authorised Firm*:

- (A) *Exposures to Zone 1 central governments and central banks;*
- (B) *Exposures to Zone 2 central governments and central banks denominated in the national currency of the Counterparty and which:*
 - (i) *the Authorised Firm funds in the same currency; or*
 - (ii) *are Trading Book items;*
- (C) *Exposures Collateralised by Securities issued by Zone 1 central governments or central banks provided that the enforceability requirements in Rule 4.6.5 are met;*
- (D) *Exposures for which the Authorised Firm has Collateral in the form of cash or certificates of Deposit, including certificates of Deposit issued by the Authorised Firm, held by the Authorised Firm, or held by the Authorised Firm's parent Regulated Financial Institution or a Subsidiary of the Authorised Firm, but only if:*
 - (i) *the Authorised Firm and its parent Regulated Financial Institution or the Subsidiary of the Authorised Firm concerned are subject to consolidated supervision; and*
 - (ii) *the enforceability requirements in Rule 4.6.5 are met;*
- (E) *Exposures with a maturity of one year or less, not constituting their own Capital Resources, to a:*
 - (i) *Zone 1 Deposit-taker or principal dealer;*
 - (ii) *Zone 1 clearing house or exchange; or*
 - (iii) *Multilateral Development Bank;*
- (F) *Exposures collateralised by other Securities, issued by a commercial Entity incorporated in a Zone 1 country or a Zone 1 regional government or Local Authority, or Multilateral Development Bank, provided that all of the following conditions are met:*
 - (i) *the Securities are not issued by the Authorised Firm itself or a member of its Group;*
 - (ii) *the Securities are not issued by the Counterparty to which the Exposure arises;*
 - (iii) *the Securities are readily realisable;*
 - (iv) *the marked-to-market value of the Securities is at least 200% of the value of the Exposure secured except that:*

- (a) the marked-to-market value of the *Securities* must be at least 250% of the value of the *Exposure* secured where the *Securities* are *Shares* issued by a commercial *Entity* incorporated in a *Zone 1* country; and
- (b) the marked-to-market value of the *Securities* must be at least 150% of the value of the *Exposure* secured where the *Securities* are debt *Securities* issued by a *Zone 1 Deposit-taker*, which do not constitute its own *Capital Resources*; or debt *Securities* issued by a *Multilateral Development Bank* or a *Zone 1* regional government or *Local Authority*; and
- (v) the enforceability requirements in Rule 4.6.5 are met;
- (G) material holdings in *Regulated Financial Institutions* and other *Exposures* which have been deducted from an *Authorised Firm's Capital Resources* as required in chapter 2; and
- (H) debtors and accruals in respect of performance fees in relation to a *PIIB Category 3 Authorised Firm* where such income does not form part of an *Authorised Firm's* reserves for capital adequacy purposes.

Guidance

A *PIIB Category 3 Authorised Firm* may seek a waiver from the *Regulatory Authority* in relation to the *Concentration Risk* limits in chapter 4 where the *Authorised Firm* has significant fees receivable or accrued.

Partially Exempt Exposures

- A4.8.2** If an *Exposure* is partially secured by *Collateral* that meets the requirements of Rule A4.8.1(F) only that part of the *Exposure* which is secured by *Collateral* is exempt from the *Concentration Risk* limits in chapter 4.
- A4.8.3** If an *Exposure* is partially guaranteed by an *Authorised Firm's* parent *Regulated Financial Institution* only that part of the *Exposure* subject to the guarantee is exempt from the *Concentration Risk* limits in chapter 4.
- A4.8.4** For the purposes of calculating an *Exposure* against the *Concentration Risk* limits, an *Authorised Firm* may choose to reduce the following *Exposures* to the stated percentage of their value in accordance with the table below.

Types of Exposure	Percentage
<i>Exposures</i> to a <i>Zone 1</i> regional government or <i>Local Authority</i> or <i>Exposures</i> guaranteed by such a government or <i>Local Authority</i> .	20%
<i>Exposures</i> arising from a derivative contract to a <i>Deposit-taker</i> or principal dealer from a <i>Zone 1</i> country with a maturity of over one year and not more than three years.	20%
<i>Exposures</i> to <i>Readily Realisable Investment</i> with a maturity of over one year but no more than three years issued by <i>Deposit-taker</i> or principal dealer from a <i>Zone 1</i> country, provided that these <i>Securities</i> are held in the <i>Authorised Firm's Trading Book</i> and are	50%

not issued by a <i>Counterparty</i> or <i>Counterparties</i> connected to the <i>Authorised Firm</i> .	
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Exposures to Undisclosed Counterparties

A4.8.5 An *Authorised Firm* must not incur an *Exposure* to an undisclosed *Counterparty*.

A4.8.6 Identification of Counterparties

Guidance

1. An individual *Counterparty* is a natural or legal *Person*, which includes governments, *Local Authorities*, *Public Sector Entities*, trusts, corporations, unincorporated businesses and non-profit-making bodies.
2. Examples of a *Counterparty* include:
 - a. the *Customer* or borrower;
 - b. where the *Authorised Firm* is providing a guarantee, the *Person* guaranteed;
 - c. for a *Derivatives* contract, the *Person* with whom the contract was made;
 - d. for most exchange-traded contracts involving a central clearing mechanism, that central clearing mechanism; and
 - e. where a bill held by an *Authorised Firm* has been accepted by another *Authorised Firm*, the acceptor.

Group of Closely Related Counterparties

A4.8.7 A single *Group of Closely Related Counterparties* means, in relation to an *Authorised Firm*, all the *Persons* to which the *Authorised Firm* has an *Exposure* and which are *Closely Related* to each other.

A4.8.8 *Persons* are *Closely Related* if:

- (A) the insolvency or default of one of them is likely to be associated with the insolvency or default of the others;
- (B) it would be prudent when assessing the financial condition or creditworthiness of one to consider that of the others; or
- (C) there is, or is likely to be, a close relationship between the financial performance of those *Persons*.

A4.8.9 An *Authorised Firm* must treat two or more *Persons* as falling within a *Group of Closely Related Counterparties* if the *Authorised Firm* has *Exposures* to them all and any loss to the *Authorised Firm* on any of the *Exposures* to one is likely to be associated with a loss to the *Authorised Firm* with respect to at least one *Exposure* to each of the others.

A4.8.10 *Persons* who are *Closely Related* to each other are also connected with each other.

Connected Counterparties

A4.8.11 For *Concentration Risk* purposes, and in relation to a *Person*, a *Connected Counterparty* means another *Person* to whom the first *Person* has an *Exposure* and who fulfils one of the following conditions:

- (A) he is connected to the first *Person*; or
- (B) he is an *Associate* of the first *Person*; or
- (C) the same *Persons* significantly influence the *Governing Body* of each of them; or
- (D) one of those *Persons* has an *Exposure* to the other that was not incurred for the clear commercial advantage of both of them and which is not on arm's length terms.

Connected Counterparty Exemptions

A4.8.12 An *Authorised Firm* may treat as exempt from the *Concentration Risk* limits in chapter 4 an *Exposure* to a *Counterparty* or *Counterparties* connected to the *Authorised Firm* if all of the following conditions are met:

- (A) the *Authorised Firm* has given the *Regulatory Authority* written notice one month in advance of its intention to use the exemption and explained how it will ensure that it will still meet the *Concentration Risk* limits on a continuing basis when using the exemption;
- (B) the total amount of the *Exposures* that an *Authorised Firm* is treating as exempt under this *Rule* does not exceed 50% of the *Authorised Firm's Capital Resources*;
- (C) the *Authorised Firm* makes and retains a record that identifies each *Exposure* it has treated in this way;
- (D) the *Authorised Firm* is subject to consolidated supervision;
- (E) the *Counterparty* is:
 - (i) an *Authorised Firm* which is the subject of consolidated supervision;
 - (ii) a member of the *Authorised Firm's Group* which is the subject of consolidated supervision; or

- (iii) a member of a *Group* that the *Regulatory Authority* has confirmed in writing is the subject of *Group* prudential supervision by an appropriate regulator.
- (F) the *Exposure* satisfies one or more of conditions (i) to (iii) below:
- (i) it is a loan made by the *Authorised Firm* with a maturity of one year or less in the course of the *Authorised Firm* carrying on a treasury role for other members of its *Group*;
 - (ii) it is a loan to the parent of the *Authorised Firm* made in the course of a business carried on by the *Authorised Firm* of lending to its parent cash that is surplus to the needs of the *Authorised Firm*, provided that the amount of that surplus fluctuates regularly; and
 - (iii) it arises from the *Authorised Firm* or a *Counterparty* connected to the *Authorised Firm* operating a central risk management function for *Exposures* arising from *Derivatives* contracts.

Measuring Exposure to Counterparties and Issuers

- A4.8.13** Rules A4.8.14 to A4.8.22 apply to both *Non-Trading Book* and *Trading Book Exposures*.
- A4.8.14** When calculating an *Exposure*, an *Authorised Firm* must include accrued interest and dividends due.
- A4.8.15** An *Authorised Firm* must not offset *Non-Trading Book* and *Trading Book Exposures*.
- A4.8.16** A net short position is not an *Exposure* for the purposes of *Concentration Risk*.
- A4.8.17** The value of an *Authorised Firm's Exposure* to a *Counterparty*, whether in its *Non-Trading Book* or its *Trading Book*, is the amount at risk calculated in accordance with chapter 4.

Exposures to Issuers

- A4.8.18** An *Authorised Firm* must calculate the value of an *Exposure* to the *Issuer* of a *Security*, which is held in the *Authorised Firm's Non-Trading Book* as the sum of the excess, where positive, of the book value of all long positions over all short positions (the net long position), for each identical *Instrument* issued by that *Issuer*.
- A4.8.19** For the purposes of Rule A4.8.18, short positions in one *Security* may be used to offset long positions in a non-identical *Security* issued by the same *Issuer* if:
- (A) both *Securities* are denominated in the same currency; and
 - (B) where both *Securities* are fixed rate or index-linked, they are within the same *Residual Maturity* time band; or

(C) both *Securities* are floating rate.

A4.8.20 An *Authorised Firm* must calculate the value of an *Exposure* to the *Issuer* of a *Security* that is held in the *Authorised Firm's Trading Book* by calculating the excess of the current market value of all long positions over all short positions in all the *Securities* issued by that *Issuer*.

A4.8.21 An *Authorised Firm* must not offset an *Exposure* to one *Issuer* against an *Exposure* to another even where the *Issuers* are in a *Group of Closely Related Counterparties*.

A4.8.22 An *Authorised Firm* must include as a long position a commitment by it to buy:

(A) a debt *Security* or an equity at a future date; and

(B) under a note issuance facility, at the request of the *Issuer*, a *Security* that is unsold on the issue date.

A4.8.23 An *Authorised Firm* must include as a short position a commitment by it to sell a debt *Security* or equity at a future date.

A4.8.24 Where the equity leg of an equity swap is based on the change in value of an individual equity, it is treated as an *Exposure* to the *Issuer* of the equity.

Guidance

An interest rate leg of an equity swap, or interest rate or currency swap does not generate an *Exposure* to an *Issuer*.

A4.8.25 When determining its *Exposure* to an *Issuer* arising from an *Option*, an *Authorised Firm* must value the notional principal of an *Option* as the amount of principal underlying the *Option*.

A4.8.26 An *Authorised Firm* must treat:

(A) a written put *Option* as a long position in the underlying *Instrument* valued at the strike price;

(B) a written call *Option* as a short position in the underlying *Instrument* valued at the strike price;

(C) a purchased put *Option* as a short position in the underlying *Instrument* valued at the strike price; and

(D) a purchased call *Option* as a long position in the underlying *Instrument* equal to the book value of the *Option*.

A4.8.27 An *Authorised Firm* must, for the purposes of *Concentration Risk*, treat an *Exposure* to an *Issuer* arising from an index or basket of debt *Securities* or a non-broad-based equity index or basket, as a series of *Exposures* to the *Issuers* of the underlying *Instruments* or equities in accordance with the procedures in chapter 4.

Guidance

Broadly based equity indices should not be broken down into their constituent stocks. A position related to a broadly based equity index does not generate an *Exposure* to any *Issuer*.

A4.8.28 An *Authorised Firm* which receives cash on a repurchase agreement must treat the cash as if it is on its balance sheet and in accordance with sections 4.3 and 4.5. Any *Collateral* received against repurchase agreements or *Securities* and commodities borrowing must also be treated as a balance sheet item under sections 4.3 and 4.5.

A4.8.29 An *Authorised Firm* must treat a reverse repurchase agreement or *Securities* and commodities lending in its *Non-Trading Book* as a *Collateralised* loan and the *Collateral* it holds as an asset, provided that the *Collateral* is *Acceptable Collateral*. If the *Collateral* is not *Acceptable Collateral*, the *Authorised Firm* must treat the transaction as an unsecured loan to the *Counterparty*.

A4.8.30 An *Authorised Firm* with repurchase agreements and reverse repurchase agreements in its *Trading Book* has an *Exposure* to:

- (A) the *Issuer* of the *Security* it has sold in a repurchase agreement; and
- (B) the *Counterparty* where the *Securities* or cash given by the *Authorised Firm* exceed the *Securities* or cash it receives (i.e. there is a net margin given by the *Authorised Firm*) in a repurchase agreement or reverse repurchase agreement.

A4.8.31 An *Authorised Firm* must calculate in accordance with section 5.8 an *Exposure* to the *Issuer* arising from the underwriting or sub-underwriting of a new issue of *Securities*.

Collateral

A4.8.32 (1) The table below provides a list of *Acceptable Collateral* for the purposes of calculating *CRCOM* and *CPCOM* together with the amount of the applicable CPW.

(2) *Acceptable Collateral* table

Risk Weighting of Collateralised Exposure where equal to or lower than that of the underlying Exposure.		
<i>Acceptable Collateral</i>	<i>PIIB Category 1 and 5</i>	<i>PIIB Category 2 and 3</i>
Cash on <i>Deposit</i> with the <i>Authorised Firm</i> or a <i>Regulated Financial Institution</i> in the same <i>Group</i> .	0%	0%
Cash held with <i>Zone 1 Deposit</i> takers outside an <i>Authorised Firms Group</i> .	20%	0%
Gold coinage and bullion (including Tola Bars).	0%	0%
Silver coinage and bullion.		0%
Certificates of <i>Deposit</i> issued by and lodged with the <i>Authorised Firm</i> .	0%	0%
<i>Securities</i> issued by <i>Zone 1</i> central government, <i>Zone 1</i> central bank where <i>Securities</i> are marked to market daily.	0%	0%
<i>Securities</i> issued by <i>Zone 1</i> central government, <i>Zone 1</i> central bank that have a <i>Residual Maturity</i> of 1 year or less where <i>Securities</i> are not marked to market daily.	10%	0%
<i>Securities</i> issued by <i>Zone 1</i> central government, <i>Zone 1</i> central bank that have a residual maturity of over 1 year where <i>Securities</i> are not marked to market daily.	20%	0%
<i>Securities</i> issued by <i>Multilateral Development Banks</i> .	20%	0%
Letter of credit issued by a <i>Regulated Financial Institution</i> .		0%
Standby letter of credit issued by a <i>Zone 1 Deposit</i> taker.		0%
Unconditional, irrevocable on demand letter of credit issued by a <i>Zone 1 Deposit</i> taker.		0%
<i>Commodities</i> .		0%
Marketable assets.		0%

A4.9 Netting

Potential Future Credit Exposure

Guidance

An *Authorised Firm* may calculate the *Potential Future Credit Exposure (PFCE)* arising under *OTC Derivative* contracts on a net basis. Details of the *PFCE* calculations are set out in section A4.5.

A4.9.1 Where the conditions in chapter 4 are met, the *Authorised Firm* may calculate its net *PFCE* on *OTC Derivative* contracts using the following formula: $PFCE \text{ reduced} = 0.4 \times PFCE \text{ gross} + 0.6 \times NGR \times PFCE \text{ gross}$ where:

- (A) *PFCE reduced* is the reduced figure for *PFCE* for all contracts with a given *Counterparty* included in the *Netting* agreement;
- (B) *PFCE gross* is the sum of the figures for *PFCE* for all contracts with a given *Counterparty* which are included in the *Netting* agreement; and
- (C) *NGR* (the net-to-gross ratio) is the quotient of the net replacement cost for all contracts included in the *Netting* agreement with a given *Counterparty* (numerator) and the gross replacement cost for all contracts included in the *Netting* agreement with that *Counterparty* (denominator).

A4.9.2 For the purposes of Rule A4.5.13, the maturity date should be the maturity of the longest date.

A4.10 Securitisation

Guidance

This section sets out detailed *Rules* and guidance on *Securitisation* and *Credit Risk* transfers, which cover the specific circumstances of undrawn commitments to lend, transfers of financed equipment and consumer goods, *Revolving Securitisations*, transfers to *Special Purpose Vehicles (SPV)*, repurchasing, *Credit Enhancement*, *Liquidity* support and underwriting and dealing.

A4.10.1 The following definitions are used in section A4.10:

<i>Credit Enhancement</i>	<i>Credit Enhancement</i> is a facility provided to the buyer of risk that covers losses and risks associated with the pool of items in the <i>Securitisation</i> or <i>Credit Risk</i> transfer.
<i>Originator</i>	An <i>Authorised Firm</i> acts as an <i>Originator</i> when it contributes the items in the <i>Securitisation</i> or <i>Credit Risk</i> transfer.
<i>Revolving Securitisation</i>	A traditional or synthetic <i>Securitisation</i> in which the specified items consist of revolving assets such as loan facilities or credit card balances which permit borrowers to vary the drawn amount within an agreed limit, or the scheme itself is revolving.
<i>First Loss Facility</i>	A <i>First Loss Facility</i> represents the first level of support provided to the <i>SPV</i> that should bear all, or a significant part of, the risk associated with the items held by the <i>SPV</i> .

<i>Securitisation</i>	<i>Securitisation</i> is the financing or refinancing of assets, such as mortgages, credit card debt, or other assets (including accounts receivable), which are legally transferred to a scheme, by packaging them into a tradable form through the issue of <i>Securities</i> which are secured on the assets and serviced from the cashflows which they yield.
<i>Servicer</i>	A <i>Servicer</i> is a <i>Person</i> that administers the securitised items.
<i>Sponsor</i>	An <i>Authorised Firm</i> acts as <i>Sponsor</i> when it repackages <i>Third Party</i> assets directly into a scheme. Where an <i>Authorised Firm</i> repackages non- <i>Investment Grade Third Party</i> assets, it may fall within the definition of an <i>Originator</i> unless it originates or repackages no more than 10% of the scheme's total assets.

Undrawn Commitments to Lend

A4.10.2 An *Authorised Firm* must include an undrawn commitment to lend (or part of an undrawn commitment to lend) that has been transferred by *Securitisation* or *Credit Risk* transfer in its calculation of the *Capital Requirement*, unless the transfer has been effected by:

- (A) novation; or
- (B) an assignment accompanied by:
 - (i) a release and formal acknowledgement by the borrower of the transfer of the seller's obligations to the buyer; and
 - (ii) a formal acknowledgement from the buyer of its assumption of the seller's obligations.

Guidance

The buyer's assumption of a commitment (or part of a commitment) is included in its capital ratio as a claim on the borrower irrespective of the method of transfer.

Transfers of Financed Equipment and Consumer Goods

A4.10.3 An *Authorised Firm* must include the receivables that arise from financed equipment or consumer goods which have been transferred by *Securitisation* or *Credit Risk* transfer, in the calculation of its *Capital Requirement*, unless the *Authorised Firm* has protected itself against potential liabilities that may arise from the financed equipment or consumer goods.

Guidance

An *Authorised Firm* should either obtain an indemnity from the buyer or take out insurance to cover:

- a. continuing liabilities regarding the merchantability of goods and equipment;
- b. liability for personal injury or death arising from defective goods; and
- c. other contractual obligations towards the borrower.

Revolving Securitisations

A4.10.4 Where an *Authorised Firm* structures a *Revolving Securitisation* it must:

- (A) incorporate a scheduled amortisation as set out below; and
- (B) ensure there is a pro rata sharing between all the holders of interests in the pool of items of the interest, principal, expenses, losses and recoveries on a clear and consistent basis during the revolving period and amortisation period.

Guidance

Revolving Securitisations determine a period - known as the revolving period - when principal repayments may be reinvested in new assets, and a period - known as the amortisation period - when principal is repaid according to a defined amortisation schedule.

Scheduled Amortisation

A4.10.5 An *Authorised Firm* must include the items that have been transferred by *Securitisation* or *Credit Risk* transfer in its calculation of its *Capital Requirement*, unless the amortisation period is long enough to ensure that in aggregate at least 90% of the total debt outstanding at the beginning of the amortisation period will be repaid or recognised as in default by the end of the scheduled amortisation period.

Guidance

The pace of repayment during any scheduled amortisation period should not be more rapid than would be allowed by a straight-line amortisation over the period.

Early amortisation

A4.10.6 Early amortisation of the *Securities* describes the process whereby the repayment of the investors' interest is brought forward upon the occurrence of specified events. Events that are economic in nature by reference to the financial performance of the transferred assets are known as economic triggers.

A4.10.7 An *Authorised Firm* structuring a *Revolving Securitisation* that includes economic triggers for early amortisation may regard the items as transferred for the period up to the point of repayment, provided that:

- (A) during the amortisation period there is full sharing of interest, principal, expenses, losses and recoveries; and
- (B) the *Authorised Firm's* risk management system provides warning indicators when economic or non-economic triggers may be activated.

A4.10.8 Non-economic triggers are activated by changes, not related to the performance of the transferred assets, which can cause significant implications for the *Securitisation*.

Guidance

Examples of such triggers include tax events, legal changes resulting in an *Authorised Firm's* non-performance in its role as a servicing agent, and triggers relating to the insolvency of the *Originator*.

A4.10.9 An *Authorised Firm* must plan how it will deal with the need for increased capital and *Liquidity* when an amortisation trigger is activated.

Replenishing Assets

A4.10.10 Where an *Originator* structures a *Securitisation* which allows items to be substituted or replaced, it must include any item that is transferred by *Securitisation* or *Credit Risk* transfer in its calculation of its *Capital Requirement* unless:

- (A) the credit quality of the new items is substantially the same as those already in the securitised portfolio; and
- (B) the substitution or replacement does not improve the aggregate credit quality of the existing portfolio or the scheme.

Guidance

1. Credit quality refers to the likelihood of credit losses being incurred by the *Authorised Firm* in relation to an item.
2. The assessment of credit quality of the new items should also take into account the credit quality of the existing portfolio, for example, with regard to:
 - a. the *Authorised Firm's* internal credit grading of the item;
 - b. the maturity of the item and the portfolio;
 - c. the loan to value ratio of the item and the ratio within the portfolio; and
 - d. the size of the item.
3. An *Authorised Firm* should ensure that the accounts transferred into the pool are likely to display the characteristics of fully operational accounts. Together with an asset replenishing approach ensuring the random selection of the items, this should normally make sure that investors are not systematically disadvantaged.

A4.10.11 Where an *Originator* structures a *Securitisation* which allows items to be substituted or replaced as a result of borrowers switching products of the *Originator*, the *Authorised Firm* must include an item that has been transferred by *Securitisation* or *Credit Risk* transfer in the calculation of its *Capital Requirement* unless:

- (A) the product switch was requested by the borrower; and
- (B) the substitution or replacement accords with the above requirements for assets replenishment.

Transfers to Special Purpose Vehicles

A4.10.12 An *Authorised Firm* need not include in its calculation of *Capital Resources* or *Capital Requirement* assets transferred to:

- (A) a *Special Purpose Vehicle*; or
- (B) any *Person*, if the transfer is in connection with a *Securitisation* under which the *Issuer* of the *Securities* is an *SPV*;

provided that:

- (i) the *Authorised Firm* does not own any *Share* or proprietary interest in the *SPV*;
- (ii) no more than one member of the board or other *Governing Body* of the *SPV* is an officer, partner, or *Employee* of the *Authorised Firm*;
- (iii) the *SPV* does not have a name that implies any connection with the *Authorised Firm* or any other member of the *Authorised Firm's Group*;
- (iv) the *Authorised Firm* does not fund the *SPV* except where permitted under the requirements for *Credit Enhancement* below;
- (v) the *Authorised Firm* does not provide temporary finance to the *SPV* to cover cash shortfalls arising from delayed payments or non-performance of loans transferred except where it meets the requirements for *Liquidity* support below;
- (vi) the *Authorised Firm* does not bear any of the recurring expenses of the *SPV*; and
- (vii) any agreements between the *Authorised Firm* and the *SPV* are at market rates and at arm's length.

Repurchasing

A4.10.13 An *Authorised Firm* acting as *Originator* must not repurchase any item:

- (A) of which it was an *Originator* under a *Securitisation*; and
- (B) which the *Authorised Firm* has treated as having been transferred in the calculation of its *Capital Resources* or *Capital Requirement*

unless:

- (i) the prospectus or other selling documentation for that *Securitisation* makes a clear and unequivocal statement to the effect that the *Authorised Firm* is under no obligation to repurchase any item subject to the *Securitisation*; and
- (ii) the conditions in Rule A4.10.14 for the repurchase of an item are satisfied.

A4.10.14 For the purposes of Rule A4.10.13(B)(ii), an *Authorised Firm* may repurchase an item where the repurchase (or purchase) is subject to the *Authorised Firm's* normal credit approval and review processes and:

- (A) the repurchase arises from a product switch as set out above;
- (B) the *Authorised Firm* is obliged to make that repurchase under the terms of a warranty; or
- (C) the value of the items subject to the *Securitisation* immediately before the repurchase is no more than 10% of the highest amount which the value of items subject to that *Securitisation* has reached since the start of that *Securitisation* and the obligations making up that item are not default or if the item is in default, the repurchase is for a nominal consideration.

A4.10.15 An *Authorised Firm* acting as *Sponsor* must include any items that have been purchased or repurchased from a *Securitisation* in the calculation of its *Capital Requirement*, unless the purchase meets the following conditions:

- (A) the purchase does not constitute *Credit Enhancement*;
- (B) the purchase is subject to an assessment by the *Authorised Firm's* risk management systems; and
- (C) either:
 - (i) the items are *Financial Instruments* and are *Investment Grade*; or

- (ii) the items are non-*Financial Instruments* and are not in default or, where they are recognised as in default, are repurchased for a nominal consideration.

Credit Enhancement

A4.10.16 An *Authorised Firm* must deduct from its *Capital Resources* the total amount of *Credit Enhancement* it provides to a transaction, from the outset of the scheme until the scheme is fully repaid or wound up, unless all of the following conditions are met:

- (A) the *Credit Enhancement* is not a *First Loss Facility*;
- (B) there is significant first loss *Credit Enhancement* provided by a *Third Party*;
- (C) the *Credit Enhancement* can only be drawn after the first loss *Credit Enhancement* is exhausted; and
- (D) the *Authorised Firm* is a *Sponsor*.

Guidance

Where the conditions in Rule A4.10.16(A)–(D) are met, an *Authorised Firm* is required to include such *Credit Enhancement* in its risk weighted assets in accordance with chapter 4.

A4.10.17 For the purposes of Rule A4.10.16(B) first loss *Credit Enhancement* will only be considered significant when the second loss facility is *Investment Grade*.

Guidance

An *Authorised Firm* should assess the adequacy of the *First Loss Facility* on an arm's length basis in accordance with its normal credit policies and should consider the following:

- a. the class and quality of the items held in the *SPV*;
- b. the history of default rates on the items;
- c. the output of any statistical models used by the *Authorised Firm* to assess expected default rates on the items;
- d. the types of activities performed by the *SPV*;
- e. the quality of the parties providing the *First Loss Facility*; and
- f. the opinions or rating letters provided by reputable third parties, such as rating agencies, regarding the adequacy of the first loss protection.

A4.10.18 If another party which provides the first loss protection fails to meet any of its obligations and an *Authorised Firm* provides the second loss protection, which will substitute for the *First Loss Facility*, the *Authorised Firm* providing the second loss facility must treat the facility as a first loss enhancement.

A4.10.19 An *Authorised Firm* providing *Credit Enhancement* must include all the items in a *Securitisation* in the calculation of its *Capital Requirement*, except it must:

- (A) include only the amount of the *Credit Enhancement* in the risk weighted assets in calculating its *Capital Requirements*; or
- (B) deduct the amount of the *Credit Enhancement* from its *Capital Resources*

where:

- (i) the *Credit Enhancement* is funded at the inception of the scheme and is repayable only following the wind up of the scheme;
- (ii) the *Credit Enhancement* is limited in amount and duration, with no recourse to the *Authorised Firm* beyond the fixed contractual obligations;
- (iii) the *Credit Enhancement* is documented separately from other facilities provided by the *Authorised Firm*;
- (iv) the *SPV*, note trustee or investors have the right to select an alternative party to provide *Credit Enhancement*;
- (v) the *Authorised Firm's* involvement in the scheme is properly explained in the offering document or transfer agreement, or both, and is made unequivocally clear that the *Authorised Firm* is not responsible for, and will not support losses beyond, the terms of the contract; and
- (vi) payment of any fee or other fee income for the *Credit Enhancement* is not subordinated or subject to deferral or waiver beyond what is already explicitly provided for in the applicable order of priority and other payment entitlement provisions.

A4.10.20 An *Authorised Firm* may increase the level of *Credit Enhancement* at the same time as further tranches of items are placed into the scheme provided that the additional *Credit Enhancement* is not used to improve the credit quality of the existing items in the scheme.

Liquidity Support

A4.10.21 An *Authorised Firm* is considered to provide *Liquidity* support to a scheme where it has an agreement to give financial support to the *SPV* which enables the scheme to assure the investors of timely payments, including:

- (A) the smoothing of timing differences in the payment of interest and principal on the pooled items; or
- (B) ensuring payments to investors in the event of market disruptions.

A4.10.22 Financial support that covers losses or risks associated with the scheme other than *Liquidity Risk* is deemed to be *Credit Enhancement* and not *Liquidity* support.

Guidance

Liquidity support agreements may include revolving loan facilities, account overdrafts, or asset purchase agreements.

A4.10.23 An *Originator* providing a *Liquidity* facility to an *SPV* where the *Liquidity* agreement covers its transferred items must treat those items as being on its balance sheet.

A4.10.24 A *Sponsor* must comply with the requirements for *Originators* to the extent that an *SPV* holds items it has originated.

A4.10.25 A *Sponsor* providing a *Liquidity* facility to a scheme must treat the facility as a *Credit Enhancement* in the calculation of its *Capital Resources* and *Capital Requirement* unless the following conditions are met:

- (A) the facility is given on market terms and is subject to an assessment by the *Authorised Firm's* risk management systems;
- (B) the *SPV* or the investors, or both, have the right to select an alternative party to provide the facility;
- (C) the facility is separately documented and clearly defines the circumstances under which the facility may be drawn;
- (D) there is no possibility of recourse to the *Authorised Firm* beyond the fixed contractual obligations in the agreement;
- (E) the facility is limited in amount and duration;
- (F) the facility may not be drawn for the purpose of providing credit support;
- (G) the facility may not be drawn if the extent of liabilities retained by the *SPV* are below *Investment Grade*;
- (H) proceeds of drawings cannot be used to cover losses of the *SPV*;
- (I) proceeds of drawings under the facility are provided to the *SPV* and not directly to investors;
- (J) proceeds of drawings cannot be used to provide permanent revolving funding;
- (K) the facility reduces as the items in the *SPV* deteriorate in quality to the extent that there is no longer a sufficient level of *Investment Grade* items or *Credit Enhancement*, or both, to cover the amount of new and existing drawdowns under the facility;

- (L) repayment of the facility may not be subordinated to the interests of investors; and
- (M) payment of any fee or other income for the facility is not further subordinated, or subject to deferral or waiver, beyond what is already explicitly provided for in the applicable order of priority and other payment entitlement provisions.

Guidance

It is permissible for a *Liquidity* facility to be structured as an arrangement in which underlying items held by the *SPV* are purchased by the *Liquidity* provider, provided that the items in question are externally *Rated Investment Grade*.

Underwriting

A4.10.26 Where an *Originator* acts as underwriter for the *Securities* issued, the underlying items will not be regarded as being transferred until 90% of the total issuance has been sold to third parties.

Dealing

A4.10.27 An *Originator* dealing in *Investment Grade Securities* issued by an *SPV* must deduct any holdings in the *Investment Grade Securities* from its *Capital Resources* unless the holding is subject to:

- (A) an ongoing limit of 3% of the *Securities* issued; and
- (B) a limit of 10% of the *Securities* issued for a period of five business days:
 - (i) immediately following close of the transaction; or
 - (ii) in the case of *Revolving Securitisations* only, at the beginning of the scheduled amortisation period.

A4.10.28 An *Originator* holding in excess of the dealing limits in Rule A4.10.27 must either:

- (A) where the holding is less than 10%, deduct from its *Capital Resources* the excess over the dealing limit; or
- (B) where the holding is greater than 10%, regard the transferred risks associated with the items as being back on its balance sheet.

A4.10.29 An *Originator* must not deal in the *Securities* during the amortisation period.

A4.10.30 A *Sponsor* dealing in the *Securities* issued by the *SPV* must include these *Securities* in the calculation of its *Capital Requirement*.

Synthetic Securitisations

Guidance

Synthetic Securitisations differ from the traditional *Securitisations* discussed in this section in that they use *Credit Derivatives* to transfer the *Credit Risk* associated with the underlying pool of assets to a *SPV*. The *SPV*, in turn, issues notes, thus passing the *Credit Risk* to *Third Party* investors. As the underlying assets are not legally transferred to the *SPV* as in a traditional *Securitisation* – although the *Originators* continue to benefit from a similar degree of credit protection – the resulting structure is said to be ‘synthetic’. Effective transfer of *Credit Risk* is still required to be demonstrated. Therefore, an *Authorised Firm* entering into *Synthetic Securitisations* should comply with the relevant provisions in chapter 3 and this appendix in relation to traditional *Securitisations* and *Credit Derivatives*.

A4.10.31 An *Authorised Firm* involved in *Synthetic Securitisations* must seek individual guidance on a case-by-case basis from the *Regulatory Authority* regarding the regulatory treatment of such *Transactions*.

A4.11 Credit Derivatives

A4.11.1 An *Authorised Firm* must ensure that it applies an appropriate *Capital Requirement* to all its positions in *Credit Derivatives*.

Guidance

1. An *Authorised Firm* should seek individual guidance from the *Regulatory Authority* on the application of the above *Rule* to a *Credit Derivatives Transaction*, where an *Authorised Firm* is entering into a *Transaction* which does not have an explicit capital treatment set out in this section.

Trading Book Capital Treatment

2. Rules A4.11.2 to A4.11.20 provide requirements in respect of the capital treatment of *Trading Book* items.

A4.11.2 An *Authorised Firm* must calculate the *General Market Risk Requirement* for its positions in *Credit Derivatives* in accordance with chapter 5.

A4.11.3 An *Authorised Firm* must calculate the *Counterparty Risk Capital Component* of its *Credit Risk Capital Requirement* for its positions in *Credit Derivatives* in accordance with chapter 4.

A4.11.4 *Market Risk* positions in *Credit Derivatives* referenced to a single asset must be recorded in accordance with the table in *Rule A4.11.5* for the purpose of calculating *Specific Risk* and *General Market Risk Requirements*.

A4.11.5 Calculating *Specific Risk* and *General Market Risk Requirements* table:

<i>Credit Derivatives</i> type	Position to be recorded
Credit Default Products	Must be represented as a long (if the <i>Authorised Firm</i> has bought <i>Credit Risk</i>) or short (if the <i>Authorised Firm</i> has sold <i>Credit Risk</i>) notional position in the <i>Specific Risk</i> of the <i>Reference Asset</i> .
	A <i>General Market Risk</i> position must be reported if premium or interest payments are due under the product; these cashflows must be represented as a notional position in a government <i>Security</i> with the appropriate fixed or floating rate, otherwise there is no <i>General Market Risk</i> position.
Total Return Swaps	Must be represented as a long or short notional position in the <i>Reference Asset</i> with <i>General Market Risk</i> and <i>Specific Risk</i> of the <i>Reference Asset</i> .
	The interest payments under the swap must be represented as a long or short <i>General Market Risk</i> position in a notional government <i>Security</i> with the appropriate fixed or floating rate.
Credit-linked Notes	Must be represented as a long (for <i>Protection Seller</i>) or short (for <i>Protection Buyer</i>) notional position in the <i>Specific Risk</i> of the <i>Reference Asset</i> .
	The buyer of <i>Credit Risk</i> must also report a long <i>Specific Risk</i> position in the credit-linked note.
	A <i>General Market Risk</i> position in the credit-linked note must be reported for both the <i>Protection Buyer</i> and <i>Protection Seller</i> .

A4.11.6 For the purpose of calculating *Specific Risk* and *General Market Risk Requirements*, *Market Risk* positions in *Credit Derivatives* referenced to countries or entities must be recorded as follows:

- (A) An *Authorised Firm* that holds a *Credit Derivative* as a *Protection Buyer* referenced to a corporate name or country must report a *Specific Risk* position in a notional floating rate note issued by the reference obligor with the maturity of the *Credit Derivative*.
- (B) An *Authorised Firm* that sells protection through a *Credit Derivative* referenced to a corporate name or country rather than a particular asset or basket of assets must record a position in the most junior deliverable obligation, or, if there is no deliverable obligation, the *Authorised Firm* must report a *Specific Risk* position in a notional floating rate note issued by the reference obligor with the maturity of the *Credit Derivative*.

A4.11.7 *Specific Risk* positions for multiple *Reference Assets* and basket trades (*Credit Default Products* and credit-linked note) must be recorded as follows:

- (A) the *Protection Buyer* of a *First to Default* product or note must record a short position in one *Reference Asset* in the basket only. The *Protection Buyer* may choose which asset in the basket to record as a short position;
- (B) the *Protection Seller* of a *First to Default* product or note must record long positions in each of the assets in the basket with the exception noted in Rule A4.11.8. The *Protection Seller* may keep the total capital charge for the first to default product capped at the equivalent deduction from capital;
- (C) for the *Protection Buyer*, the size of the positions recorded in *Reference Assets* must be equal to the values of the *Reference Assets*;
- (D) for the *Protection Seller*, the size of the positions recorded in *Reference Assets* must be equal to the maximum payout of the product or note;
- (E) where the product is a proportionate structure (that is, protection is allocated proportionately between the assets in the basket), both the *Protection Buyer* and *Protection Seller* must record *Specific Risk* positions in the *Reference Assets* according to their proportions in the contract; and
- (F) the *Protection Seller* of a funded position must also record a long position in the *Specific Risk* of the note *Issuer* of a size equal to the amount of funding given.

A4.11.8 Where a multiple-name credit-linked note is *Investment Grade*, the *Protection Seller* may record the *Specific Risk* position in the *Reference Assets* as a single long position with the *Specific Risk* of the note *Issuer*.

Total Return Swaps

A4.11.9 Where a *Total Return Swap* is referenced to multiple names, and the returns on assets are exchanged according to their proportions in the basket, the *Authorised Firm* must record long or short positions in all the *Reference Assets* according to the proportions underlying the swap.

A4.11.10 Where an *Authorised Firm* enters into a *Credit Derivative* offering second loss protection and beyond, it must comply with Rule A4.11.1.

Guidance

The table below summarises the *General Market Risk* and *Specific Risk Requirements* attached to *Credit Derivatives*:

Product	Protection seller		Protection Buyer	
	<i>SPECIFIC RISK</i>	<i>GENERAL MARKET RISK</i>	<i>SPECIFIC RISK</i>	<i>GENERAL MARKET RISK</i>
Credit Default Product	YES <i>In Reference Asset(s)</i>	NO	YES <i>In Reference Asset(s)</i>	NO
Total Return Swap	YES <i>In Reference Asset(s)</i>	YES On the interest rate leg	YES <i>In Reference Asset(s)</i>	YES On the interest rate leg
Credit-linked Note	YES <i>In both the Reference Asset(s) and the Issuer</i>	YES According to the coupon on maturity of the note	YES <i>In Reference Asset(s)</i>	YES According to the coupon on maturity of the note

Specific Risk Offset

A4.11.11 For the purposes of calculating a *Specific Risk Capital Requirement*, an *Authorised Firm* may net a notional position in a *Reference Asset* created by a *Credit Derivative* with positions in underlying *Instruments* or other notional positions created by other *Derivatives*, only if the risk transfer requirements in Rules A4.11.42 to A4.11.45 are satisfied.

Maturity Mismatch

- A4.11.12** (1) Where an *Authorised Firm* holds a *Credit Derivative* of shorter maturity than the *Reference Asset*, it may net, for the purposes of calculating the *Specific Risk* requirement, a long and a short *Specific Risk* position. However, a forward position in *Specific Risk* of the *Reference Asset* must be recorded.
- (2) The above treatment does not apply to *Total Return Swaps*, where no forward position in the *Specific Risk* of the *Reference Asset* is recorded in cases of a *Maturity Mismatch*.

Guidance

In accordance with Rule A4.11.12(1), the net result of holding the *Credit Derivative* and the long and short positions is, in effect, a single *Specific Risk* requirement at the inception of the *Transaction* for the longer maturity position in the *Reference Asset*.

A4.11.13 For the purposes of calculating a *Specific Risk Capital Requirement*, an *Authorised Firm* may net long and short positions in identical *Credit Derivatives* referenced to a corporate name or country.

A4.11.14 (1) If a *Credit Derivative* is fully hedged with a long or short cash position in the *Reference Asset*, the *Capital Requirements*, after offsetting has been recognised, are summarised in the table below:

- (2) Rule A4.11.14 table:

	Cash Position in Reference Asset		Credit Derivative Attracts:		Capital Requirement After Offsetting:	
CREDIT DEFAULT PRODUCT	SR	in Reference Asset(s)	SR	in Reference Asset(s)	SR	NIL
	GMR	according to coupon & maturity of assets	GMR	NIL	GMR	according to coupon & maturity of assets
TOTAL RETURN SWAP	SR	in Reference Asset(s)	SR	in Reference Asset(s)	SR	NIL
	GMR	according to coupon & maturity of assets	GMR	on interest rate leg	GMR	On cash position and interest-rate leg ¹
CREDIT-LINKED NOTE (Protection Seller)	SR	in Reference Asset(s)	SR	in Reference Asset(s) and Issuer ²	SR	in Issuer
	GMR	according to coupon & maturity of assets	GMR	in Reference Asset(s)	SR	NIL
CREDIT-LINKED NOTE (Protection Buyer)	SR	in Reference Asset(s)	SR	in Reference Asset(s)	SR	NIL
	GMR	according to coupon & maturity of assets	GMR	according to coupon & maturity of assets	GMR	on Reference Asset(s) and note ³
SR= <i>Specific Risk</i> , GMR= <i>General Market Risk</i> 1 Positions will go into the appropriate <i>General Market Risk</i> buckets and offsets will be allowed according to the <i>Rules on General Market Risk</i> (see chapter 5). 2 If the note satisfies the criteria for an <i>Investment Grade Item</i> then a single position in the <i>Specific Risk</i> of the <i>Issuer</i> is created. 3 This assumes that the coupon due from the credit-linked note differs from the coupon received from the <i>Reference Asset</i> .						

Step-ups and Call Options

A4.11.15 Where a *Credit Derivative* includes both a step-up that is, an increase in the protection payments and a call *Option*, the maturity of the contract is as follows:

- (A) for the *Protection Buyer*, the date the call *Option* may be exercised; and
- (B) for the *Protection Seller*, the contractual maturity.

Counterparty Risk

Guidance

The detailed *Rules* for calculating *Counterparty Risk* requirements are set out in chapter 4 and in this appendix.

Credit Default Products

- A4.11.16** (1) The *Protection Buyer* relies on the *Protection Seller* to pay the *Credit Event Payment* if a *Credit Event* occurs, and therefore must record a *Counterparty Risk Capital Component*.
- (2) The *Protection Seller* is exposed to the *Protection Buyer* only if there are premium or interest rate-related payments outstanding.
- A4.11.17** In the case of *Total Return Swaps*, since each party relies on the other for payment, each party must record a *Counterparty Risk Capital Component*.
- A4.11.18** No *Counterparty Risk Capital Component* applies to *credit-linked notes* unless a coupon or interest payment is outstanding.

Guidance

The *Potential Future Credit Exposure* (PFCE) add-on used in calculating the *Counterparty Exposure* for an unfunded OTC *Credit Derivative* is determined by whether the *Reference Asset* is recognised as a qualifying debt item or not. If the *Reference Asset* is a qualifying debt item, the *Authorised Firm* is permitted to calculate the *Counterparty Risk Capital Component* using interest rate add-ons. Otherwise, the *Authorised Firm* must apply equity add-ons.

- A4.11.19** When calculating its *Foreign Exchange Risk Capital Requirement*, an *Authorised Firm* must feed the marked-to-market values of *Credit Derivatives* denominated in a currency other than the *Authorised Firm's* reporting currency into its monitoring and reporting of foreign exchange positions in the manner set out in chapter 4.

Non-Trading Book Capital Treatment

Guidance

Rules A4.11.20 to A4.11.35 provide specific *Rules* in respect of capital treatment of *Non-Trading Book* items.

- A4.11.20** An *Authorised Firm* must calculate the *Capital Requirement* for *Non-Trading Book Credit Derivatives* in accordance with chapter 4.

Funded Transactions

Guidance

1. The treatment of funded *Credit Derivatives* in the *Non-Trading Book* is parallel to that of loan sub-participations. The *Protection Buyer* of a funded *Credit Derivative* reduces its *Exposure* to a *Reference Asset* by receiving up-front funding in the form of cash.

2. The *Protection Seller* of a funded *Credit Derivative* is acquiring *Exposure* to the *Reference Asset* (since performance of the *Credit Derivative* depends upon the performance of the *Reference Asset*), the *Protection Buyer* (since the *Authorised Firm* relies upon the *Protection Buyer* to repay the funding provided) and to any *Collateral* that may have been provided by the *Protection Buyer*.

A4.11.21 Where an asset is protected in full or in part by a funded *Credit Derivative*:

- (A) the *Protection Buyer* may reduce its *Exposure* to the *Reference Asset* by the amount of funding received;
- (B) the *Protection Seller* must treat its *Exposure* under the contract as an *Exposure* to the highest of the risk weights of the *Reference Asset*, the *Counterparty* holding the funds and, where applicable, the *Collateral Security*.

Unfunded Transactions

A4.11.22 Where an asset is protected in full or in part by an unfunded *Credit Derivative*:

- (A) the *Protection Buyer* may treat the *Reference Asset* as though guaranteed by the *Protection Seller* in accordance with chapter 3 and may choose to replace the risk weighting of the protected asset with the risk weighting of the *Counterparty* to the *Credit Derivative* contract; and
- (B) the *Protection Seller* must recognise an *Exposure* to the *Reference Asset* and record the *Exposure* as a direct credit substitute, a guarantee, weighted according to the risk weight of the *Reference Asset*.

Asset Mismatch

A4.11.23 If the *Reference Asset* and the underlying asset being hedged are identical in all respects, the *Protection Buyer* may recognise the protection in full.

A4.11.24 Where the *Reference Asset* and the underlying asset being hedged are different, the *Protection Buyer* may still recognise the protection if:

- (A) the *Reference Asset* and underlying asset are of the same obligor;
- (B) the *Reference Asset* ranks equally with, or is more junior in a liquidation than, the asset being hedged; and
- (C) there are cross-default clauses between the underlying asset and the *Reference Asset*.

Payout Structure

Guidance

There are three common types of *Credit Event Payment* for a *Credit Derivative* contract:

- a. payment of a fixed amount;
- b. payment of the par value of the *Reference Asset* less the recovery value of the asset; and
- c. payment of the par value of the *Reference Asset* in exchange for the physical delivery of the *Reference Asset*.

A4.11.25 Where the *Credit Event Payment* is payment of a fixed amount:

- (A) the *Protection Buyer's Exposure* to the *Reference Asset* is treated as guaranteed by the amount that the *Authorised Firm* will receive if a *Credit Event* occurs; and
- (B) the *Protection Seller's Exposure* to the *Reference Asset* is equal to the amount that the *Authorised Firm* will pay out if a *Credit Event* occurs.

A4.11.26 Where the *Credit Event Payment* is payment of par less the recovery value of the underlying asset, or payment of par in exchange for the physical delivery of the *Reference Asset*:

- (A) the *Protection Buyer's Exposure* to the *Reference Asset* is treated as guaranteed by the amount protected under the contract; and
- (B) the *Protection Seller's Exposure* to the *Reference Asset* is equal to the maximum possible payout under the contract.

Currency Mismatch

A4.11.27 Where the *Credit Derivative* is denominated in a different currency from that of the *Reference Asset*, the amount of protection recognised must be reduced by 8% to take account of the un-hedged contingent *Foreign Currency* risk.

A4.11.28 *Foreign Currency* positions created by *Credit Derivatives* must be recorded when measuring the *Authorised Firm's* foreign exchange *Exposure* (see chapter 5).

Maturity Mismatch

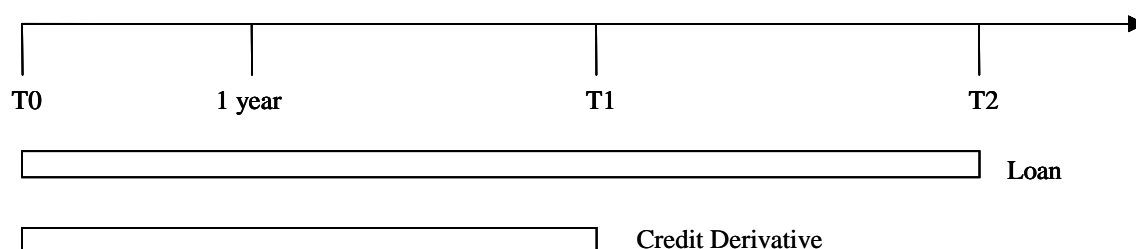
A4.11.29 Where the maturity of the *Credit Derivative* is less than that of the underlying asset, recognition of the protection depends upon the *Residual Maturity* of the *Credit Derivative*, in accordance with the following Principles:

- (A) if the *Residual Maturity* of a *Credit Derivative* is less than one year, protection must not be recognised.

- (B) if the *Residual Maturity* of a *Credit Derivative* is one year or over, protection is recognised, but an additional *Capital Requirement* must be taken at inception for the forward credit *Exposure* to the underlying asset when the *Credit Derivative* contract matures.
- (C) the forward *Exposure* in (2) must be treated like a commitment with uncertain draw-down and must attract a 50% credit conversion factor ('CCF') against the risk weight of the underlying asset.
- (D) if the sum of the capital required for the underlying asset, after protection has been recognised, plus the forward *Exposure* exceeds the *Capital Requirement* for the underlying asset, the underlying asset may be weighted as normal and the *Credit Derivative* attracts no *Capital Requirement*.

Guidance

Examples of a *Maturity Mismatch* calculation:



1.
 - a. Suppose that the underlying asset is a loan to a corporate *Person* of a maturity equal to T2, risk weighted at 100%, and credit protection is bought from a *Zone 1 Deposit-taker* in the form of a *Credit Default Product* maturing at T1.
 - b. At T0, the risk weight on the loan is reduced to 20% (for the *Credit Risk* protected portion of the *Exposure*) with an additional risk weight for the forward *Exposure* of 50% (i.e. CCF for a commitment with uncertain draw-down of 50% x the original risk weight of the loan of 100%). So the total risk weight of the loan at T0 is 20% + 50% = 70%.
 - c. When the *Residual Maturity* of the *Credit Derivative* falls below one year, protection ceases to be recognised and the risk weight of the loan reverts to 100%.
 - d. If the underlying position is an undrawn credit commitment to a corporate *Person*, the capital treatment resulting from the acquisition of *Maturity Mismatched* unfunded protection at T0 is as follows:
 - i. 10% risk weight, which is equal to 20% (the risk weight of a *Zone 1 Deposit-taker*) x 50% (CCF of an undrawn credit commitment), plus
 - ii. 25% risk weight, which is equal to 50% (i.e. the original risk weight of the corporate *Person* x CCF of an undrawn commitment) x 50% (which is the CCF of a commitment with uncertain draw-down).
2. So, in this example, the total risk weight of the undrawn credit commitment to a corporate *Person* is 10% + 25% = 35%.

Multiple Names

Guidance

Where a *Credit Derivative* is referenced to more than one obligor, that is, a basket or multiple name product, the nature of the credit protection provided or acquired depends on the structure of the contract.

A4.11.30 If the *Credit Derivative* is to pay out on the first asset to default in the basket, then protection must only be recognised against one asset in the basket. An *Authorised Firm* may choose which asset in the basket attracts protection.

A4.11.31 If the contract referred to in Rule A4.11.30 allocates protection proportionately amongst assets in the basket, protection may be recognised in setting *Capital Requirements* against all the assets in the basket according to their proportions in the contract.

Maturity

A4.11.32 The *Protection Seller* of a *Credit Derivative* must treat the maturity of the product as its contractual maturity.

A4.11.33 If the contract referred to in Rule A4.11.30 terminates and pays out on the first asset to default in the basket, the *Protection Seller* must record an *Exposure* to all the *Reference Assets* covered in the contract and calculate a *Capital Requirement* accordingly. The risk weighting of the *Reference Assets* must be applied by the *Protection Seller* to the maximum payout amount under the contract for each asset in the basket, capped at the equivalent of a deduction from capital.

A4.11.34 A *Credit Derivative* structure that is referenced to the assets in the basket proportionately must be risk weighted according to those assets in the proportions set out in the contract.

Credit Spread Options

A4.11.35 If an *Authorised Firm* is entering into a *Credit Spread Option* which is eligible for inclusion in the *Trading Book*, the *Authorised Firm* must comply with the *Trading Book* requirements set out in this section.

A4.11.36 An *Authorised Firm* must not take into account for capital purposes, protection bought for *Non-Trading Book* purposes using a *Credit Spread Option*.

A4.11.37 An *Authorised Firm* must record protection sold using a *Credit Spread Option* as a direct credit substitute. The amount of the *Exposure* must be the par value of the nominal amount of the *Reference Asset*.

Risk Transfer Requirements

- A4.11.38** If an *Authorised Firm* is to reduce *Capital Requirements* using the purchased protection or an offsetting short position, the *Credit Risk* transfer must not contravene any terms and conditions relating to the *Reference Asset* and all necessary consents must have been obtained.
- A4.11.39** An *Authorised Firm* must transfer the *Credit Risk* associated with an asset to the *Protection Seller* in order for purchased protection or an offsetting short position to be recognised.
- A4.11.40** An *Authorised Firm* must not treat the *Credit Risk* on an asset as having been transferred to the *Protection Seller* unless:
- (A) the *Protection Buyer* has no obligation to repay any funding received under the *Credit Derivative* except at termination or as a result of a defined *Credit Event*;
 - (B) the *Protection Buyer* has given notice to the *Protection Seller* that it is under no obligation to repay the funding, except as defined in (A) above, nor to support any losses suffered by the *Protection Seller*; and
 - (C) the *Protection Seller* acknowledges the absence of the obligation in (B) above.
- A4.11.41** Where the risk transfer requirements set out above are not met an *Authorised Firm* must:
- (A) ignore protection bought in the *Non-Trading Book* and must continue to weight the underlying asset as normal; and
 - (B) not offset a *Specific Risk* position recorded in the *Trading Book* as a result of the *Credit Derivative* against any other *Specific Risk* position.

App5 Market Risk

A5.1 Market Risk Systems and Controls

Guidance

1. In accordance with section 5.2, an *Authorised Firm* is required to have a *Market Risk* policy. The *Market Risk* policy should address all aspects of *Market Risk* whether arising from assets, liabilities or the mismatch between assets and liabilities and whether off or on-balance sheet. Such a policy would be expected to include the following information:
 - a. how, with particular reference to its activities, the *Authorised Firm* defines and measures *Market Risk*;
 - b. the *Authorised Firm's* investment or trading strategy distinguishing, as applicable, between its *Trading* and *Non-Trading Books*;
 - c. the detailed limit structure for *Market Risk* which should:
 - i. address all key risk factors;
 - ii. be commensurate with the volume and complexity of activity; and
 - iii. be consistent with the *Authorised Firm's* strategy, historical performance, and the overall level of earnings or capital the *Authorised Firm* is willing to risk;
 - d. procedures for:
 - i. approving new products and activities that give rise to *Market Risk*;
 - ii. regular risk position and performance reporting;
 - iii. limit exception reporting and approval; and
 - iv. reporting and controlling of off-market trades, if these are permitted;
 - e. where internal models are used to set *Capital Requirements* (as provided for in section 5.3), the methods and assumptions used in these models and how the models are tested; and
 - f. the allocation of responsibilities for implementing the *Market Risk* policy and for monitoring adherence to, and the effectiveness of, the policy.
2. An *Authorised Firm* should measure its *Market Risk* using a robust and consistent methodology. The appropriate method of measurement will depend upon the nature of the products traded. The *Authorised Firm* should consider whether the measurement methodologies should be tested, for example, through back-testing, and the frequency of such testing.
3. An *Authorised Firm* should be able to measure its *Market Risk Exposure* both across risk types, such as interest rate, foreign exchange and commodities, and across the entire portfolio.
4. Where an *Authorised Firm* is a member of a *Group*, which is subject to consolidated supervision, the *Group* should be able to monitor *Market Risk Exposures* on a consolidated basis (chapter 7).

5. An *Authorised Firm* should have the capability to assess the impact of any new Transaction on its *Market Risk* position on an on-going basis, and should be capable of carrying out a full measurement of its positions at least daily.
6. An *Authorised Firm* should implement an effective system for monitoring its *Market Risk*. This system should be independent of those within the *Authorised Firm* who are responsible for taking *Market Risk*.
7. An *Authorised Firm* should implement a system of management reporting which provides relevant, accurate, comprehensive, timely and reliable *Market Risk* reports to relevant functions within the *Authorised Firm*. These reports should:
 - a. alert *Senior Management's* attention to the size of *Exposures* and the relationship between these *Exposures* and limits;
 - b. cover exceptions to the *Authorised Firm's Market Risk* policy;
 - c. present the results from stress tests undertaken; and
 - d. analyse and explain any changes to the level and nature of *Market Risk* and any remedial action proposed or taken.
8. An *Authorised Firm* should have procedures, including stop-loss procedures, for taking appropriate action according to the information within the management reports.
9. An *Authorised Firm* should ensure that there are controls and procedures for reporting any trades booked at off-market rates.
10. An *Authorised Firm* should ensure that risk monitoring is subject to a periodic independent check. Models used to determine or interpolate specific *Market Risk* factors should be independently reviewed or otherwise validated.
11. Particular attention should be given to the monitoring of *Market Risk* that does not conform to the usual *Market Risk* policy, or which exceeds predetermined *Market Risk* limits and criteria, but is sanctioned because of particular circumstances in accordance with the *Authorised Firm's* procedures. Unauthorised exceptions to policies, procedures and limits should be reported in a timely manner to the appropriate level of management along with any remedial action proposed or taken.
12. *Market Risk* limits should be periodically reviewed in order to check their suitability for current market conditions and the *Authorised Firm's* overall risk appetite.
13. An *Authorised Firm* should use a model or some form of analytical tool to assess risk in complex instruments or across portfolios. An *Authorised Firm* which wishes to use such a model to determine part of its financial resources requirement, should refer to section 5.3.
14. An *Authorised Firm* should also use stress testing to determine the potential effects of economic downturns, market events, changes in interest rates, foreign exchange or *Liquidity* conditions.
15. An *Authorised Firm* should set an appropriate limit structure to control its *Market Risk Exposure*. The degree of granularity within the limit structure, or how hierarchical it is, will depend on the nature of the products traded (for example, whether the underlying risks are linear or non-linear) and the scale of the *Authorised Firm's* overall business (for example, whether the *Authorised Firm* is an active market maker). An *Authorised Firm* should set limits on risks such as simple price or rate risk as well as on the factors, *Delta*, *Gamma*, *Vega*, *Rho*, and *Theta*, arising from options positions.
16. Limits should also be imposed against net or gross positions, and in relation to maximum allowable loss ('stop-loss'), value at risk, maturity gap, and illiquid or volatile markets.

17. An *Authorised Firm* should provide a process for the identification, timely reporting and subsequent action in respect of exceptions to limits. An *Authorised Firm* should also ensure that limit breaches and action arising from exceptions are monitored. An *Authorised Firm* may also consider whether it is appropriate to set intermediate thresholds that alert management when limits are approached, triggering review or other appropriate action, or both.
18. Various methods can be used to hedge *Market Risk*. An *Authorised Firm* should document the appropriate products to be used to hedge *Exposure* and identify individuals within the *Authorised Firm* or *Group* responsible for monitoring hedge performance.
19. An *Authorised Firm* should ensure that it makes and maintains appropriate prudential records which show and explain the *Authorised Firm's* transactions, disclose its financial position and *Exposure* to *Market Risk* and enable it to demonstrate compliance with the *Regulatory Authority Rules*. In particular, an *Authorised Firm* should have data history to enable it to perform back-testing of methods and assumptions used for stress and scenario testing and for value-at-risk models. *Market Risk* records should be retained for at least six years.
20. *Authorised Firms* are encouraged to develop internal *Market Risk* models and, subject to meeting the requirements set out in section 5.3, to apply to the *Regulatory Authority* for a waiver from the relevant requirements. With respect to *Authorised Firms* which maintain substantial and active *Trading Book* positions, the *Regulatory Authority* may require the use of such internally developed models for the purposes of measuring and reporting their *Market Risk Capital Requirements*.

A5.2 Interest Rate Risk Capital Requirement

Guidance

Section A5.2 presents the method for the calculation of *Specific Risk* and *General Market Risk* in respect of the *Interest Rate Risk Capital Requirement* as referred to in Rule 5.4.2.

A5.2.1 An *Authorised Firm* which calculates its *Interest Rate Risk Capital Requirement* in accordance with Rule 5.4.2(B) must apply the *Rules* in this section.

A5.2.2 An *Authorised Firm* must calculate its *Interest Rate Risk Capital Requirement* as the sum of the two following separate charges:

- (A) *Specific Risk* of each net position as calculated in accordance with Rule A5.2.13; and
- (B) *General Market Risk* calculated in accordance with Rule A5.2.15.

A5.2.3 An *Authorised Firm* must calculate its *Interest Rate Risk Capital Requirement* in *Trading Book* positions in all fixed-rate and floating-rate debt *Securities* and *Instruments* which behave like them, including:

- (A) non-convertible preference *Shares*;
- (B) futures or forwards on a debt *Security* or on interest rates;
- (C) swaps (or contracts for differences) whose value is based on interest rates;
- (D) the cash leg of a repurchase or a reverse repurchase agreement;

- (E) forward foreign exchange contracts or currency futures;
- (F) interest rate legs of equity swaps;
- (G) interest rate legs of equity futures or forwards; and
- (H) interest rate legs of equity based *Options* treated under internal models in section 5.3.

Guidance

Where these positions will require the derivation of notional positions before they can be included in the calculation of *Specific Risk* and *General Market Risk Requirements*, an *Authorised Firm* must derive the notional positions in accordance with Rules A5.2.5 to A5.2.12.

- A5.2.4**
- (1) An *Authorised Firm* may net, by value, long and short positions in the same *Debt Instrument* in its *Trading Book* to generate the individual net position in that *Instrument*.
 - (2) *Instruments* are considered to be the same for the purposes of (1) where:
 - (A) the *Issuer* is the same;
 - (B) the *Instruments* have equivalent standing in liquidation; and
 - (C) the currency, coupon and maturity are the same.

Derivation of Notional Positions for Certain Instruments (including interest rate derivatives)

- A5.2.5**
- (1) The interest rate risk measurement must include all interest rate *Derivatives* and off-balance sheet *Instruments* in the *Trading Book* that react to changes in interest rates, including forward rate agreements other forward contracts, futures, interest rate and cross-currency swaps and forward foreign exchange positions.
 - (2) *Derivatives* must be converted into positions in the relevant underlying *Instruments* and are subject to *Specific* and *General Market Risk Requirements* set out in Rules A5.2.13 and A5.2.15. The amounts used in the calculation must be the market values of the principal amount of the underlying *Instrument* or of the notional underlying *Instrument*.
 - (3) The manner in which an *Authorised Firm* must derive a notional position (in the currency concerned) for certain *Instruments* (including interest rate *Derivatives*) is set out in Rules A5.2.6 to A5.2.12.

Futures on Interest Rates and Forward Rate Agreements

- A5.2.6** (1) A future on an interest rate and a forward rate agreement must be treated as two notional zero coupon government *Securities* as follows:
- (A) where an *Authorised Firm* sells an interest rate future or buys a forward rate agreement:
 - (i) the notional short position has a maturity equal to the time to expiry of the future (or the settlement date of the forward rate agreements) plus the maturity of the borrowing period; and
 - (ii) the notional long position has a maturity equal to the time to expiry of the future (or the settlement date of the forward rate agreement); and
 - (2) where an *Authorised Firm* buys an interest rate future or sells a forward rate agreement:
 - (A) the notional short position has a maturity equal to the time to expiry of the future (or the settlement date of the forward rate agreement); and
 - (B) the notional long position has a maturity equal to the time to expiry of the future (or the settlement date of the forward rate agreement) plus the maturity of the *Deposit* period.

Futures and Forwards on a Single Debt Security

- A5.2.7** A future and a forward on a single debt *Security* must be treated as a notional debt *Security* and a notional zero coupon government *Security* as follows:
- (A) where an *Authorised Firm* has bought the future or forward:
 - (i) a notional long position in the underlying *Security* with a maturity:
 - (a) in the case of a fixed rate bond, equal to the underlying *Security*;
 - (b) in the case of a floating rate bond, at the time to the next reset; and
 - (ii) a notional short position in a zero coupon government *Security* with a maturity equal to the time to expiry of the futures contract; and
 - (B) where an *Authorised Firm* has sold the future or forward:
 - (i) a notional short position in the underlying *Security* with a maturity:
 - (a) in the case of a fixed rate bond, equal to the underlying *Security*; and

- (b) in the case of a floating rate bond, at the time to the next reset; and
- (ii) a notional long position in a zero coupon government *Security* with a maturity equal to the time to expiry of the futures contract.

Future or Forward on a Basket of Debt Securities

A5.2.8 A future and a forward on a basket of debt *Securities* must be treated as a set of notional positions in the constituent debt *Securities*.

Interest Rate and Currency Swaps

A5.2.9 An interest rate and a currency swap must be treated as two notional government *Securities* as follows:

- (A) where the *Authorised Firm* is receiving fixed rate interest and paying floating rate interest:
 - (i) a notional long position with a maturity equal to the length of the swap; and
 - (ii) a notional short position with a maturity equal to the period remaining to the next interest rate reset date;
- (B) where the *Authorised Firm* is paying fixed rate interest and receiving floating rate interest:
 - (i) a notional short position with a maturity equal to the length of the swap; and
 - (ii) a notional long position with a maturity equal to the period remaining to the next interest rate reset date;
- (C) where the *Authorised Firm* is receiving fixed rate interest and paying fixed rate interest:
 - (i) a notional long position with a maturity equal to the length of the swap; and
 - (ii) a notional short position with a maturity equal to the length of the swap.
- (D) where the *Authorised Firm* is receiving floating rate interest and paying floating rate interest:
 - (i) a notional long position with a maturity equal to the period remaining to the next interest date reset date; and

- (ii) a notional short position with a maturity equal to the period remaining to the next interest rate reset date.
- (E) the two notional government *Securities* must have a coupon equal to the rate of interest payable or receivable on the leg.

Guidance

A currency swap is also subject to a *Foreign Exchange Risk Capital Requirement* (see section 5.5).

Dual Currency Bonds

A5.2.10 A dual currency bond must be treated as two positions as follows:

- (A) a debt *Security* denominated in the currency in which the dual currency bond is issued; and
- (B) a foreign exchange forward for the purchase of the redemption currency (see section 5.6)

Cash Legs of Repos

A5.2.11 The forward cash leg of a repo must be treated as a notional short position in a government *Security* with a maturity equal to that of the repo and coupon equal to the repo rate.

Guidance

If a *Security* is repo'd, the *Authorised Firm* continues to calculate an *Interest Rate Risk Capital Requirement* on the *Security* because, although legal ownership transfers to the *Counterparty*, the economic benefit or loss remains with the *Authorised Firm*.

Cash Legs of Reverse Repos

A5.2.12 The forward cash leg of a reverse repo must be treated as a notional long position in a government *Security* with a maturity equal to that of the reverse repo and coupon equal to the repo rate.

Guidance

1. If a *Security* is reverse repo'd, the *Authorised Firm* does not calculate an *Interest Rate Risk Capital Requirement* on the *Security* because, although the firm obtains the legal title, the economic benefit or loss remains with the original holder.
2. An *Authorised Firm* may exclude from the interest rate maturity framework (for both *Specific* and *General Market Risk*) long and short positions (both actual and notional) in identical *Derivative Instruments* with exactly the same *Issuer*, coupon, currency and maturity. A fully-matched position in a future or forward and its corresponding underlying *Instrument* may also be fully offset, and thus excluded from the calculation.

Specific Risk

Guidance

In respect of interest rate risk, a capital charge for *Specific Risk* is designed to protect against an adverse movement in the price of an individual *Security* owing to factors related to the individual *Issuer*.

- A5.2.13** (1) An *Authorised Firm* must calculate its *Specific Risk* as the sum of the market values of the individual net positions (whether they are long or short) multiplied by the appropriate risk percentage in (3).
- (2) An *Authorised Firm* must not offset between different issues.
- (3) An *Authorised Firm* must determine the appropriate risk percentage by reference to the table in (4).
- (4) Risk % table:

	Risk Percentage
An issue of, or fully guaranteed by, or fully <i>Collateralised</i> by, a <i>Zone 1</i> central government or central bank.	
An issue of, or fully guaranteed by, or fully <i>Collateralised</i> by, a <i>Zone 2</i> central government or central bank, where the <i>Security</i> is denominated in the local currency of the <i>Issuer</i> .	0.00%
An issue of, or fully guaranteed by, or fully <i>Collateralised</i> by, a <i>Multilateral Development Bank</i> or a <i>Zone 1 Deposit taker</i> .	Where the residual term to final maturity is 6 months or less: 0.25%.
A debt item (including money market obligations) <i>Rated</i> as <i>Investment Grade</i> , in accordance with Rule A5.2.14.	Where the residual term to final maturity is between 6 and 24 months: 1.0%.
	Where the residual term to final maturity exceeds 24 months: 1.60%.
Other	8% or such other percentage as the <i>Regulatory Authority</i> may direct.

Guidance

- Offsetting is not permitted since differences in coupon rates, *Liquidity*, and call features, for example, signify that prices may diverge in the short run.

2. The “Other” category will receive the same *Specific Risk* requirement as a private-sector borrower under the *Credit Risk Capital Requirements*, 8%. However, since this may, in certain cases, considerably underestimate the *Specific Risk* for debt *Securities* which have a high yield to redemption relative to government debt *Securities*, the *Regulatory Authority* has the right to apply to such *Securities* a *Specific Risk* percentage higher than 8%.

A5.2.14 (1) A debt item is *Rated* as *Investment Grade* where:

- (A) two relevant credit rating agencies rate the debt item as *Investment Grade*; or
- (B) one relevant credit *Rating Agency* rates the debt item as *Investment Grade* and it is not *Rated* at all by any other relevant credit *Rating Agency*.

- (2) The relevant credit rating agencies for the purposes of Rule A5.2.14 and the minimum ratings which must be applied for the debt item to be regarded as *Investment Grade* are set out in the following table:

Relevant rating agencies	Minimum ratings	
	<i>Securities</i>	Money market obligations
For all <i>Issuers</i>		
Moody’s Investors Service	Baa3	P3
Standard & Poors Corporation	BBB-	A3
FITCH Ratings Ltd	BBB-	F-3
For Canadian <i>Issuers</i>		
Canadian Bond Rating Service	B++ low	A-3
Dominion Bond Rating Service	BBB low	R-2
For Japanese <i>Issuers</i>		
Japan Credit Rating Agency, Ltd	BBB-	J-2
Japan Rating and Investment Information Inc	BBB-	A-2
Mikuno & Co	BBB	M-3

General Market Risk

- A5.2.15** (1) An *Authorised Firm* must calculate its *General Market Risk* on a currency by currency basis, irrespective of where the individual *Instruments* are physically traded or listed. The calculations for each currency must then be added together to determine the amount of the *Authorised Firm's General Market Risk Requirement*.
- (2) An *Authorised Firm* must calculate its *General Market Risk Requirement* for each currency by applying either:
- (A) the simplified framework set out in Rule A5.2.16;
 - (B) the *Maturity Method* set out in Rule A5.2.17; or
 - (C) with the consent of the *Regulatory Authority*, the *Duration Method* set out in Rule A5.2.19.

Simplified Framework

- A5.2.16** (1) In applying the simplified framework, an *Authorised Firm* must calculate its *General Market Risk Requirement* for each currency by taking the following steps:
- (A) allocating the individual net positions to one of the time bands in the table below, as follows:
 - (i) fixed-rate *Instruments* are allotted their time bands based upon the residual time to maturity; and
 - (ii) floating-rate *Instruments* are allocated to time bands based upon the time remaining to the re-determination of the coupon;
 - (B) adding the market values of the individual net positions within each band irrespective of whether they are long or short positions to produce a gross position figure;
 - (C) multiplying the amount in (B) above by the risk percentage for the relevant maturity band in the table in (2); and
 - (D) adding the calculations in (C) to arrive at the *General Market Risk Requirement*.

(2) Relevant maturity band table.

Zone	Time band		Risk percentage
	Coupon of 3% or more	Coupon of less than 3%	
A	0 ≤1month	0 ≤1month	0.00%
	> 1 ≤3months	> 1 ≤3months	0.20%
	> 3 ≤6 months	> 3 ≤6 months	0.40%
	> 6 ≤12 months	> 6 ≤12 months	0.70%
B	> 1 ≤2 years	> 1.0 ≤1.9 years	1.25%
	> 2 ≤3 years	> 1.9 ≤2.8 years	1.75%
	> 3 ≤4 years	> 2.8 ≤3.6 years	2.25%
C	> 4 ≤5 years	> 3.6 ≤4.3 years	2.75%
	> 5 ≤7 years	> 4.3 ≤5.7 years	3.25%
	> 7 ≤10 years	> 5.7 ≤7.3 years	3.75%
	> 10 ≤15 years	> 7.3 ≤9.3 years	4.50%
	> 15 ≤20 years	> 9.3 ≤10.6 years	5.25%
	> 20 years	> 10.6 ≤12.0 years	6.00%
		> 12.0 ≤20.0 years	8.00%
	> 20 years	12.50%	

Guidance

The risk percentages in the table above are designed to reflect the price sensitivity of the positions to changes in the interest rate.

Maturity Method

A5.2.17 Under the *Maturity Method*, the following steps must be carried out:

- (A) the maturity weighted position for each *Instrument* must be calculated by multiplying the market value of each individual long or short net position by the appropriate risk percentage per the table in Rule A5.2.16;
- (B) the sum of the weighted long and the sum of the weighted short positions in each maturity band must be calculated;
- (C) these weighted long and short positions must be matched within a maturity band to give the total matched weighted position in the maturity band and the total unmatched weighted position which will be long or short in the maturity band;
- (D) the matched weighted positions in all maturity bands must be summed;
- (E) the unmatched weighted positions in all the maturity bands must then be matched within a zone leaving an unmatched position for the zone (which will either be short or long); and
- (F) the unmatched positions in each zone must be matched with the unmatched positions in other zones leaving the residual unmatched weighted position.

A5.2.18 The *General Market Risk Requirement* for each currency must be calculated as the sum of the following:

- (A) 10% of the matched weighted positions in each maturity band;
- (B) 40% of the matched weighted position in zone A;
- (C) 30% of the matched weighted position in zones B and C;
- (D) 40% of the matched weighted position between zones A and B, and between zones B and C;
- (E) 150% of the matched weighted position between zones A and C; and
- (F) 100% of the residual unmatched weighted positions.

Guidance

A worked example under the *Maturity Method* of the *General Market Risk Requirement* calculation is as follows:

	Maturity Band		Individual Net Positions		Risk %	Weighted Individual Net Positions		By Maturity Band		By Zone		Between Zones	
	Coupon ≥3%	Coupon <3%	Long	Short		Long	Short	Matched	Un-matched	Matched	Un-matched	Matched	Un-matched
A	≤ 1 mth	≤ 1 mnth	\$100	-\$50	0.00%	\$0.00	\$0.00	\$0.00	\$0.00				
	1 - 3 mths	1 - 3 mths	\$200	-\$100	0.20%	\$0.40	-\$0.20	\$0.20	\$0.20	\$0.00	\$1.30		
	3 - 6 mths	3 - 6 mths	\$300	-\$200	0.40%	\$1.20	-\$0.80	\$0.80	\$0.40				
	6 - 12 mths	6 - 12 mths	\$400	-\$300	0.70%	\$2.80	-\$2.10	\$2.10	\$0.70				
B	1 - 2 yrs	1 - 1.9 yrs	\$100	-\$200	1.25%	\$1.25	-\$2.50	\$1.25	-\$1.25			Zone 1&2	
	2 - 3 yrs	1.9 - 2.8 yrs	\$200	-\$300	1.75%	\$3.50	-\$5.25	\$3.50	-\$1.75	\$0.00	-\$5.25	\$1.30	
	3 - 4 yrs	2.8 - 3.6 yrs	\$300	-\$400	2.25%	\$6.75	-\$9.00	\$6.75	-\$2.25				Zones 1&3
													\$0.00
C	4 - 5 yrs	3.6 - 4.3 yrs	\$100	-\$100	2.75%	\$2.75	-\$2.75	\$2.75	\$0.00			Zone 2&3	
	5 - 7 yrs	4.3 - 5.7 yrs	\$200	-\$200	3.25%	\$6.50	-\$6.50	\$6.50	\$0.00			\$3.95	
	7 - 10 yrs	5.7 - 7.3 yrs	\$300	-\$100	3.75%	\$11.25	-\$3.75	\$3.75	\$7.50				
	10 - 15 yrs	7.3 - 9.3 yrs	\$100	-\$200	4.50%	\$4.50	-\$9.00	\$4.50	-\$4.50	\$4.50	\$8.25		
	15 - 20 yrs	9.3 - 10.6 yrs	\$200	-\$100	5.25%	\$10.50	\$5.25	\$5.25	\$5.25				
	> 20 yrs	10.6 - 12 yrs	\$300	-\$300	6.00%	\$18.00	-\$18.00	\$18.00	\$0.00				
		12 - 20 yrs			8.00%								
		> 20 yrs			12.50%								
								\$55.35			\$4.30		

Total *General Market Risk Requirement* =
 10% (\$55.35) + 40% (\$0.00) + 30% (\$0.00 + \$4.50) + 40% (\$1.30 + \$3.95) + 100% (\$4.30) + 150% (\$0.00) = \$13.29

Duration Method

A5.2.19 An *Authorised Firm* with the necessary capability may, with the consent of the *Regulatory Authority*, use the *Duration Method*, which produces a more accurate measure for *General Market Risk* than the *Maturity Method*. An *Authorised Firm* must elect and use the *Duration Method* on a continuous basis and will be subject to supervisory monitoring of the systems used.

- A5.2.20** (1) Under the *Duration Method*, the following steps must be carried out:
- (A) the duration weighted position for each *Instrument* must be calculated by multiplying the market value of each individual long or short net position by the *Modified Duration* and the assumed interest rate change per the table below;
 - (B) the sum of the weighted long and the sum of the weighted short positions in each time band must be calculated;
 - (C) these weighted long and short positions must be matched within a maturity band to give the total matched weighted position in the maturity band and the total unmatched weighted position which will be long or short in the maturity band;
 - (D) the matched weighted positions in all maturity bands must be summed;
 - (E) the unmatched weighted positions in all the maturity bands must then be matched within a zone leaving an unmatched position for the zone (which will either be short or long); and
 - (F) the unmatched positions in each zone must be matched with the unmatched positions in other zones leaving the residual unmatched weighted position.

(2) *Duration Method* table:

Zone	<i>Modified Duration</i>	Assumed move in interest rates (percentage points)
A	0 ≤ 1 month	1.00
	> 1 ≤ 3 months	1.00
	> 3 ≤ 6 months	1.00
	> 6 ≤ 12 months	1.00
B	> 1.0 ≤ 1.9 years	0.90
	> 1.9 ≤ 2.8 years	0.80
	> 2.8 ≤ 3.6 years	0.75
C	> 3.6 ≤ 4.3 years	0.75
	> 4.3 ≤ 5.7 years	0.70
	> 5.7 ≤ 7.3 years	0.65
	> 7.3 ≤ 9.3 years	0.60
	> 9.3 ≤ 10.6 years	0.60
	> 10.6 ≤ 12.0 years	0.60
	> 12.0 ≤ 20.0 years	0.60
	> 20 years	0.60

A5.2.21 For the purposes of this section *Modified Duration* is calculated as follows:

$$\text{Modified Duration} = \frac{\text{duration (D)}}{(1 + r)}$$

$$D = \frac{\sum_{t=1}^m \frac{tC_t}{(1+r)^t}}{\sum_{t=1}^m \frac{C_t}{(1+r)^t}}$$

where:

r = yield to maturity

C_t = cash payment in time t

m = total maturity

A5.2.22 The *General Market Risk Requirement* for each currency must be calculated as the sum of the following:

- (A) 5% of the matched weighted positions in each time band;
- (B) 40% of the matched weighted position in zone A;
- (C) 30% of the matched weighted position in zones B and C;
- (D) 40% of the matched weighted position between zones A and B, and between zones B and C;
- (E) 150% of the matched weighted position between zones A and C; and
- (F) 100% of the residual unmatched weighted positions.

Guidance

A worked example of the *General Market Risk Requirement* calculation under the *Duration Method* is as follows:

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	Mod. Duration	Indiv. Net Pos.	Assumed move in	Mod. Duration	Weighted Indiv. Net Pos.	By Timeband				By Zone		Between Zones	
	yrs	Long	Short	%p.a	(yrs)	Long	Short	Matched	Un-matched	Matched	Un-matched	Matched	Un-matched
A	< 1 mth	\$100	-\$50	1.00%	0.00	\$0	\$0	\$0	\$0	\$0	\$1.30		
	1 to 3 mths	\$200	-\$100	1.00%	0.20	\$0.40	-\$0.20	\$0.20	\$0.20				
	3 to 6 mths	\$300	-\$200	1.00%	0.40	\$1.20	-\$0.80	\$0.80	\$0.40				
	6 to 12 mths	\$400	-\$300	1.00%	0.70	\$2.80	-\$2.10	\$2.10	\$0.70				
B	1 to 1.9 yrs	\$100	-\$200	0.90%	1.40	\$1.26	-\$2.52	\$1.26	-\$1.26	\$0	-\$5.27	Zone 1&2	
	1.9 to 2.8 yrs	\$200	-\$300	0.80%	2.20	\$3.52	-\$5.28	\$3.52	-\$1.76			\$1.30	
	2.8 to 3.6 yrs	\$300	-\$400	0.75%	3.00	\$6.75	-\$9.00	\$6.75	-\$2.25				Zones 1&3
													\$0.00
C	3.6 to 4.3 yrs	\$100	-\$100	0.75%	3.65	\$2.74	-\$2.74	\$2.74	\$0	\$4.50	\$8.89	Zone 2&3	
	4.3 to 5.7 yrs	\$200	-\$200	0.70%	4.65	\$6.51	-\$6.51	\$6.51	\$0			\$3.97	
	5.7 to 7.3 yrs	\$300	-\$100	0.65%	5.80	\$11.31	-\$3.77	\$3.77	\$7.54				
	7.3 to 9.3 yrs	\$100	-\$200	0.60%	7.50	\$4.50	-\$9.00	\$4.50	-\$4.50				
	9.3 to 10.6 yrs	\$200	-\$100	0.60%	9.75	\$11.70	-\$5.85	\$5.85	\$5.85				
	10.6 to 12 yrs	\$0	\$0.00	0.60%	11.00	\$0	\$0	\$0	\$0				
	12 to 20 yrs	\$300	-\$300	0.60%	14.50	\$26.10	-\$26.10	\$26.10	\$0				
	Over 20 yrs	\$0	\$0.00	0.60%	22.00	\$0	\$0	\$0	\$0				
								\$64.10			\$4.92		

Total General Market Risk Requirement =

$$5\% (\$64.10) + 40\% (\$0) + 30\% (\$4.50) + 40\% (\$5.27) + 150\% (\$0) + 100\% (\$4.92) = \$11.58$$

A5.3 Equity Risk Capital Requirement

Guidance

Section A5.3 presents the method for the calculation of *Equity Risk Capital Requirement* for the purpose of Rule 5.4.2(B).

A5.3.1 An *Authorised Firm* which calculates its *Equity Risk Capital Requirement* in accordance with Rule 5.4.2(B) must apply the *Rules* in this section.

A5.3.2 An *Authorised Firm* must calculate its *Equity Risk Capital Requirement* by:

- (A) identifying all applicable positions within the scope of the requirement, including notional positions derived from certain *Instruments*;
- (B) netting positions where they meet the conditions for *Netting* set in Rules A5.3.19 and A5.3.20;
- (C) calculating an *Equity Risk Capital Requirement* for each individual position using the standard method in accordance with Rule A5.3.25 or the simplified method in accordance with Rule A5.3.33;
- (D) in the case of a forward, future, *Option* or *Company* issued *Warrant* on an equity, basket of equities or equity index, adding an *Interest Rate Risk Capital Requirement*; and
- (E) summing the *Capital Requirements* calculated in accordance with (C) and (D) above.

Guidance

For the purposes of Rule A5.3.2(D), an *Authorised Firm* is required to calculate the applicable *Interest Rate Risk Capital Requirement* in accordance with Rule A5.2.13 and the other applicable *Rules* in section A5.2.

A5.3.3 (1) For the purposes of Rule A5.3.2(A) an *Authorised Firm* must calculate an *Equity Risk Capital Requirement* for long and short *Trading Book* positions in equities and *Instruments* which exhibit behaviour similar to equities including but not limited to:

- (A) depository receipts;
- (B) futures or forwards on an equity, baskets of equities or equity indices;
- (C) net underwriting commitments; and
- (D) investments in unleveraged *Collective Investment Funds*.

- (2) An *Authorised Firm* should calculate either an *Equity Risk Capital Requirement* or an *Option Risk Capital Requirement* for a *Trading Book* position in:
- (A) an equity hedging an *Option*;
 - (B) an equity hedging a *Company-issued Warrant*;
 - (C) an *Option* on an equity, basket of equities, equity index or equity future provided it is in the money by at least the risk percentage stipulated in Rule A5.3.33; and
 - (D) a *Company issued Warrant* which relates to an equity, basket of equities or equity index provided it is in the money by at least the risk percentage stipulated in Rule A5.3.33.

Guidance

1. If an *Authorised Firm* has an investment in a leveraged *Collective Investment Fund*, it should seek guidance from the *Regulatory Authority* in respect of the appropriate prudential treatment.
2. In respect of *Options* that are out of the money, an *Authorised Firm* must apply the requirements of section 5.8.

A5.3.4 An *Authorised Firm* must calculate either an *Equity Risk Capital Requirement* or an *Option Risk Capital Requirement* for a *Trading Book* position in the equity leg of an equity swap in accordance with Rule A5.3.12.

A5.3.5 An *Authorised Firm* must calculate either an *Equity Risk Capital Requirement* or *Interest Rate Risk Capital Requirement* for a *Trading Book* position in a *Convertible* in accordance with Rules A5.3.6 and A5.3.7.

A5.3.6 An *Authorised Firm* must treat a *Convertible* as the underlying equity into which it converts, where:

- (A) the first date at which conversion can take place is less than three months ahead, or the next such date (where the first has passed) is less than a year ahead; and
- (B) the *Convertible* is trading at a premium of less than 10% to the underlying equity.

A5.3.7 An *Authorised Firm* which treats a *Convertible* as an equity must make an adjustment to the capital component as follows:

- (A) an addition equal to any loss on conversion; or
- (B) a deduction equal to any profit on conversion (subject to a maximum reduction to zero).

A5.3.8 An *Authorised Firm* must not calculate an *Equity Risk Capital Requirement* for a *Trading Book* position in:

- (A) material holdings deducted under Rule 2.7.5 for the purposes of calculating an *Authorised Firm's Capital Resources*;
- (B) the interest rate leg of an equity swap, equity future or forward, or equity based *Option*; or
- (C) a non-convertible preference *Security*.

Derivation of Notional Positions

A5.3.9 An *Authorised Firm* must, before netting, derive a notional position for a *Depository receipt*, a swap, a future, a forward, an *Option* and a *Company* issued *Warrant* in the calculation of its *Equity Risk Capital Requirement*.

Depository Receipts

A5.3.10 An *Authorised Firm* must treat a depository receipt as a notional position in the underlying equity.

A5.3.11 A position in a depository receipt must only be netted against a position in the underlying equity if the equity is deliverable against the depository receipt.

Equity Swaps

A5.3.12 An *Authorised Firm* must treat an equity swap as two notional positions: an interest rate leg and an equity leg, as follows:

- (A) the interest rate leg must be included in the *Interest Rate Risk Capital Requirement* and treated as a notional government *Security* in accordance with the provisions for interest rate swaps in section 5.4; and
- (B) the equity leg must be treated as a long or short position in:
 - (i) where the payout or receipt of funds is based on, respectively, the appreciation or depreciation in price of the underlying equities, a future; or
 - (ii) where the payout is the appreciation in price of the underlying equities, an *Option*, in which case the *Authorised Firm* must calculate an *Option Risk Capital Requirement* in accordance with section 5.8.

Equity Futures and Forwards

- A5.3.13** An *Authorised Firm* must treat a future or forward on a single equity as a notional position in the underlying equity. In addition, an interest rate leg must be included in the interest rate risk calculation in section 5.4 as a notional government *Security*.
- A5.3.14** An *Authorised Firm* must treat a future or forward on a single country equity index as either:
- (A) notional positions in the constituent equities; or
 - (B) a single notional position.
- A5.3.15** Where Rule A5.3.14(B) applies, an *Authorised Firm* must apply the highest risk percentage to the single notional position that would apply to any one of its constituents.
- A5.3.16** An *Authorised Firm* must treat a future or forward on a multiple country equity index as either:
- (A) notional positions in the constituent equities; or
 - (B) a number of notional positions being one for each of the countries which is represented in the index, in the proportion of that country's representation in the index.
- A5.3.17** Where Rule A5.3.16(B) applies, an *Authorised Firm* must apply the highest risk percentage to each notional position that would apply to any one of its constituents.

Equity Options and Company Issued Warrants

- A5.3.18** An *Authorised Firm* must treat an *Option* or *Company issued Warrant* on an equity, basket of equities or equity index that is eligible to be included in the equity method as a notional position in the underlying equity or equities as follows:
- (A) a purchased call *Option* and a written put *Option* must be treated as a long position; and
 - (B) a purchased put *Option* and a written call *Option* must be treated as a short position.

Netting

Guidance

1. Before calculating the *Equity Risk Capital Requirement*, positions may be netted in order to produce the individual net position.
2. Since the *Netting* of positions for *Equity Risk Capital Requirement* purposes does not involve legal or contractual issues, this material appears here rather than in the *Netting* section of the *Credit Risk* chapter.

Netting of Identical Equities

- A5.3.19** (1) An *Authorised Firm* may only net equity positions when:
- (A) long and short (including notional) positions are in the same tranche of the same equity; and
 - (B) long and short (including notional) positions are in different tranches of the same equity where the tranches enjoy the same rights in all respects and become fungible within one hundred and eighty days, and thereafter the equity of one tranche can be delivered in settlement of the equity of the other tranche.
- (2) For the purposes of (1)(A), an equity is the same as another, only if they enjoy the same rights in all respects and are fungible with each other.

Calculation of the Equity Risk Capital Requirement

Guidance

There are two methods for calculating the *Equity Risk Capital Requirement*: the standard method and the simplified method. The standard method requires two separate calculations. The first is *Specific Risk* and the second is *General Market Risk*. The simplified method is easier to calculate but usually results in a higher capital requirement than the standard method. In addition, *Authorised Firms* must calculate an *Interest Rate Risk Capital Requirement* for a forward, a future, an *Option* or a *Company* issued *Warrant*.

- A5.3.20** (1) An *Authorised Firm* must allocate an equity position or notional position to the country in which the equity is listed.
- (2) An equity listed in more than one country must be allocated to one of the countries in which it is listed.

A5.3.21 An *Authorised Firm* must allocate an unlisted equity to the country in which it is issued.

The Concentration Test

A5.3.22 An *Authorised Firm* must apply either the standard method or simplified method to an equity position, except that where an individual net position exceeds 20% of the sum of the long and short positions (ignoring the sign) of its country portfolio, the simplified method must be applied to the excess.

Guidance

The part of the individual net position that does not exceed 20% may be treated under the simplified or standard method.

Standard Method

A5.3.23 The total *Equity Risk Capital Requirement* is the sum of the *Specific Risk* requirements for all individual net equity positions and the *General Market Risk Requirements* calculated separately for each country.

Specific Risk

A5.3.24 *Specific Risk* must be calculated for each net position in an individual equity.

- A5.3.25** (1) The *Specific Risk* of each individual net equity position is its market value (ignoring the sign) multiplied by the appropriate risk percentage in the tables below.
- (2) *Specific Risk* percentages for a single equity:

Risk Percentage (for a single equity)	Risk percentage if the Liquidity and diversity tests in A5.3.28 and A5.3.29 are both satisfied
8%	4%

- (3) *Specific Risk* percentages for an index:

Broad-based indices	All other indices
0%	4%

- (4) For the purposes of (1), a broad-based index means an index listed in Rule A5.3.32.

Liquidity Test

- A5.3.26** (1) An equity satisfies the *Liquidity* test if it is a constituent of a high *Liquidity* equity index.

- (2) An index is a high *Liquidity* equity index if it is included in the following table:

Australia	All Ords	Japan	Nikkei225
Austria	ATX	Netherlands	EOE25
Belgium	BEL20	Spain	IBEX35
Canada	TSE35	Sweden	OMX
France	CAC40	Switzerland	SMI
Germany	DAX	UK	FTSE100
Hong Kong	Hang Seng	UK	FTSE mid-250
Italy	MIB-30	USA	S&P 500

Diversity Test

A5.3.27 A portfolio of equities satisfies the diversity test if:

- (A) no individual equity position comprises more than 10% of the value of the *Authorised Firm's* country portfolio; and
- (B) the sum of the long and short positions (ignoring the sign) of equity positions which individually comprise between 5% and 10% of the value of the *Authorised Firm's* country portfolio does not exceed 50% of the value of the *Authorised Firm's* country portfolio.

A5.3.28 For the purpose of Rule A5.3.27, the value of the *Authorised Firm's* country portfolio is the sum of all long and short (ignoring the sign) equity positions in the *Authorised Firm's* country portfolio.

General Market Risk

A5.3.29 An *Authorised Firm* must calculate *General Market Risk* on a country-by-country basis.

A5.3.30 An *Authorised Firm* must calculate the *General Market Risk* for each country in the following way:

- (A) all individual net positions are multiplied by 8%;
- (B) long and short positions in each country portfolio are netted; and
- (C) if the net equity position is negative, the sign must be reversed.

Simplified Method

A5.3.31 The *Equity Risk Capital Requirement* for each country is the sum of the market value of all individual net positions (ignoring the sign) multiplied by the appropriate risk percentage in the table below:

	Percentage risk	
	An Authorised Firm in PIIB Category 1 or 5	An Authorised Firm in PIIB Category 2
Single equities	16%	12%
Broad-based indices (not broken down into constituent equities)	8%	8%
All other indices (not broken down into constituent equities)	16%	12%

A5.3.32 For the purposes of Rule A5.3.33, a broad-based index means an index specified in the table under (C) or an index that satisfies the following criteria:

- (A) the index contains at least 20 *Shares*;
- (B) the weighting of the largest *Company* is not greater than 20% of the total index; and
- (C) the weighting of the largest five companies is not greater than 60% of the total index:

Australia	All Ordinaries
Austria	Austrian Traded Index
Belgium	BEL 20
Canada	TSE 35, TSE 100, TSE 300
France	CAC 40, SBF 250
Germany	DAX
European	Dow Jones Stoxx 50 Index, FTSE Eurotop 300, MSCI Euro Index
Hong Kong	Hang Seng
Italy	MIB 30
Japan	Nikkei 225, Nikkei 300, TOPIX
Korea	Kospi
Netherlands	AEX
Singapore	Straits Times Index
Spain	IBEX 35
Sweden	OMX
Switzerland	SMI
UK	FTSE 100, FTSE Mid 250, FTSE All <i>Share</i>
US	S&P 500, Dow Jones Industrial Average, NASDAQ Composite, Russell 2000

A5.4 Foreign Exchange Risk Capital Requirement

Guidance

Section A5.4 presents the method for the calculation of *Foreign Exchange Risk Capital Requirement* for the purpose of Rule 5.6.2(2).

A5.4.1 An *Authorised Firm* which calculates its *Foreign Exchange Risk Capital Requirement* in accordance with Rule 5.6.2(2) must apply the *Rules* in this section.

A5.4.2 An *Authorised Firm* must calculate its *Foreign Exchange Risk Capital Requirement* by using the standard method as follows:

- (A) calculating its net open position in each currency and in gold;
- (B) calculating its overall net open position in accordance with Rule A5.4.4; and
- (C) multiplying the overall net open position by the percentage provided in Rule A5.4.5.

Measuring the Net Open Position in a Single Currency

A5.4.3 An *Authorised Firm* must calculate its net open position in each currency, and in gold, by summing:

- (A) the net spot position, being all asset items less all liability items, including accrued interest, denominated in the currency in question;
- (B) the net forward position, being all amounts to be received less all amounts to be paid under forward foreign exchange *Transactions*, including currency futures and the principal on currency swaps not included in the spot position;
- (C) guarantees and similar *Instruments* that are certain to be called and are likely to be irrecoverable;
- (D) net future income/expenses not yet accrued but already fully hedged, at the discretion of the reporting *Authorised Firm*; and
- (E) any other item representing a profit or loss in *Foreign Currencies*.

Measuring the Overall Net Open Position

- A5.4.4**
- (1) An *Authorised Firm* must convert the net position in each *Foreign Currency* and in gold at spot rates into the reporting currency.
 - (2) The overall net open position is measured by aggregating:

- (A) the sum of the net short positions or the sum of the net long positions, whichever is the greater; plus
- (B) the net position (short or long) in gold, regardless of sign.

A5.4.5 The *Foreign Exchange Risk Capital Requirement* is 8% of the overall net open position.

Guidance

1. An example of how to calculate the overall net open position is as follows:

YEN	EURO	GB	Saudi Riyal	\$	Gold
+50	+100	+150	-20	-180	-35
TOTAL +300			TOTAL -200		TOTAL 35

2. The *Foreign Exchange Risk Capital* charge would be 8% of the higher of either the net long currency positions or the net short currency positions (i.e. 300) plus the net position in gold (35) = 335 x 8%=26.8.
3. Forward currency and gold positions will normally be valued at current spot market exchange rates. Using forward exchange rates would be inappropriate since it would result in the measured positions reflecting to some extent current interest rate differentials. However, an *Authorised Firm* which bases its normal management accounting on net present values is expected to use the net present values of each position, discounted using current interest rates and valued at current spot rates, for measuring its forward currency and gold positions.

Treatment of Accrued Interest and Expenses, Forwards, and Structural Positions

- A5.4.6**
- (1) An *Authorised Firm* must include interest accrued and accrued expenses as a position.
 - (2) If an *Authorised Firm* includes future income/expenses it must do so on a consistent basis and not include only those expected future flows that reduce its position.
 - (3) An *Authorised Firm* must exclude any positions which it has deliberately taken in order to hedge partially or totally against the adverse effect of the exchange rate on its *Capital Resources*, from the calculation of net open currency positions, if each of the following conditions is met:
 - (A) the positions are of a "structural", i.e., non-dealing, nature;
 - (B) the *Authorised Firm* has notified the *Regulatory Authority* in writing of its intention to rely upon this *Rule*; and
 - (C) any exclusion of the position must be applied consistently, with the treatment of the hedge remaining the same for the life of the assets or other items.

- (4) An *Authorised Firm* need not include positions related to:
 - (A) items which are deducted from its capital when calculating its *Capital Resources*, including investments in non-consolidated subsidiaries; or
 - (B) other long-term participations denominated in *Foreign Currencies* which are reported in the published accounts at historic cost.

A5.5 Commodities Risk Capital Requirement

Guidance

Section A5.5 presents the method for the calculation of *Commodities Risk Capital Requirement* for the purpose of Rule 5.7.2(B).

A5.5.1 An *Authorised Firm* which calculates its *Commodities Risk Capital Requirements* in accordance with Rule 5.7.2(B) must apply the *Rules* in this section.

Calculation of Commodities Risk Capital Requirement

- A5.5.2** (1) An *Authorised Firm* must calculate its *Commodities Risk Capital Requirement* by applying the *Maturity Ladder* approach in Rule A5.5.5 or the simplified approach in Rule A5.5.6 to all *Non-Trading* and *Trading Book*:
- (A) commodity positions;
 - (B) commodity *Derivatives* and off-balance sheet positions that are affected by changes in commodity prices, having derived notional commodity positions; and
 - (C) other positions against which no other *Market* or *Credit Risk Capital Requirement* has been applied.
- (2) An *Authorised Firm* must determine notional commodity positions by converting the commodity *Derivatives* into notional underlying commodity positions and assigning appropriate maturities in accordance with Rule A5.5.3.

Treatment of Commodity Derivatives

A5.5.3 An *Authorised Firm* must:

- (A) incorporate all futures and forward contracts relating to individual commodities in the measurement system as notional amounts and assigned a maturity with reference to the expiry date.

- (B) incorporate commodity swaps where one leg is a fixed price and the other the current market price as a series of positions equal to the notional amount of the contract, with one position corresponding to each payment on the swap and slotted into the *Maturity Ladder* accordingly. The positions will be long positions if the *Authorised Firm* is paying fixed and receiving floating, and short positions if the *Authorised Firm* is receiving fixed and paying floating.
- (C) incorporate commodity swaps where the legs are in different commodities in the relevant *Maturity Ladder*. No offsetting will be allowed in this regard except where the commodities belong to the same sub-category.

- A5.5.4** (1) Subject to (2), an *Authorised Firm* must not net positions in different commodities for the purpose of calculating open positions.
- (2) An *Authorised Firm* may net positions in different commodities where those commodities:
- (A) are deliverable against each other; and
 - (B) are in one or more sub-categories of the same category.

Guidance

1. For the purposes of Rule A5.5.4, an example of a category is oil. An example of a sub-category is Brent.
2. For the simplified approach and the *Maturity Ladder* approach, long and short positions in each commodity may be reported on a net basis for the purposes of calculating open positions.

Maturity Ladder Approach

- A5.5.5** (1) An *Authorised Firm* which uses the *Maturity Ladder* approach to calculate the *Commodities Risk Capital Requirement* must:
- (A) express each commodity position (spot and forward) in terms of the standard unit of measurement and net long and short positions maturing on the same day or maturing within ten business days of each other in the case of contracts traded in markets with daily delivery dates;
 - (B) allocate the positions remaining after taking the steps in (A) to the appropriate maturity band in the following table:

Band	Maturity of Position
1.	0-1 month
2.	1 – 3 months
3.	3 – 6 months
4.	6 – 12 months
5.	1 – 2 years
6.	2 – 3 years
7.	Over 3 years

- (C) calculate the spread charge each time long and short positions are matched within each band. In each instance, the spread charge equals the matched amount multiplied first by the spot price for the commodity and then by a spread rate of 3%;
 - (D) calculate a carry charge for each position that is carried across to another maturity band. In each instance, the carry charge equals the carried position multiplied first by the spot price for the commodity, then by the carry rate of 0.6% and finally by the number of bands by which the position is carried;
 - (E) repeat (C) if necessary;
 - (F) calculate the outright charge by multiplying all remaining unmatched positions (long plus short, ignoring the sign) by the spot price for the commodity, then by 15%; and
 - (G) sum the totals in (2) - (6) to reach the total requirement.
- (2) For the purposes of (1)(B), an *Authorised Firm* must:
- (A) allocate physical stocks to the first maturity band; and
 - (B) set a separate *Maturity Ladder* for each commodity.

Guidance

1. The table below illustrates the calculation of the *Commodity Risk Capital Requirement* on an individual commodity using the *Maturity Ladder* approach.
2. After a firm has carried out the pre-processing required by Rule A5.5.5(1)(A), it follows the steps required by Rule A5.5.5(1)(A) to (G). The spread rate is 3%, the carry rate is 0.6% and the outright rate is 15%. The example assumes that the spot price for the commodity is \$20.

Band	A5.5.5(1)(B)	A5.5.5(1)(C)	A5.5.5(1)(D)	A5.5.5(1)(E)	A5.5.5(1)(F)	
	Allocate remaining positions to appropriate maturity bands	Match within bands. Each matched amount incurs a spread charge	Carry across bands. Each carried amount incurs a carry charge	Match within band. Each matched amount incurs a spread charge	Remaining unmatched position(s) incur an outright charge	
0 ≤ 1 month						
>1 month ≤ 3 months	1100 long 800 short	800 matched				
>3 months ≤ 6 months						
>6 months ≤ 1 year						
>1 year ≤ 2 years	400 short	Nothing matched			400 matched	100 long remains unmatched
>2 years ≤ 3 years						
> 3 years	200 long	Nothing matched				
Spread charges	800x\$20x3%	+ 400x \$20x3%	=	\$720		
Carry charges	300x\$20x0.6%x3	+ 200x\$20x0.6%x2	=	\$156		
Outright charge	100x\$20x15%		=	<u>\$300</u>		
Total				\$1,176		

Simplified Approach

A5.5.6 An *Authorised Firm* using the simplified approach to calculate the *Commodities Risk Capital Requirement* must sum:

- (A) 15% of the net position multiplied by the spot price for the commodity; and
- (B) 3% of the gross position (long plus short, ignoring the sign) multiplied by the spot price of the commodity.

A5.6 Option Risk Capital Requirement

Guidance

Section A5.6 presents the method for the calculation of *Option Risk Capital Requirement* for the purpose of Rule 5.7.2(2)(B).

A5.6.1 An *Authorised Firm* which calculates its *Option Risk Capital Requirement* in accordance with Rule 5.7.2(2)(B) must apply the *Rules* in this section.

Calculation of Option Risk Capital Requirement

A5.6.2 (1) An *Authorised Firm* that uses solely purchased *Options* may use the simplified approach set out in Rule A5.6.3 to calculate its *Option Risk Capital Requirement*.

(2) An *Authorised Firm* which writes *Options* must use the advanced approach known as the *Delta-plus* method set out in Rule A5.6.5 to calculate its *Option Risk Capital Requirement*.

Guidance

1. This section sets out how an *Authorised Firm* that has a *Trading Book* and has positions in *Options* must assign them to the *Trading Book* to calculate the *Option Risk Capital Requirement*.
2. An *Authorised Firm* should refer to chapter 1 to determine if it has a *Trading Book*.
3. An *Authorised Firm* is required to deal with *Non-Trading Book* positions in *Options* in accordance with Rule 4.3.1.

Simplified Approach

A5.6.3 An *Authorised Firm* using the simplified approach must treat the positions for the *Options* and the associated underlying *Instrument*, cash or forward, and calculate the capital charge for each position, by reference to the following table:

Position	Treatment
Long cash and long put or short cash and long call.	The capital charge is the market value of the underlying <i>Instrument</i> multiplied by the sum of <i>Specific</i> and <i>General Market Risk</i> percentages for the underlying <i>Instrument</i> less the amount the <i>Option</i> is in the money, if any, bounded at zero.
Long call or long put.	The capital charge will be the lesser of: <ul style="list-style-type: none"> • the market value of the underlying <i>Instrument</i> multiplied by the sum of <i>Specific</i> and <i>General Market Risk</i> percentages for the underlying <i>Instrument</i>; or • the market value of the <i>Options</i>.

Guidance

As an example of how the calculation would work, if a holder of 100 *Shares* currently valued at \$10 each holds an equivalent put *Option* with a strike price of \$11, the capital charge would be: $\$1,000 \times 16\%$ (i.e., 8% specific plus 8% *General Market Risk*) = \$160, less the amount the *Option* is in the money $(\$11 - \$10) \times 100 = \$100$, i.e., the capital charge would be \$60. A similar methodology applies for *Options* whose underlying *Instrument* is a *Foreign Currency*, an interest rate related *Instrument* or a commodity.

- A5.6.4** (1) For the purposes of Rule A5.6.3, the *Specific Risk* percentage for:
- (A) a currency *Option* is 8%; and
 - (B) an *Option* on commodities is 15%.
- (2) For the purposes of Rule A5.6.3, in the case of an *Option* with a *Residual Maturity* of more than six months, the strike price must be compared with the forward, not current price, or if the *Authorised Firm* is unable to do this, then the money amount must be taken to be zero.

Delta-plus Method**Guidance**

The *Delta-plus* method uses the sensitivity parameters or “Greek letters” associated with *Options* to measure their *Option Risk Capital Requirement*. Under this method, the *Delta*-equivalent position of each *Option* becomes part of the standardised methodology set out in sections 5.4 to 5.7 with the *Delta*-equivalent amount subject to the applicable *General Market Risk Requirements*. Separate capital charges are then applied to the *Gamma* and *Vega* risks of the *Option* positions.

- A5.6.5** (1) An *Authorised Firm* that writes or purchases *Options* may include *Delta*-weighted *Options* positions within the standardised methodology set out in sections 5.2 to 5.5. Such *Options* must be reported as a position equal to the market value of the underlying *Instrument* multiplied by the *Delta*.
- (2) An *Authorised Firm* is also required to measure *Gamma* (which measures the rate of change of *Delta*) and *Vega* (which measures the sensitivity of the value of an *Option* with respect to a change in volatility) risks in order to calculate the total capital charge. These sensitivities will be calculated according to an approved proprietary *Options* pricing model.
- (3) *Delta*-weighted positions with debt *Securities* or interest rates as the underlying *Instrument* must be inserted into the interest rate time bands, as set out in section A5.2. A two-legged approach must be used as for other *Derivatives*, requiring one entry at the time the underlying *Instrument* takes effect and a second at the time the underlying *Instrument* matures. Floating rate *Instruments* with caps or floors must be treated as a combination of floating rate *Securities* and a series of European-style *Options*.

- (4) The capital charge for *Options* with equities as the underlying *Instrument* must also be based on the *Delta*-weighted positions which must be incorporated in the measure of *Market Risk* described in section A5.3. For purposes of this calculation, each national market must be treated as a separate underlying *Instrument*.
- (5) The capital charge for *Options* on commodities, *Foreign Currency* (including gold) positions must be based on the method set out in section 5.8. For *Delta* risk, the net *Delta*-based equivalent of the commodities, *Foreign Currency* (including gold) *Options* must be incorporated into the measurement of the *Exposure* for the respective currency (or gold) position.
- (6) Individual net *Delta* positions as described above must be treated as the underlying *Instrument* in accordance with sections A5.4 to A5.5.

A5.6.6 In addition to the capital charges referred to in A5.6.5, arising from *Delta* risk, an *Authorised Firm* must calculate the *Gamma* and *Vega* for each *Option* position, including hedge positions in the following way:

- (A) for each individual *Option* a “*Gamma* impact” must be calculated as:

$$\text{Gamma impact} = \frac{1}{2} \times \text{Gamma} \times \text{VU}^2$$

where VU = Variation of the underlying *Instrument* of the *Option*.

- (B) VU must be calculated as follows:
 - (i) for interest rate *Options* if the underlying *Instrument* is a bond, the market value of the underlying *Instrument* should be multiplied by the risk weights set out in section 5.4 for the underlying *Instrument*. An equivalent calculation should be carried out where the underlying *Instrument* is an interest rate, again based on the assumed changes in the corresponding yield in Rule A5.2.16;
 - (ii) for *Options* on equities and equity indices, the market value of the underlying *Instrument* should be multiplied by 8%;
 - (iii) for foreign exchange and gold *Options*, the market value of the underlying *Instrument* should be multiplied by 8%; and
 - (iv) for *Options* on commodities, the market value of the underlying *Instrument* should be multiplied by 15%.
- (C) for the purpose of this calculation the following positions must be treated as the same underlying *Instrument*:
 - (i) for interest rates, each time band as set out in Rule A5.2.16;
 - (ii) for equities and stock indices, each national market; and

(iii) for foreign currencies and gold, each currency pair and gold.

(D) all individual *Gamma* impacts must be summed, to obtain a net *Gamma* for each underlying *Instrument* that is either positive or negative. Any negative figures must be summed to give the *Capital Requirement* for the *Gamma*.

A5.6.7 The *Capital Requirement* for *Vega* risk must be calculated by multiplying the sum of the *Vegas* for all *Options* on the same underlying *Instrument* by a proportional shift in volatility of +/- 25% and summing the absolute values of the individual results.

A5.7 Securities Underwriting Risk Capital Requirement

Guidance

Section A5.7 presents the method for the calculation of *Securities Underwriting Risk Capital Requirement* for the purpose of Rule 5.9.7(B).

A5.7.1 An *Authorised Firm* which calculates its *Securities Underwriting Risk Capital Requirement* in accordance with Rule 5.9.7(B) must apply the *Rules* in this section.

A5.7.2 An *Authorised Firm* must calculate a net underwriting position from the date of initial commitment until the *Underwriting* process ends, as the initial gross commitment adjusted for:

- (A) underwriting or sub-underwriting commitments obtained from others since the time of initial commitment;
- (B) purchases or sales of the *Securities* since the time of initial commitment; and
- (C) any allocation of *Securities* granted or received, arising from the commitment to underwrite the *Securities*, since the time of initial commitment.

A5.7.3 (1) Subject to (2), an *Authorised Firm* must multiply its net underwriting position by the *Specific* and *General Market Risk Requirements*.

(2) An *Authorised Firm* may reduce the amount that would otherwise apply by the operation of (1) in respect of net underwriting positions arising from the issue of *Securities* which are new to the market by reducing the amount by the relevant percentage in the following table:

Reduction Factors

Underwriting Timeline	Debt Issue		Equity Issue	
	General Market Risk	Specific Risk	General Market Risk	Specific Risk
Date of initial commitment until working day 0	0%	100%	90%	90%
Working day 1	0%	90%	90%	90%
Working day 2	0%	75%	75%	75%
Working day 3	0%	75%	75%	75%
Working day 4	0%	50%	50%	50%
Working day 5	0%	25%	25%	25%
Working day 6 and onwards	0%	0%	0%	0%

- (3) Working day zero is the working day on which the firm becomes unconditionally committed to accepting a known quantity of *Securities* at an agreed price.
- (4) An *Authorised Firm* must calculate its *Security Underwriting Risk Capital Requirement* as the sum of all of its net *Underwriting* requirements calculated in accordance with (1) and (2).

Guidance

The reduction factors shown in the table above should be applied to a net *Underwriting* position to reduce the position. They are not the proportions of the position used to calculate an equity or interest rate position.

A5.8 Criteria for Use of Internally Developed Market Risk Models

Qualitative Criteria

Guidance

The *Regulatory Authority* will usually only approve an internal model or its use when the model is in full compliance with the following qualitative criteria:

- a. the *Authorised Firm* should have an independent risk control unit that is responsible for the design and implementation of the *Authorised Firm's* risk management system;
- b. the *Authorised Firm's* risk management system should capture the broad risk factor categories, that is, interest rates, exchange rates (which may include gold), equity prices and commodity prices with related *Options* volatilities being included in each risk factor category;
- c. the unit should conduct a regular back-testing programme; the board of directors and *Senior Management* should be actively involved in the risk control process and should regard risk control as an essential aspect of the business to which significant resources need to be devoted;
- d. the *Authorised Firm's* internal risk measurement model should be closely integrated into the day-to-day risk management process of the *Authorised Firm*;
- e. the risk measurement system should be used in conjunction with internal trading and *Exposure* limits;
- f. a routine and rigorous programme of stress testing should be in place as a supplement to the risk analysis based on the day-to-day output of the *Authorised Firm's* risk measurement model;
- g. the *Authorised Firm* should have a routine in place for ensuring compliance with a documented set of internal policies, controls and procedures concerning the operation of the risk measurement system; and
- h. an independent review of the risk measurement system should be carried out regularly in the *Authorised Firm's* own internal auditing process.

Specification of Market Risk Factors

2.
 - a. A value-at-risk model must capture and accurately reflect, on a continuous basis, all material *General Market Risks* and, where approval has been granted in relation to *Specific Risk*, *Specific Risks* arising on the underlying portfolio, and should ensure that sufficient risk factors are properly specified.
 - b. The risk factors contained in a *Market Risk* measurement system should be sufficient to capture the risks inherent in the *Authorised Firm's* portfolio of on and off-balance sheet trading positions. Although an *Authorised Firm* will have some discretion in specifying the risk factors for its internally developed models, the *Regulatory Authority* expects that such models will meet the following in respect of the risk factors:
 - i. for interest rates, there should be a set of risk factors corresponding to interest rates in each currency in which the *Authorised Firm* has interest-rate-sensitive on or off-balance sheet positions. The risk measurement system will be expected to model the yield curve using one of a number of generally accepted approaches, for example, by estimating forward rates of zero-coupon yields. The risk measurement system should incorporate separate risk factors to capture spread risk, for example, between bonds and swaps;
 - ii. for exchange rates (which may include gold), the risk measurement system will incorporate risk factors corresponding to the individual foreign currencies in which the *Authorised Firm's* positions are denominated;

- iii. for equity prices, there will be risk factors corresponding to each of the equity markets in which the *Authorised Firm* holds significant positions. At a minimum, this will include a risk factor that is designed to capture market-wide movements in equity prices, for example, a market index. Positions in individual *Securities* or in sector indices could be expressed in "beta-equivalents" relative to this market-wide index. A somewhat more detailed approach would be to have risk factors corresponding to various sectors of the overall equity market, for instance, industry sectors or cyclical and non-cyclical sectors. The most extensive approach would be to have risk factors corresponding to the volatility of individual equity issues; and
- iv. for commodity prices, there will be risk factors corresponding to each of the commodity markets in which the *Authorised Firm* holds significant positions. For *Authorised Firms* with relatively limited positions in commodity-based *Instruments*, a straightforward specification of risk factors would be acceptable. Such a specification would likely entail one risk factor for each commodity price to which the *Authorised Firm* is exposed. For more active trading, the model should also take account of variation in the "convenience yield" between *Derivatives* positions such as forwards and swaps and cash positions in the commodity.

Quantitative Standards

- 3. The *Regulatory Authority* will usually only approve an internal model or its use when the model meets the following quantitative criteria:
 - a. value-at-risk should be computed at least on a daily basis;
 - b. in calculating the value-at-risk, a 99th percentile, one-tailed confidence interval is to be used;
 - c. in calculating value-at-risk, an instantaneous price shock equivalent to a ten day movement in prices is to be used, i.e., the minimum "holding period" will be ten trading days;
 - d. the choice of historical observation period, or sample period, for calculating value-at-risk will be constrained to a minimum length of one year;
 - e. an *Authorised Firm* should update its *data* set no less frequently than once every three months and should also reassess it whenever market prices are subject to material changes;
 - f. no particular type of model is prescribed. So long as each model used captures all the material risks run by the *Authorised Firm*, the *Authorised Firm* will be free to use models based, for example, on variance-covariance matrices, historical simulations, or Monte Carlo simulations;
 - g. an *Authorised Firm* will have discretion to recognise empirical correlations within broad risk categories, for example, interest rates, exchange rates, equity prices and commodity prices, including related *Options* volatilities in each risk factor category;
 - h. an *Authorised Firm's* models should accurately capture the unique risks associated with *Options* within each of the broad risk categories; and

- i. an *Authorised Firm* must calculate, on a daily basis, its *Market Risk Capital Requirement* or any component for which an internal model is used, expressed as the higher of (a) its previous day's value-at-risk number measured according to the parameters specified in this section and (b) an average of the daily value-at-risk measures on each of the preceding sixty business days, multiplied by a multiplication factor.
4. The *Regulatory Authority* will usually set a multiplication factor of 3 that must be used by the *Authorised Firm* where all the qualitative and quantitative criteria are satisfied. This will be imposed as a condition on the approval and may be varied by the *Regulatory Authority* should circumstances require.

A5.8.1 Stress Testing

- (1) For the purposes of Rule 5.3.3, an *Authorised Firm's* internal model must meet the following criteria:
 - (A) the *Authorised Firm's* stress scenarios must cover a range of factors that can create extraordinary losses or gains in trading portfolios, or make the control of risk in those portfolios very difficult. These factors include low-probability events in all major types of risks, including the various components of market, credit, and operational risks;
 - (B) the *Authorised Firm's* stress tests must be both of a quantitative and qualitative nature, incorporating both *Market Risk* and *Liquidity* aspects of market disturbances. Quantitative criteria must identify plausible stress scenarios to which the *Authorised Firm* could be exposed. Qualitative criteria must emphasise that two major goals of stress testing are to evaluate the capacity of the *Authorised Firm's* capital to absorb potential large losses and to identify steps the *Authorised Firm* can take to reduce its risk and conserve capital; and
 - (C) the *Authorised Firm* must combine the use of supervisory stress scenarios with stress tests developed by the *Authorised Firm* itself to reflect their *Specific Risk* characteristics. Information is required in three broad areas:
 - (i) supervisory scenarios requiring no simulations by the *Authorised Firm* : the *Authorised Firm* must have information on the largest losses experienced during the reporting period available for supervisory review. This loss information must be compared to the level of capital that results from an *Authorised Firm's* internal measurement system;
 - (ii) supervisory scenarios requiring a simulation by the *Authorised Firm*: the *Authorised Firm* must subject its portfolio to a series of simulated stress scenarios and provide the *Regulatory Authority* with the results (e.g., the sensitivity of the *Authorised Firm's Market Risk Exposure* to changes in the assumptions about volatilities and correlations); and

- (iii) scenarios developed by the *Authorised Firm* itself to capture the specific characteristics of its portfolio.
- (2) In addition to the scenarios prescribed under (i) and (ii) above, an *Authorised Firm* must also develop its own stress tests which it identifies as most adverse, based on the characteristics of its portfolio, for example, problems arising in a key region of the world combined with a sharp move in oil prices. The *Authorised Firm* must also provide the *Regulatory Authority* with a description of the methodology used to identify and carry out the scenarios as well as with a description of the results derived from these scenarios.

App6 Liquidity

A6.1 Application for a Global Liquidity Concession

Guidance

An application for a global *Liquidity* concession pursuant to Rule 6.3.2 should comprise:

1. a description of the home supervisor's requirements for managing *Liquidity Risk*;
2. an explanation of the systems and controls used by the head office to ensure the adequacy of the branch's *Liquidity*;
3. a written assurance from the *Authorised Firm's* head office that it will:
 - a. ensure that adequate *Liquidity* is available at all times to support the branch; and
 - b. in the event of a *Liquidity* crisis, provide the *Regulatory Authority* with all relevant information on the whole *Authorised Firm's Liquidity*; and
4. a list of any known constraints on the head office, legal or otherwise, to providing the branch with *Liquidity*.

A6.2 Including Inflows (assets) and Outflows (liabilities) in the Time Bands

- A6.2.1**
- (1) Outflows (liabilities) must be included in the *Maturity Ladder* according to their earliest contractual maturity.
 - (2) Contingent liabilities must only be excluded from the *Maturity Ladder* if there is a likelihood that the conditions necessary to trigger them will not be fulfilled.
 - (3) Inflows (assets) must be included in the *Maturity Ladder* according to their latest contractual maturity, except that:
 - (A) undrawn committed standby facilities provided by other banks are included at sight;
 - (B) marketable assets are included at sight, at a discount, and
 - (C) assets which have been pledged as *Collateral* are excluded from the *Maturity Ladder*.

A6.3 Including Marketable Assets in the Maturity Ladder

- A6.3.1**
- (1) Assets which are readily marketable are included in the *Maturity Ladder* in the sight - 8 days time band, generally at a discount to their recorded value calculated in accordance with (4).

- (2) An asset is regarded as readily marketable if:
- (A) prices are regularly quoted for the asset;
 - (B) the asset is regularly traded;
 - (C) the asset may readily be sold, including by repurchase agreement, either on an exchange, or in a deep and liquid market for payment in cash; and
 - (D) settlement is according to a prescribed timetable rather than a negotiated timetable.
- (3) The *Regulatory Authority* may allow, on a case by case basis, an *Authorised Firm* to include a longer term asset which is relatively easy to liquidate in the sight - 8 days time band.
- (4) The discount factor to be applied to types of marketable assets must be determined by reference to the following table:

	Benchmark discount
Central government debt, Local Authority paper and eligible bank bills (Zone 1 Countries)	
Central government and central government-guaranteed marketable <i>Securities</i> with twelve or fewer months' <i>Residual Maturity</i> , including treasury bills; and eligible <i>Local Authority</i> paper and eligible bank bills.	0%
Other central government, central government-guaranteed and <i>Local Authority</i> marketable debt with five or fewer years' <i>Residual Maturity</i> or at variable rates.	5%
Other central government, central government-guaranteed and <i>Local Authority</i> marketable debt with over five years' <i>Residual Maturity</i> .	10%
Other <i>Securities</i> denominated in freely tradable currencies (Zone 1 Countries)	
Non-government debt <i>Securities</i> which are <i>Investment Grade</i> , and which have six or fewer months' <i>Residual Maturity</i> .	5%
Non-government debt <i>Securities</i> which are <i>Investment Grade</i> , and which have five or fewer years' <i>Residual Maturity</i> .	10%
Non-government debt <i>Securities</i> which are <i>Investment Grade</i> , and which have more than five years' <i>Residual Maturity</i> .	15%
Equities which qualify for a <i>Specific Risk</i> weight no higher than 4%.	20%
Other central government debt	

	Benchmark discount
Central government debt, Local Authority paper and eligible bank bills (Zone 1 Countries)	
Where such debt is actively traded.	20%
<i>Exposures</i> to a central government or a central bank where such <i>Exposures</i> are actively traded	20%
Where the <i>Issuer</i> is a central government or a central bank and the issue is actively traded but the credit <i>Exposure</i> is not to the <i>Issuer</i>	40%
Non-government, actively-traded <i>Exposures</i> , which are <i>Investment Grade</i>	60%

- (5) The *Regulatory Authority* may vary the discounts to reflect the conditions of a particular market or institution.

App7 Reporting to Regulatory Authority

A7.1 Preparation and Submission of Prudential Returns

Guidance

The QFC prudential returns, QFC Forms Q101 to Q110 are published on the *Regulatory Authority* website, www.qfcra.com. App7 provides *Rules* and guidance in respect of the preparation and submission of those returns.

- A7.1.1**
- (1) Subject to (3) and (4), an *Authorised Firm* must prepare and submit returns to the *Regulatory Authority*, using forms numbered Q101 to Q110 published by the *Regulatory Authority* on its website, in accordance with the table in Rule 7.1.2.
 - (2) Forms Q101 to Q110 must be completed in accordance with any instructions contained in those forms.
 - (3) An *Authorised Firm* which carries on business in or from the QFC through a non-QFC *Entity* is not required to prepare and submit forms Q101 to Q107.
 - (4) An *Authorised Firm* which is a QFC *Entity* is not required to prepare or submit form Q109.
 - (5) An *Authorised Firm* must prepare and submit form Q110 whenever it submits one or more of forms Q101 to Q109.
 - (6) For the purposes of the matrix, in the columns headed 'Frequency':
 - (A) the letter Q indicates that the relevant form must be prepared and submitted on a quarterly basis;
 - (B) the letter A indicates that the relevant form must be prepared and submitted on an annual basis;
 - (C) the letters A and Q together indicate that the relevant form must be prepared and submitted on both a quarterly and annual basis;
 - (D) the letter B indicates that the relevant form must be prepared and submitted on a six-monthly basis; and
 - (E) the letters N/A indicate that the form is not applicable to the *PIIB Category* of *Authorised Firm*.

A7.1.2 The Prudential Returns Table:

FORM	NAME		<i>PIIB</i> <i>CATEGORY</i> 1	<i>PIIB</i> <i>CATEGORY</i> 2	<i>PIIB</i> <i>CATEGORY</i> 3	<i>PIIB</i> <i>CATEGORY</i> 4	<i>PIIB</i> <i>CATEGORY</i> 5
			Frequency	Frequency	Frequency	Frequency	Frequency
Q101	Balance Sheet	Solo	A/Q	A/Q	A/Q	A/Q	N/A
		Consolidated	B	B	B	B	N/A
Q102	Islamic <i>Authorised</i> <i>Firm's</i> Balance Sheet	Solo	N/A	N/A	N/A	N/A	A/Q
		Consolidated	N/A	N/A	N/A	N/A	B
Q103	Profit and Loss	Solo	A/Q	A/Q	A/Q	A/Q	N/A
		Consolidated	B	B	B	B	N/A
Q104	Islamic <i>Authorised</i> <i>Firm's</i> Profit and Loss	Solo	N/A	N/A	N/A	N/A	A/Q
		Consolidated	N/A	N/A	N/A	N/A	B
Q105	<i>Expenditure</i> <i>based</i> capital <i>minimum</i>	Solo	N/A	A/Q	A/Q	A/Q	N/A
Q106	Capital Adequacy Calculation	Solo	A/Q	A/Q	A/Q	A/Q	A/Q
		Consolidated	B	B	B	B	B
Q107	<i>Large Exposures</i> Schedule	Solo	A/Q	A/Q	A/Q	N/A	A/Q
		Consolidated	B	B	B	N/A	B
Q108	Liquidity Schedule	Solo	Q	N/A	N/A	N/A	Q
Q109	Branch Return	Solo	Q	Q	Q	Q	Q
Q110	Declaration by <i>Authorised Firm</i>	All	All	All	All	All	All

Endnotes

1 Abbreviation key

a	=	after	ins	=	inserted/added
am	=	amended	om	=	omitted/repealed
amdt	=	amendment	orig	=	original
app	=	appendix	par	=	paragraph/subparagraph
art	=	article	prev	=	previously
att	=	attachment	pt	=	part
b	=	before	r	=	rule/subrule
ch	=	chapter	renum	=	renumbered
def	=	definition	reloc	=	relocated
div	=	division	s	=	section
glos	=	glossary	sch	=	schedule
g	=	guidance	sdiv	=	subdivision
hdg	=	heading	sub	=	substituted

2 Rulebook history

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