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.

Purpose

To summarise the main principles which AIs are expected to follow in managing credit risk.

Specific risk controls and systems that should be established are covered in the other modules within the Credit Management section.

Classification

A statutory guideline issued by the MA under the Banking Ordinance, §7(3)

Previous guidelines superseded

Circular "Principles Underlying Prudent Credit Control by Authorized Institutions" dated 14.02.00

Application

To all AIs

Structure

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1. Introduction

1.1 The HKMA expects all AIs to have comprehensive credit risk management systems appropriate to their type, scope, sophistication and scale of operations. These systems should enable AIs to identify, quantify, monitor and control credit risk and to ensure that adequate capital resources are available to cover the risk assumed.

1.2 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 AI. Obviously, credit risk arises from loans but there are other sources of credit risk such as:

- trade finance and acceptances;
- interbank transactions;
- commitments and guarantees;

- interest rate, foreign exchange and credit derivatives (including swaps, options, forward rate agreements and financial futures);
- bond and equity holdings; and
- settlement of transactions[1].

1.3 Every AI should 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 AI has chosen to take so that potential credit losses are minimised.

1.4 AIs which do not manage credit risk properly are likely to run into serious problems. Such problems normally arise from:

- lax credit standards for borrowers and counterparties;
- poor portfolio risk management; and
- failure to identify in good time changes in economic or other conditions that may impair the financial strength of borrowers and counterparties.

It is therefore imperative that AIs maintain effective systems to manage credit risk.

2. Overview of the credit process

2.1 The credit process, which underlies the management of an AI's credit risk exposures, normally includes the following functions and components:

- **Credit strategy and policy** – The Board of Directors is ultimately responsible for approving an AI's credit risk strategies and policies and ensuring that these are appropriate to the business and observed within the organisation. It may delegate all or part of its credit

[1] In the settlement of, say, a foreign exchange transaction, there is a risk that one party may settle late, or not at all. If one party settles late, the other party may need to borrow the currency required from the market and incur interest cost until the former settles. If one party defaults after receiving payment (e.g. due to differences in time zones), the other party loses the whole principal (the potential loss could be larger than the principal if there is an adverse price movement between the agreed rate and the market rate for replacing the contract).

authority to the Credit Committee[2] or senior management within the AI but will remain responsible for overseeing credit risk management. The Credit Committee or senior management is responsible for translating the Board's credit strategy into actual business and for ensuring that necessary credit risk management policies and procedures are established to carry out such business.

- **Risk management** – AIs are recommended to maintain an independent risk management function within the middle office[3] to assist the Board in managing credit risk. The risk management function, which is directly accountable to the Board, the Credit Committee or senior management, is responsible for formulating credit risk management methodologies and strategies and the day-to-day measurement, monitoring and evaluation of credit risk within the AI.
- **Credit initiation** – This function is typically performed by the front office[3]. The account officers solicit credit business within laid-down policies and manage the relationship with customers. They may also be responsible for preparing credit appraisals for new credit facilities and for the renewal of existing facilities.
- **Credit evaluation, approval and review** – This involves independent evaluation of credit appraisals by the middle office, e.g. credit control or risk management unit, and the approval of facilities by designated credit officers, the Credit Committee or the Board of Directors in accordance with their credit authority. The process covers both extension of new credits and renewal of existing credits. The latter is embodied in the credit review process in which the credit-worthiness of existing borrowers is periodically updated and evaluated.
- **Credit administration** – The back office[3] undertakes the overall administration of the credit portfolio. It carries out such responsibilities as checking of credit approval and

[2] Please see para. 2.1.2 and footnote 1 of CR-G-2 "Credit Approval, Review and Records" for a description of the key roles and functions of the Credit Committee.

[3] Please see Diagram 1 of this module for an illustration of the typical functions performed by the front, middle and back offices.

documentation, lien perfection, loan disbursement, collateral valuation, maintenance of credit files and compilation of management information reports.

- **Credit measurement and monitoring** – These functions are performed at different levels. The Board or the Credit Committee oversees credit monitoring on a portfolio basis and may take part in reviewing large or connected exposures. The front office monitors individual accounts on a day-to-day basis and recommends changes in internal credit rating and provisions where necessary. The middle office monitors limits and other risk parameters set down by the Board, reviews exception reports and checks that problem accounts are properly graded and provided against. It also performs periodic reviews and analyses the quality of the credit portfolio using stress-tests or other techniques. The back office provides support to the process through the measurement and reporting of credit risk exposures for management information.

- **Problem loan management** – This function ensures that problem loans are handled effectively to minimise ultimate credit losses. While less serious cases are followed up by the front office, it is recommended that the more serious accounts be transferred to a dedicated work-out unit for collection within the middle office. The Credit Committee or senior management is responsible for overseeing the collection process on large non-performing credits and determining the level of provisions for problem accounts.

- **Independent audits** – There should be independent parties, e.g. Internal Audit and Compliance, to conduct regular independent credit and compliance audits on AIs. These should have a direct reporting line to the Board or the Audit Committee.

2.2 It is open to AIs precisely how they structure the credit process within their organisations. Nevertheless the key functions and components as mentioned above should be present, however named, and kept separate. In particular, the credit initiation function should be independent of the credit approval and review functions to avoid any potential conflict of interest. In

cases where an AI finds it necessary to delegate small lending limits to staff in the front office for operational needs, there should be adequate safeguards, e.g. independent review of credits granted, to prevent abuse.

2.3 The way in which an AI may structure its credit management functions is shown in Diagram 1. It should be emphasised that this structure is illustrative only. AIs have discretion as to the precise organisational structure they adopt, provided that the general principles of credit risk management set out in this guideline are observed.

2.4 The quality of an AI's credit risk exposures is determined to a large extent by the effectiveness of its systems and controls for managing credit risk. The principal elements of a sound credit risk management process include:

- establishing an appropriate credit risk environment;
- enforcing prudent procedures for approving credits;
- maintaining effective systems for credit administration, measurement and monitoring; and
- ensuring adequate controls over credit risk.

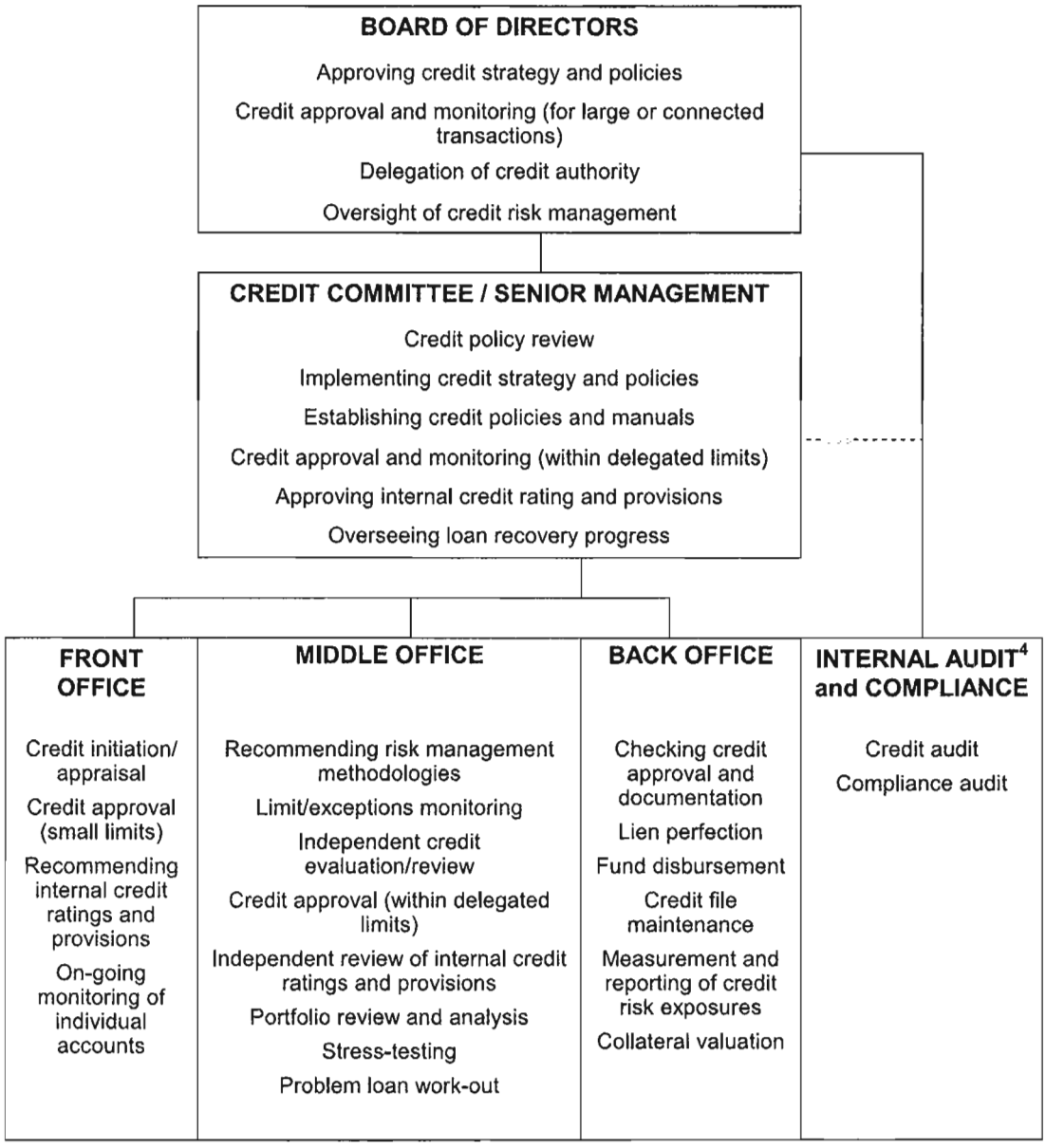
The basic principles and requirements pertaining to these elements are set out in the sections that follow.

3. An appropriate credit risk environment

3.1 Credit risk strategy and policy

3.1.1 Each AI should have a written statement of its credit risk strategy and policy which should be consistent with its degree of risk tolerance, level of capital available for credit activities and credit management expertise.

Diagram 1: Organisation of credit functions



[4] Internal Audit should report directly to the Board of Directors or the Audit Committee.

3.1.2 The credit risk strategy and policy (including the criteria to be used in approving credit applications) should be approved by the Board of Directors. The Board should also review the strategy and policy periodically (at least annually) in the light of the AI's financial results, market conditions and trends and its capital resources.

3.1.3 The credit risk strategy should encompass the need to maintain sound credit quality, profits and business growth. AIs are in business to be profitable. They therefore have to decide on what risk/reward relationship is acceptable for their business, after taking into account resource and capital costs.

3.1.4 The credit risk strategy should allow for economic cycles and their effects on the credit portfolio during different stages of an economic cycle. For example, it should cater for a higher incidence of defaults in the personal loan and credit card portfolios in times of economic recession.

3.1.5 The credit risk policy should follow the principles of prudence. It should be enforced and applied consistently. It should ensure that credit facilities are only granted to credit-worthy customers and that risk concentrations are avoided. It guides management on how business is to be developed.

3.1.6 The credit risk policy should not be relaxed because of competitive pressures. Any changes to the policy should be approved by the Board of Directors and should not expose the AI to excessive risk.

3.1.7 Locally incorporated AIs with overseas branches should establish credit risk policies adapted to local conditions.

3.1.8 AIs granting credit to obligors in other countries should cater for the fact that in so doing they incur additional risks - country risk and transfer risk. They should therefore take account of the environment - economic and political - in those countries, the potential effect of changes thereto on the obligors' ability to service the credit and the contagion effects in regions where economies are closely related.

3.1.9 The Credit Committee or senior management should be responsible for carrying out the strategy laid down by the Board and for establishing procedures to identify, quantify, monitor and control the credit risk inherent in the AI's activities and at the level of both the overall portfolio and individual borrowers/counterparties.

3.1.10 The credit risk strategy and policy need to be clearly disseminated to, and understood by, all relevant staff, and should be applied, where appropriate, on a consolidated basis and at the level of individual subsidiaries.

3.2 Risk tolerance and portfolio limits

3.2.1 AIs should be very clear about their credit risk tolerance, including how much, and what types of, risk they are prepared to undertake. Risk tolerance should be compatible with AIs' strategic objectives.

3.2.2 The credit risk policy should specify, among other things:

- types of facilities to be offered, along with ceilings, pricing, profitability, maximum maturities and maximum debt-servicing ratios for each type of lending;
- a ceiling for the total loan portfolio, in terms, for example, of the loan-to-deposit ratio, undrawn commitment ratio, a maximum dollar amount or a percentage of capital base;
- portfolio limits for maximum aggregate exposures by country, industry, category of borrower/counterparty (e.g. banks, non-bank financial institutions, corporates and retail), product (e.g. property lending), groups of related parties and single borrowers;
- limits, terms and conditions, approval and review procedures and records kept for connected lending - all AIs should have a formal policy statement, endorsed by the Board of Directors, on such lending covering these matters;
- types of acceptable collateral, loan-to-value ratios and the criteria for accepting guarantees; and

- the minimum information required from loan applicants.

3.3 Risk concentrations

3.3.1 AIs should establish a policy, endorsed by the Board of Directors, to control and monitor large exposures and other risk concentrations.

3.3.2 AIs should carefully manage and avoid excessive risk concentrations of various kinds. These include exposure to:

- individual borrowers (in particular exposure exceeding 10% of the AI's capital base);
- groups of borrowers with similar characteristics, economic and geographical sectors; and
- types of lending with similar characteristics (e.g. those based on assets with similar price behaviour).

3.3.3 AIs should analyse their portfolios intelligently to identify inter-dependencies. The importance can be illustrated by the contagion effects that a substantial decline in property or stock prices may have on the default rate of those commercial and industrial loans which rely heavily on such types of collateral.

3.3.4 Notwithstanding the 25% limit on large exposures under §81 of the Banking Ordinance, AIs should exercise particular care in relation to facilities exceeding 10% of capital base.

3.3.5 AIs should beware of fads. For example, business with companies in the internet sector should be based on sound banking principles and AIs should not be swayed by what is fashionable.

3.3.6 AIs should guard against over-extension of credit to asset-dependent sectors such as the property and stock markets and to other speculative investments. Such risk concentrations can leave AIs unduly exposed to a collapse in asset prices with consequent increased defaults by debtors.

3.3.7 Where long-term domestic lending is financed by short-term external borrowing, a reversal of capital flows can lead to a liquidity squeeze and exposure to possible adverse exchange rate movements. AIs should establish prudent mismatch limits to control such risks.

3.4 New products

3.4.1 AIs should recognise and control the credit risk arising from their services and activities, including the risks from new products.

3.4.2 Before AIs enter into new types of products and activities, they should ensure that they understand the risks fully and have established appropriate credit risk policies, procedures and controls, which should be approved by the Board of Directors or its appropriate delegated committee. A formal risk assessment of new products and activities should also be performed and documented.

3.5 Delegated credit authority

3.5.1 Credit authority should be clearly delegated by an AI's Board of Directors.

3.5.2 Credit authority should be appropriate for the products or portfolios assigned to the Credit Committee or individual credit officers and should be commensurate with their credit experience and expertise. As an example, an officer approving personal loans should not have the same limits as one approving corporate loans to property developers. An officer's credit authority may, however, be increased as he or she develops an acceptable track record.

3.5.3 AIs should ensure that credit authority is required for all types of credit exposures, including the use of credit derivatives for hedging or income generation.

3.5.4 Credit authority delegated to the Credit Committee and each credit officer should be subject to regular review to ensure that it remains appropriate to current market conditions and the level of their performance.

3.6 Accountability

3.6.1 All staff should comply with laid-down credit policies and procedures and be held accountable, ultimately to the Board of Directors through their reporting officers, for their decisions when discharging their responsibilities. Thus, for example, if a credit goes into default and on investigation it transpires that an approval by an officer did not comply with policies or procedures, the officer concerned should be counselled, re-trained or disciplined, as appropriate.

3.6.2 An AI's remuneration policies should be consistent with its credit risk strategy. The policies should not encourage officers to generate short-term profits by taking an unacceptably high level of risk.

3.6.3 Where the account officer for a credit (or customer relationship manager, branch manager or similar) moves on, the incoming officer should carry out a take-over review. The review should cover inter alia the credit-worthiness of the borrowers, the adequacy of the documentation, compliance with covenants, performance of each loan and the existence and value of any collateral.

3.7 Staff competence

3.7.1 AIs should ensure that staff involved in any credit activities are competent and fully understand their AI's strategic direction, policies, tolerance of risk and limits.

3.7.2 The staff concerned should have appropriate professional qualifications, technical/managerial skills and experience for their duties. Thus:

- senior management should be capable of managing credit activities;
- account officers and credit officers should have a solid understanding of the credit risk associated with the products and customers they deal with;
- risk management staff should possess sufficient knowledge in credit risk management;
- work-out staff should have adequate experience in recovering debts and helping customers re-build financial strength;

- operations staff should be fully familiar with the procedures and processes for carrying out all credit administration tasks; and
- internal auditors should fully understand each of the credit management functions and the risks in each of them.

3.7.3 AIs should ensure that staffing levels are sufficient to handle present and expected workloads.

3.7.4 AIs should encourage their staff and facilitate their acquisition of the qualifications referred to in para. 3.7.2 above. This can be achieved by in-house training or through courses for banking staff run by universities or under the auspices of professional bodies such as the Hong Kong Institute of Bankers and the Chartered Institute of Bankers of the United Kingdom or other professional bodies of similar standing.

3.7.5 AIs should also maintain a continuing credit training programme for staff to update their knowledge of credit-related issues and risks imposed by changing market circumstances. The programme may consist of in-house developed courses, seminars run by professional associations or both.

4. Prudent procedures for approving credits

4.1 Major principles

4.1.1 AIs should have a written statement (credit manual) setting out the criteria and procedures for granting new credits, for approving extensions of existing credits and exceptions, for conducting periodic and independent reviews of credits granted and for maintaining the records for credits granted.

4.1.2 The statement should lay down sound, well-defined criteria for granting credit, including a thorough understanding of the borrower or counterparty, the purpose and structure of the credit and its source of repayment. The same criteria should be applied to both advised and unadvised facilities.

4.1.3 AIs should adhere closely to the "Know Your Customer" principle and should not lend purely on name and relationship without a firm understanding of the borrower.

4.1.4 Credit decisions should be supported by adequate evaluation of the borrower's repayment ability based on reliable information. Sufficient and up-to-date information should continue to be available to enable effective monitoring of the account.

4.1.5 All credits should be granted on an arm's length basis. Credits to related borrowers should be monitored carefully and steps taken to control or reduce the risks of connected lending.

4.1.6 AIs should not over-rely on collateral or guarantees. While these can provide secondary protection to the lender if the borrower defaults, the primary consideration should be the borrower's debt-servicing capacity.

4.1.7 AIs should be wary of rapid expansion of particular types of lending. This may indicate a relaxation of credit standards and increased focus on more marginal borrowers.

4.1.8 AIs should ensure through periodic independent audits that the credit approval function is being properly managed and that credit exposures comply with prudential standards and internal limits. The results of such audits should be reported directly to the Board, the Credit Committee or senior management as appropriate.

4.1.9 Detailed guidance on credit approval is available in CR-G-2 "Credit Approval, Review and Records".

5. Effective systems for credit administration, measurement and monitoring

5.1 Credit administration

5.1.1 AIs should have systems for administering their credit portfolios, including keeping the credit files current, getting up-to-date financial information on borrowers and other counterparties, funds transfer and safe-keeping of important documents.

5.2 Measurement and monitoring of credit risk

5.2.1 AIs should maintain comprehensive procedures and adequate information systems for measuring credit risk (including measuring credit risk of off-balance sheet products such as derivatives in credit equivalent terms) and for monitoring the condition of individual credits to facilitate identification of problem credits and determination of the adequacy of provisions and reserves. How elaborate credit risk measurement tools need to be depends on the complexity and degree of the inherent risks of the products involved.

5.2.2 AIs should have information systems and analytical techniques that provide sufficient information on the risk profile and structure of the credit portfolio. These should be flexible to help AIs to identify risk concentrations. To achieve this, an AI's system should be capable of analysing its credit portfolio by the following characteristics:

- size of exposure;
- exposure to groups of related borrowers;
- products;
- sectors, e.g. geographic, industrial;
- borrowers' demographic profile for consumer credits, e.g. age or income group, if appropriate;
- account performance;

- internal credit ratings[5];
- outstandings versus commitments; and
- types and coverage of collateral.

5.2.3 AIs should have in place a system for monitoring the overall quality of their credit risk exposures under normal and stressful conditions.

5.2.4 There should also be a reporting system which alerts management to aggregate exposures approaching various pre-set portfolio limits of the type set out in subsection 3.2 above.

5.2.5 AIs should be conscious of business and economic cycles and regularly stress-test their portfolios against adverse market scenarios.

5.2.6 Adequate contingency planning should be developed in conjunction with stress-testing to cater for situations where crises develop unexpectedly fast.

5.3 Loan classification

5.3.1 AIs should ensure that the loan portfolio is properly classified and have an effective early-warning system for problem loans.

5.3.2 As internal ratings are an increasingly important management and supervisory tool, AIs are encouraged to develop and use internal risk rating systems in managing credit risk. The rating system should be consistent with the nature, size and complexity of the AI's activities.

5.3.3 In using internal risk ratings, AIs are recommended to seek to improve the sophistication of their loan classification system beyond the 5-grade system currently employed for regulatory reporting. In particular, AIs are advised to adopt multiple grades for loans that are not yet irregular and to develop the ability to track the migration of individual loans through the various internal credit ratings.

[5] This term will hereafter be used inter-changeably throughout this Manual with "internal risk ratings".

5.4 Loan provisioning

5.4.1 AIs should establish policies on provisioning which ensure that loans are prudently provided for on a timely basis.

5.4.2 Provisions should ideally be assessed on a loan-by-loan basis with full provision being made for the likely loss. The level of provisions is normally a matter for an AI to determine in consultation with its external auditors but the HKMA reserves the discretion to intervene where in its opinion the AI is being insufficiently prudent in its approach or is seriously out of line with the provisioning policy of its peers.

5.4.3 If it is not possible to estimate the loss reliably, the following provisioning benchmarks may be adopted:

- Substandard: 20% - 25% of unsecured portion;
- Doubtful: 50% - 75% of unsecured portion; and
- Loss: 100% of unsecured portion.

5.4.4 Provisions will comprise specific and general provisions. AIs should provide specifically for credits where losses are certain or likely. The percentage to be provided will depend on the particular circumstances. Over and above this AIs should maintain general provisions based on historical loss experience and their assessment of future economic trends in the markets in which they operate.

5.4.5 Further guidance on the above subjects is given in CR-G-3 "Credit Administration, Measurement and Monitoring".

6. Adequate controls over credit risk

6.1 Segregation of duties

6.1.1 AIs should keep the functions of credit initiation, approval, review, administration and work-out as separate as possible. See also section 2 on how the credit functions may generally be structured.

6.2 Exception reporting

6.2.1 AIs should establish and enforce internal controls and practices so that deviations from policies, procedures, limits and prudential guidelines are promptly reported to the appropriate level of management. This applies inter alia to the approval of excesses under delegated authority.

6.2.2 The above should be supported by a management reporting system whereby relevant reports on the credit portfolio are generated to various levels of management on a timely basis.

6.3 Risk mitigation

6.3.1 In controlling credit risk, AIs can utilise certain mitigation techniques. Normally, they include:

- accepting collateral, standby letters of credit and guarantees;
- entering into netting arrangements,
- setting strict loan covenants; and
- using credit derivatives and other hedging instruments.

6.3.2 In determining which types of credit mitigation techniques should be used, AIs should consider:

- their own knowledge and experience in using such techniques;
- cost-effectiveness;
- type and financial strength of the counterparties or issuers;
- correlation with the underlying credits;
- availability, liquidity and realisability of the credit mitigation instruments;
- the extent to which legally recognised documentation, e.g. ISDA Master Agreement, can be adopted; and
- the degree of supervisory recognition of the mitigation technique.

6.3.3 While mitigation through collateral and guarantees is usually dealt with at the time of granting of credits, credit derivatives and netting are often employed after the credit is in place, or used to manage the overall portfolio risk.

6.3.4 When the mitigation arrangements are in place they should then be controlled. AIs should have written policies, procedures and controls for the use of credit mitigation techniques. They should also ensure adequate systems are in place to manage these activities.

6.3.5 AIs should revalue their collateral and mitigation instruments on a regular basis. The method and frequency of revaluation depends on the nature of the hedge and the products involved.

6.4 Managing problem credits

6.4.1 It is recommended that AIs establish a dedicated unit to handle the recovery and work-out of problem loans and put in place policies for the referral of loans to this unit.

6.5 Independent audits

6.5.1 AIs should establish a system of regular independent credit and compliance audits. These audits should be performed by independent parties, e.g. Internal Audit and Compliance, which report to the Board or the Audit Committee.

6.5.2 Credit audits should be conducted to assess individual credits on a sampling basis and the overall quality of the credit portfolio. Such audits are useful for evaluating the performance of account officers and the effectiveness of the credit process. They can also enable AIs to take early measures to protect their loans.

6.5.3 Compliance audits should be performed to test compliance with established credit policies and procedures, in particular credit approval, internal credit rating, the appropriateness of pricing, adequacy of provisioning and adherence to limits, statutory restrictions and operating procedures. Such audits should also be used to identify credit control or process

weaknesses, irregularities and exceptions and to test whether the reporting of credits to senior management is accurate as regards composition, credit quality and value of the portfolio.

6.5.4 The findings of these audits should be reported to the Board or the Audit Committee on a timely basis, and appropriate remedial actions should be taken to address any concerns and weaknesses raised.
