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OF DALLAS

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TO: The Chief Executive Officer of each
financial institution and others concerned
in the Eleventh Federal Reserve District

SUBJECT

**Guidance on Managing the Settlement of
Risk Arising from Foreign Exchange Transactions;
Guidance on Credit Risk in Banking**

DETAILS

The Basel Committee on Banking Supervision has issued a paper providing guidance on managing the settlement risk arising from foreign exchange transactions. Titled *Supervisory Guidance for Managing Settlement Risk in Foreign Exchange Transactions*, the paper stresses that banks should manage foreign exchange settlement risk, like other credit risks of a similar size and duration, through a formal process of measurement and control with active senior management oversight. It builds on the previous work of the Bank for International Settlement's (BIS) Committee on Payments and Settlements Systems.

Also, the Basel Committee has issued two papers providing guidance on credit risk in banking. *Principles for the Management of Credit Risk* encourages banking supervisors globally to promote sound practices for managing credit risk. It identifies sound practices that banks should use in managing the credit risk of all their activities, both banking and trading.

Best Practices for Credit Risk Disclosure identifies the credit risk information that market participants and supervisors need to meaningfully assess banking organizations. It encourages banks in all countries to provide that information to the public.

MORE INFORMATION

All three papers are part of the committee's ongoing effort to strengthen procedures for risk management in banks and are revisions of consultative papers issued in July 1999. The papers can be obtained from the BIS web site at <http://www.bis.org>. Please select the press releases

for September 7, 2000, and September 14, 2000. PDF copies (requires Adobe Acrobat® for viewing) of the papers are also available from our web site at www.dallasfed.org/banking/notices/00-58.html . Please select the appropriate link within the notice. Additionally, you may obtain hard copies of the papers by contacting the Public Affairs Department at (214) 922-5254.

For more information, contact Dorsey Davis in this Bank's Banking Supervision Department at (214) 922-6051. For additional copies of this Bank's notice, contact the Public Affairs Department at (214) 922-5254 or access District Notices on our web site at <http://www.dallasfed.org/banking/notices/index.html>.

**Supervisory Guidance for Managing
Settlement Risk in
Foreign Exchange Transactions**

Basel Committee on Banking Supervision

Basel
September 2000

Risk Management Group of the Basel Committee on Banking Supervision

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Supervisory Guidance for Managing Settlement Risk in Foreign Exchange Transactions

I Introduction

1. Foreign exchange (FX) settlement risk is the risk of loss when a bank in a foreign exchange transaction pays the currency it sold but does not receive the currency it bought. FX settlement failures can arise from counterparty default, operational problems, market liquidity constraints and other factors. Settlement risk exists for any traded product but the size of the foreign exchange market makes FX transactions the greatest source of settlement risk for many market participants, involving daily exposures of tens of billions of dollars for the largest banks. Most significantly, for banks of any size, the amount at risk to even a single counterparty could in some cases exceed their capital.

2. FX settlement risk is a form of counterparty risk involving both credit risk and liquidity risk. As with other forms of risk, banks need to ensure that they have a clear understanding of how FX settlement risk arises. On the basis of this understanding, policies for managing the risk should be developed at the highest levels within the bank and implemented through a formal and independent process with adequate senior management oversight. As part of this process, a bank has to have measurement systems that provide appropriate and realistic estimates of FX settlement exposures on a timely basis. The development of counterparty settlement limits and the monitoring of the exposures against these limits is a critical control function. The bank also needs to have procedures for reacting in a prompt and balanced manner to failed transactions or other settlement problems.

3. The purpose of this guidance is to provide banking supervisors with information about FX settlement risk and its management that they should take into account when assessing a bank's policies and procedures. Establishing and implementing proper risk management policies can be a major task for a bank and it is likely that not all banks will have completed this task yet. However, understanding and recognition of FX settlement risk has increased significantly in recent years, not least because of the work of the Committee on Payment and Settlement Systems (CPSS) of the Bank for International Settlements, in particular their reports, *Settlement Risk in Foreign Exchange Transactions* (March 1996) and *Reducing Foreign Exchange Settlement Risk: A Progress Report* (July 1998).¹ All banks should therefore be expected to have a good understanding of FX settlement risk and to have formulated clear and firm plans for how to manage it. Even if those plans have not yet been fully implemented, the process of doing so should be well underway.

4. This guidance was drawn up in close consultation with the CPSS. It has also benefited from comments received on the consultative draft issued in July 1999.

¹ These documents as well as other useful material related to foreign exchange settlement risk and other types of settlement risk are listed in the annotated bibliography provided in Appendix 3.

II The nature of FX settlement risk

5. FX settlement risk clearly has a credit risk dimension. If (as is usually the case under current market practices) a bank cannot make the payment of the currency it sold conditional upon its final receipt of the currency it bought, it faces the possibility of losing the full principal value of the transaction. It is true that, in practice, the majority of FX settlement failures arise for operational or other routine reasons, in which case the bank does in due course receive the currency it has purchased. Nevertheless, the risk exists that the counterparty will default outright and the principal will be lost. **Banks therefore should treat FX exposures as being equivalent to other credit exposures of the same size and duration.**² Moreover, as discussed below, they need to take into account the fact that standard settlement practices mean that this exposure is not necessarily an intraday phenomenon: exposures frequently last overnight and can last for several days.

6. FX settlement risk also has an important liquidity risk dimension. Even temporary delays in settlement can expose a receiving bank to liquidity pressures if unsettled funds are needed to meet obligations to other parties. Such liquidity exposure can be severe if the unsettled amounts are large and alternative sources of funds must be raised at short notice in turbulent or unreceptive markets.

7. FX settlement risk has other dimensions as well. For example, there is legal risk – i.e. the risk that legal difficulties may exacerbate the credit or liquidity risk facing the bank as a result of a settlement failure. In the case of foreign exchange deals, legal risk can be complicated by the fact that settlement normally takes place in more than one jurisdiction. There is also a particularly important systemic risk dimension. As already noted, the size of some banks' FX exposures relative to their capital creates the real danger that a failure of one counterparty of a bank could lead to that bank's insolvency.

8. The scale and nature of FX settlement risk depends, in part, on the method of settlement. At the moment, the majority of deals are settled gross – i.e. each deal is settled individually through payments made via correspondent banks (or branches of the counterparty banks) in the currencies concerned. This guidance concentrates on the risks that arise from settling gross because a thorough understanding of how these risks should be managed is a pre-requisite for understanding other settlement methods.³ At the moment, the principal alternative settlement method is to use bilateral netting. In the future it is likely that further settlement methods will also be available, including the FX settlement system being developed by CLS Bank. Later sections of the guidance look at some of the risk management implications of these alternative settlement methods.

² It is worth noting that FX settlement risk is not intended to attract a minimum capital requirement under the new capital adequacy framework. Supervisors would be free to impose a charge for this, or other risks, under the supervisory review process and banks may wish to consider this exposure in their internal capital allocations. The proposed capital charge for operational risk is intended to take into account operational risk exposure arising from FX settlement.

³ Note that the term “gross” is used here to indicate a process in which each FX deal is settled individually by traditional correspondent bank methods. It does not mean that any payment system used by the correspondent banks as part of this process is necessarily a gross settlement system.

III Senior management responsibilities

9. A bank's procedures for managing its FX settlement risks should be commensurate with the range and scope of its activities. However, in all cases and regardless of the settlement method used, FX settlement risk management should begin at the highest levels of the organisation, with a policy on FX settlement risk from the bank's board of directors. This policy should be an integral and consistent part of the bank's overall policy towards counterparty risk. It should be regularly reviewed and, where necessary, modified to take account of new circumstances such as changes in the scale or nature of the bank's FX operations or in the method of settlement used.

10. Senior management should exercise appropriate oversight of settlement exposures. Although specific organisational approaches may vary across banks, FX settlement risk management should be integrated into the overall risk management process. Managing FX settlement risk involves many different functional areas of a bank, including trading, credit, operations, legal, risk assessment, branch management, and correspondent relations. In larger, more complex banks, counterparty exposures may also run across departments, branches and legal entities, and may encompass multiple product lines, such as lending and FX trading. Banks should have clear procedures for measuring and managing exposures that provide for the efficient aggregation of all components of credit risk toward a counterparty. This is a prerequisite for the proper functioning of the overall risk management process. Only senior management can effect the co-ordination necessary to achieve this. Management information systems should also support the integration of the necessary information.

11. Accordingly, senior management should ensure that they fully understand the FX settlement risks incurred by the bank and should clearly define lines of authority and responsibility for managing these risks. Adequate training should be provided to all staff responsible for the various aspects of FX settlement risk. Senior management and staff should understand that counterparty default is not so rare as to obviate the need for strong risk management. While defaults by major banks are uncommon, the extremely large FX trading exposures, including those that can last for several days (as discussed below), merit more prudent risk management than is currently found in many banks.

IV Duration of FX settlement exposure

12. FX-related payments generally are made in two primary steps: the sending of payment orders and the actual transmission of funds. It is important to distinguish between these two steps: the first is an instruction to make a payment, while the second involves an exchange of credits and debits across correspondent accounts and the accounts of the central bank of the currency involved.⁴ The first step is normally effected one or two days before settlement date (although there are some variations according to currency and institution) while the second stage takes place on the settlement date itself.

⁴ Alternatively, final payment may be made by book-entry transfer if the two trading counterparties have the same correspondent.

13. A bank's FX settlement exposure runs from the time that its payment order for the currency sold can no longer be recalled or cancelled with certainty – *the unilateral payment cancellation deadline* – and lasts until the time that the currency purchased is received with finality. Note that this is the duration of the exposure. It says nothing about the probability of failure and thus the degree of risk faced by the bank during the period. Depending on the information available to the bank about the creditworthiness of the counterparty or the status of the funds it is due to receive, its assessment of the probability of failure and thus the degree of risk may change during the time the exposure is outstanding. This is, of course, normal for any credit exposure.

14. To measure and manage their FX exposures, banks need to be certain when their unilateral cancellation deadline is for each currency. It might be expected that banks could cancel payment orders up until the moment before the funds are finally paid to a counterparty. However, correspondent and payment system practices, as well as operational and even legal arrangements, typically result in payment orders becoming effectively irrevocable significantly before the time of payment.

15. A key factor in determining the unilateral cancellation deadline is the latest time a correspondent can guarantee to satisfy a cancellation request. The documentation covering a correspondent's service agreement should identify this cancellation cut-off time. This documentation is particularly important because, in the event the bank wishes to cancel its payment instruction, the bank and its correspondent are likely to rely upon the terms and conditions stipulated in the agreement. However, in some cases banks may have no written agreement at all with their correspondent or the agreement may not specify a guaranteed cut-off time. Where this is the case, banks should negotiate with their correspondent; this may require a change in nature of the relationship between the bank and its correspondent, recognising that the two need to work together to manage risks effectively.

16. In assessing their unilateral payment cancellation deadlines, banks should be able to demonstrate that they can in practice identify and hold particular payments up to the cut-off times guaranteed by their correspondents, as internal processes and other practical factors may limit their ability to do so. In many cases, the effective unilateral payment cancellation deadline will be earlier than the guaranteed cut-off time - indeed, in some cases the unilateral payment cancellation deadline may even be earlier than the time the payment order is normally sent to the correspondent. These earlier times could occur, for example, if payment orders were normally processed automatically but cancelling an order required time-consuming manual intervention. Moreover, due to automated processing, a bank may not be able to stop one payment instruction without ceasing or disrupting all outgoing payment instructions. Because a bank's management is unlikely to want to suspend payments to their solvent counterparties (and face subsequent demands for compensation), an all or nothing capability to cease outgoing payment instructions should not be accepted as the ability to effect unilateral cancellation of payments to a single counterparty. Finally, some deadlines quoted by correspondents may fall outside normal working hours, in which case the bank may need additional time to meet the deadline. Because of these and other factors, banks should consider testing their procedures with their branches and correspondents in simulations of

emergencies in order to help determine the effective unilateral payment cancellation deadline.⁵

V Measurement of FX settlement exposures

17. The actual duration of FX settlement exposure - namely, the interval from the unilateral payment cancellation deadline for the sold currency until final receipt of the bought currency - is generally referred to as the period of irrevocability. When trades are settled gross, the full face value of the trade is at risk during this period, which can last overnight and up to two or three full days. If weekends and holidays are included, the period of irrevocability – and consequent exposure – can exist for several more days.

18. A bank's *minimum* FX settlement exposure at a specified time includes the value of all outstanding trades where payment is irrevocable; it also includes any known failed receipts since, by definition, the fact the trade has failed to settle means the funds have not yet been received. Because the irrevocable period can last several days, this minimum measure of exposure may be equal to several days' worth of trades. In this situation, a bank might find itself in the position of paying a counterparty on one day when it had not been paid on the previous day(s).

19. A bank's measurement of its exposure also needs to take account of the process of reconciling incoming payments with expected receipts. The actual exposure of the bank ends when the bought currency is received with finality. However, in the interval between expected receipt and reconciliation, referred to as the period of uncertainty, the bank does not know whether it has received payments from particular counterparties and will therefore be acting in ignorance of any failed receipts. When measuring its exposure, a prudent bank will therefore assume that during this uncertain period the funds have not been received. Consequently, the *maximum* settlement exposure at a specified time equals the minimum exposure plus the value of all uncertain receipts at that time.

20. Note that the period of uncertainty only ends when a bank has positively confirmed that the funds have been received. Positive confirmation means that a bank not only has received information from its correspondents about the payments credited to its nostro accounts but also has processed that information to determine which trades have successfully settled and which, if any, have failed.⁶ It is not enough for banks to measure their exposure on the basis that, provided they have no news of the counterparty having defaulted, it is safe for them to assume that the funds either have been or will be received. Until the receipt of the funds has been positively confirmed, there always remains the possibility that in fact they have not been received and that the counterparty will default.

⁵ For example, the bank could attempt to cancel payment instructions (concerning payments set up specially for test purposes) which it had sent to its correspondent.

⁶ It is not unusual for the reconciliation process to take place some considerable time after information is received from a correspondent. (For example, the bank may receive the information late on the settlement day but not process the information until the next working day.) Banks need also to ensure that payments shown as being credited to their nostro accounts have been credited with finality, rather than as provisional funds (e.g. pending final settlement within a payment system).

21. Measuring FX settlement exposures requires a bank to identify explicitly both the unilateral payment cancellation deadlines and the reconciliation process times involved in each type of currency transaction. An exact measure of FX exposures has to recognise that the duration of exposures varies by currency pair and that a bank's exposures are likely to change during the day. Exact measurement has the advantage of avoiding overestimation as well as underestimation.⁷ Nevertheless, the process involved is relatively complex and so, for operational and system reasons, most banks do not measure their exposures exactly. Instead various estimation methods are used. In particular, many banks define and measure their daily settlement exposures as the total receipts coming due on settlement day.

22. Estimation techniques can be appropriate – but only if they do not significantly underestimate exposures. However, in practice simple estimation techniques frequently do understate settlement exposures. One problem is that even where exposures last for less than 24 hours, this period may overlap more than one calendar day. For example, the period may start during the evening of the day before settlement and run until late afternoon of the settlement day; in this case, estimating the daily exposure as the receipts due on the settlement day could underestimate the actual exposure late in the day. Moreover, as noted in paragraph 18 above, exposures often last more than one day. Simple approximation methods for improving this technique, such as using multiples of daily trades, may not sufficiently account for variations in the value of daily trades.

23. Where estimation techniques are used, management should therefore be able to demonstrate clearly how settlement exposure is measured, and that, even in abnormal circumstances, the estimation techniques will not significantly underestimate the exposure. Even estimation techniques require a bank to have a thorough understanding of both the unilateral payment cancellation deadlines and the reconciliation process times involved in each type of currency transaction.

24. Finally, it is critical that banks' measurements of FX settlement exposures and associated risks are integrated into their overall risk measurement and management processes. In particular, banks have increasingly adopted consolidated risk measurement and capital allocation methodologies, a trend that supervisors have strongly supported. Where such methodologies are used, appropriate measures of FX settlement risk should be included so that internal capital allocations properly reflect the risks associated with this activity.

VI Setting and using limits

25. Banks should ensure that settlement exposures to counterparties are subject to prudent limits. FX settlement exposures should be subject to an adequate credit control process, including credit evaluation and review and determination of the maximum exposure the bank is willing to take with a particular counterparty. Through this process, an FX settlement limit should be established for each counterparty. The FX settlement exposure limit should be subject to the same procedures used to devise limits on other exposures of

⁷ Overestimation has disadvantages: it may lead to inefficient use of counterparty credit limits or to excessive expansion of credit limits to offset the overestimate. However, underestimation is clearly a more serious problem.

similar duration and size to the same counterparty. For example, in cases where the FX settlement exposure to a counterparty lasts overnight, the limit might be assessed in relation to the bank's willingness to lend funds to its counterparty on an overnight basis. Limits should be based on the level of credit risk that is prudent and should not be set at an arbitrary, high level just to facilitate trading with a counterparty.

26. The limits applied by a bank to its FX settlement exposures should be binding – i.e. FX deals should not be struck that would cause counterparty limits to be exceeded. Any planned excesses should be subject to approval by the appropriate credit management personnel in advance of the excess occurring. However, unplanned excesses may sometimes occur. This may be because, when the deal is struck, the headroom apparently available under a limit has not yet been reduced to reflect other deals recently struck. Or it may be because, when the time comes for the deal to be settled, unexpected events (such as the failure of other transactions to settle) cause exposures to be higher than planned. Banks should take steps to minimise these possibilities. Exposure measures should be updated promptly when new deals are struck or when events (such as fails) mean that the exposures from existing trades last longer than expected. Effective monitoring is crucial to the management of FX settlement risk, and banks with large exposures should have systems that enable them to monitor developments in real-time (or close to real-time) in order to ensure that these exposures do not exceed settlement limits. A bank may want to put additional emphasis on those exposures that are particularly large or are with less-creditworthy counterparties or where there has been a series of fails that may indicate an underlying credit-worthiness problem. However, if, despite these precautions, unauthorised excesses do still occur, a review by the credit management personnel should take place shortly thereafter so that any necessary corrective action can be taken.

VII Procedures for managing fails and other problems

27. Operational errors are the most common source of fails. While such mistakes may be inadvertent and corrected within a reasonable time, they may in some cases be indicative of more fundamental problems, including credit problems, and so banks should have procedures for quickly identifying fails and taking appropriate action. Such action should normally involve informing the credit department, so that a judgement can be made about the seriousness of the problem. Because a fail represents continued exposure to the counterparty for the full principal value of the trade, banks should include fails in their measures of current and expected exposure (as noted in paragraph 18 above). Banks may also need to take steps to obtain the funds due and to try to avoid recurrences.

28. When reacting to a fail or to another potential problem with the settlement of an FX deal, banks need to strike a balanced approach. If there appears to be an underlying credit-worthiness problem, the bank may decide that it is prudent to reduce its limit for that counterparty. In more extreme cases, it may decide that, to protect itself from settlement risk, it needs to suspend issuing payment instructions for outstanding deals with that counterparty or to cancel existing payment instructions (if possible). However, failure to pay could have serious consequences; it could constitute a breach of contract by the bank and may cause liquidity problems for the counterparty. Such action should thus only be taken when, after a careful but prompt review of the circumstances, the bank's senior management judges that the situation warrants it.

VIII Contingency planning

29. Contingency planning and stress testing should be an integral part of the FX settlement risk management process. Contingency plans should be established to include a broad spectrum of stress events, ranging from internal operational difficulties to individual counterparty failures to broad market related events. Adequate contingency planning in the FX settlement risk area includes ensuring timely access to key information, such as payments made, received or in process, and developing procedures for obtaining information and support from correspondent institutions. An institution should also have a contingency plan in place to ensure continuity of its FX settlement operations if its main production site becomes unusable. This plan should be documented and supported by contracts with outside vendors, where such vendors provide services to the bank that are necessary either to the bank's normal FX settlement or to its contingency plans. Because in many cases the action taken will be similar, contingency planning for FX settlement problems should be co-ordinated with the planning for other problems (such as payment system or trading room failures). Contingency plans should be tested periodically.

IX Improving the management of FX settlement exposures

30. Banks should actively manage their exposures. There are various steps banks can take to reduce the duration or size of the settlement exposures relating to their FX deals. The duration of exposures can be reduced by improving unilateral payment cancellation deadlines by, for example, negotiating better cancellation cut-off times with correspondents and improving internal processing. It is important to note that banks should not simply regularly delay sending payment instructions to their correspondents as a way of improving their periods of irrevocability. Doing so without the correspondents' consent could increase the correspondents' operational risks and thus the risk that payment instructions are incorrectly processed. Instead, banks should seek to negotiate explicit cancellation cut-off times with their correspondents. Banks need to have realistic expectations of what correspondent banks can be expected to achieve, since later cancellation cut-off times have operational and liquidity consequences for the correspondent. Banks also need to be aware of the possible liquidity risk in payment systems if late cut-off times cause FX-related payments to be concentrated towards the end of the settlement day, adversely affecting system liquidity.

31. Better management of exposures can also be achieved by identifying receipts sooner, thereby bringing the maximum measure of exposure close to the minimum. To reduce the amount of time it takes to identify final or failed receipts, banks will need to consider improving both arrangements for receipt of information from correspondents and the time they conduct their own reconciliations.

32. Appropriately managed collateral arrangements and legally sound netting agreements (see below) are also important risk management tools that can reduce the amount of a bank's exposure to a particular counterparty for a particular level of trading.

X Use of bilateral netting

33. Banks can reduce the size of their counterparty exposures by entering into legally binding agreements to net settlement payments bilaterally.⁸ Legally binding payment netting arrangements permit banks to offset trades against each other so that only the net amount in each currency is paid or received by each institution. Such payment netting arrangements are contemplated in the industry standard bilateral master agreements covering FX transactions.

34. Depending on trading patterns, bilateral payment netting can significantly reduce the value of currencies settled. It also reduces the number of payments to one per currency either to or from each counterparty. Bilateral payment netting is most valuable when the counterparties have a considerable two-way flow of business; as a consequence it may only be attractive to the most active banks. To take advantage of risk reducing opportunities, banks should be encouraged to establish procedures for identifying payment netting opportunities.

35. Use of bilateral payment netting requires some modification to the method of measuring settlement exposures explained earlier. When bilateral payment netting is used, all the transactions with a particular counterparty due to settle on that day have to be considered together: the bank will make a single payment to the counterparty in each of the currencies where it has a net debit position, and receive a single payment in each of the currencies where it has a net credit position. The *maximum value* of the resulting settlement exposure is simply equal to the sum of the amounts due to be received from the counterparty. However, measuring the *actual duration* of the exposure is more complicated because netted transactions result in a set of payments in a number of currencies, no two of which can simply be paired to calculate the period of irrevocability. Rather, the exposure will build up to its maximum value as the cancellation deadline for each of the net debit currencies paid is reached, and will fall as each of the net credit currencies is received. Any method of measurement – whether an exact measure or an approximation – needs to make appropriate allowance for this.

36. Moreover, to allow exposures to be measured on a net basis, the legal basis for payment netting arrangements should be sound. In particular, banks should ensure that a netting arrangement is legally enforceable in all relevant jurisdictions.

37. Some banks use informal payment netting - i.e. where there is no formal netting contract between the counterparties. In this instance, the back offices of each counterparty confer by telephone before settlement and agree to settle only the net amount of the trades falling due. Since there may not be a sound legal basis underpinning such procedures, banks should ensure that they fully understand and appropriately manage the legal, credit, and liquidity risks of this practice. In particular, counterparty exposures should be treated on a gross basis for risk management purposes unless the bank has obtained clear legal advice that the informal payment netting is legally sound. Additionally, the practice and associated risks should be described in the bank's policy and procedures.

⁸ Netting of payment obligations should not be confused with 'close-out netting', which requires counterparties to settle on a net basis all contracted but not yet due obligations immediately upon the occurrence of a defined event, such as the appointment of a liquidator to one of the counterparties. Although close-out netting may be a useful part of a bank's overall risk management, it is not discussed further here as it does not, by itself, reduce routine FX settlement exposures.

38. While bilateral netting arrangements can significantly reduce FX settlement risk, they are usually not capable of removing credit risk entirely. In addition, significant liquidity, legal and operational risks may remain. For example, if, because of operational problems, transactions that had been scheduled to be settled through a netting arrangement had unexpectedly to be settled gross, a bank might not have the liquidity to settle those transactions on a timely basis.

XI Alternative arrangements for FX settlement risk reduction

39. Additional options may soon be available to reduce FX settlement risk. For example, a major project currently underway is the creation of CLS Bank, a private sector multicurrency facility for settling FX transactions that involves payment-versus-payment functionality. The achievement of payment-versus-payment in the CLS Bank design should significantly reduce the principal risk associated with FX settlement, which is the most significant aspect of FX settlement risk. In the future, it is also possible that other options for reducing FX settlement risk will become available.

40. Banks with significant FX settlement exposures should give strong consideration to using such risk-reducing arrangements, either by participating in them directly or by taking advantage of third-party services. In evaluating whether to do this, banks should carefully assess the costs associated with the exposures, including both expected losses and the cost of economic capital associated with unexpected losses. While ultimately the decision to make use of risk-reducing arrangements should be based on the balance of all costs and benefits, it is particularly important that banks do not underestimate the benefits of risk reduction by assuming that sudden bank failures are impossible.

41. Banks that choose to participate in risk-reducing arrangements, such as CLS Bank, should recognise that such participation can have implications for a number of different parts of their organisations beyond the areas directly associated with payments processing. Accordingly, banks should develop an overall process for monitoring and assessing these implications (e.g. on trading and funding practices) and for ensuring that they are ready to cope with the changes that may result from their participation.

42. In addition, banks should understand that, while risk-reducing arrangements are intended to significantly reduce important settlement risks, they may not eliminate all such risks. Thus, banks using such arrangements should have a thorough understanding of them and of the remaining risks they face - for example, liquidity, legal and operational risks. Moreover, even if banks use alternative arrangements for deals with major counterparties, they are likely to continue to use the traditional gross settlement method for certain counterparties and currencies. Therefore, banks should incorporate their use of alternative settlement arrangements into measures of and limits on FX settlement exposures, understanding that use of such arrangements does not eliminate the need for all such tools.

XII Internal audit

43. Banks should have in place adequate internal audit coverage of the FX settlement process to ensure that operating procedures are adequate to minimise settlement risk. A bank's board of directors – either directly or through its audit committee - should ensure that the scope and frequency of the FX settlement internal audit programme is appropriate to the risks involved.

44. The board of directors or its audit committee should ensure that audit reports are distributed to appropriate levels of management for information and so that timely corrective action can be taken. Management should detail, in writing, the action taken. The board of directors or its audit committee should regularly review this and consider any outstanding issues. Where appropriate it should ensure that a follow-up audit is undertaken.

45. When audit findings identify areas for improvement in the FX settlement area, other areas of the bank on which this may have an impact should be notified. This could include credit risk management, reconciliations/accounting, systems development, and management information systems. In automated settlement processing, the internal audit department should have some level of specialisation in information technology auditing, especially if the bank maintains its own computer facility.

XIII A bank's responsibilities to its counterparties

46. The emphasis in this guidance has been on the steps banks take to manage the settlement risk that they themselves face. However, settlement risk is a two-way process – a bank also needs to be aware that its own behaviour affects the settlement risk faced by its counterparties. As discussed in paragraph 28 above, banks should react in a balanced and considered way to any perceived counterparty problems. Banks should also minimise the possibility that, as part of their routine processing of FX settlements, they are the cause of settlement failures. For example, banks may want to consider whether, given the size and pattern of their transactions in the currencies concerned, they have enough liquidity on their nostro accounts to avoid payments being delayed because of shortages of funds. Further, the use of standardised settlement instructions may reduce the risk that payments are unintentionally mis-routed, particularly when there are changes to those instructions. Effective communication can also help to minimise the adverse impact of problems; it may therefore be helpful for banks to ensure they have procedures for informing key counterparties when significant operational problems arise. By taking such steps to avoid routine, operational fails, or to minimise their impact, banks will make it easier to identify those cases where there is a more serious underlying problem.

XIV The role of supervisors⁹

47. Foreign exchange settlement risk is a dimension of counterparty risk at banks. While a bank's board of directors and senior management remain responsible for the management of FX settlement risk, supervisors have an interest in ensuring that banks measure, monitor and control FX settlement risk appropriately. FX settlement losses can occur with any FX trading counterparty failure, but FX settlement exposures are particularly vulnerable to loss in connection with systemic disturbances, such as when counterparty credit quality declines precipitously or credit and liquidity concerns intensify. FX settlement exposures are often concentrated among the largest global banks and losses could therefore be substantial in the event of the failure of a major global bank. Further, FX settlement losses are often seen by market participants as harbingers of more severe credit problems in the financial system, inducing caution among counterparties and adversely affecting bank liquidity and the flow of business activity. While such systemic disturbances are rare, the potential losses from FX settlement risk can be very substantial, because of the exchange of principal and the large volume of transactions.

48. Supervisors should require that banks engaging in FX trading have appropriate methods of managing FX settlement exposures consistent with the guidelines in this report. Supervisors should expect all banks to measure FX settlement risk, set binding limits for all counterparties, and monitor closely limit excesses and unusual settlement activity. Supervisors should expect a bank to use methods commensurate with the range and scope of its activities and assess such methods as part of their ongoing supervisory activities. Supervisors should consult with the internal auditor to determine the adequacy of the risk assessment methodology used by the institution. In cases where supervisors determine that a bank's FX settlement risk management is not adequate or effective for that bank's specific risk profile, they should take appropriate action.

49. Supervisors can step up supervisory attention to this area by inquiring about and evaluating a bank's improvements to its FX settlement process. Based on the work of the Committee on Payment and Settlement Systems (CPSS), banks clearly can make substantial further improvements in their FX settlement practices to control and reduce FX settlement risk. Thus, supervisors should place special emphasis on encouraging and monitoring reductions in the deadlines for irrevocable payments before payment date and in the time required to reconcile settlements. In addition, supervisors should focus on whether a bank has fully and carefully evaluated the potential risk reductions that could be gained through participation in initiatives to reduce FX settlement risk, including netting and other risk-reducing arrangements.

50. To ensure that FX settlement risk is properly managed, supervisors may find some form of on-site review helpful. The two CPSS studies on FX settlement risk mentioned earlier (see paragraph 3) provide very helpful background to supervisors. In conducting on-site reviews, supervisors may also find the attached questions helpful.

⁹ In some cases supervisors may make use of the work of external auditors to ensure the described functions are carried out.

51. The most effective way to supervise FX settlement risk is to evaluate a bank's risk management process, while, over time, expecting substantial further improvements in risk management techniques. Such improvements can be monitored using the benchmarks established in the two CPSS studies. If after some time FX settlement risk exposures remain at levels viewed by supervisors as higher than necessary given the sound practices in these guidelines, supervisors could consider other supervisory tools they have available. Those tools include imposing large exposure limits on FX settlement exposures and possibly requiring a bank to hold additional capital to support large FX settlement exposures.

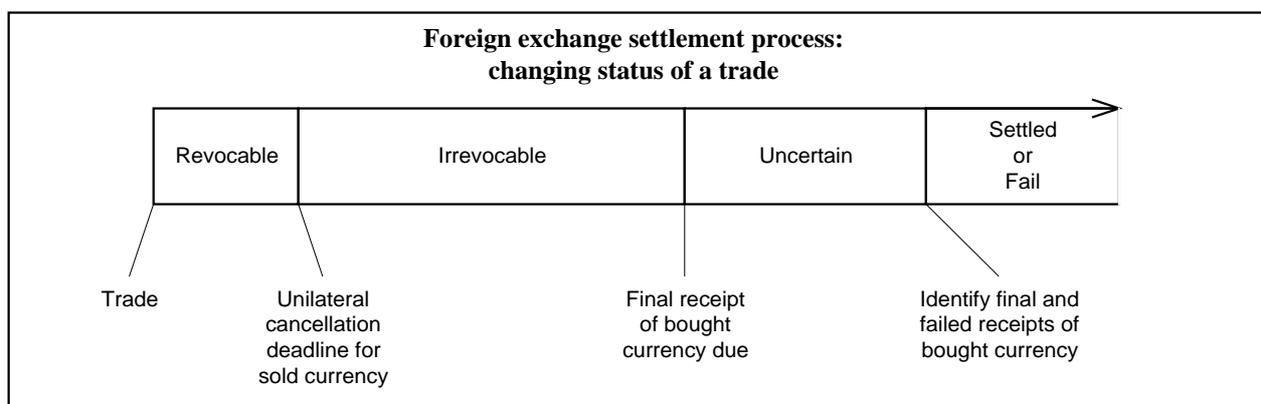
52. The cross-border nature of the settlement process makes it imperative that supervisors share information about FX settlement risk problems or concerns at individual institutions and within marketplaces. Sharing information about how a FX settlement problem is being addressed can help prevent the spread of settlement distress to additional markets.

Appendix 1

Key FX Settlement Risk Concepts

Definition of Foreign Exchange Settlement Exposure

An institution's actual exposure – the amount at risk – when settling a foreign exchange trade equals the full amount of the currency purchased and lasts from the time a payment instruction for the currency sold can no longer be cancelled unilaterally until the time the currency purchased is received with finality.



Although settling a trade involves numerous steps, from a settlement risk perspective a trade's status - from the time it is executed until the time it is settled - can be classified according to five broad categories:

Status	Description
<i>Revocable:</i>	The institution's payment order for the sold currency either has not been issued or may be unilaterally cancelled without the consent of the institution's counterparty or any other intermediary. The institution faces no current settlement exposure for this trade.
<i>Irrevocable:</i>	The institution's payment order for the sold currency can no longer be cancelled unilaterally either because it has been finally processed by the relevant payments system or because some other factor (e.g. internal procedures, correspondent banking arrangements, local payments system rules, laws, etc.) makes cancellation dependent upon the consent of the counterparty or another intermediary; the final receipt of the bought currency is not yet due. In this case, the bought amount is clearly at risk.
<i>Uncertain:</i>	The institution's payment instruction for the sold currency can no longer be cancelled unilaterally; receipt of the bought currency is due, but the institution does not yet know whether it has received these funds with finality. In normal circumstances, the institution expects to have received the funds on time. However, since it is possible that the bought currency

was not received when due (e.g. owing to an error or to a technical or financial failure of the counterparty or some other intermediary), the bought amount might, in fact, still be at risk.

Fail: The institution has established that it did not receive the bought currency from its counterparty. In this case the bought amount is overdue and remains clearly at risk.

Settled: The institution knows that it has received the bought currency with finality. From a settlement risk perspective the trade is considered settled and the bought amount is no longer at risk.

Additional Terms

Unilateral Payment Cancellation Deadline: The time beyond which an institution can no longer stop a payment without the permission of a third party.

Minimum Measurement of Settlement Exposure: The sum of (1) exposures outstanding for trades with status irrevocable and (2) any known failed receipts.

Maximum Measurement of Settlement Exposure: The sum of (1) exposures outstanding for trades with status irrevocable, (2) exposures outstanding for trades with status uncertain and (3) any known failed receipts.

Appendix 2

Possible Questions for On-site Reviews

These questions are intended only as a broad guide for supervisors and may need to be modified depending on the bank concerned.

1. Overall management

Does responsibility for the management of FX settlement risk rest at a sufficiently senior level of management? Does senior management exercise appropriate oversight of FX settlement exposures?

Is the management of FX settlement risk adequately integrated into overall risk management of the bank?

Are there clear lines of responsibility within the bank? Is there adequate co-ordination between different functions and locations of the bank? If conflicts arise (for example, over the use of limits), do appropriate means to resolve them exist?

Are FX settlement risks fully understood by senior management and all those involved? Is adequate training in place to achieve this?

2. Measurement

Is the bank's measurement of risk based on a full understanding of the relevant factors, including the concepts of the unilateral cancellation time and the reconciliation time and how these affect the maximum and minimum measures of the bank's exposure?

Has the bank taken appropriate steps to ensure reasonable certainty about its unilateral cancellation deadline?

Is the correspondent's cut-off time documented? Is this a contractual commitment rather than on a best-efforts basis? Has the cut-off time been tested?

Has the bank given adequate consideration for the time needed to complete internal procedures when it wants to cancel a payment instruction? Is its cancellation deadline based on an ability to hold back individual payments at that time rather than to hold all payment instructions? Has allowance been made for cases where the correspondent's cut-off is out of normal hours? Have the internal procedures been tested?

Has the bank taken appropriate steps to ensure reasonable certainty about its reconciliation time? Has adequate consideration been given to the time needed to carry out the reconciliation once the information on payments credited to its nostro accounts has been received from its correspondents? Are procedures in place to cover situations when information from the

correspondent bank is late? Are procedures in place to ensure that any failed transactions are included promptly in the bank's measure of its exposure?

Does the bank's measurement make appropriate allowance for variations in the cancellation and reconciliation times according to currency?

Where the bank uses an approximate measure of its exposure, does this measure avoid any significant underestimation?

3. Setting and using limits

Are the bank's settlement exposures subject to an adequate credit control process including credit evaluation and review and determination of the maximum exposure the bank is willing to take with a particular counterparty?

Are the limits mandatory? Is monitoring effective? Are excesses subject to approval by the appropriate credit management personnel in advance of the excess occurring or, if an unauthorised excess takes place, shortly afterwards?

Are these processes the same as those used to set and apply limits on other exposures of similar duration and size to the same counterparties?

4. Identifying and managing fails

Does the bank have appropriate procedures for promptly identifying fails, informing the credit department, initiating attempts to obtain the funds, identifying and reviewing the nature of the problem and taking steps to avoid its recurrence?

5. Understanding the implications of techniques to manage exposures

Where the bank is using methods to reduce the size of its exposures (such as collateral arrangements, netting, derivative instruments or specialised settlement mechanisms) has the bank taken the necessary steps to ensure that the methods are legally robust and that their implications for FX settlement risk, including any residual risks, are fully understood and allowed for in the bank's risk management?

6. Contingency planning

Has the bank drawn up contingency plans for possible disruptions to the settlement of FX transactions? Are the plans regularly tested?

7. Internal audit

Does the bank have adequate internal audit coverage of the FX settlement process?

Appendix 3

Annotated Bibliography

Settlement risk can take many forms. This guidance is concerned with the risks associated with settling foreign exchange transactions, where the settlement risk is one of various forms of so-called "exchange-of-value" settlement risk. Exchange-of-value risk is a risk faced by the counterparties to a transaction, and arises from the need for these counterparties to exchange one item of value for another.

Exchange-of-value settlement risks can occur in the settlement of almost any kind of transaction. In the case of FX settlement risk, the exchange is of one currency for another. In many other financial markets – such as securities markets, for example – a key form of exchange-of-value settlement risk involves the exchange of financial instruments against money. In each case, the particular characteristics of the market concerned and how its deals are settled need to be understood in order that the settlement risk involved can be managed properly.

The following publications provide more information relevant to the exchange-of-value settlement risks arising in various financial markets.

Foreign Exchange Settlement

Reducing Foreign Exchange Settlement Risk: A Progress Report, Committee on Payment and Settlement Systems, BIS, July 1998.

- Provides an update on the private sector's efforts to reduce foreign exchange settlement risk.
- Reaffirms and strengthens the strategy of the G10 central banks toward foreign exchange settlement risk reduction.

Settlement Risk in Foreign Exchange Transactions, Committee on Payment and Settlement Systems, BIS, March 1996.

- Analyses existing arrangement for settling foreign exchange trades.
- Makes risk reducing recommendations.
- Identifies avenues for co-operation with the private sector and for advancing the cause of foreign exchange settlement risk reduction.

Reducing Foreign Exchange Settlement Risk, The New York Foreign Exchange Committee, October 1994.

- Presents the results of a survey of foreign exchange market participants to determine common settlement procedures.
- Suggests ways of defining and measuring settlement risk.
- Offers a series of recommendations to reduce settlement exposures.

Central Bank Payment and Settlement Services with Respect to Cross-Border and Multi-Currency Transactions, Committee on Payment and Settlement Systems, BIS, September 1993.

- Identifies and promotes a common understanding of the advantages and disadvantages of different payment and settlement services that central banks might offer.
- Highlights how changes in certain features of home-currency payments systems can influence the risk and efficiency of international settlements.
- Emphasises the scope and need for private sector efforts to reduce risk and increase efficiency in the settlement process.

Payment System Standards

Core Principles for Systemically Important Payment Systems (Parts 1 and 2), Committee on Payment and Settlement Systems, BIS, July 2000.

- Sets out ten core principles that systemically important payment systems should meet.
- Sets out four responsibilities of the central bank in applying the core principles.
- Provides guidance on the implementation of the core principles and responsibilities.

Report of the Committee on Interbank Netting Schemes of the Central Banks of the Group of Ten Countries (Lamfalussy Report), Committee on Payment and Settlement Systems, BIS, November 1990.

- Analyses the policy implications of cross-border and multi-currency netting arrangements.
- Makes policy recommendations with respect to minimum standards for netting systems.
- Analyses the impact of netting on credit and liquidity risks and on the level of systemic risk.

- Advances principles for co-operative central bank oversight of netting systems

Derivatives Settlement

ISDA Guidelines for Collateral Practitioners, International Swaps and Derivatives Association, Inc., 1998.

- Useful as a reference source for institutions managing collateral for derivatives transactions.
- Describes the basic legal issues underlying collateral arrangement for privately negotiated derivatives transactions.
- Describes and analyses the settlement risks associate with collateralised derivatives transactions.

OTC Derivatives: Settlement Procedures and Counterparty Risk Management, BIS, September 1998.

- Provides a comprehensive survey and analysis of the practices and procedures that participants in over-the-counter derivatives markets use to manage their counterparty risks.
- Identifies weaknesses in practices that appear to exacerbate counterparty risks significantly or even possibly pose risks to the financial system systemically.
- Recommends changes in practices, including new services, that could mitigate the risks and weaknesses identified.

Clearing Arrangements for Exchange-Traded Derivatives, Committee on Payment and Settlement Systems, BIS, March 1997.

- Describes and analyses clearing arrangements for exchange traded derivatives in the G10 countries.
- Discusses the sources and types of risks to clearing houses and the risk management safeguards that clearing houses employ to manage those risks.
- Identifies several specific sources of potential vulnerability in clearing house risk management systems.
- For each weakness identified, points out methods for strengthening clearing arrangements.

Securities Settlement

Disclosure Framework for Securities Settlement Systems, Committee on Payment and Settlement Systems (BIS) and International Organisation of Securities Commissions, February 1997.

- Provides a standard format for reporting a securities settlement system's operation and its allocation of risk.
- Intended as a tool for system operators and participants to use in discussing the risks associated with securities settlement arrangements.
- Assists system operators and participants in gaining a clearer understanding of the rights, obligations and exposures associated with securities settlement systems.

Cross-Border Securities Settlements, Committee on Payment and Settlement Systems, BIS, March 1995.

- Examines the channels that market participants use to settle cross-border securities transactions and discusses the utilisation of the various channels by different types of traders.
- Identifies and analyses the risks associated with each of the major settlement channels.
- Considers the implications of cross-border settlement arrangements for central bank policy objectives.

A Report on Cross-Border Risks, Payments Risk Committee, Securities Settlement Sub-Committee, March 1995.

- Pinpoints key settlement attributes as applied by specific settlement systems.
- Analyses six risks in cross-border activity.
- Recommends settlement practice improvements and suggests changes to universal risk reduction techniques.
- Makes best practice recommendations.

Delivery Versus Payment in Securities Settlement Systems, Committee on Payment and Settlement Systems, BIS, September 1992.

- Analyses and discusses the types and sources of financial risk in the settlement of securities transactions.
- Identifies and describes three possible approaches to achieving delivery versus payment.

- Identifies several risk management issues common to all three approaches and common safeguards that may be employed to reduce risk.
- Considers whether the standards for the design and operation of cross-border and multi-currency netting and settlement schemes that were developed in the Lamfalussy Report also provide a useful framework for evaluating the implications of the design and operation of securities settlement systems for central bank policy operations.

Clearance and Settlement Systems in the World's Securities Markets, Group of Thirty, March 1989.

- Makes nine recommendations for improving the working of world securities markets through the adoption of sound practices and standards.
- Proposals are designed to achieve the following objectives:
 - Match trades by the day after trade date (T+1).
 - Settle trades on a continuous basis, and by T+3.
 - Exchange value for value on a consistent basis.
 - Improve efficiency by using depositories, netting mechanisms, and standard numbering systems whenever appropriate.

Relevant Web Sites

Bank for International Settlements: <http://www.bis.org>

A source of many publications relating to all aspects of settlement risk.

International Finance & Commodities Institute: <http://risk.ifci.ch>

Attempts to impose a logical order to the wide universe of on-line regulatory documents concerning risk. Definitions and discussion.

International Swaps & Derivatives Association, Inc.: <http://www.isda.org>

Significant source of information about the settlement of derivatives transactions.

Payments Risk Committee: <http://www.ny.frb.org/prc>

Private sector group in New York that identifies and analyses issues of mutual interest related to risk in payments and settlement systems.

Principles for the Management of Credit Risk

Basel Committee on Banking Supervision

Basel
September 2000

**Risk Management Group
of the Basel Committee on Banking Supervision**

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Principles for the Management of Credit Risk

I. Introduction

1. While financial institutions have faced difficulties over the years for a multitude of reasons, the major cause of serious banking problems continues to be directly related to lax credit standards for borrowers and counterparties, poor portfolio risk management, or a lack of attention to changes in economic or other circumstances that can lead to a deterioration in the credit standing of a bank's counterparties. This experience is common in both G-10 and non-G-10 countries.

2. 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. The goal of credit risk management is to maximise a bank's risk-adjusted rate of return by maintaining credit risk exposure within acceptable parameters. 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.

3. For most banks, loans are the largest and most obvious 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 the balance sheet. Banks are increasingly facing credit risk (or counterparty risk) in various financial instruments other than loans, including acceptances, interbank transactions, trade financing, foreign exchange transactions, financial futures, swaps, bonds, equities, options, and in the extension of commitments and guarantees, and the settlement of transactions.

4. Since exposure to credit risk continues to be the leading source of problems in banks world-wide, banks and their supervisors should be able to draw useful lessons from past experiences. Banks should now have a keen awareness of the need to identify, measure, monitor and control credit risk as well as to determine that they hold adequate capital against these risks and that they are adequately compensated for risks incurred. The Basel Committee is issuing this document in order to encourage banking supervisors globally to promote sound practices for managing credit risk. Although the principles contained in this paper are most clearly applicable to the business of lending, they should be applied to all activities where credit risk is present.

5. The sound practices set out in this document specifically address 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 depending upon the nature and complexity of their credit activities, a comprehensive credit risk management program will address these four areas. These 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, all of which have been addressed in other recent Basel Committee documents.¹

6. While the exact approach chosen by individual supervisors will depend on a host of factors, including their on-site and off-site supervisory techniques and the degree to which external auditors are also used in the supervisory function, **all members of the Basel Committee agree that the principles set out in this paper should be used in evaluating a bank's credit risk management system.** Supervisory expectations for the credit risk management approach used by individual banks should be commensurate with the scope and sophistication of the bank's activities. For smaller or less sophisticated banks, supervisors need to determine that the credit risk management approach used is sufficient for their activities and that they have instilled sufficient risk-return discipline in their credit risk management processes. The Committee stipulates in Sections II to VI of the paper, principles for banking supervisory authorities to apply in assessing bank's credit risk management systems. In addition, the appendix provides an overview of credit problems commonly seen by supervisors.

7. A further particular instance of credit risk relates to the process of settling financial transactions. If one side of a transaction is settled but the other fails, a loss may be incurred that is equal to the principal amount of the transaction. Even if one party is simply late in settling, then the other party may incur a loss relating to missed investment opportunities. Settlement risk (i.e. the risk that the completion or settlement of a financial transaction will fail to take place as expected) thus includes elements of liquidity, market, operational and reputational risk as well as credit risk. The level of risk is determined by the particular arrangements for settlement. Factors in such arrangements that have a bearing on credit risk include: the timing of the exchange of value; payment/settlement finality; and the role of intermediaries and clearing houses.²

8. This paper was originally published for consultation in July 1999. The Committee is grateful to the central banks, supervisory authorities, banking associations, and institutions that provided comments. These comments have informed the production of this final version of the paper.

¹ See in particular *Sound Practices for Loan Accounting and Disclosure* (July 1999) and *Best Practices for Credit Risk Disclosure* (September 2000).

² See in particular *Supervisory Guidance for Managing Settlement Risk in Foreign Exchange Transactions* (September 2000), in which the annotated bibliography (annex 3) provides a list of publications related to various settlement risks.

Principles for the Assessment of Banks' Management of Credit Risk

A. Establishing an appropriate credit risk environment

Principle 1: The board of directors should have 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.

Principle 2: Senior management should have responsibility for implementing the credit risk strategy approved by the board of directors 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.

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 of directors or its appropriate committee.

B. Operating under a sound credit granting process

Principle 4: Banks must 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.

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.

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.

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 authorised 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.

C. 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.

Principle 9: Banks must have in place a system for monitoring the condition of individual credits, including determining the adequacy of provisions and reserves.

Principle 10: Banks are encouraged to develop and utilise 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.

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.

Principle 12: Banks must have in place a system for monitoring the overall composition and quality of the credit portfolio.

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.

D. 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 of directors and senior management.

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.

Principle 16: Banks must have a system in place for early remedial action on deteriorating credits, managing problem credits and similar workout situations.

E. The role of supervisors

Principle 17: Supervisors should require that banks have an effective system in place to identify, measure, monitor and control credit risk as part of an overall approach to risk management. Supervisors should conduct an independent evaluation of a bank's strategies, policies, procedures and practices related to the granting of credit and the ongoing management of the portfolio. Supervisors should consider setting prudential limits to restrict bank exposures to single borrowers or groups of connected counterparties.

II. Establishing an Appropriate Credit Risk Environment

Principle 1: The board of directors should have 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.

9. As with all other areas of a bank's activities, the board of directors³ has a critical role to play in overseeing the credit-granting and credit risk management functions of the bank. Each bank 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 of directors. The board needs to recognise that the strategy and policies must cover the many activities of the bank in which credit exposure is a significant risk.

10. The strategy should include a statement of the bank's willingness to grant credit based on exposure type (for example, commercial, consumer, real estate), economic sector, geographical location, currency, maturity and anticipated profitability. This might 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).

11. The credit risk strategy should give recognition to the goals of credit quality, earnings and growth. Every bank, regardless of size, is in business to be profitable and, consequently, must determine the acceptable risk/reward trade-off for its activities, factoring in the cost of capital. A bank's board of directors should approve the bank's strategy for selecting risks and maximising profits. The board should periodically review the financial results of the bank and, based on these results, determine if changes need to be made to the strategy. The board must also determine that the bank's capital level is adequate for the risks assumed throughout the entire organisation.

12. The credit risk strategy of any bank should provide continuity in approach. Therefore, the strategy will need to take into account the cyclical aspects of any 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.

13. The credit risk strategy and policies should be effectively communicated throughout the banking organisation. All relevant personnel should clearly understand the bank's

³ This paper refers to a management structure composed of a board of directors and senior management. The Committee is aware that there are significant differences in legislative and regulatory frameworks across countries as regards the functions of the board of directors and senior management. In some countries, the board has the main, if not exclusive, function of supervising the executive body (senior management, general management) so as to ensure that the latter fulfils its tasks. For this reason, in some cases, it is known as a supervisory board. This means that the board has no executive functions. In other countries, by contrast, the board has a broader competence in that it lays down the general framework for the management of the bank. Owing to these differences, the notions of the board of directors and senior management are used in this paper not to identify legal constructs but rather to label two decision-making functions within a bank.

approach to granting and managing credit and should be held accountable for complying with established policies and procedures.

14. 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 tolerances approved by the board. The board should also regularly (i.e. at least annually), either within the credit risk strategy or within a statement of 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 organise its credit-granting functions, including independent review of the credit granting and management function and the overall portfolio.

15. While members of the board of directors, particularly outside directors, can be important sources of new business for the bank, once a potential credit is introduced, the bank's established processes should determine how much and at what terms credit is granted. In order to avoid conflicts of interest, it is important that board members not override the credit-granting and monitoring processes of the bank.

16. The board of directors should ensure that the bank's remuneration policies do not contradict its credit risk strategy. Remuneration policies that reward unacceptable behaviour 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 should have responsibility for implementing the credit risk strategy approved by the board of directors 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.

17. Senior management of a bank is responsible for implementing the credit risk strategy approved by the board of directors. This includes ensuring that the bank's credit-granting activities conform to the established strategy, that written procedures are developed and implemented, and that loan approval and review responsibilities 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.⁴

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

⁴ This may be difficult for very small banks; however, there should be adequate checks and balances in place to promote sound credit decisions.

capabilities and technology. Policies and procedures that are properly developed and implemented enable the bank to: (i) maintain sound credit-granting standards; (ii) monitor and control credit risk; (iii) properly evaluate new business opportunities; and (iv) identify and administer problem credits.

19. As discussed further in paragraphs 30 and 37 through 41 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 banking supervisors.

20. 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.

21. When banks engage in granting credit internationally, they undertake, in addition to standard credit risk, risk associated with conditions in the home country of a foreign borrower or counterparty. Country or sovereign risk encompasses the entire spectrum of risks arising from the economic, political and social environments of a foreign country that may have potential consequences for foreigners' debt and equity investments in that country. Transfer risk focuses more specifically on a borrower's capacity to obtain the foreign exchange necessary to service its cross-border debt and other contractual obligations. In all instances of international transactions, banks need to understand the globalisation of financial markets and the potential for spillover effects from one country to another or contagion effects for an entire region.

22. Banks that engage in granting credit internationally must therefore have adequate policies and procedures for identifying, measuring, monitoring and controlling country risk and transfer risk in their international lending and investment activities. The monitoring of country risk factors should incorporate (i) the potential default of foreign private sector counterparties arising from country-specific economic factors and (ii) the enforceability of loan agreements and the timing and ability to realise collateral under the national legal framework. This function is often the responsibility of a specialist team familiar with the particular issues.

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 of directors or its appropriate committee.

23. 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.

24. Banks must develop a clear understanding of the credit risks involved in more complex credit-granting activities (for example, loans to certain industry sectors, asset securitisation, customer-written options, credit derivatives, credit-linked notes). This is particularly important because the credit risk involved, while not new to banking, may be less obvious and require more analysis than the risk of more traditional credit-granting activities. Although more complex credit-granting activities may require tailored procedures and controls, the basic principles of credit risk management will still apply.

25. 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.

26. 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.

III. Operating under a Sound Credit Granting Process

Principle 4: Banks must 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.

27. Establishing sound, well-defined credit-granting criteria is essential to approving credit in a safe and sound manner. The criteria should set out who is eligible for credit and for how much, what types of credit are available, and under what terms and conditions the credits should be granted.

28. 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, the factors to be considered and documented in approving credits include:

- the purpose of the credit and sources of repayment;
- 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;
- the borrower's repayment history and current capacity to repay, based on historical financial trends and future cash flow projections, under various scenarios;

- for commercial credits, the borrower’s business expertise and the status of the borrower’s economic sector and its position within that sector;
- the proposed terms and conditions of the credit, including covenants designed to limit changes in the future risk profile of the borrower; and
- where applicable, the adequacy and enforceability of collateral or guarantees, including under various scenarios.

In addition, in approving borrowers or counterparties for the first time, consideration should be given to the integrity and reputation of the borrower or counterparty as well as their legal capacity to assume the liability. Once credit-granting criteria have been established, it is essential for the bank to ensure that the information it receives is sufficient to make proper credit-granting decisions. This information will also serve as the basis for rating the credit under the bank’s internal rating system.

29. 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.

30. 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).⁵ Banks should also have procedures for aggregating exposures to individual clients across business activities.

31. Many banks participate in loan syndications or other such loan consortia. Some institutions place undue reliance on the credit risk analysis done by the lead underwriter or on external commercial loan credit ratings. 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.

32. Granting credit involves accepting risks as well as producing profits. Banks should assess the risk/reward relationship in any credit as well as the overall profitability of the

⁵ Connected counterparties may be a group of companies related financially or by common ownership, management, research and development, marketing or any combination thereof. Identification of connected counterparties requires a careful analysis of the impact of these factors on the financial interdependency of the parties involved.

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 common problem among banks is the tendency not to price a credit or overall relationship properly and therefore not receive adequate compensation for the risks incurred.

33. 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.⁶

34. 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.

35. 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.⁷

36. Where actual or potential conflicts of interest exist within the bank, internal confidentiality arrangements (e.g. "Chinese 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.

37. An important element of credit risk management is the establishment of exposure limits on single counterparties and groups of connected counterparties. Such limits are

⁶ Guidance on loan classification and provisioning is available in the document *Sound Practices for Loan Accounting and Disclosure* (July 1999).

⁷ Guidance on netting arrangements is available in the document *Consultative paper on on-balance sheet netting* (April 1998).

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.

38. 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. As mentioned earlier, much of the credit exposure faced by some banks comes from activities and instruments in the trading book and off the balance sheet. 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.

39. 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).

40. 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.

41. 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.

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.

42. 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.

43. 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

⁸ Guidance is available in the documents *Banks' Interactions with Highly Leveraged Institutions* and *Sound Practices for Banks' Interactions with Highly Leveraged Institutions* (January 1999).

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.

44. 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.

45. 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.

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 authorised 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.

46. 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 seek to override the established credit-granting and monitoring processes of the bank.

47. A potential area of abuse arises from granting credit to non-arms-length and related parties, whether companies or individuals.⁹ 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 favourable 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

⁹ Related parties can include the bank's subsidiaries and affiliates, its major shareholders, directors and senior management, and their direct and related interests, as well as any party that the bank exerts control over or that exerts control over the bank.

parties. The bank's credit-granting criteria should not be altered to accommodate related companies and individuals.

48. Material transactions with related parties should be subject to the approval of the board of directors (excluding board members with conflicts of interest), and in certain circumstances (e.g. a large loan to a major shareholder) reported to the banking supervisory authorities.

IV. 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.

49. 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.

50. 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.

51. In developing their credit administration areas, banks should ensure:

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

52. 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.

53. 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.

Principle 9: Banks must have in place a system for monitoring the condition of individual credits, including determining the adequacy of provisions and reserves.

54. Banks need to develop and implement comprehensive procedures and information systems to monitor the condition of individual credits and single obligors 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.¹⁰

55. An effective credit monitoring system will include measures to:

- ensure that the bank understands the current financial condition of the borrower or counterparty;
- monitor compliance with existing covenants;
- assess, where applicable, collateral coverage relative to the obligor's current condition;
- identify contractual payment delinquencies and classify potential problem credits on a timely basis; and
- direct promptly problems for remedial management.

56. Specific individuals should be responsible for monitoring credit quality, including ensuring that relevant information is passed to those responsible for assigning internal risk ratings to the credit. In addition, individuals should be made responsible for monitoring 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 recognise the potential for conflicts of interest, especially for personnel who are judged and rewarded on such indicators as loan volume, portfolio quality or short-term profitability.

Principle 10: Banks are encouraged to develop and utilise 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 See footnote 6.

57. 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, used primarily at larger banks, can also be used to determine internal capital allocation, pricing of credits, and profitability of transactions and relationships.

58. Typically, an internal risk rating system categorises credits into various classes designed to take into account gradations in risk. Simpler systems might be based on several categories ranging from satisfactory to unsatisfactory; however, more meaningful systems will have numerous gradations for credits considered satisfactory in order to truly differentiate the relative credit risk they pose. In developing their systems, banks must decide whether to rate the riskiness of the borrower or counterparty, the risks associated with a specific transaction, or both.

59. Internal risk ratings are an important tool in 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, for example, through more frequent visits from credit officers and inclusion on a watchlist that is regularly reviewed by senior management. The internal risk ratings can be used by line management in different departments 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 of directors and senior management also receive periodic reports on the condition of the credit portfolios based on such ratings.

60. 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 concerned. It is also important that the consistency and accuracy of ratings is examined periodically by a function such as an independent credit review group.

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.

61. 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 analyse credit risk at the product and portfolio level in order to identify any particular sensitivities or concentrations. The measurement of credit risk should take account of (i) the specific nature of the credit (loan, derivative, facility, etc.) and its contractual and financial conditions (maturity, reference 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 based on the internal risk rating. 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 to the complexity and level of the risks involved in their activities, based on robust data, and subject to periodic validation.

62. 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 be holding. 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 assess quickly and accurately the level of credit risk that the bank has incurred through its various activities and determine whether the bank's performance is meeting the credit risk strategy.

63. Banks should monitor actual exposures against established limits. It is important that banks have a management information system in place to ensure that exposures 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 and report on exceptions to credit risk limits on a meaningful and timely basis.

64. 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. Increasingly, banks are also designing information systems that permit additional analysis of the credit portfolio, including stress testing.

Principle 12: Banks must have in place a system for monitoring the overall composition and quality of the credit portfolio.

65. 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.

66. 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 counterparties¹¹, (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

¹¹ See footnote 5.

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.

67. In many instances, due to a bank's trade area, geographic location or lack of access to economically diverse borrowers or counterparties, avoiding or reducing concentrations may be extremely difficult. In addition, banks may want to capitalise 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 make use of alternatives 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 borrowers or counterparties they do not know or engage in credit activities they do not fully understand simply for the sake of diversification.

68. Banks have new possibilities to manage credit concentrations and other portfolio issues. These include such mechanisms as loan sales, credit derivatives, securitisation programs 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 utilise these mechanisms, they need to first have 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.

69. 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.

70. Stress testing should involve identifying possible events or future changes in economic conditions that could have unfavourable 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. Typically, the latter are used by large, internationally active banks.

71. 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.

72. The bank should attempt to identify the types of situations, such as economic downturns, both in the whole economy 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. These can include such techniques as hedging against the outcome or reducing the size of the exposure.

V. 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 of directors and senior management.

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

74. 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. Such a credit review function can help evaluate the overall credit administration process, determine the accuracy of internal risk ratings and judge whether the account officer is properly monitoring individual credits. The credit review function should report directly to the board of directors, 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.

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

76. 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.

77. 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 authorised within the guidelines established by the bank's board of

directors 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.

78. One reason for establishing a systematic credit review process is to identify weakened or problem credits.¹² A reduction in credit quality should be recognised 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.

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

80. Effective workout programs are critical to managing risk in the portfolio. When a bank has significant credit-related problems, it is important to segregate the workout function from the area that originated the credit. The additional resources, expertise and more concentrated focus of a specialised 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 collected. An experienced workout section can also provide valuable input into any credit restructurings organised by the business function.

VI. The Role of Supervisors

Principle 17: Supervisors should require that banks have an effective system in place to identify, measure, monitor and control credit risk as part of an overall approach to risk management. Supervisors should conduct an independent evaluation of a bank's strategies, policies, procedures and practices related to the granting of credit and the ongoing management of the portfolio. Supervisors should consider setting prudential limits to restrict bank exposures to single borrowers or groups of connected counterparties.

81. Although the board of directors and senior management bear the ultimate responsibility for an effective system of credit risk management, supervisors should, as part of their ongoing supervisory activities, assess the system in place at individual banks to identify, measure, monitor and control credit risk. This should include an assessment of any measurement tools (such as internal risk ratings and credit risk models) used by the bank. In addition, they should determine that the board of directors effectively oversees the credit risk

¹² See footnote 6.

management process of the bank and that management monitors risk positions, and compliance with and appropriateness of policies.

82. To evaluate the quality of credit risk management systems, supervisors can take a number of approaches. A key element in such an evaluation is the determination by supervisors that the bank is utilising sound asset valuation procedures. Most typically, supervisors, or the external auditors on whose work they partially rely, conduct a review of the quality of a sample of individual credits. In those instances where the supervisory analysis agrees with the internal analysis conducted by the bank, a higher degree of dependence can be placed on the use of such internal reviews for assessing the overall quality of the credit portfolio and the adequacy of provisions and reserves¹³. Supervisors or external auditors should also assess the quality of a bank's own internal validation process where internal risk ratings and/or credit risk models are used. Supervisors should also review the results of any independent internal reviews of the credit-granting and credit administration functions. Supervisors should also make use of any reviews conducted by the bank's external auditors, where available.

83. Supervisors should take particular note of whether bank management recognises problem credits at an early stage and takes the appropriate actions.¹⁴ Supervisors should monitor trends within a bank's overall credit portfolio and discuss with senior management any marked deterioration. Supervisors should also assess whether the capital of the bank, in addition to its provisions and reserves, is adequate related to the level of credit risk identified and inherent in the bank's various on- and off-balance sheet activities.

84. In reviewing the adequacy of the credit risk management process, home country supervisors should also determine that the process is effective across business lines, subsidiaries and national boundaries. It is important that supervisors evaluate the credit risk management system not only at the level of individual businesses or legal entities but also across the wide spectrum of activities and subsidiaries within the consolidated banking organisation.

85. After the credit risk management process is evaluated, the supervisors should address with management any weaknesses detected in the system, excess concentrations, the classification of problem credits and the estimation of any additional provisions and the effect on the bank's profitability of any suspension of interest accruals. In those instances where supervisors determine that a bank's overall credit risk management system is not adequate or effective for that bank's specific credit risk profile, they should ensure the bank takes the appropriate actions to improve promptly its credit risk management process.

86. Supervisors should consider setting prudential limits (e.g., large exposure limits) that would apply to all banks, irrespective of the quality of their credit risk management process. Such limits would include restricting bank exposures to single borrowers or groups of

¹³ The New Capital Adequacy Framework anticipates that, subject to supervisory approval, banks' internal rating methodologies may be used as a basis for regulatory capital calculation. Guidance to supervisors specific to this purpose will be published in due course.

¹⁴ See footnote 6.

connected counterparties. Supervisors may also want to impose certain reporting requirements for credits of a particular type or exceeding certain established levels. In particular, special attention needs to be paid to credits granted to counterparties “connected” to the bank, or to each other.

Appendix

Common Sources of Major Credit Problems

1. Most major banking problems have been either explicitly or indirectly caused by weaknesses in credit risk management. In supervisors' experience, certain key problems tend to recur. Severe credit losses in a banking system usually reflect simultaneous problems in several areas, such as concentrations, failures of due diligence and inadequate monitoring. This appendix summarises some of the most common problems related to the broad areas of concentrations, credit processing, and market- and liquidity-sensitive credit exposures.

Concentrations

2. Concentrations are probably the single most important cause of major credit problems. Credit concentrations are viewed as any exposure where the potential losses are large relative to the bank's capital, its total assets or, where adequate measures exist, the bank's overall risk level. Relatively large losses¹⁵ may reflect not only **large exposures**, but also the potential for **unusually high percentage losses given default**.

3. Credit concentrations can further be grouped roughly into two categories:

- **Conventional credit concentrations** would include concentrations of credits to single borrowers or counterparties, a group of connected counterparties, and sectors or industries, such as commercial real estate, and oil and gas.
- **Concentrations based on common or correlated risk factors** reflect subtler or more situation-specific factors, and often can only be uncovered through analysis. Disturbances in Asia and Russia in late 1998 illustrate how close linkages among emerging markets under stress conditions and previously undetected correlations between market and credit risks, as well as between those risks and liquidity risk, can produce widespread losses.

4. Examples of concentrations based on the potential for unusually deep losses often embody factors such as leverage, optionality, correlation of risk factors and structured financings that concentrate risk in certain tranches. For example, a highly leveraged borrower will likely produce larger credit losses for a given severe price or economic shock than a less leveraged borrower whose capital can absorb a significant portion of any loss. The onset of exchange rate devaluations in late 1997 in Asia revealed the correlation between exchange rate devaluation and declines in financial condition of foreign exchange derivative counterparties resident in the devaluing country, producing very substantial losses relative to notional amounts of those derivatives. The risk in a pool of assets can be concentrated in a

¹⁵ Losses are equal to the exposure times the percentage loss given the event of default.

securitisation into subordinated tranches and claims on leveraged special purpose vehicles, which in a downturn would suffer substantial losses.

5. The recurrent nature of credit concentration problems, especially involving conventional credit concentrations, raises the issue of why banks allow concentrations to develop. First, in developing their business strategy, most banks face an inherent trade-off between choosing to specialise in a few key areas with the goal of achieving a market leadership position and diversifying their income streams, especially when they are engaged in some volatile market segments. This trade-off has been exacerbated by intensified competition among banks and non-banks alike for traditional banking activities, such as providing credit to investment grade corporations. Concentrations appear most frequently to arise because banks identify “hot” and rapidly growing industries and use overly optimistic assumptions about an industry’s future prospects, especially asset appreciation and the potential to earn above-average fees and/or spreads. Banks seem most susceptible to overlooking the dangers in such situations when they are focused on asset growth or market share.

6. Banking supervisors should have specific regulations limiting concentrations to one borrower or set of related borrowers, and, in fact, should also expect banks to set much lower limits on single-obligor exposure. Most credit risk managers in banks also monitor industry concentrations. Many banks are exploring techniques to identify concentrations based on common risk factors or correlations among factors. While small banks may find it difficult not to be at or near limits on concentrations, very large banking organisations must recognise that, because of their large capital base, their exposures to single obligors can reach imprudent levels while remaining within regulatory limits.

Credit Process Issues

7. Many credit problems reveal basic weaknesses in the credit granting and monitoring processes. While shortcomings in underwriting and management of market-related credit exposures represent important sources of losses at banks, many credit problems would have been avoided or mitigated by a strong internal credit process.

8. Many banks find carrying out a **thorough credit assessment** (or basic due diligence) a substantial challenge. For traditional bank lending, competitive pressures and the growth of loan syndication techniques create time constraints that interfere with basic due diligence. Globalisation of credit markets increases the need for financial information based on sound accounting standards and timely macroeconomic and flow of funds data. When this information is not available or reliable, banks may dispense with financial and economic analysis and support credit decisions with simple indicators of credit quality, especially if they perceive a need to gain a competitive foothold in a rapidly growing foreign market. Finally, banks may need new types of information, such as risk measurements, and more frequent financial information, to assess relatively newer counterparties, such as institutional investors and highly leveraged institutions.

9. The absence of **testing and validation of new lending techniques** is another important problem. Adoption of untested lending techniques in new or innovative areas of the market, especially techniques that dispense with sound principles of due diligence or traditional benchmarks for leverage, have led to serious problems at many banks. Sound practice calls for the application of basic principles to new types of credit activity. Any new

technique involves uncertainty about its effectiveness. That uncertainty should be reflected in somewhat greater conservatism and corroborating indicators of credit quality. An example of the problem is the expanded use of credit-scoring models in consumer lending in the United States and some other countries. Large credit losses experienced by some banks for particular tranches of certain mass-marketed products indicates the potential for scoring weaknesses.

10. Some credit problems arise from **subjective decision-making by senior management** of the bank. This includes extending credits to companies they own or with which they are affiliated, to personal friends, to persons with a reputation for financial acumen or to meet a personal agenda, such as cultivating special relationships with celebrities.

11. Many banks that experienced asset quality problems in the 1990s lacked an **effective credit review process** (and indeed, many banks had no credit review function). Credit review at larger banks usually is a department made up of analysts, independent of the lending officers, who make an independent assessment of the quality of a credit or a credit relationship based on documentation such as financial statements, credit analysis provided by the account officer and collateral appraisals. At smaller banks, this function may be more limited and performed by internal or external auditors. The purpose of credit review is to provide appropriate checks and balances to ensure that credits are made in accordance with bank policy and to provide an independent judgement of asset quality, uninfluenced by relationships with the borrower. Effective credit review not only helps to detect poorly underwritten credits, it also helps prevent weak credits from being granted, since credit officers are likely to be more diligent if they know their work will be subject to review.

12. A common and very important problem among troubled banks in the early 1990s was their failure to **monitor borrowers or collateral values**. Many banks neglected to obtain periodic financial information from borrowers or real estate appraisals in order to evaluate the quality of loans on their books and the adequacy of collateral. As a result, many banks failed to recognise early signs that asset quality was deteriorating and missed opportunities to work with borrowers to stem their financial deterioration and to protect the bank's position. This lack of monitoring led to a costly process by senior management to determine the dimension and severity of the problem loans and resulted in large losses.

13. In some cases, the failure to perform adequate due diligence and financial analysis and to monitor the borrower can result in a breakdown of **controls to detect credit-related fraud**. For example, banks experiencing fraud-related losses have neglected to inspect collateral, such as goods in a warehouse or on a showroom floor, have not authenticated or valued financial assets presented as collateral, or have not required audited financial statements and carefully analysed them. An effective credit review department and independent collateral appraisals are important protective measures, especially to ensure that credit officers and other insiders are not colluding with borrowers.

14. In addition to shortcomings in due diligence and credit analysis, bank credit problems reflect other recurring problems in credit-granting decisions. Some banks analyse credits and decide on appropriate non-price credit terms, but do not use **risk-sensitive pricing**. Banks that lack a sound pricing methodology and the discipline to follow consistently such a methodology will tend to attract a disproportionate share of under-priced risks. These banks will be increasingly disadvantaged relative to banks that have superior pricing skills.

15. Many banks have experienced credit losses because of the failure to use sufficient **caution with certain leveraged credit arrangements**. As noted above, credit extended to highly leveraged borrowers is likely to have large losses in default. Similarly, leveraged structures such as some buyout or debt restructuring strategies, or structures involving customer-written options, generally introduce concentrated credit risks into the bank's credit portfolio and should only be used with financially strong customers. Often, however, such structures are most appealing to weaker borrowers because the financing enables a substantial upside gain if all goes well, while the borrower's losses are limited to its net worth.

16. Many banks' credit activities involve **lending against non-financial assets**. In such lending, many banks have failed to make an adequate assessment of the correlation between the financial condition of the borrower and the price changes and liquidity of the market for the collateral assets. Much asset-based business lending (i.e. commercial finance, equipment leasing, and factoring) and commercial real estate lending appear to involve a relatively high correlation between borrower creditworthiness and asset values. Since the borrower's income, the principal source of repayment, is generally tied to the assets in question, deterioration in the borrower's income stream, if due to industry or regional economic problems, may be accompanied by declines in asset values for the collateral. Some asset based consumer lending (i.e. home equity loans, auto financing) exhibits a similar, if weaker, relationship between the financial health of consumers and the markets for consumer assets.

17. A related problem is that many banks do not take **sufficient account of business cycle effects** in lending. As income prospects and asset values rise in the ascending portion of the business cycle, credit analysis may incorporate overly optimistic assumptions. Industries such as retailing, commercial real estate and real estate investment trusts, utilities, and consumer lending often experience strong cyclical effects. Sometimes the cycle is less related to general business conditions than the product cycle in a relatively new, rapidly growing sector, such as health care and telecommunications. Effective stress testing which takes account of business or product cycle effects is one approach to incorporating into credit decisions a fuller understanding of a borrower's credit risk.

18. More generally, many underwriting problems reflect the absence of a **thoughtful consideration of downside scenarios**. In addition to the business cycle, borrowers may be vulnerable to changes in risk factors such as specific commodity prices, shifts in the competitive landscape and the uncertainty of success in business strategy or management direction. Many lenders fail to "stress test" or analyse the credit using sufficiently adverse assumptions and thus fail to detect vulnerabilities.

Market and Liquidity-Sensitive Credit Exposures

19. Market and liquidity-sensitive exposures pose special challenges to the credit processes at banks. Market-sensitive exposures include foreign exchange and financial derivative contracts. Liquidity-sensitive exposures include margin and collateral agreements with periodic margin calls, liquidity back-up lines, commitments and some letters of credit, and some unwind provisions of securitisations. The contingent nature of the exposure in these instruments requires the bank to have the ability to assess the probability distribution of the size of actual exposure in the future and its impact on both the borrower's and the bank's leverage and liquidity.

20. An issue faced by virtually all financial institutions is the need to develop **meaningful measures of exposure** that can be compared readily with loans and other credit exposures. This problem is described at some length in the Basel Committee's January 1999 study of exposures to highly leveraged institutions.¹⁶

21. Market-sensitive instruments require a **careful analysis of the customer's willingness and ability to pay**. Most market-sensitive instruments, such as financial derivatives, are viewed as relatively sophisticated instruments, requiring some effort by both the bank and the customer to ensure that the contract is well understood by the customer. The link to changes in asset prices in financial markets means that the value of such instruments can change very sharply and adversely to the customer, usually with a small, but non-zero probability. Effective stress testing can reveal the potential for large losses, which sound practice suggests should be disclosed to the customer. Banks have suffered significant losses when they have taken insufficient care to ensure that the customer fully understood the transaction at origination and subsequent large adverse price movements left the customer owing the bank a substantial amount.

22. Liquidity-sensitive credit arrangements or instruments require a **careful analysis of the customer's vulnerability to liquidity stresses**, since the bank's funded credit exposure can grow rapidly when customers are subject to such stresses. Such increased pressure to have sufficient liquidity to meet margin agreements supporting over-the-counter trading activities or clearing and settlement arrangements may directly reflect market price volatility. In other instances, liquidity pressures in the financial system may reflect credit concerns and a constricting of normal credit activity, leading borrowers to utilise liquidity backup lines or commitments. Liquidity pressures can also be the result of inadequate liquidity risk management by the customer or a decline in its creditworthiness, making an assessment of a borrower's or counterparty's liquidity risk profile another important element of credit analysis.

23. Market- and liquidity-sensitive instruments change in riskiness with changes in the underlying distribution of price changes and market conditions. For market-sensitive instruments, for example, increases in the volatility of price changes effectively increases potential exposures. Consequently, banks should conduct **stress testing of volatility assumptions**.

24. Market- and liquidity-sensitive exposures, because they are probabilistic, can be correlated with the creditworthiness of the borrower. This is an important insight gained from the market turmoil in Asia, Russia and elsewhere in the course of 1997 and 1998. That is, the same factor that changes the value of a market- or liquidity-sensitive instrument can also influence the borrower's financial health and future prospects. Banks need to **analyse the relationship between market- and liquidity-sensitive exposures and the default risk of the borrower**. Stress testing — shocking the market or liquidity factors — is a key element of that analysis.

¹⁶ See *Banks' Interactions with Highly Leveraged Institutions* and *Sound Practices for Banks' Interactions with Highly Leveraged Institutions* (January 1999).

Best Practices for Credit Risk Disclosure

Basel Committee on Banking Supervision

Basel
September 2000

Transparency Group of the Basel Committee on Banking Supervision

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Best Practices for Credit Risk Disclosure

Executive Summary

This paper provides guidance on best practices for public disclosure of credit risk in banking institutions. The objective is to encourage banks to provide market participants and the public with the information they need to make meaningful assessments of a bank's credit risk profile. Transparency in this area is particularly important since weak credit risk management practices and poor credit quality continue to be a dominant cause of bank failures and banking crises worldwide.

The issuance of this paper is a component of the Basel Committee's ongoing efforts to promote adequate transparency and effective market discipline. As discussed in its report on *Enhancing Bank Transparency*, well-informed investors, depositors, creditors and other bank counterparties can provide a bank with strong incentives to maintain sound risk management systems and internal controls and to conduct its business in a manner that is both prudent and consistent with stated business objectives. Also, transparency strengthens confidence in the banking system by reducing the uncertainty in the assessment of banks. Therefore, the Basel Committee considers the transparency of banks' activities and the risks inherent in those activities to be a key element of an effectively supervised, safe and sound banking system. The Basel Committee coordinates its efforts with the work undertaken in other groups to address the need for transparency of financial institutions' activities and risks, including the work being carried out by the Committee on the Global Financial System.

The best practices guidance discussed in this paper forms an integral part of the Basel Committee's work to provide comprehensive guidance addressing the credit risk in banking activities. In parallel with this paper, the Committee is presenting a report with sound practices guidance on credit risk management in banks. Also, the Basel Committee has issued a paper with sound practices guidance for loan accounting and disclosure. The best practices guidance in this paper complements the recommendations in the loan accounting paper in that it focuses on credit risk not only in lending activities, but also in all other types of banking activities, including trading, investments, liquidity / funding management and asset management. The table annexed to this paper compares the credit risk disclosure guidance in this paper with that of the loan accounting paper.

The best practices guidance contained in this paper is based on the current disclosure practices in various countries and on the information needs of market analysts and other information users. The Committee undertook fact-finding surveys, including interviews with a wide range of information users and surveys of actual disclosure practices, to identify gaps in current credit risk disclosure practices and form the basis for the recommendations contained in this paper. The guidance encompasses five broad areas of information critical to an assessment of a bank's credit risk profile: accounting policies and practices; credit risk management; credit exposures; credit quality; and earnings.

The Basel Committee recognises that each bank's specific disclosures will vary in scope and content according to its level and type of activities. Therefore, it may not be necessary for a bank to provide all the disclosures discussed in the paper, if particular information is not material for an external assessment of the bank. Nevertheless, all banks are expected to

provide sufficient, timely, and detailed information that allows market participants to make meaningful assessments of the bank's credit risk profile.

Apart from providing best practices for credit risk disclosure, the paper also discusses related supervisory information needs and the types of information supervisors collect on credit risk.

This paper was originally published for consultation in July 1999. The Committee is grateful to the numerous central banks, supervisory authorities, banking associations, institutions and academics that provided comments. These comments provided helpful suggestions for improvements to this final version of the paper.

Best Practices for Credit Risk Disclosure

I. General remarks

1. Introduction

1. This paper, issued by the Basel Committee on Banking Supervision¹ (Basel Committee), presents guidance on best practices for public disclosure of credit risk in banking institutions and discusses related supervisory information needs. This initiative forms part of the Committee's continuing work to promote satisfactory bank transparency and strong market discipline by encouraging banks to provide market participants and the public with the information needed to make accurate assessments of a bank's financial position and performance, business activities and risk exposures. The paper builds on concepts developed in the Basel Committee's report on *Enhancing Bank Transparency*² by providing more detailed guidance in the area of credit risk.

2. The work in this field complements and reinforces other supervisory efforts to foster safe and sound banks and stable banking systems worldwide. Meaningful and accurate disclosures facilitate market discipline and improved public scrutiny, which in turn can provide a bank with strong incentives to conduct its business in a safe, sound and efficient manner; to conform with stated business objectives; and to maintain sound risk management practices and internal controls.³

3. Following the release of its paper on *Enhancing Bank Transparency*, the Basel Committee has sought to identify gaps in credit risk disclosure practices. To this end, it has conducted a number of fact-finding surveys, including interviews with a wide range of information users (e.g., rating agencies and market analysts) and surveys of actual disclosure practices in various countries. The results demonstrate that there is a clear demand for accurate information on credit risk and that there are important gaps in currently disclosed information. These gaps include information on credit derivatives, securitisations, internal credit risk ratings, and segment information in the areas of business line, counterparty and geographic distribution. The publication of this best practices guidance paper reflects an effort by the Basel Committee to fill those gaps by encouraging disclosures that provide increased transparency and comparability.

¹ The Basel Committee on Banking Supervision is a committee of banking supervisory authorities which was established by the central bank Governors of the Group of Ten countries in 1975. It consists of senior representatives of bank supervisory authorities and central banks from Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, the Netherlands, Sweden, Switzerland, the United Kingdom and the United States. Its current chairman is Mr William J McDonough, President of the Federal Reserve Bank of New York. It usually meets at the Bank for International Settlements in Basel, where its permanent Secretariat is located.

² This report discusses the role of disclosure and transparency in fostering safe and sound banking systems and presents general guidance on public disclosure and supervisory information needs. It was issued by the Basel Committee in September 1998.

³ The role of public disclosure in market discipline is discussed in the *Enhancing Bank Transparency* report.

4. The Basel Committee's work in this area is consistent with the work programme adopted by the G7 Heads of State and Finance Ministers to strengthen the international financial system. This includes a proposal to address the need for transparency of private sector financial institutions. Indeed, recent events (e.g., with respect to emerging markets and highly-leveraged institutions) have demonstrated that weaknesses in the provision and use of information by financial institutions can be a major source of the development and spread of financial instability both in individual markets and in the global financial system.

5. This paper has been prepared by the Basel Committee's Transparency Group.⁴ This Group has the mission of promoting enhanced market discipline, stable and efficient markets, and effective and comprehensive supervision of banking institutions. It carries out this task by identifying issues and developing guidance on the information needed by supervisors and by market participants to assess banking activities and the risks inherent in those activities.⁵

2. Objective

6. The objective of this paper is to promote adequate and effective transparency of banks' credit risk profiles by providing guidance to banks on useful credit risk disclosures and discussing supervisory information needs with respect to credit risk in banks. The guidance covers credit risk in all types of banking activities, including lending, trading, investments, liquidity/funding management and asset management.⁶

7. The guidance provided in this paper supplements the reporting and disclosure requirements of a variety of national accounting and disclosure frameworks. It is not intended to replace or override other reporting frameworks that may be more extensive. However, accounting standard-setters, regulators and other bodies responsible for setting disclosure standards may find the document helpful as they develop improved and more harmonised public disclosure standards.

⁴ The Basel Committee's Transparency Group is chaired by Mr Jan Brockmeijer, Deputy Director, De Nederlandsche Bank, Amsterdam and a member of the Basel Committee. The group consists of supervisory experts on disclosure and reporting from the member institutions of the Basel Committee.

⁵ In addition to this paper and the *Enhancing Bank Transparency* report, the Transparency Group - in collaboration with the International Organization of Securities Commissions (IOSCO) - has prepared a report with guidance on trading and derivatives disclosures (October 1999) and a supervisory information framework on derivatives and trading activities (issued in September 1998). Moreover and also jointly with IOSCO, it has prepared survey reports on the trading and derivatives disclosures of major banks and securities firms in the G10 countries (the most recent survey report was issued in December 1999). The Group was also involved in the preparation of the disclosure recommendations in the Basel Committee's report *Sound Practices for Loan Accounting and Disclosure*, issued in July 1999. The Group was involved in the development of the third Pillar (market discipline) in the consultative paper *A New Capital Adequacy Framework*, issued by the Basel Committee in June 1999 and a further consultation *A New Capital Adequacy Framework: Pillar Three - Market Discipline* published in January 2000.

⁶ These recommendations are consistent with and supplement the recommendations for public disclosures relating to lending activities presented in the Basel Committee's report *Sound Practices for Loan Accounting and Disclosure*, which was issued in July 1999. The Annex matches the best practices guidance in this paper with the recommendations in the loan accounting paper. This credit risk disclosure paper differs from the loan accounting paper in that the disclosure guidance focuses on not only credit risk in lending activities, but also all other sources of credit risk in banking activities, e.g., trading, investment, liquidity/funding management and asset management.

3. Contents of the report

8. Section II discusses the nature and measurement of credit risk and the importance of achieving transparency of credit risks in banks. Section III provides best practices guidance on credit risk disclosures in five broad areas relating to credit risk: accounting policies and practices, credit risk management, credit exposures, credit quality, and earnings. Section IV discusses supervisory information needs.

II. Transparency in the context of credit risk

9. Credit risk arises because bank borrowers and other counterparties may not be willing or able to fulfil their contractual obligations. This concept and the features of a sound credit risk management process are discussed in the Basel Committee's paper on principles for the assessment of a bank's management of credit risk,⁷ which is being issued simultaneously with this paper. In particular, that paper addresses the following areas: (1) establishing an appropriate credit risk environment; (2) operating under a sound credit-granting process; (3) maintaining an appropriate credit administration, measurement and monitoring process; and (4) ensuring adequate controls over credit risk.

10. The *Enhancing Bank Transparency* Report discusses the need for transparency of banking activities and the risks inherent in those activities, including credit risk. In particular, meaningful and accurate information disclosed in a timely manner provides an important foundation for market discipline and public scrutiny of banks. Risk-aware bank counterparties, in their transactions with banks, can reinforce banking supervision by rewarding institutions that manage risks effectively and penalising those whose risk management is weak or ineffective. This can provide banks with strong incentives to maintain sound risk management systems and internal controls and to conduct their activities and risk exposures in a manner that is both prudent and consistent with stated business objectives.

11. The *Enhancing Bank Transparency* Report also discusses qualitative characteristics of information that provides transparency. Drawing on the concepts discussed in that paper, credit risk information should be:

- *Relevant and timely.* Information should be provided with sufficient frequency and timeliness to give a meaningful picture of the institution's financial position and prospects. For instance, credit exposures in trading activities may deserve more frequent reporting than credit exposures in traditional banking activities, such as lending, since the variability of the portfolio composition typically is higher in the trading book. Nevertheless, complex or innovative credit risk transactions, e.g., credit derivatives, may require more frequent reporting also when entered into for other purposes than trading. To be relevant, information should also keep pace with financial innovation and developments in credit risk management techniques, e.g., credit risk modelling.

⁷ *Principles for the Management of Credit Risk*, issued by the Basel Committee in September 2000.

- *Reliable.* Information should also be reliable. Typically, it is more difficult to obtain precise measurements of credit risk than market risk. This is because the estimation of default probabilities and recovery rates usually is less exact than the measurement of price movements on liquid markets. This is in turn due to such factors as lack of and limitations in statistical data, the illiquid and long-term nature of many credit exposures, and the need to take account of bankruptcy rules and the interpretation and enforceability of those rules. This implies that information on credit risk should include a reasonable degree of caution and reflect realistic and prudent measurements.
- *Comparable.* Market participants and other users need information that can be compared across institutions and countries, and over time. Differences in the measurement of credit exposures and the establishment of credit loss allowances across countries, as well as the need to apply a degree of judgement in making those determinations, make comparable disclosures in the area of credit risk particularly important. It is also important that banks use comparable terminology, e.g., for impaired, non-performing and past-due assets.
- *Material.* Disclosures should be adapted to the size and nature of an institution's activities in accordance with the concept of materiality. Information is material if its omission or misstatement could change or influence the assessment or decision of a user relying on that information. Banks' financial reports should present each material item separately. This implies that larger, internationally active banks with complex operations would be expected to provide much more information than smaller and medium-sized domestic banks with simpler business activities.
- *Comprehensive.* To enable market participants and other users of information to make meaningful evaluations of banks, information should be comprehensive. This often implies the aggregation, consolidation and assessment of information across a number of activities and legal entities.
- *Non-proprietary.* Whilst it is important that information which fulfils the criteria described above is disclosed, it is not intended that banks should disclose proprietary information. Proprietary information encompasses information (for example on customers, products or systems), the sharing of which with competitors would render a bank's investment in these products/systems less valuable, and hence would undermine its competitive position. Notwithstanding this, we do not expect the concept of 'proprietary information' to be used by banks to withhold useful information and so form an impediment to transparency. The presumption against disclosing proprietary information is not intended to allow an institution to avoid disclosing information which would disadvantage it in the market because the information reflects an unfavourable risk profile.

III. Disclosure recommendations

12. The Basel Committee recommends that banks provide timely information that allows market participants to assess the credit risk profile of banking institutions. The recommendations in this paper build on the earlier work of the Committee and include

additional, more specific guidance in several key areas.⁸ The Committee has identified the following five broad areas in which banks should provide more detailed disclosures:

- Accounting policies and practices;
- Credit risk management;
- Credit exposures;
- Credit quality;
- Earnings.

13. While each bank's specific disclosures will vary in scope and content according to its level and type of activities, all banks should provide sufficient timely and detailed information so as to allow market participants to develop a full and accurate picture of the bank's credit risk profile. Further, a bank's disclosures should be consistent with the information the bank generates and uses internally to measure, manage and monitor credit risk; accordingly, as management information systems and management reporting continue to evolve and improve, the timeliness and extent of disclosures should improve.

1. Disclosures in a bank's annual financial reports should be adapted to the size and nature of the bank's operations in accordance with the materiality concept.

14. All of the disclosure best practices identified in this section should be applied in line with the materiality principle (discussed in the *Enhancing Bank Transparency* report and outlined above⁹). Thus, an institution may not necessarily provide all the disclosures recommended below if a particular disclosure item is not relevant to the assessment of the bank. On the other hand, banks relying on capital markets and larger institutions with complex operations, such as those with significant international operations, would generally be expected to make more extensive disclosures.

15. Institutions are encouraged to provide as much of the information listed below as possible in audited financial statements, i.e., primary financial statements and supporting notes. In particular, disclosure of accounting policies should be in the audited part of the financial report. Information on risk management and control policies may be disclosed in the unaudited part of the financial report, e.g., in management's discussion and analysis.

⁸ This earlier work includes the following publications: *Enhancing Bank Transparency*, September 1998; *Sound Practices for Loan Accounting and Disclosure*, July 1999; *Recommendations on Public Disclosures of Trading and Derivatives Activities of Banks and Securities Firms*, October 1999; *Survey of Trading and Derivatives Disclosures of Banks and Securities Firms*, December 1999.

⁹ *Enhancing Bank Transparency*, September 1998, para. 61 and outlined in para.11 above

(a) Accounting policies and practices

2. *A bank should disclose information about the accounting policies, practices and methods it uses to account for its credit risk exposures.*

16. A bank should provide information on its accounting policies and practices in each relevant area where credit exposures arise, including lending, trading, investments, liquidity/funding management and asset management (e.g., fiduciary) activities. Such information should also encompass the policies and methods used in accounting for and determining impairment of credit exposures. The disclosure should describe any changes in accounting policy from previous years.

17. Disclosures of accounting policies should cover:

- the basis of measurement for assets at initial recognition and subsequent periods, e.g., fair value or historical cost, including (as applicable) assets held for sale and assets held to maturity;
- the treatment of securitisation transactions and other activities that shift or reallocate credit risk;
- the method of recognising income on unimpaired assets, including interest recognition, the recognition of premiums or discounts on assets acquired from third parties, and treatment of fees and expenses;
- the basis of measurement for impaired assets, including how and when the bank determines an asset is impaired;
- the basis for determining when assets are considered past-due and/or impaired for accounting and disclosure purposes (number of days in arrears where appropriate);
- the basis for charging off assets;
- the method of recognising income on impaired assets, including interest recognition and when interest ceases to be accrued; and
- the treatment of hedging relationships affecting the measurement of assets.

3. *A bank should disclose information on the accounting policies and methods it uses to determine specific and general allowances, and it should explain the key assumptions it uses.*

18. A bank should provide comprehensive information on the accounting policies and methods it uses in determining allowances. Such information should include a description of the types of allowances and the key assumptions used in determining allowances. In addition, banks should include information, if applicable, on:

- the types of credit exposures that are evaluated individually and the types of exposures that are evaluated as a group;

- how the allocated and (any) unallocated portions of the allowances are determined;
- how the bank has incorporated historical default experience for different asset categories, current conditions, changes in portfolio composition and trends in delinquencies and recoveries;
- self-correcting mechanisms that are used to reduce differences between estimated and actual observed losses (if any);
- policies and practices for country or sovereign risk provisioning;
- other relevant factors, such as the existence and effect of concentrations of credit and changes in the level of concentrations, changes in the operating environment of borrowers and counterparties;
- changes in policies and procedures, including underwriting standards and collection and recovery practices; and
- how the level of allowances compare with historical net loss experience.

19. Banks should explain the reasons for changes in the elements and components of the allowances, so that a financial statement reader can understand how changes in risks in the portfolio relate to the allowances established at the end of the period. For instance, it may be appropriate to discuss how changes in estimation methods and assumptions affected the allowances; why reallocations of the allowance among different parts of the portfolio or different elements of the allowance occurred; and how actual changes and expected trends in non-performing credit exposures affected the allowances.

(b) Credit risk management

4. *A bank should disclose qualitative information about the nature of credit risk in its activities and describe how credit risk arises in those activities.*

20. A bank should provide sufficient qualitative description about credit risk to enable the users of financial statements to understand how it defines credit risk and the business activities that generate credit risk.

5. *A bank should disclose information on the management, structure and organisation of its credit risk management function.*

21. A bank should disclose information that describes the structure of its credit risk management function, including information on the management of the function, segregation of duties, and committees or other management infrastructure. Management should specifically address the loan review function and related internal controls. Such disclosures should be placed in context with the overall risk management structure of the organisation, and changes in the structure from prior period disclosures should be discussed.

6. *A bank should disclose qualitative information on its credit risk management and control policies and practices.*

22. A bank should disclose information on its strategies, objectives, and practices in managing and controlling its credit risk exposures. Specifically, an institution should summarise its policies for identifying, measuring, and managing credit risk on both an individual counterparty and portfolio basis. Such disclosures should include information, if applicable, on:

- the methods used to limit or control overall credit exposures, including
 - risk limits, (e.g., counterparty, pre-settlement, settlement);
 - limits on concentrations of credit to single counterparties or classes of borrower; and
 - limit monitoring.
- the process and methods used to assess credit exposures on both an individual counterparty and portfolio basis, including a description of the internal credit rating classification system (e.g., what each rating means in terms of default probability, degrees of risk being distinguished, performance over time and ex-post evaluation);¹⁰
- the mechanisms used to reduce and/or mitigate credit exposures, such as collateral, guarantees, covenants, bilateral and multilateral netting arrangements, and early termination agreements;
- securitisation activities; and,
- the use of new or innovative instruments that transfer credit exposure, such as credit derivatives.

23. If an institution stress-tests its counterparty credit exposures, it should disclose its process for stress testing, and how testing is incorporated into its credit risk management system.

7. *A bank should disclose information on its techniques and methods for managing past due and impaired assets.*

24. A bank should discuss the techniques it uses to monitor and manage past due or impaired assets/credit relationships, including its procedures for credit quality classifications

¹⁰ See also recommendation 18.

and its practices and procedures for evaluating the adequacy of credit loss provisions and credit loss allowances.¹¹

8. *A bank should provide information on its use of credit scoring and portfolio credit risk measurement models.*

25. In addition to methods currently used by banks to assess credit risk exposures, some banks are exploring new approaches to measuring exposure to credit risk, including various modelling techniques. A bank that uses credit scoring or portfolio credit risk measurement models to manage credit risk should provide qualitative and quantitative information about these approaches. Information that should be provided includes:

- whether credit scoring or credit risk measurement models are used and, if so, descriptive information about the types of models, portfolio[s] covered and size of portfolio[s];
- quantitative and qualitative information about the credit risk measurement models used, including model parameters (e.g., holding period, observation period, confidence interval, etc.), performance over time, model validation and stress testing information.

Banks that do not use credit models should ensure that they disclose sufficient qualitative and quantitative information to provide comparable information on the management of credit risk.

(c) Credit exposures

9. *A bank should disclose balances of credit exposures, including current exposure and, where applicable, future potential exposure, by major categories.*

26. A bank should provide information on its total credit exposures, including exposures arising from lending, trading, investment, liquidity/funding management and off-balance-sheet activities. Such information should include current exposures (as of the financial report date) and, where appropriate, future potential exposures. In addition, maturity breakdowns should be provided (e.g., under 1 year, 1 – 5 years, 5 – 10 years, 10 – 20 years, and 20 and over years), as well as average balances for the period.

¹¹ Some accountants consider the use of the terms “provision” and “reserve” inappropriate when referring to accumulated value adjustments of loan assets and prefer other descriptions, e.g., “allowance”. For instance, the International Accounting Standards Committee defines a provision as a type of liability, while a reserve is defined as a component of equity (*IASC Framework for the Preparation and Presentation of Financial Statements*).

(i) Segment disclosures

Business line information

10. A bank should disclose information about credit exposures by business line.

27. A bank should disclose credit exposure information by business line or type of exposure, such as commercial, industrial sector, real estate, construction, credit cards, leasing, and residential mortgage.

Counterparty information

11. A bank should disclose information about credit exposures by major categories of counterparties.

28. A bank should disclose information about the composition of its on- and off-balance sheet credit exposures by major types of counterparty, including foreign government, domestic government, foreign corporate, domestic corporate, consumer, and other financial institutions. It should provide this information without taking account of the effects of credit risk mitigation techniques, e.g., collateral and netting, which are the subject of a separate disclosure recommendation below. In addition, intra-group transactions and exposures to related parties, directors and shareholders should be separately identified and the methods used to value these transactions should be described. High-risk counterparties, e.g., highly leveraged institutions, should be separately disclosed¹².

Geographic information

12. A bank should disclose information about credit exposures by geographic areas.

29. A bank should disclose summary information about the geographical distribution of its credit exposures, including its domestic and international credit exposures showing sovereign exposures and other cross-border exposures. Geographic areas may comprise individual countries or groups of countries or regions within countries. A bank should also disclose how loans are allocated to geographic areas (e.g., domicile of counterparty).

(ii) Concentration information

13. A bank should disclose information about significant concentrations of credit risk.

30. A bank should disclose its policies and methods for determining concentrations of credit risk, what it considers to be a “significant” concentration, and for each concentration disclose a description of the shared characteristics that identify the concentration as well as the magnitude of the credit exposure. These disclosures should be designed in a way that is consistent with any confidentiality requirements. Significant concentrations of credit risk can

¹² The characteristics of an ‘HLI’ are set out in ‘Banks’ interactions with Highly Leveraged Institutions’ January 1999.

arise in relation to individual borrowers or counterparties, related borrowers or groups of borrowers, particular economic sectors or particular countries or regions.

(iii) Credit risk mitigation techniques

14. A bank should disclose the effect of credit risk mitigation techniques, including collateral, guarantees, credit insurance and legally enforceable netting agreements.

31. A bank should disclose quantitative information about the effect of credit enhancements on their counterparty credit exposure. This information should include the effect of legally enforceable bilateral and multilateral netting agreements. If the institution uses collateral, covenants, guarantees or credit insurance to reduce credit exposure, the impact on credit exposure should be disclosed. If appropriate, such disclosures may include the nominal and market value of the collateral provided.¹³

15. A bank should disclose quantitative and qualitative information about its use of credit derivatives and other instruments that reallocate credit risk.

32. The development of innovative tools and techniques to manage credit risk continues to evolve and some banks are currently using new credit risk management instruments such as credit derivatives. As new practices and instruments to manage credit exposures are developed, banks should provide both quantitative and qualitative information about these new practices and instruments. For those banks that currently use such innovative instruments, disclosures should include the following information:

- discussion of how instruments are used, including strategy and objectives;
- notional amounts and fair value of instruments;
- amount of credit risk bought and/or sold;
- breakdown by type of instrument (e.g., total return swap, credit default swap, or other credit derivatives) and,
- where instruments are recorded (i.e., trading vs. banking book).

16. A bank should disclose quantitative and qualitative information about its securitisation activities.

33. A bank that securitises assets should disclose both qualitative and quantitative information about these activities. Such information should include the bank's strategy and objectives for its securitisation activities; the amount and types of assets securitised; and the

¹³ Banks are also encouraged to provide information about assets that they themselves have pledged for their own liabilities or commitments.

amount of servicing retained. It should also disclose the amount of risk or assets retained; details on subordinated interests retained (first loss protection); and general recourse provisions. If the bank has a continuing interest in securitised assets, the performance of those securitised assets should be disclosed.

17. A bank should disclose summary information about its contractual obligations with respect to recourse arrangements and the expected losses under those arrangements.

34. A bank should disclose information about recourse transactions – transactions where it has sold the asset[s] but retains responsibility for payment if the original borrower[s] or counterparty defaults or fails to fulfil other contractual or implied obligations. Disclosures should include summary information about the terms of recourse arrangements and the amount of assets sold and expected losses under such arrangements. These arrangements may expose a bank to significant credit risk, but are often not recognised on the balance sheet.

(d) Credit quality

18. A bank should provide summary information about its internal rating process and the internal credit ratings of its credit exposures.

35. A bank should provide summary information about its internal rating processes, and explain the loss concept used and how internal ratings are used in the bank's internal capital allocation process. Based on its internal credit rating processes, a bank should provide summary information on the quality of its on- and off-balance sheet credit exposures. Such a disclosure might include a discussion of counterparty type and internal credit rating. A bank may also disclose information about credit exposures based on external ratings. Banks would not be expected to disclose proprietary information.

19. A bank should disclose total credit exposures by major asset category showing impaired and past due amounts relating to each category.

36. A bank should provide comprehensive information on impaired and past due assets, including breakdowns by relevant asset category, counterparty type and geographic area. Such information should include separate disclosures of impaired and past-due assets (e.g., 90 days or more) and an ageing analysis of past due credit exposures.

20. A bank should disclose the amounts of specific, general and other allowances. Where applicable, these allowances should be disclosed by major asset category.

37. A bank should disclose the amounts of all allowances. Where applicable, these should be disclosed by the major asset categories described above (e.g., allowances for loan losses, allowances related to off-balance-sheet exposures, etc.).

21. A bank should disclose a reconciliation of changes in the allowances for credit impairment.

38. A bank should provide a reconciliation of activity for any allowances established for credit impairment (“continuity schedule”), including:

- a description of the type of allowance;
- the opening balance of the allowance;
- charge-offs (or write-offs) taken against the allowance during the period;
- recoveries of previous charge-offs added back to the allowance during the period;
- amounts set aside for estimated probable losses during the period;
- any other adjustments to the allowance (e.g., exchange rate differences, etc.), including transfers among allowances; and,
- the closing balance of the allowance.

39. Charge-offs and recoveries that have been recorded directly in the income statement should also be disclosed.

22. A bank should disclose credit exposures on which the accrual of interest or other contractual cash flows – in accordance with the terms of the original agreement – has ceased because of deterioration in credit quality.

40. A bank should disclose information about the balances of credit exposures where the accrual of interest or other contractual cash flows (e.g., cash flows on swap transactions) has ceased as a result of deterioration in credit quality. Such disclosures should provide a breakdown of the type of credit exposure, the amount of exposure and its impact on the income statement.

23. A bank should disclose summary information about credit exposures that have been restructured during the year.

41. A bank should disclose aggregate information about credit arrangements that have been restructured during the period. Such information should include the balance of the restructured loans, the magnitude of the restructuring activity, the impact of restructured credit arrangements on allowances and the present and future earnings, and the basic nature of concessions on all credit relationships that are restructured, including loans, derivatives and other on- and off-balance sheet activities. If full repayment is expected, the restructured credit

need not be disclosed after performance for a reasonable period in accordance with the modified terms.¹⁴

(e) Earnings

24. A bank should provide information on revenues, net earnings and return on assets.

42. In order to adequately assess a bank's financial performance and, specifically, what it is earning relative to its credit risk exposures, a bank should provide a comprehensive earnings statement and analysis, including a breakdown of income and expenses (including extraordinary items) for the period. Additional details should include:

- income and expense information grouped by nature or function within the bank;
- interest income and expenses by (as relevant) type of activity (e.g., lending, trading, investing, etc.), geographical distribution and credit quality;
- information on the impact of non-accrual and impaired assets on the financial performance of the bank including information on charge-offs and provisions;
- summary information on the effect of hedging activities on income and expenses;
- the amount of any charge-offs and recoveries that have been recorded directly in the income statement; and
- the income effect of securitisations.

IV. Supervisory information needs on credit risk

43. Supervisors use a combination of methods to collect information, depending on their supervisory practices, the nature of the data, the number of institutions under review, their size and complexity, and the characteristics of the market and regulatory framework. It is essential that banking supervisors are able to obtain information that permits them to detect potential problems at an early stage and identify trends not only for particular institutions, but also for the banking system as a whole.

44. Public reporting, including information in annual reports, press releases and analysts' reviews, is one element of the information used by supervisors. The recommendations included in Section III of this paper outline a number of specific disclosures that a bank should include in its public reporting to enhance the transparency of its credit risk profile.

¹⁴ In some countries, a period of six months may reflect a reasonable period of resumed borrower repayments of contractual principal and interest.

Many supervisors may use such public disclosures as a part of the information they collect to assess the credit risk profile of individual banking institutions, as well as the banking system.

45. To obtain a timely and comprehensive picture of credit risk in supervised banks, however, supervisors need information in addition to that publicly disclosed. Additional information requested or obtained by supervisors through either supervisory reporting or otherwise may include:

- detailed information on credit exposures to large borrowers/counterparties or to borrowers in particular sectors of the economy, including borrower identity, type of exposure and amount of exposure;
- detailed information on specific borrowers/counterparties included on the bank's "watch" list;
- detailed information on specific borrowers/counterparties currently considered impaired, including any credit loss allowances currently allocated to or identified for the exposure;
- detailed information on restructured credits and credits for which special conditions have been granted; and
- similar information to that publicly disclosed, but on a more frequent and/or current basis.

46. In many countries, bank supervisors rely heavily on information provided in regular supervisory reporting by banking institutions. This information is collected and analysed to assess the condition, performance and risk profile of individual banks, the banking system, or particular sectors of the economy. Supervisory reporting systems provide for early detection in the intervals between on-site examinations, external audits, or supervisory visitation, enabling supervisors to take prompt action before problems become more serious.

47. To complement the information available in public and supervisory reporting, supervisors often collect additional information to assist in clarifying a bank's credit risk profile, as well as to better understand important credit risk management issues. Supervisors collect data during on-site examinations, targeted examinations, external audit processes, and special studies or surveys. This "first-hand" information is used together with public disclosures and regular supervisory reporting to obtain a more comprehensive picture of the bank's condition, operations, risk profile and risk management activities. Internal management information considered most relevant for credit risk includes:

- broad credit risk management information, including asset quality figures;
- internal control/internal audit statistics and other measures;
- trend and sector analyses;
- performance measures relating actual results to expected performance; and,
- economic capital allocated to credit risk and returns on this capital.

48. Where institutions undertake business activities that fall under the jurisdiction of different supervisors, or where certain affiliates are not supervised, supervisors should consider how best to obtain information that provides a comprehensive, timely picture of the risks associated with the institutions' overall activities. Supervisors may, for example, find it useful to discuss this issue with regulated firms. Bank supervisors should attempt to obtain information about these activities on a consolidated basis, while recognising the legal distinctions among subsidiaries and the need to receive summary information about major business activities and key entities within a consolidated banking group.

V. Conclusions

49. Experience from around the world indicates that poor credit quality coupled with weak credit risk management practices continues to be a dominant factor in bank failures and banking crises. Therefore, it is clear that information on banks' credit risk profiles, including the quality of their credit exposures and the adequacy of their credit risk management processes, is crucial in market participants' and supervisors' assessment of their condition, performance and ability to survive in the long-run. Such information is also important in assessments of the overall safety and soundness in banking systems.

50. The Basel Committee has identified the following five broad areas in which banks should provide comprehensive and accurate disclosures:

- Accounting policies and practices;
- Credit risk management;
- Credit exposures;
- Credit quality;
- Earnings.

51. At present, not all banks comply with the best practices guidance presented in this paper. The Basel Committee recommends that banks increase their level of public disclosure to comply with this guidance in line with the nature, size and complexity of their activities. Through surveys and other fact-finding initiatives, the Basel Committee will continue to monitor the extent to which banks are making progress in enhancing their credit risk disclosures.

Annex

Credit risk disclosure guidance comparison

To help readers compare the disclosure guidance provided in this paper with the disclosure recommendations issued by the Basel Committee in July 1999 as part of its paper on loan accounting, the table below matches these two sets of recommendations. As an additional assistance, the table also references similar disclosure requirements in International Accounting Standards (IAS) issued by the International Accounting Standards Committee (IASC).

<i>Best practices recommendation in this paper</i>	<i>Recommendations in the Loan Accounting Paper, July 1999 (LAP)</i>	<i>International Accounting Standards (IAS)</i>
1. Disclosures in a bank's annual financial reports should be adapted to the size and nature of the bank's operations in accordance with the materiality concept	LAP 12	IAS 1.29, IAS 30, Framework
2. A bank should disclose information about the accounting policies, practices and methods it uses to account for its credit risk exposures	Similar to LAP 13, although broader in scope	IAS 1.97, IAS 30.43, IAS 32.47
3. A bank should disclose information on the accounting policies and methods it uses to determine specific and general allowances, and it should explain the key assumptions it uses	LAP 14	(IAS 1.97, IAS 30.43, IAS 32.47)
4. A bank should disclose qualitative information about the nature of credit risk in its activities and describe how credit risk arises in those activities		
5. A bank should disclose information on the management, structure and organisation of its credit risk management function	Expanded guidance on certain elements of LAP 15	
6. A bank should disclose qualitative information on its credit risk management and control policies and practices	LAP 15	IAS 32.43A (as amended by IAS 39)
7. A bank should disclose information on its techniques and methods for managing past due and impaired assets		
8. A bank should provide information on its use of credit scoring and portfolio credit risk measurement models		
9. A bank should disclose balances of credit exposures, including current exposure and, where applicable, future potential exposure, by major categories		Expanded guidance in comparison with IAS 32.66

<i>Best practices recommendation in this paper</i>	<i>Recommendations in the Loan Accounting Paper, July 1999 (LAP)</i>	<i>International Accounting Standards (IAS)</i>
10. A bank should disclose information about credit exposures by business line		(IAS 14)
11. A bank should disclose information about credit exposures by major categories of counterparties	Similar to LAP 16, although broader in scope	
12. A bank should disclose information about credit exposures by geographic areas	Similar to LAP 17, although broader in scope	(IAS 14)
13. A bank should disclose information about significant concentrations of credit risk	LAP 18	IAS 32.66 (b), IAS 30.40
14. A bank should disclose the effect of credit risk mitigation techniques, including collateral, guarantees, credit insurance and legally enforceable netting agreements		
15. A bank should disclose quantitative and qualitative information about its use of credit derivatives and other instruments that reallocate credit risk		
16. A bank should disclose quantitative and qualitative information about its securitisation activities		IAS 39.170 (d)
17. A bank should disclose summary information about its contractual obligations with respect to recourse arrangements and the expected losses under those arrangements	LAP 19	(IAS 30.26, IAS 37.86)
18. A bank should provide summary information about its internal rating process and the internal credit ratings of its credit exposures		
19. A bank should disclose total credit exposures by major asset category showing impaired and past due amounts relating to each category	Includes elements of LAP 20 and 21, although broader in scope	
20. A bank should disclose the amounts of specific, general and other allowances. Where applicable, these allowances should be disclosed by major asset category	Includes elements of LAP 20, although broader in scope	Expanded guidance in comparison with IAS 30.43 (c)
21. A bank should disclose a reconciliation of changes in the allowances for credit impairment	Similar to LAP 22, although broader in scope	IAS 30.43 (b)

<i>Best practices recommendation in this paper</i>	<i>Recommendations in the Loan Accounting Paper, July 1999 (LAP)</i>	<i>International Accounting Standards (IAS)</i>
22. A bank should disclose credit exposures on which the accrual of interest or other contractual cash flows – in accordance with the terms of the original agreement – has ceased because of deterioration in credit quality	Similar to LAP 23, although broader in scope	IAS 30.43 (d)
23. A bank should disclose summary information about credit exposures that have been restructured during the year	Similar to LAP 24, although broader in scope	
24. A bank should provide information on revenues, net earnings and return on assets		IAS 1.75, IAS 30.10