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Chapter 4 Capital Adequacy

A. Introduction

1. Capital adequacy is a critical to the safety and soundness of a Bank. This is reflected in the predominance of global regulatory standards addressing capital adequacy for banks, as established by the Basel Committee for Banking Supervision.
2. Capital supports a Bank's operation by providing a buffer to absorb losses from its activities and, in the event of problems, it enables the Bank to continue to operate in a sound and viable manner while the problems are resolved. Capital management must be an integral part of a Bank's credit risk management process and must align the Bank's risk tolerance and risk profile with its capacity to absorb losses.
3. This chapter of the CAG sets out the standards, guidance, parameters and norms required to comply with the rules in respect of the Capital Adequacy as well as capital management framework and governance, as specified in Chapter 4 of BBR. These elements convey the supervisory expectations of the AFSA on Capital Adequacy and on capital management framework & its governance. Compliance with the standards, methods, norms, parameters and guidance detailed in this chapter of CAG, both in letter and in spirit, is required to demonstrate fulfillment of the regulatory obligations specified in Chapter 4 of BBR. The AFSA will use these standards, norms and key elements specified here to assess compliance with BBR Rules on Capital Adequacy and capital management.

B. Capital Management - Framework & Governance

1. In respect of BBR Rule 4.3, the risk tolerance of a Bank is usually defined as part of the Bank's risk management strategy. It may be referred as risk appetite in some cases. The terms 'risk tolerance' and 'risk appetite' embrace all relevant definitions used by different institutions and supervisory authorities. These two terms are used interchangeably to describe both the absolute risks a Bank is open to take (which some may call risk appetite) and the actual limits within its risk appetite that a Bank pursues (which some call risk tolerance).
2. If the Bank is a member of a financial group, the AFSA expects the capital of the financial group to be apportioned among the group's members, based on the allocation of risks between them.
3. In relation to BBR Rule 4.4 (3), a Bank's internal capital adequacy assessment process or ICAAP is the process by which the Bank continuously demonstrates that it has implemented methods and procedures to ensure that it has adequate capital resources to support the nature and level of its risks. ICAAP is a critical component of the Pillar 2 process forming part of the Basel III framework for prudential regulation of banks.
4. For Rule 4.14, Retained earnings and other comprehensive income include appropriated profit or loss. Share premium is also known as stock surplus and constitutes additional paid-in capital. An example of disclosed reserve is the foreign currency translation reserve referred in chapter 6 of the BBR.
5. In relation to BBR rule 4.20, Conversion or write-off under this rule would be limited to the extent necessary to enable the AFSA to conclude that the Bank is viable without further conversion or write-off.

6. While addressing permitted adjustments to regulatory capital as defined in BBR rule 4.28, any deferred tax liability that may be netted must be allocated pro rata between deferred tax assets under this rule and those under the threshold deduction rule. For the treatment of deferred tax assets that relate to temporary differences (for example, allowance for credit losses), the relevant rule is BBR rule 4.30 which defines deductions from CET1 Capital.

C. Capital Conservation Buffers

1. This section provides additional guidance and examples for the purpose of complying with BBR rule 4.32, in respect of capital conservation buffer. In this respect, a payment made by a Bank that does not reduce its CET 1 capital is not a distribution for the purposes of this Part. Distributions include, for example, dividends, share buybacks and discretionary bonus payments.

Examples of application of table 4A

2. Assume that a Bank's minimum CET 1 capital ratio is 4.5% and an additional 2.5% capital conservation buffer (which must be made up of CET 1 capital) is required for a total of 7% CET 1 capital ratio. Based on table 3.3.3:
 - (a) If a Bank's CET 1 capital ratio is 4.5% or more but less than 5.125%, the Bank needs to conserve 100% of its earnings.
 - (b) If a Bank's CET 1 capital ratio is 5.125% or more but less than 5.75%, the Bank needs to conserve 80% of its earnings and must not distribute more than 20% of those earnings by way of dividends, share buybacks and discretionary bonus payments.
 - (c) A Bank with a CET 1 capital ratio of more than 7% can distribute 100% of its earnings.
3. Earnings in respect of BBR rule 4.32 means distributable profits calculated before deducting elements subject to the restrictions on distributions. Earnings must be calculated after notionally deducting the tax that would have been payable had none of the distributable items been paid. The effect of calculating earnings after tax is that the tax consequence of the distribution is reversed out.
4. For the purpose of BBR rule 4.34, the following are examples of ways to reduce capital by a bank:
 - (a) a share buyback or the redemption, repurchase or repayment of capital instruments issued by the Bank
 - (b) trading in the Bank's own shares or capital instruments outside an arrangement agreed with the AFSA
 - (c) a special dividend.

D. Leverage Ratio

1. This section provides the guidance, method and parameters required for calculation of the Leverage Ratio of a Bank in compliance with the formula provided in BBR rule 4.37.
2. The Exposure Measure under Rule 4.37 should be calculated as the sum of:

- (a) on-balance sheet items; and
- (b) off-balance sheet items.

3. In relation to on-balance sheet items:

- (a) for SFTs, the exposure value should be calculated in accordance with IFRS and the netting requirements referred to in rules on credit risk mitigation in Chapter 5 of BBR;
- (b) for Derivatives, including credit protection sold, the exposure value should be calculated as the sum of the on-balance sheet value in accordance with IFRS and an add-on for potential future exposure calculated in accordance with rules on credit risk mitigation in Chapter 5 of BBR; and
- (c) for other on-balance sheet items, the exposure value should be calculated based on their balance sheet values in accordance with rules in Chapter 5 of BBR.

4. In relation to off-balance sheet items:

- (a) for commitments that are unconditionally cancellable at any time by the Bank without prior notice, the exposure value should be the notional amount for the item multiplied by a CCF of 10%; and
- (b) for other off-balance sheet items, including:
 - (i) direct credit substitutes;
 - (ii) certain transaction-related contingent items;
 - (iii) short-term self-liquidating trade-related contingent items and commitments to underwrite debt and equity securities;
 - (iv) note issuance facilities and revolving underwriting facilities;
 - (v) transactions, other than SFTs, involving the posting of securities held by the Bank as collateral;
 - (vi) asset sales with recourse, where the credit risk remains with the Bank;
 - (vii) other commitments with certain drawdown;
 - (viii) any other commitments; and
 - (ix) unsettled transactions,

the exposure value should be the notional amount for each of the items multiplied by a CCF of 100%.

Chapter 5 Credit Risk

A. Introduction

1. Credit risk is:
 - (a) the risk of default by counterparties; and
 - (b) the risk that an asset will lose value because its credit quality has deteriorated.

2. Credit risk may result from on-balance-sheet and off-balance-sheet exposures, including loans and advances, investments, inter-bank lending, derivative transactions, securities financing transactions and trading activities. It can exist in a Bank's trading book or banking book.

B. Credit Risk - Management Framework & Governance

1. This section of the CAG sets out the standards, guidance and norms required to comply with the rules in respect of the Credit Risk management framework and governance, as specified in Chapter 5 of BBR. These elements convey the supervisory expectations of the AFSA on Credit risk management framework and its governance. Compliance with the standards and guidance detailed in this section of CAG, both in letter and in spirit, is required to demonstrate fulfillment of the regulatory obligations specified in Chapter 5 of BBR. The AFSA will use these standards, norms and key elements specified here to assess compliance with BBR Rules on Credit Risk management.

2. In order to comply with the requirements specified in BBR Rule 5.1, and considering the nature, scale and complexity of a Bank's credit risk, and how often it provides credit or incurs credit risk, a Bank's credit risk management policy is expected to include:
 - (a) how the Bank defines and measures credit risk;
 - (b) the Bank's business aims in incurring credit risk, including:
 - (i) identifying the types and sources of credit risk that the Bank will permit itself to be exposed to (and the limits on that exposure) and those that it will not;
 - (ii) setting out the degree of diversification that the Bank requires, the Bank's tolerance for risk concentrations and the limits on exposures and concentrations; and
 - (iii) stating the risk-return trade-off that the Bank is seeking to achieve;
 - (c) the kinds of credit to be offered, and ceilings, pricing, profitability, maximum maturities and ratios for each kind of credit;
 - (d) a ceiling for the total credit portfolio (in terms, for example, of loan-to-deposit ratio, undrawn commitment ratio, a maximum amount or a percentage of the Bank's capital);
 - (e) portfolio limits for maximum gross exposures by region or country, by industry or sector, by category of counterparty (such as banks, non-bank financial entities and corporate counterparties), by product, by counterparty and by connected counterparties;
 - (f) limits, terms and conditions, approval and review procedures and records kept for lending to connected counterparties;

- (g) types of collateral, loan-to-value ratios and criteria for accepting guarantees;
 - (h) the detailed limits for credit risk, and a credit risk structure, that:
 - (i) takes into account all significant risk factors, including intra- group exposures;
 - (ii) is commensurate with the scale and complexity of the Bank's activities; and
 - (iii) is consistent with the Bank's business aims, historical performance, and the amount of capital it is willing to risk;
 - (i) procedures for
 - (i) approving new products and activities that give rise to credit risk;
 - (ii) regular risk position and performance reporting; and
 - (iii) approving and reporting exceptions to limits
 - (j) allocating responsibilities for implementing the credit risk management policy and monitoring adherence to, and the effectiveness of, the policy; and
 - (k) the required information systems, staff and other resources.
3. Problem assets include impaired credits wherein the debt servicing payments are already overdue for a significant amount of time and also include assets, where there is material uncertainty about the collectability of the payments due in full or in part.

Credit Decisions

4. BBR Rule 5.1 (5) does not prevent arrangements such as an employee loan scheme, so long as the policy ensures that the scheme's terms, conditions and limits are generally available to employees and adequately address the risks and conflicts that arise from loans under it.
5. The credit risk management policy of a Bank should clearly set out who has the authority to approve loans to employees. The authority of a credit committee or credit officer should be appropriate for the products or portfolio and should be commensurate with the committee's or officer's credit experience and expertise. Each authority to approve should be reviewed regularly to ensure that it remains appropriate for current market conditions and the committee's or officer's performance.
6. A Bank's remuneration policy should be consistent with its credit risk management policy and should not encourage officers to attempt to generate short-term profits by taking an unacceptably high level of risk.
7. The policy must state that decisions relating to the following are made at the appropriate level of the Bank's senior management or governing body:
- (a) exposures exceeding a stated amount or percentage of the Bank's capital;
 - (b) exposures that, in accordance with criteria set out in the policy, are especially risky;
 - (c) exposures that are outside the Bank's core business.
8. The level at which credit decisions are made should vary depending on the kind and amount of credit and the nature, scale and complexity of the Bank's business. For some Banks, a credit committee with formal terms of reference might be appropriate; for

others, individuals with pre-assigned limits would do.

9. A Bank should ensure, through periodic independent audits, that the credit approval function is properly managed and that credit exposures comply with prudential standards and internal limits. The results of audits should be reported directly to the governing body, credit committee or senior management, as appropriate.

C. Credit Risk management

Credit Risk Assessment

1. A Bank must establish and implement appropriate policies to enable it to assess credit risk when the credit is granted or the risk is incurred and afterwards. In particular, the policies must enable the Bank:
 - (a) to measure credit risk (including the credit risk of off-balance- sheet items, such as derivatives, in credit equivalent terms);
 - (b) to effectively use its internal credit risk assessment;
 - (c) to rate and risk-weight a counterparty;
 - (d) to monitor the condition of individual credits;
 - (e) to administer its credit portfolio, including keeping the credit files current, getting up-to-date financial information on counterparties, and the electronic storage of important documents;
 - (f) to ensure that the value of collateral and the value of the other CRM techniques used by the Bank are assessed regularly;
 - (g) to assess whether its CRM techniques are effective; and
 - (h) to calculate its credit risk capital requirement.
2. A Bank involved in loan syndications or consortia should not rely on other parties' assessments of the credit risk involved but should carry out a full assessment based on its own credit risk management policy.
3. The AFSA expects that an Bank's Credit Risk strategy will set out the approach that the Bank will take to Credit 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 Bank's Credit Risk policy.
4. The AFSA expects that an Bank's Credit Risk management policy and strategy for managing Credit Risk will take into account the need to:
 - (a) develop a Credit management strategy, policies and processes in accordance with the Bank's stated Credit Risk tolerance;
 - (b) ensure that the Bank maintains sufficient capital to support its credit risk exposure at all times;
 - (c) determine the structure, responsibilities and controls for managing Credit Risk and for overseeing the credit portfolio of all branches and subsidiaries in the jurisdictions in which the Bank is active, and outline these elements clearly in the Bank's credit risk

- management policy;
- (d) have in place adequate internal controls to ensure the integrity of its Credit Risk management processes;
 - (e) ensure that stress testing of the credit risk portfolio is effective and appropriate for the Bank;
 - (f) establish a set of reporting criteria, specifying the scope, manner and frequency of reporting to various recipients (such as the Governing Body, senior management and the asset/liability committee) and who is responsible for preparing the reports
 - (g) establish the specific procedures and approvals necessary for exceptions to policies and limits, including the escalation procedures and follow-up actions to be taken for breaches of limits;
 - (h) monitor closely current trends and potential market developments that may present significant, unprecedented and complex challenges for managing Credit Risk so that appropriate and prompt changes to the Credit management strategy can be made as needed; and
 - (i) continuously review information on the Bank's Credit developments and report regularly to the Governing Body
5. In respect of managing the Bank's Credit Risk, 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 Bank's staff;
 - (b) adhere to the lines of authority and responsibility that the governing body has established for managing Credit Risk;
 - (c) oversee the establishment and maintenance of management information and other systems that identify, assess, control and monitor the Bank's Credit Risk; and
 - (d) oversee the establishment of effective internal controls over the Credit Risk management process.

D. Problem Assets & Impaired Assets

Impaired credits

1. Impaired credit means a credit that is categorised as substandard, doubtful or loss. For the purpose of applying risk-weights, interest is suspended on an impaired credit. A credit is a restructured credit if it has been re-aged, extended, deferred, renewed, rewritten or placed in a workout program.
2. The Credit Risk management system and, in particular, the systems, policies and processes aimed at classification of credits, monitoring and identification of problem credits, management of problem credits and provisioning for them must include all the on-balance sheet and off-balance sheet credit Exposures of the Bank.

3. The review of impaired credits and other problem assets may be done individually, or by class, but must be done at least once a month. A large exposure that is an impaired credit must be managed individually in terms of its valuation, categorisation and provisioning.
4. Unless there is good reason to do so, a restructured credit can never be classified as performing. A restructured credit may be reclassified to a more favourable category, but only by one level of rating up from its category before the restructure. The credit may be reclassified one further category up after 180 days of satisfactory performance under the terms of the new contract.

E. Calculation of Credit Risk Capital Requirement

Using external credit rating agencies (ECRAs)

1. This section provides additional information and guidance in respect of BBR Rule 5.5.
2. A rating is a solicited rating if the rating was initiated and paid for by the issuer of the instrument, the rated counterparty or any other entity in the same corporate group as the issuer or rated counterparty.
3. A Bank that chooses to use ratings determined by an ECRA for exposures belonging to a class must consistently use those ratings for all the exposures belonging to that class. The Bank must not selectively pick between ECRAs or ratings in determining risk- weights.
4. A Bank may use an unsolicited rating, only if it receives AFSA's written approval to do so or in accordance with a direction from the AFSA. The AFSA may give a written direction setting out conditions that must be satisfied before a Bank may use an unsolicited rating.
5. The Bank must ensure that the relevant rating takes into account the total amount of the exposure (that is, the principal and any interest due).

Calculation of Risk-Weighted Assets (RWAs)

6. In order to comply with the rules in BBR 5.6 in respect of calculation of Credit Risk-Weighted Assets and to meet the expectations of the AFSA in this regard, a Bank is expected to consider and employ the guidance, interpretations and additional information provided in this section of the CAG.
7. Risk-weights used in the calculation of RWAs as defined in BBR Rule 5.6, are based on credit ratings or fixed risk-weights and are broadly aligned with the likelihood of counterparty default. A Bank may use the ratings determined by an ECRA if allowed to do so by these rules and subject to the provisions of BBR 5.5.
8. In respect of table 5B, investment property is land, a building or part of a building (or any combination of land and building) held to earn rentals or for capital appreciation or both. Investment property does not include property held for use in the production or supply of goods or services, for administrative purposes, or for sale in the ordinary course of business. A real estate asset owned by a Bank as a result of a counterparty default is treated as 'other item' and risk-weighted at 100% but only for a period of 3 years starting from the date when the Bank records the asset on its books.
9. In respect of table 5B, the list of multilateral development banks (Item 4 in Column 1) which qualify for a 0% risk weight, are published by the Basel Committee for Banking Supervision (BCBS). The list was originally included in the document Basel II: International Convergence of Capital Measurement and Capital Standards: A Revised Framework—Comprehensive

Version, published by the BCBS on 30 June 2006, and has since been updated by BCBS newsletters.

10. As at November 2016 the list is as follows:

- the African Development Bank
- the Asian Development Bank
- the Caribbean Development Bank
- the Council of Europe Development Bank
- the European Bank for Reconstruction and Development
- the European Investment Bank
- the European Investment Fund
- the Inter-American Development Bank
- the International Development Association
- the International Finance Facility for Immunization
- the Islamic Development Bank
- the Nordic Investment Bank
- the World Bank Group (comprising the International Bank for Reconstruction and Development, the International Finance Corporation and the Multilateral Investment Guarantee Agency).

Examples of MDBs that do not qualify for 0% risk weight are:

- the Arab Bank for Economic Development in Africa
- the Asian Infrastructure Investment Bank
- the Black Sea Trade and Development Bank
- the Development Bank of Latin America
- the Central American Bank for Economic Integration
- the Development Bank of Central African States
- the East African Development Bank
- the Economic Cooperation Organization Trade and Development Bank
- the Eurasian Development Bank
- the International Finance Facility for Immunisation
- the International Fund for Agricultural Development
- the International Investment Bank
- the New Development Bank
- the OPEC Fund for International Development
- the West African Development Bank.

11. For the purposes of BBR Rule 5.8, specialised lending is a lending transaction that complies with the following requirements:

- (a) the purpose of the loan is to acquire an asset;
- (b) the cash flow generated by the collateral is the loan's exclusive (or almost exclusive) source of repayment;

- (c) the loan represents a significant liability in the borrower’s capital structure;
 - (d) the credit risk is determined primarily by the variability of the cash flow generated by the collateral (rather than the independent capacity of a broader commercial enterprise).
12. Specialised lending is associated with the financing of projects where the repayment depends on the performance of the underlying collateral. There are 5 sub-classes of specialised lending:
- (a) project finance—financing industrial projects based on the projected cash flows of the project;
 - (b) object finance—financing physical assets based on the projected cash flows obtained primarily through the rental or lease of the assets;
 - (c) commodities finance—financing the reserves, receivables or inventories of exchange-traded commodities where the exposure is paid back based on the sale of the commodity (rather than by the borrower from independent funds);
 - (d) income-producing real estate finance—financing real estate that is usually rented or leased out by the debtor to generate cash flow to repay the exposure; and
 - (e) high-volatility commercial real estate finance—financing commercial real estate which demonstrates a much higher volatility of loss rates compared to other forms of specialised lending.
13. For the purposes of BBR Rule 5.9, eligible residential mortgage means a mortgage on a residential property that is, or will be:
- (a) occupied by the counterparty for residential use; or
 - (b) rented out (on a non-commercial basis) for residential use.
14. For the purposes of BBR Rule 5.11:
- (a) Current credit exposure is the absolute mark-to-market value (or replacement cost) of the item.
 - (b) Potential future credit exposure (also known as ‘the add-on’) is the amount calculated by multiplying the notional principal amount of the item by the relevant credit conversion factor in table 5D. The notional principal amount is the reference amount used to calculate payment streams between counterparties to the item.

Table E1: Credit conversion factors for market-related off-balance-sheet items

| Column 1 item | Column 2 description of claim or asset | Column 3 credit conversion |
|--------------------------|---|---|
| 1 | interest rate contracts | |
| | (a) residual maturity 1 year or less | 0 |

| | | |
|---|--|-----|
| | (b) residual maturity > 1 year to 5 years | 0.5 |
| | (c) residual maturity > 5 years | 1.5 |
| 2 | foreign exchange and gold contracts | |
| | (a) residual maturity 1 year or less | 1 |
| | (b) residual maturity > 1 year to 5 years | 5 |
| | (c) residual maturity > 5 years | 7.5 |
| 3 | equity contracts | |
| | (a) residual maturity 1 year or less | 6 |
| | (b) residual maturity > 1 year to 5 years | 8 |
| | (c) residual maturity > 5 years | 10 |
| 4 | precious metal contracts (other than gold) | |
| | (a) residual maturity 1 year or less | 7 |
| | (b) residual maturity > 1 year to 5 years | 7 |
| | (c) residual maturity > 5 years | 8 |
| 5 | other commodity contracts (other than precious metals) | |
| | (a) residual maturity 1 year or less | 10 |
| | (b) residual maturity > 1 year to 5 years | 12 |
| | (c) residual maturity > 5 years | 15 |
| 6 | other market-related contracts | |
| | (a) residual maturity 1 year or less | 10 |
| | (b) residual maturity > 1 year to 5 years | 12 |
| | (c) residual maturity > 5 years | 15 |

- (c) Potential future credit exposure must be based on an effective, rather than an apparent, notional principal amount. If the stated notional principal amount of an item is leveraged or enhanced by the structure of the item, the Bank must use the effective notional principal amount in calculating the potential future credit exposure. No potential future credit exposure is calculated for a single-currency floating/floating interest rate swap. The credit exposure from such an interest rate swap must be based on mark-to-market values.

15. For the purposes of BBR Rule 5.13:

- (a) The credit conversion factors for a protection buyer in a single-name credit default swap or single-name total-rate-of-return swap are set out in column 3 of table E2. The credit conversion factors for a protection seller are set out in column 4 of that table.
- (b) The protection seller in a single-name credit default swap or single-name total-rate-of-return swap is subject to the add-on factor for a closed-out single-name swap only

if the protection buyer becomes insolvent while the underlying asset is still solvent. The add-on must not be more than the amount of unpaid premiums.

- (c) In the table E2, qualifying reference obligation includes obligations arising from items relating to:
- (i) securities that are rated investment grade by at least 2 ECRA's; or
 - (ii) securities that are unrated (or rated investment grade by only 1 ECRA), but:
 - (1) are approved by the AFSA, on application by the Bank, to be of comparable investment quality; and
 - (2) are issued by an issuer that has its equity included in a main index used in a recognised exchange.

Table E2 Credit conversion factors for single-name swaps

| Column 1 Item | Column 2 type of swap | Column 3 Protection Buyer (%) | Column 4 Protection Seller (%) |
|------------------|--|----------------------------------|-----------------------------------|
| 1 | credit default swap with qualifying reference obligation | 5 | 5 |
| 2 | credit default swap with non-qualifying reference obligation | 10 | 10 |
| 3 | total-rate-of-return swap with qualifying reference obligation | 5 | 5 |
| 4 | total-rate-of-return swap with non-qualifying reference obligation | 10 | 10 |

16. For the purposes of complying with BBR Rule 5.15, the credit equivalent amount of non-market related items is calculated by the following procedures:
- (a) Unless the item is a default fund guarantee in relation to clearing through a central counterparty, the credit equivalent amount of a non-market-related off-balance-sheet item is calculated by multiplying the contracted amount of the item by the relevant credit conversion factor in table E3.
 - (b) If the Bank arranges a repurchase or reverse repurchase or a securities lending or borrowing transaction between a customer and a third party and provides a guarantee to the customer that the third party will perform its obligations, the Bank must calculate the credit risk capital requirement as if it were the principal.

Table E3 Credit conversion factors for non-market-related off-balance-sheet items

| Column 1 Item | Column 2 Type of item | Column 3 Credit conversion |
|------------------|---|-------------------------------|
| 1 | direct credit substitutes | 100 |
| 2 | performance-related contingencies | 50 |
| 3 | trade-related contingencies | 20 |
| 4 | lending of securities, or lodging securities as | 100 |
| 5 | assets sold with recourse | 100 |

| | | |
|----|--|-----|
| 6 | forward asset purchases | 100 |
| 7 | partly paid shares and securities | 100 |
| 8 | placements of forward deposits | 100 |
| 9 | note issuance and underwriting facilities | 50 |
| 10 | commitments with certain drawdown | 100 |
| 11 | commitments with uncertain drawdowns (for example, undrawn formal standby facilities and credit lines) with an original maturity of 1 year or less | 20 |
| 12 | commitments with uncertain drawdowns with an original maturity of more than 1 year | 50 |
| 13 | commitments that can be unconditionally cancelled at any time without notice (for example, undrawn overdraft and credit card facilities for which any outstanding unused balance is subject to review at | 0 |

(c) For item 4 of table E3, an exposure from lending securities, or lodging securities as collateral, may be treated as a collateralised transaction.

17. An illustration of the operation of BBR rule 5.17 is as follows: An irrevocable commitment with an original maturity of 6 months with an associated facility that has a nine-month term is taken to have an original maturity of 15 months.

F. Credit Risk Mitigation (CRM)

1. A Bank is able to obtain capital relief by using Credit Risk Mitigation (CRM) techniques. CRM techniques must be viewed as complementary to, rather than a replacement for, thorough credit risk assessment.
2. According to BBR rule 5.6 (2), if a claim or asset to which a risk-weight must be applied is secured by eligible financial collateral or guarantee (or there is a mortgage indemnity insurance, or a credit derivative instrument or netting agreement) this Part on credit risk mitigation may be used to reduce the credit risk capital requirement of the Bank.
3. Available CRM techniques include:
 - (a) accepting collateral, standby letters of credit and guarantees;
 - (b) using credit derivatives or other derivative instruments;
 - (c) using netting agreements; and
 - (d) purchasing insurance.
4. CRM using collateral and guarantees is usually dealt with at the time credit is granted. In contrast, credit derivatives and netting agreements are often used after the credit is granted or used to manage the Bank's overall portfolio risk.
5. A Bank should not rely excessively on collateral or guarantees to mitigate credit risk. While collateral or guarantees may provide secondary protection to the Bank if the counterparty

defaults, the primary consideration for credit approval should be the counterparty's repayment ability.

6. In choosing a CRM technique, the Bank must consider:
 - (a) the Bank's knowledge of, and experience in using, the technique;
 - (b) the cost-effectiveness of the technique;
 - (c) the type and financial strength of the counterparties or issuers;
 - (d) the correlation of the technique with the underlying credits;
 - (e) the availability, liquidity and realisability of the technique;
 - (f) the extent to which documents in common use (for example, the ISDA Master Agreement) can be adopted; and
 - (g) the degree of recognition of the technique by financial services regulators.
7. In respect of employing a CRM technique:
 - (a) a Bank accepting eligible financial collateral for CRM, must ensure that such collateral can be enforced and any necessary legal procedures have been followed.
 - (b) A Bank should consider whether independent legal opinion should be sought on the enforceability of documents. The documents should be ready before the Bank enters into a contractual obligation or releases funds.
8. If a CRM technique (other than a guarantee) and the exposure covered by it are denominated in different currencies (that is, there is a currency mismatch between them), the haircut that applies is:
 - (a) if the mismatched currencies are both pegged to the same reference currency, or 1 of them is pegged to the other—0; or
 - (b) in any other case—8%.
9. If there is a currency mismatch between a guarantee and the exposure covered by it, the amount of the exposure that is covered must be reduced using the following formula:

$$G \times (1 - H_{fx})$$

where:

G is the nominal amount of the guarantee.

H_{fx} is the haircut appropriate for the currency mismatch between the credit protection and the underlying obligation, as follows:

- (a) if the guarantee is revalued every 10 business days—8%;
 - (b) if the guarantee is revalued at any longer interval—the factor H calculated using the formula in sub-rule (5); or
 - (c) if the mismatched currencies are both pegged to the same reference currency, or if 1 of them is pegged to the other—0.
10. If the guarantee is revalued at intervals longer than 10 business days, the 8% haircut must

be scaled up using the following formula:

$$H = 8\sqrt{\frac{N+9}{10}}$$

where:

H is the scaled-up haircut.

N is the number of business days between the revaluations.

11. In respect of cash collateral, the recourse may be in the form of a contractual right of set-off on credit balances. A common-law right of set-off is, on its own, insufficient to satisfy this rule.
12. While using collateral as a CRM technique, the Bank should have clear and robust procedures for the liquidation of collateral to ensure that the legal conditions for declaring default and liquidating the collateral are observed. The Bank should also consider whether, in the event of default, notice to the party that lodged the collateral would be needed before the Bank could have recourse to it.
13. In respect of using collateral as a CRM technique, under BBR rule 5.17, Collateral accepted by a Bank must be valued at its net realisable value, taking into account prevailing market conditions. That value must be monitored at appropriate intervals, and the collateral must be regularly revalued.
14. The net realisable value of some collateral may be readily available (for example, collateral that is marked-to-market regularly). Other collateral may be more difficult to value and may require knowledge and consideration of prevailing market conditions. The method and frequency of monitoring and revaluation depend on the nature and condition of the collateral. For example, securities accepted as collateral are usually marked to market daily.

G. Use of Netting Agreements for Credit Risk Mitigation (CRM)

1. In respect of using a netting agreement to obtain capital relief under BBR rule 5.20, a Bank must follow the guidance and criteria specified in the following paragraphs of this section.
2. The following kinds of transactions may be netted:
 - (a) on-balance-sheet loans and deposits, but only if:
 - (i) the Bank is able to determine at all times the assets and liabilities that are subject to netting under the agreement; and
 - (ii) the deposits satisfy the criteria for eligible financial collateral;
 - (b) securities financing transactions;
 - (c) over the counter derivative transactions.
3. Securities financing transactions are not included as part of market related transactions. A netting agreement may include the netting of over the counter derivative transactions:
 - (a) across both the banking and trading books of a Bank (if the netted transactions

- satisfy the criteria in this section); and
- (b) across different market-related products to the extent that they are recognised as market-related transactions.

Criteria for eligible netting agreements

4. To be an eligible netting agreement, a netting agreement:
 - (a) must be in writing;
 - (b) must create a single obligation covering all transactions and collateral included in the agreement and giving the Bank the following rights:
 - (i) the right to terminate and close-out, in a timely way, all the transactions included in the netting agreement;
 - (ii) the right to net the gains and losses on those transactions (including the value of any collateral) so that the Bank either has a claim to receive, or an obligation to pay, only the net sum of the close-out values of the individual transactions;
 - (iii) the right to liquidate or set-off collateral if either party to the agreement fails to meet its obligations because of default, liquidation, bankruptcy or other similar circumstances;
 - (c) must not be subject to a walkaway clause; and
 - (d) must be supported by a written and reasoned legal opinion that complies with norms and criteria in this section.
 - (e) For forward contracts, swaps, options and similar derivative transactions, the right to net gains and losses will include the positive and negative mark-to-market values of the individual transactions.
5. A Bank must not recognise a netting agreement as an eligible netting agreement if it becomes aware that a financial services regulator of the counterparty is not satisfied that the agreement is enforceable under the laws of the regulator's jurisdiction. This rule applies regardless of any legal opinion obtained by the Bank. A netting agreement is not an eligible netting agreement if there is doubt about its enforceability.
6. A Bank must ensure that a netted transaction is covered by an appropriate legal opinion. In calculating the net sum due to or from a counterparty, the Bank must exclude netted transactions for which it has not obtained a satisfactory legal opinion applicable in the relevant jurisdiction. An excluded transaction must be reported on a gross basis.
7. For an eligible netting agreement which meets the requirements specified in paragraph 4 of this section, the legal opinion must conclude that, in the event of default, liquidation, bankruptcy or other similar circumstances of a party to the netting agreement, the Bank's claims and obligations are limited to the net sum calculated under the netting agreement in accordance with the applicable law.
8. The AFSA expects the legal opinion to deal with the issue of which of the following laws applies to the netting:
 - (a) the law of the jurisdiction in which the counterparty is incorporated or formed (or, in

- the case of an individual, resides)
- (b) if an overseas branch of the counterparty is involved—the law of the jurisdiction in which the branch is located
 - (c) the law that governs the individual transactions
 - (d) the law that governs any contract or agreement necessary to give effect to the netting.
9. In particular, the legal opinion must conclude that, in the event of insolvency or external administration of a counterparty, a liquidator or administrator of the counterparty will not be able to claim a gross amount from the bank while only being liable to pay a dividend in insolvency to the Bank (as separate money flows).
10. In some countries, there are provisions for the authorities to appoint an administrator to a troubled bank. Under statutory provisions applying in those countries, the appointment of an administrator might not constitute a ground for triggering a netting agreement. Such provisions do not prevent the recognition of an affected netting agreement if the agreement can still take effect if the bank under administration does not meet its obligations as they fall due.

Requirements—legal opinion

11. Before a Bank uses a legal opinion to support a netting agreement, the Bank:
- (a) must ensure that the opinion is not subject to assumptions or qualifications that are unduly restrictive;
 - (b) must review the assumptions about the enforceability of the agreement and must ensure that they are specific, factual and adequately explained in the opinion; and
 - (c) must review and assess the assumptions, qualifications and omissions in the opinion to determine whether they give rise to any doubt about the enforceability of the agreement.
12. The Bank must have procedures to monitor legal developments and to ensure that its netting agreements continue to be enforceable. The Bank must update the legal opinions about the agreements, as necessary, to ensure that the agreements continue to be eligible.
13. The Bank may rely on a legal opinion obtained on a group basis by another member of the Financial Group of which it is a member if the Bank and the other member have satisfied themselves that the opinion covers a netting agreement to which the Bank is a counterparty. The Bank must report a transaction on a gross basis if there is any doubt about, or any subsequent legal development affects, the enforceability of the agreement.
14. A Bank may rely on a general legal opinion about the enforceability of netting agreements in a particular jurisdiction if the Bank is satisfied that the type of netting agreement is covered by the opinion. The Bank must satisfy itself that the netting agreement with a counterparty and the general legal opinion are applicable to each transaction and product type undertaken with the counterparty, and in all jurisdictions where those transactions are originated.

Netting of positions across books

15. A Bank may net positions across its banking and trading books only if:
 - (a) the netted transactions are marked-to-market daily; and
 - (b) any collateral used in the transactions satisfies the criteria for eligible financial collateral in the banking book.

Monitoring and reporting of netting agreements

16. If directed by the AFSA, a Bank must demonstrate that its netting policy is consistently implemented, and that its netting agreements continue to be enforceable. The Bank must keep adequate records to support its use of netting agreements and to be able to report netted transactions on both gross and net bases. The Bank must monitor its netting agreements and must report and manage:
 - (a) roll-off risks;
 - (b) exposures on a net basis; and
 - (c) termination risks;for all the transactions included in a netting agreement.

Collateral and guarantees in netting

17. A Bank may take collateral and guarantees into account in calculating the risk-weight to be applied to the net sum under a netting agreement. The Bank may assign a risk-weight based on collateral or a guarantee only if:
 - (a) the collateral or guarantee has been accepted or is otherwise subject to an enforceable agreement; and
 - (b) the collateral or guarantee is available for all the individual transactions that make up the net sum of exposures calculated.
18. The Bank must ensure that provisions for applying collateral or guarantees to netted exposures under a netting agreement comply with the requirements for eligible financial collateral and guarantees in these rules.

H. Securitisation and Re-securitisation

1. In respect of obtaining capital relief under BBR rule 5.21 for securitisation and re-securitisation arrangements, a Bank must follow the guidance and criteria specified in the following paragraphs of this section.
2. A Bank's securitisation exposures may arise from the Bank being (or acting in the capacity of) party to a securitisation. Securitisation, in relation to a Bank, is the process of pooling various kinds of contractual debt or non-debt assets that generate receivables and selling their related cash flows to third party investors as securities. In a securitisation, payments to the investors depend on the performance of the underlying pool of assets, rather than on an obligation of the originator of the assets.
3. The underlying pool in a securitisation may include 1 or more exposures. The securities usually take the form of bonds, notes, pass-through securities, collateralised debt obligations or even equity securities that are structured into different classes (tranches) with different payment priorities, degrees of credit risk and return characteristics.

4. A securitisation (whether traditional or synthetic) must have at least 2 tranches. Re-securitisation is a securitisation in which at least one of the underlying assets is itself a securitisation or another re-securitisation. Exposures arising from re-tranching are not re-securitisation exposures if, after the re-tranching, the exposures act like direct tranching of a pool with no securitised assets. This means that the cash flows to and from the Bank as originator could be replicated in all circumstances and conditions by an exposure to the securitisation of a pool of assets that contains no securitisation exposures.
5. A reference in this Part to securitisation includes re-securitisation.

Securitisation structures

6. A securitisation may be a traditional securitisation or a synthetic securitisation.
7. In a traditional securitisation, title to the underlying assets is transferred to an SPE, and the cash flows from the underlying pool of assets are used to service at least 2 tranches. A traditional securitisation generally assumes the movement of assets off the originator's balance-sheet.
8. A synthetic securitisation is a securitisation with at least 2 tranches that reflect different degrees of credit risk where the credit risk of the underlying pool of exposures is transferred, in whole or in part, through the use of credit derivatives or guarantees. In a synthetic securitisation, the third party to whom the risk is transferred need not be an SPE.
9. The AFSA would treat as securitisations other structures designed to finance assets that are legally transferred to a scheme by packaging them into tradeable securities secured on the assets and serviced from their related cash flows. Funded credit derivatives would include credit-linked notes, and unfunded credit derivatives would include credit default swaps.

Securitisation exposures

10. A securitisation exposure of a Bank is a risk position (whether on-balance-sheet or off-balance-sheet) held by the Bank arising from a securitisation. A few examples of sources are
 - (a) investments in a securitisation
 - (b) asset-backed securities (including mortgage-backed securities)
 - (c) credit enhancements and liquidity facilities
 - (d) interest rate swaps and currency swaps
 - (e) credit derivatives
 - (f) corporate bonds, equity securities and private equity investments
 - (g) reserve accounts (such as cash collateral accounts) recorded as assets by a Bank that is, or that acts in the capacity of, an originator.

Parties to securitisation

11. For purposes of calculating a Bank's capital requirement, the parties to a securitisation are the originator, the issuer and the investors. Depending on the securitisation structure, a Bank may be (or act in the capacity of) originator, issuer, investor or any 1 or more of the following:

- (a) a manager of the securitisation;
 - (b) a sponsor of the securitisation;
 - (c) an adviser to the securitisation;
 - (d) an entity to place the securities with investors;
 - (e) a provider of credit enhancement;
 - (f) a provider of a liquidity facility;
 - (g) a servicer to carry out certain activities usually carried out by the manager of the securitisation in relation to the underlying assets.
12. A Bank may act as sponsor of a securitisation or similar programme involving assets of a customer. As sponsor, the Bank earns fees to manage or advise on the programme, place the securities with investors, provide credit enhancement or provide a liquidity facility.
13. A Bank is an originator of a securitisation if:
- (a) the Bank originates, directly or indirectly, underlying assets included in the securitisation; or
 - (b) the Bank serves as sponsor of an asset-backed commercial paper programme (or similar programme) that acquires exposures from third parties.
14. In relation to a programme that acquires exposures from third parties, a Bank would generally be considered a sponsor (and, therefore, an originator) if the Bank, in fact or in substance, manages or advises the programme, places securities into the market, provides a liquidity facility or provides a credit enhancement. Acts of management would include handling related taxes, managing escrow accounts, remitting payments and obtaining insurance.

Securitisation process

15. The process of a securitisation is:
- (a) first, the origination of assets or credit risk;
 - (b) second, the transfer of the assets or credit risk; and
 - (c) third, the issuance of securities to investors.
16. In a securitisation, the cash flow from the pool is used to make payments on obligations to at least 2 tranches or classes of investors (typically holders of debt securities), with each tranche or class being entitled to receive payments from the pool before or after another tranche or class of investors, so that the tranches or classes bear different levels of credit risk.

Special purpose entities

17. A special purpose entity (or SPE) is a legal entity that is created solely for a particular financial transaction or series of transactions. The SPE must not engage in any other business. In a securitisation, an SPE typically purchases and holds the assets for the purposes of the securitisation. The SPE's payment for the pool is typically funded by debt, including through the issue of securities by the SPE.

18. The purpose of the SPE to facilitate the securitisation, and the extent of a Bank's involvement in the SPE, should be clear. The SPE's activities should be limited to those necessary to accomplish that purpose. Most securitisations need the creation of an SPE to:
 - (a) hold the assets transferred by the originator;
 - (b) issue securities based on the assets; and
 - (c) act as intermediary between the originator and the investors.
19. A synthetic securitisation may or may not require an SPE. An SPE may take the form of a limited partnership, limited liability company, corporation, trust or collective investment fund. An SPE may also be established under a special law that allows the creation of SPEs. By its nature, an SPE is a legal shell with only the specific assets transferred by the originator (that is, the SPE has no other property in which any other party could have an interest).
20. An SPE must be bankruptcy-remote from the originator. It must not be consolidated with the originator for tax, accounting or legal purposes. Any undertaking given by a Bank to an SPV must be stated clearly in the transaction documents for the securitization.

Operational requirements for using external ratings

21. Depending on the securitisation structure, 1 or more ECRA's may be involved in rating the securitisation. A Bank must use only ECRA's that have a demonstrated expertise in assessing securitisations. Expertise might be evidenced by strong market acceptance.
22. For the purposes of risk-weighting, an ECRA must take into account the total amount of the Bank's exposure on all payments owed to it. For example, if the Bank is owed principal and interest, the ECRA's assessment must have taken into account timely repayment of both principal and interest.
23. A credit rating assigned by an ECRA must be publicly available. If the rating assigned to a facility is not publicly available, the facility must be treated as unrated. The loss and cash flow analysis for the securitisation, and the sensitivity of the rating to changes in the assumptions on which it was made, must also be publicly available. Information required under this section should be published in an accessible form for free. Information that is made available only to the parties to a securitisation is not considered publicly available.
24. A credit rating assigned by an ECRA must be applied consistently across all tranches of a securitisation. A Bank must not use an ECRA's credit rating for 1 or more tranches and another ECRA's rating for other tranches within the same securitisation structure (whether or not those other tranches are rated by the first ECRA).
25. Under rules in Chapter 5 of BBR, use of ratings from ECRA should be as follows:
 - (a) if there are 2 different assessments by ECRA's, the higher risk-weight must be applied; and
 - (b) if there are 3 or more different assessments by ECRA's, the assessments corresponding to the 2 lowest risk-weights should be referred to and the higher of those 2 risk-weights must be applied.

Calculation of risk-weighted assets

26. A Bank would be taken to maintain effective control over transferred credit risk exposures if:
- (a) the Bank is able to repurchase from the transferee the transferred exposures in order to realise their benefits; or
 - (b) the Bank is obligated to retain the risk of the exposures.
27. A Bank that is an originator may act as servicer of the underlying assets, and the Bank's retention of servicing rights would not necessarily constitute indirect control over the assets.

Operational requirements for synthetic securitisation

28. In calculating its risk-weighted assets, a Bank that is an originator or sponsor of a synthetic securitisation may exclude securitised exposures only if:
- (a) substantially all credit risk associated with the securitised exposures have been transferred;
 - (b) the CRM technique used to obtain capital relief is eligible financial collateral, an eligible credit derivative, a guarantee or an eligible netting agreement;
 - (c) the securitisation does not include any terms or conditions that limit the amount of credit risk transferred, such as clauses that:
 - (i) materially limit the credit protection or credit risk transference (including clauses that provide significant materiality thresholds below which credit protection is not to be triggered even if a credit event occurs and clauses that allow termination of the protection because of deterioration in the credit quality of the underlying exposures);
 - (ii) require the Bank to alter the underlying exposures to improve the pool's weighted average credit quality;
 - (iii) increase the Bank's cost of credit protection to the Bank in response to a deterioration in the credit quality of the underlying exposures;
 - (iv) allow increases in a retained first loss position or credit enhancement; or
 - (v) increase the yield payable to parties other than the Bank (for example, payments to investors and providers of credit enhancement) in response to a deterioration in the credit quality of the underlying exposures;
 - (d) a qualified legal counsel (whether external or in-house) has given a written reasoned opinion that paragraph (c) is satisfied and that the contract for the transfer of the credit risk is enforceable in all relevant jurisdictions;
 - (e) any clean-up call complies with the rules in this section; and
 - (f) if the credit risk associated with the securitised exposures is transferred to an SPE:
 - (i) the securities issued by the SPE are not obligations of the Bank;
 - (ii) the holders of the beneficial interests in the SPE have the right to pledge or

- exchange those interests without restriction; and
- (iii) the Bank holds no more than 20% of the aggregate original amount of all securities issued by the SPE, unless:
 - (a) the holdings consist entirely of securities that are rated AAA to AA- (long term) or A-1 (short term); and
 - (b) all transactions with the SPE are at arm's length and on market terms and conditions.

Requirements for clean-up calls—traditional and synthetic securitisations

29. A clean-up call is an option that permits the securitisation exposures to be called before all of the underlying exposures or securitisation exposures have been repaid. There is no capital requirement for a securitisation that includes a clean-up call, if:
- (a) the exercise of the clean-up call is at the discretion of the originator or sponsor;
 - (b) the clean-up call is not structured:
 - (i) to avoid allocating losses to credit enhancements or positions held by investors; or
 - (ii) to provide credit enhancement; and
 - (c) the clean-up call may only be exercised:
 - (i) for a traditional securitisation—when 10% or less of the original underlying pool of assets, or securities issued, remains; or
 - (ii) for a synthetic securitisation—when 10% or less of the original reference portfolio value remains.
30. For a traditional securitisation, a clean-up call might be carried out by repurchasing the remaining securitisation exposures after the balance of the pool has, or the outstanding securities have, fallen below a specified level. For a synthetic securitisation, a clean-up call might take the form of a clause that extinguishes the credit protection.
31. In the case of a securitisation that includes a clean-up call that does not comply with all of the operational requirements specified in this section, the originator or sponsor must calculate a capital requirement for the securitisation.
32. If the clean-up call is exercised and found to serve as a credit enhancement, the exercise of the call must be considered as implicit support and treated in accordance with the relevant rules in this section addressing implicit support. For a traditional securitisation, the underlying assets must be treated as if they were not securitised. No gain-on-sale of those assets may be recognised.
33. For a synthetic securitisation, a Bank that purchases protection must hold capital against the entire amount of the securitised exposures as if they did not benefit from any credit protection.

Treatment of most senior exposure

34. If the most senior exposure in a securitisation is unrated and the composition of the underlying pool is known at all times, a Bank that holds or guarantees such an exposure may determine the risk weight by applying a “look-through” treatment. The Bank need not consider any interest rate or currency swap when determining whether an exposure is the most senior in a securitisation. In the look-through treatment, the unrated most senior position receives, subject to the AFSA’s review, the average risk-weight of the underlying exposures.

Treatment of second loss position in ABCP programmes

35. An unrated securitisation exposure arising from a second loss position (or better position) in an ABCP programme is subject to a risk-weight of the higher of:
- (a) 100%; and
 - (b) the highest risk-weight applicable to an underlying exposure covered by the facility.

If it satisfies the following conditions:

- (a) the exposure is economically in a second loss position or better and the first loss position provides significant credit protection to the second loss position;
- (b) the associated credit risk is the equivalent of investment grade or better; and
- (c) the Bank holding the exposure does not retain or provide the first loss position.

Treatment of overlapping exposures

36. Overlapping exposures may result if a Bank provides 2 or more facilities (such as liquidity facilities and credit enhancements) in relation to a securitisation that can be drawn under various conditions with different triggers. In effect, the Bank provides duplicate cover to the underlying exposures. For the purposes of calculating its capital requirements, a Bank’s exposure (exposure A) overlaps another exposure (exposure B) if in all circumstances the Bank will preclude any loss to it on exposure B by fulfilling its obligations with respect to exposure A.
37. If a Bank has 2 or more overlapping exposures to a securitisation, the Bank must, to the extent that the exposures overlap, include in its calculation of risk-weighted assets only the exposure, or portion of the exposure, producing the higher or highest risk-weighted assets amount. If the overlapping exposures are subject to different credit conversion factors, the Bank must apply the higher or highest factor to the exposures.
38. An example of the treatment of an overlapping exposure is given here:

If, under exposure A, a Bank provides full credit support to some notes while simultaneously holding as exposure B a portion of those notes, its full credit support obligation precludes any loss from its exposure from its holding of the notes. If the Bank can satisfactorily show that fulfilling its obligations with respect to exposure A will preclude a loss from its exposure B under any circumstance, there are overlapping exposures between the 2 exposures and the Bank need not calculate risk-weighted assets for exposure B.

Liquidity facility and eligible liquidity facility

39. A liquidity facility, for a securitisation, is a commitment from the facility provider to provide liquid funds if:
- (a) funds are needed to meet contractual payments to investors; and
 - (b) there is a delay between the date of collection of the related cash flows and the date on which the payment to the investors is due.
40. Liquidity facilities are required to be built into securitisation structures to address and manage timing mismatches between cash collections from the underlying assets and the scheduled payments to the investors in certain situations.
41. To be an eligible liquidity facility:
- (a) the commitment to provide liquid funds must be in writing and must clearly state the circumstances under which the facility may be availed of and the limits for any drawdown;
 - (b) drawdowns must be limited to the amount that is likely to be repaid fully from the liquidation of the underlying exposures and any seller-provided credit enhancements;
 - (c) the facility must not cover any losses incurred in the underlying pool of exposures before a drawdown;
 - (d) the facility must not be structured in such a way that drawdowns are certain;
 - (e) the facility must be subject to a condition that precludes it from being availed of to cover credit risk exposures that are past due for more than 90 days;
 - (f) if the exposures that the facility is required to fund are ECRA-rated securities, the facility can only be used to fund securities that are rated, by an ECRA, investment grade at the time of funding;
 - (g) the facility cannot be availed of after all applicable credit enhancements (whether transaction-specific or programme-wide enhancements), from which the liquidity would benefit, have been exhausted; and
 - (h) the repayment of drawdowns on the facility (that is, assets acquired under a purchase agreement or loans made under a lending agreement):
 - (i) must not be subordinated to any interests of any note holder in the programme (such as an ABCP programme); and
 - (ii) must not be subject to deferral or waiver.
42. If a Bank that is an originator or sponsor of a securitisation also provides a liquidity facility that is not an eligible servicer cash advance facility to the securitisation, the risk-weight of the exposure from the facility must be calculated by:
- (a) applying:
 - (i) a 50% credit conversion factor (regardless of the maturity of the facility) if the facility is an eligible liquidity facility; or
 - (ii) a 100% credit conversion factor if the facility is not an eligible liquidity

facility; and

- (b) multiplying the resulting credit equivalent amount by the applicable risk-weight in table 5H in Chapter 5 of the BBR, depending on the credit rating of the Bank (or by 100% if the Bank is unrated).

However, if an ECRA rating of the facility is itself used for risk-weighting the facility, a 100% credit conversion factor must be applied.

Treatment of unrated eligible liquidity facility

- 43. A Bank providing an eligible liquidity facility that is unrated, or that is treated as unrated, must apply to the resulting securitisation exposure the highest risk weight that would be applied to an underlying exposure covered by the facility. An eligible liquidity facility must be treated as unrated, when the facility's rating is not publicly available or when the facility is provided to a particular securitisation exposure (such as a particular tranche) and the resulting mitigation is reflected in the ECRA rating of the securitisation.

Treatment of eligible servicer cash advance facility

- 44. A servicer cash advance facility is a liquidity facility under which a servicer to a securitisation advances cash to ensure timely payment to investors. A zero percent risk-weight may be applied to an undrawn servicer cash advance facility only if the facility is an eligible servicer cash advance facility. If the servicer cash advance facility is not an eligible servicer cash advance facility, the facility must be treated according to the paragraph 42 above of this section.
- 45. To be an eligible servicer cash advance facility:
 - (a) the servicer must be entitled to full reimbursement;
 - (b) the servicer's right to reimbursement must be senior to other claims on cash flows from the underlying pool;
 - (c) the facility is itself an eligible liquidity facility; and
 - (d) the facility may be cancelled at any time, without any condition and without any need to give advance notice.

Effect of CRM techniques

- 46. If a CRM technique is provided to specific underlying exposures or the entire pool of exposures by an eligible protection provider and the credit risk mitigation is reflected in the ECRA rating assigned to a securitisation exposure, the risk-weight based on that rating must be used. To avoid double-counting, no additional capital recognition is permitted.
- 47. Eligible protection provider means:
 - (a) a central counterparty;
 - (b) the Republic of Kazakhstan or any other sovereign;
 - (c) an entity that is treated as a sovereign in accordance with the Basel Accords;
 - (d) a public sector enterprise or other entity that has:
 - (i) a risk-weight of 20% or lower; and

- (ii) a lower risk-weight than the party to whom the protection is provided; or
 - (e) a parent entity, subsidiary or affiliate of a party to whom the protection is provided that has a lower risk-weight than the party.
48. If the provider of the CRM technique is not an eligible protection provider, a Bank must treat the exposure as unrated. A Bank must not use an ECRA rating if the assessment by the ECRA is based partly on unfunded support provided by the Bank itself.
49. If a Bank buys ABCP for which it provides an unfunded securitisation exposure (such as a liquidity facility or credit enhancement) to the ABCP programme and the exposure plays a role in determining the credit assessment on the ABCP, the Bank must treat the ABCP as if it were unrated.
50. If the CRM technique is provided solely to protect a particular securitisation exposure (for example, if the technique is provided to a tranche of the securitisation) and the protection is reflected in the ECRA rating of the securitisation, a Bank must treat the exposure as unrated. This applies to a securitisation exposure whether it is in the Bank's trading book or banking book. The capital requirement for a securitisation exposure in the trading book must not be less than the amount that would be required if the exposure were in the Bank's banking book.
51. For the treatment of an exposure arising from a liquidity facility of the kind described in paragraph (50) above of this section, please follow the method set out in paragraph 43 of this section relating to treatment of unrated eligible liquidity facility.

Early amortisation provisions

52. An early amortisation provision in a securitisation is a mechanism that, if triggered, allows investors to be paid out before the originally stated maturity of the securities issued. An early amortisation provision may be controlled or non-controlled. Triggers employed could include economic triggers which are events that are economic in nature by reference to the financial performance of the transferred assets.
53. An early amortisation provision is a controlled early amortisation provision if:
- (a) the Bank concerned has appropriate capital and liquidity plans to ensure that it has sufficient capital and liquidity if the provision is triggered; and
 - (b) throughout the life of the securitisation (including the amortisation period) there is the same pro-rata sharing of interest, principal, expenses, losses and recoveries based on the Bank's and investors' relative shares of the receivables outstanding at the beginning of each month.

An early amortisation provision that fails to meet either requirement in this paragraph is a ***non-controlled early amortisation provision***.

Operational requirements for securitisations with early amortisation provisions

54. A securitisation involving revolving exposures that is originated or sponsored by a Bank is taken to fail the operational requirements set out in rule 5.21 (6) for securitisations or

operational requirements for synthetic securitisations provided in paragraph 28 of this chapter, if the securitisation has an early amortisation provision (or a similar provision) that, if triggered, will:

- (a) subordinate the Bank's senior or equal interest in the underlying revolving credit facilities to the interest of other investors;
 - (b) subordinate the Bank's subordinated interest to an even greater degree relative to the interests of other parties; or
 - (c) increase in any other way the Bank's exposure to losses associated with the underlying revolving credit facilities.
55. A Bank that is the originator or sponsor of a securitisation that does not involve revolving exposures may exclude the underlying exposures from the calculation of risk-weighted assets if:
- (a) the securitisation is a replenishment structure; and
 - (b) the securitisation has an early amortisation provision that ends the ability of the Bank to add new exposures.
56. A Bank that is the originator or sponsor of a securitisation involving revolving exposures may exclude the underlying exposures from the calculation of risk-weighted assets if:
- (a) the securitisation meets the relevant operational requirements referred in paragraph 54 above; and
 - (b) the securitisation has an early amortisation provision of the kind described in any of the following subparagraphs:
 - (i) the securitisation relates to revolving credit facilities that themselves have early amortisation features that mimic term structures (that is, where the risk on the underlying exposures does not return to the Bank) and the early amortisation provision in the securitisation, if triggered, would not effectively result in subordination of the Bank's interest;
 - (ii) the Bank securitises 1 or more revolving credit facilities and investors remain fully exposed to future drawdowns by borrowers even after an early amortisation event has occurred;
 - (iii) the early amortisation provision is solely triggered by events not related to the performance of the securitised assets or of the Bank (such as material changes in tax laws or regulations).
57. The Bank must still hold regulatory capital against any securitisation exposures that it retains in relation to the securitisation.

Capital charges for securitisation involving revolving exposures with early amortisation

58. A Bank that is an originator or sponsor of a securitisation involving revolving exposures that has an early amortisation provision must calculate an additional capital charge to cover the possibility that the Bank's credit risk exposure may increase if the provision is triggered. The charge must be calculated for the total exposure related to the securitisation (that is, for

both drawn and undrawn balances related to the securitised exposures). If the underlying pool of a securitisation is made up of both revolving exposures and term exposures, the Bank must apply the amortisation treatment only to the portion of the underlying pool made up of those revolving exposures.

Capital charges for securitisation involving revolving exposures with controlled early amortisation

59. A Bank that is an originator or sponsor of a securitisation involving revolving exposures that has a controlled early amortisation provision must calculate a capital charge for the investors' interest (that is, against both drawn and undrawn balances related to the securitised exposures). The capital charge is the product of:

- (a) the investors' interest;
- (b) the appropriate credit conversion factor in accordance with table H1 in this section, depending on whether the securitised exposures are uncommitted retail credit lines or not; and
- (c) the risk weight for the kind of underlying exposures (as if those exposures had not been securitised).

60. For uncommitted retail credit lines (such as credit card receivables) in securitisations that have controlled early amortisation provisions that can be triggered by the excess spread falling to a specified level, a Bank must compare the three-month average excess spread to the point at which the bank is required to trap excess spread (the excess spread trapping point) as economically required by the structure. If a securitisation does not require the trapping of excess spread, the excess spread trapping point for the securitisation is 4.5 percentage points (450 basis points) more than the excess spread at which early amortisation is triggered.

61. A Bank that is the originator or sponsor of a securitisation must divide the securitisation's excess spread by the securitisation's excess spread trapping point to determine the appropriate segments and apply the corresponding credit conversion factor for uncommitted credit lines in accordance with table 5 I.

Table H1 Credit conversion factors (CCFs) for securitisation involving revolving exposures with controlled early amortisation

| Column 1 Item | Column 2 Segments | Column 3 CCFs for uncommitted credit lines % | Column 4 CCFs for committed credit lines |
|---------------|------------------------------------|--|--|
| | <i>Retail credit lines</i> | | |
| 1 | 133.33% of trapping point or more | 0 | 90 |
| 2 | <133.33% to 100% of trapping point | 1 | 90 |
| 3 | <100% to 75% of trapping point | 2 | 90 |
| 4 | <75% to 50% of trapping point | 10 | 90 |
| 5 | <50% to 25% of trapping point | 20 | 90 |

| | | | |
|---|--------------------------------|----|----|
| 6 | <25% of trapping point | 40 | 90 |
| 7 | Non-retail credit lines | 90 | 90 |

62. The capital charge to be applied for securitisations involving revolving exposures with controlled early amortisation is the higher of the capital requirement for retained securitisation exposures in the securitisation and the capital requirement that would apply if the exposures had not been securitised. The Bank must also deduct from its CET1 the amount of any gain-on-sale and credit-enhancing interest-only strips arising from the securitisation.

Capital charges for Securitisation involving revolving exposures with non-controlled early amortisation

63. A Bank that is an originator or sponsor of a securitisation involving revolving exposures that has a non-controlled early amortisation provision must calculate a capital charge for the investors' interest (that is, against both drawn and undrawn balances related to the securitised exposures). The capital charge is the product of:
- (a) the investors' interest;
 - (b) the appropriate credit conversion factor in accordance with table H1 in this section, depending on whether the securitised exposures are uncommitted retail credit lines or not; and
 - (c) the risk weight for the kind of underlying exposures (as if those exposures had not been securitised).
64. For uncommitted retail credit lines (such as credit card receivables) in securitisations that have non-controlled early amortisation provisions that can be triggered by the excess spread falling to a specified level, a Bank must compare the three-month average excess spread to the point at which the bank is required to trap excess spread (the excess spread trapping point) as economically required by the structure. If a securitisation does not require the trapping of excess spread, the excess spread trapping point for the securitisation is 4.5 percentage points more than the excess spread at which early amortisation is triggered.
65. A Bank that is the originator or sponsor of a securitisation must divide the securitisation's excess spread by the securitisation's excess spread trapping point to determine the appropriate segments and apply the corresponding credit conversion factor for uncommitted credit lines in accordance with table H2.

Table H2 Credit conversion factors (CCFs) for securitisations involving revolving exposures with non-controlled early amortisation

| Column 1 Item | column 2 Segments | Column 3 CCFs for uncommitted | Column 4 CCFs for committed credit lines % |
|---------------|------------------------------------|-------------------------------|--|
| | Retail credit lines | | |
| 1 | 133.33% of trapping point or | 0 | 100 |
| 2 | <133.33% to 100% of trapping point | 5 | 100 |

| | | | |
|---|---------------------------------------|-----|-----|
| 3 | <100% to 75% of trapping point | 15 | 100 |
| 4 | <75% to 50% trapping point | 50 | 100 |
| 5 | <50% of trapping point | 100 | 100 |
| 6 | <i>Non-retail credit lines</i> | 100 | 100 |

66. The capital charge to be applied under this subdivision is the higher of the capital requirement for retained securitisation exposures in the securitisation and the capital requirement that would apply if the exposures had not been securitised. The Bank must also deduct from its CET1 the amount of any gain-on-sale and credit-enhancing interest-only strips arising from the securitisation.

I. Provisioning requirements

Review of provisions made

1. A review of a Bank's write-offs can help identify whether the Bank's provisioning policy results in over-provisioning or under-provisioning.
2. The AFSA regularly assesses trends and concentrations in risk and risk build-up across financial entities in relation to problem assets. In making the assessment, the authority takes into account any observed concentration in the CRM techniques used by Banks and the potential effect on the efficacy of those techniques in reducing loss. The authority would consider the adequacy of provisions for a Bank (and the industry in general) in the light of the assessment.
3. The AFSA might seek the opinion of external experts in assessing the adequacy of a Bank's policies for grading and classifying its assets and the appropriateness and robustness of the levels of its provisions.
4. If the AFSA considers that existing or anticipated deterioration in asset quality is of concern or if the provisions do not fully reflect expected losses, the authority may require the Bank to adjust its classifications of individual assets, increase its levels of provisions or capital and, if necessary, impose other remedial measures.

J. Transactions with related parties

Concept of related parties

1. The concept of parties being related to a Bank is used in the BBR rule 5.23 in the context of parties over which the Bank exercises control or parties that exercise control over the Bank. The concept is primarily used in relation to the requirement that the Bank's transactions be at arm's length. In contrast, the concept of parties being connected to one another (which is discussed with concentration risk in Chapter 5 of BBR) is used in these rules to measure concentration risk and large exposures. It is of course possible for connected counterparties to be related to the Bank holding the exposure concerned.
2. Related party is wider than a Bank's corporate group in that it includes individuals. Related parties include the Bank's subsidiaries and major stock holders; members of its governing body; its senior management and key employees.

3. To guard against abuses in lending to related parties and to address conflicts of interest, this rule requires transactions with related parties to be at arm's length and subject to appropriate supervision and limits. Related-party transactions must be interpreted broadly. Related party transactions include on-balance-sheet and off-balance-sheet credit exposures, service contracts, asset purchases and sales, construction contracts, lease agreements, derivative transactions, borrowing and write-offs.
4. For purposes of concentration risk, the Bank's exposure to connected counterparties (whether related or not) is taken to be a single risk.

Additional guidance on related party transactions

5. Favourable terms could relate to interest rate, credit assessment, tenor, fees, amortisation schedule and need for collateral. An exception for beneficial terms could be appropriate if it is part of an employee's remuneration package (for example, more favourable loan rates to employees).

K. Concentration Risk

Definition of Connected Parties

1. Parties would be connected if the same persons significantly influence the governing body of each of them. Parties would be connected if one of them has an exposure to the other that was not incurred for the clear commercial advantage of both of them and is not on arm's length terms. Parties would be connected if they are so closely linked that:
 - (a) the insolvency or default of 1 is likely to be associated with the insolvency or default of the other;
 - (b) it would be prudent when assessing the financial condition or creditworthiness of 1 to consider that of the other; or
 - (c) there is, or is likely to be, a close relationship between their financial performance.
2. Parties would be connected if a Bank has exposures to them and any loss to the Bank on any of the exposures to one of the parties is likely to be associated with a loss to the Bank with respect to at least one exposure to each of the others.
3. Two or more individuals or legal persons would constitute a single risk if they are so connected that, if one of them were to experience financial problems, the other or others would be likely to encounter repayment difficulties. Connected counterparties should be identified and the procedures to manage the combined credit risk considered. A Bank may need to monitor and report the gross exposure to connected counterparties against combined limits in addition to monitoring the exposure to each counterparty.

Concentration Risk

4. Significant sources of concentration risk include:
 - (a) concentration of exposures to a single counterparty or connected counterparties;

- (b) concentration of exposures to counterparties in the same industry, sector, region or country; and
 - (c) concentration of exposures to counterparties whose financial performance depends on the same activity or commodity.
5. A concentration of exposures would also arise if a Bank accepts collateral or credit protection provided by a single provider.
6. A Bank's policy should be flexible to help the Bank to identify risk concentrations. To achieve this, the systems should be capable of analysing the Bank's credit portfolio by:
- (a) size of exposure
 - (b) exposure to connected counterparties
 - (c) product
 - (d) geography
 - (e) industry or sector (for example, manufacturing and industrial)
 - (f) account performance management
 - (g) internal credit risk assessment
 - (h) funding
 - (i) outstandings versus commitments
 - (j) types and coverage of collateral.
- 7.
- 8.
- 9.

Funding Strategy

L. Liquidity Risk management

Chapter 6 Market Risk

A. Market Risk Management Policy

1. A Bank's market risk management policy is expected to address the following key elements:
 - (c) effective systems for the accurate and timely identification, measurement, evaluation, management and control or mitigation of market risk, and reporting to the Bank's governing body and senior management;
 - (d) prudent and appropriate market risk limits that are consistent with the Bank's risk tolerance, risk profile and capital, and with the management's ability to manage;
 - (e) who is responsible for identifying, measuring and reporting market risk;
 - (f) procedures for tracking and reporting exceptions to, and deviations from, limits or policies; and
 - (g) procedures for including positions and exposures in the Trading Book.
2. The policy must ensure that all of the Bank's transactions are identified and recorded in a timely way and that their valuations are consistent and prudent. The Bank must use reliable market data that have been verified by a function that is independent of the function that assumed or incurred the risk.

B. Trading Book

Guidance on inclusion of positions in Trading Book

1. In cases where a Bank acts as principal (even in the course of an activity normally described as 'broking' or 'customer business'), the resulting positions should be included in its Trading Book. This applies even if the nature of the business means that the only risks being incurred by the Bank are counterparty risks where no market risk capital requirements apply.
2. In respect of BBR Rule 6.3, the AFSA will grant approval for a switching of positions between the Trading Book and the Banking Book of the bank only in extraordinary cases. When such approval is granted, the AFSA is likely to mandate public disclosure of the approved switch.

Trading Book Policy

3. A Bank's Trading Book policy is expected to address the following key elements:
 - (a) Positions to be included, or not to be included, in the trading book;
 - (b) managing and reporting trading positions;
 - (c) valuing positions, including:
 - (i) clearly defined responsibilities of staff involved in the valuation;
 - (ii) sources of market information, and review of their reliability;
 - (iii) frequency of independent valuations;

- (iv) timing of closing prices;
 - (v) procedures for adjusting valuations between periods;
 - (vi) ad-hoc verification procedures; and
 - (vii) reporting lines for the valuation function that are independent of that function that gave rise to the position.
- (d) distinguishing consistently between trading activities and banking activities
 - (e) monitoring the size of its trading book.

C. Valuation of positions

4. A Bank must mark-to-market as much as possible. The AFSA expects a Bank to mark-to-market listed securities since there is a market with observable and reliable prices for such securities. It should use the prudent side of bid or offer unless the Bank is a significant market maker that can close at mid-market.
5. When estimating fair value, the Bank should maximise the use of relevant observable inputs and avoid the use of unobservable inputs. The Bank should be extra conservative when using the marking-to-model method. The AFSA will take into account the following in deciding if the Bank's model is prudent:
 - (a) whether senior management is aware of the positions and exposures that are marked to model and whether it understands the uncertainty this might create in reporting the risk or performance of the business
 - (b) the extent to which market inputs are sourced from market prices
 - (c) the appropriateness of the assumptions used by the Bank
 - (d) the availability of generally accepted valuation methods for particular products
 - (e) who developed the model
 - (f) whether the Bank holds a secure copy of the model
 - (g) the existence of formal control procedures for changing the model
 - (h) how often the model is used to check valuations
 - (i) how aware is the Bank's risk management function of the weaknesses of the model and how those weaknesses are reflected in the valuation output
 - (j) the results of comparisons between actual close out values and model outputs
 - (k) the Bank's procedures for reviewing the model.
6. Independent price verification is different from daily mark-to-market. The object of the verification is to regularly check the accuracy of market prices or model inputs and, thereby, eliminate inaccurate daily marks. The verification should be carried out by a unit independent of whoever marked the positions or exposures.
7. The independent marking in the verification process should reveal any error or bias in pricing. It entails a higher standard of accuracy in that the market prices or model inputs are used to determine profit and loss figures, whereas daily marks are used primarily for management reporting in between reporting dates.

8. The Bank must consider the following valuation adjustments:

- (a) unearned profit;
- (b) close-out costs;
- (c) operational risks;
- (d) early termination;
- (e) investing and funding costs;
- (f) future administrative costs;
- (g) model risk, if relevant;
- (h) any other adjustment that the Bank considers appropriate

D. Use of Internal Models

1. This section sets out the conditions under which a Bank is permitted to use an internal model to calculate its Market Risk Capital Requirement or any component of its Market Risk Capital Requirement. A Bank that wishes to use an internal model to calculate any part of this requirement is required to apply to the AFSA. 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 AFSA will consider the effectiveness and coverage of the Bank's risk management framework, governance of its model development and implementation processes, the stress-testing and back-testing standards and the process surrounding the calculation of capital requirements.
3. The AFSA will usually approve the use of an internal model if:
 - (a) the use of the model to calculate the Market Risk Capital Requirement has been approved by another appropriate regulator or the Bank has provided opinions from independent experts on the ability of the model to calculate Market Risk capital requirements, to the satisfaction of the AFSA;
 - (b) use of the methodology is integrated into the governance and risk management framework of the Bank. Specifically, the Governing Body and senior management of the Bank receives and reviews appropriate reports in respect of the model and its use;
 - (c) it is satisfied with the overall soundness and integrity of the Bank's enterprise-wide risk management system;
 - (d) the Bank has sufficient numbers of staff skilled in the use of sophisticated models specifically in the risk management, audit, and back office areas;
 - (e) the Bank's models have a proven track record of reasonable accuracy in measuring risk; and
 - (f) the Bank has a robust stress testing programme.
4. In determining whether an internal value at risk (VaR) model meets the standard for approval, the AFSA will apply the criteria set out in the section below, which are based on the Basel Market Risk Capital Amendment 1996 and Basel Revisions to the Basel II Market

Risk framework 2009 and which can be grouped under the following headings:

- (a) qualitative standards;
 - (b) specification of Market Risk factors;
 - (c) quantitative standards;
 - (d) adjustments to Market Risk Capital Requirements;
 - (e) stress testing; and
 - (f) combination of internally developed models and the Standardised Methodology.
5. In addition to VaR models, the AFSA is open to considering the use of option risk aggregation models and interest rate 'pre-processing' or sensitivity models, as set out under the EU's Capital Adequacy Directive (these are the so-called 'CAD1 models') Option risk aggregation models analyse and aggregate options risks for interest rate, equity, foreign exchange and commodity options. Interest rate pre-processing models are used to calculate weighted positions for inclusion in a Bank's interest rate Market Risk Capital Requirement calculation under the Duration Method.

Qualitative standards

6. Any internal model used for purposes of chapter 6 of BBR should be conceptually sound and implemented with integrity and, in particular, all of the following qualitative requirements should be met:
- (a) any internal model used to calculate Market Risk Capital Requirements for equity risk, interest rate risk, foreign exchange risk or commodities risk should be closely integrated into the daily risk management process and serve as the basis for reporting risk Exposures to senior management;
 - (b) the Bank should have a risk control unit that is independent from business trading units and reports directly to senior management. The unit should be responsible for designing and implementing any internal model used for purposes of chapter 6 of BBR. The unit should conduct the initial and on-going validation of any such internal models. The unit should produce and analyse daily reports on the output of any internal model used for calculating Capital Requirements for position risk, foreign exchange risk and commodities risk, and on the appropriate measures to be taken in terms of trading limits;
 - (c) the Bank's Governing body and senior management should be actively involved in the risk control process and the daily reports produced by the risk control unit are reviewed by a level of management with sufficient authority to enforce both reductions of positions taken by individual traders as well as in the Bank's overall risk Exposure;
 - (d) the Bank should have established procedures for monitoring and ensuring compliance with a documented set of internal policies and controls concerning the overall operation of its internal models;
 - (e) the Bank should frequently conduct a rigorous programme of stress testing, including reverse stress tests, which encompasses any internal model used for purposes of chapter 6 of BBR and the results of these stress tests should be reviewed by senior

management and reflected in the policies and limits it sets. This process should particularly address illiquidity of markets in stressed market conditions, Concentration Risk, one way markets, event and jump-to-default risks, non-linearity of products, deep out-of-the-money positions, positions subject to the gapping of prices and other risks that may not be captured appropriately in the internal models. The shocks applied should reflect the nature of the portfolios and the time it could take to hedge out or manage risks under severe market conditions; and

- (f) the Bank should conduct, as part of its regular internal auditing process, an independent review of its internal models.
7. The independent review of the internal models used by a Bank, must include the activities of both the business trading units and of the independent risk-control unit. At least once a year, the Bank should conduct a review of its overall risk management process. The review should consider the following:
- (a) the adequacy of the documentation of the risk-management system and process and the organisation of the risk-control unit;
 - (b) the integration of risk measures into daily risk management and the integrity of the management information system;
 - (c) the process the Bank employs for approving risk-pricing models and valuation systems that are used by front and back-office personnel;
 - (d) the scope of risks captured by the risk-measurement model and the validation of any significant changes in the risk-measurement process;
 - (e) the accuracy and completeness of position data, the appropriateness of volatility and correlation assumptions, and the accuracy of valuation and risk sensitivity calculations;
 - (f) the verification process used to evaluate the consistency, timeliness and reliability of data sources used to run internal models, including the independence of such data sources; and
 - (g) the verification process used to evaluate back-testing for the internal models' accuracy.
8. As techniques and best practices evolve, Banks are expected to apply those new techniques and practices in any internal model used for purposes of chapter 6 of BBR.

Specification of Market Risk factors

9. Any internal model used to calculate Capital Requirements for equity position risk, interest rate risk, foreign exchange risk, commodities risk and any internal model for correlation trading should meet all of the following requirements:
- (a) the model must accurately reflect, on a continuous basis, all material price risks, including 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; and
 - (b) the model should capture a sufficient number of risk factors, depending on the level of activity of the Bank in the respective markets. The risk factors in the model should

be sufficient to capture the risks inherent in the Bank's portfolio of on and off-balance sheet trading positions. The Bank should at least incorporate those risk factors in its model that are incorporated into its pricing model.

- (c) The risk-measurement model should capture nonlinearities for options and other products as well as correlation risk and basis risk. Where proxies for risk factors are used they should show a good track record for the actual position held. Although a Bank will have some discretion in specifying the risk factors for its internal models, the AFSA expects that such models will meet the criteria specified in this guideline.
10. Any internal model used to calculate Capital Requirements for position risk, foreign exchange risk or commodities risk should meet all of the following requirements:
- (a) the model should incorporate a set of risk factors corresponding to the interest rates in each currency in which the Bank has interest rate sensitive on or off balance sheet positions. The Bank should model the yield curves using one of a number of generally accepted approaches, for example, by estimating forward rates of zero-coupon yields;
 - (b) for material Exposures to interest-rate risk in the major currencies and markets, the yield curve should be divided into a minimum of six maturity segments, to capture the variations of volatility of rates along the yield curve. The model should also capture the risk of less than perfectly correlated movements between different yield curves. The risk measurement system should incorporate separate risk factors to capture spread risk, for example, between bonds and swaps;
 - (c) the model should incorporate risk factors corresponding to gold and to the individual foreign currencies in which the Bank's positions are denominated.
 - (d) for Collective Investment Funds the actual foreign exchange positions of the Fund should be taken into account. Banks may rely on third party reporting of the foreign exchange position of the Fund, where the correctness of this report is adequately ensured. If a Bank is not aware of the foreign exchange positions of a Fund, this position should be carved out of the model and treated separately;
 - (e) the model should use a separate risk factor at least for each of the equity markets in which the Bank 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 relatively 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;
 - (f) the model should use a separate risk factor at least for each commodity in which the Bank holds significant positions. The model must also capture the risk of less than perfectly correlated movements between similar, but not identical, commodities and the Exposure to changes in forward prices arising from maturity mismatches. It should also take account of market characteristics, notably delivery dates and the scope provided to traders to close out positions; For more actively traded portfolios, the

model should also take account of variation in the “convenience yield” between derivative positions such as forwards and swaps and cash positions in the commodity; and

- (g) the Bank's internal model should conservatively assess the risk arising from less liquid positions and positions with limited price transparency under realistic market scenarios. In addition, the internal model should meet minimum data standards. Proxies should be appropriately conservative and should be used only where available data is insufficient or is not reflective of the true volatility of a position or portfolio.
11. Banks may use empirical correlations within risk categories and across risk categories only if the Bank's approach for measuring correlations is sound and implemented with integrity.

Quantitative standards

12. The AFSA will usually approve an internal Value-at-Risk (VaR) model, for the purposes of Chapter 6 of the BBR only when that VaR model meets the following quantitative criteria:
- (a) VaR 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 VaR, an instantaneous price shock equivalent to a 10 day movement in prices is to be used, i.e., the minimum "holding period" will be 10 trading days;
 - (d) an effective historical observation period of at least one year except where a shorter observation period is justified by a significant upsurge in price volatility; and
 - (e) its data set is updated by the Bank no less frequently than once every month and is reassessed whenever market prices are subject to material changes.
13. An Bank may use VaR numbers calculated according to shorter holding periods than 10 days scaled up to 10 days by an appropriate methodology.
14. The AFSA prescribes no particular type of model so long as the model used captures all the material exposures of the Bank. The Bank will be free to use models based, for example, on variance-covariance matrices, historical simulations, or Monte Carlo simulations. Banks 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.
15. A Bank's internal models should accurately capture the unique risks associated with options within each of the broad risk categories. A Bank should 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 VaR number measured according to the parameters specified in this section and (b) an average of the daily VaR measures on each of the preceding sixty business days, multiplied by a multiplication factor.
16. The AFSA will usually set a multiplication factor of 3 that must be used by the Bank 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 AFSA should circumstances require.

17. A Bank using internal VaR models is expected to calculate a 'Stressed VaR' of the current portfolio, at least on a weekly basis, in addition to the calculation of VaR in accordance with the requirements set out in this section. The VaR model inputs for calculation of Stressed VaR should ideally be calibrated to historical data from a continuous 12-month period of significant financial stress relevant to the Bank's portfolio. The choice of such historical data should be subject to review by the Bank, at least on an annual basis and the outcome of such a review must be notified to the AFSA promptly.
18. A Bank using an internal model should calculate Capital Requirement for the relevant risk categories, as the sum of points (a) and (b):
 - (a) the higher of:
 - i) its previous day's VaR number calculated in accordance with the guidance in this section; or
 - ii) an average of the daily VaR numbers calculated in accordance with the guidance in this section, on each of the preceding sixty business days (AvgVaR), multiplied by the multiplication factor referred in Guidance note 16 above; plus
 - (b) the higher of:
 - i) its latest available stressed VaR number calculated in accordance with guidance in this section (sVaR_{t-1}); or
 - ii) an average of the stressed VaR numbers calculated in accordance with the guidance in this section, over the preceding sixty business days (Avg sVaR), multiplied by the multiplication factor referred in Guidance note 16 above.

Regulatory back-testing and multiplication factors

19. The results of the Stressed VaR calculations referred in Guidance note 17 in this section must be scaled up by the multiplication factors given below.
20. The multiplication factor referred above is defined as the sum of 3 and an addend between 0 and 1. That addend should depend on the number of violations for the most recent 250 business days as evidenced by the Bank's back-testing of the VaR as set out in the guidance in this section.

| Number of violations | addend |
|----------------------|--------|
| Fewer than 5 | 0.00 |
| 5 | 0.40 |
| 6 | 0.50 |
| 7 | 0.65 |
| 8 | 0.75 |
| 9 | 0.85 |
| 10 or more | 1.00 |

21. A Bank should count daily violations on the basis of back-testing on hypothetical and actual changes in the portfolio's value. A violation for this purpose is defined as a one-day change in the portfolio's value that exceeds the related one-day VaR number generated by the Bank's model. For the purpose of determining the addend the number of violations should be assessed at least on a quarterly basis and should be equal to the higher of the number of violations under hypothetical and actual changes in the value of the portfolio.
22. Back-testing on hypothetical changes in the portfolio's value should be based on a comparison between the portfolio's end-of-day value and, assuming unchanged positions, its value at the end of the subsequent day. Back-testing on actual changes in the portfolio's value should be based on a comparison between the portfolio's end-of-day value and its actual value at the end of the subsequent day excluding fees, commissions, and net interest income.
23. The AFSA may in individual cases limit the addend to that resulting from violations under hypothetical changes, where the number of violations under actual changes does not result from deficiencies in the internal model. In order to enable the AFSA to monitor the appropriateness of the multiplication factors on an ongoing basis, the Bank should notify any violations that result from its back-testing programme promptly, and in any case no later than five working days from the date of its identification.

Internal Validation

24. Banks should have processes in place to ensure that all their internal models have been adequately validated by suitably qualified parties independent of the development process to ensure that they are sound and adequately capture all material risks. The validation should be conducted when the internal model is initially developed and when any significant changes are made to the internal model.
25. The validation should also be conducted on a periodic basis, especially where there have been significant structural changes in the market or changes to the composition of the portfolio which might result in the internal model being no longer adequate. As techniques and best practices for internal validation evolve, Banks are expected to apply such improvements. Internal model validation should not be limited to back-testing, but should, at a minimum, also include the following:
 - (a) tests to demonstrate that any assumptions made within the internal model are appropriate and do not underestimate or overestimate the risk;
 - (b) Banks should carry out their own internal model validation tests, including back-testing, in relation to the risks and structures of their portfolios; and
 - (c) the use of hypothetical portfolios to ensure that the internal model is able to account for particular structural features that may arise, for example material basis risks and Concentration Risk.
26. The Bank should perform back-testing on both actual and hypothetical changes in the portfolio's value.

Requirements for modelling Specific Risk

27. An internal model used for calculating Capital Requirements for Specific Risk and an internal model for correlation trading should meet the following additional requirements:
- (a) it explains the historical price variation in the portfolio;
 - (b) it captures concentration in terms of magnitude and changes of composition of the portfolio;
 - (c) it is robust to an adverse environment;
 - (d) it is validated through back-testing aimed at assessing whether Specific Risk is being accurately captured. If the Bank performs such back-testing on the basis of relevant sub-portfolios, these must be chosen in a consistent manner;
 - (e) it captures name-related basis risk and should in particular be sensitive to material idiosyncratic differences between similar, but not identical, positions; and
 - (f) it captures event risk.

Exclusions from Specific Risk models

28. A Bank may choose to exclude from the use of its internal model for calculation of its Specific Risk Capital Requirement, those positions for which it calculates the Capital Requirement for Specific Risk in accordance with relevant sections of chapter 6 of BBR.
29. An Bank may choose not to capture default and migration risks for debt instruments in its internal model where it is capturing those risks through internal models for incremental default and migration risk.

Incremental risk charge (IRC) model

30. A Bank that uses an internal model for calculating Capital Requirements for Specific Risk of interest rate risk Exposures should also have an internal incremental default and migration risk (incremental risk charge, or IRC) model in place to capture the default and migration risks of its Trading Book positions that are incremental to the risks captured by the VaR measure as specified in Guidance note 7 under this section.
31. A Bank is expected to demonstrate that its internal model meets soundness standards comparable to that expected under the Basel III standard for the Internal Ratings Based (IRB) approach for Credit Risk under the assumption of a constant level of risk, and adjusted where appropriate to reflect the impact of liquidity, concentrations, hedging and optionality.
32. The internal IRC model should cover all positions subject to a Capital Requirement for specific interest rate risk, including those subject to a 0% Specific Risk capital charge using the Standard method, but should not cover securitisation positions and n-th-to-default Credit Derivatives.
33. A Bank may, subject to approval by the AFSA, choose to include consistently all listed equity positions and derivatives positions based on listed equities. The permission will be granted only if such inclusion is consistent with how the Bank internally measures and manages risk.

34. Banks should use the internal model to calculate a number which measures losses due to default and internal or external ratings migration at the 99.9 % confidence interval over a time horizon of one year. Banks should calculate this number at least weekly. Correlation assumptions should be supported by analysis of objective data in a conceptually sound framework. The internal model should appropriately reflect issuer concentrations including those that can arise within and across product classes under stressed conditions.
35. The internal IRC model should reflect the impact of correlations between default and migration events. The impact of diversification between, on the one hand, default and migration events and, on the other hand, other risk factors should not be reflected.
36. The internal model should be based on the assumption of a constant level of risk over the one- year time horizon, implying that given individual Trading Book positions or sets of positions that have experienced default or migration over their liquidity horizon are re-balanced at the end of their liquidity horizon to attain the initial level of risk. Alternatively, a Bank may choose to consistently use a one-year constant position assumption.
37. The liquidity horizons should be set according to the time required to sell the position or to hedge all material relevant price risks in a stressed market, having particular regard to the size of the position. Liquidity horizons should reflect actual practice and experience during periods of both systematic and idiosyncratic stresses. The liquidity horizon should be measured under conservative assumptions and should be sufficiently long that the act of selling or hedging, in itself, would not materially affect the price at which the selling or hedging would be executed.
38. The appropriate liquidity horizon for a position or set of positions is subject to a floor of three months. The determination of the appropriate liquidity horizon for a position or set of positions should take into account a Bank's internal policies relating to valuation adjustments and the management of stale positions. When a Bank determines liquidity horizons for sets of positions rather than for individual positions, the criteria for defining sets of positions should be defined in a way that meaningfully reflects differences in liquidity. The liquidity horizons should be greater for positions that are concentrated, reflecting the longer period needed to liquidate such positions. The liquidity horizon for a securitisation warehouse should reflect the time to build, sell and securitise the assets, or to hedge the material risk factors, under stressed market conditions.
39. Hedges may be incorporated into a Bank's internal model to capture the incremental default and migration risks. Positions may be netted when long and short positions refer to the same financial instrument. Hedging or diversification effects associated with long and short positions involving different instruments or different securities of the same obligor, as well as long and short positions in different issuers, may only be recognised by explicitly modelling gross long and short positions in the different instruments. Banks should reflect the impact of material risks that could occur during the interval between the hedge's maturity and the liquidity horizon as well as the potential for significant basis risks in hedging strategies by product, seniority in the capital structure, internal or external rating, maturity, vintage and other differences in the instruments. A Bank should reflect a hedge only to the extent that it can be maintained even as the obligor approaches a credit or other event.

40. For positions that are hedged via dynamic hedging strategies, a rebalancing of the hedge within the liquidity horizon of the hedged position may be recognised, provided that the Bank:
- (a) chooses to model rebalancing of the hedge consistently over the relevant set of Trading Book positions;
 - (b) demonstrates that the inclusion of rebalancing results in a better risk measurement; and
 - (c) demonstrates that the markets for the instruments serving as hedges are liquid enough to allow for such rebalancing even during periods of stress. Any residual risks resulting from dynamic hedging strategies must be reflected in the Capital Requirement.

Additional content of the internal IRC model

41. The internal model to capture the incremental default and migration risks should reflect the nonlinear impact of options, structured Credit Derivatives and other positions with material nonlinear behaviour with respect to price changes. The Bank should also have due regard to the amount of model risk inherent in the valuation and estimation of price risks associated with such products.
42. The internal model should be based on data that are objective and up-to-date. As part of the independent review and validation of their internal models used for purposes of this chapter, an Bank should in particular do all of the following:
- (a) validate that its modelling approach for correlations and price changes is appropriate for its portfolio, including the choice and weights of its systematic risk factors;
 - (b) perform a variety of stress tests, including sensitivity analysis and scenario analysis, to assess the qualitative and quantitative reasonableness of the internal model, particularly with regard to the treatment of concentrations. Such tests should not be limited to the range of events experienced historically; and
 - (c) apply appropriate quantitative validation, including relevant internal modelling benchmarks.
43. The internal model should be consistent with the Bank's internal risk management methodologies for identifying, measuring, and managing trading risks. The Bank should document its internal models so that their correlation and other modelling assumptions are transparent to the AFSA.
44. The internal model should conservatively assess the risk arising from less liquid positions and positions with limited price transparency under realistic market scenarios. In addition, the internal model should meet minimum data standards. Proxies should be appropriately conservative and may be used only where available data is insufficient or is not reflective of the true volatility of a position or portfolio.

Not fully compliant IRC approaches

45. If a Bank uses an internal model to capture incremental default and migration risks that

does not comply with all requirements specified in this Guideline, but that is consistent with the Bank's internal methodologies for identifying, measuring and managing incremental default and migration risks, it should be able to demonstrate that its internal model results in a Capital Requirement that is at least as high as if it were based on a model in full compliance with the requirements of the Guidance notes referred above. The AFSA will review compliance with the previous sentence at least annually.

Internal model for correlation trading

46. The AFSA will grant permission to use an internal model for calculating the Capital Requirement for a correlation trading portfolio only to Banks that have obtained the AFSA's approval to use an internal model for Specific Risk of interest rate risk Exposures and that meet the requirements for internal models specified earlier in this section.
47. Banks should use this internal model to calculate a number which adequately measures all price risks at the 99.9 % confidence interval over a time horizon of one year under the assumption of a constant level of risk, and adjusted where appropriate to reflect the impact of liquidity, concentrations, hedging and optionality. Banks should calculate this number at least weekly. The following risks should be adequately captured by the internal model for correlation trading:
 - (a) the cumulative risk arising from multiple defaults, including different ordering of defaults, in tranching products;
 - (b) credit spread risk, including the gamma and cross-gamma effects;
 - (c) volatility of implied correlations, including the cross effect between spreads and correlations;
 - (d) basis risk, including both of the following:
 - i) the basis between the spread of an index and those of its constituent single names; and
 - ii) the basis between the implied correlation of an index and that of bespoke portfolios;
 - (e) recovery rate volatility, as it relates to the propensity for recovery rates to affect tranche prices;
 - (f) to the extent the comprehensive risk measure incorporated benefits from dynamic hedging, the risk of hedge slippage and the potential costs of rebalancing such hedges; and
 - (g) any other material price risks of positions in the correlation trading portfolio.
48. A Bank should use sufficient market data within their internal model for correlation trading, in order to ensure that it fully captures the salient risks of those Exposures in its internal approach in accordance with the requirements set out in this guidance. The Bank should be able to demonstrate to the AFSA through back testing or other appropriate means that its model can appropriately explain the historical price variation of those products.

49. The Bank should have appropriate policies and procedures in place in order to separate the positions for which it holds permission to incorporate them in the Capital Requirement in accordance with this Guideline from other positions for which it does not hold such permission.
50. With regard to the portfolio of all the positions incorporated in the internal model for correlation trading, the Bank should regularly apply a set of specific, predetermined stress scenarios. Such stress scenarios should examine the effects of stress to default rates, recovery rates, credit spreads, basis risk, correlations and other relevant risk factors on the correlation trading portfolio. The Bank should apply stress scenarios at least weekly and report at least quarterly to the AFSA the results, including comparisons with the Bank's Capital Requirement in accordance with this point. Any instances where the stress test results materially exceed the Capital Requirement for the correlation trading portfolio should be reported to the AFSA in a timely manner.
51. The internal model should conservatively assess the risk arising from less liquid positions and positions with limited price transparency under realistic market scenarios. In addition, the internal model should meet minimum data standards. Proxies should be appropriately conservative and may be used only where available data is insufficient or is not reflective of the true volatility of a position or portfolio.

Stress testing

52. For the purposes of BBR Rule 6.3 (4), the AFSA will expect a Bank's internal model to meet the following criteria:
 - (a) the Bank'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 Bank'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 Bank could be exposed. Qualitative criteria must emphasise that two major goals of stress testing are to evaluate the capacity of the Bank's capital to absorb potential large losses and to identify steps the Bank can take to reduce its risk and conserve capital; and
 - (c) the Bank must combine the use of supervisory stress scenarios with stress tests developed by the Bank itself to reflect their Specific Risk characteristics. Information is required in three broad areas:
 - (i) supervisory scenarios requiring no simulations by the Bank - the Bank 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 Bank's internal measurement system;
 - (ii) supervisory scenarios requiring a simulation by the Bank – the Bank must subject its portfolio to a series of simulated stress scenarios and provide the DFSA with the results (e.g., the sensitivity of the Bank's Market Risk Exposure to changes in the assumptions about volatilities and correlations); and

- (iii) scenarios developed by the Bank itself to capture the specific characteristics of its portfolio.
- 53. In addition to the scenarios prescribed under 52(c) above, a Bank 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 Bank must also provide the AFSA 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.

E. Calculation of Foreign Exchange Risk Capital Requirement

1. This section of the CAG sets out the standards, methodology, formulae and parameters to be employed by a Bank in calculating the Foreign Exchange risk capital requirements, specified in BBR Rule 6.5 (1) (C). These elements constitute the framework which the AFSA would use to assess compliance with BBR Rules requiring a Bank to maintain adequate capital to support its foreign exchange risk exposures. In order to ensure compliance with the requirement under this rule and to demonstrate adequacy of capital to address foreign exchange risk exposures, the AFSA expects a Bank to follow the methodology specified in this section.
2. In measuring its market risk, a Bank must include the risk of holding or taking positions in foreign currencies and gold (foreign exchange risk). Foreign exchange risk may arise from the Bank's trading in the foreign exchange market and other markets; it may also arise from non-trading activities that are denominated in a foreign currency.
3. If a Bank is exposed to interest rate risk on positions in foreign currencies and gold, the Bank must include the relevant interest rate positions in the calculation of interest rate risk. Gold is dealt with as a foreign exchange position (rather than as a commodity position) because the volatility of its prices is similar to that of a currency. If foreign currency is to be received or delivered under a forward contract, the Bank must report any interest rate exposure from the other leg of the contract in accordance with the section on traded interest rate risk in this CAG.
4. If gold is to be received or delivered under a forward contract, the Bank must report any foreign currency or interest rate exposure from the other leg of the contract in accordance with this section or the section on traded interest rate risk in this CAG, respectively.

Inclusions in foreign exchange risk positions

5. In calculating the capital charge for foreign exchange risk, a Bank must include in its exposure to each foreign currency:
 - (a) the net spot position (that is, all assets minus all liabilities denominated in the currency, including accrued interest and other accrued income and accrued expenses);
 - (b) the net forward position (that is, all amounts to be received less all amounts to be paid under forward foreign exchange transactions denominated in the currency, including currency futures and the principal on currency swaps not included in the spot position);

Examples of amounts to be received or paid

- payments under currency futures
 - the principal on currency swaps not included in the spot position
 - interest from futures, swaps and other interest rate transactions.
- (c) irrevocable guarantees (and similar instruments) that are certain to be called and likely to be irrecoverable;
 - (d) net future income/expenses not yet accrued but already fully hedged, at the discretion of the Bank; and
 - (e) any other items representing a profit or loss in foreign currencies or an exposure to risk

- in foreign currencies (for example, a specific provision held in the currency in question where the underlying asset is held in a different currency).
6. The Bank may also include in its currency exposure any net future income or expenses that are not yet accrued but already fully hedged. If the Bank includes such income or expenses, it must do so consistently and must not select only expected future flows that reduce its position.
 7. If the Bank has deliberately taken a position to partly or totally protect itself against the adverse effect of a change in an exchange rate on its capital adequacy ratio, it may exclude the position from its currency exposure insofar as it relates to that hedge, if:
 - (a) the position is of a structural and non-trading nature;
 - (b) the structural position does no more than protect the Bank's capital adequacy ratio;
 - (c) the position cannot be traded for speculative or profit-making purposes; and
 - (d) the exclusion of the position is done consistently, with the treatment of the hedge remaining the same for the life of the assets or other items.
 8. A structural position includes:
 - (a) a position arising from an instrument that satisfies the criteria for inclusion as capital under Chapter 4 of BBR;
 - (b) a position in relation to a net investment in a self-sustaining subsidiary, the accounting consequence of which is to reduce or eliminate what would otherwise be a movement in the foreign currency translation reserve; and
 - (c) an investment in an overseas subsidiary or other entity in the same corporate group as the Bank that, under these rules, is deducted from the Bank's capital for capital adequacy purposes.
 9. A Bank must include any currency exposures arising from equity, commodity and interest positions as well as interest accrued and accrued expenses as positions. If a Bank includes future income/expenses it must do so on a consistent basis and not include only those expected future flows that reduce its position.
 10. A Bank may 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 structure that is of a non-dealing nature;
 - (b) the Bank has notified the AFSA 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.
 11. A Bank need not include positions related to items which are deducted from its capital when calculating its Capital Resources, including investments in non-consolidated subsidiaries; or other long-term participations denominated in Foreign Currencies which are reported in the published accounts at historic cost.

Foreign exchange risk on consolidated basis

12. If a Bank is assessing its foreign exchange risk on a consolidated basis, and the inclusion of the currency positions of a marginal operation of the Bank is technically impractical, the Bank may use, as a proxy for those positions, the internal limit in each currency that the Bank applies to the operation. Marginal operation, in relation to a Bank, is an operation that accounts for less than 5% of the Bank's total currency positions. The absolute values of the limits must be added to the net open position in each currency, but only if the actual positions are adequately monitored against those internal limits.

Capital charge—foreign exchange risk

13. For a Bank that does not write options, net open position in a foreign currency is the sum of:
 - (a) the Bank's currency exposures as specified in Section E of this CAG for the currency; and
 - (b) the value of the options and their associated underlying assets measured using the simplified approach for options risk capital requirement specified in this CAG.
14. For a Bank that writes options, net open position in a foreign currency is the sum of:
 - (a) the Bank's currency exposures as specified in Section E of this CAG for the currency; and
 - (b) either:
 - (i) the net delta-based equivalent of the Bank's total book of foreign currency options (with separately calculated capital charges for gamma risk and vega risk under Division 6.3.C); or
 - (ii) the value of the options and their associated underlying assets under the delta-plus method in Division 6.3.C.
15. A Bank must calculate its overall foreign currency net open position by:
 - (a) calculating the net open position in each foreign currency;
 - (b) converting the nominal amount (or net present value) of each such net position into the reporting currency at the current spot market exchange rate;
 - (c) adding all short net positions and adding all long net positions calculated under paragraphs (a) and (b); and
 - (d) selecting the greater of the absolute values of the two sums (total of all net short positions and total of all net long positions) referred in (c) above of this paragraph.
16. The Bank must then calculate its net position in gold by:
 - (a) valuing all gold positions using the reporting currency at current spot price (regardless of maturity); and
 - (b) offsetting long and short positions
17. A Bank must value forward currency and gold positions at the current spot market exchange rates and report positions in a currency pair separately as if each were a currency on its own.
18. The capital charge for foreign exchange risk of a Bank is the sum of:

- (a) 8% of the Bank's overall foreign currency net open position in each of the foreign currencies it holds; and
- (b) 8% of its net position in gold.

F. Calculation of Interest Rate Risk Capital Requirement

1. This section of the CAG sets out the standards, methodology, formulae and parameters to be employed by a Bank in calculating the Interest Rate risk capital requirements, specified in BBR Rule 6.5 (1) (a). These elements constitute the framework which the AFSA would use to assess compliance with BBR Rules requiring a Bank to maintain adequate capital to support its traded interest rate risk exposures. In order to ensure compliance with the requirement under this rule and to demonstrate adequacy of capital to address foreign exchange risk exposures, the AFSA expects a Bank to follow the methodology specified in this section.
2. In measuring its market risk, a banking business Bank must include the risk of holding or taking positions in debt securities and other interest- rate-related instruments that are held in the trading book (interest rate risk).

Inclusions in traded interest rate risk positions

3. The measurement of interest rate risk in the trading book applies to all fixed-rate and floating-rate debt securities and other interest-rate-related instruments that exhibit market behaviour similar to debt securities. Examples of such instruments would include non-convertible preference shares and convertible bonds that trade like debt securities. A debt security that is the subject of a repurchase or securities lending agreement is taken to be owned by the lender of the security.
4. In calculating the capital charge for interest rate risk, a banking business Bank must include interest rate exposures arising from forward foreign exchange transactions and forward sales and purchases of commodities and equities. The Bank must also include any interest rate exposures arising from foreign exchange, equity and commodity positions.

Capital charge—interest rate risk

5. The capital charge for interest rate risk is calculated as the sum of 2 separate charges:
 - (a) a charge for the specific risk of holding a long or short position in an individual instrument; and
 - (b) a charge for the general risk of holding a long or short position in the market as a whole.

Note 1 The capital charge for general risk is for the risk of loss arising from changes in market interest rates.

Specific Risk Capital charge—interest rate risk

6. The capital charge for specific risk arising from an on-balance-sheet or off-balance-sheet interest-rate position held in a banking business Bank's trading book is calculated by multiplying the market value of the debt security by the applicable charge set out in column 5 of table F1 for the category and residual maturity of the instrument.

7. The Bank may offset matched long and short positions (including positions in derivatives) in identical instruments with exactly the same issuer, coupon, currency and maturity.

Table F1 Specific risk capital charges

| column 1 item | column 2 category | column 3 external credit rating | column 4 residual maturity | column 5 specific risk capital charge |
|----------------------|-------------------|---------------------------------|--|---------------------------------------|
| 1 | government | AAA to AA- | | 0.00 |
| | | A+ to BBB- | 6 months or less | 0.25 |
| | | | more than 6 months and up to and including 24 months | 1.00 |
| | | | more than 24 | 1.00 |
| BB+ to B- or unrated | | 8.00 | | |
| | | Below B- | | 12.00 |
| 2 | qualifying | | 6 months or less | 0.25 |
| | | | more than 6 months and up to and including 24 months | 1.00 |
| | | | more than 24 months | 1.60 |
| 3 | other | BB+ to BB- or unrated | | 8.00 |
| | | Below BB- | | 12.00 |

8. In column 2 of table F1:

government, as a category, includes all forms of government paper such as bonds, treasury bills and other short-term instruments.

qualifying, as a category, includes:

- (a) securities issued by public sector enterprises and multilateral development banks;
- (b) instruments rated investment grade by at least 2 ECRA's;
- (c) instruments rated investment grade by 1 ECRA and 1 other credit rating agency that is not an ECRA; and
- (d) unrated instruments, but only if:
 - (i) the banking business Bank has no reason to suspect that the particular instrument would have a rating less than investment grade if it were rated; and
 - (ii) the issuer of the instrument is rated investment grade and is regulated in its home jurisdiction in a way comparable to banks in the AIFC.

In deciding whether an issuer is regulated in a comparable way, the bank must look, in particular, at the home jurisdiction's risk-based capital requirements and consolidated supervision.

other, as a category, includes:

- (a) instruments issued or fully guaranteed by the central government or central bank of a state that is a member of the OECD;
 - (b) instruments fully collateralised by instruments described in paragraph (a); and
 - (c) instruments issued or fully guaranteed by the central government or central bank of a state that is not a member of the OECD, but only if:
 - (i) the instruments have a residual maturity of 1 year or less;
 - (ii) the instruments are denominated in the local currency of the issuer; and
 - (iii) the banking business Bank's holdings in such instruments are funded by liabilities in the same currency.
 - (d) In column 3 of table F 1, external credit rating means a long-term rating issued by an ECRA for the purpose of risk-weighting claims on rated counterparties and exposures.
9. Interest rate swaps, cross-currency swaps, forward rate agreements, forward foreign exchange transactions, interest rate futures and futures on an interest rate index are exempt from charges for specific risk. However, a specific risk capital charge must be calculated if the underlying is a debt security or an index representing a basket of debt securities. Futures and forward contracts, other than those mentioned in this paragraph are exempt from specific risk capital charge if:
- (a) the Bank has a right to substitute cash settlement for physical delivery under the contract; and
 - (b) the price on settlement is calculated with reference to a general market price indicator.
10. Such contracts exempt from specific risk capital charge must not be offset against specific securities (including those securities that make up a market index).

General Risk Capital charge—interest rate risk

11. General risk is measured using the maturity method. In that method, positions are allocated to a maturity ladder before the capital charge is calculated. The Bank must add the absolute values of the individual net positions within each time band, whether long or short. The sum of the absolute values is the Bank's gross position.

Maturity method

12. In the maturity method, long or short positions in debt securities (and in other sources of interest rate exposures such as derivative instruments) are allocated to the time bands in table F 2 (and then to the zones in table F 3) based on the residual maturity of the instrument and the interest rate of coupon payments.
13. A Bank must allocate:
- (a) positions in fixed-rate instruments according to their residual term to maturity; and

- (b) positions in floating-rate instruments according to the residual term to the next re-pricing date.
14. The Bank may offset:
- (a) long and short positions (whether actual or notional) in identical instruments with exactly the same issuer, coupon, currency and maturity; and
- (b) matched swaps, forward contracts, futures and forward rate agreements that satisfy the criteria for matching derivative positions detailed later in this section F.
15. The steps to calculate the general risk capital charge are:

Step 1: Weight the positions in each time band by the risk factor corresponding to those positions in table F2.

Table F2 Time Bands and risk factors

| column 1 item | column 2 time band | column 3 risk factor | column 4 assumed changes in yield % |
|----------------------|---------------------------------------|-----------------------------|--|
| 1 | 1 month or less | 0.00 | 1.00 |
| 2 | more than 1 and up to 3 months | 0.20 | 1.00 |
| 3 | more than 3 and up to 6 months | 0.40 | 1.00 |
| 4 | more than 6 and up to 12 months | 0.70 | 1.00 |
| 5 | more than 1 and up to 2 years | 1.25 | 0.90 |
| 6 | more than 2 and up to 3 years | 1.75 | 0.80 |
| 7 | more than 3 and up to 4 years | 2.25 | 0.75 |
| 8 | more than 4 and up to 5 years | 2.75 | 0.75 |
| 9 | more than 5 and up to 7 years | 3.25 | 0.70 |
| 10 | more than 7 and up to 10 years | 3.75 | 0.65 |
| 11 | more than 10 and up to 15 years | 4.50 | 0.60 |
| 12 | more than 15 years and up to 20 years | 5.25 | 0.60 |
| 13 | more than 20 years | 6.00 | 0.60 |

Step 2: Offset the weighted long and short positions within each time band.

Example: If the sum of the weighted long positions in a time band is USD 100 million and the sum of the weighted short positions in the band is USD 90 million, you offset the positions to come up with a matched position of USD 90 million and unmatched position of USD 10 million.

Step 3: For each time band, apply a 10% capital charge (vertical disallowance) on the matched position calculated in step 2.

Example: Continuing on from the example in step 2, apply the 10% on the QR90 million matched position to come up with a QR9 million vertical disallowance for the time band.

Step 4: For the unmatched positions calculated in step 2, carry out 2 further rounds of offsetting using the zones (made up of time bands) in table 6.6.8B and apply the appropriate capital charge, as follows:

- (a) first between the remaining unmatched positions within each of 3 zones and subject to a charge (expressed as a percentage) as follows:
 - (i) matched weighted positions within zone 1 x 40%;
 - (ii) matched weighted positions within zone 2 x 30%;
 - (iii) matched weighted positions within zone 3 x 30%;
- (b) subsequently between the remaining unmatched positions across the three different zones (in the order set out below) and subject to a capital charge as follows:
 - (i) matched weighted positions between zones 1 and 2 x 40%;
 - (ii) matched weighted positions between zones 2 and 3 x 40%;
 - (iii) matched weighted positions between zones 1 and 3 x 100%.

Step 5: The absolute value of the net amount remaining is the **net position**.

Table F 3 Zones for coupons

| column 1 item | column 2 zone | column 3 time |
|----------------------|----------------------|--|
| 1 | zone 1 | 0 – 1 month 1 – 3 months 3 – 6 months 6 – 12 months |
| 2 | zone 2 | 1 – 2 years 2 – 3 years 3 – 4 years |

| | | |
|---|--------|---|
| 3 | zone 3 | 4 – 5 years 5 – 7 years 7 – 10 years 10 – 15 years |
|---|--------|---|

Step 5: Calculate the horizontal allowance by adding the charges from paragraphs (a) and (b) of step 4.

Step 6: Calculate the general risk capital charge as the sum of:

- (a) the net position calculated from steps 1 to 4;
- (b) the vertical disallowance from step 3;
- (c) the horizontal disallowance from steps 4 and 5; and
- (d) the net charge for positions in options, where appropriate, calculated in accordance with the guidelines on options risk in this CAG.

Positions in currencies

16. A Bank must use separate maturity ladders for positions in each currency, with capital charges calculated separately for each currency and then summed. Positions in different currencies are not to be offset. If the Bank's position in a currency is less than 5% of the value of the Bank's banking book assets, that currency is taken to be a residual currency and the Bank may use a single maturity ladder for all residual currencies (instead of having to use separate maturity ladders for each currency). The Bank must enter, into each appropriate time band, the net long or short position for residual currencies. The Bank must apply, with no further offsets, the risk factor in column 3 of table 6.6.8A to the position in each time band for residual currencies.

Futures and forward contracts

17. A Bank must treat futures and forward contracts on bank or corporate debt (including forward rate agreements) as a combination of a long and a short position in the underlying debt security. Futures and forward contracts not on bank or corporate debt must be treated as a combination of a long and a short position in a notional government security.
18. The maturity of a futures contract or a forward rate agreement is the period until delivery or exercise of the contract, plus the life of the underlying (or notional underlying) instrument. The Bank must report the long and short positions at the market value of the underlying (or notional underlying) security or portfolio of securities. If a range of instruments may be delivered to fulfil a contract, the Bank may choose the deliverable security to be allocated to the maturity ladder. The Bank must, however, take account of any conversion factor specified by the exchange where the instrument must be delivered.

Swaps

19. A Bank must treat a swap as two notional positions in government securities with maturities. Both legs of the swap must be reported at their market values. For swaps that pay or receive a fixed or floating interest rate against some other reference price (for example, a stock index), the Bank must:

- (a) enter the interest rate component into the appropriate maturity category; and
 - (b) include any equity component in the measurement of equity risk.
20. Each leg of a cross-currency swap must be reported in the maturity ladder for the currency concerned. The capital charge for any foreign exchange risk arising from the swaps must be calculated in accordance with the provisions of Section E of this chapter.

Derivatives

21. In the measurement of interest rate risk, a Bank must include interest rate derivatives and off-balance-sheet instruments in the trading book if those instruments react to changes in interest rates. The Bank must convert derivatives into positions in the relevant underlying to enable the Bank to calculate specific and general risk capital charges. To determine the capital charges, the value of the positions must be the market value of the underlying or notional underlying.
22. Positions in derivatives are subject to charges for general risk in the same way as cash positions. However, matched positions are exempt from the charges if the positions satisfy the criteria specified in the rest of this section. Positions in derivatives must be allocated to a maturity ladder and treated in accordance with this rule and the maturity method.

Criteria for matching derivative positions

23. A Bank may offset a matched position in derivatives if the positions relate to the same underlying instruments, have the same nominal value and are denominated in the same currency. For futures, the positions in the underlying (or notional underlying) instruments must be for identical products and must mature within 7 days of each other.
24. For swaps, forward rate agreements and forward contracts:
- (a) the reference rate (for floating-rate positions) must be identical and the coupons must differ by no more than 15 basis points; and
 - (b) the next interest-fixing date (or, for fixed-coupon positions or forward contracts, the residual maturity) must comply with the following requirements:
 - (i) if either instrument has an interest-fixing date or residual maturity up to and including 1 month in the future, the dates or residual maturities must be the same for both instruments;
 - (ii) if either instrument has an interest-fixing date or residual maturity more than 1 month, but no more than 1 year, in the future, the dates or residual maturities must be within 7 days of each other;
 - (iii) if either instrument has an interest-fixing date or residual maturity more than 1 year in the future, the dates or residual maturities must be within 30 days of each other.
25. A Bank that writes options may offset the delta- equivalent values of options (including the delta-equivalent value of legs arising out of the treatment of caps and floors in accordance with the provisions on options risk in this chapter. However, for offsetting between a matched position in a futures or forward contract and its underlying, the provisions of the following paragraphs apply.

Criteria for offsetting derivative positions

26. A Bank may offset long and short positions (whether actual or notional) in identical instruments with exactly the same issuer, coupon, currency and maturity and may offset a matched position in a futures or forward contract and its corresponding underlying. The net position must be reported.
27. The Bank may offset positions in a futures or forward contract with a range of deliverable instruments and the corresponding underlying only if:
 - (a) there is a readily identifiable underlying security; and
 - (b) the price of that security and the price of the futures or forward contract move in close alignment.
28. The Bank must treat each leg of a cross-currency swap or forward foreign exchange transaction as a notional position in the relevant instrument, and must include the position in the calculation for each currency.

G. Calculation of Equity Risk Capital Requirement

1. This section of the CAG sets out the standards, methodology, formulae and parameters to be employed by a Bank in calculating the Equity risk capital requirements, specified in BBR Rule 6.5 (1) (b). These elements constitute the framework which the AFSA would use to assess compliance with BBR Rules requiring a Bank to maintain adequate capital to support its equity risk exposures. In order to ensure compliance with the requirement under this rule and to demonstrate adequacy of capital to address equity risk exposures, the AFSA expects a Bank to follow the methodology specified in this section.
2. In measuring its market risk, a Bank must include the risk of holding or taking positions in equities (equity position risk). In respect of options with equities as the underlying, Section I of this chapter should be followed. If equities are to be received or delivered under a forward contract, the Bank must report any foreign currency or interest rate exposure from the other leg of the contract in accordance with the relevant section of this Chapter 6 of CAG dealing with Foreign exchange risk capital requirement or interest rate risk capital requirement.
3. If a Bank is exposed to interest rate risk on equity positions, it must include the relevant interest rate positions in the calculation of interest rate risk according to the methodology specified in the section on interest rate risk capital requirement.

Measuring equity position risk

4. The measurement of equity position risk in the trading book applies to short and long positions in all instruments that exhibit market behaviour similar to equities.

Examples of instruments with equity-like behaviour

- i. common shares (whether voting or non-voting)
- ii. convertible securities and commitments to buy or sell equity securities
- iii. convertible bonds that trade like equities.

5. A Bank may report short and long positions in instruments relating to the same issuer on a net basis. The Bank must calculate the long or short position in the equity market on a market-by-market basis. That is, the Bank must make a separate capital calculation for each exchange in which it holds equities, irrespective of whether it is a recognised exchange or not.

Inclusion of equity positions

6. In calculating the capital charge for equity position risk, a Bank must include equity derivatives and off-balance-sheet positions that are affected by changes in equity prices (such as futures and swaps on individual equities and stock indices). To calculate the charges for equity position risk for equity derivatives and other off-balance-sheet positions, the Bank must convert positions into notional equity positions, such that:
 - (a) equity derivatives and off-balance-sheet positions relating to individual equities are reported at current market prices;
 - (b) equity derivatives and off-balance-sheet positions relating to stock indices are reported as the mark-to-market value of the notional underlying equity portfolio; and
 - (c) equity swaps are treated as two notional positions.

Capital Charge for equity risk

7. The capital charge for equity position risk consists of 2 separately calculated charges:
 - (a) a charge for the specific risk of holding a long or short position in an individual equity; and
 - (b) a charge for the general risk of holding a long or short position in the market as a whole.
8. The capital charge for specific risk is 8% of the gross position of a Bank in equities listed on a recognised exchange and 12% of the gross position of the Bank in other equities. Gross position, of a Bank in an equity market, is the sum of the absolute values of all short equity positions and all long equity positions of the Bank.
9. The capital charge for general risk is 8% of the net position of a Bank. Net position, of a Bank in an equity market, is the difference between long equity positions and short equity positions of the Bank.
10. Equity position is the net of short and long exposures to an individual company or stock or unit. It is measured on the gross position across the company rather than individual transactions. If a Bank takes a position in depository receipts against an opposite position in the underlying equity, irrespective of whether it is listed in the same country where the receipts were issued or not, it may offset the positions only if any costs on conversion are taken into account in full.
11. The Bank may offset matched positions in an identical equity or stock index in each market, resulting in a single net long or short position to which the specific and general risk capital charges are to be applied. For this purpose, a future in an equity may be offset against an opposite physical position in the same equity.

Charges for index contracts

12. In the case of an index contract on an index considered by the Bank as a diversified index, the Bank must apply a general risk capital charge of 8%, and a specific risk capital charge of

2%, to the net long or short position in the contract. For any other index contract, the Bank must apply a general risk capital charge of 8%, and a specific risk capital charge of 4%, to the net long or short position in the contract.

13. If required to do so by the AFSA, the Bank must demonstrate how the Bank arrived at the assessment that the index is a diversified one and be able to explain the rationale behind that assessment. The index must have a minimum number of equities. There must be an absolute threshold below which the index cannot be considered sufficiently diversified to ignore the specific risk completely. None of the equities must significantly influence the volatility of the index. Equities must not represent more than a certain percentage of the total index value. The index must have equities diversified from a geographical perspective. The index must represent equities that are diversified from an economic perspective. Different 'industries' must be represented in the index.

Using arbitrage

14. If a Bank uses a futures-related arbitrage strategy under which the Bank takes an opposite position in exactly the same index at different dates or in different markets, the Bank:
 - (a) may apply the 2% specific risk capital charge in paragraph 12 above of this section to only 1 position; and
 - (b) may exempt the opposite position from any capital charge for specific and general risks.
15. The Bank may also apply the 2% specific risk capital charge if:
 - (a) the Bank has opposite positions in contracts at the same date in 2 similar indices; and
 - (b) the AFSA has notified the Bank in writing that the 2 indices have sufficient common components to allow offsetting.
16. If the Bank engages in an arbitrage strategy under which a futures contract on a broadly-based index matches a basket of shares, the Bank:
 - (a) may decompose the index position into notional positions in each of the constituent stocks; and
 - (b) may include the notional positions and the disaggregated physical basket in the country portfolio, netting the physical positions against the index equivalent positions in each stock.
17. If the values of the physical and futures positions are matched, the capital charge is 4% (that is, 2% of the gross value of the positions on each side). The Bank may use this provision to apply the 4% capital charge to a position that is part of the arbitrage strategy only if:
 - (a) a minimum correlation of 0.9 between the basket of shares and the index can be clearly established over at least the preceding year, and the Bank has satisfied the AFSA that the method the Bank has chosen is accurate; or
 - (b) the composition of the basket of shares represents at least 90% of the index.
18. The Bank must treat any excess value of the shares comprising the basket over the value of the futures contract, or excess value of the futures contract over the value of the basket, as an open long or short position, and must use the approach for index contracts specified above, as appropriate.

19. If an arbitrage does not satisfy the conditions in paragraph 17 above of this Section G, the Bank must treat the index position using the approach for index contracts.

When basket of shares is 90% of index

20. To determine whether a basket of shares represents at least 90% of an index, the relative weight of each stock in the basket must be compared to the weight of that stock in the index to calculate a percentage slippage from its weight in the index. Stocks that are included in the index but are not held in the basket have a slippage equal to their percentage weight in the index. The sum of the slippages across all stocks in the index represents the total slippage from the index. The absolute values of the percentage slippages must be summed. Deducting the total slippage from 100 gives the percentage coverage of the index to be compared to the required minimum of 90%.

H. Calculation of Option Risk Capital Requirement

1. This section of the CAG sets out the standards, methodology, formulae and parameters to be employed by a Bank in calculating the Option risk capital requirements, specified in BBR Rule 6.5 (1) (e). These elements constitute the framework which the AFSA would use to assess compliance with BBR Rules requiring a Bank to maintain adequate capital to support its option risk exposures. In order to ensure compliance with the requirement under this rule and to demonstrate adequacy of capital to address equity risk exposures, the AFSA expects a Bank to follow the methodology specified in this section.
2. In measuring its market risk, a Bank must include the risk of holding or taking positions in options contracts (options risk). If all the written option positions are hedged by perfectly matched long positions in exactly the same options, no capital charge for options risk is required.
3. A Bank that does not write options must use the simplified approach. A Bank that writes options must use the delta-plus method.

Simplified approach

4. A Bank that does not write options must calculate capital charges in accordance with the provisions of :
 - (a) The paragraph 26 of this section H for a position that is a 'long cash and long put' or 'short cash and long call' position; or
 - (b) The paragraph 26 of this section H for a position that is a 'long put' or 'long call' position.
5. In the simplified approach, the position in the option and the associated underlying asset (cash or forward) is not subject to the standard method. Instead, each position is carved-out and subject to a separately calculated capital charge for specific risk and general risk.

Capital charges—'long cash and long put' or 'short cash and long call'

6. For a position that is 'long cash and long put' or 'short cash and long call', the capital charge is calculated by multiplying the market value of the underlying security by the sum of the specific and general risk capital charges for the underlying, and then subtracting the amount by which the option is in-the-money (bounded at zero).
7. In cases (such as foreign exchange transactions) where it is unclear which side is the underlying security, the underlying should be taken to be the asset that would be received

if the option were exercised. In addition, the nominal value should be used for items if the market value of the underlying instrument could be zero (such as in caps, floors and swaptions). Some options have no specific risk (such as those having an interest rate, currency or commodity as the underlying security); other options on interest-rate-related instruments and options on equities and stock indices, however, would have specific risk.

8. In the simplified approach, the capital charge is:
 - (a) 8% for options on currency; and
 - (b) 15% for options on commodities.
9. For options with a residual maturity of less than 6 months, a Bank must use the forward price (instead of the spot price) if it is able to do so. For options with a residual maturity of more than 6 months, the firm must compare the strike price with the forward price (instead of the current price). If the firm is unable to do this, it must take the in-the-money amount to be zero.

Capital charges—'long put' or 'long call'

10. For a position that is 'long put' or 'long call', the capital charge is the lesser of:
 - (a) the market value of the underlying security multiplied by the sum of the specific and general risk capital charges for the underlying; and
 - (b) the market value of the option.
11. The book value of the option may be used instead of the market value if the position is not included in the trading book (for example, options on particular foreign exchange or commodities positions).

Delta-plus method

12. A Bank that writes options must calculate specific risk capital charges separately by multiplying the delta-equivalent value of each option by the risk-weight applicable under the sections relating to equity position risk and traded interest rate risk.
13. In calculating general risk capital charge, the firm must enter delta-weighted positions with a debt security or interest rate as the underlying into the interest rate time bands in table F1 by using a two-legged approach. Under this approach, there is one entry at the time the underlying contract takes effect and a second entry at the time the underlying contract matures. For an option with a debt security as the underlying, the Bank must apply a specific risk capital charge to the delta-weighted position based on the issuer's rating and in accordance with Section F of this chapter.

Relation to standard method

14. A Bank that writes options must include delta-weighted option positions in measuring its market risk. The Bank must report such an option as a position equal to the sum of the market values of the underlying multiplied by the sum of the absolute values of the deltas. Because delta does not cover all risks associated with option positions, the Bank must calculate gamma and vega in calculating the regulatory capital charge. The firm must calculate delta, gamma and vega using the pricing model used by a recognized exchange, or a proprietary options pricing model approved, in writing, by the AFSA.

Capital charges—options

15. The capital charge for an option with equities as the underlying must be based on the delta-weighted positions included in the measurement of specific and general risks in accordance with Section G of this chapter on equity position risk.
16. A Bank that writes options must calculate the capital charge for options on foreign exchange and gold positions in accordance with Section E of this chapter on foreign exchange risk. For delta risk, the net delta-based equivalent of the foreign currency and gold options must be included in the measurement of the exposure for the respective currency (or gold) position.
17. The capital charge for an option on commodities must be based on the charge calculated using the simplified approach specified in Section I of this chapter on Commodities risk capital requirement.

Gamma capital charges

18. A Bank that writes options must calculate the capital charge for gamma risk (gamma capital charge) for each option position separately. To calculate gamma capital charge, calculate the gamma impact of each option in accordance with the following formula:

$$\text{Gamma impact} = 1 / 2 * \text{gamma} * VU^2$$

where:

VU is:

- (a) for an interest rate option:
 - i. if the option has a bond as the underlying—the market value of the underlying multiplied by the risk factor applicable under column 3 of table F1 in this chapter; or
 - ii. if the option has an interest rate as the underlying—the market value of the underlying multiplied by the assumed changes in yield in column 4 of table F1 in this chapter;
 - (b) for options on equities and stock indices—the market value of the underlying multiplied by 8%;
 - (c) for options on foreign exchange and gold—the market value of the underlying multiplied by 8%; or
 - (d) for an option on commodities—the market value of the underlying multiplied by 15%.
19. For the purpose of calculating the gamma impact for an option, the following positions must be treated as the same underlying instrument or asset:
 - (a) for interest rates—each time band in column 2 of table F1 (with each position allocated to separate maturity ladders);
 - (b) for equities and stock indices—each recognised exchange;
 - (c) for foreign currencies and gold—each currency pair and gold; and
 - (d) for commodities—that are deliverable against each other or those that are close

substitutes for each other with a minimum price correlation of 0.9 over the previous 12 months.

20. An Authorised Firm must calculate its Capital Requirement for Gamma risk by:
- (a) calculating the net Gamma impact in respect of each underlying financial instrument or commodity by aggregating the individual Gamma impacts for each option position in respect of that underlying financial instrument or commodity (which may be either positive or negative); and
 - (b) aggregating the absolute value of the net Gamma impacts that are negative.
21. The underlying financial instrument or commodity should be taken to be the asset which would be received if the option were exercised. In addition, the notional value should be used for items where the market value of the underlying financial instrument or commodity could be zero (e.g. caps and floors, swaptions). Certain notional positions in zero-specific-risk securities do not attract Specific Risk, e.g. interest rate and currency swaps, Forward Rate Agreement (FRA), forward foreign exchange contracts, interest rate futures and futures on an interest rate index. Similarly, options on such zero-specific-risk securities also bear no Specific Risk. For the purposes of this paragraph:
- (a) the specific and general risk weights in respect of options on interest rate-related instruments are determined in accordance with section F of this chapter;
 - (b) the specific and general risk weights in respect of options on equities and equity indices are determined in accordance with section G of this chapter;
 - (c) the risk weight in respect of foreign currency and gold options is 8%; and
 - (d) the risk weight in respect of options on commodities is 15%.
 - (e) For options with a residual maturity of more than 6 months, the strike price should be compared with the forward, and not current, price. Where an Authorised Firm is unable to do this, the in-the-money amount would be zero.
22. A Bank which trades in exotic options (e.g. barriers, digitals) would use either the scenario approach or the Internal Models Approach (IMA) to calculate its Option Risk Capital Requirement for such options, unless it is able to demonstrate to the AFSA that the Delta-plus method is appropriate. In the case of options on futures or forwards, the relevant underlying is that on which the future or forward is based (e.g. for a bought call option on a June 3-month bill future, the relevant underlying is the 3-month bill).

Vega capital charges

23. A Bank must calculate the capital charge for vega risk (vega capital charge) by
- (a) multiplying the sum of the vegas for all option positions in respect of the same underlying financial instrument or commodity, defined in paragraph 39 of this section H, by a proportional shift in the option's current volatility of 25%; and
 - (b) aggregating the absolute value of the individual capital requirements which have been calculated for vega risk.

I. Calculation of Commodities Risk Capital Requirement

1. This section of the CAG sets out the standards, methodology, formulae and parameters to be employed by a Bank in calculating the Commodities risk capital requirements, specified in BBR Rule 6.5 (1) (d). These elements constitute the framework which the AFSA would use to assess compliance with BBR Rules requiring a Bank to maintain adequate capital to support its commodities risk exposures. In order to ensure compliance with the requirement under this rule and to demonstrate adequacy of capital to address equity risk exposures, the AFSA expects a Bank to follow the methodology specified in this section.
2. In measuring its market risk, a Bank must include the risk of holding or taking positions in commodities and commodities options (commodities risk). Commodities means physical or energy products that may be traded. Commodities include precious metals (other than gold), base metals, agricultural products, minerals, oil, gas and electricity. A Bank must also include commodity derivatives and off-balance sheet positions that are affected by changes in commodity prices, having derived notional commodity positions; and other positions against which no other Market or Credit Risk Capital Requirement has been applied.
3. If a Bank is exposed to foreign exchange or interest rate risk from funding commodities positions, it must include the relevant positions in the measurement of interest rate or foreign exchange risk. Gold is dealt with as a foreign exchange position (rather than as a commodity position) because the volatility of its prices is similar to that of a currency. If a commodity is to be received or delivered under a forward contract, the Bank must report any foreign currency, equity or interest rate exposure from the other leg of the contract in accordance with the relevant section of this chapter.

Inclusion in Commodities positions

4. In calculating the capital charge for commodities risk, a Bank must include commodity derivatives and off-balance- sheet positions that are affected by changes in commodity prices (such as commodity futures and commodity swaps). Options on commodities for which the options risk is measured using the delta-plus method must also be included (with their underlying assets). Options for which the options risk is measured using the simplified approach must be excluded.
5. Commodity derivatives need to be converted into notional commodities positions and assigned to maturities. Futures and forward contracts relating to a particular commodity must be included in the measurement of commodities risk as notional amounts in terms of the standard unit of measurement multiplied by the spot price of the commodity.
6. A Bank must first state each commodity position (spot plus forward) in terms of the standard unit of measurement for the commodity (such as barrels, kilos or grams). The firm must then convert the net position in each commodity into the reporting currency at the current spot market exchange rates.

Measuring commodities risk

7. A Bank must use the simplified approach to measure commodities risk. To calculate open positions using this approach, the firm may report short and long positions in each commodity on a net basis. Positions are reported on a net basis by offsetting them against each other if they are in the same commodity. Positions in different commodities must not be offset unless:

- (a) the commodities are deliverable against each other; or
- (b) the commodities are close substitutes for each other and a minimum correlation between price movements of 0.9 can be clearly established over at least the preceding year.

Correlation-based offsetting mentioned in (b) above may not be used unless the AFSA has approved its use in writing.

- 8. Gross position in a commodity, is the sum of the absolute values of all short positions and all long positions of the firm, regardless of maturity. A Bank must use the current spot price to calculate its gross position in commodity derivatives.

Capital charges—simplified approach

- 9. The capital charge for commodities risk of a Bank is the sum of:
 - (c) 15% of the firm's overall net position, long or short, in each commodity; and
 - (d) 3% of the firm's gross position in each commodity.

Chapter 7 Operational Risk

A. Operational Risk Management Framework & Governance

- M. This section of the CAG sets out the standards, guidance and norms required to fulfil the regulatory requirements in respect of the Operational Risk management framework and governance, specified in Section 7.1 of Chapter 7 of BBR. These elements convey the supervisory expectations of the AFSA regarding Operational Risk management framework & governance in a Bank. The AFSA will use these standards, norms and key elements specified here to assess compliance with BBR Rules on Operational Risk management framework.
- N. A Bank's Operational Risk management policy is expected to address the following key elements:
- (a) the governance structures used to manage Operational Risk, including reporting lines and accountabilities;
 - (b) risk assessment tools and how they are used;
 - (c) the Authorised Firm's accepted Operational Risk appetite, permissible thresholds or tolerances for inherent and residual risk, and approved risk mitigation strategies and instruments;
 - (d) the Authorised Firm's approach to establishing and monitoring thresholds or tolerances for inherent and residual risk Exposure;
 - (e) risk reporting and MIS; and
 - (f) appropriate independent review and assessment of the Authorised Firm's Operational Risk framework.
- O. An Authorised Firm's Operational Risk policy should, amongst other things, include consideration of Principles for the Sound Management of Operational Risk, issued by the Basel Committee on Banking Supervision (BCBS) and the Guidelines on the management of Operational Risk in market-related activities issued by the European Banking Authority which are useful in relation to activities other than banking.

Governing Body responsibilities

- P. The GEN Module contains Rules and Guidance regarding corporate governance requirements for Authorised Firms, including the responsibilities of an Authorised Firm regarding risk management.
- Q. In developing, implementing and maintaining an effective Operational Risk framework, an Authorised Firm's Governing Body should:
- (a) approve and review a risk appetite and tolerance for Operational Risk that articulates the nature, types and levels of Operational Risk that the Authorised Firm is willing to assume;
 - (b) consider all relevant risks, the Authorised Firm's level of risk appetite, its current financial condition and its strategic direction. The Governing Body should monitor

- management adherence to the risk appetite and tolerance and provide for timely detection and remediation of breaches;
- (c) encourage a management culture, and develop supporting processes, which help to engender within the Authorised Firm an understanding by relevant Employees of the nature and scope of the Operational Risk inherent in the Authorised Firm's strategies and activities;
 - (d) provide senior management with clear guidance and direction regarding the principles underlying the Authorised Firm's Operational Risk management framework and approve the corresponding policies developed by senior management;
 - (e) regularly review the Authorised Firm's Operational Risk policy to ensure that the Authorised Firm has identified and is managing the Operational Risk arising from external market changes and other environmental factors, as well as those Operational Risks associated with new strategies, products, activities, or systems, including changes in risk profiles and priorities (e.g. changing business volumes). Such review should also take into account the Operational Risk loss experience, the frequency, volume or nature of limit breaches, the quality of the control environment and the effectiveness of risk management or mitigation strategies;
 - (f) ensure that the Authorised Firm's Operational Risk policy and framework is subject to effective independent review by audit or other appropriately-trained Persons;
 - (g) ensure that management is incorporating industry best practice in managing Operational Risk; and
 - (h) establish clear lines of management responsibility and accountability for implementing a strong control environment. The control environment should provide appropriate independence/separation of duties between Operational Risk control functions, business lines and support functions.

Senior Management Responsibilities

- R. GEN Rules include regulatory requirements and guidance regarding the role and responsibilities of senior management of a Bank in respect of Operational Risk management. In relation to establishing and maintaining a robust Operational Risk management framework, a Bank's senior management should:
- (a) translate the Operational Risk management framework established by its Governing Body into specific policies and procedures that can be implemented and verified within the different business units;
 - (b) clearly assign authority, responsibility and reporting relationships to encourage and maintain accountability, and to ensure that the necessary resources are available to manage Operational Risk in line within the Authorised Firm's risk appetite and tolerance; and
 - (c) ensure that the management oversight process is appropriate for the risks inherent in a business unit's activity.

B. Operational Risk Management Processes and standards

1. This section of the CAG sets out the standards, guidance, and best practices required to

fulfil the regulatory requirements in respect of the Operational Risk management processes, specified in Section 7.5 of Chapter 7 of BBR. The AFSA will use these standards, norms and key elements to assess compliance with BBR Rules on Operational Risk management processes and procedures and the effectiveness of such processes.

2. A Bank should record all Operational Risk events, including near misses and events which result in a positive financial outcome. Tools that an Authorised Firm may employ for identifying and assessing Operational Risk include:
 - (a) internal loss data collection and analysis;
 - (b) external data collection and analysis;
 - (c) risk assessments;
 - (d) business process mapping;
 - (e) risk and performance indicators; and
 - (f) scenario analysis.
3. GEN Rules require an Authorised Person in the AIFC to establish and maintain arrangements to provide its Governing Body and senior management with the information necessary to organise and control its activities, to comply with legislation applicable in the AIFC and to manage risks.
4. BBR Rule 7.5 (1) (e) requires Banks to establish and maintain reporting mechanisms specifically addressing the Operational Risk matters. The frequency of internal reporting of Operational Risks required by BBR Rule 7.5 (1) (f) should reflect the risks involved and the pace and nature of changes in the Bank's operating environment.
5. The following lists some of the items that an Authorised Firm should consider including in its internal reporting of Operational Risks:
 - (a) the results of monitoring activities;
 - (b) assessments of the Operational Risk framework performed by control functions such as internal audit, compliance, risk management and/or external audit;
 - (c) reports generated by (and/or for) supervisory authorities;
 - (d) material breaches of the Authorised Firm's risk appetite and tolerance with respect to Operational Risk;
 - (e) details of recent significant internal Operational Risk events and losses, including near misses or events that resulted in a positive return; and
 - (f) relevant external events and any potential impact on the Authorised Firm and its Operational Risk framework, including Operational Risk capital.
6. Banks are required to establish and maintain systems and controls, including but not limited to financial and risk systems and controls that ensure that its affairs are managed effectively and responsibly by its senior management. In order to comply with the rules in BBR Chapter 7, Banks are expected to establish and maintain a strong control environment that uses policies, processes and systems, appropriate internal controls and appropriate risk mitigation and/or transfer strategies.

7. In order to establish such a strong control environment to address Operational Risk, a Bank should consider the following:
 - (a) clear segregation of duties and dual control;
 - (b) clearly established authorities and/or processes for approval;
 - (c) close monitoring of adherence to assigned risk limits or thresholds;
 - (d) safeguards for access to, and use of, the Authorised Firm's assets and records;
 - (e) appropriate staffing level and training to maintain expertise;
 - (f) ongoing processes to identify business lines or products where returns appear to be out of line with reasonable expectations; and
 - (g) regular verification and reconciliation of transactions and accounts.

New Product Approval & Control

8. A Bank should have policies and procedures that address the process for review and approval of new products, activities, processes and systems. The review and approval process should include consideration of:
 - (a) inherent risks in any new product, service, or activity;
 - (b) resulting changes to the Authorised Firm's Operational Risk profile, appetite and tolerance, including changes to the risk of existing products or activities;
 - (c) necessary controls, risk management processes, and risk mitigation strategies;
 - (d) residual risk;
 - (e) changes to relevant risk limits;
 - (f) procedures and metrics to measure, monitor, and manage the risk of the new product or activity; and
 - (g) appropriate investment in human resources and technology infrastructure.

C. Specific elements of Operational Risk

Technology Risks & Business Continuity

9. This section of the CAG provides useful guidance on the expectations of the AFSA and compliance requirements in respect of managing operations risk related to use of IT systems, use of technology, business continuity. IT systems include the computer systems and information technology infrastructure required for the automation of processes and systems, such as application software, operating system software, network infrastructure, and desktop, server and mainframe hardware.
10. An Authorised Firm should consider the following in establishing its systems and controls for the management of IT system risks:
 - (a) governance and oversight controls that ensure technology, including outsourcing arrangements, is aligned with and supportive of the Authorised Firm's business objectives;

- (b) an Authorised Firm's organisation and reporting structure for technology operations, including adequacy of senior management oversight; and
 - (c) the appropriateness of the systems acquisition, development and maintenance activities, including the allocation of responsibilities between IT development and operational areas.
11. In order to comply with the BBR Rule 7.2 (4), a Bank should consider the following in establishing a framework to manage information security risks faced by it, in the course of its activities:
- (a) confidentiality: restriction of information access to persons or systems with appropriate authority, using firewalls and/or entry restrictions;
 - (b) the risk of loss or theft of customer data;
 - (c) integrity: safeguarding the accuracy and completeness of information and its processing;
 - (d) non-repudiation and accountability: ensuring that the person or system that processed the information cannot deny their actions; and
 - (e) internal security: including premises security, staff vetting; access rights and portable media, staff internet and email access, encryption, safe disposal of customer data, and training and awareness.

Outsourcing Risk

12. In order to comply with the BBR Rule 7.3, a Bank should consider the following guidance in establishing a framework to manage operational risks associated with its outsourcing activities. The assessment of outsourcing risk at the Bank may depend on several factors, including the scope and materiality of the outsourced activity, how well it manages, monitors and controls outsourcing risk, and how well the service provider manages and controls the potential risks of the operation.
13. Factors that the Bank should consider in establishing outsourcing arrangements include the following:
- (a) the financial, reputational and operational impact on the Authorised Firm of the failure of a service provider to perform adequately the activity;
 - (b) potential losses to an Authorised Firm's customers and counterparts in the event of a service provider failure;
 - (c) the consequences of outsourcing the activity on the ability and capacity of the Authorised Firm to conform with regulatory requirements and changes in such requirements;
 - (d) the interrelationship of the outsourced activity with other activities within the Authorised Firm;
 - (e) the cost associated with the outsourcing;
 - (f) any affiliation or other relationship between the Authorised Firm and the service provider;

- (g) the regulatory status of the service provider;
- (h) the degree of difficulty and time required to select an alternative service provider or to bring the business activity in-house, if necessary;
- (i) the complexity of the outsourcing arrangement. For example, the ability to control the risks where more than one service provider collaborates to deliver an end-to-end outsourcing solution; and
- (j) any data protection, security and other risks which may be adversely affected by the geographical location of an outsourcing service provider. To this end, Specific Risk management expertise in assessing country risk related, for example, to political or legal conditions, could be required when entering into and managing outsourcing arrangements that are taken outside of the home country.

Additional Capital Requirement

14. The following are examples of instances in which the AFSA might invoke its power to impose additional capital requirements on specific Banks referred in BBR Rule 7.4, on the basis of its assessment that those banks are vulnerable to common operational risk drivers.

Examples

- outsourcing of important operations by many banking business firms to a single provider
- severe disruption to providers of payment and settlement services.

Chapter 8

Interest Rate Risk in the Banking Book (IRRBB)

A. IRRBB - Management Framework & Governance

1. This section of the CAG sets out the standards, guidance and norms required to fulfil the regulatory requirements in respect of the Risk management framework and governance addressing IRRBB, as specified in Section 8.1 of Chapter 8 of BBR. These elements convey the supervisory expectations of the AFSA regarding the framework for management of IRRBB and its governance. The AFSA will use these standards, norms and key elements specified here to assess compliance with BBR Rules on management of its IRRBB exposures.
2. A Bank's IRRBB management policy is expected to address the following:
 - (a) effective systems for the accurate and timely identification, measurement, evaluation, management and control or mitigation of IRRBB, and reporting to the firm's governing body and senior management;
 - (b) regular review, and independent internal or external validation, of any model used by the firm to manage IRRBB (including review of significant assumptions);
 - (c) prudent and appropriate limits that are consistent with the firm's risk tolerance, risk profile and capital;
 - (d) procedures for tracking and reporting exceptions and deviations from limits;
 - (e) the use of the output of the risk measurement under the policy to report the level of that risk to the senior management and governing body of the Bank;
 - (f) the measurement to be capable of measuring the risk using the earnings approach;
 - (g) the measurement to be clearly defined and consistent with the nature and complexity of the structure of the firm's balance sheet;
 - (h) provide for balancing cash flows as part of managing IRRBB; and
 - (i) approval by the governing body, or a committee of the governing body, of any major hedging or risk-management initiatives.

Governing Body responsibilities

3. The GEN Rules include Rules and Guidance regarding corporate governance requirements for Banks, including the responsibilities of a Bank regarding risk management. In addition to that, the standards and guidance provided under this section set out the expectations of the AFSA in respect of a Bank's approach and performance in meeting the regulatory requirements relating to the role of its Governing Body in managing its IRRBB exposure.
4. The governing body of a Bank may delegate the responsibility for establishing the management and governance framework for IRRBB, including but not limited to policies and strategies to a committee of the governing body, like Asset & Liability Committee (ALCO), which is the designated senior management committee for managing balance sheet structure and interest rate risk associated with it.
5. A Bank that conducts banking activities or complex principal dealing activities should establish a committee to design and implement a framework for IRRBB management. This committee may be the same as that described in 8 above.

B. IRRBB Management Processes and standards

1. This section of the CAG sets out the standards, guidance, and best practices required to fulfil the regulatory requirements in respect of the IRRBB management processes, specified in Section 7.5 of Chapter 8 of BBR. The AFSA will use these standards, norms and key elements to assess compliance with BBR Rules on IRRBB management processes and procedures and the effectiveness of such processes.
2. The risk of changes in the capital values of instruments resulting from changes in interest rates is taken to be market risk.
3. The AFSA expects a Bank to set quantitative and qualitative limits and targets for managing its exposure to IRRBB. The Bank should establish and enforce operating limits and other practices that maintain IRRBB exposures within levels consistent with their internal policies and that accord with their approach to measuring the risk. In particular, Banks should set a limit on the extent to which floating rate exposures are funded by fixed rate sources and vice versa to limit the risk. In floating rate lending, Banks are expected to limit the extent to which they run any basis risk that may arise if lending and funding are not based on precisely the same market interest rate (e.g. LIBOR)
4. The AFSA also expects the internal independent validation to be done by a function that is independent of the function that assumed or incurred the risk.
5. The systems and processes for the measurement of IRRBB as required by the BBR Rule 8.1 (4) (c) should encompass all material drivers of IRRBB. The measurement should evaluate the effect of rate changes on earnings or economic value meaningfully and accurately within the context and complexity of the Bank's business activities. Depending on the size and complexity of its banking book, the Bank may also need to measure IRRBB using the economic value approach.
6. The IRRBB risk measurement systems and methodologies employed by a Bank to meet the requirements under BBR Rule 8.1 (4):
 - (a) should flag excessive exposures;
 - (b) should evaluate all significant interest rate risk arising from the full range of a Bank's assets, liabilities and off-balance-sheet positions, across both trading and banking books;
 - (c) should ensure that an integrated view of IRRBB across products and business lines is available to management, particularly when different measurement systems and methods are used across different business lines;
 - (d) should ensure accurate and timely data on all aspects of current positions.
 - (e) employ generally accepted financial models and ways of measuring risk; and
 - (f) ensure accurate and timely data on all aspects related to current positions.

C. Stress Testing & IRRBB

1. This section of the CAG provides useful guidance on the supervisory expectations of the AFSA in respect of the stress testing of exposure to IRRBB. In order to demonstrate full compliance with the stress testing requirements mandated in the rules in section 8.4 of BBR, Banks are expected to comply with the standards, norms and guidance provided in

this section, in an effective manner.

2. For the purposes of BBR Rule 8.4, a Bank should consider the standards for stress testing recommended in the paper published by the Basel Committee for Banking Supervision – Principles for management and supervision of interest rate risk – in July 2004. In particular, a Bank should include the technical specifications of a standardised interest rate shock detailed in Annex 3 of that paper as part of its systems for measurement of interest rate risk in its banking book.
3. A Bank should measure its vulnerability to loss in stressed market conditions, including market conditions in which significant assumptions are no longer met, and consider the results of that measurement when establishing and reviewing its IRRBB management policy. Stress scenarios for this exercise should include:
 - (a) historical scenarios such as the Asian crisis in the late 1990s;
 - (b) changes in the general level of interest rates (for example, changes in yields of 100 basis points or more in 1 year);
 - (c) changes in the relationships between significant market rates (basis risk), such as:
 - i) a rapid increase in term deposit rates, savings deposit rates and benchmark rates like LIBOR (but with no change in the prime rate); and
 - ii) a drop in the prime rate (but with no change in term deposit rates, savings deposit rates and benchmark rates);
 - (d) changes in interest rates in separate time bands to different relative levels (that is, yield curve risk or changes in how interest rates vary over time);
 - (e) changes in the liquidity of financial markets;
 - (f) changes in the volatility of market rates; and
 - (g) changes in business assumptions and parameters such as the correlation between 2 currencies. In particular, changes in assumptions used for illiquid instruments and instruments with uncertain contractual maturities help understanding of an Bank's risk profile.

D. Stress Testing of IRRBB & its relationship to ICAAP

1. Chapter 8 of BBR dealing with IRRBB and its management does not impose an explicit Capital Requirement relating to IRRBB. Consistent with the approach prescribed under Basel III framework, the AFSA intends to address IRRBB as part of its Pillar II supervisory process. So, the AFSA expects a Bank to diligently carry out the evaluations and stress tests mandated in Chapter 8 of BBR and include the results as part of its annual ICAAP.
2. Following a Supervisory review of the annual ICAAP submission, the AFSA may impose an Individual Capital Requirement (ICR) on the Bank involved, if it is of the view that the Bank's minimum Capital Requirement as defined in Chapter 4 of BBR is insufficient to address adequately all its risks, and in particular its exposure to IRRBB.
3. In order to comply with the BBR Rule 8.6 in an effective manner, A a Bank's approach

to evaluating and managing IRRBB as part of its ICAAP should include the following:

- (a) the internal definition of, and the boundary between, banking book and trading book;
- (b) a definition of economic value showing that it is consistent with the method used to value assets and liabilities (e.g. discounted cashflows);
- (c) the size and form of the different interest rate shocks to be used for stress-testing;
- (d) the use of a dynamic or static approach in the application of interest rate shocks;
- (e) the treatment of commonly called “pipeline transactions” (including any related hedging);
- (f) the aggregation of multi-currency interest rate exposures;
- (g) the inclusion (or not) of non-interest-bearing assets and liabilities (including capital and reserves)
- (h) the treatment of current and savings accounts (that is, the maturity attached to exposures without a contractual maturity);
- (i) the treatment of fixed-rate assets or liabilities, if customers have a right to repay or withdraw early;
- (j) the extent to which sensitivities to small changes can be scaled up linearly without significant loss of accuracy (covering both convexity generally and the nonlinearity of pay-off associated with explicit option products);
- (k) the degree of granularity employed (for example, offsets within a time band or zone);
- (l) whether all future cash flows or only principal balances are included.

Chapter 9

Liquidity Risk

A. Introduction

1. Liquidity risk is the risk that a Bank may not be able to meet its financial obligations as they fall due.
2. Funding liquidity risk of a Bank, is the risk that the Bank will not be able to efficiently meet:
 - (h) its expected and unexpected current and future cash flow; and
 - (i) its collateral needs;
3. without affecting its daily operations or financial condition.
4. Funding liquidity risk may arise because of unexpected withdrawals or transfers of funds by the Bank's depositors and other account holders.
5. On the assets side, a Bank may face funding strain due to problems in its financing and investment portfolio. The Bank may also face liquidity risk because of counterparties' operational and information system failures, or because problems in a payment and settlement system result in late payment or non-payment of funds.
6. Examples of problems that may lead to liquidity risk
 - fall in the value of marketable assets held for trading or in the banking book
 - lack of liquid markets for holdings
 - impairment of assets due to the financial distress of customers
 - large drawdowns under committed line-of-credit agreements
7. Market liquidity risk, of a Bank, is the risk that the Bank cannot offset or eliminate a position at the market price because of market disruption or inadequate market depth. In a period of crisis, problems with funding liquidity may lead to asset sales and may lower asset prices and affect the Bank's market liquidity. Efforts by a Bank to sell a significant amount of its assets because of doubts about their quality and future performance can affect market liquidity by reducing the price of assets.
8. The collapse of market liquidity is also likely when market-makers are risk-averse or lack absorption capacity. The interaction can also become significant when Banks start stockpiling liquid assets because of pessimistic expectations about market conditions. Overall market confidence is an important factor in understanding the interrelationship between funding and market liquidity.
9. Liquidity risk tolerance refers to both the absolute risk a Bank is open to take and the actual limits that the Bank pursues. The Bank's liquidity risk tolerance must be appropriate for its business and its role in the financial system and must be expressed in a way that clearly states that it is a trade-off between risks and profits.
10. The terms 'risk tolerance' and 'risk appetite' are used interchangeably to describe both the absolute risks a Bank is open to take (which some may call risk appetite) and the actual limits within its risk appetite that a Bank pursues (which some call risk tolerance). For example, a Bank may have set, as the absolute liquidity risk it is willing to take, a limit of

20% (risk tolerance) but at the same time prefer to keep to an actual level of 10% (risk appetite).

B. Liquidity Risk - Management Framework & Governance

1. This section of the CAG sets out the standards, guidance and norms required to fulfil the regulatory requirements in respect of the Liquidity Risk management framework and governance, as specified in Chapter 9 of BBR. These elements convey the supervisory expectations of the AFSA on Liquidity risk management framework and its governance. Compliance with the standards and guidance detailed in this section of CAG, both in letter and in spirit, is required to demonstrate fulfillment of the regulatory obligations specified in Chapter 9 of BBR. The AFSA will use these standards, norms and key elements specified here to assess compliance with BBR Rules on Liquidity Risk management.
2. A Bank's Liquidity risk management policy is expected to address the following key elements:
 - (a) effective systems for the accurate and timely identification, measurement, evaluation, management and control or mitigation of Liquidity risk;
 - (b) the criteria and responsibility for reporting, and the scope, manner and frequency of reporting, to the governing body or a committee of the governing body;
 - (c) prudent and appropriate Liquidity risk limits that are consistent with the Bank's risk tolerance, risk profile and capital, and with the management's ability to manage;
 - (d) who is responsible for identifying, measuring and reporting Liquidity risk; and
 - (e) procedures for tracking and reporting exceptions to, and deviations from, limits or policies.
 - (f) the Bank's approach to day-to-day (and, where appropriate, intraday) liquidity management;
 - (g) the Bank's funding strategy and contingency funding plan; and
 - (h) effective information systems to enable the identification, measurement, monitoring and control of liquidity risk exposures and funding needs.
3. The AFSA expects that an Bank's Liquidity Risk strategy will set out the approach that the Bank 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 Bank's Liquidity Risk policy.
4. The AFSA expects that an Bank's Liquidity Risk policy and strategy for managing Liquidity Risk will take into account the need to:
 - (a) develop a liquidity management strategy, policies and processes in accordance with the Bank's stated Liquidity Risk tolerance;
 - (b) ensure that the Bank maintains sufficient liquidity at all times;
 - (c) determine the structure, responsibilities and controls for managing Liquidity Risk and for overseeing the liquidity positions of all branches and subsidiaries in the jurisdictions in which the Bank is active, and outline these elements clearly in the Bank's liquidity policies;

- (d) have in place adequate internal controls to ensure the integrity of its Liquidity Risk management processes;
 - (e) ensure that stress tests, contingency funding plans and holdings of HQLA are effective and appropriate for the Bank;
 - (f) establish a set of reporting criteria, specifying the scope, manner and frequency of reporting to various recipients (such as the Governing Body, senior management and the asset/liability committee) and who is responsible for preparing the reports
 - (g) establish the specific procedures and approvals necessary for exceptions to policies and limits, including the escalation procedures and follow-up actions to be taken for breaches of limits;
 - (h) monitor closely current trends and potential market developments that may present significant, unprecedented and complex challenges for managing Liquidity Risk so that appropriate and prompt changes to the liquidity management strategy can be made as needed; and
 - (i) continuously review information on the Bank's liquidity developments and report regularly to the Governing Body
5. A Bank's liquidity management should take account of its liquidity needs under periods of liquidity stress (including those involving the loss or impairment of funding sources, whether secured or unsecured), as well as normal conditions. The source of liquidity stress could be specific, a Bank must ensure that its governing body is informed immediately of new and emerging liquidity concerns.

Examples of concerns

- increasing funding costs, concentrations and requirements
 - the lack of alternative sources of funding
 - significant or persistent breaches of limits to control liquidity risk exposures
 - any significant decline in the Bank's holdings of unencumbered high-quality liquid assets
 - changes in external market conditions that could signal potential difficulties.
6. In accordance with BBR Rule 9.1, an Bank 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 Bank 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 cashflows; and
 - (c) by further borrowing.

“future profile of cashflows” refers to the pattern of cashflows including, for example, in the terms of source, maturity date, amounts and nature of cashflows.

7. In order to comply with BBR Rule 9.1 and 9.2 the senior management and the governing body of an Bank are expected to demonstrate a thorough understanding of the links between funding liquidity risk and market liquidity risk, as well as how other risks, including credit,

market, operational and reputation risks, affect the Bank's overall Liquidity Risk strategy. In respect of this, 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 Bank'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 Bank's Liquidity Risk; and
- (d) oversee the establishment of effective internal controls over the Liquidity Risk management process.

C. Liquidity Risk management

1. In respect of BBR Rule 9.3, liquidity risk tolerance of a Bank defines the level of liquidity risk that the Bank is willing to assume. A Bank's risk management strategy usually refers to risk tolerance although risk appetite may also be used. The two terms are used interchangeably to describe both the absolute risks a Bank is open to take (by some called risk appetite) and the actual limits within its risk appetite that a Bank pursues (by some called risk tolerance).
2. In order to implement and maintain a comprehensive liquidity risk management framework to comply with the requirements imposed by BBR Rules 9.1 & 9.2, such a framework implemented by a Bank is expected to include:
 - (a) a statement of the Bank's liquidity risk tolerance, approved by the Bank's governing body;
 - (b) a statement of the Bank's liquidity risk management strategy and policy, approved by the governing body;
 - (c) a statement of the Bank's operating standards (in the form of policies, procedures and controls) for identifying, measuring, monitoring and controlling its liquidity risk in accordance with its liquidity risk tolerance;
 - (d) a statement of the Bank's funding strategy, approved by the governing body; and
 - (e) a contingency funding plan.
3. The framework must clearly set out the Bank's organisational structure as it relates to liquidity risk management, and must define the responsibilities and roles of senior management involved in managing liquidity risk.
4. The framework must be formulated to ensure that the Bank maintains sufficient liquidity to withstand a range of liquidity stress events (whether specific to the Bank, market-wide, or a combination of the two), including the loss or impairment of both unsecured and secured funding sources. The framework must be well integrated into the Bank's overall risk management process.
5. The liquidity risk management framework must be subject to ongoing effective and comprehensive independent review. In most cases, the independent reviews could be facilitated

by the Bank's internal audit function but may require the engagement of independent experts outside that function.

6. A Bank's liquidity risk management oversight function must be operationally independent. It must be staffed with personnel who have the skills and authority to challenge the Bank's treasury and other liquidity management functions.
7. The Bank must have adequate policies, procedures and controls to ensure that the Bank's governing body and senior management are informed immediately of new and emerging liquidity concerns. Such concerns could include:
 - (a) increasing funding costs or concentrations
 - (b) increases in funding requirements
 - (c) shortage of other sources of liquidity
 - (d) material or persistent breaches of limits
 - (e) significant decline in the Bank's holdings of unencumbered liquid assets
 - (f) changes in market conditions that could signal future difficulties.
8. The Bank's senior management must be satisfied that all of the Bank's business units whose activities affect the Bank's liquidity:
 - (a) are fully aware of the Bank's liquidity risk management strategy; and
 - (b) operate in accordance with the Bank's approved policies, procedures, limits and controls.
9. If a Bank delegates its day-to-day Liquidity Risk management to another member of its group, in accordance with BBR Rule 9.3, ultimate responsibility for the liquidity risk management function and the responsibility for its effectiveness will remain with the Bank's Governing Body.

Identifying Liquidity Risk

10. A Bank must fulfill the requirements in this Section, in order to comply with the provisions in BBR Rule 9.1, in relation to identification of liquidity risk. In this regard, a Bank must:
 - (a) assess the repayment profiles of its assets under both normal and stressed market conditions resulting from either systemic stress or idiosyncratic stress.
 - (b) assess the reliability of committed facilities under stressed conditions.
 - (c) consider potential liability concentrations when determining the appropriate mix of liabilities.
 - (d) consider how its off-balance sheet activities affect its cash flows and Liquidity Risk profile under both normal and stressed conditions.
11. If a Bank has significant, unhedged 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 Bank in stressed conditions.
12. As part of the assessment of the repayment profiles of its assets as referred in 1 (a) above, an

Bank should identify significant concentrations within its asset portfolio.

13. In order to assess the potential liability concentrations referred in 1 (c) above, an Bank should consider factors including, but not limited to:
 - (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.

14. A Bank is also 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

15. In order to meet the expectations of the AFSA and meet the rules in BBR 9.1 regarding measuring and monitoring of Liquidity Risk, a Bank must ensure that its Liquidity Risk measurement systems are:
 - (a) Capable of measuring the extent of its Liquidity Risk exposure;
 - (b) Equipped with early warning indicators to support its daily liquidity risk management processes;
 - (c) Capable of dealing with the dynamic aspects of the Bank's liquidity profile;
 - (d) Capable of measuring the Bank's Exposure to Foreign Currency Liquidity Risk, where appropriate;
 - (e) Capable of measuring the Bank's intra-day liquidity positions, where appropriate; and
 - (f) Capable of measuring the Bank's Exposure to PSIA and Islamic Contract Liquidity Risk, where appropriate.

16. An Bank must establish and maintain a system of management reporting which provides relevant, accurate, comprehensive, timely, forward looking and reliable Liquidity Risk reports to relevant functions within the Bank.

17. Early warning indicators for day-to-day liquidity risk management should be designed to

assist the Bank to identify any negative trends in its liquidity position and to assist its management to assess and respond to mitigate its exposure to those trends.

18. An Bank should actively manage its intraday liquidity positions and risks in order to meet payment and settlement obligations on time under both normal and stressed conditions, thus contributing to the orderly functioning of payment and settlement systems.
19. Management information in respect of liquidity risk management 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 Bank's reputation in the market and the condition of the market itself.
20. Where an Bank 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

21. In order to meet the expectations of the AFSA and meet the rules in BBR 9.1 in relation to Controlling Liquidity Risk, a Bank must ensure that its Liquidity Risk management systems:
 - (a) enable the Bank's Governing Body and senior management to review compliance with limits set to comply with BBR Rule 9.2 (3) and operating procedures; and
 - (b) has appropriate approval processes, limits and other mechanisms designed to provide reasonable assurance that the Bank's Liquidity Risk management processes are adhered to.
 - (c) An Bank must periodically review and, where appropriate, adjust the limits when its Liquidity Risk policy changes.
 - (d) An Bank must promptly resolve any policy or limit exceptions according to the processes described in its Liquidity Risk policy.
22. An Bank should set limits to control its liquidity risk exposure and vulnerabilities. Limits and corresponding escalation procedures should be reviewed regularly. Limits should be relevant to the business in terms of its location, complexity of activity, nature of products, currencies and markets served. If an Bank breaches a liquidity risk limit, it should implement a plan to review its exposure and reduce it to a level that is within the limit.
23. An Bank should actively manage its collateral positions, differentiating between encumbered and unencumbered assets. An Bank should monitor the legal entity and physical location where collateral is held and how quickly the collateral may be used.

Funding Strategy

24. In order to meet the requirements in BBR Rule 9.5 on funding strategy, a bank must:
 - (a) identify the main factors that affect its ability to raise funds and must monitor those factors closely to ensure that its estimates of its fund-raising capacity remain valid.
 - (b) take into account how other risks affect its overall liquidity.
 - (c) Employ robust assumptions that are consistent with the Bank's liquidity risk management strategy and business objectives.
25. The funding strategy implemented to fulfill BBR Rule 9.5 must include:
 - (a) an analysis of funding requirements under various scenarios;
 - (b) the maintenance of a reserve of unencumbered high-quality liquid assets that can be used, without impediment, to obtain funding in times of liquidity stress;
 - (c) the regular review of, and diversification in, the sources and tenor of funding;
 - (d) regular efforts to establish and maintain relationships with liability holders and funding sources; and
 - (e) the regular assessment of the Bank's capacity to sell assets and raise funds quickly.
26. In preparing its strategy, the Bank must be aware that sources of funding such as guarantees and other commitments that may be readily available to the Bank in normal conditions may not be available in times of stress, even if the guarantee or commitment is described as irrevocable.
27. An Bank should maintain an ongoing presence in its chosen funding markets and strong relationships with funds providers.

Stress Testing

28. An Bank is required to conduct stress tests regularly. The frequency with which an Bank should conduct stress tests will depend on the risks to the particular Bank. For some Banks, it may be adequate to conduct tests annually, but, for others, it may be necessary to conduct tests more frequently e.g. quarterly
29. An Bank should consider carefully the design of stress scenarios and the variety of shocks used in its liquidity stress testing programme. Regardless of how strong its current liquidity situation appears to be, it should take a conservative approach when setting stress testing assumptions. It should consider the potential impact of severe stress scenarios including, but not limited to:
 - (a) a simultaneous drying up of market liquidity in several previously highly liquid markets;
 - (b) severe constraints in accessing secured and unsecured funding;
 - (c) restrictions on currency convertibility; and
 - (d) severe operational or settlement disruptions affecting one or more payment or

settlement systems.

30. The identification of the possible balance sheet and off-balance sheet impact referred to in BBR Rule 9.7 (2)(c) should take into account:
 - (a) possible changes in the market's perception of the Bank and the effects that this might have on the Bank's access to the markets, including:
 - (i) where the Bank 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 Bank may rely on committed facilities made available to it;
 - (b) whenever applicable the possible effect of each scenario tested on currencies whose exchange rates are currently pegged or fixed; and
 - (c) general market turbulence may trigger a substantial increase in the extent to which persons exercise rights against the Bank under off-balance sheet instruments to which the Bank is party;
 - (d) access to OTC derivative and foreign exchange markets is sensitive to credit- ratings;
 - (e) Early Amortisation in asset securitisation transactions with which the Bank has a connection may be triggered;
 - (f) its ability to securitise assets may be reduced; and
 - (g) there may be a potential need to buy back debt or honour non-contractual obligations to mitigate reputational risk.
31. An Bank must ensure that stress tests conducted to comply with BBR Rule 9.5, enable it to analyse the impact of stress scenarios on its liquidity positions, as well as on the liquidity positions of its individual business lines.
32. An Bank must ensure that results of the stress tests are integrated into its strategic planning process and its day-to-day risk management practices. The Bank must also apply the results of the stress tests:
 - (a) to adjust its liquidity management strategy, policies and positions, including to determine an appropriate buffer of HQLA;
 - (b) in assessing and planning for potential funding shortfalls as part of its Contingency Funding Plan;
 - (c) for the setting of internal limits; and
 - (d) for the purpose of the IRAP and ICAAP assessments under chapter 10, where applicable.
33. An Bank must ensure that the stress test results and vulnerabilities and any resulting actions are reported to, and discussed with, its Governing Body and the AFSA.

34. If the AFSA considers that an Bank has not carried out effective stress tests under BBR Rules 9.5, it may use its power under AIFC Financial Services Framework Regulations to require the Bank to maintain a buffer of liquid assets in excess of that required under LCR and liquid assets buffer rules.

Contingency Funding Plan (CFP)

35. A Contingency Funding Plan, or CFP, is a compilation of policies, procedures and action plans for responding to severe disruptions to an Bank's ability to meet its liabilities as they fall due or its ability to fund some or all of its activities quickly and at a reasonable cost.
36. In order to comply with the requirements in BBR Rule 9.8 on Contingency Funding Plan, a bank's CFP must:
- (a) list the events or circumstances that will lead the Bank to put any part of the plan into action;
 - (b) set out available potential contingency funding sources and the amount of funds an Bank estimates can be derived from these sources;
 - (c) estimate the lead time needed to tap additional funds from each of the contingency sources;
 - (d) 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
 - (e) contain clear administrative policies and procedures that will enable the Bank to manage the implementation of the plan, including:
 - (i) the roles and responsibilities of senior management, including who has the authority to invoke the CFP;
 - (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 Bank'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.
37. The CFP should provide a framework with a high degree of flexibility so that an Bank can respond quickly in a variety of situations. The CFP should assist the Bank to manage a range of scenarios of severe liquidity stress that include both Bank-specific and more generalised market-wide stress, as well as the potential interaction between them
38. The CFP's design, plans and procedures should be closely integrated with the Bank's

ongoing analysis of Liquidity Risk and with the results of the scenarios and assumptions used in stress tests.

39. The CFP should, for each of the tested scenarios, demonstrate that the Bank has sufficient liquid financial resources to meet its liabilities over a range of different time periods, including intraday.
40. An Bank must ensure that its CFP accounts for:
 - (a) the impact of stressed market conditions on its ability to sell or securitise assets;
 - (b) the link between asset liquidity and funding liquidity;
 - (c) second round and reputational effects related to execution of contingency funding measures; and
 - (d) the potential to transfer liquidity across Group entities, borders and lines of business, taking into account legal, regulatory, operational and time zone constraints.
41. Key aspects of CFP testing include ensuring that roles and responsibilities are appropriate and understood, confirming that contact information is up to date, proving the transferability of cash and collateral (especially across borders and entities) and ensuring that the necessary legal and operational documentation is in place to execute the plan at short notice. The Bank should also test key assumptions regularly, such as its ability to sell or repo certain assets or periodically draw down credit lines.
42. An Bank should ensure effective coordination between teams managing issues surrounding liquidity crises and business continuity. Liquidity crisis team members and alternates should have ready access to CFPs on-site and off-site.

Management of Encumbered Assets

1. In relation to BBR Rule 9.9, the limit for encumbered assets is intended to mitigate the risks arising from excessive levels of encumbrance in terms of:
 - (a) the effect on the Bank's cost of funding; and
 - (b) the implications for the sustainability of its long-term liquidity position

D. Liquidity Coverage Ratio

1. The objective of the LCR is to promote short-term resilience of an Bank's liquidity risk profile. The LCR aims to ensure that an Bank maintains an adequate level of unencumbered HQLA that can be converted into cash to meet its liquidity needs for a 30 calendar day period under a severe liquidity stress scenario.
2. The purpose of requiring Banks to maintain the HQLA portfolio and to meet the LCR requirement, is to ensure that such Banks are resilient, in the short term, to liquidity risk. The LCR requirement is intended to ensure that such a Bank always holds unencumbered assets that can be readily converted into sufficient cash to meet the Bank's liquidity needs

for 30 calendar days even under severe liquidity stress.

3. The LCR is calculated under Rule 9.14 using the following formula:

$$= \frac{\text{Value of stock of HQLA}}{\text{Total Net Cash Outflows over the next 30 calendar days}}$$

4. The LCR has two components:
- (a) Value of the stock of HQLA in stressed conditions; and
 - (b) Total Net Cash Outflows, calculated according to the stressed scenario parameters outlined in this section
5. The stress scenario entails both institution-specific and systemic shocks including:
- (a) the run-off of a proportion of retail deposits;
 - (b) a partial loss of unsecured wholesale funding capacity;
 - (c) a partial loss of secured, short-term financing with certain collateral and counterparties;
 - (d) additional contractual outflows that would arise from a downgrade in the Bank's public credit rating, where applicable, by up to and including three notches, including collateral posting requirements;
 - (e) increases in market volatility that affect the quality of collateral or potential future exposure of derivative positions and so require larger collateral haircuts or additional collateral, or lead to other liquidity needs;
 - (f) unscheduled draws on committed but unused credit and liquidity facilities that the Bank has provided to its clients; and
 - (g) the potential need for the Bank to buy back debt or honour non-contractual obligations to mitigate reputational risk.
6. For the purposes of complying with BBR Rule 9.14 (3), a currency is considered material to a Bank, if the aggregate liabilities denominated in that currency amount to 5% or more of the Bank's total liabilities.

High Quality Liquid Assets (HQLA)

7. Assets that meet the conditions and requirements specified in the following paragraphs 7 to 15 are eligible to be considered as HQLA. Those assets are considered to be HQLA as they can be converted easily and immediately into cash at little or no loss of value. To qualify as HQLA, assets should be liquid in markets during a time of stress.
8. In determining whether or not the market for an asset can be relied upon to raise liquidity during a time of stress, the following fundamental factors should be taken into account:
- (a) low risk: high credit standing of the issuer and a low degree of subordination, low duration, low legal risk, low inflation risk, denomination in a convertible currency with low foreign exchange risk;

- (b) ease and certainty of valuation;
 - (c) low correlation with risky assets, not subject to wrong-way risk; and
 - (d) listing on a developed and recognised exchange.
9. In assessing the reliability of a market for raising liquidity during a time of stress, the following market-related characteristics should be taken into account, though not limited to them:
- (a) active and sizable market, including active outright sale or repo markets at all times. This can be demonstrated through:
 - (i) historical evidence of market breadth and market depth (low bid-ask spreads, high trading volumes, large and diverse number of market participants); or
 - (ii) existence of robust market infrastructure (presence of multiple committed market makers);
 - (b) low price volatility, including historical evidence of relative stability of market terms (e.g. prices and haircuts) and volumes during stressed periods; or
 - (c) flight to quality, i.e. that historically the market has shown a tendency to move into these types of high quality assets in a systemic crisis.

HQLA – general operational requirements

10. To be eligible as HQLA, assets in the portfolio of HQLA must be appropriately diversified in terms of type of assets, type of issuer and specific counterparty or issuer.
11. To be eligible as HQLA, assets must meet the following requirements:
- (a) the assets must be under the control of the specific function or functions charged with managing the liquidity of the Bank who must have the continuous authority and legal and operational capability to liquidate any asset in the stock; and
 - (b) a representative portion of the assets in the stock of HQLA must be liquidated periodically and at least annually by the Bank to test its access to the market, the effectiveness of its processes for liquidation, the availability of the assets, and to minimise the risk of negative signalling during a period of actual stress.
12. To be eligible as HQLA, an asset must also meet the following requirements:
- (a) the asset must be unencumbered and free of legal, regulatory, contractual or other restrictions that affect the ability of the Bank to liquidate, sell, transfer, or assign the asset;
 - (b) the asset must not be pledged, either explicitly or implicitly, to secure, collateralise or credit-enhance any transaction, nor be designated to cover operational costs (such as rents and salaries); and
 - (c) an asset received in a reverse repo or securities financing transactions that is held at the Bank, is eligible for inclusion in the stock of HQLA only if the asset has not been

rehypothecated and is legally and contractually available for the Bank's use.

13. These requirements in paragraphs 10 & 11 above are intended to ensure that the stock of HQLA is managed in such a way that the Bank can, and is able to demonstrate that it can, immediately use the assets as a source of contingent funds that is available to convert into cash to fill funding gaps between cash inflows and outflows at any time during the 30-day stress period, with no restriction on the use of the liquidity generated.
14. In respect of paragraph 10 (a) above, the control of the HQLA may be evidenced either by:
 - (a) maintaining assets in a separate pool managed by the identified liquidity management function (typically the treasurer) with the sole intent to use it as a source of contingent funds; or
 - (b) demonstrating that the relevant function can liquidate the asset at any point in the 30-day stress period and that the proceeds are available to the function throughout the 30-day stress period without directly conflicting with a stated business or risk management strategy.
15. Operational capability to liquidate assets referred to in paragraph 10 (b) above, requires procedures and appropriate systems to be in place. This includes providing the liquidity management function with access to all necessary information to liquidate any asset at any time. Liquidation of the asset should be executable operationally within the standard settlement period for the asset class in the relevant jurisdiction.

Caps on different types of HQLA – calculation of LCR

16. Assets eligible to be included in the stock of HQLA for the purpose of the LCR calculation are classified under the following two categories:
 - (a) Level 1 HQLA, consisting of the highest quality and most liquid assets; and
 - (b) Level 2 HQLA, including Level 2A HQLA and Level 2B HQLA, consisting of other high quality liquid assets.
17. When calculating the total stock of HQLA, an Bank must apply the following caps in respect of each category of assets:
 - (a) Level 1 HQLA can be included in the total stock of HQLA without any limit (i.e. up to 100% of HQLA);
 - (b) Total Level 2 HQLA, including both Level 2A HQLA and Level 2B HQLA, can comprise only up to 40% of the total stock of HQLA; and
 - (c) Level 2B HQLA can comprise only up to 15% of the total stock of HQLA within the overall 40% limit on Level 2 HQLA in (b).
18. The caps on Level 2 HQLA and Level 2B HQLA must be determined after applying the haircuts required under paragraphs 22 & 23, and after unwinding the amounts of HQLA involved in short-term secured funding, secured lending and collateral swap transactions maturing within 30 calendar days that involve the exchange of HQLA.
19. The assets to be included in each category of HQLA must be restricted to assets being held

or owned by the Bank on the first day of the stress period, irrespective of their residual maturity.

20. The following paragraphs illustrate how the caps on various types of HQLA, as specified in paragraphs 15 & 16 are to be applied in practice, for the calculation of LCR.
21. The adjusted amounts of HQLA should be calculated as the amount of HQLA that would result after unwinding those short-term secured funding, secured lending and collateral swap transactions that involve the exchange of any HQLA for any other HQLA. The calculation of the stock of HQLA for paragraph 15 can be expressed as the following formula:

$$\text{Stock of HQLA} = \text{Level 1 HQLA} + \text{Level 2A HQLA} + \text{Level 2B HQLA} - \text{Adjustment for 15\% cap} - \text{Adjustment for 40\% cap}$$

Where:

- (a) Adjustment for 15% cap = $\text{Max} (\text{Adjusted Level 2B HQLA} - 15/85 \times (\text{Adjusted Level 1 HQLA} + \text{Level 2A HQLA}), \text{Adjusted Level 2B HQLA} - 15/60 \times (\text{Adjusted Level 1 HQLA}, 0)$
- (b) Adjustment for 40% cap = $\text{Max} ((\text{Adjusted Level 2A HQLA} + \text{Adjusted Level 2B HQLA} - \text{Adjustment for 15\% cap}) - 2/3 \times \text{Adjusted Level 1 HQLA}, 0)$

Level 1 HQLA

22. Level 1 HQLA must be valued at market value and it consists of:
 - (a) banknotes and coin;
 - (b) central bank reserves, to the extent that such reserves are capable of being drawn down immediately in times of stress
 - (c) marketable securities representing claims on or claims guaranteed by sovereigns, central banks, Public Sector Entities (PSEs), the Bank for International Settlements, the International Monetary Fund, the European Central Bank and European Commission or Multilateral Development Banks (MDBs), and that satisfy all of the following conditions:
 - (i) they are assigned a zero % risk-weight according to Chapter 4 and App4 of this Module;
 - (ii) they are traded in large, deep and active repo or cash markets characterised by a low level of concentration
 - (iii) they have a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions; and
 - (iv) they are not an obligation of a financial institution or any of its associated entities
 - (d) in the case of sovereigns that are not eligible for zero % risk-weight,

sovereign or central bank debt securities issued in domestic currencies by the sovereign or central bank in the country in which the liquidity risk is being taken or in the Bank's home jurisdiction, where those securities satisfy all of the conditions in paragraph (c) (ii)(iii) and (iv) above;

- (e) in the case of sovereigns that are not eligible for zero % risk-weight, domestic sovereign or central bank debt securities issued in foreign currencies, up to the amount of the Bank's stressed net cash outflows in that specific foreign currency stemming from the Bank's operations in the jurisdiction where the Bank's liquidity risk is being taken, where those securities satisfy all of the conditions in paragraph (c) (ii)(iii) and (iv) above; and
- (f) any other types of assets approved by the AFSA under paragraph 24 as being eligible to be Level 1 HQLA.

Level 2A HQLA

23. Level 2A HQLA must be valued at market value and subject to a 15% haircut and it consists of:

- (a) marketable securities representing claims on or guaranteed by sovereigns, central banks, PSEs or MDBs that satisfy all of the following conditions:
 - (i) they are assigned a 20% risk-weight according to Chapter 4 and App4 of this Module;
 - (ii) they are traded in large, deep and active repo or cash markets characterised by a low level of concentration;
 - (iii) they have a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions (i.e. maximum decline of price or increase in haircut over a 30-day period during a relevant period of significant liquidity stress not exceeding 10%); and
 - (iv) they are not an obligation of a financial institution or any of its associated entities.
- (b) corporate debt securities (including commercial paper) and covered bonds that satisfy all of the following conditions:
 - (i) in the case of corporate debt securities: they must not be issued by a financial institution or any of its associated entities and must include only plain vanilla assets (i.e. not include complex structured products or subordinated debt) whose valuation is readily available based on standard methods and does not depend on private knowledge;
 - (ii) in the case of covered bonds: they must not be issued by the Bank itself or any of its associated entities
 - (iii) the assets must have a Credit Quality Grade of 1 from a recognised ECAI or, if the assets do not have a credit assessment by a recognised ECAI, they must be internally rated as having a probability of default (PD) corresponding to a Credit Quality Grade of 1;
 - (iv) they must be traded in large, deep and active repo or cash markets

- characterised by a low level of concentration; and
- (v) they must have a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions (i.e. maximum decline of price or increase in haircut over a 30-day period during a relevant period of significant liquidity stress not exceeding 10%); and
- (c) any other types of assets approved by the AFSA under paragraph 24 as being eligible to be Level 2A HQLA.

Level 2B HQLA

24. Level 2B HQLA must be valued at market value and subject to an appropriate haircut, as specified in (2), for each type of asset and it consists of:
- (a) residential mortgage backed securities that satisfy all of the following conditions, subject to a 25% haircut:
 - (i) they are not issued by, and the underlying assets have not been originated by, the Bank itself or any of its affiliated entities;
 - (ii) they have a Credit Quality Grade of 1 from a recognised ECAI;
 - (iii) they are traded in large, deep and active repo or cash markets characterised by a low level of concentration;
 - (iv) they have a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions, (i.e. maximum decline of price or increase in haircut over a 30-day period during a relevant period of significant liquidity stress not exceeding 20%);
 - (v) the underlying asset pool is restricted to residential mortgages and does not contain structured products;
 - (vi) the underlying mortgages are “full recourse” loans (i.e. in the case of foreclosure the mortgage owner remains liable for any shortfall in sales proceeds from the property) and have a maximum loan-to- value ratio (LTV) of 80% on average at issuance; and
 - (vii) the securitisations are subject to “risk retention” regulations which require issuers to retain an interest in the assets they securitise;
 - (b) corporate debt securities (including commercial paper) that satisfy all of the following conditions, subject to a 50% haircut:
 - (i) they are not issued by a financial institution or any of its affiliated entities;
 - (ii) they have a Credit Quality Grade of 2 or 3 from a recognised ECAI or, in the case the assets do not have a credit assessment by a recognised ECAI, are internally rated as having a probability of default (PD) corresponding to a Credit Quality Grade of 2 or 3;
 - (iii) they are traded in large, deep and active repo or cash markets characterised by a low level of concentration; and

- (iv) they have a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions, (i.e. maximum decline of price or increase in haircut over a 30-day period during a relevant period of significant liquidity stress not exceeding 20%);
- (c) equity shares that satisfy all of the following conditions, subject to a 50% haircut:
 - (i) they are not issued by a financial institution or any of its affiliated entities;
 - (ii) they are exchange traded and centrally cleared;
 - (iii) they are a constituent of the major stock index in the home jurisdiction, or where the liquidity risk is taken, as decided by the supervisor in the jurisdiction where the index is located;
 - (iv) they are denominated in the domestic currency of an Bank's home jurisdiction or in the currency of the jurisdiction where an Bank's liquidity risk is taken;
 - (v) they are traded in large, deep and active repo or cash markets characterised by a low level of concentration; and
 - (vi) they have a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions, (i.e. maximum decline of price or increase in haircut over a 30-day period during a relevant period of significant liquidity stress not exceeding 40%); and
- (d) any other types of assets approved by the AFSA under paragraph 24 as being eligible to be Level 2B HQLA.

Approval of other types of HQLA

25. The AFSA may approve other types of assets (in addition to those specified in this section of Chapter 9 of CAG) as being eligible to be included in the stock of HQLA for the purposes of the calculation of the LCR. In such cases, the AFSA will also specify whether they are to be classified as Level 1 HQLA or Level 2 HQLA and the haircut, if any, to be applied to them. In such cases, the AFSA may also define the conditions that the assets must satisfy to be treated as HQLA.

Other provisions relating to LCR calculation

26. For the purpose of calculating the LCR, if an eligible asset within HQLA becomes ineligible (e.g. due to a rating downgrade), an Bank is allowed to keep the asset in its stock of HQLA for an additional 30 calendar days to allow time to adjust its stock as needed or replace the asset.
27. For the purpose of calculating a consolidated LCR for a Financial Group, where applicable, qualifying HQLA held to meet statutory liquidity requirements at a legal entity or sub-consolidated level may be included in the stock at the consolidated level only to the extent that the related risks are also reflected in the consolidated LCR. Any surplus of HQLA held at the legal entity can be included in the consolidated stock of HQLA only if those assets

would also be freely available to the consolidated parent entity in times of stress.

28. An Bank must be able to meet its liquidity needs in each currency in which it has a material exposure. The currencies of the stock of HQLA of an Bank must be similar in composition to its liquidity needs by currency.

Total Net Cash Outflow

29. An Bank must calculate its Total Net Cash Outflow over the following 30 calendar days in accordance with the following formula:

Total Net Cash Outflows over the next 30 calendar days

$$= \text{total expected cash outflows} - \text{whichever is the lesser amount of total expected cash inflows or 75\% of total expected cash outflows}$$

30. Total expected cash outflows are calculated by multiplying the outstanding balances of various categories or types of liabilities and off-balance commitments by the rates at which they are expected to run off or be drawn down.
31. Total expected cash inflows are calculated by multiplying the outstanding balances of various categories of contractual receivables by the rates at which they are expected to flow in. To ensure a minimum level of HQLA holdings at all times, total cash inflows are subject to an aggregate cap of 75% of total expected cash outflows.
32. An Bank must not double-count items. That is, for assets included as part of the eligible stock of HQLA, the associated cash inflows arising from such assets must not be counted as cash inflows for the purpose of calculating the net cash outflows over the next 30 calendar days.

Cash Outflows

33. The following table specifies, for each of the various categories or types of liabilities and off-balance sheet commitments, the rates at which they are expected to run off or be drawn down for the purpose of calculating the LCR.

| Table 9 A - Cash Outflows | |
|--|---------------|
| Item | Factor |
| A. Retail Deposits: | |
| Demand deposit and term deposits (less than 30 days maturity): | |
| • Stable deposits | 5% |
| • Less stable retail deposits | 10% |
| Term deposits with residual maturity greater than 30 days | 0% |

| | |
|---|------|
| B. Unsecured Wholesale Funding: | |
| Demand and term deposits (less than 30 days maturity) provided by small business customers: | |
| • Stable deposits | 5% |
| • Less stable deposits | 10% |
| Small business customers - Term deposits with residual maturity greater than 30 days with no legal right to withdraw or a withdrawal with a significant penalty | 0% |
| Operational deposits generated by clearing, custody and cash management activities: | 25% |
| • Portion covered by deposit insurance | 5% |
| Cooperative banks in an institutional network (qualifying deposits with the centralized institution) | 25% |
| Non-financial corporates, sovereigns, central banks, multilateral development banks and PSEs: | 40% |
| • If the entire amount is fully covered by a deposit protection scheme | 20% |
| Other legal entity customers | 100% |
| C. Secured Funding: | |
| • Secured funding transactions with a central bank counterparty or backed by Level 1 HQLA with any | 0% |
| • Secured funding transactions backed by Level 2A HQLA, with any counterparty | 15% |
| • Secured funding transactions backed by non-Level 1 HQLA or non- Level 2A HQLA, with domestic sovereigns, multilateral development banks, or domestic PSEs as a counterparty | 25% |
| • Backed by RMBS eligible for inclusion in Level 2B HQLA | 25% |
| • Backed by other Level 2B HQLA | 50% |
| • All other secured funding transactions | 100% |
| D. Additional Requirements: | |
| Derivatives cash outflows | 100% |
| Liquidity needs (e.g. collateral calls) related to financing transactions, derivatives and other contracts | 100% |
| Market valuation changes on non-Level 1 HQLA posted collateral securing derivatives | 20% |

| | |
|--|---------------|
| Excess collateral held by a bank related to derivative transactions that could contractually be called at any time by its counterparty | 100% |
| Liquidity needs related to collateral contractually due from the reporting bank on derivatives transactions | 100% |
| Increased liquidity needs related to derivative transactions that allow collateral substitution to non-HQLA assets | 100% |
| Market valuation changes on derivatives transactions (largest absolute net 30-day collateral flows realised during the preceding 24 months) | 100% |
| | Factor |
| ABCP, SIVs, Conduits, etc: <ul style="list-style-type: none"> • Loss of funding on Asset Backed Securities, covered bonds and other structured financing instruments | 100% |
| <ul style="list-style-type: none"> • Loss of funding on ABCP, SIVs, SPVs, etc | 100% |
| Undrawn committed credit and liquidity facilities: <ul style="list-style-type: none"> • Credit and Liquidity Facilities: Retail and small and medium-sized enterprise clients | 5% |
| <ul style="list-style-type: none"> • Credit Facilities: Non-financial corporates, sovereigns and central banks, PSEs, MDBs | 10% |
| <ul style="list-style-type: none"> • Liquidity Facilities: Non-financial corporates, sovereigns and central banks, PSEs, MDBs | 30% |
| <ul style="list-style-type: none"> • Credit and Liquidity Facilities: Banks subject to prudential supervision | 40% |
| <ul style="list-style-type: none"> • Credit Facilities: Other financial institutions (include securities firms, insurance companies, fiduciaries and | 40% |
| <ul style="list-style-type: none"> • Liquidity Facilities: Other financial institutions (include securities firms, insurance companies, fiduciaries and | 100% |
| <ul style="list-style-type: none"> • Credit and Liquidity Facilities: Other legal entity customers | 100% |
| <ul style="list-style-type: none"> • Other contractual obligations to financial institutions | 100% |
| <ul style="list-style-type: none"> • Other contractual obligations to retail and non-financial corporate clients | 100% |
| Other contingent funding obligations: <ul style="list-style-type: none"> • Non-contractual obligations related to potential liquidity draws from joint ventures or minority investments in entities | 100% |
| <ul style="list-style-type: none"> • Trade finance-related obligations (including letters of credit and guarantees) | 5% |
| <ul style="list-style-type: none"> • Unconditionally revocable "uncommitted" credit and liquidity facilities | 5% |
| <ul style="list-style-type: none"> • Guarantees and letters of credit unrelated to trade finance obligations | 10% |
| Non-contractual obligations: | |

| | |
|---|------|
| • Debt-buy back requests (incl. related conduits) | 20% |
| • Structured products | 10% |
| • Managed funds | 10% |
| • Other non-contractual obligations | 100% |
| Outstanding debt securities with remaining maturity > 30 days | 100% |
| Non contractual obligations where customer short positions are covered by other customers' collateral | 50% |
| Other contractual cash outflows | 100% |

34. The following paragraphs set out the AFSA's views about how the Table above defining the treatment of various cash outflows should be applied to different items.

Retail Deposits:

35. Retail deposits should include deposits from individuals placed with an Bank. Deposits from legal entities, sole proprietorships or partnerships should be included in wholesale deposit categories. Deposits may include demand deposits and term deposits, unless otherwise excluded. Deposits from individuals are divided under the Table into 'stable' and 'less stable' deposits. Stable deposits should include the portion of deposits that are fully covered by an effective deposit insurance scheme or by a public guarantee that provides equivalent protection and where:
- (a) the depositor has other established relationships with the Bank that make deposit withdrawal highly unlikely; or
 - (b) the deposits are in transactional accounts (e.g. accounts where salaries are automatically credited).
36. If an Bank is not able to readily identify which retail deposits would qualify as "stable", it should place the full amount in the "less stable" buckets. Less stable deposits should consist of the portion of deposits that do not meet the conditions in paragraph 34 above and also include types of deposits more likely to be withdrawn in a time of stress. These should include high-value deposits (i.e. deposits above any deposit insurance limit), deposits from customers who do not have established relationships with an Bank that make the deposit withdrawal unlikely, deposits from sophisticated or high net worth individuals, deposits where the internet is integral to the design, marketing and use of the account (on-line accounts) and deposits with promotional interest rates (i.e. that are heavily rate-driven).
37. Cash outflows related to retail term deposits with a residual maturity or withdrawal notice period of greater than 30 days should be excluded from total expected cash outflows only if the depositor has no legal right to withdraw deposits within the 30-day period of the LCR, or if early withdrawal results in a significant penalty that is materially greater than the loss of interest. If an Bank allows a depositor to withdraw such deposits despite a clause that says the depositor has no legal right to withdraw, the entire category of these funds should be treated as demand deposits.

Unsecured wholesale funding:

38. Unsecured wholesale funding should consist of liabilities and general obligations raised from non-natural persons (i.e. legal entities, including sole proprietorships and partnerships) and not collateralised by legal rights to specifically designated assets owned by the Bank accepting the deposit in the case of bankruptcy, insolvency, liquidation or resolution. Obligations related to derivative contracts should be excluded from this category.
39. Unsecured wholesale funding provided by non-financial corporates and sovereigns, central banks, MDBs, and public sector enterprises comprises all deposits and other extensions of unsecured funding (other than those specifically for operational purposes) from:
 - (a) non-financial corporate customers (except small business customers); and
 - (b) domestic and foreign customers that are sovereigns, central banks, MDBs and public sector enterprises.
40. Unsecured wholesale funding provided by other legal entity customers consists of deposits and other funding (other than operational deposits) which do not qualify as Operational Deposits as defined in this Chapter, such as funding provided by:
 - (a) another financial institution; or
 - (b) a related party of the Bank.
41. All debt securities issued by the Bank are to be treated as unsecured wholesale funding provided by other legal entity customers regardless of the holder. However, securities that are sold exclusively in the retail market and held in retail accounts (or small business customer accounts) may be treated in the appropriate retail or small business customer deposit category. For securities to be treated in that way, there must be limitations preventing them being bought and held other than by retail or small business customers.
42. The wholesale funding included in the LCR should consist of all funding that is callable within the LCR's period of 30 days or that has its earliest possible contractual maturity date within this period (such as maturing term deposits and unsecured debt securities), as well as funding with an undetermined maturity. This should include all funding with options that are exercisable at the investor's discretion within the 30-day period.
43. Wholesale funding that is callable by the funds provider subject to a contractually defined and binding notice period longer than the 30-day period should not be included. Unsecured wholesale funding provided by small and medium-sized enterprise customers should be treated as deposits from individuals where:
 - (a) the deposits and other extensions of funds made by non-financial small and medium-sized enterprise customers are managed as retail accounts and are generally considered as having similar liquidity risk characteristics to retail accounts; and
 - (b) the total aggregated funding raised from a small and medium-sized enterprise customer is less than USD 1 million (on a consolidated basis where applicable).

Operational deposits

44. Operational deposits should consist of those deposits where customers place, or leave, deposits with an Bank to facilitate their access and ability to use payment and settlement systems and otherwise make payments. Balances can be included only if the customer has a substantive dependency on the Bank and the deposit is required for such activities. This condition would not be met if the Bank is aware that the customer has adequate back-up arrangements.
45. Qualifying activities in this context refer to clearing, custody or cash management activities where the customer is reliant on the Bank to perform these services as an independent third-party intermediary in order to fulfil its normal banking activities over the next 30 days. These services should be provided to institutional customers under a legally binding agreement and the termination of such agreements should be subject either to a notice period of at least 30 days or to significant switching costs to be borne by the customer if the operational deposits are moved before 30 days.
46. Qualifying operational deposits generated by such an activity should consist of deposits which are:
 - (a) by-products of the underlying services provided by the Bank;
 - (b) not offered by the Bank in the wholesale market in the sole interest of offering interest income; and
 - (c) held in specifically designated accounts and priced without giving an economic incentive to the customer to leave excess funds on these accounts.
47. Any excess balances that could be withdrawn without jeopardising these clearing, custody or cash management activities should not qualify as operational deposits. The Bank must determine how to identify such excess balances. If the Bank is unable to identify how much of a deposit is an excess balance, the Bank must assume that the entire deposit is excess and therefore not operational.
48. The identification should be sufficiently granular to adequately assess the risk of withdrawal in an idiosyncratic stress situation. The method should take into account relevant factors such as the likelihood that wholesale customers have above-average balances in advance of specific payment needs, and should consider appropriate indicators (for example, ratios of account balances to payment or settlement volumes or to assets under custody) to identify customers that are not actively managing account balances efficiently.
49. The following paragraphs provide some guidance on the type of services that may give rise to operational deposits.
50. Clearing is a service that enables customers to transfer funds (or securities) indirectly through direct participants in domestic settlement systems to final recipients. Such services are limited to the following activities:
 - (a) transmission, reconciliation and confirmation of payment orders
 - (b) daylight overdraft, overnight financing and maintenance of post-settlement balances

(c) determination of intra-day and final settlement positions.

51. Custody is the provision of safekeeping, reporting and processing of assets, or the facilitation of the operational and administrative elements of related activities on behalf of customers in the process of their transacting and retaining financial assets. Such services are limited to the settlement of securities transactions, the transfer of contractual payments, the processing of collateral, and the provision of custody-related cash management services. Custody also includes the receipt of dividends and other income and client subscriptions and redemptions, and extends to asset and corporate trust servicing, treasury, escrow, funds transfer, stock transfer and agency services, (including payment and settlement services, but not correspondent banking), and depository receipts.
52. Cash management is the provision of cash management and related services to customers—that is, services provided to a customer to manage its cash flows, assets and liabilities, and conduct financial transactions necessary to its operations. Such services are limited to payment remittance, collection and aggregation of funds, payroll administration, and control over the disbursement of funds.
53. Correspondent banking is an arrangement under which a bank holds deposits owned by other banks, and provides payment and other services to settle foreign currency transactions.
54. A deposit that arises out of correspondent banking, or from the provision of prime brokerage services, should not be treated as an operational deposit. Prime brokerage services is a package of services offered to large active investors, particularly institutional hedge funds. The services usually include:
 - clearing, settlement and custody
 - consolidated reporting
 - financing (margin, repo or synthetic)
 - securities lending
 - capital introduction
 - risk analytics.
55. Customers' cash balances arising from the provision of prime brokerage services must be treated as separate from any balances required to be segregated under a statutory client protection regime, and must not be netted against other customer exposures. Such offsetting balances held in segregated accounts are to be treated as inflows and must not be counted as HQLA.
56. Any part of an operational deposit that is fully covered by deposit insurance may be treated as a stable retail deposit.
57. An institutional network of cooperative banks is a group of legally separate banks with a statutory framework of cooperation with a common strategic focus and brand, in which certain functions are performed by a central institution or a specialised service provider. A qualifying deposit is a deposit by a member institution with the central institution or specialised central service provider:

- (a) because of statutory minimum deposit requirements; or
- (b) in the context of common task-sharing and legal, statutory or contractual arrangements (but only if both the depositor and the bank that receives the deposit participate in the network's scheme of mutual protection against illiquidity and insolvency).

58. The following are not qualifying deposits:

- (a) deposits resulting from correspondent banking activities;
- (b) deposits placed at the central institution or a specialised service provider for any reason other than those defined as eligibility requirements for Qualifying Deposits in paragraph 57 above;
- (c) deposits for the operational purposes of clearing, custody, or cash management.

Liquidity facilities

59. A liquidity facility should consist of any committed, undrawn back-up facility that would be used to refinance the debt obligations of a customer in situations where such a customer is unable to roll over that debt in financial markets. The amount of any commitment to be treated as a liquidity facility should consist of the amount of the outstanding debt issued by the customer (or proportionate share of a syndicated facility) maturing within a 30-day period that is backstopped by the facility. Any additional capacity of the facility should be treated as a committed credit facility. General working capital facilities for corporate entities (e.g. revolving credit facilities in place for general corporate or working capital purposes) should not be classified as liquidity facilities, but as credit facilities.
60. Notwithstanding paragraph 44 above, any facilities provided to hedge funds, money market funds and special purpose funding vehicles, or other vehicles used to finance an Bank's own assets, should be captured in their entirety as a liquidity facility to a financial institution.

Treatment of deposits pledged as security

61. If a deposit is pledged as security for a credit facility:
- (a) the facility will not mature or be settled within the relevant 30-calendar-day period; and
 - (b) the pledge is subject to a legally enforceable contract under which the deposit cannot be withdrawn before the facility is fully settled or repaid.
62. If no part of the facility has been drawn, the runoff rate is the higher of:
- (a) the rate specified in Table 9A, that would apply to secured or unsecured funding, as the case maybe; and
 - (b) a rate equal to the rate applicable to Undrawn committed credit and liquidity facilities specified in Table 9 A.

63. However, if some part of the facility has been drawn, only that part of the deposit in excess of the outstanding balance of the facility is to be counted. The applicable runoff rate is the rate that applies to secured or unsecured funding, as the case maybe.

Treatment of maturing secured funding

64. The runoff rates for secured funding that matures within the relevant 30-calendar-day period are as set out in table 9A. Secured funding is a Bank's liabilities and general obligations collateralised by the grant of legal rights to specific assets owned by the Bank. This scenario assumes that the Bank has lost its secured funding on short-term financing transactions. In this scenario, the Bank could continue to transact securities financing transactions only if the transactions were backed by HQLA or were with the Bank's domestic sovereign, public sector enterprise or central bank.
65. Collateral swaps, and any other transactions of a similar form, are to be treated as repo or reverse repo agreements. Collateral lent to the Bank's customers to effect short positions is to be treated as secured funding. The Bank must apply the factors to all outstanding secured funding transactions with maturities within 30 calendar days, including customer short positions that do not have a specified contractual maturity. The amount of outflow is the amount of funds raised through the transaction, and not the value of the underlying collateral.

Treatment of net derivative cash outflows

66. As specified in Table 9A, the runoff rate for net derivative cash outflows is 100%. The Bank must calculate those outflows in accordance with its usual valuation methods. The outflows may be calculated on a net basis by counterparty (that is, inflows offsetting outflows) only if a valid master netting agreement exists. From the calculation, the Bank must exclude liquidity needs that would result from increased collateral needs because of falls in the value of collateral lodged or market value movements. The Bank must assume that an option will be exercised if it is in the money.
67. If derivative payments are collateralised by HQLA, the cash outflows are to be calculated net of any corresponding cash or collateral inflows that would result, all other things being equal, from contractual obligations to lodge cash or collateral with the Bank. However, this condition applies only if, after the collateral were received, the Bank would be legally entitled and operationally able to re-hypothecate it.
68. The runoff rate for increased liquidity needs related to market valuation changes on derivative instruments is 100% of the largest absolute net collateral flow (based on both realised outflows and inflows) in a 30-calendar-day period during the previous 24 months. Market practice requires collateralisation of mark-to-market exposures on derivative instruments. Banks face potentially substantial liquidity risk exposures to changes in the market valuation of such instruments. Inflows and outflows of transactions executed under the same master netting agreement may be treated on a net basis.

Elevated liquidity needs related to downgrade triggers

69. The runoff rate for increased liquidity needs related to downgrade triggers in financing transactions, derivatives and other contracts is 100% of the amount of collateral that the

Bank would be required to lodge for, or the contractual cash outflow associated with, any downgrade up to and including a 3-notch downgrade. A downgrade trigger is a contractual condition that requires a Bank to lodge additional collateral, draw down a contingent facility or repay existing liabilities early if an ECRA downgrades the Bank. Contracts governing derivatives and other transactions often have such conditions. The scenario therefore requires a Bank to assume that for each contract that contains downgrade triggers, 100% of the additional collateral or cash outflow will have to be lodged for a downgrade up to and including a 3-notch downgrade of the Bank's long-term credit rating. The Bank must assume that a downgrade trigger linked to the Bank's short-term rating will be triggered at the corresponding long-term rating.

Increased liquidity needs related to collateral

70. The runoff rate for increased liquidity needs related to possible valuation changes on collateral lodged by a Bank to secure derivatives and other transactions is 20% of the value of any lodged collateral that is not level 1 HQLA (net of collateral received on a counterparty basis, if the collateral received is not subject to restrictions on re-use or re-hypothecation). Most counterparties to derivative transactions are required to secure the mark-to-market valuation of their positions. If level 1 HQLA are lodged as collateral, no additional stock of HQLA need be maintained for possible valuation changes. However, if the Bank secures such an exposure with other collateral, 20% of the value of such lodged collateral will be added to the Bank's required stock of HQLA to cover the possible loss of market value on the collateral.
71. The runoff rate for increased liquidity needs related to excess non-segregated collateral that is held by a Bank, and could contractually be recalled at any time by a counterparty, is 100% of the value of the excess collateral.
72. The runoff rate for increased liquidity needs related to contractually-required collateral, due from a Bank on transactions for which the counterparty has not yet demanded that the collateral be lodged, is 100% of the value of the collateral that is contractually due. This runoff rate applies to the following kinds of transaction:
 - (a) transactions where:
 - (i) a Bank holds HQLA collateral;
 - (ii) the counterparty has the right to substitute non-HQLA collateral for some or all of the HQLA collateral without the Bank's consent; and
 - (iii) the collateral is not segregated;
 - (b) transactions where:
 - (i) a Bank has the right to receive HQLA collateral;
 - (ii) the counterparty has the right to deliver non-HQLA collateral instead of some or all of the HQLA collateral without the Bank's consent; and
 - (iii) the collateral is not segregated.
73. The runoff rate for increased liquidity needs related to such a transaction is 100% of the value of HQLA collateral for which non-HQLA collateral can be substituted or delivered, as the case requires.

Treatment of loss of funding on structured finance transactions

74. The runoff rate for loss of funding on asset-backed securities and other structured financing instruments that mature within the relevant 30- calendar-day period is 100% of the maturing amount. The scenario assumes that there is no refinancing market for the maturing instruments.
75. The runoff rate for loss of funding on asset-backed commercial paper, conduits, structured investment vehicles and other similar financing arrangements that mature within the relevant 30-calendar-day period is 100% of the total of:
 - (a) the maturing amount;
 - (b) if the arrangement allows assets to be returned within that period—the value of the returnable assets; and
 - (c) if under the arrangement the Bank could be obliged to provide liquidity within that period—the total amount of liquidity that the Bank could be obliged to provide.
76. Banks that use asset-backed commercial paper, conduits, structured investment vehicles and other similar financing arrangements should fully consider the associated liquidity risk. The risks include being unable to refinance maturing debt or derivatives or derivative-like components that would allow the return of assets, or require the Bank to provide liquidity, within the 30-calendar-day period.
77. If the Bank's structured financing activities are carried out through a special purpose entity (such as a conduit or structured investment vehicle), the Bank should, in determining its HQLA requirements, look through to the maturity of the debt instruments issued by the entity and any embedded options in financing arrangements that could trigger the return of assets or the need for liquidity, regardless of whether the entity is consolidated.

Committed credit and liquidity facilities

78. The runoff rates for drawdowns on committed credit and liquidity facilities are set out in table 9A. A credit facility is a contractual agreement or obligation to extend funds in the future to a retail or wholesale counterparty. For this rule, a facility that is unconditionally revocable is not a credit facility. Unconditionally revocable facilities (in particular, those without a precondition of a material change in the borrower's credit condition) are included in Contingent funding obligations. A liquidity facility is an irrevocable, undrawn credit facility that would be used to refinance the debt obligations of a customer if the customer were unable to roll over the obligations in financial markets. General working capital facilities for corporate borrowers (for example, revolving credit facilities for general corporate or working capital purposes) are to be treated as credit facilities.
79. For a facility, the relevant runoff rate is to be applied to the undrawn part of it. The undrawn portion of a credit or liquidity facility is to be calculated net of any HQLA lodged or to be lodged as collateral if:
 - (a) the HQLA have already been lodged, or the counterparty is contractually required to lodge them when drawing down the facility;

- (b) the Bank is legally entitled and operationally able to re-hypothecate the collateral in new cash-raising transactions once the facility is drawn down; and
 - (c) there is no undue correlation between the probability of drawing down the facility and the market value of the collateral.
- 80. The Bank may net the collateral against the outstanding amount of the facility to the extent that the collateral is not already counted in the Bank's HQLA portfolio. The amount of a liquidity facility is to be taken as the amount of outstanding debt issued by the customer concerned (or a proportionate share of a syndicated facility) that matures within the relevant 30-calendar-day period and is backstopped by the facility. Any additional capacity of the facility is to be treated as a committed credit facility. The Bank must treat a facility provided to a hedge fund, money market fund or SPE, or an entity used to finance the Bank's own assets, in its entirety as a liquidity facility to a financial institution.

Other contractual obligations to extend funds within 30 calendar days

- 81. The runoff rate for other contractual obligations to extend funds within 30 calendar days is 100%. Other contractual obligations to extend funds within 30 calendar days covers all contractual obligations to extend funds within 30 calendar days that do not fall within any of the categories referred above in this section or in Table A. The runoff rate of 100% is to be applied to:
 - (a) for obligations owed to financial institutions—the whole amount of such obligations; and
 - (b) for obligations owed to customers that are not financial institutions—the difference between:
 - (i) the total amount of the obligations; and
 - (ii) 50% of the contractual inflows from those customers over the relevant 30-calendar-day period.
- 82. The runoff rates for other contingent funding obligations are as set out in table 9A. Contingent funding obligations covers obligations arising from guarantees, letters of credit, unconditionally revocable credit and liquidity facilities, outstanding debt securities with remaining maturity of more than 30 calendar days, and trade finance (see subrule (3)). It also covers non-contractual obligations, including obligations arising from any of the following:
 - (a) potential liquidity draws from joint ventures or minority investments in entities;
 - (b) debt-buy-back requests (including related conduits);
 - (c) structured products;
 - (d) managed funds;
 - (e) the use of customers' collateral to cover other customers' short positions.
- 83. Trade finance means trade-related obligations directly related to the movement of goods or the provision of services, such as the following:

- (a) documentary trade letters of credit, documentary collection and clean collection, import bills, and export bills;
 - (b) guarantees directly related to trade finance obligations, such as shipping guarantees.
84. However, lending commitments, such as direct import or export financing for non-financial corporate entities, are to be treated as committed credit facilities (see rule 9.3.38).
85. The runoff rate to be applied to other contractual cash outflows is 100%. Other contractual cash outflows includes outflows to cover unsecured collateral borrowings and uncovered short positions, and outflows to cover dividends and contractual interest payments, but does not include outflows related to operating costs.

Cash Inflows

86. When considering its available cash inflows, an Bank may include contractual inflows from outstanding exposures only if they are fully performing and there is no reasonable basis to expect a default within the 30-day period. Contingent inflows are not included in total net cash inflows. Where an Bank is overly reliant on cash inflows from one or a limited number of wholesale counterparties, the AFSA may set an alternative limit on the level of cash inflows that can be included in the LCR.
87. The AFSA may allow an Bank to recognise as cash inflow, access to a parent entity's funds via a committed funding facility if the Bank is a subsidiary of a foreign bank. In such instances, the committed funding facility from the parent entity must meet both of the following criteria:
- (a) the facility must be an irrevocable commitment and must be appropriately documented; and
 - (b) the facility must be quantified.
88. A committed funding facility from a parent entity referred to in (1) can be recognised as a cash inflow only from day 16 of the LCR scenario. The cash inflow from a parent entity can be sufficient in size to cover only net cash outflows against items with a maturity or next call date between days 16 and 30 of the LCR.
89. Total expected cash inflow over a period is calculated by, for each contractual cash inflow over the period, multiplying it by the applicable rate of inflows (giving the adjusted inflow), and then taking the total of all the adjusted inflows over the period. The following table 9B specifies, for each of the various categories and types of contractual receivables, the rates at which they are expected to flow in for the purpose of the calculation of the LCR:

| Table 9 B Cash Inflows | |
|---|---------------|
| Item | Factor |
| Maturing secured lending (incl. reverse repos and securities borrowing), backed by the following as collateral: <ul style="list-style-type: none"> • Level 1 HQLA | 0% |

| | |
|--|------|
| • Level 2A HQLA | 15% |
| • Level 2B HQLA - eligible RMBS | 25% |
| • Level 2B HQLA - Other assets | 50% |
| • Margin lending backed by all other collateral | 50% |
| • All other assets | 100% |
| • Credit or liquidity facilities provided to the reporting Bank | 0% |
| • Operational deposits held at other financial institutions (including deposits held at centralised institution of network of co-operative | 0 % |
| Other inflows by counterparty | |
| • Amounts receivable from retail counterparties | 50% |
| • Amounts receivable from non-financial wholesale counterparties, from transactions other than those listed in the above inflow | 50% |
| • Amounts receivable from financial institutions and central banks, from transactions other than those listed in the above inflow | 100% |
| • Net derivative receivables | 100% |
| • Other contractual cash inflows | 100% |

90. The inflow rates provided in table 9B do not represent an assumption about the risk of a default—instead, it represents the likelihood that the relevant obligation will be rolled over (so that the Bank does not actually receive the cash) or that no cash will be received for some other reason. Inflows for which an inflow rate of 0% is specified are effectively treated as not being receivable.
91. A Bank calculating its cash inflows may include a contractual inflow from an exposure only if it is classified as performing or as “special mention” under BBR Rules, and there is no reason to expect a default within the relevant period. The Bank must not include any contingent inflows or any inflow that would be received from an asset in the Bank’s HQLA portfolio.
92. In a stressed situation, the assets in the Bank’s HQLA portfolio would already have been monetised. That is the purpose of those assets—to be monetised to provide liquidity. Consequently, in a scenario of liquidity stress, the contracted cash inflows from them would no longer be available to the Bank. The Bank may include, in cash inflows during a period, interest payments that it expects to receive during the period.
93. If the collateral backing a secured credit, including margin lending transactions, has been rehypothecated, then the applicable inflow rate would be 0%, for all categories of secured credit and not the rate mentioned in Table 9B.
94. The inflow rate for credit facilities and liquidity facilities provided to the Bank is 0%.
95. The inflow rate for operational deposits held by the Bank with other financial institutions or banks is 0%. Operational deposits for this purpose would have the same meaning as used in calculation of net cash outflows.

96. The inflow rate for net derivative cash inflows is 100%. The Bank must calculate those inflows in accordance with its usual valuation methods. The inflows may be calculated on a net basis by counterparty (that is, inflows offset outflows) only if a valid master netting agreement exists. From the calculation, the Bank must exclude liquidity needs that would result from increased collateral needs because of market value movements or falls in the value of collateral lodged.
97. The Bank must assume that an option will be exercised if it is in the money to the buyer. If derivative cash inflows are collateralised by HQLA, the inflows are to be calculated net of any corresponding cash or collateral outflows that would result from contractual obligations for the Bank to lodge cash or collateral. However, this condition applies only if, after the collateral were received, the Bank would be legally entitled and operationally able to re-hypothecate it.

Maturing secured lending, including reverse repos and securities borrowing

98. An Bank should assume that maturing reverse repurchase or securities borrowing agreements secured by Level 1 HQLA will be rolled over and will not give rise to any cash inflows (zero %). Maturing reverse repurchase or securities borrowing agreements secured by Level 2 HQLA should be modelled as cash inflows, equivalent to the relevant haircut for the specific assets. An Bank is assumed not to roll-over maturing reverse repurchase or securities borrowing agreements secured by non-HQLA assets and can assume it will receive 100% of the cash related to those agreements. Collateralised loans extended to customers for the purpose of taking leveraged trading positions, i.e. margin loans, should be modelled with a 50% cash inflow from contractual inflows made against non-HQLA collateral.
99. An exception to paragraph 50 above is the situation where, if the collateral obtained through reverse repo, securities borrowing or collateral swaps, which matures within the 30-day period, is re-used (i.e. rehypothecated) and is tied up for 30 days or longer to cover short positions. An Bank should then assume that such reverse repo or securities borrowing arrangements will be rolled over and will not give rise to any cash inflows (zero %), reflecting its need to continue to cover the short position or to repurchase the relevant securities.
100. An Bank should manage its collateral so that it is able to fulfil obligations to return collateral whenever the counterparty decides not to roll-over any reverse repo or securities lending transaction. This is especially the case for non-HQLA collateral, since such outflows are not captured in the LCR framework.

Lines of credit

101. Lines of credit, liquidity facilities and other contingent funding facilities that an Bank holds at other institutions for its own purposes should be assumed to be able to be drawn and so such facilities should receive a 0 % inflow rate.

Inflows by counterparty

102. All inflows should be taken only at the latest possible date, based on the contractual rights available to counterparties. Inflows from loans that have no specific maturity should not be included, with the exception of minimum payments of principal, fee or interest associated

with an open maturity loan.

Other cash inflows

103. Other contractual cash inflows should be included under this category. Cash inflows related to non-financial revenues should not be taken into account in the calculation of the net cash outflows for the purposes of the LCR. These items should receive an inflow rate of 100%.
104. The Bank must assume that inflows will be received at the latest possible date, based on the contractual rights available to counterparties. The following inflows are not to be included:
 - (a) inflows (except for minimum payments of principal, fee or interest) from loans that have no specific maturity;
 - (b) inflows related to non-financial revenues.

Other requirements for LCR

105. An Bank active in multiple currencies should:
 - (a) maintain HQLA consistent with the distribution of its liquidity needs by currency;
 - (b) assess its aggregate foreign currency liquidity needs and determine an acceptable level of currency mismatches; and
 - (c) undertake a separate analysis of its strategy for each currency in which it has material activities, considering potential constraints in times of stress.
106. In respect of the obligation to notify the AFSA about a real or potential breach of its LCR requirement, a Bank in its notification should clearly explain:
 - (a) the reasons for not meeting the limits;
 - (b) measures that have been taken and will be taken to ensure it meets its LCR Requirement; and
 - (c) its expectations regarding the potential duration of the situation.
107. The Bank should discuss with the AFSA what, if any, further steps it should take to deal with the situation, prior to making that notification.

Liquid assets buffer

108. An Bank must, except during periods when it experiences liquidity stress, maintain a buffer of HQLA over the minimum level of LCR required according to BBR Rule 9.12. The size of the HQLA buffer must be appropriate to the nature, scale and complexity of its operations and must also be determined considering the Bank's Liquidity Risk tolerance and the results of its liquidity stress tests. A Bank should conduct such liquidity stress tests to assess the level of liquidity it should hold beyond the minimum required under this section, and construct its own scenarios that could cause difficulties for its specific business activities. Such internal stress tests should incorporate longer periods than the ones required under Chapter 9 of the BBR. Banks are expected to share the results of these additional stress

tests with the AFSA.

109. The AFSA may require an Bank to maintain an additional buffer of liquid assets in cases where the AFSA assesses that the Bank has failed to carry out stress tests effectively.

E. Net Stable Funding Ratio (NSFR)

1. The requirement for a Bank to maintain a net stable funding ratio is one of the Basel Committee's key reforms to promote a more resilient banking sector. The requirement will oblige Banks to maintain a stable funding profile in relation to the composition of their assets and off-balance-sheet activities. A stable funding profile is intended to reduce the likelihood that disruptions to a Bank's regular sources of funding will erode its liquidity position in a way that would increase the risk of its failure, and might lead to broader systemic stress. The requirement is intended to limit Banks' reliance on short-term wholesale funding, promote funding stability, and encourage better assessment of funding risk on and off Banks' balance-sheets.
2. In respect of this Section E, the following are the key definitions:
 - (a) ASF is defined as the amount of its available stable funding, calculated in accordance with this Section E.
 - (b) carrying value of a capital instrument, liability or asset is the value given for the instrument, liability or asset in the prudential returns of the Bank concerned.
 - (c) Net Stable Funding Ratio is defined in BRR rule 9.19 (4).
 - (d) NSFR means net stable funding ratio.
 - (e) RSF is defined as the amount of its required stable funding, calculated in accordance with this Section E.

Application to a Financial Group

3. For calculating a consolidated NSFR for a financial group, assets held to meet a Bank's NSFR may be included in the parent entity's stable funding only so far as the related liabilities are reflected in the parent entity's NSFR. Any surplus of assets held at the Bank may be treated as forming part of the parent entity's stable funding only if those assets would be freely available to the parent entity during a period of stress.
4. When calculating its NSFR on a consolidated basis, a cross-border banking group must apply the rules of its home jurisdiction to all the legal entities being consolidated, except for the treatment of retail and small business deposits. Such deposits for a consolidated entity must be treated according to the rules in the jurisdiction in which the entity operates. A cross-border banking group must not take excess stable funding into account in calculating its consolidated NSFR if there is reasonable doubt about whether the funding would be available during a period of stress.
5. Asset transfer restrictions (for example, ring-fencing measures, non-convertibility of local currency, foreign exchange controls) in jurisdictions in which a banking group operates would affect the availability of liquidity by restricting the transfer of assets and funding within the group. The consolidated NSFR should reflect the restrictions consistently with

this Part. For example, assets held to meet a local NSFR requirement by a subsidiary that is being consolidated can be included in the consolidated NSFR to the extent that the assets are used to cover the funding requirements of that subsidiary, even if the assets are subject to restrictions on transfer. If the assets held in excess of the total funding requirements are not transferable, the Bank should not count that funding.

Determining maturity of liabilities

6. When a Bank is determining the maturity of an equity or liability instrument, it must assume that a call option will be exercised at the earliest possible date. In particular, if the market expects a liability to be exercised before its legal final maturity date, the Bank must assign the liability to the category that is consistent with the market expectation.
7. For long-dated liabilities, the Bank may treat only the part of cash flows falling at or beyond the 6-month and 1-year time horizons as having an effective residual maturity of 6 months or more and 1 year or more, respectively.
8. A Bank must calculate the value of a derivative liability based on the replacement cost for the derivative contract (obtained by marking to market) if the contract has a negative value. If there is a netting agreement with the counterparty that meets both of the conditions for the netting agreement and the other conditions referred in this and the following paragraph, the replacement cost for the set of exposures covered by the agreement is taken to be the net replacement cost. The conditions for the netting agreement are as follows:
 - (a) the Bank should have a claim to receive, or an obligation to pay, only the net amount of the mark-to-market values of the transactions if the counterparty were to fail to perform; and
 - (b) the agreement does not contain a walkaway clause.
9. The other conditions are as follows:
 - (a) the Bank holds a written, reasoned legal opinion that the relevant courts and administrative authorities would find the Bank's exposure to be the net amount referred to in paragraph (8) (a) above, under each of the following laws:
 - (i) the law of the jurisdiction in which the counterparty is established;
 - (ii) if a foreign branch of the counterparty is involved, the law of the jurisdiction in which the branch is located;
 - (iii) the law that governs the individual transactions;
 - (iv) the law that governs the netting agreement (and any other agreement necessary to effect the netting);
 - (b) the Bank has procedures to ensure that netting arrangements are kept under review in the light of possible changes in the relevant law;
 - (c) the Regulatory Authority is satisfied that the netting agreement is enforceable under all of the laws referred to in paragraph (a).
10. Collateral lodged in the form of variation margin in connection with derivative contracts, regardless of the asset type, must be deducted from the negative replacement cost

amount.

Determining maturity of assets

11. When determining the maturity of an asset, a Bank must assume that any option to extend that maturity will be exercised. In particular, if the market expects the maturity of an asset to be extended, the Bank must assign the asset to the category that is consistent with the market expectation. For an amortising loan, the Bank may treat the part that comes due within 1 year as having residual maturity of less than 1 year.

Inclusion of assets in RSF calculation

12. When determining its RSF, a Bank:
 - (a) must include financial instruments, foreign currencies and commodities for which a purchase order has been executed; but
 - (b) must not include financial instruments, foreign currencies and commodities for which a sales order has been executed;
even if the transactions have not been reflected in the Bank's balance-sheet under a settlement-date accounting model. This condition applies only if:
 - (a) the relevant transactions are not reflected as derivatives or secured financing transactions in the Bank's balance-sheet; and
 - (b) the effects of the transactions will be reflected in the Bank's balance-sheet when settled.

Treatment of securities financing transactions

13. When determining its RSF, a Bank must not include securities that the Bank has borrowed in securities financing transactions (such as reverse repos and collateral swaps) if the Bank does not have beneficial ownership. However, the Bank must include securities that it has lent in securities financing transactions if it retains beneficial ownership of them.
14. In addition, the Bank must not include securities that it has received through collateral swaps if those securities do not appear on the Bank's balance-sheet. The Bank must include securities that it has encumbered in repos or other securities financing transactions, if the Bank has retained beneficial ownership of the securities and they remain on the Bank's balance-sheet.

Netting of securities financing transactions with a single counterparty

15. When determining its RSF, a Bank may net securities financing transactions with a single counterparty only if all of the following conditions are met:
 - (a) the transactions have the same explicit final settlement date;
 - (b) the right to set off the amount owed to the counterparty with the amount owed by the counterparty is legally enforceable both currently in the normal course of business and in the event of default, insolvency or bankruptcy; and
 - (c) one of the following applies:
 - (i) the counterparties intend to settle net;

- (ii) the counterparties intend to settle simultaneously;
 - (iii) the transactions are subject to a settlement mechanism that results in the functional equivalent of net settlement.
16. Functional equivalent of net settlement means that the cash flows of the transactions are equivalent to a single net amount on the settlement date. To achieve that equivalence, both transactions are settled through the same settlement system and the settlement arrangements are supported by cash or intraday credit facilities intended to ensure that settlement of both transactions will occur by the end of the business day and that the linkages to collateral flows do not result in the unwinding of net cash settlement.

Calculating derivative assets

17. When determining its RSF, a Bank must calculate the value of a derivative asset first based on the replacement cost for the contract (obtained by marking to market) if the contract has a positive value. If there is a netting agreement with the counterparty that satisfies all the conditions in paragraphs 8 & 9 above, the replacement cost for the set of exposures covered by the agreement is taken to be the net replacement cost.
18. Collateral received in connection with a derivative contract does not offset the positive replacement cost amount, regardless of whether or not netting is permitted under the bank's accounting or risk-based framework, unless the collateral is received in the form of cash variation margin, and all of the following conditions are met:
- (a) either:
 - (i) the trades are cleared through a qualifying central counterparty; or
 - (ii) the cash received by the counterparty is not segregated;
 - (b) the variation margin is calculated and exchanged every day, based on mark-to-market valuation of the relevant positions;
 - (c) the variation margin is received in the same currency as the currency of settlement of the contract;
 - (d) the variation margin exchanged is the full amount that would be necessary to fully extinguish the mark-to-market exposure of the contract subject to the threshold and minimum transfer amounts applicable to the counterparty;
 - (e) derivative transactions and variation margins are covered by a single master netting agreement (MNA) between the counterparties;
 - (f) the MNA explicitly stipulates that the counterparties agree to settle net any payment obligations covered by the agreement, taking into account any variation margin received or provided if a credit event occurs involving either counterparty;
 - (g) the MNA is legally enforceable and effective in all the relevant jurisdictions, including in the event of default, bankruptcy or insolvency.
19. Any remaining balance-sheet liability associated with initial margin received or variation margin received that does not meet all of the conditions in the (a) to (g) of the previous paragraph, does not offset derivative assets and receives a 0% ASF factor.

20. For the purposes of this section, a qualifying central counterparty is an entity that is licensed to operate as a central counterparty in relation to the instruments concerned and the financial regulator that is responsible for its prudential supervision:
- (a) has established rules and regulations for central counterparties that are consistent with Principles for Financial Market Infrastructures, published by the International Organization of Securities Commissions in July 2011; and
 - (b) has publicly indicated that it applies those rules and regulations to the entity on an ongoing basis.

Calculating ASF

21. The amount of a Bank's ASF is calculated using the following steps:
- (c) assign each of the Bank's capital items and liabilities to 1 of the 5 categories set out in the following paragraphs 22 to 26;
 - (d) next, for each category add up the carrying values of all the capital items and liabilities assigned to the category;
 - (e) next, for each category multiply the total carrying values of the capital items and liabilities assigned to the category by the category's ASF factor (also set out in paragraphs 22 to 26), giving the weighted amounts; and
 - (f) add up the weighted amounts.
22. The Category 1 liabilities and capital that receive a 100% ASF factor include:
- (a) the total amount of the Bank's regulatory capital (as set out BBR Chapter 3), excluding any Tier 2 instrument with residual maturity of less than 1 year, before the application of capital deductions;
 - (b) any other capital instrument that has an effective residual maturity of 1 year or more (except any instrument with an explicit or embedded option that, if exercised, would reduce the expected maturity to less than 1 year);
 - (c) the total amount of secured and unsecured borrowings and liabilities (including term deposits) with effective residual maturities of 1 year or more.

For (c) above, cash flows falling within the 1-year horizon but arising from liabilities with final maturity of more than 1 year do not qualify for the 100% ASF factor.

23. The Category 2 liabilities that receive 95% ASF factor include stable deposits (as defined in Section D of this Chapter 9 of CAG), with residual maturities of less than 1 year provided by retail and small-business customers.
24. The Category 3 liabilities that receive 90% ASF factor are the liabilities that receive a 90% ASF factor are less stable deposits (as defined in Section D of this Chapter 9 of CAG) with residual maturities of less than 1 year provided by retail and small-business customers.
25. The Category 4 liabilities that receive 50% ASF factor include the following:

- (a) funding (secured and unsecured) with residual maturity of less than 1 year, from corporate customers that are not financial institutions;
- (b) operational deposits (as defined in Section D of this Chapter 9 of CAG);
- (c) funding with residual maturity of less than 1 year from sovereigns, public sector entities, MDBs and national development banks;
- (d) other funding (secured or unsecured) not falling within the previous paragraphs (a) to (c), with residual maturity of between 6 months and 1 year, including funding from central banks and financial institutions.

26. The Category 5 liabilities that receive 0% ASF factor include the following:

- (a) capital not included in Category 1 for this calculation;
- (b) liabilities not included in Category 1 to 4 for this calculation;
- (c) other liabilities without a stated maturity, except that:
 - (i) a deferred tax liability must be categorised according to the nearest possible date on which it could be realised; and
 - (ii) minority interest must be treated according to the term of the instrument, usually in perpetuity.

Funding from central banks and financial institutions with residual maturity of less than 6 months would fall within paragraph (b) above.

- (d) NSFR derivative liabilities net of NSFR derivative assets, if NSFR derivative liabilities are greater than NSFR derivative assets;

Note For how to calculate NSFR derivative liabilities, see rule 9.5.8.
For how to calculate NSFR derivative assets, see rule 9.5.13.

- (e) trade-date payables arising from purchases of financial instruments, foreign currencies and commodities that:
 - (i) are expected to settle within the standard settlement cycle or period that is customary for the relevant exchange or type of transaction; or
 - (ii) have failed to settle, but are still expected to do so.

27. Other liabilities without a stated maturity could include short positions, positions with open maturity and deferred tax liabilities. A liability referred to in paragraph 26 (c) above would receive either a 100% ASF factor if its effective maturity were 1 year or more, or a 50% ASF factor if its effective maturity were between 6 months and 1 year.

Calculating RSF

28. A Bank's RSF is calculated following these steps, in the same sequence as they are listed below:

- (a) assign each of the Bank's assets to 1 of the 8 categories set out in paragraphs 29 to 37;

- (b) then, for each category add up the carrying values of all the assets assigned to the category;
 - (c) following that, for each category multiply the total carrying values of the assets assigned to the category by the category's RSF factor (also set out in paragraphs 29 to 37), giving the weighted amounts;
 - (d) next, multiply the amounts of each of the Bank's off-balance-sheet exposures by the exposure's RSF factor (set out in paragraph), giving the OBS weighted amounts;
 - (e) finally, add the weighted amounts and the OBS weighted amounts.
29. The Category 1 assets that receive 0% RSF factor include the following, subject to rule 9.5.29 (for certain encumbered assets):
- (a) currency notes and coins immediately available to meet obligations;
 - (b) central bank reserves (including required reserves and excess reserves);
 - (c) claims on central banks with residual maturities of less than 6 months;
 - (d) trade-date receivables arising from sales of financial instruments, foreign currencies and commodities that:
 - (i) are expected to settle within the standard settlement cycle or period that is customary for the relevant exchange or type of transaction; or
 - (ii) have failed to settle, but are still expected to do so.
30. The Category 2 assets that receive 5% RSF factor include the assets that receive a 5% RSF factor are unencumbered level 1 HQLA (except assets that receive a 0% RSF factor under paragraph 29).
31. The Category 3 assets that receive 10% RSF factor include unencumbered loans to financial institutions, with residual maturities of less than 6 months, that are secured against level 1 HQLA that the Bank can freely re-hypothecate during the loans' life.
32. The Category 4 assets that receive 15% RSF factor include unencumbered level 2A HQLA and unencumbered loans to financial institutions, with residual maturities of less than 6 months, that do not fall within Category 3 assets as defined in paragraph 31.
33. The Category 5 assets that receive 50% RSF factor include the following:
- (a) unencumbered level 2B HQLA;
 - (b) HQLA that are encumbered for between 6 months and 1 year;
 - (c) loans, with residual maturity of between 6 months and 1 year, to financial institutions and central banks;
 - (d) operational deposits (as defined in rule 9.3.26 (6)) at other financial institutions;
 - (e) all other non-HQLA with residual maturity of less than 1 year, including loans to non-financial corporate clients, loans to retail customers and small business customers, and loans to sovereigns and public sector entities.

34. The Category 6 assets that receive 65% RSF factor include unencumbered residential mortgages, with residual maturity of 1 year or more, that qualify for a risk weight of 35% or lower (according to Rules in Chapter 5 of BBR) and other unencumbered loans (except loans to financial institutions), with residual maturity of 1 year or more, that qualify for a risk weight of 35% or lower (according to Rules in Chapter 5 of BBR).
35. The Category 7 assets that receive 85% RSF factor include the following types of assets, subject to paragraph 37 for certain encumbered assets:
 - (a) cash, securities or other assets lodged as initial margin for derivative contracts, and cash or other assets provided to contribute to the default fund of a central counterparty;
 - (b) unencumbered performing loans (except loans to financial institutions), with residual maturity of 1 year or more, that do not qualify for a risk weight of 35% or lower, under Rules in Chapter 5 of BBR;
 - (c) unencumbered securities with residual maturity of 1 year or more;
 - (d) exchange-traded equities that are not in default and do not qualify as HQLA;
 - (e) physical traded commodities, including gold.

Despite (a) above, if securities or other assets lodged as initial margin for derivative contracts would otherwise receive a higher RSF factor than 85%, they retain that higher factor.

36. The Category 8 assets that receive 100% RSF factor include the following:
 - (a) assets that are encumbered for 1 year or more;
 - (b) NSFR derivative assets, net of NSFR derivative liabilities, if NSFR derivative assets are greater than NSFR derivative liabilities;
 - (c) all other assets not falling within categories 1 to 7 (including non-performing loans, loans to financial institutions with residual maturity of 1 year or more, non-exchange-traded equities, fixed assets, items deducted from regulatory capital, retained interest, insurance assets, subsidiary interests and defaulted securities);
 - (d) 20% of derivative liabilities as calculated in accordance with this section E of CAG.

Treatment of encumbered assets

37. Assets encumbered for between 6 months and 1 year that would, if unencumbered, receive an RSF factor of 50% or lower receive a 50% RSF factor. Assets encumbered for between 6 months and 1 year that would, if unencumbered, receive an RSF factor higher than 50% receive that higher RSF factor. Assets encumbered for less than 6 months receive the same RSF factor as an unencumbered asset of the same kind.
38. The Regulatory Authority may direct a Bank that, for the purposes of calculating the Bank's NSFR, assets that are encumbered for exceptional central bank liquidity operations receive a specified lower RSF factor than would otherwise apply. In general, exceptional central bank liquidity operations are considered to be non-standard, temporary operations conducted by a central bank to achieve its mandate at a time of market-wide financial stress

or exceptional macroeconomic challenges.

39. The RSF factors for off-balance-sheet exposures are as follows:

- (a) irrevocable and conditionally revocable credit and liquidity facilities—5% of the undrawn portion;
- (b) contingent funding obligations—as set out in table 9C.

Table 9.5.31 Contingent funding obligations—RSF factors

| Item | Kind of obligation | RSF factor (%) |
|------|---|----------------|
| 1 | Irrevocable or conditionally revocable liquidity facilities | 5 |
| 2 | Irrevocable or conditionally revocable credit facilities | 5 |
| 3 | Unconditionally revocable liquidity facilities | 0 |
| 4 | Unconditionally revocable credit facilities | 0 |
| 5 | Trade-finance-related obligations (including guarantees and letters of credit) | 3 |
| 6 | Guarantees and letters of credit unrelated to trade finance obligations | 5 |
| 7 | Other non-contractual obligations, including: | |
| | <ul style="list-style-type: none"> ● potential requests related to structured investment vehicles and other similar financing | 0 |
| | <ul style="list-style-type: none"> ● structured products where customers anticipate ready marketability (such as adjustable-rate notes and variable-rate demand notes) | 0 |
| | <ul style="list-style-type: none"> ● managed funds that are marketed with the objective of maintaining a stable value | 0 |

F. Maturity Mismatch Approach

Including inflows (assets) and outflows (liabilities) in the timebands

1. Outflows (liabilities) must be included in the Maturity Ladder according to their earliest contractual maturity. Contingent liabilities may be excluded from the Maturity Ladder only if there is a likelihood that the conditions necessary to trigger them will not be fulfilled.
2. 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.

Including marketable assets in the Maturity Ladder

3. 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 the table below.
4. 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.
5. The AFSA may allow, on a case by case basis, an Bank to include a longer term asset which is relatively easy to liquidate in the sight - 8 days time band.
6. 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 (Credit Quality Grade of 1, 2 or 3) | |
| Central government and central government-guaranteed marketable Securities with twelve or fewer months' residual maturity, including treasury bills; and eligible local authority paper and eligible bank bills. | 0% |
| Other central government, central government-guaranteed and local authority marketable debt with five or fewer years' residual maturity or at variable rates. | 5% |
| Other central government, central government-guaranteed and local authority marketable debt with over five years' residual maturity. | 10% |
| Other Securities denominated in freely tradable currencies (Credit Quality Grade of 1, 2 or 3) | |
| Non-government debt Securities which are Investment Grade, and which have six or fewer months' residual maturity. | 5% |

| | |
|--|-----|
| Non-government debt Securities which are Investment Grade, and which have five or fewer years' residual maturity. | 10% |
| Non-government debt Securities which are Investment Grade, and which have more than five years' residual maturity. | 15% |
| Equities which qualify for a Specific Risk weight no higher than 4%. | 20% |
| Other central government debt | |
| Where such debt is actively traded. | 20% |
| Exposures to a central government or a Central Bank where such Exposures are actively traded | 20% |
| Where the issuer is a central government or a Central Bank and the issue is actively traded but the credit Exposure is not to the Issuer | 40% |
| Non-government, actively-traded Exposures, which are Investment Grade | 60% |

7. The AFSA may vary the discounts to reflect the conditions of a particular market or institution.

Chapter 10

Group Risk

A. Introduction

1. This Chapter of the CAG sets out the standards, guidance and norms required to fulfil the regulatory requirements in respect of managing the Group Risk associated with Banks forming part of financial groups. These standards, guidance and norms supplement the regulatory requirements set out in the rules in Chapter 10 of BBR. These elements convey the supervisory expectations of the AFSA regarding Group Risk and its management by a Bank. The AFSA will use these standards, norms and key elements specified here to assess compliance with BBR Rules on Group Risk.
2. Chapter 10 of BBR includes rule requirements for a Bank:
 - (a) to implement an effective management framework for Group Risk exposure; and
 - (b) to ensure capital adequacy at the level of the Financial Group.
3. Chapter 10 of BBR also includes requirements limiting Financial Group exposures and restrictions on the ownership or control of Banks.
4. Group Risk refers to the risk of potential losses incurred by an Authorised Firm on account of its relationship with other members of its Financial Group, if it were to be part of one. 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 AFSA's overall approach to prudential supervision.

B. Financial Group - Requirements

1. For the purposes of BBR rule 10.1, the AFSA would consider a range of factors when requiring an Authorised Firm to form a Financial Group. These factors would include regulatory risk factors, including but not limited to, (direct and indirect) participation, influence or contractual obligations, interconnectedness, intra group exposures, intra group services, regulatory status and legal framework.
2. 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 or Financial Group, one or more of those Authorised Firms may make application to the DFSA for an appropriate waiver or modification.
3. For the purposes of BBR rule 10.2 (1), 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.

C. Financial Group Capital Requirements

1. This section of the CAG sets out the standards, guidance, and best practices required to fulfil the regulatory requirements in respect of the Group Risk capital requirement, specified in BBR rule 10.3. The AFSA will use these standards, guidance and key elements to assess compliance with BBR Rules on Group risk capital

requirements.

2. If an Authorised Firm breaches BBR Rules 10.3 (3) & 10.3 (4), the AFSA 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.
3. Capital resources or adjusted capital resources would not be freely transferable if they are subject to an obligation to maintain minimum capital requirements to meet domestic solvency requirements, or to comply with debt covenants. In general, Capital Resources or Adjusted Capital Resources are considered not to be freely transferable if they are subject to a legal or constructive limitation on their transferability, whether that transfer would be made by dividend, return of capital or other form of distribution. Examples of relevant limitations might include obligations to maintain minimum Capital Requirements to meet domestic solvency requirements, or to comply with debt covenants.
4. The following examples are provided to illustrate the application of BBR rule 10.4.
 - (a) The concentration risk limit which requires that the total of a banking business firm's net exposures to a counterparty or connected counterparties must not exceed 25% of its regulatory capital) applies to the firm's financial group, so that the group's net exposures to a counterparty or connected counterparties must not exceed 25% of the Financial Group's regulatory capital, calculated using the rules in chapter 10 of BBR.
 - (b) Similarly, the limit in BBR rules in chapter 4, which require that the total of all of the firm's net large exposures must not exceed 800% of its regulatory capital) applies to the firm's financial group, so that the group's total net large exposures to counterparties or connected counterparties must not exceed 800% of the Financial Group's regulatory capital, calculated using the rules in chapter 10 of BBR.
5. Because the Financial Group Capital Requirement set out in BBR rule 10.3 (6) includes Capital Requirements in respect of Group entities, Capital Resources may be included in the calculation of Financial Group Capital Resources to the extent of those requirements. Capital that is surplus to those requirements is, however, subject to an additional condition before it may be taken into account for the purposes of Financial Group capital adequacy.

CAPITAL ADEQUACY GUIDELINE

Chapter 11

Supervisory Review and Evaluation Processes

A. Introduction

1. This Chapter of the CAG sets out the standards, guidance and norms required to fulfil the

regulatory requirements in respect of the supervisory review and evaluation processes and the Individual Capital Adequacy Assessment Process (ICAAP) which forms a critical part of it. The ICAAP and the overall Supervisory review process form part of the Pillar II of the Basel III framework for banking regulation. The standards, guidance and norms provided in this chapter supplement the regulatory requirements set out in the rules in Chapter 11 of BBR. These elements convey the supervisory expectations of the AFSA regarding ICAAP by a Bank and the AFSA's approach and powers to deal with the results of the ICAAP.

B. Financial Group - Application

In relation to BBR rule 11.1, if a Bank is part of a Financial Group which is already subject to requirements prescribed in Chapter 10, the AFSA may consider a request for a waiver or modification in relation to the requirements of chapter 11 of BBR.

C. Internal Capital Adequacy Assessment Process (ICAAP)

1. A Bank is required to carry out an ICAAP as detailed in chapter 11 of the BBR and in this section. This process enables such a Bank to determine and maintain an adequate amount and quality of capital, relative to its risk profile. More information and guidance on the establishment of an ICAAP and the manner of carrying out an ICAAP assessment is elaborated in this section.

Purpose and process of the ICAAP

2. The ICAAP is an internal process of a Bank which enables it to determine and maintain the amount and quality of capital that is adequate in relation to the Bank's risk profile as assessed by conducting a comprehensive internal risk assessment process. Banks are encouraged to maintain capital over and above the regulatory minimum capital. The ICAAP, which should be based on an internal risk assessment process, should be embedded in the Bank's business and organisational processes.
3. When assessing its capital needs, a Bank should take into account the impact of economic cycles, and sensitivity to other external risks and factors. For larger or more complex institutions, this may mean developing an appropriate stress testing and scenario testing framework. The AFSA does not prescribe any specific approach for the ICAAP and, consequently, an Bank can choose to implement an ICAAP which is proportionate to the nature, size and complexity of the business activities. In completing an ICAAP, an Bank should:
 - (a) estimate the amount of capital required to absorb potential losses, if any, for the significant risks identified through an internal risk assessment process;
 - (b) perform reasonable and proportionate sensitivity tests to analyse the impact of variation in the risk parameters of significant risks identified in the internal risk assessment process on the profitability and the capital position of the Bank;
 - (c) estimate, using the range and distribution of possible losses estimated from historical data, the level of capital required reasonably to cover likely losses;
 - (d) estimate the capital required to address potential increase in the Bank's capital

requirement to support planned growth in business levels or any significant deviation in growth from plans; and

- (e) document the ranges of capital required for each of the factors identified above and enable the Governing Body and the senior management to form an overall view on the amount and quality of capital which that Bank should hold.
4. The AFSA does not require a Bank to implement ICAAP through sophisticated models and the AFSA has no prescribed approach for developing an internal capital model for the Bank's ICAAP assessment. However, an Bank should be able to demonstrate:
- (a) the confidence levels set and whether these are linked to its corporate strategy;
 - (b) the time horizons set for the different types of business that it undertakes;
 - (c) the extent of historic data used and back-testing carried out;
 - (d) that it has in place a process to verify the correctness of the model's outputs; and
 - (e) that it has the skills and resources to operate, maintain and develop the model.
5. If an Bank's internal model makes explicit or implicit assumptions in relation to correlations within or between risk types, or in relation to diversification benefits between business lines, the Bank should be able to explain to the AFSA, with the support of empirical evidence, the basis of those assumptions. An Bank's model should also reflect the past experience of both the Bank and the sectors in which it operates.
6. The assumptions required to aggregate risks that are modelled and the confidence levels adopted should be considered by the Bank's senior management. A Bank should also consider whether any relevant risks, including systems and control risks, are not captured by the model.
7. A Bank using an internal capital model should validate the assumptions of the model through a comprehensive stress testing programme. In particular this validation should:
- (a) test correlation assumptions (where risks are aggregated in this way) using combined stresses and scenario analyses;
 - (b) use stress tests to identify the extent to which the Bank's risk models omit non-linear effects, for instance the behaviour of derivatives in Market Risk models; and
 - (c) consider not just the effect of parallel shifts in interest rate curves, but also the effect of the curves becoming steeper or flatter.
8. Any internal assessment of capital adequacy should address diversification benefits and transferability of Capital Resources between members of the Financial Group. It should also describe the distribution of the capital required by the Financial Group across all entities, including the Bank.

D. Supervisory Review and Evaluation Process (SREP)

1. The guidance provided in this section of the CAG, covers the evaluation criteria and

methodology (referred to as a SREP) that the AFSA may use when reviewing and evaluating the ICAAP of an Bank.

2. The documented results of the ICAAP assessment is required to be submitted to the AFSA. The AFSA then applies a process known as the SREP which is detailed in the later parts of this chapter. As part of the SREP, the AFSA will evaluate the quality, completeness and consistency of the ICAAP of the Bank, to form a view on the overall risk profile of the Bank and whether the capital held by the Bank is sufficient to deal with the risks.
3. Following review of the ICAAP of an Bank, the AFSA may engage in a dialogue with the Bank to evaluate the assessment of risks and where relevant, additional capital which the AFSA considers that the Bank should hold resulting from the ICAAP or SREP.
4. The AFSA may conduct a SREP to review and evaluate the assessments carried out by a Bank under its ICAAP. The AFSA may engage with a bank in a dialogue where, following an SREP, the AFSA considers that it is or may be appropriate to impose an Individual Capital Requirement on the Bank. It is important that a Bank cooperates in an open and co-operative manner with the AFSA in the course of its conduct of the dialogue.

The SREP in detail

5. A SREP of an IRAP and an ICAAP forms an integral part of the overall supervisory approach of the AFSA. A SREP is expected to enable assessment of the effectiveness, completeness and quality of an IRAP and ICAAP in relation to the overall risk profile of the Bank. It leverages from information collected and assessments carried out as part of the wider supervisory regime, including desk-based reviews, on-site risk assessments, discussions with the Bank's management, and reviews completed by internal and external auditors.
6. The SREP is structured to provide consistency of treatment across Banks, taking into consideration the differences in risk profiles, business strategies and management. An essential element of the SREP is the qualitative assessment of each type of risk and its management within the overall context of the Bank's internal governance.
7. The AFSA's assessment of the individual risk profile of a Bank will provide the context for evaluation of the Bank's IRAP and/or ICAAP. The evaluation in turn will be used by the AFSA to augment its understanding of the overall risk profile of a Bank. Also, in relation to a Bank, the AFSA might involve such a Bank in a formalised discussion of risks and capital adequacy, which might lead to a requirement for additional capital.
8. The SREP may be used as a regulatory tool for Banks which are required to perform an IRAP and/or ICAAP. The SREP for each Bank will be proportionate in terms of the size, scale and complexity of its business and its impact on financial sector stability. The AFSA will cooperate actively with other supervisory authorities whenever an Bank is part of a Group and is prudentially regulated on a consolidated basis.
9. The SREP evaluation cycle will be determined in the discretion of the AFSA and be based on the risk assessment, developments in the risk profile and changes in the Bank's strategy or products. The SREP is as far as possible aligned with the risk assessment process to ensure that a recent risk assessment is available for the SREP evaluation process.

10. It is envisaged that the AFSA will use a range of supervisory tools of qualitative or quantitative nature to perform the SREP. The SREP is not intended as, and should not constitute, a parallel or secondary IRAP or ICAAP. Its purpose is to evaluate the quality, completeness and consistency of the IRAP or ICAAP of the Bank.

Review of the ICAAP Assessment

11. Upon receipt of an IRAP or ICAAP the AFSA would normally:
 - (a) subject the data provided to an initial analysis for completeness and accuracy followed by a more detailed comparison with the relevant data held on file at the AFSA about the Bank;
 - (b) determine if there are material changes compared with previous submissions;
 - (c) determine if the submitted data contains indicators of a possible material change in the Bank's risk profile;
 - (d) address and discuss any information gaps or anomalies with the Bank; and
 - (e) form an assessment about content and quality of the submission which will be integrated into the overall supervisory approach.

Evaluation of the ICAAP

12. The SREP evaluation of the IRAP and, where applicable, the ICAAP covers all activities of an Bank and takes all relevant data collected during the supervisory process into account. The SREP evaluation process will use desk based reviews, Bank visits and meetings to arrive at a final view.
13. As part of the SREP, the AFSA will consider:
 - (a) the completeness of the ICAAP by ensuring that it covers all business areas, internal governance and all risk categories of the Bank;
 - (b) the soundness and quality of the ICAAP process in relation to the Bank's size, business complexity and risk profile;
 - (c) soundness of qualitative calibration and quantitative methodology whenever employed by the Bank;
 - (d) execution of the ICAAP in terms of consistency, quality and documentation;
 - (e) adequacy of internal controls and quality assurance processes on the ICAAP; and
 - (f) adequacy of management information and whether the management had responded adequately and in a timely manner to such information.
14. Based on the SREP, the AFSA will form an assessment which will be communicated to the Bank and flow into the overall supervisory approach. The action required resulting from the ICAAP will be communicated to the Bank as part of a risk mitigation programme.
15. In relation to an Bank, where the AFSA does not agree with the results of the Bank's ICAAP results, the AFSA will involve the Bank in a dialogue to reconcile any difference in view to

arrive at a consensus estimate of the capital level required to address all risks identified either by the Bank or by the AFSA in its SREP. Such an estimate will be specified by the AFSA as the Individual Capital Requirement for the Bank. Where consensus is not possible the AFSA may impose an Individual Capital Requirement on a Bank.

2. **Individual Capital Requirement (ICR)**

16. Upon completing the SREP, the AFSA may impose an Individual Capital Requirement on an Bank as detailed in Chapter 11 of BBR. The ICR may be imposed where the AFSA concludes that the Bank should hold more capital to provide for its overall risks.

Chapter 12

Public Disclosure Requirements

A. Introduction

1. This Chapter of the CAG sets out the detailed requirements, guidance and norms required to fulfil the regulatory requirements in respect of the public disclosures required to be made by a Bank to facilitate market discipline. These public disclosure requirements form the essential part of the Pillar III of the Basel III framework for banking regulation. The standards, guidance and norms provided in this chapter supplement the regulatory requirements set out in the rules in Chapter 12 of BBR.
2. The purpose of the requirements in this chapter is to ensure that minimum public disclosures are made available to market participants to assist them in forming an opinion on the risk profile and capital adequacy of a Bank.

B. Disclosure Policy

1. A Bank has discretion to determine the form of the disclosures required, and may choose to use graphical and other representations where appropriate.

C. Detailed disclosure requirements

Table 1 – Scope of application

| | | |
|-------------------------|-----|---|
| Qualitative Disclosures | (a) | The name of the Authorised Firm. |
| | (b) | In the case of a Financial Group, a list of all the entities forming part of the Financial Group and a brief description of each of those entities. In addition, a description of differences in the basis of consolidation for regulatory purposes compared to that required under the International Financial Reporting Standards. The description must include a brief description of the entities: (i) that are fully consolidated; (ii) that are consolidated on a pro-rata basis; (iii) that are equity-accounted; (iv) that are included as deductions from any of the components of Capital Resources; (v) from which surplus capital is recognised, if any; and |
| | (c) | Any restrictions or impediments on transfer of funds or regulatory capital within the Financial Group. |

Table 2 – Capital

| | | |
|-------------------------|-----|--|
| Qualitative Disclosures | (a) | A description of the terms and conditions and main features of all capital instruments included within every component of Capital Resources – CET 1 Capital, AT1 Capital and T2 Capital. |
|-------------------------|-----|--|

| | | |
|--------------------------|-----|---|
| Quantitative Disclosures | (b) | (i) Amounts of every element eligible for inclusion in CET1 Capital; (ii) Regulatory adjustments to CET1 Capital; (iii) Deductions from CET1 Capital; and (iv) Amount of total CET1 Capital. |
| | (c) | (i) Amounts of every element eligible for inclusion in AT1 Capital; (ii) Regulatory adjustments to AT1 Capital; (iii) Deductions from AT1 Capital; and (iv) Amount of total AT1 Capital. |
| | (d) | (i) Amounts of every element eligible for inclusion in T2 Capital; (ii) Regulatory adjustments to T2 Capital; (iii) Deductions from T2 Capital; and (iv) Amount of total T2 Capital. |
| | (e) | Amount of eligible capital |

17.

18.

19.