This module should be read in conjunction with the Introduction and with the Glossary, which contains an explanation of abbreviations and other terms used in this Manual. If reading on line, click on blue underlined headings to activate hyperlinks to the relevant module.

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## Purpose

To set out how the HKMA's approach in determining the adequacy of capital to support potential losses arising from market risk

## Classification

A statutory guideline issued by the MA under §16(10) of the Banking Ordinance

## Previous guidelines superseded

Guideline 4.4.2 "Maintenance of Adequate Capital against Market Risk" dated 14.11.97

## Application

To all locally incorporated AIs

## Structure

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# 1. Introduction

## 1.1 Terminology

1.1.1 Abbreviations and other terms used in this module have the following meanings:

- "CAD" means the European Community's Capital Adequacy Directive;
- "CAR" means capital adequacy ratio;
- "market risk" means the risk of losses in on- and off-balance sheet positions arising from movements in market prices; and
- "off-balance sheet derivatives" means financial contracts whose values depend on the values of one or more underlying assets or indices.

## 1.2 Background

1.2.1 The amendment to the Capital Accord to incorporate market risks issued by the Basel Committee in 1996 is designed to ensure that AIs hold adequate capital against the price risks to which they are exposed, particularly from their trading activities.

1.2.2 Under the framework, AIs are required to measure and apply capital charges in respect of their market risks in addition to their credit risks. The risks subject to this requirement are:

- those arising from interest rate-related instruments and equities in the trading book; and
- foreign exchange risk and commodities risk throughout the AI.

### 1.3 Legal framework

1.3.1 Para. 6 of the Seventh Schedule to the Banking Ordinance requires AIs incorporated in Hong Kong to maintain adequate capital to support their market risk exposures. This involves the calculation of an adjusted CAR in addition to that (i.e. unadjusted CAR) calculated in accordance with the Third Schedule to the Ordinance and reported in the "Return of Capital Adequacy Ratio - MA(BS)3" ("CAR Return").

1.3.2 Under para. 6(e) of the Seventh Schedule to the Banking Ordinance the MA should be satisfied that an AI incorporated in Hong Kong presently has, and will if authorized continue to have, adequate capital to support any positions held by it:

- for trading purposes in debt securities, interest rate-related contracts, equities and equity-related contracts; and
- in foreign exchange, exchange rate-related contracts, commodities and commodity-related contracts,

having regard to potential losses arising from fluctuations in the value of those positions.

1.3.3 This requirement applies both to applicants for authorization and to existing AIs.

1.3.4 If the MA ceases to be satisfied on this score, his powers to revoke the licence or registration of the AI concerned become exercisable.

## 2. Supervisory framework

### 2.1 Unadjusted and adjusted CAR

2.1.1 Locally incorporated AIs' market risk capital requirements will be calculated in accordance with the Third Schedule to the Banking Ordinance and the statutory requirements of Part XVII will continue to apply to them.

2.1.2 AIs which are subject to the market risk regime should calculate two CARs:

- an unadjusted ratio in accordance with the Third Schedule; and

- an adjusted ratio to incorporate market risk.

2.1.3 AIs subject to this regime and not exempted by the de minimis criteria (see subsection 2.3 below) should maintain both their adjusted and unadjusted CARs above the respective statutory minimum ratios set for them. This requirement applies on both a consolidated and an unconsolidated basis.

2.1.4 The MA also expects AIs to observe the minimum and trigger ratio requirements for the adjusted CAR on both a consolidated and an unconsolidated basis. The trigger ratio is set above the minimum ratio to provide an early warning and reduce the risk of breaches of that ratio.

2.1.5 The method of calculation is outlined in detail in subsection 3.2 below.

2.1.6 In the case of the adjusted ratio it would not be a contravention of §98(1) of the Banking Ordinance if the ratio falls below the minimum but the MA's powers to revoke the licence or registration of the AI concerned would become exercisable. In such cases the MA's normal practice would be to seek remedial action to restore the ratio to above the minimum.

2.1.7 Market risk capital adequacy standards will be subject to further changes under the New Basel Capital Accord. Further changes may be made in consequence to Hong Kong's legal and regulatory regime to reflect such developments.

## 2.2 Applicability of market risk capital requirements

2.2.1 In the same way as for credit risk, the market risk capital requirement applies to all AIs incorporated in Hong Kong, except those which are subject to the de minimis exemption described in the next subsection.

2.2.2 Foreign banks operating through branches in Hong Kong are not subject to the requirements because the primary responsibility for supervising capital adequacy of these AIs rests with their home supervisor.

2.2.3 AIs which have only a limited amount of market risk will be exempted from the market risk capital requirement and required only to calculate an unadjusted ratio in accordance with the Third Schedule to the Banking Ordinance.

**2.3 De minimis exemption**

2.3.1 In order to reduce the reporting burden, AIs with minimal market risk exposures are exempted from observing an adjusted CAR.

2.3.2 The capital adequacy position for AIs thus exempted is assessed through the unadjusted CAR only. They are required, however, to report their market risk exposures and adjusted CAR on an annual basis, based on their positions as at 31st December, in the "Return of Market Risk Exposures of an Authorized Institution Incorporated in Hong Kong - MA(BS)3A" ("Market Risk Return"). Their exemption status will be assessed according to their positions based on the criteria set out in para. 2.3.4 below.

2.3.3 The criteria are set out in the following paragraph. AIs are assessed against the criteria based on the data supplied in the Market Risk Return for the four quarters up to December in each year. Exempt AIs will be separately advised. Institutions which are newly authorized will be assessed according to the data supplied in their first four returns of the Market Risk Return.

2.3.4 The criteria for granting de minimis exemption to an AI are as follows:

- its market risk positions should not normally exceed 5% of its total on- and off-balance sheet positions (and never exceed 6%);
- its market risk positions do not normally exceed HK$50 million (and never exceed HK$60 million);
- its CAR calculated in accordance with the Third Schedule is not less than 10%; and
- the adjusted CAR is not more than one percentage point below the unadjusted ratio after incorporating the market risk requirement.

2.3.5 All of the above criteria should be met in order for exemption to be granted.

2.3.6 Annex A sets out how market risk positions and total on- and off-balance sheet positions are derived for the purpose of exemption.

2.3.7 The HKMA will rely on both on-site examination and off-site review to monitor AIs' compliance with the exemption criteria on a continuing basis.

2.3.8 AIs which have been exempted from the market risk capital requirement should discuss with the HKMA if they wish to start or increase significantly trading activities.

### 2.4 Reporting framework

2.4.1 Locally incorporated, non-exempt AIs are required under §63(2) of the Banking Ordinance to report their market risk exposures and the adjusted CAR incorporating market risks on a quarterly basis using the Market Risk Return. Exempt AIs should report on an annual basis as at 31st December each year.

2.4.2 AIs incorporated in Hong Kong are required to complete this return on both:

- a solo basis (combined return), covering the positions of the AI's local and overseas branches (if any); and
- a consolidated basis (consolidated return), covering the positions of the AI and its subsidiaries.

2.4.3 Unless specified otherwise by the HKMA, the subsidiaries to be included in the consolidated return are the same as those included for the purpose of the CAR Return.

## 3. Capital adequacy requirements

### 3.1 Market risk measurement methods

3.1.1 There are three common methods for the measurement of market risk:

- the Basel standardised approach;
- the internal models approach; and
- the CAD.

3.1.2 The Basel standardised approach will be used by most AIs which are subject to the market risk capital requirement. Under this approach, market risk is measured by a standardised risk-weighting system in

which the risk weights are based on the types of positions and financial instruments held by AIs. Details of the method of measurement are set out in the completion instructions for the Market Risk Return.

3.1.3 The internal models approach allows those AIs with the necessary systems to use their own internal risk management models to calculate market risk. The use of this approach is subject to the prior approval of the HKMA and to various qualitative and quantitative conditions relating to the models themselves and the controls surrounding them. AIs will initially be free to use a combination of the Basel standardised approach and the internal models approach to measure their market risk. Normally such "partial" models should cover a complete risk category (e.g. interest rate risk or foreign exchange risk). AIs which are allowed to use the partial approach will, however, be expected to move towards a comprehensive model over time, i.e. one which captures all market risk categories. The detailed requirements relating to the use of internal models, their approval and other aspects are set out in CA-G-3 "Use of Internal Models to Measure Market Risk". The Market Risk Return caters for reporting using this approach.

3.1.4 Some locally incorporated AIs are currently required to calculate their market risk on the basis of the CAD for group consolidation purposes. In order to avoid the need for them to do so on two different bases (i.e. Basel and CAD), the HKMA is prepared to allow them to use the CAD to measure market risk for the purposes of the Seventh Schedule. This arrangement is subject to the prior approval of the HKMA and may need to be reviewed in the light of future developments with the CAD. AIs adopting this approach are required to calculate the adjusted CAR on the basis set out in the next subsection and to provide internal reports in support of the data required by the Market Risk Return.

## 3.2 Calculation of the adjusted CAR

3.2.1 The adjusted CAR is to be calculated with the capital base expressed as a percentage of total risk-weighted exposures (including both credit risk and market risk). The components of this calculation are as follows:

- market risk-weighted exposures are the sum of the capital charges for all market risk categories multiplied by 12.5[1];
- credit risk-weighted exposures are the total net risk-weighted exposures calculated in accordance with the Third Schedule less that part calculated for:
  - on-balance sheet debt securities and equities in the trading book,
  - off-balance sheet items (excluding exchange rate, gold, interest rate, equity, precious metals and other commodity-related contracts) in the trading book; and
  - on-balance sheet positions in commodities[2]; and
- the capital base is the same as that calculated in accordance with the Third Schedule, i.e. the sum of tier 1 and tier 2 capital. Tier 3 capital, which is provided for in the Basel framework, is not permitted.

3.2.2 AIs should use Part VII of the Market Risk Return to calculate the adjusted CAR.

### 3.3 The trading book

3.3.1 A key feature of the market risk framework is the definition of the trading book of an AI. This is set out in detail in the Completion Instructions for the Market Risk Return but is summarised below. AIs are expected to adopt a consistent approach in allocating transactions into their trading or non-trading (i.e. banking) book and a clear audit trail for this purpose should be created at the time each transaction is entered into. The HKMA will monitor AIs' practices to ensure that there is no abusive switching between different books to minimise capital charges.

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[1] This is the reciprocal of the Basel minimum ratio of 8%. The effect is to convert the sum of the capital charges into a risk-weighted exposure equivalent which can then be added to the total credit risk-weighted exposures.

[2] The credit risk-weighted exposures for these items are deducted because they are already covered by the market risk capital charge.

3.3.2 For the purpose of the market risk capital requirements, the trading book of an AI consists of:

- proprietary positions in financial instruments taken for short-term resale or to benefit in the short term from actual or expected differences between the buying and selling prices or from other price or interest rate variations;
- positions arising from the execution of trade orders from customers and market making; and
- positions taken to hedge other elements of the trading book.

3.3.3 The financial instruments referred to in the preceding paragraph include:

- transferable securities;
- units in collective investment undertakings;
- certificates of deposit and other similar capital market instruments;
- financial futures contracts;
- forward contracts including forward rate agreements;
- swaps; and
- options.

3.3.4 AIs are expected to have an established policy for allocating transactions (including internal deals) to the trading or non-trading (i.e. banking) book as well as procedures to ensure compliance with the policy. There should be a clear audit trail at the time each transaction is entered into. The HKMA will examine the adequacy of the policy and procedures and their consistent implementation when it considers it necessary. For this purpose, AIs which engage in trading activities should submit to the HKMA a policy statement covering:

- the definition of trading activities;
- the financial instruments which can be traded or used for hedging the trading book portfolios; and
- the principles for transferring positions between the trading and the banking books.

3.3.5 In general, the HKMA will have regard to an AI's intention in entering into a particular transaction when determining whether it should fall into the trading book. Transactions are likely to be considered to carry a trading intent on the part of the AI if:

- the positions arising therefrom are marked to market on a daily basis as part of the internal risk management process;
- the positions are not, or not intended to be, held to maturity; and
- the positions satisfy other criteria the AI applies to its trading portfolio on a consistent basis.

## Annex A: Measurement of market risk positions and total on- and off-balance sheet positions for de minimis exemption

A1. The conditions for de minimis exemption are set out in para. 2.3.4 of this module. The criteria include a measurement of the market risk positions of an AI both in monetary terms and as a proportion of its total on- and off-balance sheet positions.

A2. For this purpose the market risk positions of an AI will be taken as the aggregate of:

| | Item | Reference |
|---|---|---|
| | | ***Return of Market Risk Exposures - MA(BS)3A*** |
| (i) | gross positions of debt securities and debt derivatives | Page 2 Part I 1 – Total (long plus short) positions for items 1.1 to 1.7 |
| (ii) | positions of interest rate derivatives | Page 3 Part I 2 – Simple average of the total for the long and short columns under interest rate derivatives |
| (iii) | gross positions of equities and equity derivatives | Page 4 Part II – Total (A) gross (long plus short) positions |
| (iv) | net open foreign exchange positions excluding USD vs HKD positions | Page 5 Part III – Overall net open positions |
| (v) | gross positions of commodities and commodity derivatives | Page 6 Part IV – Total for column 4 |

A3. The total on- and off-balance sheet positions of an AI will be taken as:

| | Item | Reference |
|---|---|---|
| I. | ***On-balance sheet*** | ***Return of Assets and Liabilities – MA(BS)1B*** |
| The sum of: | | |
| | total liabilities | Page 2 item 11 |
| | total assets less provisions | Page 3 item 24 |
| Less: | | |
| | capital and reserves | Page 2 item 1 |
| | qualifying capital instruments | Page 2 item 2 |
| | other capital type instruments | Page 2 item 3 |
| II. | ***Off-balance sheet*** | ***Return of Capital Adequacy Ratio - MA(BS)3*** |
| The sum of the principal amounts of all off-balance sheet items | | Pages 7 to 18 Part III items 1 to 20 |