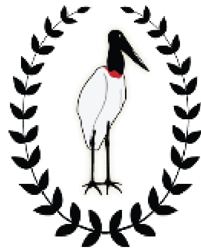

CENTRAL BANK of BELIZE

Basel II/III Implementation

Principles for the Management of Credit Risk

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INTRODUCTION

Credit risk is most simply defined as the potential that a bank borrower or counterparty will fail to meet its obligations in accordance with agreed terms. Banks need to manage the credit risk inherent in the entire portfolio as well as the risk in individual credits or transactions. Banks should also consider the relationships between credit risk and other risks. The effective management of credit risk is a critical component of a comprehensive approach to risk management and essential to the long-term success of any banking organisation. For most banks, loans are the largest source of credit risk; however, other sources of credit risk exist throughout the activities of a bank, including in the banking book and in the trading book, and both on and off-balance sheets. As part of the revision of the capital framework, banks will be required to implement a framework for the management of its credit risk incorporating these principles as a minimum benchmark.

The Central Bank of Belize (Central Bank) has adopted these principles to promote sound practices for managing credit risk. These guidelines are founded on the Basel Committee of Banking Supervisors' Principles for the Management of Credit Risk, September 2000, addressing the following areas:

(i) establishing an appropriate credit risk environment;

(ii) operating under a sound credit-granting process;

(iii) maintaining an appropriate credit administration, measurement and monitoring process; and

(iv) ensuring adequate controls over credit risk.

Although specific credit risk management practices may differ among banks based on the nature and complexity of their credit activities, a comprehensive credit risk management program will address these four key areas. Credit risk management practices should also be applied in conjunction with sound practices related to the assessment of asset quality, the adequacy of provisions and reserves, and the disclosure of credit risk.

The sixteen principles outlined in this guideline will be used by the Central Bank to evaluate the credit risk management systems of banks licensed under the Domestic Banks and Financial Institutions Act (DBFIA) and the International Banking Act (IBA). Banks are expected to adopt credit risk management approaches commensurate with the scope and sophistication of their activities. These guidelines should be applied in concurrence with the requirements of the DBFIA, IBA, practice directions, and circulars issued by the Central Bank.

Establishing an Appropriate Credit Risk Environment

Principle 1

The Board has ultimate responsibility for approving and periodically (at least annually) reviewing the credit risk strategy and significant credit risk policies of the bank. The strategy should reflect the bank's tolerance for risk and the level of profitability the bank expects to achieve for incurring various credit risks.

1.1 As with all other areas of a bank's activities, the Board has a critical role to play in overseeing the credit-granting and credit risk management functions of the bank. Banks should develop a credit risk strategy or plan that establishes the objectives guiding the bank's credit-granting activities and adopt the necessary policies and procedures for conducting such activities. The credit risk strategy, as well as significant credit risk policies, should be approved and periodically (at least annually) reviewed by the Board. The Board needs to ensure that the strategy and policies cover the many activities of the bank in which credit exposure is a significant risk.

1.2 The strategy should include a statement of the bank's willingness to grant credit based on exposure type (for example, commercial, personal, residential), economic sector, geographical location, currency, maturity and anticipated profitability. This may also include the identification of target markets and the overall characteristics that the bank would want to achieve in its credit portfolio (including levels of diversification and concentration tolerances).

1.3 The credit risk strategy should give recognition to the goals of credit quality, earnings and growth. Every bank, regardless of size, is profit driven and, consequently, must determine the acceptable risk/reward trade-off for its activities, factoring in the cost of capital. The bank's Board should approve the bank's strategy for selecting risks and maximizing profits. The Board should periodically review the financial performance of the bank and, based on the results of the review, determine if changes need to be made to the strategy. The Board must also determine if the bank's capital level is adequate for the risks assumed throughout the entire organization.

1.4 The credit risk strategy of the bank should be forward-looking. Therefore, the strategy should take into account the cyclical aspects of the economy and the resulting shifts in the composition and quality of the overall credit portfolio. Although the strategy should be periodically assessed and amended, it should be viable in the long-run and through various economic cycles.

1.5 The credit risk strategy and policies should be effectively communicated throughout the banking organization. All relevant personnel should clearly understand the bank's approach to granting and managing credit and should be held accountable for complying with established policies and procedures.

1.6 The Board should ensure that senior management is fully capable of managing the credit activities conducted by the bank and that such activities are done within the risk strategy, policies and tolerance approved by the Board. The Board should also either within the credit risk strategy or the credit policy, approve the bank's overall credit granting criteria (including general terms and conditions).

In addition, it should approve the manner in which the bank will organize its credit-granting functions, including independent review of the credit approval process and the management function of the credit portfolio.

1.7 While members of the Board, particularly independent directors, can be important sources of new business for the bank, once a potential credit is introduced, the bank's established processes should determine the terms and conditions attached to the credit. In order to avoid conflict of interest, it is important that Board members not override the credit-granting and monitoring processes of the bank.

1.8 The Board should ensure that the bank's remuneration policies do not contradict its credit risk strategy. Remuneration policies that reward unacceptable behavior, such as generating short-term profits while deviating from credit policies or exceeding established limits, weaken the bank's credit processes.

PRINCIPLE 2

Senior management is responsible for implementing the credit risk strategy approved by the Board and for developing policies and procedures for identifying, measuring, monitoring and controlling credit risk. Such policies and procedures should address credit risk in all of the bank's activities and at both the individual credit and portfolio levels.

2.1 Senior management of a bank is responsible for implementing the credit risk strategy approved by the Board. This includes ensuring that the bank's credit-granting activities conform to the established strategy, that written procedures are developed and implemented, and that the responsibilities for loan approval and review are clearly and properly assigned. Senior management must also ensure that there is a periodic independent internal assessment of the bank's credit-granting and management functions.

2.2 A cornerstone of safe and sound banking is the design and implementation of written policies and procedures related to identifying, measuring, monitoring and controlling credit risk. Credit policies establish the framework for lending and guide the credit-granting activities of the bank. Policies and procedures that are properly developed and implemented enable the bank to:

- a) maintain sound credit-granting standards;
- b) monitor and control credit risk;
- c) properly evaluate new business opportunities; and
- d) identify and administer problem credits.

2.3 A bank's credit policies should address such topics as target markets, portfolio mix, price and non-price terms, the structure of limits, approval authorities, and exception processing/reporting, etc. Such policies should be clearly defined, be consistent with prudent banking practices and relevant regulatory requirements, and be adequate for the nature and complexity of the bank's activities. The policies should be reflective of both internal and external factors such as the bank's market position, trade area, staff capabilities and technology.

2.4 As discussed further below, banks should develop and implement policies and procedures to ensure that the credit portfolio is adequately diversified given the bank's target markets and overall credit strategy. In particular, such policies should establish targets for portfolio mix as well as set exposure limits on single counterparties and groups of connected counterparties, particular industries or economic sectors, geographic regions and specific products. Banks should ensure that their own internal exposure limits comply with any prudential limits or restrictions set by the Central Bank.

2.5 In order to be effective, credit policies must be communicated throughout the organisation, implemented through appropriate procedures, monitored and periodically revised to take into account changing internal and external circumstances. They should be applied, where appropriate, on a consolidated bank basis and at the level of individual affiliates. In addition, the policies should address equally the important functions of reviewing credits on an individual basis and ensuring appropriate diversification at the portfolio level.

2.6 The credit culture, which reflects the bank's credit values, beliefs and behaviors, should be articulated in the credit policy and communicated to credit officers and staff at all levels. The credit practices should be assessed periodically to ensure that the officers and staff conform to the desired standard and value.

PRINCIPLE 3

Banks should identify and manage credit risk inherent in all products and activities. Banks should ensure that the risks of products and activities new to them are subject to adequate risk management procedures and controls before being introduced or undertaken and approved in advance by the Board or its appropriate committee.

3.1 The basis for an effective credit risk management process is the identification and analysis of existing and potential risks inherent in any product or activity. Consequently, it is important that banks identify all credit risk inherent in the products they offer and the activities in which they engage. Such identification stems from a careful review of the existing and potential credit risk characteristics of the product or activity.

3.2 New ventures require significant planning and careful oversight to ensure the risks are appropriately identified and managed. Banks should ensure that the risks of new products and activities are subject to adequate procedures and controls before being introduced or undertaken. Any major new activity should be approved in advance by the board of directors or its appropriate delegated committee.

3.3 It is critical that senior management determine that the staff involved in any activity where there is borrower or counterparty credit risk, whether established or new, basic or more complex, be fully capable of conducting the activity to the highest standards and in compliance with the bank's policies and procedures.

Operating under a Sound Credit Granting Process

Principle 4

Banks should operate within sound, well-defined credit-granting criteria. These criteria should include a clear indication of the bank's target market and a thorough understanding of the borrower or counterparty, as well as the purpose and structure of the credit, and its source of repayment.

4.1 Establishing sound, well-defined credit-granting criteria is essential to approving credit in a safe and sound manner. The criteria should establish who is eligible for credit, the amount of credit, the types of available credit, and the terms and conditions under which the credits should be granted.

4.2 Banks must receive sufficient information to enable a comprehensive assessment of the true risk profile of the borrower or counterparty. Depending on the type of credit exposure and the nature of the credit relationship to date, factors to be considered and documented in approving credits include:

a) the purpose of the credit and sources of repayment;
b) the current risk profile (including the nature and aggregate amounts of risks) of the borrower or counterparty and collateral, and its sensitivity to economic and market developments;
c) the borrower's repayment history and current capacity to repay, based on historical financial trends and future cash flow projections, under various scenarios;
d) for commercial credits, the borrower's business expertise and the status of the borrower's economic sector and its position within that sector;
e) the proposed terms and conditions of the credit, including covenants designed to limit changes in the future risk profile of the borrower; and
f) where applicable, the adequacy and enforceability of collateral or guarantees, under various scenarios.

4.3 Banks need to understand to whom they are granting credit. Therefore, prior to entering into any new credit relationship, a bank must become familiar with the borrower or counterparty and be confident that they are dealing with an individual or organisation of sound repute and creditworthiness. In particular, strict policies must be in place to avoid association with individuals involved in fraudulent activities and other crimes. This can be achieved through a number of ways, including asking for references from known parties, accessing credit registries, and becoming familiar with individuals responsible for managing a company and checking their personal references and financial condition. However, a bank should not grant credit simply because the borrower or counterparty is familiar to the bank or is perceived to be highly reputable.

4.4 Banks should have procedures to identify situations where, in considering credits, it is appropriate to classify a group of obligors as connected counterparties and, thus, as a single obligor. This would include aggregating exposures to groups of accounts exhibiting financial interdependence, including corporate or non-corporate, where they are under common ownership or control or with strong connecting links (for example, common management, familial ties). Banks should also have procedures for aggregating exposures to individual clients across business activities.

4.5 If a bank participates in loan syndication or other such loan consortia, it must not place undue reliance on the credit risk analysis done by the lead underwriter. All syndicate participants should perform their own due diligence, including independent credit risk analysis and review of syndicate terms prior to committing to the syndication. Each bank should analyse the risk and return on syndicated loans in the same manner as directly sourced loans.

4.6 Banks should assess the risk/reward relationship in any credit as well as the overall profitability of the account relationship. In evaluating whether, and on what terms, to grant credit, banks need to assess the risks against expected return, factoring in, to the greatest extent possible, price and non-price (e.g. collateral, restrictive covenants, etc.) terms. In evaluating risk, banks should also assess likely downside scenarios and their possible impact on borrowers or counterparties. A possible problem among banks is the tendency not to price a credit properly and therefore not receive adequate compensation for the risks incurred.

4.7 In considering potential credits, banks must recognise the necessity of establishing provisions for identified and expected losses and holding adequate capital to absorb unexpected losses. The bank should factor these considerations into credit-granting decisions, as well as into the overall portfolio risk management process.

4.8 Banks can utilise transaction structure, collateral and guarantees to help mitigate risks (both identified and inherent) in individual credits but transactions should be entered into primarily on the strength of the borrower's repayment capacity. Collateral cannot be a substitute for a comprehensive assessment of the borrower or counterparty, nor can it compensate for insufficient information. It should be recognised that any credit enforcement actions (e.g. foreclosure proceedings) can eliminate the profit margin on the transaction. In addition, banks need to be mindful that the value of collateral may well be impaired by the same factors that have led to the diminished recoverability of the credit. Banks should have policies covering the acceptability of various forms of collateral, procedures for the ongoing valuation of such collateral, and a process to ensure that collateral is, and continues to be, enforceable and realisable. With regard to guarantees, banks should evaluate the level of coverage being provided in relation to the credit-quality and legal capacity of the guarantor. Banks should be careful when making assumptions about implied support from third parties such as the government.

4.9 Netting agreements are an important way to reduce credit risks, especially in interbank transactions. In order to actually reduce risk, such agreements need to be sound and legally enforceable.

4.10 Where actual or potential conflicts of interest exist within the bank, internal confidentiality arrangements (e.g. "ethical walls") should be established to ensure that there is no hindrance to the bank obtaining all relevant information from the borrower.

PRINCIPLE 5

Banks should establish overall credit limits at the level of individual borrowers and counterparties, and groups of connected counterparties that aggregate in a comparable and meaningful manner different types of exposures, both in the banking and trading book and on and off the balance sheet.

5.1 An important element of credit risk management is the establishment of exposure limits on single counterparties and groups of connected counterparties. Such limits are frequently based in part on the internal risk rating assigned to the borrower or counterparty, with counterparties assigned better risk ratings having potentially higher exposure limits. Limits should also be established for particular industries or economic sectors, geographic regions and specific products.

5.2 Exposure limits are needed in all areas of the bank's activities that involve credit risk. These limits help to ensure that the bank's credit-granting activities are adequately diversified. Credit exposure also arise from activities and instruments in off the balance sheet and in rare current instances in trading book activities. Limits on such transactions are particularly effective in managing the overall credit risk profile or counterparty risk of a bank. In order to be effective, limits should generally be binding and not driven by customer demand.

5.3 Effective measures of potential future exposure are essential for the establishment of meaningful limits, placing an upper bound on the overall scale of activity with, and exposure to, a given counterparty, based on a comparable measure of exposure across a bank's various activities (both on and off-balance-sheet).

5.4 Banks should consider the results of stress testing in the overall limit setting and monitoring process. Such stress testing should take into consideration economic cycles, interest rate and other market movements, and liquidity conditions.

5.5 Bank's credit limits should recognise and reflect the risks associated with the near-term liquidation of positions in the event of counterparty default.8 Where a bank has several transactions with a counterparty, its potential exposure to that counterparty is likely to vary significantly and discontinuously over the maturity over which it is calculated. Potential future exposures should therefore be calculated over multiple time horizons. Limits should also factor in any unsecured exposure in a liquidation scenario.

5.6 Credit limits should be reviewed on a periodic basis to take into account changes in risk profiles and economic conditions. These limits should be understood by, and regularly communicated to relevant staff. All requests to increase credit limits should be substantiated.

5.7 Banks should ensure that their internal exposure limits do not contradict with any limits established by the Central Bank under the DBFIA or the IBA.

Principle 6

Banks should have a clearly-established process in place for approving new credits as well as the amendment, renewal and re-financing of existing credits.

6.1 Many individuals within a bank are involved in the credit-granting process. These include individuals from the business origination function, the credit analysis function and the credit approval function. In addition, the same counterparty may be approaching several different areas of the bank for various forms of credit. Banks may choose to assign responsibilities in different ways; however, it is important that the credit granting process coordinate the efforts of all of the various individuals in order to ensure that sound credit decisions are made.

6.2 In order to maintain a sound credit portfolio, a bank must have an established formal transaction evaluation and approval process for the granting of credits. Approvals should be made in accordance with the bank's written guidelines and granted by the appropriate level of management. There should be a clear audit trail documenting that the approval process was complied with and identifying the individual(s) and/or committee(s) providing input as well as making the credit decision. Banks often benefit from the establishment of specialist credit groups to analyse and approve credits related to significant product lines, types of credit facilities and industrial and geographic sectors. Banks should invest in adequate credit decision resources so that they are able to make sound credit decisions consistent with their credit strategy and meet competitive time, pricing and structuring pressures.

6.3 Each credit proposal should be subject to careful analysis by a qualified credit analyst with expertise commensurate with the size and complexity of the transaction. An effective evaluation process establishes minimum requirements for the information on which the analysis is to be based. There should be policies in place regarding the information and documentation needed to approve new credits, renew existing credits and/or change the terms and conditions of previously approved credits. The information received will be the basis for any internal evaluation or rating assigned to the credit and its accuracy and adequacy is critical to management making appropriate judgements about the acceptability of the credit.

6.4 Banks must develop a corps of credit risk officers who have the experience, knowledge and background to exercise prudent judgement in assessing, approving and managing credit risks. A bank's credit-granting approval process should establish accountability for decisions taken and designate who has the absolute authority to approve credits or changes in credit terms. Banks typically utilise a combination of individual signature authority, dual or joint authorities, and a credit approval group or committee, depending upon the size and nature of the credit. Approval authorities should be commensurate with the expertise of the individuals involved.

6.5 Authority should also be set for the approving of excesses above the facility and concentration limits as well as for exceptions to credit guidelines. Where credit approval authority is assigned to the credit originating function, there should be compensating measures to ensure adherence to credit standards. There should also be periodic reviews authorizations assigned to staff.

Principle 7

All extensions of credit must be made on an arm's-length basis. In particular, credits to related companies and individuals must be authorized on an exception basis, monitored with particular care and other appropriate steps taken to control or mitigate the risks of non-arm's length lending.

7.1 Extensions of credit should be made subject to the criteria and processes described above. These create a system of checks and balances that promote sound credit decisions. Therefore, directors, senior management and other influential parties (e.g. shareholders) should not override the established credit-granting and monitoring processes of the bank.

7.2 Potential for abuse arises when credit is granted to related parties at non-arms-length, whether companies or individuals. Consequently, it is important that banks grant credit to such parties on an arm's-length basis and that the amount of credit granted is suitably monitored. Such controls are most easily implemented by requiring that the terms and conditions of such credits not be more favorable than credit granted to non-related borrowers under similar circumstances, and by imposing strict absolute limits on such credits. Another possible method of control is the public disclosure of the terms of credits granted to related parties. The bank's credit-granting criteria should not be altered to accommodate related companies and individuals.

7.3 Material transactions with related parties should be subject to the approval of the Board (excluding Board members with material or vested interest), and in certain circumstances (e.g. large loans) reported to the Central Bank. The Board or senior management should declare their interest in related companies and individuals when the decision-making process for credit to them is being conducted and should abstain from the decision-making process.

Maintaining an Appropriate Credit Administration, Measurement and Monitoring Process

Principle 8

Banks should have in place a system for the ongoing administration of their various credit risk-bearing portfolios.

8.1 Credit administration is a critical element in maintaining the safety and soundness of a bank. Once a credit is granted, it is the responsibility of the business unit, often in conjunction with a credit administration support team, to ensure that the credit is properly maintained. This includes keeping the credit file up to date, obtaining current financial information, sending out renewal notices and preparing various documents such as loan agreements.

8.2 Given the wide range of responsibilities of the credit administration function, its organisational structure varies with the size and sophistication of the bank. In larger banks, responsibilities for the various components of credit administration are usually assigned to different departments. In smaller banks, a few individuals might handle several of the functional areas. Where individuals perform

such sensitive functions as custody of key documents, wiring out funds, or entering limits into the computer database, they should report to managers who are independent of the business origination and credit approval processes.

8.3 In developing their credit administration areas, banks should ensure:

a) the efficiency and effectiveness of credit administration operations, including monitoring documentation, contractual requirements, legal covenants, collateral, etc.;
b) the accuracy and timeliness of information provided to management information systems;
c) adequate segregation of duties;
d) the adequacy of controls over all "back office" procedures; and
e) compliance with prescribed management policies and procedures as well as applicable laws and regulations.

8.4 For the various components of credit administration to function appropriately, senior management must understand and demonstrate that it recognises the importance of this element of monitoring and controlling credit risk.

8.5 The credit files should include all of the information necessary to ascertain the current financial condition of the borrower or counterparty as well as sufficient information to track the decisions made and the history of the credit. For example, the credit files should include current financial statements, financial analyses and internal rating documentation, internal memoranda, reference letters, and appraisals. The loan review function should determine that the credit files are complete and that all loan approvals and other necessary documents have been obtained.

8.6 Banks should ensure that all collateral documents are kept in a fireproof safe under dual control. Movement of such documents should be tracked. Procedures should also be established to track and review relevant insurance coverage for certain facilities or collateral. Physical checks on collateral documents should be conducted on a regular basis.

PRINCIPLE 9

Banks must have in place a system for monitoring the condition of individual credits, including determining the adequacy of provisions and reserves in accordance to the Central Bank's requirements.

9.1 Banks should have comprehensive procedures and information systems to monitor the condition of individual credits across the bank's various portfolios. These procedures need to define criteria for identifying and reporting potential problem credits and other transactions to ensure that they are subject to more frequent monitoring as well as possible corrective action, classification and/or provisioning.

9.2 An effective credit monitoring system will include measures to:

f) ensure that the bank understands the current financial condition of the borrower or counterparty;
g) monitor compliance with existing covenants;

h) assess, where applicable, collateral coverage relative to the obligor's current condition;
i) identify contractual payment delinquencies and classify potential problem credits on a timely basis, in accordance with internal policies and regulatory requirements; and
j) direct promptly problems for remedial management.

9.3 Specific individuals should be responsible for monitoring credit quality, including ensuring that relevant information is passed to individuals responsible for assigning internal risk ratings to the credit. In addition, individuals should assigned to monitor, on an ongoing basis, any underlying collateral and guarantees. Such monitoring will assist the bank in making necessary changes to contractual arrangements, as well as maintaining adequate reserves for credit losses. In assigning these responsibilities, bank management should recognize the potential for conflicts of interest, especially for personnel whose renumeration and benefits are linked to indicators such as loan volume, portfolio quality or short-term profitability.

9.4 The use of funds should also be monitored to determine whether credit facilities are drawn down for their intended purposes. Where an obligor has utilized funds for purposes not shown in the original proposal, the bank should determine the implications on the creditworthiness of the obligor. Exceptions noted during the monitoring process should be promptly acted upon and reported to management.

PRINCIPLE 10

Banks should develop and utilize an internal risk rating system in managing credit risk. The rating system should be consistent with the nature, size and complexity of a bank's activities.

10.1 An important tool in monitoring the quality of individual credits, as well as the total portfolio, is the use of an internal risk rating system. A well-structured internal risk rating system is a good means of differentiating the degree of credit risk in the different credit exposures of a bank. This will allow more accurate determination of the overall characteristics of the credit portfolio, concentrations, problem credits, and the adequacy of loan loss reserves. More detailed and sophisticated internal risk rating systems can also be used to determine internal capital allocation, pricing of credits, and profitability of transactions and relationships.

10.2 Typically, an internal risk rating system categorizes credits into various classes designed to take into account changes in risk. Simpler systems might be based on several categories ranging from satisfactory to unsatisfactory; however, more complex or sophisticated systems will have numerous stages for credits considered satisfactory to accurately differentiate the relative credit risk they pose. In developing their systems, banks must rate the riskiness of the counterparty, and the risks associated with specific transactions.

10.3 Internal risk ratings are an important tool for monitoring and controlling credit risk. In order to facilitate early identification of changes in risk profiles, the bank's internal risk rating system should be responsive to indicators of potential or actual deterioration in credit risk. Credits with deteriorating ratings should be subject to additional oversight and monitoring. The internal risk ratings can be used to track the current characteristics of the credit portfolio and help determine necessary changes to the

credit strategy of the bank. Consequently, it is important that the Board and senior management also receive periodic reports (at least quarterly) on the condition of the credit portfolios based on such ratings.

10.4 The ratings assigned to individual borrowers or counterparties at the time the credit is granted must be reviewed on a periodic basis, and individual credits should be assigned a new rating when conditions either improve or deteriorate. Because of the importance of ensuring that internal ratings are consistent and accurately reflect the quality of individual credits, responsibility for setting or confirming such ratings should rest with a credit review function independent of that which originated the credit. It is also important that the consistency and accuracy of ratings is examined periodically by a function such as an independent credit review group, or internal audit function.

PRINCIPLE 11

Banks must have information systems and analytical techniques that enable management to measure the credit risk inherent in all on- and off-balance sheet activities. The management information system should provide adequate information on the composition of the credit portfolio, including identification of any concentrations of risk.

11.1 Banks should have methodologies that enable them to quantify the risk involved in exposures to individual borrowers or counterparties. Banks should also be able to analyze credit risk at the product and portfolio level, in order to identify particular sensitivities or concentrations. The measurement of credit risk should take account of (i) the specific nature of the credit (loan, overdraft, securities, etc.) and its contractual and financial conditions (maturity, interest rate, etc.); (ii) the exposure profile until maturity in relation to potential market movements; (iii) the existence of collateral or guarantees; and (iv) the potential for default. The analysis of credit risk data should be undertaken at an appropriate frequency with the results reviewed against relevant limits. Banks should use measurement techniques that are appropriate for the complexity and level of the risks involved in their activities, based on robust data, and subject to periodic validation.

11.2 The effectiveness of a bank's credit risk measurement process is highly dependent on the quality of management information systems. The information generated from such systems enables the Board and all levels of management to fulfil their respective oversight roles, including determining the adequate level of capital that the bank should maintain. Therefore, the quality, detail and timeliness of information are critical. In particular, information on the composition and quality of the various portfolios, including on a consolidated bank basis, should permit management to effectively assess the level of credit risk that the bank has incurred through its various activities and determine whether the bank's performance is aligned with the credit risk strategy.

11.3 Banks should monitor actual exposures against established limits. It is important that banks have a management information system in place to ensure that exposures that are approaching risk limits are brought to the attention of senior management. All exposures should be included in a risk limit measurement system. The bank's information system should be able to aggregate credit exposures to

individual borrowers and counterparties, or groups, and report on exceptions to credit risk limits on a meaningful and timely basis.

11.4 Banks should have information systems in place that enable management to identify any concentrations of risk within the credit portfolio. The adequacy of scope of information should be reviewed on a periodic basis by business line managers and senior management to ensure that it is sufficient to the complexity of the business.

PRINCIPLE 12

Banks must have in place a system for monitoring the overall composition and quality of the credit portfolio.

12.1 Traditionally, banks have focused on oversight of contractual performance of individual credits in managing their overall credit risk. While this focus is important, banks also need to have in place a system for monitoring the overall composition and quality of the various credit portfolios. This system should be consistent with the nature, size and complexity of the bank's portfolios.

12.2 A continuing source of credit-related problems in banks is concentrations within the credit portfolio. Concentrations of risk can take many forms and can arise whenever a significant number of credits have similar risk characteristics. Concentrations occur when, among other things, a bank's portfolio contains a high level of direct or indirect credits to (i) a single counterparty, (ii) a group of connected counterparties, (iii) a particular industry or economic sector, (iv) a geographic region, (v) an individual foreign country or a group of countries whose economies are strongly interrelated, (vi) a type of credit facility, or (vii) a type of collateral. Concentrations also occur in credits with the same maturity. Concentrations can stem from more complex or subtle linkages among credits in the portfolio. The concentration of risk does not only apply to the granting of loans but to the whole range of banking activities that, by their nature, involve counterparty risk. A high level of concentration exposes the bank to adverse changes in the area in which the credits are concentrated.

12.3 In many instances, due to a bank's geographic location or lack of access to economically diverse borrowers or counterparties, avoiding or reducing concentrations may be challenging. In addition, banks may want to capitalize on their expertise in a particular industry or economic sector. A bank may also determine that it is being adequately compensated for incurring certain concentrations of risk. Consequently, banks should not necessarily forego booking sound credits solely on the basis of concentration. Banks may need to utilize alternate measures to reduce or mitigate concentrations. Such measures can include pricing for the additional risk, increased holdings of capital to compensate for the additional risks and making use of loan participations in order to reduce dependency on a particular sector of the economy or group of related borrowers. Banks must be careful not to enter into transactions with unfamiliar borrowers or counterparties or engage in credit activities which are not fully understood simply for the sake of diversification.

12.4 Banks have responsibilities to manage credit concentrations and other portfolio issues. These include such mechanisms as issuance of loans, securitization programs (upon the Central Bank's approval) and other secondary loan markets. However, mechanisms to deal with portfolio concentration issues

involve risks that must also be identified and managed. Consequently, when banks decide to utilize these mechanisms, they need to first have in place policies and procedures, as well as adequate controls in place.

PRINCIPLE 13

Banks should take into consideration potential future changes in economic conditions when assessing individual credits and their credit portfolios, and should assess their credit risk exposures under stressful conditions.

13.1 An important element of sound credit risk management involves discussing what could potentially go wrong with individual credits and within the various credit portfolios, and factoring this information into the analysis of the adequacy of capital and provisions. This "what if" exercise can reveal previously undetected areas of potential credit risk exposure for the bank. The linkages between different categories of risk that are likely to emerge in times of crisis should be fully understood. In case of adverse circumstances, there may be a substantial correlation of various risks, especially credit and market risk. Scenario analysis and stress testing are useful ways of assessing areas of potential problems.

13.2 Stress testing should involve identifying possible events or future changes in economic conditions that could have unfavorable effects on a bank's credit exposures and assessing the bank's ability to withstand such changes. Three areas that banks could usefully examine are: (i) economic or industry downturns; (ii) market-risk events; and (iii) liquidity conditions. Stress testing can range from relatively simple alterations in assumptions about one or more financial, structural or economic variables to the use of highly sophisticated financial models.

13.3 Banks must analyze changes in the economy or certain sectors to determine the event that could lead to substantial losses or liquidity problems. Whatever the method of stress testing used, the output of the tests should be reviewed periodically by senior management and appropriate action taken in cases where the results exceed agreed tolerances. The output should also be incorporated into the process for assigning and updating policies and limits.

13.4 Banks that grant credit internationally should have adequate policies and procedures in place to monitor and control country risk[1] and transfer risk[2] in its international lending and investment activities. Monitoring of country and transfer risk factors should include the potential for default of foreign private sector obligors arising from country-specific economic, social and political factors. Banks should also assess an obligor's ability to obtain foreign exchange to service cross-currency debt and honor contracts across jurisdictions. Significant country and transfer risks should be assessed and highlighted in credit proposals submitted to management for approval.

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[1] Country risk is the risk of exposure to loss caused by events in a foreign country. The concept is broader than sovereign risk as all forms of lending or investment activity whether to/with individuals, corporate, banks or governments are covered.

[2] Transfer risk is the risk that a borrower will not be able to convert local currency into foreign exchange and so will be unable to make debt service payments in foreign currency.

13.5 Banks should monitor and evaluate country and transfer risks by tracking internal and external country risk ratings and economic, social and political developments of the relevant countries. Appropriate countermeasures should be taken when adverse developments occur in a particular country. These measures include closer analysis of the obligor's capacity to repay, provisioning and preparation of contingency plans if the country and transfer risks continue to deteriorate.

13.6 The bank should attempt to identify the types of situations, such as economic downturns both holistically or in particular sectors, higher than expected levels of delinquencies and defaults, or the combinations of credit and market events that could produce substantial losses or liquidity problems. Such an analysis should be done on a consolidated bank basis. Stress-test analyses should also include contingency plans regarding actions management might take given certain scenarios. Banks should have in place policies and procedures for stress testing, which should be approved by the Board and senior management.

Ensuring Adequate Controls over Credit Risk

Principle 14

Banks must establish a system of independent, ongoing assessment of the bank's credit risk management processes, and the results of such reviews should be communicated directly to the Board and senior management.

14.1 Because various appointed individuals throughout a bank are authorized to grant credit, the bank should have an efficient internal review and reporting system to effectively manage the bank's various portfolios. This system should provide the Board and senior management with sufficient information to evaluate the performance of account officers and the condition of the credit portfolio.

14.2 Internal credit reviews conducted by individuals independent from the business function provide an important assessment of individual credits and the overall quality of the credit portfolio. The independent review can help evaluate the overall credit administration process, determine the accuracy of internal risk ratings, and judge whether individual credits are being properly monitored. The credit review function should report directly to the Board, a committee with audit responsibilities, or senior management without lending authority (e.g., senior management within the risk control function).

Principle 15

Banks must ensure that the credit-granting function is being properly managed and that credit exposures are within levels consistent with prudential standards and internal limits. Banks should establish and enforce internal controls and other practices to ensure that exceptions to policies, procedures and limits are reported in a timely manner to the appropriate level of management for action.

15.1 The goal of credit risk management is to maintain a bank's credit risk exposure within parameters set by the Board. The establishment and enforcement of internal controls, operating limits and other practices will help to ensure that credit risk exposures do not exceed levels acceptable to the bank. Such a system will enable the bank's management to monitor adherence to the established credit risk objectives.

15.2 Limit systems should ensure that granting of credit exceeding certain predetermined levels receive prompt management attention. An appropriate limit system should assist management in controlling credit risk exposures, initiating discussion about opportunities and risks, and monitoring actual risk taking against predetermined credit risk tolerances.

15.3 Internal audits of the credit risk processes should be conducted on a periodic basis to determine that credit activities are in compliance with the bank's credit policies and procedures, that credits are authorized within the guidelines established by the bank's Board and that the existence, quality and value of individual credits are accurately being reported to senior management. Such audits should also be used to identify areas of weakness in the credit risk management process, policies and procedures as well as any exceptions to policies, procedures and limits.

PRINCIPLE 16

Banks must have a system in place for early remedial action on deteriorating credits, managing problem credits and similar workout situations.

16.1 One reason for establishing a systematic credit review process is to identify weakened or problem credits. A reduction in credit quality should be recognized at an early stage when there may be more options available for improving the credit. Banks must have a disciplined and vigorous remedial management process, triggered by specific events, that is administered through the credit administration and problem recognition systems.

16.2 A bank's credit risk policies should clearly set out how the bank will manage problem credits. Responsibility for such credits may be assigned to the originating business function, a specialized workout section, or a combination of the two, depending upon the size and nature of the credit and the reason for its problems.

16.3 Effective workout programs are critical to managing risk in the portfolio. When a bank has significant credit-related problems, it is important to separate the workout function from the area that originated the credit. The additional resources, expertise and more concentrated focus of a specialized workout section normally improve collection results. A workout section can help develop an effective strategy to rehabilitate a troubled credit or to increase the amount of repayment ultimately made. An experienced workout section can also provide valuable input into any credit restructuring organized by the business function.