



**Recommendations to
The Central Bank of Egypt
Pertaining to the
Supervision of
Connected Lending
Large Exposures and
Market Risk**

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I. EXECUTIVE SUMMARY

Purpose

The Governor of the Central Bank of Egypt requested assistance in strengthening certain aspects of Central Bank prudential regulations and supervision of banks in the areas of connected lending, large exposures and market risk assessment.

Scope

The BearingPoint advisors selected to provide this assistance approached the project in four stages. The first stage was to conduct an evaluation of the new Law of the Central Bank, Law No. 88, June 15, 2003, (the Law) and related Prudential Regulations. The second stage was to assess supervision policy and process related to these three areas of risk. The advisors assessed existing practice by reviewing written policies, circulars and examination procedure presently employed, and by interviewing officers, examiners and analysts in the on-site and off-site examination functions. During the third stage, the advisors determined the nature and level of information collected through prudential returns and other means for use in monitoring these activities and assessed their use analytically.

Finally, the advisors have set aside time for training of bank supervision staff in these areas of risk. In aggregate, 46 staff members from the on-site and off-site supervision functions are being trained, six of whom are designated as staff who will have the skills to train other staff members in these areas of risk. The others are 20 junior and 20 mid- and senior-level examiners.

In this memorandum, the advisors have provided Central Bank staff with written recommendations with respect to improvements to existing law and regulation, supervision policy and procedure, and off-site monitoring of these risks. In addition, to the degree necessary, modifications to existing supervision policy and procedure have been prepared for both on-site and off-site supervision. Training will incorporate recommended modifications to existing policy and practice.

Review of the Law of the Central Bank, the Banking Sector and Money, Law No. 88, June 15, 2003 (Law)

Connected Lending and Large Credit Exposures

The critical articles in the Law that address credit risk exposure to Connected Parties and Large Exposures are Articles 56, 61, and 71. Article 56 empowers the Board of Directors of the Central Bank to supervise and regulate banks. Article 61 addresses extensions of credit to certain bank insiders (Connected Lending), and Article 71 establishes a limit to a sole person and his connected parties (Large Exposures).



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Connected Lending is a term internationally recognized as referring to loans, advances and other credit risk exposure to insiders of a bank. In the Law, Connected Lending attempts to address this important area of credit risk management by covering certain insiders, such as directors, and their related interests. This is important because it is an attempt to curb potential insider abuse. **Large Exposures commonly refers to concentrations of credit and risk diversification.** Article 71 in a sense is a legal lending limit, as it places a cap on a bank's exposure to a borrower and an affiliated group. It does not attempt to cap a bank's exposure for other types of exposures, such as to an industrial sector, collateral or funding source, which concerns bank supervisors where evidence of concentrations of risk exists. None of these Articles addresses these issues wholly and should be expanded.

Article 61 does not treat all insiders equally. While directors and auditors are singled out, other insiders are not. If directors are not permitted to borrow from the bank, other classes of insiders, such as executive officers and principal shareholders, or their related interests should not be permitted to borrow either. They also are positioned to take advantage of their position as insiders to the detriment of the bank. On the other hand, the proscription against all borrowing by directors is overly restrictive. Certain types of credit to insiders, principally consumer credit, financing of his children's education or purchasing his primary residence are entirely appropriate, provided they are arm's length transactions.

Article 71 permits a bank to provide credit to a single borrower at an unsafe and unsound level. A separate limit for a single borrower is absent in the Law and should be rectified through issuance of an Executive Regulation. It is possible that a bank could extend credit to a single borrower up to 30% of its capital the way the law is presently structured.

The recommendations consist of the following:

- 1 Amendments to Article 61 that would expand the parties defined as insiders, liberalize the prohibition on credit to them for certain types of credit, and place limitations on the nature and level of such lending; and
- 2 Add a separate legal lending limit for a single borrower to reduce the possibility of a concentration and encourage risk diversification.

Market Risk

Very little exists in Law No. 88 citing specifically the market risk posed by banks' foreign exchange, fixed income or equity activities. Some articles cover operational or compliance issues related to foreign exchange.

The Law does contain one article that applies to all aspects of market risk. Article 56, section B states that the Central Bank's Board of Directors will set "the maximum limits



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of concentration of banks' investments abroad." This is a way in which banks incur market risk.

No specific recommendations to amend current law are deemed necessary. The Law favors the Central Bank in its due diligence process with banks. The Central Bank can achieve its aim of mitigating banks' market risk by issuing executive regulations, other forms of policy statements and circulars. Article 77 empowers the Central Bank substantially in terms of the information that it can require from banks.

Review of Supervisory Policy

Connected Lending

In an effort to eliminate potential problems, the Law prohibits any form of lending to directors and their connected parties, but permits credit to be granted to other classes of insiders. There is no supervisory policy that has been issued to the banking sector governing loans to other insiders, nor has a policy statement been issued to cover other types of transactions between banks and insiders that have the potential to be abusive. A recommended supervision policy statement is contained in Appendix B1, addressing corporate governance issues in the management of this risk.

Large Exposures

A supervisory policy statement has not been issued to the banking sector describing best practices, and a recommended statement is contained in Appendix B2.

Market Risk

While policy statements have been issued for several aspects of foreign exchange, a supervisory policy statement has not been issued to the banking sector describing best practices on all major aspects of the management of market risk. A recommended statement is contained in Appendix B3.

Review of Examination Procedures

The Central Bank has adopted the Federal Reserve System's examination manual, which contains an intensive examination program for the examination of commercial banks. However, the version adopted was written in the 1980s, with certain sections updated in the 1990s, and has not been completely updated. The Federal Reserve has modified and expanded sections of its examination manual in the years since the Central Bank adopted the manual. For example, the Federal Reserve manual contains very little material on the examination of market risk in the 1980s, but now has an entire manual devoted to that aspect of a bank's activities resulting from the growth of market risk. An entire module



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addressing Connected Lending has been developed as well. The Central Bank's examination manual does not contain any of this material.

An examination manual represents Central Bank policy with respect to examination process, and like other policy should be updated periodically to ensure that it remains a "living" document. In a sense, the bank supervision and examination process has undergone a revolution since the 1980s, both philosophically and in terms of actual procedure. Significant changes in examination approach and process are attributed principally to the growth of banks and the complexity of banking products introduced over this fifteen or twenty year period. The Central Bank examination manual in general does not reflect these changes. While it may be a large undertaking, the bank supervision process at the Central Bank is best served if the examination manual is updated significantly. To ensure that it retains its greatest value, a management process should be established to ensure that the manual is updated periodically to reflect changes in international best practice and in examination procedures. In view of the growing importance of market risk in Egypt, consideration should be given to the development of a separate comprehensive manual to cover this area of risk.

Connected Lending

Current examination procedures contain little guidance on the examination of this area of credit risk management. While examiners are conscious of the issues and bear them in mind while in a bank, there are no written procedures. Such procedures are necessary to ensure consistency in approach and emphasis, especially over time. Recommended procedures are contained in Appendix C1.

Large Exposures

Examination procedures currently utilized are satisfactory and no changes are recommended. However, the "Introduction" to the module is outdated and a proposed replacement may be found in Appendix C2.

Market Risk

Since the 1990s, market risk has taken on a much more important focus in the corporate and financial sector. The Central Bank of Egypt should consider seriously having an entire new supervisory and training manual devoted to all aspects of market risk.

Existing procedures to examine foreign exchange, fixed income, or equity related risks must be strengthened. Presently, the approach to bank examination is solely compliance-based. Examiners collect forms and data and check for compliance with bank rules and regulations. No structured procedures exist for examiners to look at market influences on foreign exchange, fixed income and equity products, the interrelationships in these markets, and how risks arise in banks when they hold capital market instruments in their



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portfolios.

Introduction Sections of Market Risk Related Sections

The “Introduction” for all product areas related to market risk requires significant updating to better prepare examiners to identify all aspects of market risk. This section is very important since it functions as a training manual for examiners on the specifics of foreign exchange, fixed income and equity products. The advisors updated substantially the “Introduction” section for foreign exchange, interest rate risk, and investment securities sections. The additions, however, should not be considered a comprehensive training manual. Further additions are necessary on credit derivatives, equity instruments, and interest rate- and currency- swaps. *In order for bank examiners to conduct their work more expeditiously and successfully, the Central Bank should consider expending more time on the market risk sections of the manual in order to increase examiner’s foreign exchange and capital market product knowledge and to train incoming examiners.*

Objectives and Examination Procedures

New and separate examination objectives and procedures are recommended for the Interest Rate Risk section of the examination manual, since in the manual’s present form, liquidity risk and interest rate risk are in the same section. Interest rate risk is not given the attention it requires in view of its significance in banking operations and balance sheet management. The objectives of the Foreign Exchange Risk section are satisfactory, and only minor modifications were made. The procedures segment, however, was updated significantly to include more aspects of foreign exchange instruments. New examination objectives were also created for the Investment Securities section of the supervisory manual.

Internal Control Questionnaires

Minor modifications were made to the Foreign Exchange Risk section Internal Control Questionnaire. However, in the Interest Rate Risk section and the Investment Securities Internal Control Questionnaires, significant additions were made, especially to cover derivative and equity products. Proposed replacements for market risk aspects of the supervisory manual are in Appendix C3.

Review of Regulatory Reports

Connected Lending and Large Exposures

The Central Bank collects and monitors information on a sole borrower and his connected parties. However, no information is available on other risk concentrations (Large Exposures), and on credit risk exposure to a bank’s executive officers, principal



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shareholders and their connected parties (Connected Lending). Proposed regulatory returns were constructed and approved by middle management. They appear in Appendix D. They require banks to report their exposures and provide information on the size of their exposures relative to capital.

Market Risk

Most of the Central Bank regulatory returns capture significant information on interest rate, foreign exchange, and equity risk. Yet, no schedule exists to show examiners maturity and interest rates on loans, deposits, or debt instruments. Moreover, the Central Bank does not require banks to submit detailed and comprehensive information on off-balance sheet items such as derivatives. Proposed regulatory returns are in Appendix D.

Other Recommendations

While the scope of the advisors' work was to assist the Central Bank in strengthening certain aspects of Central Bank prudential regulations and supervision of banks in the areas of connected lending, large exposures and market risk assessment, the advisors were able to make some observations on other areas that need to be strengthened to improve examiners' contribution to the Central Bank and the Egyptian banking system. The observations are due to the advisors' analysis of the Law and supervisory materials, and as a result of meetings with Central Bank staff, commercial bankers and the Capital Markets Authority:

- 1 The Central Bank should consider instituting a framework of risk-based supervision for the entire on-site examination process;
- 2 The Central Bank would benefit in having a separate, comprehensive manual covering all aspects of market risk;
- 3 A management process should be instituted to ensure that the examination manual is updated on a periodic basis.

The entire training policy and process should be evaluated. While there is a program for newly hired examiners, and an examiner accreditation program, the existing program is weak in providing current training material or manuals, and in the management of on-going training programs. Recommendations include the following:

- 4 Training is needed for management to enhance its management and leadership capacity and for staff to develop experience and understanding of new international financial practices and instruments
- 5 Centralizing training materials and presentations is very much needed. All staff should have access to a shared file in the Central Bank's network to review training materials, presentations, and recommended web sites for continuing education



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- 6 Integrating knowledge from staff that attends training courses is valuable. Presently, when people attend training courses, there is no system or tradition to share the new knowledge with other colleagues.
- 7 Staff should get exposure and training at banks, securities firms, brokerage companies, and the Capital Markets Authority, so that they have practical experience very relevant to issues and financial instruments that they are examining.
- 8 All examiners and analysts should be trained in Microsoft Office or a similar office technology package to facilitate increased efficiency and productivity.



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APPENDIX A

RECOMMENDATIONS TO STRENGTHEN LAW NO. 88 OF THE YEAR 2003 FOR CONNECTED LENDING, LARGE EXPOSURES and MARKET RISK

1. Article 61 - Connected Lending (Loans to Insiders)

Certain types of loans should be available to all classes of insiders, provided the credit is granted as an arm's length transaction, has approval of the bank's board of directors, its performance is reported to the board, and it conforms to special credit limits imposed by the Law.

Article 61 should be amended to incorporate the following provisions:

- 1 All classes of insiders (directors, executive officers, principal shareholders and their connected parties) should be permitted to borrow from the bank.
- 2 Terms and creditworthiness - No bank may grant credit to any insider or connected party unless the credit is made on substantially the same terms (including interest rate and collateral) as, and following credit underwriting procedures that are not less stringent than, those prevailing at the time for comparable transactions by the bank with outside third parties; does not involve more than the normal risk of repayment, or present other unfavorable features. In other words, these transactions should be arm's length transactions.
- 3 Prior approval - no bank may grant credit of any type to an insider or connected party unless the loan has been approved in advance by the entire board of directors of the bank, or a designated committee thereof, and the insider has abstained from participating directly or indirectly in the voting.
- 4 Restrictions on loans to directors and executive officers - loans may be granted only to finance the education of their children; finance the purchase, construction, maintenance or improvement of their primary residence; or for any other purpose if the amount borrowed in the latter class does not exceed 2 percent of Tier I capital, but in no event more than LE 500,000. Total obligations of an individual director or executive officer to the bank, secured or unsecured, direct or indirect, cannot exceed 10 percent of the bank's Tier I capital.
- 5 Aggregate limit - credit risk exposure of a bank to all its insiders, secured or unsecured, direct or indirect, cannot exceed 75 percent of capital (Tier I).
- 6 Report to the Central Bank - each bank shall include in its prudential return the amount of all extensions of credit granted to all insiders in a manner specified by the Central Bank.
- 7 Recordkeeping -each bank shall segregate and maintain records of its credit exposure to insiders reflecting the status of each loan, and report the status of loans to the Board of Directors.



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2. Article 71 - Large Exposures (Lending Limit)

The Law as presently constructed is satisfactory in limiting the amount of credit to a group of affiliated (connected) parties. However, there is a gaping loophole such that the Law enables a bank to lend the same amount to the “sole customer” (single borrower) as it would to the affiliated group. International best practice has long recognized the necessity of imposing a lending limit on a single borrower, in addition to imposing limitations on exposure to affiliated groups.

It is impractical to subject other types of Large Exposures, such as advances to borrowers in the same industry, to law. Bank supervisors approach the issue of risk diversification by issuing supervisory policy to require banks to manage these concentrations of credit.

Article 71 should be amended to add a legal lending limit on loans to a single borrower that is less than the Large Exposure limit:

- 1 Loans to a single borrower - total advances loans and other forms of credit by a bank to a person (natural or legal) at any time shall not exceed 15 percent of Tier I capital and Provision for Loan Losses of the bank.

3. Market Risk

No article of the Law explicitly governs market risk, and none are recommended. A few articles cover aspects of foreign exchange from an operation and/or compliance perspective. Articles do not cover risk aspects posed by banks or their clients holding of foreign exchange, fixed income products, equities, or commodities. As stated above, the Central Bank is able to achieve its aim of mitigating banks’ risk by issuing policy statements and circulars. Article 77 empowers the Central Bank substantially in terms of the information that it can require from banks.

Article 36 briefly states that the Central Bank of Egypt and its Board of Directors may “authorize banks and branches of foreign banks whose dealing are restricted to free currencies, to deal in the local currency.”

Article 56, section B states that the Central Bank of Egypt's Board of Directors will set “the maximum limits of concentration of banks’ investments abroad.” Through policy statements, this article should clearly state that by having investments abroad, banks do incur market risk. Examiners should focus on knowing exactly what investments abroad banks have.

Article 112 emphasizes that the market forces of supply and demand shall determine exchange rates. However, it also states “rules and principles pertaining to the regulation of the foreign exchange market, supply and demand, shall be issued by decree of the



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Prime Minister upon a proposition of the Board of Directors of the Central Bank.” This means that proposing regulation of any aspects of the foreign exchange market would require Board of Director approval and then agreement and a decree by the Prime Minister. Hence, the Central Bank of Egypt should really be using policy statements as a more expeditious and efficient way of introducing positive changes to the foreign exchange market when needed.

Article 113 allows only Central Bank of Egypt authorized banks to transact in foreign exchange, including hedging positions.

Article 114-115 and 117 lay out the regulations of bureaux de change, the licensing process and the required amount of fully paid up capital. Article 116 explains the entry and exit of foreign currency for domestic and foreign travelers.



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APPENDIX B

RECOMMENDED POLICY STATEMENTS

1. Connected Lending

Central Bank of Egypt
Bank Supervision

Please mention number ___ when responding

To: The Chairman of the Board of Directors

Dear Sir:

Re: Connected Lending

I would like to refer to Article 61 of Law No. 88 of 2003 and accompanying Executive Regulations and Circulars, which describes prohibitions and restrictions relating to the granting of credit to bank insiders and their connected parties. This statement should be read in conjunction with the Law. It provides guidance in managing connected lending relationships. During examinations, the examination staff will review bank policy and practice to ensure adherence.

Purpose

To specify systems and controls that banks should have to identify, measure, monitor and control their financial exposure to connected parties.

Nature of Connected Lending Transactions

As a general rule, and in accordance with Egyptian Accounting Standards, all credits should be granted by a bank on an arm's length basis to protect the best interests of the bank. Article 61 of the Law limits advances to certain connected parties. This is to reduce the risk of improper or excessive lending to connected parties, which may jeopardize a bank's interests or is detrimental to its financial condition. Therefore, banks should monitor carefully their credits to connected parties, whether natural or legal persons, and take appropriate steps to control or reduce the risks of connected lending.

Banks should have a robust system of checks and balances to monitor compliance with the statutory limits, uphold impartiality and prevent credit activities which override established credit approval policies and procedures when granting credit facilities to connected parties. Banks should ensure that the terms and conditions of such lending are



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not more favorable than those granted to non-connected parties with similar background and creditworthiness.

The principle of impartiality and other standards laid down also should apply to other business transactions, such as the acquisition/sale of assets, management service contracts, or use of bank property, between banks and their connected parties. In each case for such transactions, the bank should be compensated by the insider or connected parties at market value.

Control over Connected Lending

The Board of Directors should ensure that it fully understands its responsibilities for connected lending. The Board should ensure that the bank establishes a policy on such lending. The policy, and any changes thereto, should be reviewed and approved by the Board. Connected lending should be reviewed and approved by the Board of Directors or a committee thereof with authority delegated by the Board. The Board should also receive regular reports on the amount and terms of outstanding Connected Loans.

The policy on connected lending should cover, at a minimum, the following:

- The types of lending that the bank considers to be connected in nature, which would include the classes of loans to executive officers and principal shareholders, and other types of lending or transactions the bank may wish to include;
- Maximum limits for credit granted to insiders and their connected parties;
- The interest rates and other terms and conditions that apply to the various types of connected lending. In general, these should not be more favorable than loans granted to non-connected borrowers under similar circumstances;
- The authority and procedures for approving connected loans, including the extent to which such loans should be subject to approval by the Board and to review by the Board or other committee.
- The arrangements for reporting Connected Lending to the Central Bank and for ensuring the accuracy of such reports; and,
- The arrangements for ensuring compliance with this Executive Regulation and the bank's policy on Connected Lending, including the specific officers responsible for this.

Banks should have adequate information systems to measure their connected exposures and identify exceptions. The list of connected parties should be updated regularly. Any exceptions should be reported promptly to the Board of Directors.

Internal Audit should conduct regular reviews on this particular area to check whether established policies, limits and procedures in relation to connected lending are strictly adhered to. As an additional safeguard, it may be advisable for banks to centralize



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connected lending at the head office so that it can be more effectively monitored and controlled.

Loans to Executive Officers, Principal Shareholders and their Connected Parties that are not treated in accordance with this Executive Regulation are subject to having these advances and loans deducted from the bank's capital for capital adequacy purposes, and may be subject to fines.

2. Large Exposures

Central Bank of Egypt
Bank Supervision

Please mention number ____ when responding

To: The Chairman of the Board of Directors

Dear Madam/Sir:

Re: Large Exposures

Credit risk exposure to an affiliated or connected group represents only one form of a large exposure a bank may have in its risk portfolios, but it is by no means the only one. However, it is the only Large Exposure restricted by law, as banks may not grant credit to a sole borrower and his connected parties in excess of 30 percent of its capital base. This statement provides banks with guidance in the management of their Large Exposures, or concentrations of credit. During on-site examinations, the examination staff will review each bank's policies and procedures relative to its management of Large Exposures.

Purpose

To set out the minimum standards and requirements that banks are expected to follow in relation to controls on Large Exposures and risk concentrations.

Application

To all banks incorporated in Egypt. For banks incorporated outside of Egypt, the overall supervision of Large Exposures and risk concentrations is expected to be the responsibility of their home country supervisor. They are, however, required to report the Large Exposures of their Egyptian operations to the Central Bank in a manner so designated by it.



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Introduction

Failure to adhere to the standards and requirements in this statement may indicate that a bank does not have adequate systems to control its Large Exposures and carry out its business in a prudent manner. Non-compliance may also constitute a ground for the Central Bank to impose a higher minimum capital adequacy ratio on the bank.

Any exposure to a counterparty or a group of related counterparties which is greater than or equals 30 percent of a bank's capital base is regarded as a Large Exposure.

Forms of Risk Concentration

Risk concentration can be viewed as any exposure with the potential to produce losses that are substantial enough to threaten a bank's capital strength or earnings or otherwise undermine public confidence in the bank. It can take many forms, including exposures to particular types of assets, (interest in land or shares), individual counterparties, groups of related counterparties and counterparties in specific geographical locations, economic or industrial sectors.

Statutory Limitations on Exposures and Risk Concentrations

Article 71 of Law No. 88 restricts exposures to a counterparty and his connected parties to 30 percent of capital (Tier I and Tier II). No other risk concentrations are restricted by law or regulation.

Controls over Large Exposures and Risk Concentrations

The Board of Directors should ensure that it fully understands its responsibilities in relation to the limitations on Large Exposures and Risk Concentrations. The Board should ensure that the bank establishes a policy on the control of Large Exposures and Risk Concentrations. The policy, and any changes thereto, should be reviewed and approved by the Board. The Board should be responsible for ensuring that the bank establishes appropriate procedures and systems to identify, measure and control Large Exposures and Risk Concentrations and to monitor compliance with the approved policy. The Board should ensure that Large Exposures are approved by the appropriate level of management in the bank. The Board should receive regular reports to facilitate its review of the bank's Large Exposures and Risk Concentrations.

The details that should be included in the policy on Large Exposures depend on the nature of a bank's business and its scale of operations. Nevertheless, the policy should cover as a minimum the following:

- 1 The definition of a Large Exposure. Banks should take into account the nature of their business and the complexity of their products. In any case, a bank's exposure should include its direct and indirect exposures. Exposures arising



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- from securities, foreign exchange or other off-balance sheet exposures also should be captured;
- 2 Criteria to be used for identifying a group of related or affiliated persons.
 - 3 The individual and aggregate exposure limits established by the bank for various types of counterparty (governments, banks, corporate and individual borrowers).
 - 4 The aggregate maximum exposure limits established by the bank for an industry, an economic sector, a country, a region or a group of borrowers which have a similar or homogenous risk;
 - 5 The delegation of credit authority with the bank for approving Large Exposures;
 - 6 The circumstances in which prescribed limits can be exceeded and the party authorized to approve such excesses, such as the Board of Directors or a committee with delegated authority from the Board;
 - 7 The procedures for identifying, reviewing, monitoring and controlling Large Exposures; and
 - 8 The allocation of responsibility for reporting Large Exposures to the Central Bank accurately and in a timely manner.

Banks should have a central liability record for each Large Exposure. Banks should be able to monitor such exposures against statutory and prescribed internal limits on a frequent, periodic basis. Every bank should have adequate management information and reporting systems that enable management to identify Large Exposures within the asset portfolio of the bank on a timely basis.

Banks should maintain regular and independent checks on the adequacy of controls over Large Exposures and on compliance with relevant internal policies and applicable laws or regulatory requirements. Banks should ensure that their internal or external auditors conduct a regular review of the quality of Large Exposures and controls to monitor these exposures. Their review should ascertain whether:

- 1 The bank's relevant policies, limits and procedures are complied with; and
- 2 The existing policies and controls remain adequate and appropriate for the bank's business.

There should also be an independent compliance function to ensure that all relevant internal and statutory requirements and limits are complied with. Breaches of established policies and limits should be reported to the Board of Directors in a timely manner.

Banks are required to report their Large Exposures in a manner and with a frequency required by the Central Bank. Where necessary, the Central Bank may require particular banks to adhere to different reporting requirements relative to their Large Exposures.



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3. **Market Risk**

Central Bank of Egypt
Bank Supervision

Please mention number ____ when responding.

Re: Market Risk

Dear Madam/Sir,

I would like to refer to Circular “Market Risk,”

With market risk increasingly becoming more important, we are issuing this circular, detailing best practices, as a reminder to banks. During examinations, the central bank staff will review market risk related information to ensure adherence to the bank’s policy and procedures.

Purpose

To set out the minimum standards and requirements that banks are expected to follow in relation to controls on Market Risk.

Introduction

Market risk is the potential that changes in the market prices of an institution’s holdings may have an adverse effect on its financial condition. The four most common market-risk factors are interest rates, foreign-exchange rates, equity prices, and commodity prices. The market risk of both individual financial instruments and portfolios of instruments can be a function of one, several, or all of these basic factors and, in many cases, can be significantly complex. The market risks arising from positions with options, either explicit or embedded in other instruments, can be especially complex and difficult to manage. Banks should ensure that they adequately measure, monitor, and control the market risks involved in their trading activities.

Market Risk Management Process

Active oversight by the institution’s Board of Directors and relevant senior management is critical to a sound risk-management process. The Board of Directors should ensure that relevant senior management is aware of its responsibilities and that it adequately performs its appropriate role in overseeing and managing the risks associated with trading and non-trading activities involving foreign exchange instruments, fixed income and equity securities and derivative instruments on these asset classes.



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The Board of Directors has the ultimate responsibility for the level of risk taken by the institution. Accordingly, the Board should approve overall business strategies and significant policies that govern risk-taking, including those involving foreign exchange, securities and derivative contracts. In particular, the Board should approve policies identifying managerial oversight and articulating risk tolerances and exposure limits for foreign exchange instruments, securities and derivative activities.

The Board should also actively monitor the performance and risk profile of the institution and its various foreign exchange, securities and derivative portfolios. Directors should periodically review information that is sufficiently detailed and timely to allow them to understand and assess the credit, market, and liquidity risks facing the institution as a whole and its foreign exchange, securities and derivative positions in particular.

These reviews should be conducted at least quarterly and more frequently when the institution holds significant positions in complex instruments. In addition, the Board should periodically reevaluate the institution's business strategies and significant risk-management policies and procedures, placing special emphasis on the institution's financial objectives and risk tolerances. The minutes of Board meetings and accompanying reports and presentation materials should clearly demonstrate the board's fulfillment of these basic responsibilities.

The measurement of market risk should take due account of hedging and diversification effects and should recognize generally accepted measurement techniques and concepts. Although several types of approaches are available for measuring market risk, institutions have increasingly adopted the "value-at-risk" approach for their trading operations. Regardless of the specific approach used, risk measures should be sufficiently accurate and rigorous to adequately reflect all of an institution's meaningful market risk exposure and should be adequately incorporated into the risk-management process.

Controls over Market Risk

Interest Rate Risk

Interest-rate risk is the potential that changes in interest rates may adversely affect the value of a financial instrument or portfolio, or the condition of the institution as a whole. Although interest-rate risk arises in all types of financial instruments, it is most pronounced in debt instruments, derivatives that have debt instruments as their underlying reference asset, and other derivatives whose values are linked to market interest rates. In general, the values of longer-term instruments are often more sensitive to interest-rate changes than the values of shorter term instruments.

Effective Board and senior management oversight of the bank's interest rate risk activities is the cornerstone of an effective risk management process. It is the



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responsibility of the board and senior management to understand the nature and level of interest rate risk being taken by the bank and how that risk fits within the overall business strategies of the bank and the mechanisms used to manage that risk. Effective risk management requires an informed board, capable management, and appropriate staffing.

For its part, a Board of Directors has four broad responsibilities. It must:

- **Establish and guide the bank's strategic direction and tolerance** for interest rate risk and identify the senior managers who have the authority and responsibility for managing this risk.
- **Monitor the bank's performance and overall interest rate risk profile**, ensuring that the level of interest rate risk is maintained at prudent levels and is supported by adequate capital. In assessing the bank's capital adequacy for interest rate risk, the board should consider the bank's current and potential interest rate risk exposure as well as other risks that may impair the bank's capital, such as credit, liquidity, and transaction risks.
- **Ensure that the bank implements sound fundamental principles** that facilitate the identification, measurement, monitoring, and control of interest rate risk.
- **Ensure that adequate resources are devoted** to interest rate risk management. Effective risk management requires both technical and human resources. Senior management is responsible for ensuring that interest rate risk is managed for both the long range and day to day. In managing the bank's activities, senior management should:
 - **Develop and implement procedures and practices** that translate the Board's goals, objectives, and risk tolerances into operating standards that are well understood by bank personnel and that are consistent with the Board's intent.
 - **Ensure adherence to the lines of authority and responsibility** that the Board has established for measuring, managing, and reporting interest rate risk exposures.
 - **Oversee the implementation and maintenance of management information and other systems** that identify, measure, monitor, and control the bank's interest rate risk.
 - **Establish effective internal controls** over the interest rate risk management process.

Risk Measurement

Accurate and timely measurement of interest rate risk is necessary for proper risk management and control. A bank's risk measurement system should be able to identify and quantify the major sources of the bank's interest rate risk exposure. The system also should enable management to identify risks arising from the bank's customary activities



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and new businesses. The nature and mix of a bank's business lines and the interest rate risk characteristics of its activities will dictate the type of measurement system required. Such systems will vary from bank to bank.

Every risk measurement system has limitations, and systems vary in the degree to which they capture various components of interest rate exposure. Many well-managed banks will use a variety of systems to fully capture all of their sources of interest rate exposure. The three most common risk measurement systems used to quantify a bank's interest rate risk exposure are repricing maturity gap reports, net income simulation models, and economic valuation or duration models.

Foreign Exchange Risk

Foreign-exchange risk is the potential that movements in exchange rates may adversely affect the value of an institution's holdings and, thus, its financial condition. Foreign-exchange rates can be subject to large and sudden swings, and understanding and managing the risk associated with exchange-rate volatility can be especially complex. Although it is important to acknowledge exchange rates as a distinct market-risk factor, the valuation of foreign-exchange instruments generally requires knowledge of the behavior of both spot exchange rates and interest rates.

The Board of Directors and senior bank management must fully understand the risks involved in foreign exchange and money market operations and must establish, in writing, its goals and policies regarding those risks. Management must be able to defend logically the basis upon which such policies are formed. It is imperative that responsible officers, traders, clerks and auditors fully understand the intent as well as the detail set forth in those directives.

At a minimum, policies should define dealing limits and reporting requirements as well as accounting and audit and control systems to provide for proper surveillance over those limits and exceptions thereto. Limits must be established for overnight net positions in each currency. Depending on the size of the limits and the manner in which they are calculated, a smaller aggregate position limit for all currencies may be desirable. An aggregate limit should not permit the netting of short against long positions, but should require that they be added to determine conformance to that limit. Many banks consider whether to establish daylight (intraday) position limits only if efficient computerization and input systems are in effect to incorporate each trade into the appropriate currency position at nearly the precise moment it is transacted.

Gap (net inflow and outflow) limits must be instituted to control the risk of adverse rate movement and liquidity pressures for each currency for each daily, weekly, and biweekly future time frame designated in the bank's maturity reports. Such limits might range from stated absolute amounts for each time frame to weighted limits, which emphasize



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increasing rate movement exposure applicable to the relative distance into the future in which the gap appears. Aggregate trading and placement limits must be established for each customer, based primarily on the amount of business considered to be appropriate to its creditworthiness and, secondly, on the volume of its foreign currency needs. In addition, absolute sub-limits should be placed upon the amount of that customer's business, which may be settled on one day.

Reporting

Properly designed reports are the most important supervisory tool available to management. They must be prepared in a concise, uniform and accurate manner and submitted punctually. Management should receive daily net position reports for each currency traded. Normally, position reports should include all foreign currency balance sheet items and future contracts as well as after hour and holdover transactions, excepting fixed assets and equity investments. The hedging of those investments is usually a management decision outside the normal responsibility of the traders. The reports should be prepared by the foreign exchange and money market bookkeeping section and reconciled daily to the trader's blotter. In the event that formal position reports cannot be submitted at the end of a business day, management should be apprised of the traders estimated position at the end of each day and especially before weekends and holidays.

Gap or maturity reports are essential to the proper management of a bank's liquidity in each foreign currency and significant maturity gaps may affect overall liquidity. Those reports should show daily gaps for at least the first two weeks to one month. Beyond that time, gap periods of a maximum of two weeks each are preferred. Gap reports are generally accurate only for the day on which they are prepared. Therefore, it is essential that banks have the capability to produce detailed management reports daily.

Investment Securities: Fixed Income and Equities

Fixed income instruments and derivatives on these instruments give rise to interest rate risk, which is described above.

Equity Risk

Equity-price risk is the potential for adverse changes in the value of an institution's equity related holdings. Price risks associated with equities are often classified into two categories: general (or undiversifiable) equity risk and specific (or diversifiable) equity risk.

“General equity-price risk” refers to the sensitivity of an instrument's or portfolio's value to changes in the overall level of equity prices. As such, general risk cannot be reduced by diversifying one's holdings of equity instruments. Many broad equity indexes, for example, primarily involve general market risk.



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Specific equity-price risk refers to that portion of an individual equity instrument's price volatility that is determined by the firm-specific characteristics. This risk is distinct from market wide price fluctuations and can be reduced by diversification across other equity instruments. By assembling a portfolio with a sufficiently large number of different securities, specific risk can be greatly reduced because the unique fluctuations in the price of any single equity will tend to be canceled out by fluctuations in the opposite direction of prices of other securities, leaving only general-equity risk.

Oversight

Fixed Income and Equity investment activities require the active oversight of the Board of Directors and senior management of the depository institution that is conducting the private equity investment activities. The Board should approve portfolio objectives, overall investment strategies, and general investment policies that are consistent with the institution's financial condition, risk profile, and risk tolerance. Portfolio objectives should address the types of investments, expected business returns, desired holding periods, diversification parameters, and other elements of sound investment-management oversight. Board approved objectives, strategies, policies, and procedures should be documented and clearly communicated to all the personnel involved in their implementation. The Board should actively monitor the performance and risk profile of fixed income and equity investment business lines in light of the established objectives, strategies, and policies.

The Board also should ensure that there is an effective management structure for conducting the institution's fixed income and equity activities, including adequate systems for measuring, monitoring, controlling, and reporting on the risks of these investments. The board should approve policies that specify lines of authority and responsibility for both acquisitions and sales of investments. The board should also approve (1) limits on aggregate investment and exposure amounts; (2) the types of investments (for example, direct and indirect, mezzanine financing, start-ups, seed financing); and (3) appropriate diversification-related aspects of fixed income and equity investments such as duration, currency, industry, sector, and geographic concentrations.

Supervision of Market Risk

The Central Bank of Egypt is re-evaluating its approach to the supervision of the management of market risk in banks including its own examination process. Central Bank of Egypt examiners will be reviewing and assessing each bank's management of market risk with the points outlined in this circular in mind.



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APPENDIX C

RECOMMENDED EXAMINATION PROCEDURES

1. Connected Lending

The Central Bank lacks a set of examination procedures that focus on the issues related to Connected Lending. These recommended procedures fill this void.

Introduction

Studies of bank failures have found insider abuse and fraud, high percentages of poor quality loans to insiders and their connected parties and excessive loans to them to be factors contributing to failure. The presence of insider abuse can create an environment conducive to further abusive practices and indicates the need for stronger internal controls in banks to reduce their vulnerability to such actions. Bank insiders are defined as directors, executive officers, principal shareholders (10 percent or more equity ownership in the bank), and their connected parties (as defined in Articles 51 and 56 of the Central Bank, Law No. 88, June 15, 2003).

Bank “insiders” generally are executive officers, directors, principal shareholders that are natural persons, and their connected parties. Banks may engage in business transactions with insiders (other than directors) under certain restrictions contained in law and regulation provided the transactions:

- 1 Are legal;
- 2 Benefit both the insider, as a customer, and the bank; and
- 3 Pose no ethical questions or conflicts of interest.

Bank insiders have positions of responsibility and leadership in the community and must be careful to avoid even the appearance of conflict of interest. They can do this by making sure that their transactions reflect the same terms and conditions offered to other bank customers. Transactions involving insiders must show no compromise of the bank’s interests.

All transactions with insiders must be made on substantially the same terms as those afforded other bank customers to avoid even the appearance of preferential treatment. Examiners should be alert to situations that can lead to abuses. For example, management and other fees paid to shareholders or insider-related organizations, or any profits obtained by insiders from asset sales or purchases, or other transactions with the



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bank are areas in which abuses may arise. Situations that should be looked a closely include:

- 1 Excessive salaries and bonuses
- 2 Excessive director's fees
- 3 Fees paid when there is no benefit to the bank
- 4 Fees paid for services not yet received
- 5 Fees established solely to meet a shareholder's or insider-related organization's need for funds
- 6 Extensions of credit granted on more favorable terms - lower interest rates charges, lax underwriting standards, and/or extended maturities.
- 7 Deposits accepted on more favorable terms - higher interest rates

As a general rule, such practices are unsafe and unsound because they dissipate profits and capital and can harm the bank and the financial interests of other shareholders.

Sound policies and procedures can help a bank prevent and detect inappropriate insider activities before they become abusive. Effective policies and procedures include:

- 1 Having and following a written insider policy
- 2 Regularly reviewing systems to check for compliance with internal policies and banking laws and regulations
- 3 Properly supervising bank officers and their departments
- 4 Keeping records that document the substance of insider transactions

Banks should have sound information systems. Sound management information systems should produce the information necessary to assess compliance with insider statutes, including aggregating extensions of credit to insiders and their connected parties, and help prevent problems caused by errors or omissions. Proper recordkeeping is essential for management to properly monitor insider lending and file accurate prudential returns. Audit testing of the integrity and completeness of the information systems is necessary to ensure accuracy.

Examination Objectives

1. To ensure the bank has policies, management information systems, and controls that enable management to accurately comply with laws and regulations, and to operate the bank in a safe and sound manner.
2. To determine if the bank is complying with established laws and regulations.
3. To determine the quality and effectiveness of the bank's insider policies and procedures, and to assess the bank's vulnerability to insider abuse.



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4. To initiate corrective action when policies, practices, procedures or internal controls are deficient or when violations of law or Central Bank of Egypt directives have been noted.

Examination Procedures

1. Complete or update the Internal Control Questionnaire
2. Based upon the evaluation of internal controls and the work performed by internal/external auditors, determine the scope of the examination. Select among the following examination procedures those steps that are necessary to evaluate the bank's insider activities.
3. Test for compliance with policies, practices, procedures and internal controls in conjunction with performing the selected examination procedures. Also obtain a listing of any deficiencies noted in the latest review done by internal/external auditors from the examiner assigned "Internal and External Audits," and determine if corrections have been accomplished.
4. Obtain the following documents or, if appropriate, review the information with the examiner assigned the relevant area:
 - A brief summary of the board of directors minutes dealing with insider transactions
 - A list of executive officers, including: name; title; date person became an executive officer; connected parties
 - A list of directors, including: name; date elected to the board; connected parties.
 - A list of extensions of credit (including commitments) to directors, executive officers, principal shareholders and their connected parties describing: complete name of obligor; type of entity (individual, partnership, corporation, etc.); name of insider related to the obligor; nature of obligation (signor on note, guarantor, etc.); original date, amount and purpose of loan or commitment; current balance; terms, including interest rate, maturity date and collateral; status of loans (delinquent, renegotiated, current, etc.); and date reported to or approved by the board.
5. A list of shareholders with more than 5 percent ownership including: shareholder name; date the person became a principal shareholder; number of shares owned; connected parties.
6. A list of extensions of credit to executive officers, principal shareholders, and connected parties, including: name and title of borrower; original date, amount and purpose of loan; present outstanding balance; repayment terms; interest rate,



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- maturity date and any collateral.
7. A report of fees and dividends paid to shareholders or other insider-related organizations.
 8. From the materials gathered above, select a representative sample of insider borrowings. If applicable, this sample also may be selected from loans identified by the internal auditors, compliance officer or internal loan review, which will also help verify the accuracy and completeness of their findings.
 9. Using the sample drawn above, review loan terms, including interest rates and collateral, and assess whether the credits:
 - Are made on terms no more favorable than those available at the same time to non-insiders for comparable transactions
 - Carry no more than a normal risk of failure to repay
 - Have no other unfavorable features
 10. Determine whether loans to any individual insider and/or connected party exceed the bank's prescribed lending limits, whether individually or on an aggregate basis.
 11. Review other transactions with insiders:
 - 1 Purchases or sales of property between the bank and an insider to determine if they are on terms that are not less favorable to the bank than those available to other parties
 - 2 Fees paid by the bank to determine if they have a direct relationship to the fair value of goods and services received and compensate the insider (servicer) only for providing goods and services that meet the legitimate needs of the bank
 - 3 Determine if bank insiders use bank-owned property for purposes other than bank business
 12. Summarize conclusions about insider activities, focusing on: the bank's policies, management information systems, controls and their impact on the bank's capacity to operate in a safe and sound manner; compliance with established laws and regulations; the quality and effectiveness of the bank's insider policy and procedures; and corrective action needed for deficient policies, practices, procedures, internal controls or violations of law.
 13. Discuss the following with management: violations of laws, regulations or significant internal control deficiencies, with particular focus and emphasis on the causes; recommended corrective action for deficiencies noted; the bank's commitment to and understanding of the need, if any, for specific actions for correcting deficiencies.



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14. Prepare appropriate comments for inclusion in the report of examination and discuss them with the examiner assigned "Loan Portfolio Management."
15. Complete or update working papers.

Internal Control Questionnaire

- 1 Has the bank adopted a written insider policy that seeks to avoid both the existence and appearance of conflicts of interest?
- 2 Does the policy address:
 1. Disclosure to the board of each insider's connected parties and transactions between the bank, the insider and connected parties
 2. Abstention by insiders from the approval process on any transaction in which the insider may benefit directly or indirectly from the decision
 3. Communication of the circumstances and conditions under which the bank may enter insider transactions
 4. Communication of the circumstances and conditions under which the bank will make the use of its facilities, real or personal property or personnel available to insiders
 5. Requirements for arms-length transactions with insiders, or insider-related organizations, or vendors who are also customers of the bank
- 3 Does the bank periodically review its insider policy to ensure it reflects any changes in laws or regulations?
 1. Do insiders have copies of the document
 2. Is the policy clear and effective in its communication
 3. Does the policy require affected personnel to acknowledge reading the policy, including updates, and abide by its terms
- 4 Does the bank's information systems:
 1. Maintain current records of insiders and their connected parties
 2. Contain information on terms, including interest rates, for extensions of credit to insiders
 3. Include commitments and guarantees
 4. Show compliance with bank policies.
- 5 Is the foregoing information considered an adequate basis for evaluating internal controls in that there are no significant additional internal auditing procedures, accounting controls, administrative controls or other circumstances that impair any controls or mitigate any weaknesses indicated above?
- 6 Based on a composite evaluation, as evidenced by answers to the foregoing questions, internal control is considered _____(good, medium, bad).



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2. Large Exposures (Concentrations of Credit)

Examination procedures contained in the examination manual and utilized by the Central Bank's examiners are satisfactory, and no modifications to existing practice are deemed necessary. However, the "Introduction" requires updating to reinforce the concept that Large Exposures involve more than credit exposure to a related group of persons, and that the risk to a bank is as high for these other types of concentrations as it is for a connected group.

Introduction

Large Exposures, or concentrations of credit as they are commonly referred to, generally consists of direct or indirect extensions of credit and contingent liabilities that, when aggregated, exceed 30 percent of the bank's capital structure (Tier I capital and the provision for loan losses). A concentration exists when the extensions of credit or other obligations possess similar risk characteristics. Typically, loans to related groups of borrowers, loans collateralized by a single security or securities with common characteristics, and loans to borrowers with common characteristics within an industry have been included in homogenous risk groupings when assessing asset concentrations. Furthermore, a Large Exposure may include the aggregate of all types of credit to or investment in a particular homogenous risk grouping.

Limitations imposed by the government by Article 71 of Law No. 88 are intended to prevent a group of related natural or legal persons from borrowing an undue amount of the bank's resources and to safeguard the bank's depositors by spreading the loans among a relatively large number of persons engaged in different businesses. However, limits of this nature are not sufficient to prevent and control concentrations of credit. Policy guidance for risk diversification should be formulated in conformity with both legal restrictions and prudent credit originations. Bank management must recognize the various types of concentrations and implement systems to retrieve the information necessary to monitor and report concentrations. The Central Bank expects bank management to identify, measure, monitor and control Large Exposures of all kinds.

There are numerous possibilities to determine concentrations within a loan portfolio. In evaluating a potential concentration, it is important to determine the key factors that are common to the credits. Concentrations that are commonly identified in a loan portfolio include the following:

- 1 Loans to a group of borrowers, perhaps unrelated, predicated on the collateral support afforded to the credits.
- 2 Loans dependent on a particular agricultural crop or livestock herd. Banking institutions located in agricultural areas may grant most of their loans to



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individuals or concerns engaged in and dependent on the agricultural industry. Large Exposures of this type are commonplace and may be necessary if these bans are to adequately serve the needs of their community.

- 3 Loans to groups of borrowers who handle a product from the same industry. Although the borrowers may appear to be independent from one another, their financial conditions may be affected similarly if a slowdown occurs in their economic sector.

Concentrations may also occur in banks located in towns that are economically dominated by one or only a few business enterprises. In these situations, banks may extend a substantial amount of credit to these companies and to a large percentage of the companies' employees. If economic or other events cause the enterprise's operations to slow down or stop, heavy unemployment may result. Groups or classes of real estate loans should be combined and viewed as a concentration when they share significant common characteristics and are similarly affected by adverse economic, financial or business development conditions.

The examiner should understand and evaluate the effectiveness of the internal policies, systems and controls that an institution uses to monitor and manage the risk associated with asset concentrations. Every bank should maintain adequate records that may be used to identify Large Exposures. The accuracy of these listed concentrations, and the appropriateness of concentrations, should be verified during the examination.

Banks with asset concentrations are expected to have in place effective policies, systems and internal controls to monitor and manage this risk. The bank's board of directors is responsible for establishing appropriate risk parameters and for monitoring exposure, as well as for evaluating the methods used by management to manage and control concentration risk. Concentrations that involve excessive or undue risks require close scrutiny by the bank and should be reduced over a reasonable period of time. Banking organizations with a need to reduce Large Exposures are normally expected to develop a plan that is realistic, prudent and achievable in view of their particular circumstances.

The purpose of a bank's policies should be to improve the overall quality of its portfolio. Banks that have effective internal controls to manage Large Exposures need not automatically refuse credit to sound borrowers because of their particular industry or geographic location. Furthermore, the bank may be able to reduce the risk associated with the concentration through the strengthening of individual credits. For example, the bank may be able to obtain additional collateral or guarantees. In the event of deterioration, the bank's position would be improved because the additional collateral or guarantees provide a cushion against losses.

When Large Exposures have been built up over an extended period, it may take time, in some cases several years, to achieve a more balanced and diversified portfolio mix. In view of the bank's trade area, lack of economic diversity, or geographic location,



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reducing the existing Large Exposures may not be achievable. If such a concentration does exist, the bank should have adequate systems and controls for managing undue or excessive concentrations in accordance with a prudent plan. Strong credit policies and loan administration standards should provide adequate control for the risks associated with new loans. The bank should also maintain adequate capital to protect the institution. For identified Large Exposures, bank management should be aware of not only the particular company's or industry's recent trends, but also of its future prospects.



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3. Market Risk

a. Interest Rate Risk (Funds Management Section)

INTRODUCTION

Interest-rate risk (IRR) is the exposure of an institution's financial condition to adverse movements in interest rates. Accepting this risk is a normal part of banking and can be an important source of profitability and shareholder value. However, excessive levels of IRR can pose a significant threat to an institution's earnings and capital base. Accordingly, effective risk management that maintains IRR at prudent levels is essential to the safety and soundness of banking institutions.

Evaluating an institution's exposure to changes in interest rates is an important element of any full-scope examination and, for some institutions, may be the sole topic for specialized or targeted examinations. Such an evaluation includes assessing both the adequacy of the management process used to control IRR and the quantitative level of exposure. When assessing the IRR management process, examiners should ensure that appropriate policies, procedures, management information systems, and internal controls are in place to maintain IRR at prudent levels with consistency and continuity.

Evaluating the quantitative level of IRR exposure requires examiners to assess the existing and potential future effects of changes in interest rates on an institution's financial condition, including its capital adequacy, earnings, liquidity, and, where appropriate, asset quality. To ensure that these assessments are both effective and efficient, examiner resources must be appropriately targeted at those elements of IRR that pose the greatest threat to the financial condition of an institution. This targeting requires an examination process built on a well-focused assessment of IRR exposure before the on-site engagement, a clearly defined examination scope, and a comprehensive program for following up on examination findings and ongoing monitoring. This section provides examiner guidance for assessing both the adequacy of an institution's IRR management process and the quantitative level of its IRR exposure. The section begins with a description of the sources and effects of IRR, followed by a discussion of sound practices for managing IRR. The section then outlines examination considerations in assessing the quantitative level of IRR exposure.

Finally, the section discusses key elements of the examination process used to assess IRR including the role and importance of a pre-examination risk assessment, proper scoping of the examination, and the testing and verification of both the management process and internal measures of the level of IRR exposure.



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SOURCES AND EFFECTS OF IRR

As financial intermediaries, banks encounter IRR in several ways. The primary and most discussed source of IRR is differences in the timing of the repricing of bank assets, liabilities, and off-balance-sheet (OBS) instruments. Repricing mismatches are fundamental to the business of banking and generally occur from either borrowing short-term to fund longer-term assets or borrowing long-term to fund shorter-term assets. Such mismatches can expose an institution to adverse changes in both the overall level of interest rates (parallel shifts in the yield curve) and the relative level of rates across the yield curve (nonparallel shifts in the yield curve).

Another important source of IRR, commonly referred to as basis risk, is the imperfect correlation in the adjustment of the rates earned and paid on different instruments with otherwise similar repricing characteristics (for example, a three-month Treasury bill versus a three-month LIBOR). When interest rates change, these differences can change the cash flows and earnings spread between assets, liabilities, and off-balance sheet instruments of similar maturities or repricing frequencies.

An additional and increasingly important source of IRR is the options in many bank asset, liability, and OBS portfolios. An option provides the holder with the right, but not the obligation, to buy, sell, or in some manner alter the cash flow of an instrument or financial contract. Options may be distinct instruments, such as exchange-traded and over-the-counter contracts, or they may be embedded within the contractual terms of other instruments. Examples of instruments with embedded options include bonds and notes with call or put provisions (e.g., callable U.S. agency notes), loans that give borrowers the right to prepay balances without penalty (e.g., residential mortgage loans), and various types of nonmaturity deposit instruments that give depositors the right to withdraw funds at any time without penalty (e.g., core deposits). If not adequately managed, the asymmetrical payoff characteristics of options can pose significant risk to the banking institutions that sell them. Generally, the options, both explicit and embedded, held by bank customers are exercised to the advantage of the holder, not the bank. Moreover, an increasing array of options can involve highly complex contract terms that may substantially magnify the effect of changing reference values on the value of the option and, thus, magnify the asymmetry of option payoffs.

Effects of IRR

Repricing mismatches, basis risk, options, and other aspects of a bank's holdings and activities can expose an institution's earnings and value to adverse changes in market interest rates. The effect of interest rates on accrual or *reported earnings* is the most common focal point. In assessing the effects of changing rates on earnings, most banks focus primarily on their net interest income—the difference between total interest income and total interest expense. However, as banks have expanded into new activities to generate new types of fee-based and other non-interest income, a focus on overall net



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income is becoming more appropriate. The noninterest income arising from many activities, such as loan servicing and various asset securitization programs, can be highly sensitive to changes in market interest rates. As noninterest income becomes an increasingly important source of bank earnings, both bank management and supervisors need to take a broader view of the potential effects of changes in market interest rates on bank earnings.

Market interest rates also affect the *value* of a bank's assets, liabilities, and OBS instruments and, thus, have a direct effect on the value of an institution's equity capital. The effect of rates on the *economic value* of an institution's holdings and equity capital is a particularly important consideration for shareholders, management, and supervisors alike. The economic value of an instrument is an assessment of the present value of its expected net future cash flows, discounted to reflect market rates.

By extension, an institution's economic value of equity (EVE) can be viewed as the present value of the expected cash flows on assets minus the present value of the expected cash flows on liabilities plus the net present value of the expected cash flows on OBS instruments. Economic values, which may differ from reported book values due to International Accounting Standards accounting conventions, can provide a number of useful insights into the current and potential future financial condition of an institution. Economic values reflect one view of the ongoing worth of the institution and can often provide a basis for assessing past management decisions in light of current circumstances. Moreover, economic values can offer comprehensive insights into the potential future direction of earnings performance since changes in the economic value of an institution's equity reflect changes in the present value of the bank's future earnings arising from its current holdings. Generally, commercial banking institutions have adequately managed their IRR exposures and few have failed solely as a result of adverse interest-rate movements. Nevertheless, changes in interest rates can have negative effects on bank profitability and must be carefully managed, especially given the rapid pace of financial innovation and the heightened level of competition among all types of financial institutions.

SOUND IRR MANAGEMENT PRACTICES

As is the case in managing other types of risk, sound IRR management involves effective board and senior management oversight and a comprehensive risk-management process that includes the following elements:

- effective policies and procedures designed to control the nature and amount of IRR, including clearly defined IRR limits and lines of responsibility and authority
- appropriate risk-measurement, monitoring, and reporting systems
- systematic internal controls that include the internal or external review and/or



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audit of key elements of the risk-management process

The formality and sophistication used in managing IRR depends on the size and sophistication of the institution, the nature and complexity of its holdings and activities, and the overall level of its IRR. Adequate IRR management practices can vary considerably. For example, a small institution with noncomplex activities and holdings, a relatively short-term balance-sheet structure presenting a low IRR profile, and senior managers and directors who are actively involved in the details of day-to-day operations may be able to rely on relatively simple and informal IRR management systems.

More complex institutions and those with higher interest-rate risk exposures or holdings of complex instruments may require more elaborate and formal IRR management systems to address their broader and typically more complex range of financial activities, as well as provide senior managers and directors with the information they need to monitor and direct day-to-day activities. The more complex interest rate risk management processes often employed at these institutions may require more formal internal controls, such as internal and external audits, to ensure the integrity of the information senior officials use to oversee compliance with policies and limits.

Individuals involved in the risk-management process should be sufficiently independent of business lines to ensure adequate separation of duties and avoid potential conflicts of interest. The degree of autonomy these individuals have may be a function of the size and complexity of the institution. In smaller and less complex institutions with limited resources, it may not be possible to completely remove individuals with business-line responsibilities from the risk management process. In these cases, focus should be directed towards ensuring that risk management functions are conducted effectively and objectively. Larger, more complex institutions may have separate and independent risk management units.

Board and Senior Management Oversight

Effective board and senior management oversight of the bank's interest rate risk activities is the cornerstone of an effective risk management process. It is the responsibility of the board and senior management to understand the nature and level of interest rate risk being taken by the bank and how that risk fits within the overall business strategies of the bank and the mechanisms used to manage that risk. Effective risk management requires an informed board, capable management, and appropriate staffing.

For its part, a board of directors has eight broad responsibilities. It must:

- **Establish and guide the bank's strategic direction and tolerance** for interest rate risk and identify the senior managers who have the authority and responsibility for managing this risk.



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- **Monitor the bank's performance and overall interest rate risk profile**, ensuring that the level of interest rate risk is maintained at prudent levels and is supported by adequate capital. In assessing the bank's capital adequacy for interest rate risk, the board should consider the bank's current and potential interest rate risk exposure as well as other risks that may impair the bank's capital, such as credit, liquidity, and transaction risks.
- **Ensure that the bank implements sound fundamental principles** that facilitate the identification, measurement, monitoring, and control of interest rate risk.
- **Ensure that adequate resources are devoted** to interest rate risk management. Effective risk management requires both technical and human resources. Senior management is responsible for ensuring that interest rate risk is managed for both the long range and day to day. In managing the bank's activities, senior management should:
- **Develop and implement procedures and practices** that translate the board's goals, objectives, and risk tolerances into operating standards that are well understood by bank personnel and that are consistent with the board's intent.
- **Ensure adherence to the lines of authority and responsibility** that the Board has established for measuring, managing, and reporting interest rate risk exposures.
- **Oversee the implementation and maintenance of management information and other systems** that identify, measure, monitor, and control the bank's interest rate risk.
- **Establish effective internal controls** over the interest rate risk management process.

Risk Measurement

Accurate and timely measurement of interest rate risk is necessary for proper risk management and control. A bank's risk measurement system should be able to identify and quantify the major sources of the bank's interest rate risk exposure. The system also should enable management to identify risks arising from the bank's customary activities and new businesses. The nature and mix of a bank's business lines and the interest rate risk characteristics of its activities will dictate the type of measurement system required. Such systems will vary from bank to bank.

Every risk measurement system has limitations, and systems vary in the degree to which they capture various components of interest rate exposure. Many well-managed banks will use a variety of systems to fully capture all of their sources of interest rate exposure. The three most common risk measurement systems used to quantify a bank's interest rate risk exposure are repricing maturity gap reports, net income simulation models, and economic valuation or duration models. The following table summarizes the



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types of interest rate exposures that these measurement techniques address.

Interest Rate Risk Models

	Gap Report	Earnings Simulation	Economic Valuation
Short-Term Earnings Exposure	Yes	Yes	Generally does not distinguish short-term accounting earnings from changes in economic value.
Long-Term Exposure	Yes	Limited*	Yes
Replicating Risk	Yes	Yes	Yes
Basis Risk	Limited*	Yes	Limited*
Yield Curve Risk	Limited*	Yes	Yes
Option risk	Limited*	Limited*	Yes

* The ability of these types of models to capture this type of risk will vary with the sophistication of the model and the manner in which bank management uses them.

Banks with significant option risk may supplement these models with option pricing or Monte Carlo models. But for many banks, especially smaller ones, the expense of developing options pricing models would outweigh the benefits. Such banks should be able to use their data and measurement systems to identify and track, in a timely and meaningful manner, products that may create significant option risk. Such products may include nonmaturity deposits, loans and securities with prepayment and extension risk, and explicit and embedded caps on adjustable rate loans. Bank management should understand how such options may alter the bank’s interest rate exposure under various interest rate environments.

Regardless of the type and level of complexity of a bank’s measurement system, management should ensure that the system is adequate to the task. All measurement systems require a bank to gather and input position data, make assumptions about possible future interest rate environments and customer behavior, and compute and quantify risk exposure. To assess the adequacy of a bank’s interest rate risk measurement process, examiners should review and evaluate each of these steps.

Gathering Data

The first step in a bank’s risk measurement process is to gather data to describe the bank’s current financial position. Every measurement system, whether it is a gap report or a complex economic value simulation model, requires information on the composition of the bank’s current balance sheet. In modeling terms, gathering financial data is sometimes called “providing the current position inputs.” This data must be reliable for the risk measurement system to be useful. The bank should have sufficient management information systems (MIS) to allow it to retrieve appropriate and accurate information in a timely manner. The MIS systems should capture interest rate risk data on all of the bank’s material positions, and there should be sufficient documentation of the major data sources used in the bank’s risk measurement process. Bank management should be alert



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to the following common data problems of interest rate risk measurement systems:

- Incomplete data on the bank's operations, portfolios, or branches.
- Lack of information on off-balance-sheet positions and on caps and floors incorporated into bank loan and deposit products.
- Inappropriate levels of data aggregation.

Information to Be Collected

To describe the interest rate risk inherent in the bank's current position, the bank should have, for every material type of financial instrument or portfolio, information on:

- The current balance and contractual rate of interest associated with the instrument or portfolio.
- The scheduled or contractual terms of the instrument or portfolio in terms of principal payments, interest reset dates, and maturities.
- For adjustable rate items, the rate index used for repricing (such as prime, Libor, or CD) as well as whether the instruments have contractual interest rate ceilings or floors.

A bank may need to collect additional information on certain products to provide a more complete picture of the bank's interest rate risk exposure. For example, because the age or "seasoning" of certain loans, such as mortgages, may affect their prepayment speeds, the bank may need to obtain information on the origination date and interest rate of the instruments. The geographic location of the loan or deposit may also help the bank evaluate prepayment or withdrawal speeds.

Some banks may use a "tiered" pricing structure for certain products such as consumer deposits. Under such pricing structures, the level and responsiveness of the rates offered for deposits will vary by the size of the deposit account. If the bank uses this type of pricing, it may need to stratify certain portfolios by account size. Since a bank's interest rate risk exposure extends beyond its on-balance-sheet positions to include off-balance-sheet interest contracts and rate-sensitive fee income, the bank should include these items in its interest rate risk measurement process.

Sources of Information

To obtain the detailed information necessary to measure interest rate risk, banks need to be able to tap or "extract" data from numerous and diverse transaction systems - the base systems that keep the records of each transaction's maturity, pricing, and payment terms. This means that the bank will need to access information from a variety of systems,



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including its commercial and consumer loan, investment, and deposit systems. The bank's general ledger may also be used to check the integrity of balance information pulled from these transaction systems. Information from the general ledger system by itself, however, generally will not contain sufficient information on the maturity and repricing characteristics of the bank's portfolios.

Aggregation

The amount of data aggregated from transaction systems for the interest rate risk model will vary from bank to bank and from portfolio to portfolio within a bank. Some banks may input each specific instrument for certain portfolios. For example, the cash flow characteristics of certain complex CMO or structured notes may be so transaction-specific that a bank elects to model or input each transaction separately. More typically, the bank will perform some preliminary data aggregation before putting the data into its interest rate risk model. This ensures ease of use and computing efficiency. Although most bank models can handle hundreds of "accounts" or transactions, every model has its limit.

Because some portfolios contain numerous variables that can affect their interest rate risk, additional categories of information or less aggregated information may be required. For example, banks with significant holdings of adjustable rate mortgages will need to differentiate balances by periodic and lifetime caps, the reset frequency of mortgages, and the market index used for rate resets. Banks with significant holdings of fixed rate mortgages will need to stratify balances by coupon levels to reflect differences in prepayment behaviors.

Developing Scenarios and Assumptions

The second step in a bank's interest rate risk measurement process is to project future interest rate environments and to measure the risk to the bank in these environments by determining how certain influences (cash flows, market and product interest rates) will act together to change prices and earnings. Unlike the first step, in which one can be "certain" about data inputs, here the bank must make assumptions about future events. For the risk measurement system to be reliable, these assumptions must be sound.

A bank's interest rate risk exposure is largely a function of (1) the sensitivity of the bank's instruments to a given change in market interest rates and (2) the magnitude and direction of this change in market interest rates. The assumptions and interest rate scenarios developed by the bank in this step are usually shaped by these two variables.

Some common problems in this step of the risk measurement process include:

- Failing to assess potential risk exposures over a sufficiently wide range of interest rate movements to identify vulnerabilities and stress points.
- Failing to modify or vary assumptions for products with embedded



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options to be consistent with individual rate scenarios.

- Basing assumptions solely on past customer behavior and performance without considering how the bank's competitive market and customer base may change in the future.
- Failing to periodically reassess the reasonableness and accuracy of assumptions.



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Examination Objectives

1. To evaluate the policies regarding interest rate risk established by the board of directors and/or senior management, including the limits established for the bank's interest-rate risk profile.
2. To determine if the bank's interest-rate risk profile is within those limits.
3. To evaluate the management of the bank's interest-rate risk, including the adequacy of the methods and assumptions used to measure interest-rate risk.
4. To determine if internal management reporting systems provide the information necessary for informed interest-rate management decisions and for monitoring the results of those decisions.
5. To initiate corrective action when interest rate management policies, practices, and/or procedures are deficient in controlling and monitoring interest-rate risk.

Examination Procedures

1. Determine if interest rate risk is managed at the bank level or on a holding company basis.
2. Review the bank's written policies for reasonableness. At a minimum, they should cover-
 - a. definition and measurement of acceptable risks, including acceptable levels of interest rate exposure;
 - b. net interest margin goals;
 - c. sources and uses of funds;
 - d. off-balance-sheet activities that affect interest rate exposure;
 - e. responsibilities within the bank for interest rate risk management decisions; and
 - f. reporting mechanisms.
3. Evaluate the internal controls or the internal audit function. Determine whether internal mechanisms are adequate to ensure compliance with established limits on interest rate risk. If they are determined to be inadequate, complete or update the Internal Control



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Questionnaire. The examiner should prepare a brief description of the bank's interest rate risk policies and practices, as well as identify areas in need of improvement.

4. Review Central Bank analysis reports, interim financial reports, and internal management reports, paying particular attention to-

- a. on- and off-balance-sheet mix and trends;
- b. the methodology used by the bank to measure interest rate risk; and
- c. the stability of interest margins under varying economic conditions or simulations (causes of significant fluctuations should be identified).

5. Evaluate the bank's exposure to interest rate risk by:

- a. Obtaining and reviewing any reports regularly prepared by management for controlling and monitoring interest rate risk.
- b. Requesting the appropriate information for determining the level of interest rate risk present in the bank's assets, liabilities, and off-balance-sheet activities, if management does not, at a minimum, regularly prepare rate-sensitivity reports (the circumstances facing the bank and the existing interest rate environment should govern the degree of analysis).
- c. Estimating the effect of an adverse interest rate change on future earnings or economic value by using the bank's gap reports, duration measures, or simulation models (the latter measure is especially useful if the bank's exposure seems large).
- d. Determining the bank's ability to adjust its interest rate position.



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6. Evaluate the quality of interest rate risk management. The evaluation should include, but is not limited to, the following:

- a. Assess whether the methods and assumptions used to measure interest risk are adequate relative to the size of the bank and the complexity of its balance sheet.
- b. Assess management's knowledge of interest rate risk in relation to the size and complexity of the bank's balance sheet. In particular, assess their understanding of the methods used by the bank to measure the risk.
- c. Determine whether the level of risk is within the limits set.
- d. Assess the bank's ability to adjust its interest rate position.
- e. Determine if the reporting process provides clear and reliable information on a timely basis (at least quarterly).
- f. Determine if new products or hedging instruments are adequately analyzed before purchase.

7. Determine the adequacy of the net interest margin based on an analysis of the components of the margin (i.e., interest expense and interest income). If the margin or any component is unusually high or low, determine-

- a. if goals have been established for net interest earnings;
- b. management's success in meeting established goals;
- c. the effect of the bank's interest rate risk position on meeting established goals;
- d. the effect of the bank's pricing policies on meeting established goals; and



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- e. the effect of the bank's credit risk appetite on the margin.
8. Review the interest rate risk management section of the last report of examination. Determine if there were concerns in this area and if corrective action was required.
9. Write in appropriate report format and discuss with management general remarks on-
- a. the quality of the bank's planning to control and manage interest rate risk;
 - b. the level of the bank's interest rate exposure and an assessment of the associated degree of risk;
 - c. the quality of the related administrative controls and internal management reporting systems; and
 - d. the effect of interest rate risk management decisions on earnings and capital.
10. Update the work papers with any information that will facilitate future examinations.

Interest Rate Risk Management

Internal Control Questionnaire

Discuss with senior management the bank's policies and practices with regard to the following:

1. Has the board of directors, consistent with its duties and responsibilities, adopted an interest rate risk management policy that includes:
 - a. A formal mechanism to coordinate interest rate sensitivity decisions?
 - b. Clear lines of responsibility and authority for decisions affecting interest rate sensitivity?
 - c. Guidelines for the level of interest rate risk, including that associated with off balance sheet products, if any?



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d. Outside limits for the imbalance between balance-sheet and off-balance-sheet positions and for the potential exposure of earnings or equity to changes in interest rates?

2. Have internal management reports been prepared that provide an adequate basis for making interest rate management decisions and for monitoring the results of those decisions?

Specifically:

a. Are reports prepared on the bank's rate sensitivity using an appropriate measurement method?

b. Is historical information on asset yields, cost of funds, and net interest margins readily available?

c. Are interest margin variations, both from the prior reporting period and from the budget, regularly monitored?

d. Is sufficient information available to permit an analysis of the cause of interest margin variations?

3. Does the foregoing information provide an adequate basis for evaluating internal controls in that deficiencies in areas not covered by this questionnaire do not significantly impair any controls? Explain negative answers briefly, and indicate any additional examination procedures deemed necessary.



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b. Foreign Exchange Rate Risk

INTRODUCTION

This section is designed to provide Central Bank of Egypt examiners with the basic principles and risks associated with foreign exchange trading. By its very nature, foreign exchange trading involves risk. The examiner's primary function is to understand that risk and ensure that bank management, by means of policies, limits, and systems, is controlling that risk in a prudent manner. For the purpose of this section, foreign currency money market functions will be combined with foreign exchange activities since the principles and risks are virtually the same. In order to evaluate a bank's foreign exchange and controls, the examiner needs a basic understanding of the foreign exchange market, the commercial bank's role in the market, trading fundamentals, and the principal risks involved in trading.

The foreign exchange market exists to service the foreign currency needs of importers, exporters, manufacturers, and retailers. Foreign exchange transactions arising from international trade and investment are frequently large and recurrent. Large or small, all foreign exchange transactions represent the exchange of one country's money for another's. The exchange rate is simply the price of one currency in terms of another.

Any commercial bank, which maintains due from bank balances, commonly known as "nostro" accounts, in foreign countries in the local currency has the capability of engaging in foreign exchange. The majority of banks restrict foreign exchange to the servicing of their customers' foreign currency needs. The banks will simply sell the currency at a rate slightly above the market and subsequently offset the amount and maturity of the transaction through a purchase from another correspondent bank at market rates. This level of activity involves virtually no exposure as currency positions are covered within minutes. A small profit is usually generated from the rate differential, but the activity is clearly designated as a service center.

Greater emphasis is placed on foreign exchange activity by regional banks. The servicing of the corporate customers' needs is also a priority, but most regional banks also participate in the interbank market. These banks look at the trading function as a profit center as well as a service. Such banks usually employ several experienced traders and, unlike the previous group, will take positions in given currencies based on anticipated rate movements.

Multinational banks assume, by far, the most significant role in the foreign exchange marketplace. While still servicing customer needs, these banks are heavily engaged in the interbank market and look to their foreign exchange trading operation for sizeable profits. Such banks trade foreign exchange on a global basis through international branch networks.



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A major aspect of any foreign exchange review is the ability of the examiner to determine if the bank has the capability to adequately handle the level of its foreign exchange volume and the extent of the exposures taken. This judgment is, by necessity, subjective; however, it must take into consideration asset size, capital base, customer volume in foreign exchange, depth and experience of traders, and management understanding of and commitment to trading. The fundamental principles of foreign exchange trading outlined below are designed to assist the examiner in this analysis.

SPOT TRADING

Buying and selling foreign exchange at market rates for immediate delivery represents spot trading. In reality, spot trades have a “value date” (maturity or delivery date) of two to five business days (one for Canada and Mexico).

Foreign exchange rates that represent the present market value for the currency are known as spot rates. The risk of spot trading results from rate movements occurring when the bank’s position in foreign currency is not balanced with regard to exchange bought and sold. Such unbalanced positions are referred to as net open positions and are defined as follows:

Net Open Positions-A bank has a net position in a foreign currency when its assets, including spot and future contracts to purchase, and its liabilities, including spot and future contracts to sell, in that currency are not equal. An excess of assets over liabilities is called a net “long” position and liabilities in excess of assets a net “short” position. A “long” position in a foreign currency, which is depreciating will result in an exchange loss relative to book value because, with each day, that position (asset) is convertible into fewer units of local currency. Similarly, a “short” position in a foreign currency which is appreciating represents an exchange loss relative to book value because, with each day, satisfaction of that position (liability) will cost more units of local currency.



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CONSOLIDATED FOREIGN EXCHANGE POSITION, MAY 4, 20XX

<i>Monetary Unit, Overnight Limit and Description</i>	<i>Assets/Purchases</i>		<i>Liabilities/Sales</i>	
	<i>Foreign Amount</i>	<i>U.S. \$ Equivalent of Local Currency Book Value</i>	<i>Foreign Amount</i>	<i>U.S. \$ Equivalent of Local Currency Book Value</i>
WEST GERMAN MARKS (\$3,000M)				
Ledger Accounts	563,437	239,461	645,013	274,310
Spot Contracts	23,502	9,802	15,973	6,709
Forward Contracts	790,250	331,905	712,533	296,342
	<u>1,377,189</u>	<u>581,168</u>	<u>1,373,519</u>	<u>577,361</u>
Net Position (long)	3,670	3,807		
CANADIAN DOLLARS (\$6,000M)				
Ledger Accounts	1,016,076	1,017,525	1,029,835	1,030,057
Spot Contracts	330,021	328,972	216,225	217,246
Forward Contracts	1,202,013	1,203,226	1,301,279	1,302,522
	<u>2,548,110</u>	<u>2,549,723</u>	<u>2,547,339</u>	<u>2,549,825</u>
Net Position (long)	771			102
SWISS FRANC (\$250M)				
Ledger Accounts ¹	31,768	11,932	36,052	13,571
Spot Contracts	1,526	593	2,566	969
Forward Contracts	11,174	4,274	6,545	2,521
	<u>44,468</u>	<u>16,799</u>	<u>45,163</u>	<u>17,061</u>
Net Position (short) ²			695	262

1. Does not include a Swiss Franc 1,000M (U.S. \$386M) unhedged investment in a Swiss subsidiary and Swiss Franc 573M (U.S. \$217M) unhedged investment in branch fixed assets. The unhedged term "long" position was approved by senior bank management.

2. Net overnight position in excess of established limit. Formally approved as a special situation by senior management prior to the transaction.

It is important to remember that the net open position consists of both balance sheet accounts and contingent liabilities. For most banks, the nostro accounts represent the principal assets; however, foreign currency loans as well as any other assets or liability accounts denominated in foreign currency which are sizeable in certain banks, must be included. All future foreign exchange contracts outstanding are contingents. When a contract matures, the entries are posted to a nostro account in the appropriate currency.

Each time a bank enters into a spot foreign exchange contract, its net open position is changed. For example, assume that Bank A opens its business day with a balanced net open position in pound sterling (assets plus purchased contracts equal liabilities plus sold contracts). This is often referred to as a "flat" or square position. Bank A then receives a telephone call from Bank B requesting a "market" in sterling. Because it is a participant in the interbank foreign exchange trading market, Bank A is a "market maker." This means it will provide Bank B with a two-sided quote consisting of its bid and offer for sterling. If a different currency was requested, European terms would be the opposite as the bid and offer would be for dollars instead of the foreign currency. In determining the market given, Bank A's trader of sterling will determine where the



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market presently is (from brokers and/or other banks) and attempt to anticipate where it is headed and whether Bank B is planning to buy or sell sterling.

When Bank A gives its quote on sterling, \$1.7115-25 for example, it is saying that it will buy sterling (its bid) at \$1.7115 or sell sterling at \$1.7125 (its offer). If Bank B's interest is to buy sterling and the given quote is appealing, it will buy sterling from Bank A at \$1.7125 (Bank A's offer of sterling). Note, that while Bank B may choose to buy, sell or pass as it wishes, it must do business on the terms established by Bank A. These terms will be in Bank A's favor. As soon as Bank B announces it will purchase sterling at \$1.7125, Bank A acquires a net open position (short) in sterling. Bank A must then decide whether to hold its short position (in anticipation of a decline in sterling) or cover its position. Should it wish to cover, it may call another bank and purchase the amount it sold to Bank B. However, in this case, as the calling bank, Bank A would buy its sterling from the offered side of the quote it receives and must buy it at \$1.7125 or less to avoid a loss.

Banks engaging in interbank spot trading will often be involved with sizeable net open positions, though many for just brief periods. No matter how skilled the trader, each will encounter at least occasional losses. Knowing when to close a position and take a small loss before it becomes large is a necessary trait for a competent trader. Many banks employ a "stop loss policy" whereby a net open position must be covered if losses from it reach a certain level. While a trader's forecast may ultimately prove correct within a day or week, rapid rate movements often force a loss within an hour or even minutes. Also, access to up to the minute information is vital for involvement in spot trading. Banks who lack the vast informational resources of the largest multinationals may be particularly vulnerable to sudden spot rate movements prompted by inside information or even rumors. As a result, examiners should closely review banks where foreign exchange activities consist primarily of interbank spot trading.

FORWARD TRADING

A forward transaction differs from a spot transaction in that the value date is more than two to five business days in the future. The maturity of a foreign forward exchange contract can be a few days, months, or even years in some instances. The exchange rate is fixed at the time the transaction is agreed. But nostro accounts are not debited or credited, i.e., no money actually changes hands, until the maturity date of the contract. There will be a specific exchange rate for each forward maturity, and each of those rates will generally differ from today's spot exchange rate. If the forward exchange rate for a currency is higher than the current spot rate, dealers say the currency is trading at a "premium" for that forward maturity. If the forward rate is below the spot rate, then the currency is said to be trading at a "discount." For instance, sterling for value in three months is at a discount if the spot rate is \$1.75 and the three-month forward rate is \$1.72.

Banks active in the foreign exchange market find that interbank currency trading for any specific value date in the future is inefficient and engage in it only infrequently. Instead,



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for future maturities, banks trade among themselves as well as with some corporate customers on the basis of a transaction known as a “swap.” A swap transaction is a simultaneous purchase and sale of a certain amount of foreign currency for two different value dates. The key aspect is that the bank arranges the swap as a single transaction with a single counterparty, either another bank or a nonbank customer. This means that, unlike outright spot or forward transactions, a trader does not incur a net open position since the bank contracts both to pay and to receive the same amount of currency at specified rates. A swap allows each party to use a currency for a period in exchange for another currency that is not needed during that time. Thus, the swap offers a useful investment facility for temporary idle currency balances of a corporation or a financial institution. Swaps also provide a mechanism for a bank to accommodate the outright forward transactions executed with customers or to bridge gaps in the maturity structure of its outstanding spot and forward contracts.

The two value dates in a swap transaction can be any two dates. But, in practice, markets exist only for a limited number of standard maturities. One of these standard types is called a “spot against forward” swap. In a spot against forward swap transaction, a trader buys or sells a currency for the spot value date and simultaneously sells or buys it back for a value date a week, a month, or three months later.

Another type of transaction of particular interest to professional market-making banks is called a “tomorrow-next” swap or a “rollover.” These are transactions in which the dealer buys or sells a currency for value the next business day and simultaneously sells or buys it back for value the day after. A more sophisticated type of swap is called a “forward-forward” in which the dealer buys or sells currency for one future date and sells or buys it back for another future date. Primarily, multinational banks specialize in transactions of that type.

Any swap transaction can be thought of as if it were a simultaneous borrowing and lending operation. For example, on July 1, Bank A “swaps in” three-month sterling in a spot against a forward transaction with Bank B. On July 2, Bank A pays dollars to Bank B’s account at a New York bank and Bank A receives sterling for its account at a bank in London. On October 4, the swap is reversed. Bank A pays back the sterling to Bank B, while B pays back the dollars to A. In the meantime, Bank A has the use of the sterling, in effect “borrowing” sterling, while giving up use of the dollars, in effect “lending” the dollars. Banks recognize this close equivalence to actual short-term borrowing and lending. Many fold in swap transactions with other money market transactions in managing their global banking activities.

Forward exchange rates can be expressed in three ways. Like spot rates, outright forward prices are expressed in dollars and cents per currency unit or vice versa. Traders normally only quote forward prices to corporate customers or to small correspondent banks seeking to buy or sell a currency for a particular future date. For instance, a trader may quote an outright six-month rate to buy sterling of \$1.8450, while, by comparison, a quotation to buy spot sterling might be less (\$1.8200) or more (\$1.8625).



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In swap transactions, the trader is only interested in the difference between spot and forward rates, the premium or discount, rather than the outright spot and forward rates themselves. Premiums and discounts expressed in points (i.e. \$0.0001 per pound sterling) are called swap rates. For the first spot rate above, the premium is 250 points (\$0.0250). For the second, the discount is 175 points (\$0.0175).

Since, in a swap, a trader is effectively borrowing one currency and lending the other for the period between the two value dates, the premium or discount is often evaluated in terms of percent per annum. For the examples above, the premium of 250 points is equivalent to 2.75 percent per annum, while the discount of 175 points is equivalent to 1.88 percent per annum.

To calculate the percentage premium for the first case:

- Take the swap rate (\$0.0250)
- Multiply by 12 months and divide by 6 months (a per annum basis)
- Divide by the spot rate (\$1.8200), and
- Multiply by 100 (to get a percent basis).

On a formula basis, this can be expressed as:

$$\% \text{ per annum} = \frac{\text{Premium or Discount} \times 12 \times 100}{\text{Spot rate} \times \text{number of months of forward contract}}$$

As can be seen from the above, forward rates (premiums or discounts) are solely influenced by the interest rate differentials between the two countries involved. As a result, when the differential changes, forward contracts previously booked could now be covered at either a profit or loss.

For example, assume an interest rate differential between sterling and dollars of 3 percent (with the sterling rate lower). Using this formula, with a spot rate of \$1.80, the swap rate on a three-month contract would be a premium of 135 points. Should that interest rate differential increase to 4 percent (by a drop in the sterling rate or an increase in the dollar rate), the premium would increase to 180 points. Therefore, a trader who bought sterling three months forward sterling at 135 points premium could now sell it at 180 points premium, or at a profit of 45 points (expressed as .0045). Thus, the dealer responsible for forward trading must be able to analyze and project dollar interest rates as well as interest rates for the currency traded. Additionally, because forward premiums or discounts are based on interest rates differentials, they do not reflect anticipated movements in spot rates. Active trading banks will, of course, have a large number of forward contracts outstanding. The portfolio of forward contracts is often called a “forward book.” As a result, these forward positions must be managed on a gap basis. Normally, banks will



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segment their forward books into 15-day periods and show the net (purchased forward contracts less sold ones) balance for each period. A typical forward book would look as follows:

<i>Foreign Currency</i>	<i>Maturity Date</i>	<i>Purchases</i>	<i>Sales</i>	<i>Net Position for Period</i>
England (amounts in pound sterling)	Dec. 1-15	1 000 000	800 000	200 000
	16-31	700 000	900 000	(200 000)
	Jan. 1-15	1 500 000	500 000	1 000 000
	16-31	1 400 000	600 000	800 000
	Feb. 1-15	1 100 000	700 000	400 000
	16-28	1 400 000	400 000	1 000 000
	Mar. 1-31	200 000	1 300 000	(1 100 000)
	Apr. 1-30	400 000	1 600 000	(1 200 000)
	May 1-31	300 000	900 000	(600 000)
	June 1-30	350 000	450 000	(100 000)
	July 1-31	550 000	450 000	100 000
	Aug. 1-31	1 000 000	1 000 000	—
	Sept. 1-30	500 000	600 000	(100 000)
	Oct. 1-31	600 000	500 000	100 000
Nov. 1-30	100 000	100 000	—	
Dec. 1-31	100 000	200 000	(100 000)	
	Totals	11 200 000	11 000 000	200 000

In this forward book, volumes and net positions are limited with only the first three months segregated into 15-day periods with the remainder grouped monthly. The trader will use the forward book to manage his overall forward positions. A forward book in an active currency may consist of numerous large contracts, but because of the risks in a net open position, total forward purchases will approximately equal total forward sales. (Note: In the above forward book, the net position is only £200,000.) What matters in reviewing a forward book is the distribution of the positions by period. In the above example, the forward sterling is long a net 3,200,000 for the first three months (December through February) and short a net 3,000,000 for the next four months (March through June). In this instance, the forward book is structured for an anticipated decline in dollar interest rates as compared with sterling interest rates since these sold positions could be offset (purchase of a forward contract to negate the sold forward position) at a lower price—either reduced premium or increased discount. Trading forward foreign exchange thus involves projecting interest rate differentials and managing a forward book to be compatible with these projections. An understanding of these concepts is essential when looking at forward trading from risk and profitability aspects.

COMPUTING FOREIGN EXCHANGE PROFITS AND LOSSES

If traders did nothing but spot transactions and never took open positions from day to day, calculating profit or loss would be straightforward. For example: on January 21, the traders buy £1,000,000 spot at \$1.75 and £3,000,000 at \$1.74 and sell £2,000,000 at \$1.7450 and £2,000,000 at \$1.7380. On the spot value dates, two business days later, the bank's nostro or clearing account in London is credited and debited by £4,000,000 from



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the maturing transactions. The sterling position is square, since debits and credits are equal. In New York, the bank pays \$6,970,000, but receives only \$6,966,000.

There is a net loss of \$4,000 on the four transactions. This is so because the bank's accountant would calculate that the traders acquired sterling at an average rate of \$1.7425 =

$$\frac{\$1,000,000 \times \$1.75 + \text{£}3,000,000 \times \$1.74}{\text{£}4,000,000}$$

Against that, the traders sold sterling at \$1.7450, for a profit of \$5,000 (i.e., \$1.7450 – \$1.7425 = \$0.0025 * 2,000,000 = \$5,000). Traders also sold another £2,000,000 at \$1.7380 for a loss of \$9,000 (\$1.7380 – \$1.7425 = –\$0.0045 * £2,000,000 = –\$9,000). In this instance, the computed net loss of \$4,000 is precisely the same as the excess of dollar payments over dollar receipts.

In practice, computing profits and losses is far more complex for two basic reasons. Banks do not trade only for spot value—they also do forward contracts. Moreover, most major banks do not operate from day to day with completely square positions in each currency. Because of the way different forward contracts mature each day, it is unusual for payments and receipts to balance perfectly until the traders arrange swaps to achieve that result. Because some traders take a view about the future movements of a currency, short or long positions are built up; and, because of the changing influences on market developments and traders' decisions, long or short positions can be altered any number of times each and every day.

In this kind of fluid trading environment, a bank needs to establish accounting procedures for calculating profits and losses, which can handle the problem of maturity mismatches and open foreign currency positions. The principles underlying the accounting procedures are much the same from bank to bank, although specific practices vary. The first principle is that banks do not formally calculate profits or losses daily; most compute profits and losses monthly. Some banks do make these calculations more frequently for management information purposes.

The next principle is that banks calculate profits or losses on the entire foreign exchange book as of the calculation date. On any day, the book includes all spot and forward contracts, which have not yet matured, along with nostro balances in each currency. Each contract represents a purchase or sale of a foreign currency at a specified exchange rate.

On the profit calculation date, the bank's accountants revalue the foreign exchange book. They use the latest market exchange rates, spot and forward, for each value date on which contracts are outstanding. For each contract, the difference between the current market rate for the value date of the contract and the rate specified in the contract is calculated.



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For example, if the bank previously bought a currency, e.g., sterling at \$1.75, and the current market rate for the relevant maturity is higher, e.g., sterling at \$1.80, there is an unrealized profit.

These calculated unrealized profits and losses are amalgamated with the realized profits or losses that accrue every day as foreign exchange contracts mature. The net profit or loss, realized plus unrealized, is then incorporated in bank operating income, reflecting the net contribution of foreign exchange trading before expenses. To recapitulate, a bank with a large number of spot and forward contracts and possibly with open positions in one or more currencies needs a formal method of computing unrealized profits and losses at regular intervals. It uses a revaluation procedure that, in effect, measures what the profits and losses would be if the bank covered in the market all outstanding positions that were not already covered. The revaluation procedure ensures that the bank's open positions show changes in exchange rates as they occur, rather than when open positions are eventually covered or when individual contracts mature.

Periodic profit and loss calculations therefore provide bank management with ongoing insights into the performance of the trading function. Following is an illustration of the revaluation procedure. Assume that on the revaluation date, January 15, Bank A had three outstanding contracts in its sterling book:

- A sale of £1,000,000 at \$1.75 for value March 15.
- A purchase of £3,000,000 at \$1.70 for value May 15.
- A sale of £1,000,000 at \$1.65 for value August 15.

The book is “long” £1,000,000 since purchases of sterling are greater than sales. For now, the nostro account and the calculations of realized profits and losses are left aside.

To revalue the book, the accountants find on January 15 that two-month, four-month, and seven-month forward rates in the market are \$1.80, \$1.75, and \$1.70, respectively. They proceed conceptually as if the traders were to cover the contracts at the going market rates, buying sterling to offset sales and selling sterling to offset purchases. On this basis, for the first contract, they compute an unrealized loss of \$50,000 ($\$1.75 - \$1.80 = -\$0.05 * £1,000,000$).

For the second contract, they compute an unrealized profit of \$150,000 ($\$1.75 - \$1.70 = \$0.05 * £3,000,000$). For the third contract, they compute an unrealized loss of \$50,000 ($\$1.65 - \$1.70 = -\$0.05 * £1,000,000$). The net is an unrealized profit of \$50,000, which is entered on the income statement as the trading profit. The accountant's task actually is far more complicated. A foreign exchange book of a major bank may include hundreds of outstanding contracts in a dozen or more currencies. Value dates range from the next day to a year or more in the future. Market exchange rates are readily available for the “even” dates—one, two, three, six, twelve, and twenty-four months into the future. The Federal Reserve Bank of New York, for example, publishes such a daily series, which can be used by bank accountants and examiners. But for “odd” dates, the accountant



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must approximate rates, possibly through a computer program that interpolates between even date quotations.

As contracts in the foreign exchange book mature, they affect the cash flow of the bank. Maturing purchase and sale contracts are treated asymmetrically. In a bank, which posts its profits and losses in dollars, maturing purchase contracts result in credits to its nostro account in that currency. Each day, the bank's accountants compute a new average acquisition rate for the nostro account based on existing holdings and all flows into the account that day. Maturing sale contracts result in debits to the nostro account. They yield a gain or loss measured against the average acquisition rate for funds available in the nostro account. The net realized profit or loss is placed in a suspense account, which at regular intervals, is incorporated into the bank's income statement along with the unrealized profits or losses resulting from the periodic revaluation of the foreign exchange book. In practice, the revaluation can be done on a worksheet as long as net positions for time periods and present market rates are known. While banks will revalue monthly and make the appropriate entries to income accounts, traders will spot-check their profitability more frequently.

Examiners should understand the revaluation procedure for the necessary test checking of reported profits, as time restrictions do not normally allow for the proving of all of the bank's open positions. To revalue the nostro accounts, which represent realized profit or loss, the net foreign currency balance is multiplied by the current spot rate and the result, or market value, is compared to the LE equivalent on the books to determine profit or loss as shown below:

<i>Foreign Amount</i>	<i>Spot Rate</i>	<i>Market Value</i>	<i>U.S. \$ Equivalent Book Value of Ledger Accounts</i>	<i>Profit or Loss</i>
15,172	\$1.7155	26,028	21,229	+4,799

The same principle holds true when comparing market value to book, even if credit balances exist. (A market value of -19.055 and a book value of -20,155 would result in a profit of 1,100.)

A worksheet revaluation of forward contracts, for unrealized profits, is an expansion of the forward book previously shown. All rates must be expressed in Egyptian Pound terms.



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<i>Foreign Currency</i>	<i>Maturity Date</i>	<i>Purchases</i>	<i>Sales</i>	<i>Net Position for Period</i>	<i>D-Discount P-Premium Rate</i>	<i>Profit</i>	<i>Loss</i>
England	Dec. 1-15	1 000 000	800 000	200 000	.0025 P	500	
	16-31	700 000	900 000	(200 000)	25 P		500
	Jan. 1-15	1 500 000	500 000	1 000 000	15 P	1,500	
	16-31	1 400 000	600 000	800 000	15 P	1,200	
	Feb. 1-15	1 100 000	700 000	400 000	5 P	200	
	16-28	1 400 000	400 000	1 000 000	5 P	500	
	Mar. 1-31	200 000	1 300 000	(1 100 000)	5 D	550	
	Apr. 1-30	400 000	1 600 000	(1 200 000)	15 D	1,800	
	May 1-31	300 000	900 000	(600 000)	30 D	1,800	
	June 1-30	350 000	450 000	(100 000)	45 D	450	
	July 1-31	550 000	450 000	100 000	5 P	50	
	Aug. 1-31	1 000 000	1 000 000	—	25 D	—	
	Sept. 1-30	500 000	600 000	(100 000)	0	—	
	Oct. 1-31	600 000	500 000	100 000	45 D		450
	Nov. 1-30	100 000	100 000	—	25 D	—	
	Dec. 1-31	100 000	200 000	(100 000)	5 P		50
	Totals	11 200 000	11 000 000	200 000			+7550

In completing a worksheet in the above format, the following must be kept in mind:

- A long position at a premium = profit
- A short position at a premium = loss
- A long position at a discount = loss
- A short position at a discount = profit

The \$7,550 is simply the profit that would be obtained if the forward book positions were fully liquidated at this time, i.e., purchases offset by sales. To calculate the profit, the unrealized profit from the previous month (\$6,400 in this example) must be reversed.

Thus, the sterling profit for this month would be:

\$4,799 Nostro balance profit

7,550 Forward book profit (unrealized)

6,400 Reversal of last month's forward book

\$5,949 Sterling profit for the month

Most automated systems will eliminate the need for manual calculations. However, the resulting figure is only as accurate as the rates applied. As a result, examiners should test check at least one major currency using independent rates (supplied by the central bank or another independent source). This should be done concurrently with the bank's own monthly revaluation. If a sizeable discrepancy results, rates and revaluation methods used by the bank should be reviewed with both management and the traders.

Specialized Forward Transactions

Compensated Contracts

There are occasions when both parties are agreeable to altering the terms of an existing



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contract. Such alterations should be approved by a bank officer who does *not* have responsibilities in the trading room and the operations personnel must be advised of each compromise to avoid settlement in accordance with the original instructions and terms.

Option Dated Forwards

Option contracts permit a bank to contract to buy from or sell to a customer when that customer can only generally predict the dates when the currency will be required. The option contract specifies the dates, and the rate cited is that which, in the judgment of the trader at the time of making the contract, contains the least exposure for the bank. This type of contract is commonly requested by commercial customers, who wish to cover drafts drawn under letters of credit denominated in a foreign currency. Such contracts involve more risk as there is no way for the bank to acquire a precisely matching cover.

Forward Swaps

A financial swap is the combination of a spot purchase or sale against a forward sale or purchase of one currency in exchange for another. It is merely trading one currency (lending) for another currency (borrowing) for that period of time between which the spot exchange is made and the forward contract matures. The swap is the simple identification of one transaction contracted at the spot rate with another transaction contracted at the forward rate to establish the exchange cost or profit related to the temporary movement of funds into another currency and back again. That exchange (swap) profit or cost must then be applied to the rate of interest earned on the loan or investment for which the exchange was used. For example, the true yield of an investment for 90 days in United Kingdom Treasury bills cannot be determined without having considered the cost or profit resulting from the swap needed to make pounds sterling available for that investment. Likewise, the trading profits or losses generated by the trader cannot be determined if financial swap profits and expenses are charged to the exchange function rather than being allocated to the department whose loans or investments the swap actually funded.

Arbitrage

As it pertains to money markets and foreign exchange, arbitrage may take several forms. The creation of an open position in a currency in anticipation of a favorable future movement in the exchange rate, in addition to being speculative, is sometimes referred to as “arbitrage in time.” Buying a currency in one market and simultaneously selling it for a profit in another market is called “arbitrage in space.” Slightly more involved is the practice of interest arbitrage which involves the movement of funds from one currency to another so they may be invested at a higher yield. The real yield advantage in such a situation is not determined merely by the difference in interest rates between the two investment choices, but rather by subtracting the cost of transferring funds into the desired currency and back again (the swap cost) from the interest differential. For



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example, there is no arbitrage incentive involved in swapping from dollars into the other currency at a 60 point per month discount (swap cost) which exactly offsets the 3 percent gain in interest. However, should the swap rate move to 40 points per month (or 480 points per year), the investment might become attractive. This can be tested by converting the swap rate to an annual percentage rate:

$\frac{\text{Discount or Premium} * 360 * 100}{\text{Spot rate} \bar{\gamma} \text{ No. of days of future contract}} = \% \text{ P.A.}$

$\frac{.0040 * 360 * 100}{2.4000 * 30} = 2\% \text{ P.A.}$

This results in a true yield incentive of 1 percent, 3 percent less the swap cost of 2 percent. Unless the bank's accounting system can identify swap costs or profits and allocate them to the investments for which they were entered, both the earnings on those investments and the earnings upon which the trader's performance are measured will be misstated.

New Products

Before transacting new types of derivative products, senior management should comprehensively analyze the new product or activity. A mechanism to capture and report all new products is critical to the board and senior management's ability to execute proper oversight of the bank's risk profile. New products frequently require different pricing, processing, accounting, and risk measurement systems. Management and the board must ensure that adequate knowledge, staffing, technology, and financial resources exist to accommodate the activity. Furthermore, plans to enter new markets/products should consider the cost of establishing appropriate controls, as well as attracting professional staff with the necessary expertise. The new product approval process should include a sign-off by all relevant areas such as risk control, operations, accounting, legal, audit, and senior and line management. Depending on the magnitude of the new product or activity and its impact on the bank's risk profile, senior management, and in some cases, the board, should provide the final approval. For new as well as existing products, a uniform product assessment process should be part of the overall risk management function. The goal of this process should be to ensure that all significant risks and issues are addressed. Elements that should be included in a uniform product assessment are:

- Product definition.
- Explanation of how the product or activity meets business strategies and objectives (e.g., customer service, risk management tool).
- Pricing mechanisms.
- Description of risk management processes.
- Descriptions of limits and exception approval processes.



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- Capital allocations.
- Accounting procedures.
- Operating procedures and controls.
- Legal documentation requirements.
- Other legal and regulatory issues.
- Tax implications.
- Ongoing update/maintenance.

Defining a product or activity as new is central to ensuring that variations on existing products receive the proper review and authorization. Factors that should be considered when deciding whether or not a product must be routed through the new-product process include, but are not limited to:

capacity changes (e.g., end-user to dealer), structure variations (e.g., nonamortizing swap versus amortizing interest rate swap), products which require a new pricing methodology, legal or regulatory considerations (e.g., the requirement to obtain Central Bank approval of the bank's plan to engage in physical commodity transactions), and market characteristics (e.g., foreign exchange forwards in major currencies as opposed to emerging market currencies). When in doubt as to whether a product requires compliance with the new product approval process, bank management should err on the side of conservatism and apply the process to the proposed product or activity.

Derivatives

Roles Banks Take in Derivative Activities

National banks participating in the derivative markets function in two general roles: dealer and end-user. These two roles are not mutually exclusive; in most cases, a bank that functions as a derivative dealer will also be an end user.

Dealers

A bank that markets derivative products to customers is considered a dealer. For purposes of this guidance, dealers are classified into two types.

Tier I. A Tier I dealer acts as a market-maker, providing quotes to other dealers and brokers, and other market professionals. Tier I dealers may also take proprietary positions in derivatives in anticipation of changes in prices or volatility. Tier I dealers actively solicit customer business, often using a dedicated sales force. These dealers also develop new derivative products. Typically, they have systems and personnel that allow them to tailor derivatives to the needs of their customers. Large portfolios, complex contracts, and high transaction volume distinguish Tier I dealers from other market participants.



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Tier II. The primary difference between Tier I and Tier II dealers is that Tier II dealers are not market-makers. Tier II dealers tend to restrict quotes to a select customer base even though they may have a high volume of transactions. Tier II dealers typically do not actively develop new products. Tier II dealers may match or offset their customer transactions with other dealers or professional counterparties or they may choose to manage risk on an aggregate basis. Throughout this guidance, the terms dealer and dealing will collectively refer to both customer and proprietary trading activities.

End-Users

An end-user engages in derivative transactions for its own account. An enduser may use derivatives as a substitute for cash market investments, a tool for interest rate risk management, or for other balance sheet management purposes. In this guidance, end-users are classified into two types, which are defined below.

Active Position-Taker. This type of end-user employs derivatives to dynamically manage risk, either to reduce risk or purposefully increase the risk profile of the institution. Active position-takers often use derivatives as surrogates for cash market instruments. These banks generally have large derivative positions relative to their total asset size. They also tend to use more complex derivative structures than other end-users.

Limited End-User. Limited end-users are characterized by smaller portfolios and lower transaction volume than active position-takers. This type of end-user primarily uses derivatives as an investment alternative or to manage interest rate risk. Many limited end-users engage in derivatives solely through ownership of structured notes in their investment portfolios. These banks tend to use simpler, more mature products (although certain structured notes may be extremely complex and illiquid).



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The following chart may be useful in distinguishing among participants in derivative markets:

Derivative Activity	Tier I Dealer	Tier II Dealer	Active Position-Taker	Limited End-User
Provides quotes to dealers	X			
Develops new products	X			
Provides quotes to customers	X	X		
Uses complex structures	X	X	X	*
Frequently engages in derivative transactions	X	X	X	
Acts as principal	X	X	X	X
Takes position risk	X	X	X	X
Uses mature products	X	X	X	X

*Although limited end-users generally tend to use simpler products, some have purchased certain structured notes that may be extremely complex and illiquid.

Options

Brief Description

Options transfer the right but not the obligation to buy or sell an underlying asset, instrument, or index on or before the option's exercise date at a specified price (the *strike price*). A *call option* gives the option purchaser the right but not the obligation to purchase a specific quantity of the underlying asset (from the call option seller) on or before the option's exercise date at the strike price. Conversely, a *put option* gives the option purchaser the right but not the obligation to sell a specific quantity of the underlying asset (to the put option seller) on or before the option's exercise date at the strike price.

The designation "option" is only applicable to the buyer's status in the transaction. An option *seller* has an obligation to perform, while a *purchaser* has an option to require performance of the seller and will only do so if it proves financially beneficial. Options can be written on numerous instruments. Commercial banks are typically involved most with interest-rate, foreign-exchange, and some commodity options. Options can be used in bank dealer activities, in a trading account, or to hedge various risks associated with the underlying instruments or portfolio.



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CHARACTERISTICS AND FEATURES

A basic option has six essential characteristics, as described below.

1. *Underlying security.* An option is directly linked to and its value is derived from a specific security, asset, or reference rate. Thus, options fit into the classification of “derivative instruments.” The security, asset, index, or rate against which the option is written is referred to as the option’s *underlying instrument*.
2. *Strike price.* The strike price is the price at which an option contract permits its owner to buy or sell the underlying instrument. The strike price is also referred to as the exercise price. A call option is said to be in the money when the price of the underlying asset exceeds the strike price. A put option is in the money when the price of the asset is less than the exercise price.
3. *Expiration date.* Options are “wasting assets”; they are only good for a prespecified amount of time. The date after which they can no longer be exercised is known as the *expiration date*.
4. *Long or short position.* Every option contract has a buyer and a seller. The buyer is said to have a long option position, while the seller has a short option position. This is not the same as having a long or short position in the *underlying instrument, index, or rate*. A bank which is *long puts* on government bonds has bought the right to *sell* government bonds at a given strike price. This gives the bank protection from falling bond prices. Conversely, if the bank were *short puts*, it would be obligating itself to *purchase* government bonds at a specific price.
5. *American or European.* The two major classifications of options are American and European. American options can be exercised on any date after purchase, up to and including the final expiration date. European options can be exercised only on the expiration date of the contract. Because American options give the holder an additional privilege of early exercise, they will generally be more valuable than European options. Most exchange options are American, while most over-the-counter (OTC) options are European.
6. *Premium.* The price paid for an option is referred to as the option’s *premium*. This premium amount is a dynamic measure of the factors which affect the option’s value. Therefore, options with identical contract terms can trade at a multitude of different premium levels over time. Premium has two components: *time value* and *intrinsic value*. Intrinsic value refers to the amount of value in the option if it were exercised today. Time value is the difference between the total premium and the intrinsic value; it encompasses the uncertainty of future price moves. The time value of an option is a function of the security’s volatility (or risk); the current level of interest rates; and the option’s maturity (or time to expiration). The option’s positive time value gradually approaches zero at



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expiration, with the option price at expiration equal to its intrinsic value.

For example, a long call option with a strike price of \$50 on an underlying security which is trading at \$52 has an intrinsic value of \$2. If the option is trading for a *total* price of \$3.50, \$1.50 of the price ($\$3.50 - \2.00) would be time value, reflecting the fact that the underlying security may further increase in value before the option's expiration. Not all options will have an intrinsic value component; often the entire premium amount is time value.

Exotic Options

In the past few years, the growth of so-called “exotic” derivative products has been significant. Options have been no exception, and many varied types of exotic options exist today which are traded in the OTC markets. Some of the more common exotic options are discussed below.

In general, markets for many of the exotic options are not as liquid as their more generic counterparts. Thus, a quoted price may not be a good indication of where actual liquidation of the trade could take place.

Asian options, also called average-price options, depend on the *average price* of the underlying security during the life of the option.

For example, a \$60 call on a security which settled at \$65 but traded at an average price of \$63.5 during the option's life would be worth only \$3.50 at expiration, not \$5. Because of this feature, which essentially translates into lower volatility, Asian options tend to trade for a lower premium than conventional options. These options are generally cash settled, meaning that the actual underlying does not change hands. They belong in the category known as *path dependent options*, meaning that the option's payoff depends on the path taken by the underlying security before the option's expiration.

Barrier options, are options which either come into existence or cease to exist based on a specified (or barrier) price on the underlying instrument. This also puts them in the category of path-dependent options. The two basic types of barrier options are knock-in and knock-out. A knock-in option, either put or call, comes into existence only when the underlying asset's price reaches a specified level. A knock-out option, either put or call, ceases to exist when the barrier price is reached. A typical knock-in put option has a barrier price which is higher than the strike price. Thus, the put only comes into existence when and if the barrier price is reached. A knockout call barrier price is generally below the strike price. A \$60 call with a \$52 barrier would cease to exist if at any time during the option's life the security traded \$52 or lower. Because of this cancelable feature, barrier options trade for lower premiums than conventional options. An important issue



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for barrier options is the frequency with which the asset price is monitored for the purposes of testing whether the barrier has been reached. Often the terms of the contract state that the asset price is observed once a day at the close of trading.

Bermudan options give the holder the right to exercise on multiple but specified dates over the option's life.

Binary options, also called digital options, are characterized by discontinuous payoffs. The option pays a fixed amount if the asset expires above the strike price, and pays nothing if it expires below the strike price. Regardless of how much the settlement price exceeds the strike price, the payoff for a binary option is fixed.

Contingent-premium options are options on which the premium is paid only if the option expires in the money. Because of this feature, these premiums tend to be higher than those for conventional options. The full premium is also paid at expiration, regardless of how in the money the option is. Thus, the premium paid can be significantly higher than the profit returned from the option position.

Installment options are options on which the total premium is paid in installments, with the actual option issued after the final payment. However, the buyer can cancel the payments before any payment date, losing only the premium paid to date and not the full premium amount.

Lookback options, also in the category of path-dependent, give call buyers the right to purchase the security for the lowest price attained during the option's life. Likewise, put sellers have the right to sell the security for the highest price attained during the option's life. The underlying asset in a lookback option is often a commodity. As with barrier options, the value of a lookback can depend on the frequency with which the asset price is monitored.

USES

Options can be used for hedging or speculative purposes. Hedgers can use options to protect against price movements in an underlying instrument or interest-rate exposure. Speculators can use options to take positions on the level of market volatility (if delta-hedged with the underlying instrument) or the direction and scope of price movements in the underlying asset.

The asymmetric payoff profile of an option is a unique feature that makes it an attractive hedging vehicle. For example, an investor with a long position in an underlying asset can buy a put option to offset losses from the long position in the asset if its price falls. In this instance, the investor's position in the asset will be protected at the strike price of the option, and yet the investor will still gain from any rise in the asset's value above the strike price. Of course, this protection against loss combined with the ability to gain from



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appreciation in the asset's value carries a price—the premium the investor pays for the option. In this sense, the purchase of an option to hedge an underlying exposure is analogous to the purchase of insurance.

Options may also be used to gain exposure to a desired market for a limited amount of capital. For instance, by purchasing a call option on a Treasury security, a portfolio manager can create a leveraged position on a Treasury security with limited downside. For the cost of the option premium, the portfolio manager can obtain upside exposure to a movement in Treasury rates on the magnitude of the full underlying amount.

Many banks sell interest-rate caps and floors to customers. Banks also frequently use caps and floors to manage their assets and liabilities. Caps and floors are essentially OTC interest-rate options customized for a borrower or lender. Most caps and floors reference LIBOR (and thus are effectively LIBOR options). Eurodollar options are essentially the exchange-traded equivalent of caps and floors.

A cap, which is written independent of a borrowing arrangement, acts as an insurance policy by capping the borrower's exposure (for a fee, the option premium) to higher borrowing costs if interest rates rise. This is equivalent to the cap writer selling the purchaser a call on interest rates. Above the cap rate, the purchaser is entitled to remuneration from the cap writer for the difference between the higher market rate and the cap rate. Often caps have a sequence of (three-month) expiration dates. Each of these three-month pieces is known as a *caplet*. A bank looking to ensure that it does not pay above a specified rate on its LIBOR-based liabilities can achieve this objective by purchasing an interest rate cap.

A floor is the opposite of a cap and sets a minimum level on interest rates. Thus, it is like a put option on interest rates. If interest rates fall below the floor rate, the purchaser is entitled to remuneration from the floor writer for the difference between the lower market rate and the floor rate. An asset manager with floating-rate LIBOR assets can purchase a floor to ensure that his or her return on the asset does not fall below the level of the floor.

An option strategy consisting of selling a floor and buying a cap is referred to as an interest-rate collar. Collars specify both the upper and lower limits for the rate that will be charged. It is usually constructed so that the price of the cap equals the price of the floor, making the net cost of the collar zero. Caps and floors are also linked to other indexes such as Constant Maturity Treasury rates (CMT), commercial paper, prime, and Treasury bills.

DESCRIPTION OF MARKETPLACE

Options trade both on exchanges and OTC. The vast majority of exchange options are American, while most OTC options tend to be European. Exchange-traded (or simply traded) options are generally standardized as to the underlying asset, expiration dates, and



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exercise prices. OTC options are generally tailored to meet a customer's specific needs. Banks, investment banks, and certain insurance companies are active market makers in OTC options. End-users of options include banks, money managers, hedge funds, insurance companies, corporations, and sovereign institutions.

PRICING

In terms of valuation and risk measurement, instruments with option characteristics differ significantly from other assets. In particular, options require an assessment of the probability distribution of possible movements in the relevant market-risk factors. Changes in the expected volatility of an instrument's price will affect the value of the option. Option values not only vary with the degree of expected volatility in the price of the underlying asset, but also vary with the price of the underlying in a decidedly asymmetric way.

Brief Overview on Option Valuation

Although the supply and demand for options is what directly determines their market prices, option valuation theory plays a crucial role in informing market participants on both sides of the market. A number of valuation techniques are used by market participants with which CENTRAL BANK OF EGYPT examiners should be familiar. The most often used and most famous option valuation model is that of for Black Scholes; other models are the Hull and White, and Black, Derman, and Toy (BDT) models.

An alternative technique used to value options is the binomial model. It is termed "binomial," because it is constructed as a "tree" of successive event points in which each branch has two possible events: the asset price either rises or falls. The amount of the rise or fall at each event point depends on the volatility of the underlying asset price. Each path of the variable—from the valuation date through each event point until expiration—then leads to an ultimate profit or loss for the option holder. The value of the option is then the "average" present value of these various ultimate outcomes. The binomial approach is attractive because it is capable of pricing a wider variety of options than Black-Scholes.

A final approach to valuing options is simply to value them using a large sample of randomly drawn potential future movements in the asset price, and calculate the average or expected value of the option.

Risk Measurement

Accurate measurement of derivative-related risks is necessary for proper monitoring and control. All significant risks should be measured and integrated into a bank-wide or corporate-wide risk management system. For example, price risk measurement should incorporate exposure from derivatives, as well as cash products.



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Measurement of some types of risk is an approximation. Certain risks, such as liquidity risk, can be very difficult to quantify precisely and can vary with economic and market conditions. At a minimum, management should regularly assess vulnerabilities to these risks in response to changing circumstances. The sophistication and precision of risk measurement methods will vary by the types, volumes, and riskiness of the activities. Various types of risk measurement methods are discussed later in this guidance within each risk section (e.g., sections on price, credit, and liquidity risk).

HEDGING

Financial institutions using options may choose from basically three hedging approaches:

1. hedging on a “perfectly matched” basis,
2. hedging on a “matched-book” basis, and
3. hedging on a portfolio basis.

Hedging on a Perfectly Matched Basis

Some financial institutions prefer to trade and hedge options on a perfectly matched basis. In this instance, the financial institution arranges an option transaction only if another offsetting option transaction with exactly the same specifications (that is to say, the same underlying asset, amount, origination date, and maturity date) is simultaneously available. The trade-off in trading options on a perfectly matched basis is that the financial institution may miss opportunities to enter into deals while it is waiting to find the perfect match. However, many risks are reduced or eliminated when options and other instruments are traded on a perfectly matched basis. In any event, the financial institution continues to assume credit risk when hedging on a perfectly matched basis.

Hedging on a Matched-Book Basis

As a practical matter, managing a portfolio of perfectly matched transactions is seldom possible because of the difficulty in finding two customers with perfectly offsetting needs. Less than perfectly matched hedging, called matched book hedging, attempts to approximate the perfectly matched approach. In matched-book hedging, all or most of the terms of the offsetting transactions are close but not exactly the same, or transactions are booked “temporarily” without an offsetting transaction.

For example, a financial institution may enter into an option transaction with a customer even if an offsetting OTC option transaction with similar terms is not available. The financial institution may temporarily hedge the risk associated with that option by using futures and exchange-traded options or forward contracts. When an appropriate offsetting transaction becomes available, the temporary hedge is unwound. In reality, it may be some time before an offsetting transaction occurs, and it may never occur. Typically, institutions that run a matched book establish position limits on the amount of residual



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exposure permitted. By offering transactions on a matched-book basis, financial institutions are able to assist their customers without waiting for a counterparty with simultaneous offsetting needs to appear.

Hedging on a Portfolio Basis

More sophisticated institutions usually find it more practical to hedge their exposure on a portfolio basis when they trade options (and other traded instruments) in more liquid markets, such as those for interest rates and foreign exchange. Portfolio hedging does not attempt to match each transaction with an offsetting transaction, but rather attempts to minimize and control the residual price exposure of the entire portfolio.

Risk-management or hedging models determine the amount of exposure remaining in the portfolio after taking into consideration offsetting transactions currently in the book. Offsetting transactions using futures, swaps, exchange traded options, the underlying asset, or other transactions are then entered into to reduce the portfolio's residual risk to a level acceptable to the institution. Portfolio hedging permits financial institutions to act more effectively as market makers for options and other traded instruments, entering into transactions as requested by customers. It is also more efficient and less costly than running a matched book since there is less need to exactly match the particulars of a transaction with an offsetting position.

DEFINING AND CONTROLLING FOREIGN EXCHANGE RISKS

Foreign exchange trading encompasses a variety of risks. Exchange rate risk, maturity gaps and interest rate risk relate to spot and forward trading. The latter two risks relate to exposures inherent in all phases of international banking.

Exchange Rate Risk

Exchange rate risk is an inevitable consequence of trading in a world in which foreign currency values move up and down in response to shifting market supply and demand. When a bank's dealer buys or sells a foreign currency from another bank or nonbank customer, exposure from a net open position is created. Until the time that the position can be covered by selling or buying an equivalent amount of the same currency, the bank is exposed to the risk that the exchange rate might move against it. That risk exists even if the dealer immediately seeks to cover the position because, in a market in which exchange rates are constantly changing, a gap of just a few moments can be long enough to transform a potentially profitable transaction into a loss. Since exchange rate movements can readily accumulate in one direction, a position carried overnight or over a number of days entails greater risk than one carried a few minutes or hours. Again, the acid test of a good trader is to know when to take a small loss before it becomes larger.

At any time, the trading function of a bank may have long positions in some currencies and short positions in others. These positions do not offset each other, even though, in



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practice, some currencies do tend to move more or less together. The bank's traders recognize the possibility that the currencies in which they have long positions may fall in value and currencies in which they have short positions may rise. Consequently, gross trading exposure is measured by adding the absolute value of each currency position expressed in dollars. The individual currency positions and the gross dealing exposure must be controlled to avoid unacceptable risks. To accomplish this, management limits the open positions dealers may take in each currency.

Practices vary among banks, but, at a minimum, limits are established on the magnitude of open positions which can be carried from one day to the next (overnight limits). Several banks set separate limits on open positions dealers may take during the day. These are called "daylight" limits. Formal limits on gross dealing exposure are also established by some banks, while others review gross exposure more informally. The various limits may be administered flexibly, but the authority to approve a temporary departure from the norm is typically reserved for a senior officer. For management and control purposes, most banks distinguish between positions arising from actual foreign exchange transactions (trading exposure) and the overall foreign currency exposure of the bank. The former includes the positions recorded by the bank's trading operations at the head office and at branches abroad. In addition to trading exposure, overall exposure incorporates all bank assets and liabilities denominated in foreign currencies including loans, investments, deposits, and the capital of foreign branches. Control of overall foreign currency exposure usually is the responsibility of a senior officer accountable to the bank's senior management.

Maturity Gaps and Interest Rate Risk

Interest rate risk arises whenever there are mismatches or gaps in the maturity structure of a bank's foreign exchange forward book. Managing maturity mismatches is an exacting task for a foreign exchange trader. In practice, the problem of handling mismatches is involved. Eliminating maturity gaps on a contract-by-contract basis is impossible for an active trading bank. Its foreign exchange book may include hundreds of outstanding contracts. Some will mature each business day. Since the book is changing continually as new transactions are made, the maturity gap structure also changes constantly.

While remaining alert to unusually large mismatches in maturities that call for special action, traders generally balance the net daily payments and receipts for each currency through the use of rollovers. Rollovers simplify the handling of the flow of maturing contracts and reduce the number of transactions needed to balance the book. Reliance on day-to-day swaps is a relatively sound procedure as long as interest rate changes are gradual and the size and length of maturity gaps are controlled. However, it does leave the bank exposed to sudden changes in relative interest rates between the Egypt and other countries, which influence market quotations for swap transactions and, consequently, the cost of bridging the maturity gaps in the foreign exchange book.



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The problem of containing interest rate risk is familiar to major money market banks. Their business often involves borrowing short-term and lending longer-term to benefit from the normal tendency of interest rates to be higher for longer maturities. But in foreign exchange trading, it is not just the maturity pattern of interest rates for one currency that counts. Rather, in handling maturity gaps, the differential between interest rates for two currencies is decisive. So the problem is more complex. To control interest rate risk, senior management generally imposes limits on the magnitude of mismatches in the foreign exchange book. Procedures vary, but separate limits are often set on a day-to-day basis for contracts maturing during the following week or two and for each consecutive half-monthly period for contracts maturing later. At the same time, management relies on branch officers abroad, domestic money market experts, and its Economic Research Department to provide an ongoing analysis of interest rate trends.

Credit Risk

When a bank books a foreign exchange contract, it faces a risk, however small, that the counterparty will not perform according to the terms of the contract. In both instances, there is a credit risk, although, in the foreign exchange case no extension of credit is intended. To limit credit risk, a careful evaluation of the creditworthiness of the customer is essential. Just as no bank can lend unlimited amounts to a single customer, no bank would want to trade unlimited amounts of foreign exchange with one counterparty.

Credit risk arises whenever a bank's counterparty is unable or unwilling to fulfill its contractual obligations. That happens most blatantly when a corporate customer enters bankruptcy or a bank counterparty is declared insolvent. In any foreign exchange transaction, each counterparty agrees to deliver a certain amount of currency to the other on a particular date. Every contract is immediately entered into the bank's foreign exchange book. In balancing its trading position, a bank counts on that contract being carried out in accordance with the agreed upon terms. If the contract is not liquidated, then the bank's position is unbalanced and the bank is exposed to the risk of changes in the exchange rates. To put itself in the same position it would have been in if the contract had been performed, a bank must arrange for a new transaction. The new transaction may have to be arranged at an adverse exchange rate. The trustee for a bankrupt company may perform only contracts, which are advantageous to the company and disclaim those contracts, which are disadvantageous.

Another and potentially more pernicious form of credit risk stems from the time zone differences between Egypt and foreign nations. For example, a bank selling sterling, for instance, must pay pounds to a counterparty earlier in the day than it will be credited with dollars in New York. In the intervening hours, a company can go into bankruptcy or a bank can be declared insolvent. Thus, the dollars may never be credited.

Managing credit risk is the joint responsibility of the bank's trading department and its credit officers. A bank normally deals with corporations and banks with which it has an



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established relationship. Dealing limits are set for each counterparty and are adjusted in response to changes in its financial condition. In addition, some banks set separate limits on the value of contracts that may mature on a single day with a particular customer. Some banks, recognizing credit risk increases as maturities lengthen, restrict dealings with certain customers to spot transactions or require compensating balances on forward transactions. A bank's procedures for evaluating credit risk and minimizing exposure are reviewed by supervisory authorities as part of the regular examination process.

Transfer Risk

At one time or another, virtually every country has interfered with international transactions in its currency. Interference might take the form of regulation of the local exchange market, restrictions on foreign investment by residents, or limits on inflows of investment funds from abroad. Governments take such measures for a variety of reasons: to improve control over the domestic banking system, or to influence the pattern of receipts and payments between residents and foreigners. Restrictions on the exchange market or on international transactions generally are intended to affect the level or movement of the exchange rate.

Changes in regulations or restrictions usually do have an important exchange market impact. From the viewpoint of a commercial bank's foreign currency traders, most disruptive are changes in rules, which interfere with the normal payments mechanism. Traders make foreign exchange contracts on the expectation that both parties will perform according to the terms of the contract. But if government regulations change and a counterparty is either forbidden to perform as expected or is required to do something extra, then a trader might be left with an unintended open position or an unintended maturity mismatch. As described in the previous section, dealing with unintended long or short positions can be costly.

Other changes in official regulations do not in the first instance, affect the payments mechanism, but they do influence international investment transactions. Consequently, when one of the factors affecting the buying or selling of a currency changes, the exchange rate is likely to respond. Currency traders usually try to limit open positions and maturity gap mismatches, whenever modifications in official regulations appear likely. Nevertheless, changes in controls often are unpredictable; and unanticipated changes in regulations can spark significant exchange rate response. Monitoring and responding to changing official exchange controls abroad has to be done by a well-run foreign exchange trading function.

POLICY

The relative importance of each of those risk determinants varies with each currency traded and with the country of each counterparty. Senior bank management must fully understand the risks involved in foreign exchange and money market operations and must



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establish, in writing, its goals and policies regarding those risks. Management must be able to defend logically the basis upon which such policies are formed. It is imperative that responsible officers, traders, clerks and auditors fully understand the intent as well as the detail set forth in those directives.

At a minimum, policies should define dealing limits and reporting requirements as well as accounting and audit and control systems to provide for proper surveillance over those limits and exceptions thereto. Limits must be established for overnight net positions in each currency. Depending on the size of the limits and the manner in which they are calculated, a smaller aggregate position limit for all currencies may be desirable. An aggregate limit should not permit the netting of short against long positions, but should require that they be added to determine conformance to that limit. Many banks consider whether to establish daylight (intraday) position limits only if efficient computerization and input systems are in effect to incorporate each trade into the appropriate currency position at nearly the precise moment it is transacted.

Gap (net inflow and outflow) limits must be instituted to control the risk of adverse rate movement and liquidity pressures for each currency for each daily, weekly, and biweekly future time frame designated in the bank's maturity reports. Such limits might range from stated absolute amounts for each time frame to weighted limits, which emphasize increasing rate movement exposure applicable to the relative distance into the future in which the gap appears. Aggregate trading and placement limits must be established for each customer, based primarily on the amount of business considered to be appropriate to its creditworthiness and, secondly, on the volume of its foreign currency needs. In addition, absolute sub-limits should be placed upon the amount of that customer's business, which may be settled on one day.

Should the customer be unable to meet obligations on one day, the trader will:

- Be forewarned against delivery prior to receipt of customer funds on the remaining contracts outstanding, and
- Have an opportunity to determine whether alternate cover must be obtained to meet third-party transactions which may initially have provided cover for the remaining transactions with that customer. It is difficult to monitor aggregate volume limits effectively and ensure compliance with settlement limits for a large number of customers. An effective settlement limit program for at least those relationships, which possess a greater potential for late delivery or default, should be enacted by senior management.

REPORTS

Properly designed reports are the most important supervisory tool available to management. They must be prepared in a concise, uniform and accurate manner and submitted punctually. Management should receive daily net position reports for each



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currency traded. Normally, position reports should include all foreign currency balance sheet items and future contracts as well as after hour and holdover transactions, excepting fixed assets and equity investments. The hedging of those investments is usually a management decision outside the normal responsibility of the traders. The reports should be prepared by the foreign exchange and money market bookkeeping section and reconciled daily to the trader's blotter. In the event that formal position reports cannot be submitted at the end of a business day, management should be apprised of the traders estimated position at the end of each day and especially before weekends and holidays.

Gap or maturity reports are essential to the proper management of a bank's liquidity in each foreign currency and significant maturity gaps may affect overall liquidity. Those reports should show daily gaps for at least the first two weeks to one month. Beyond that time, gap periods of a maximum of two weeks each are preferred. Gap reports are generally accurate only for the day on which they are prepared. Therefore, it is essential that banks have the capability to produce detailed management reports daily. Loans, deposits and future contracts as well as commitments to take or place deposits should be reflected in the periods in which they are scheduled for rollover or interest adjustment. In most instances, an additional report showing those items at final maturity is desirable in analyzing the bank's medium- and longer-term dependence on money market funding sources. Exception reports must be promptly generated upon the creation of excesses to position limits, gap limits and customer trading and settlement limits. Excesses over any established limits should conform to overall policy guidelines and should receive prior approval by the responsible supervisory officers. If prior approval is not possible, evidence of subsequent officer concurrence or disagreement as well as any corrective action should be available for audit review and management records.

REVALUATION AND ACCOUNTING SYSTEMS

Revaluation and accounting systems should be in place to accurately determine actual as well as estimated future profits and losses and to present them in such a manner as to facilitate proper income analysis by management, bank supervisory personnel and the public. As previously described, a bank's revaluation procedure should be test-checked at the time of monthly revaluation using independently obtained rates. While methods and systems may vary to some degree within banks, all revaluation systems should incorporate the following two aspects:

- Actual realized profit or loss as determined by applying current spot rates to balance sheet accounts as well as contracts of near maturities. Adjustments to the local currency book values would either be allocated and posted to each of the applicable local currency ledger accounts or, for short interim periods, be charged to a separate foreign exchange adjustment account with an offset to the profit and loss account.
- Unrealized (estimated future) profit or loss on future transactions as determined by applying the appropriate forward rates to the net positions shown for each future period



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appearing in the bank's gap or maturity reports. The account "estimated profit (loss) on foreign exchange-futures" is to be charged for the amount of the adjustment with an offset to the profit and loss account. Provided that the amount of that adjustment is the difference between the existing forward rates and the actual contract rates, each month's entries merely involve reversing the adjustment from the prior revaluation and entering the new figures.

OTHER RELATED MATTERS

Departmental Organization and Control

It is imperative that there be a distinct separation of duties and responsibilities between the trading and the accounting and confirmation functions within the department. Many opportunities exist to avoid established limits and policies or for personal financial gain, whether by speculating beyond loosely controlled limits, concealing contracts because of poor confirmation procedures or by simple fraud. Periodic audits and examinations are no substitute for the existence of sound safeguards.

Supervision of Branches and Subsidiaries

Whether a bank maintains central control over all foreign-exchange and money market activities at the head office or elects to decentralize that control, the policies, systems, internal controls, and reporting procedures should not differ among separate offices within the bank.

The bank should be apprised of its worldwide positions by daily summary reports. Detailed net position and maturity gap reports should be received periodically in order to prepare consolidated positions, as required, and to monitor individual unit trading volume and funding methods. Information provided in the Treasury Department monthly foreign-currency reports is adequate for the preparation of reports of examination and can be adapted easily to reporting for currencies other than those specified in the reporting instructions.



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Foreign Exchange Examination Objectives

1. To determine the adequacy of board and senior management supervision of the bank's foreign exchange and derivative activities.
2. To determine if the policies, practices, procedures and internal controls regarding foreign exchange and derivative activities are adequate.
3. To determine preparedness of bank officers, traders and clerks to perform their assigned duties and to check what ongoing training for staff exists.
4. To determine if bank officers, traders and clerks are operating within the established guidelines.
5. To determine the extent of risk attributable to net open positions, maturity gaps, counterparty credit weakness, and derivative activities.
6. To evaluate foreign exchange and derivatives-related profitability.
7. To determine the scope and adequacy of the audit function.
8. To determine if the revaluation and accounting systems are adequate and accurately reflect the results of the trading operation.
9. To determine compliance with laws and regulations.
10. To initiate corrective action when policies, practices, procedures or internal controls are deficient, or when violations of laws or regulations have been noted.



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Foreign Exchange Examination Procedures

While carrying out the examination procedures, Central Bank examiners should remember that as an examiner you are looking both at the quality and quantity of foreign exchange risk(sovereign, economic, transaction, exchange, and translation. Examiners are collecting balance sheets, income statements, and cashflow statements, forecasts and other information to make the best judgment possible about existing foreign exchange risk and the potential direction of that risk.

1. Complete or update the foreign exchange section of the Internal Control Questionnaire.
2. Based on the evaluation of internal controls and the work performed by internal and external auditors, determine the scope of the examination.
3. Test for compliance with policies, practices, procedures and internal controls in conjunction with the remaining examination procedures. Also obtain a listing of any deficiencies noted in the latest review done by internal/external auditors, and determine if appropriate corrections have been made.
4. Obtain a trial balance, including local currency book values, of customer spot and future contract liabilities by customer and by maturities and:
 - a. Agree or reconcile balances to appropriate subsidiary controls and to the general ledger.
 - b. Review reconciling items for reasonableness.
5. Review foreign currency and appropriate local currency subsidiary control ledgers to determine that for each local currency entry there is an accompanying foreign currency entry unless they represent:
 - a. Brokerage charges to the local currency ledger.
 - b. Profit and loss adjustments to the local currency ledger.
 - c. Correction of errors in either ledger.
6. Provide liability and other information on common borrowers to the examiner assigned to Loan Portfolio Management.
7. Identify those contracts with counterparties, who are affiliates of or otherwise related to the bank, its directors, officers, employees, or major shareholders, and



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- a. Compare the contracted rates with available rates for the same transaction date or with other similar contracts entered as of the same transaction date.
 - b. Investigate any instances involving off-market rates.
8. Perform an independent revaluation of at least one major currency using rates obtained from independent sources, and compare results to the accounting department's monthly foreign exchange profit and loss entries.
9. Check the most recent revaluation workpapers and resultant accounting entries to determine that:
- a. Foreign currency amounts and book values were properly reconciled to subsidiary ledger controls.
 - b. Rates used are representative of market rates as of revaluation date.
 - c. Arithmetic is correct.
 - d. Profit and loss results are separately recorded and reported to management for:
 - Realized profit or loss, i.e., that which is determined through the application of spot rates.
 - Unrealized (estimated future) profit and loss, i.e., that which is determined through the application of forward rates.
 - e. Financial swap related assets, liabilities and future contracts are excluded from the normal revaluation process so that the results identified in step 9d reflect more accurately the trader's outright dealing performance.
 - f. Financial swap related costs and profits are:
 - Amortized over the life of the applicable swap.
 - Appropriately accounted for as interest income and expense on loans, securities, etc. Test financial swap income and expense calculations and verify the accounting entries.
10. Review workpapers for selected revaluations performed since last examination. Testcheck and, if satisfied that they are accurate,
- a. Analyze combined realized earnings to determine that profits are commensurate



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with risks taken.

b. Analyze monthly unrealized revaluation results (forecasts) to determine that:

- The resulting amount for the last revaluation, if loss, is not large.
- An increasing loss trend over previous revaluations does not exist. (Although month-to-month variations are not uncommon, an increasing unrealized loss trend could indicate that a trader is caught in a loss position and is pursuing a notion that a negative trend in the exchange rate for that currency will reverse and, if combined with an ever multiplying increase in volume, might eventually be able to repay accumulated losses.)

11. Obtain the percentage of total contracts outstanding (dollar value of purchases plus sales that are with corporate customers). Analyze this percentage in regard to trend and comparison, if possible, to banks with similar trading volume. Ascertain if corporate volume is commensurate with written policy in regards to purpose and scope of the foreign exchange trading function.

12. Determine compliance with laws and regulations pertaining to foreign exchange activities by performing the following:

a. Obtain the most recently prepared monthly and weekly reports and review for accuracy.

b. Select random bank-prepared daily net position reports for Wednesdays and month-end business days and test to see that:

- Reports are being filed as required.
- Reports are accurate.

Be aware of instances in which net positions are generally large but reduced as of Wednesday and month-end reporting dates.

13. Discuss with appropriate officers and prepare in appropriate report format:

a. Net position schedules.

b. Maturity gap schedules.

c. Frequent or sizeable excesses over any established limits.

d. Any limits deemed excessive relative to:



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- Management's policy goals regarding the nature and volume of business intended.
 - The bank's capital structure.

 - The creditworthiness of trading counterparties.

 - Individual currencies, which are subject to or are experiencing relatively sporadic rate changes.

 - Individual currencies for which limited spot and future markets exist.

 - Experience of traders.

 - The bank's foreign exchange earnings record.
- e. The absence of any limits deemed appropriate in present and foreseeable circumstances.
- f. Customers whose obligations are otherwise previously classified or intended to be criticized.
- g. Foreign exchange contracts which, for any other reason, are questionable in quality or ultimate settlement.
- h. Violations of laws and regulations.
- i. Deficiencies in internal controls.
- j. Other matters regarding the efficiency and general condition of the foreign exchange department.
14. Update the work papers with any information that will facilitate future examinations.



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Foreign Exchange Internal Control Questionnaire

This questionnaire is designed to help Central Bank examiners capture as much information on qualitative and quantitative foreign exchange risk that arises from spot, forward, swap, and derivative instruments.

A review of the bank's internal controls, policies, practices and procedures, regarding foreign exchange trading is essential to ensure no excessive risk or exposures exist. The bank's systems should be documented in a complete and concise manner and include, where appropriate, narrative descriptions, flowcharts, copies of forms used and other pertinent information. Items marked with an asterisk are particularly significant and require substantiation by observation or testing.

POLICIES

1. Are foreign exchange related policies comprehensive? Are they approved by the Board and delegated committees?

Specifically, has the board of directors, consistent with its responsibilities, adopted written policies governing:

a. Countries with which trading is allowed?

b. Currencies allowed and trading limits, including:

- Overall trading volume?
- Overnight net position limits per currency?
- Intra-day net position limits per currency?
- Aggregate net position limit for all currencies combined?
- Maturity gap limits per currency?
- Individual customer aggregate trading limits, including spot transactions?
- Written approval of excesses to above limits?

d. Is hedging permitted?

- 1 If so, what type of instruments are allowed?



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- 2 And when?
 - 3 What durations are permitted?
- e. Segregation of duties among traders, bookkeepers and confirmation personnel?
- f. Accounting and revaluation procedures?
- g. Management reporting requirements?
3. Are policies :
- The consistent with the bank’s overall strategic direction and tolerance limits.
 - appropriate to address hedging requirements and standards.
 - adequate to address the appropriateness and use of monitoring systems.
 - established to detail the results expected from hedging activities.
 - clear foreign currency translation risk operation and whether responsibility and accountability is assigned at all levels.
 - clear on the reasonableness of the definitions that guide policy exceptions and guidelines for approving policy exceptions.
 - appropriate in establishing risk limits or positions, including periodic reassessment.
4. Do policies attempt to minimize:
- a. Undue pressure on traders to meet specific budgeted earnings goals?
 - b. Undue pressure on traders, by account officers, to provide preferred rates to certain customers?
- *5. Are traders prohibited from dealing with customers for whom trading lines have not been established?
6. Are all personnel, except perhaps the head trader, prohibited from effecting transactions via off-premises communication facilities?
7. Is approval by a non-trading officer required for all compensated transactions?
8. Do credit approval procedures exist for settlement (delivery) risk either in the form of settlement limits or other specific management controls?
9. Does a policy procedure exist to ensure that, in case of an uncertain or emergency situation, the bank’s delivery will not be made before receipt of counterparty funds?
10. Do the above policies apply to all branch offices as well as majority-owned or controlled subsidiaries of the bank?



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11. Does the bank have written policies covering:

- a. Foreign exchange transactions with its own employees?
- b. Foreign exchange transactions with members of its board of directors?
- c. Its traders' personal foreign exchange activities?
- d. Its employees' personal business relationships with foreign exchange and money brokers with whom the bank trades?

*12. Are policies well understood and uniformly interpreted by all traders as well as accounting and auditing personnel?

13. Does personnel understand strategic direction, risk tolerance limits, and policies set by the Board of Directors and Senior Management? Does the Board of Directors and Senior Management set policies and standards for:

- The depth of technical and managerial expertise.
- The appropriateness of performance management and compensation programs.
- The appropriateness of management's response to deficiencies identified in policies, processes, personnel, and control systems.
- The level of turnover of critical staff.
- The commitment and adequacy of training, development and continuing education of staff.
- The ability of managers to implement new products, services, and systems in response to changing business, economic, or competitive conditions.
- The understanding of and adherence to the bank's strategic direction and risk tolerance as defined by senior management and the board.

TRADING FUNCTION

14. Is a trader's position sheet maintained for each currency traded?

*15. Does management receive a trader's position report at the end of each trading day?

*16. Does the trader's position report reflect the same day's holdover and after-hours transactions?

17. Are trader's dealing tickets prenumbered?

- a. If so, are records and controls adequate to ascertain their proper sequential



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and authorized use?

*b. Regardless of whether or not pre-numbered,

- Are dealing tickets time date stamped, as completed, or
- Are dealing tickets otherwise identified with the number of the resultant contract to provide a proper audit trail?

ACCOUNTING AND REPORTING

*18. Is there a definite segregation of duties, responsibility and authority between the trading room and the accounting and reporting functions within the division and/or branch?

19. Are contract forms prenumbered (if so, are records and controls adequate to ensure their proper sequential and authorized use)?

20. Are contracts signed by personnel other than the traders?

*21. Are after-hours or holdover contracts posted as of the dates contracted?

*22. Do accounting personnel prepare a daily position report, for each applicable currency, from the bank's general ledger and:

- a. Do reports include all accounts denominated in foreign currency?
- b. Are those reports reconciled daily to the trader's position reports?
- c. Are identified or unreconciled differences reported immediately to management and to the head trader?
- d. Are all counterparty non-deliveries on expected settlements reported immediately to management and to the head trader?

*23. Are maturity gap reports prepared for liquidity and foreign exchange managers at least biweekly to include:

- a. Loans and deposits reflected in the appropriate forward maturity periods along with foreign exchange contracts?
- b. Loans, deposits and foreign exchange contracts (specify whether reflected in the maturity periods in which they fall due or in which they are scheduled for rollover)?



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c. Commitments to accept or place deposits reflected in the appropriate maturity periods by both value and maturity dates?

d. All those items (specify whether as of the day on which they mature or bi-weekly or monthly maturity periods)?

e. All those items as of the day on which they mature, if necessary, i.e., in the event of a severe liquidity situation?

*24. Does the accounting system render excesses of all limits identified at step 1 immediately to appropriate management and is officer approval required?

*25. Are local currency equivalent subsidiary records for foreign exchange contracts balanced daily to the appropriate general ledger account(s)?

*26. Are foreign exchange record copy and customer liability ledger trial balances prepared and reconciled monthly to subsidiary control accounts by employees who do not process or record foreign exchange transactions?

27. Do the accounting and filing systems provide for easy identification of “financial swap” related assets, liabilities and future contracts by stamping contracts or maintaining a control register?

CONFIRMATIONS

28. Is there a designated “confirmation clerk” within the accounting section of the division or branch?

*a. Incoming confirmations:

- Are incoming confirmations delivered directly to the confirmation clerk and not to trading personnel?

- Are signatures on incoming confirmations verified with signature cards for:

- Authenticity?

- Compliance with advised signatory authorizations of the counterparty?

- Are all data on each incoming confirmation verified with file copies of contracts to include:



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- Name?
 - Currency denomination and amount?
 - Rate?
 - Transaction date?
 - Preparation date if different from transaction date?
 - Maturity date?
 - Delivery instructions , if applicable?
-
- Are discrepancies directed to an officer apart from the trading function for resolution?

 - Is a confirmation discrepancy log or other record maintained to reflect the identity and disposition of each discrepancy?

 - Are telex tapes retained for at least 90 days as ready reference to rates and delivery instructions?
- *b. Outgoing confirmations:
- Are outgoing confirmations mailed/telexed on the day during which each trade is effected?

 - Are outgoing confirmations addressed to the attention of persons other than trading personnel at counterparty locations?

 - Does the accounting and/or filing system adequately segregate and/or identify booked contracts for which no incoming confirmations have been received?

 - Are follow-up confirmations sent by the confirmation clerk if no corresponding, incoming confirmation is received within a limited number of days after the contract is effected (if so, specify)?

 - Is involvement by the auditing department required if no confirmation is received within a limited number of days after the transmittal of the second request referred to above (if so, specify)?

 - Are confirmation forms sent in duplicate to customers who do not normally confirm?

 - Are return copies required to be signed?



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REVALUATIONS

*29. Are revaluations of foreign currency accounts performed at least monthly?

a. Does the revaluation system provide for segregation of and separate accounting for:

- Realized profits and losses, i.e., those which are determined through the application of spot rates?
- Unrealized profits and losses, i.e., those which are determined through the application of forward rates?

b. Are financial swap related assets, liabilities and future contracts excluded from the revaluation process so that the results identified in step 26a above more accurately reflect the trader's outright dealing performance?

c. Are financial swap costs and profits:

- Amortized over the life of the applicable swap?
- Appropriately accounted for as interest income and expense on loans, securities, etc?

d. Are rates provided by, or at least verified with, sources other than the traders?

OTHER

*30. Is the bank's system capable of adequately disclosing sudden increases in trading volume by any one trader?

31. Do such increases require officer review to insure that the trader is not doubling volume in an attempt to regain losses in his or her positions?

32. Does the bank retain information on, and authorizations for, all overdraft charges and brokerage bills within the last 12 months?

33. Does an appropriate officer review a comparison of brokerage charges, monthly, to determine if an inordinate share of the bank's business is directed to or handled by one broker?



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CONCLUSION

34. Is the foregoing information an adequate basis for evaluating internal control in that there are no significant deficiencies in areas not covered in this questionnaire that impair any controls? Explain negative answers briefly, and indicate any additional examination procedures deemed necessary.



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. c. Investment Securities

Introduction

This section provides guidance on the management of a bank's securities (fixed income and equity) and security derivative products. The guidance applies to (1) all securities in held-to-maturity and available-for-sale (2) all certificates of deposit held for investment purposes, and (3) all derivative contracts not held in trading accounts (end-user derivative contracts). The guidance also covers all securities used for investment purposes, including money market instruments, fixed- and floating-rate notes and bonds, structured notes, mortgage pass-through and other asset-backed securities, and mortgage-derivative products. All end-user derivative instruments used for non-trading purposes, such as swaps, futures, and options, are also discussed.

Market Risk

Central Bank of Egypt examiners must keep in mind that they are analyzing banks' fixed income and equity holdings to determine the level of market risk that exists or could exist in the bank.

Market risk is the exposure of an institution's financial condition to adverse movements in the market rates or prices of its holdings before such holdings can be liquidated or expeditiously offset. It is measured by assessing the effect of changing rates or prices on either the earnings or economic value of an individual instrument, a portfolio, or the entire institution. Although many banking institutions focus on carrying values and reported earnings when assessing market risk at the institutional level, other measures focusing on total returns and changes in economic or fair values better reflect the potential market-risk exposure of institutions, portfolios, and individual instruments. Changes in fair values and total returns directly measure the effect of market movements on the economic value of an institution's capital and provide significant insights into their ultimate effects on the institution's long-term earnings. Institutions should manage and control their market risks using both an earnings and an economic-value approach, and at least on an economic or fair value basis.

Permissibility and Appropriateness of Instruments

Institutions must ensure that their investment and end-user activities are permissible and appropriate within established limitations and restrictions on bank holdings of these instruments. Institutions should also employ sound risk-management practices consistently across these varying product categories, regardless of their legal characteristics or nomenclature. This section provides examiners with guidance on-

- the permissibility and appropriateness of securities holdings by member banks;



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- sound risk-management practices and internal controls used by banking institutions in their investment and end-user activities;
- the review of securities and derivatives acquired by the bank's international division and overseas branches for its own account, as well as the bank's foreign equity investments that are held either directly or indirectly;
- banking agency policies on certain high-risk mortgage-derivative products; and
- unsuitable investment practices.

Fixed Income Products

Government Paper

Egyptian Treasury bills, notes, and bonds (collectively known as “Treasuries”) are issued by the Central Bank of Egypt on behalf of the Ministry of Finance and represent direct obligations of the Egyptian government. Treasuries have very little credit risk and are backed by the full faith and credit of the Egyptian government. Treasuries are issued in various maturities of up to 10 years.

CHARACTERISTICS AND FEATURES

Treasury Bills

Treasury bills, or T-bills, are negotiable, tradable, non-interest bearing securities with original maturities of three months, six months, and one year. T-bills are offered by the Treasury in minimum denominations of EGP , with multiples of EGP thereafter, and are offered only in book entry form. T-bills are issued at a discount from face value and are redeemed at par value. The difference between the discounted purchase price and the face value of the T-bill is the interest income that the purchaser receives. The yield on a T-bill is a function of this interest income and the maturity of the T-bill. The returns are treated as ordinary income for tax purposes, and are exempt from any other taxes.

Treasury Notes and Bonds

Egyptian treasury notes are currently issued in maturities of 2, 3, 5, and 10 years. Egyptian treasury notes are callable. Notes and bonds pay interest semiannually, when coupon rates are set at the time of issuance based on fixed interest rates and demand for the issue. Notes and bonds are issued monthly or quarterly, depending on Ministry of Finance requirements and depending on the maturity of the issue. Notes and bonds settle regular-way, which is same day after the trade date (T+0). Interest is calculated using an actual/365-day-count convention.



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Banks use Treasuries for investment, hedging, and speculative purposes. The lack of credit risk and relative liquidity encourages the use of Treasuries as investment vehicles, and they are often held in a bank's investment portfolio as a source of liquidity. Since it is the deepest and most efficient financial market available, many fixed income and derivative instruments are priced relative to Treasuries. Speculators often use Treasuries to take positions on changes in the level and term structure of interest rates.

DESCRIPTION OF MARKETPLACE

Issuing Practices

T-bills are issued at regular intervals on a yield auction basis. The three-month, six-month, and one year T-bills are auctioned every Tuesday. The amount of T-bills to be auctioned is released on the preceding Tuesday, with settlement occurring on the Tuesday following the auction. The auction of T-bills is done on a competitive-bid basis (the lowest yield bids are chosen because they will cost the Treasury less money). Noncompetitive bids will be introduced with the primary dealer system. The price paid by these bids (if allocated a portion of the issue) will be an average of the price resulting from the competitive bids.

Two-year and 5-year notes are issued once a month. The notes are generally announced near the middle of each month and auctioned one week later. They are usually issued on the last day of each month. Auctions for 3-year and 10-year notes are usually announced on the first Wednesday of February, May, August, and November. The notes are generally auctioned during the second week of those months and issued on the 15th day of the month.

Primary Market

- *Multiple-price auction for T-bills only.* Competitive bids are ranked by the yield bid, from lowest to highest. The lowest price (highest yield) needed to place the allotted securities auction is determined. Treasuries are then allocated to noncompetitive bidders at the average yield for the accepted competitive bids. After all Treasuries are allocated to noncompetitive bidders, the remaining securities are allocated to competitive bidders, with the bidder bidding the highest price (lowest yield) being awarded first. This procedure continues until the entire allocation of securities remaining to be sold is filled. Regional dealers who are not primary government dealers often get their allotment of Treasury notes and bonds through primary dealers, who may submit bids for the accounts of their customers as well as for their own accounts. This type of auction is used for 3-year and 10-year notes.

Market Transparency



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Price transparency is relatively high for Treasury securities since several information vendors disseminate prices to the investing public. Prices of Treasuries are active and visible.

HEDGING

Treasuries are typically hedged in the futures or options markets or by taking a contra position in another Treasury security. Also, if a position in notes or bonds is hedged using an OTC option, the relative illiquidity of the option may diminish the effectiveness of the hedge.

RISKS

Market Risk

The risks of trading Treasury securities arise primarily from the interest-rate risk associated with holding positions and the type of trading conducted by the institution. Treasury securities are subject to price fluctuations because of changes in interest rates. Longer-term issues have more price volatility than shorter-term instruments. A large concentration of long-term maturities may subject a bank's investment portfolio to increased interest-rate risk. For instance, an institution that does arbitrage trading by buying an issue that is relatively cheap (that is, an off-the-run security) in comparison to historical relationships and selling one that is relatively expensive (that is, a current security) may expose itself to large losses if the spread between the two securities does not follow its historical alignments. In addition, dealers may take positions based on their expectations of interest-rate changes, which can be risky given the size of positions and the impact that small changes in rates have on the value of longer duration instruments. If this type of trading is occurring, the institution's risk-management system should be sufficiently sophisticated to handle the magnitude of risk to which the dealer is exposed.



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Liquidity Risk

Because of their lower liquidity, off-the-run securities generally have a higher yield than current securities. Many institutions attempt to arbitrage these pricing anomalies between current and off-the-run securities.

RISK-BASED CAPITAL WEIGHTING

Egyptian Treasury bills, notes, and bonds have a zero percent risk weighting.

Corporate Bonds

Corporate bonds are debt obligations issued by corporations. Corporate bonds may be either secured or unsecured. Collateral used for secured debt includes but is not limited to real property, machinery, equipment, accounts receivable, stocks, bonds, or notes. If the debt is unsecured, the bonds are known as debentures. Bondholders, as creditors, have a prior legal claim over common and preferred stockholders as to both income and assets of the corporation for the principal and interest due them and may have a prior claim over other creditors if liens or mortgages are involved.

Corporate bonds contain elements of both interest-rate risk and credit risk. Corporate bonds usually yield more than government or agency bonds due to the presence of credit risk. Corporate bonds are issued as *registered bonds* and are usually sold in *book-entry form*. Interest may be fixed, floating, or the bonds may be zero coupons. Interest on corporate bonds is typically paid semiannually and is fully taxable to the bondholder.

CHARACTERISTICS and FEATURES

Security for Bonds

Various types of security may be pledged to offer security beyond that of the general standing of the issuer. Secured bonds, such as first mortgage bonds, collateral trust bonds, and equipment trust certificates, yield a lower rate of interest than comparable unsecured bonds because of the greater security they provide to the bondholder.

First-Mortgage Bonds

First-mortgage bonds normally grant the bondholder a first-mortgage lien on the property of the issuer. Often first-mortgage bonds are issued in series with bonds of each series secured equally by the same first mortgage.

Collateral Trust Bonds

Collateral trust bonds are secured by pledges of stocks, notes, bonds, or other collateral. Generally, the market or appraised value of the collateral must be maintained at some percentage of the amount of the bonds outstanding, and a provision for withdrawal of



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some collateral is often included, provided other acceptable collateral is provided. Collateral trust bonds may be issued in series.

Equipment Trust Certificates

Equipment trust certificates are usually issued by railroads or airlines. The issuer, such as a railroad company or airline, buys a piece of equipment from a manufacturer, who transfers the title to the equipment to a trustee. The trustee then leases the equipment to the issuer and at the same time sells equipment trust certificates (ETCs) to investors. The manufacturer is paid off through the sale of the certificates, and interest and principal are paid to the bondholders through the proceeds of lease payments from the issuer to the trustee. At the end of some specified period of time, the certificates are paid off, the trustee sells the equipment to the issuer for a nominal price, and the lease is terminated. As the issuer does not own the equipment, foreclosing a lien in event of default is facilitated. These bonds are often issued in serial form.

Debenture Bonds

Debenture bonds are not secured by a specific pledge of designated property. Debenture bondholders have the claim of general creditors on all assets of the issuer not pledged specifically to secure other debt. They also have a claim on pledged assets to the extent that these assets have value greater than necessary to satisfy secured creditors. Debentures often contain a variety of provisions designed to afford some degree of protection to bondholders, including limitation on the amount of additional debt issuance, minimum maintenance requirements on net working capital, and limits on the payment of cash dividends by the issuer. If an issuer has no secured debt, it is customary to provide a *negative pledge clause*-a provision that debentures will be secured equally with any secured bonds that may be issued in the future.

Subordinated and Convertible Debentures

Subordinated debenture bonds stand behind secured debt, debenture bonds, and often some general creditors in their claim on assets and earnings. Because these bonds are weaker in their claim on assets, they yield a higher rate of interest than comparable secured bonds. Often, subordinated debenture bonds offer conversion privileges to convert bonds into shares of an issuer's own common stock or the common stock of a corporation other than an issuer- referred to as *exchangeable bonds*.

Guaranteed Bonds

Guaranteed bonds are guaranteed by a corporation other than the issuer. The safety of a guaranteed bond depends on the financial capability of the guarantor, as well as the financial capability of the issuer. The terms of the guarantee may call for the guarantor to guarantee the payment of interest and/or repayment of principal. A guaranteed bond may have more than one corporate guarantor, who may be responsible for not only its pro rata share but also the entire amount guaranteed by other guarantors. Maturity Corporate



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bonds are issued in a broad maturity spectrum, ranging from less than one year to perpetual issues. Issues maturing within one year are usually viewed as the equivalent of cash items. Debt maturing between one and five years is generally thought of as short-term. Intermediate-term debt is usually considered to mature between 5 and 12 years, whereas long-term debt matures in more than 12 years.

Interest-Payment Characteristics

Fixed-Rate Bonds

Most fixed-rate corporate bonds pay interest semiannually and at maturity. Interest payments once a year are the norm for bonds sold overseas. Interest on corporate bonds is based on a 360-day year, made up of twelve 30-day months.

Zero-Coupon Bonds

Zero-coupon bonds are bonds without coupons or a stated interest rate. These securities are issued at discounts to par; the difference between the face amount and the offering price when first issued is called the *original-issue discount* (OID). The rate of return depends on the amount of the discount and the period over which it accretes. In bankruptcy, a zero-coupon bond creditor can claim the original offering price plus accrued and unpaid interest to the date of bankruptcy filing, but not the principal amount of \$1,000.

Floating-Rate Notes

The coupon rates for floating-rate notes are based on various benchmarks ranging from short-term rates, such as prime and 30-day commercial paper, to one-year and longer *constant maturity Treasury rates* (CMTs). Coupons are usually quoted as spread above or below the base rate (that is, three-month LIBOR + 15 bp). The interest rate paid on floating-rate notes adjusts based on changes in the base rate. For example, a note linked to three-month U.S. LIBOR would adjust every three months, based on the then-prevailing yield on three-month U.S. LIBOR. Floating-rate notes are often subject to a maximum (cap) or minimum (floor) rate of interest.

Features

A significant portion of corporate notes and bonds has various features. These include call provisions, in which the issuer has the right to redeem the bond before maturity; put options, in which the holder has the right to redeem the bond before maturity; sinking funds, used to retire the bonds at maturity; and convertibility features that allow the holder to exchange debt for equity in the issuing company.



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Callable Bonds

Callable bonds are bonds in which the investor has sold a call option to the issuer. This increases the coupon rate paid by the issuer but exposes the investor to prepayment risk. If market interest rates fall below the coupon rate of the bond on the call date, the issuer will call the bond and the investor will be forced to invest the proceeds in a low-interest-rate environment. As a rule, corporate bonds are callable at a premium above par, which declines gradually as the bond approaches maturity.

Put Bonds

Put bonds are bonds in which the investor has purchased a put option from the issuer. The cost of this put option decreases the coupon rate paid by the issuer, but decreases the risk to an investor in a rising interest-rate environment. If market rates are above the coupon rate of the bond at the put date, the investor can “put” the bond back to the issuer and reinvest the proceeds of the bond in a high-interest-rate environment.

Sinking-Fund Provisions

Bonds with sinking-fund provisions require the issuer to retire a specified portion on a bond issue each year. This type of provision reduces the default risk on the bond because of the orderly retirement of the issue before maturity. The investor assumes the risk, however, that the bonds may be called at a special sinking fund call price at a time when interest rates are lower than rates prevailing at the time the bond was issued. In that case, the bonds will be selling above par but may be retired by the issuer at the special call price that may be equal to par value.

Convertible Bonds

Convertible securities are fixed income securities that permit the holder the right to acquire, at the investor’s option, the common stock of the issuing corporation under terms set forth in the bond indenture. New convertible issues typically have a maturity of 25 to 30 years and carry a coupon rate below that of a nonconvertible bond of comparable quality. An investor in a convertible security receives the upside potential of the common stock of the issuer, combined with the safety of principal in terms of a prior claim to assets over equity security holders. The investor, however, pays for this conversion privilege by accepting a significantly lower yield-to maturity than that offered on comparable nonconvertible bonds. Also, if anticipated corporate growth is not realized, the investor sacrifices current yield and risks having the price of the bond fall below the price paid to acquire it.

Commercial banks may purchase eligible convertible issues if the yield obtained is reasonably similar to nonconvertible issues of similar quality and maturity, and the issues are not selling at a significant conversion premium.

USES

Corporate bonds can be used for hedging, investment, or speculative purposes. In some



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instances, the presence of credit risk and lack of liquidity in various issues may discourage their use. Speculators can use corporate bonds to take positions on the level and term structure of both interest rates and corporate spreads over government securities.

Banks often purchase corporate bonds for their investment portfolios. In return for increased credit risk, corporate bonds provide an enhanced spread relative to Treasury securities. Banks may purchase investment-grade corporate securities subject to a 10 percent limitation of its capital and surplus for one obligor. Banks are prohibited from underwriting or dealing in these securities.

Banks often act as corporate trustees for bond issues. A corporate trustee is responsible for authenticating the bonds issued and ensuring that the issuer complies with all of the covenants specified in the indenture.

PRICING

The major factors influencing the value of a corporate bond are-

- its coupon rate relative to prevailing market interest rates (typical of all bonds, bond prices will decline when market interest rates rise above the coupon rate, and prices will rise when interest rates decline below the coupon rate) and
- the issuer's credit standing (a change in an issuer's financial condition or ability to finance the debt can cause a change in the risk premium and price of the security). Other factors that influence corporate bond prices are the existence of call options, put features, sinking funds, convertibility features, and guarantees or insurance. These factors can significantly alter the risk/return profile of a bond issue. (These factors and their effect on pricing are discussed in the "Characteristics and Features" subsection above.)

The majority of corporate bonds is traded on the over-the-counter market and they are priced as a spread over government Treasuries. Most often the benchmark government Treasury is the on-the-run (current coupon) issue. However, pricing "abnormalities" can occur where the benchmark government Treasury is different from the on-the-run security.

HEDGING

Interest-rate risk for corporate debt can be hedged either with cash, exchange-traded, or over-the-counter instruments. Typically, long corporate bond or note positions are hedged by selling a government Treasury issue of similar maturity or by shorting an exchange-traded futures contract. The effectiveness of the hedge depends, in part, on basis risk and the degree to which the hedge has neutralized interest-rate risk. Hedging strategies may incorporate assumptions about the correlation between the credit spread and government



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rates. The effectiveness of these strategies may be affected if these assumptions prove inaccurate. Hedges can be constructed with securities from the identical issuer but with varying maturities. Alternatively, hedges can be constructed with issuers within an industry group. The relative illiquidity of various corporate instruments may diminish hedging effectiveness.

RISKS

Interest-Rate Risk

For fixed-income bonds, prices fluctuate with changes in interest rates. The degree of interest rate sensitivity depends on the maturity and coupon of the bond. Floating-rate issues lessen the bank's interest-rate risk to the extent that the rate adjustments are responsive to market rate movements. For this reason, these issues generally have lower yields to compensate for their benefit to the holder.

Prepayment or Reinvestment Risk

Call provisions will also affect a bank's interest rate exposure. If the issuer has the right to redeem the bond before maturity, the action has the potential to adversely alter the investor's exposure. The issue is most likely to be called when market rates have moved in the issuer's favor, leaving the investor with funds to invest in a lower-interest-rate environment.

Credit Risk

Credit risk is a function of the financial condition of the issuer or the degree of support provided by a credit enhancement. The bond rating may be a quick indicator of credit quality. However, changes in bond ratings may lag behind changes in financial condition. Banks holding corporate bonds should perform a periodic financial analysis to determine the credit quality of the issuer.

Some bonds will include a credit enhancement in the form of insurance or a guarantee by another corporation. The safety of the bond may depend on the financial condition of the guarantor, since the guarantor will make principal and interest payments if the obligor cannot. Credit enhancements often are used to improve the credit rating of a bond issue, thereby reducing the rate of interest that the issuer must pay. Zero-coupon bonds may pose greater credit risk problems. When a zero-coupon bond has been sold at a deep discount, the issuer must have the funds to make a large payment at maturity. This potentially large balloon repayment may significantly increase the credit risk of the issue.

Liquidity Risk

Major issues are actively traded in large amounts, and liquidity concerns may be small.



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Trading for many issues, however, may be inactive and significant liquidity problems may affect pricing. The trading volume of a security determines the size of the bid/ask spread of a bond. This provides an indication of the bond's marketability and, hence, its liquidity. A narrow spread of between one-quarter to one-half of 1 percent may indicate a liquid market, while a spread of 2 percent or 3 percent may indicate poor liquidity for a bond. Even for major issues, news of credit problems may cause temporary liquidity problems.

Event Risk

Event risk can be large for corporate bonds. This is the risk of an unpredictable event that immediately affects the ability of an issuer to service the obligations of a bond. Examples of event risk include leveraged buyouts, corporate restructurings, or court rulings that affect the credit rating of a company. To mitigate event risk, some indentures include maintenance of net worth clause, which requires the issuer to maintain its net worth above a stipulated level. If the requirement is not met, the issuer must begin to retire its debt at par.

RISK-BASED CAPITAL WEIGHTING

Corporate notes and bonds should be weighted at 100 percent.

Equity Investments

The bank's ownership of corporate stocks may include common stock (ownership in the company) or preferred stock (limited life or unlimited: convertible or non-convertible to common shares: depending on the offering terms). Common stock is a permanent source of funding for the company's operation, and as such, the bank's position is that of part owner of the company based on the number of shares owned.

Preferred stock may be issued with a limited duration (limited life) or unlimited. Dividends may be cumulative or non-cumulative and are payable prior to the payment of any common stock dividends. Depending on the offering terms, preferred stock may be convertible into common shares.

EXAMINATION CONSIDERATIONS

Oversight by the Board of Directors and Senior Management

Equity investment activities require the active oversight of the board of directors and senior management of the depository institution that is conducting the private equity investment activities. The board should approve portfolio objectives, overall investment strategies, and general investment policies that are consistent with the institution's financial condition, risk profile, and risk tolerance. Portfolio objectives should address



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the types of investments, expected business returns, desired holding periods, diversification parameters, and other elements of sound investment-management oversight. Board approved objectives, strategies, policies, and procedures should be documented and clearly communicated to all the personnel involved in their implementation. The board should actively monitor the performance and risk profile of equity investment business lines in light of the established objectives, strategies, and policies.

The board also should ensure that there is an effective management structure for conducting the institution's equity activities, including adequate systems for measuring, monitoring, controlling, and reporting on the risks of equity investments. The board should approve policies that specify lines of authority and responsibility for both acquisitions and sales of investments. The board should also approve (1) limits on aggregate investment and exposure amounts; (2) the types of investments (for example, direct and indirect, mezzanine financing, start-ups, seed financing); and (3) appropriate diversification-related aspects of equity investments such as industry, sector, and geographic concentrations.

Level of Risk

Active oversight by the institution's board of directors and relevant senior management is critical to a sound risk-management process. Examiners should ensure that these individuals are aware of their responsibilities and that they adequately perform their appropriate roles in overseeing and managing the risks associated with non-trading activities involving securities and derivative instruments.

The board of directors has the ultimate responsibility for the level of risk taken by the institution. Accordingly, the board should approve overall business strategies and significant policies that govern risk-taking, including those involving securities and derivative contracts. In particular, the board should approve policies identifying managerial oversight and articulating risk tolerances and exposure limits for securities and derivative activities. The board should also actively monitor the performance and risk profile of the institution and its various securities and derivative portfolios.

Directors should periodically review information that is sufficiently detailed and timely to allow them to understand and assess the credit, market, and liquidity risks facing the institution as a whole and its securities and derivative positions in particular. These reviews should be conducted at least quarterly and more frequently when the institution holds significant positions in complex instruments. In addition, the board should periodically reevaluate the institution's business strategies and significant risk-management policies and procedures, placing special emphasis on the institution's financial objectives and risk tolerances. The minutes of board meetings and accompanying reports and presentation materials should clearly demonstrate the board's fulfillment of these basic responsibilities. The section of this guidance on managing



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specific risks provides guidance on the types of objectives, risk tolerances, limits, and reports that directors should consider.

The board of directors should also conduct and encourage discussions between its members and senior management, as well as between senior management and others in the institution, on the institution's risk-management process and risk exposures. Although it is not essential for board members to have detailed technical knowledge of these activities, if they do not, it is their responsibility to ensure that they have adequate access to independent legal and professional advice on the institution's securities and derivative holdings and strategies. The familiarity, technical knowledge, and awareness of directors and senior management should be commensurate with the level and nature of an institution's securities and derivative positions. Accordingly, the board should be knowledgeable enough or have access to independent advice to evaluate recommendations presented by management or investment advisors.

Senior Management

For its part, senior management must ensure that there are adequate policies, procedures, and management information systems for managing equity investment activities on a day-to-day and longer-term basis. Management should set clear lines of authority and responsibility for making and monitoring investments and for managing risk. Management should ensure that an institution's equity investment activities are conducted by competent staff, whose technical knowledge and experience are consistent with the scope of the institution's activities.

Senior management is responsible for ensuring that there are adequate policies and procedures for conducting investment and end-user activities on both a long-range and day-to-day basis. Management should maintain clear lines of authority and responsibility for acquiring instruments and managing risk, setting appropriate limits on risk-taking, establishing adequate systems for measuring risk, setting acceptable standards for valuing positions and measuring performance, establishing effective internal controls, and enacting a comprehensive risk-reporting and risk-management review process. To provide adequate oversight, management should fully understand the institution's risk profile, including that of its securities and derivative activities. Examiners should review the reports to senior management and evaluate whether they provide both good summary information and sufficient detail to enable management to assess the sensitivity of securities and derivative holdings to changes in credit quality, market prices and rates, liquidity conditions, and other important risk factors.

As part of its oversight responsibilities, senior management should periodically review the organization's risk management procedures to ensure that they remain appropriate and sound. Senior management should also encourage and participate in active discussions with members of the board and with risk-management staff regarding risk measurement, reporting, and management procedures. Management should ensure that



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investment and end-user activities are conducted by competent staff whose technical knowledge and experience is consistent with the nature and scope of the institution's activities. There should be sufficient depth in staff resources to manage these activities if key personnel are not available. Management should also ensure that back office and financial-control resources are sufficient to manage and control risks effectively.

Independence in Managing Risks

The process of measuring, monitoring, and controlling risks within an institution should be managed as independently as possible from those individuals who have the authority to initiate transactions. Otherwise, conflicts of interest could develop. The nature and extent of this independence should be commensurate with the size and complexity of an institution's securities and derivative activities. Institutions with large and complex balance sheets or with significant holdings of complex instruments would be expected to have risk managers or risk management functions fully independent of the individuals who have the authority to conduct transactions. Institutions with less complex holdings should ensure that there is some mechanism for independently reviewing both the level of risk exposures created by securities and derivative holdings and the adequacy of the process used in managing those exposures. Depending on the size and nature of the institution, this review function may be carried out by either management or a board committee. Regardless of size and sophistication, institutions should ensure that back-office, settlement, and transaction-reconciliation responsibilities are conducted and managed by personnel who are independent of those initiating risk-taking positions.

Policies, Procedures, and Limits

Institutions should maintain written policies and procedures that clearly outline their approach for managing securities and derivative instruments. These policies should be consistent with the organization's broader business strategies, capital adequacy, technical expertise, and general willingness to take risks. They should identify relevant objectives, constraints, and guidelines for both acquiring instruments and managing portfolios. In doing so, policies should establish a logical framework for limiting the various risks involved in an institution's securities and derivative holdings. Policies should clearly delineate lines of responsibility and authority over securities and derivative activities.

They should also provide for the systematic review of products new to the firm. Examiners should evaluate the adequacy of an institution's risk-management policies and procedures in relation to its size, its sophistication, and the scope of its activities.

Specifying Objectives

Institutions can use securities and derivative instruments for several primary and complementary purposes. Such purposes include, but are not limited to, generating earnings, creating funding opportunities, providing liquidity, hedging risk exposures,



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taking risk positions, modifying and managing risk profiles, managing tax liabilities, and meeting pledging requirements. Banking organizations should articulate these objectives clearly and identify the types of securities and derivative contracts to be used for achieving them. Objectives also should be identified at the appropriate portfolio and institutional levels. These objectives should guide the acquisition of individual instruments and provide benchmarks for periodically evaluating the performance and effectiveness of an institution's holdings, strategies, and programs. Whenever multiple objectives are involved, management should identify the hierarchy of potentially conflicting objectives.

Identifying Constraints, Guidelines, and Limits

An institution's policies should clearly articulate the organization's risk tolerance by identifying its willingness to take the credit, market, and liquidity risks involved in holding securities and derivative contracts. A statement of authorized instruments and activities is an important vehicle for communicating these risk tolerances. This statement should clearly identify permissible instruments or instrument types and the purposes or objectives for which the institution may use them. The statement also should identify permissible credit quality, market-risk sensitivity, and liquidity characteristics of the instruments and portfolios used in nontrading activities. For example, in the case of market risk, policies should address the permissible degree of price sensitivity and/or effective maturity volatility, taking into account an instrument's or portfolio's option and leverage characteristics. Specifications of permissible risk characteristics should be consistent with the institution's overall credit-, market-, and liquidity-risk limits and constraints, and should help delineate a clear set of institutional limits for use in acquiring specific instruments and managing portfolios. Limits can be specified either as guidelines within the overall policies or in management operating procedures. Further guidance on managing specific risks and on the types of constraints and limits an institution might use in managing the credit, market, and liquidity risk of securities and derivative contracts is provided later in this section.

Limits should be set to guide acquisition and ongoing management decisions, control exposures, and initiate discussion within the organization about apparent opportunities and risks. Although procedures for establishing limits and operating within them may vary among institutions, examiners should determine whether the organization enforces its policies and procedures through a clearly identified system of risk limits. The organization's policies should also include specific guidance on the resolution of limit excesses. Positions that exceed established limits should receive the prompt attention of appropriate management and should be resolved according to approved policies.

Limits should implement the overall risk tolerances and constraints articulated in general policy statements. Depending on the nature of an institution's holdings and its general sophistication, limits can be identified for individual business units, portfolios, instrument types, or specific instruments. The level of detail of risk limits should reflect the



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characteristics of the institution's holdings, including the types of risk to which the institution is exposed. Regardless of their specific form or level of aggregation, limits should be consistent with the institution's overall approach to managing various types of risks. They should also be integrated to the fullest extent possible with institution-wide limits on the same risks as they arise in other activities of the firm. Later in this section, specific examiner considerations for evaluating the policies and limits used in managing each of the various types of risks involved in non-trading securities and derivative activities are addressed.

New-Product Review

An institution's policies should also provide for effective review of any products being considered that would be new to the firm. An institution should not acquire a meaningful position in a new instrument until senior management and all relevant personnel (including those in internal control, legal, accounting, and auditing functions) understand the product and can integrate it into the institution's risk-measurement and control systems. An institution's policies should define the terms "new product" and "meaningful position" consistent with its size, complexity, and sophistication. Institutions should not be hesitant to define an instrument as a new product. Small changes in the payment formulas or other terms of relatively simple and standard products can greatly alter their risk profiles and justify designation as a new product. New product reviews should analyze all of the relevant risks involved in an instrument and assess how well the product or activity achieves specified objectives. New-product reviews also should include a description of the relevant accounting guidelines and identify the procedures for measuring, monitoring, and controlling the risks involved.

Accounting Guidelines

The accounting systems and procedures used for general-purpose financial statements and regulatory reporting purposes are critically important to enhancing the transparency of an institution's risk profile. Accordingly, an institution's policies should provide clear guidelines on accounting for all securities and derivative holdings. Accounting treatment should be consistent with specified objectives and with the institution's regulatory requirements. Furthermore, institutions should ensure that they designate each cash or derivative contract for accounting purposes consistent with appropriate accounting policies and requirements. Accounting for non-trading securities and Off Balance Sheet derivative contracts should reflect the economic substance of the transactions. When instruments are used for hedging purposes, the hedging rationale and performance criteria should be well documented. Management should reassess these designations periodically to ensure that they remain appropriate.

Risk-Measurement and Reporting Systems

Clear procedures for measuring and monitoring risks are the foundation of a sound risk



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management process. Examiners should ensure that an institution sufficiently integrates these functions into its ongoing management process and that relevant personnel recognize their role and understand the instruments held.

Risk Measurement

An institution's system for measuring the credit, market, liquidity, and other risks involved in cash and derivative contracts should be as comprehensive and accurate as practicable. The degree of comprehensiveness should be commensurate with the nature of the institution's holdings and risk exposures. Exposures to each type of risk (that is, credit, market, liquidity) should be aggregated across securities and derivative contracts and integrated with similar exposures arising from lending and other business activities to obtain the institution's overall risk profile.

Examiners should evaluate whether the risk measures and the risk-measurement process are sufficient to accurately reflect the different types of risks facing the institution. Institutions should establish clear risk-measurement standards for both the acquisition and ongoing management of securities and derivative positions. Risk-measurement standards should provide a common framework for limiting and monitoring risks and should be understood by relevant personnel at all levels of the institution—from individual managers to the board of directors.

Acquisition standards. Institutions conducting securities and derivative activities should have the capacity to evaluate the risks of instruments before acquiring them. Before executing any transaction, an institution should evaluate the instrument to ensure that it meets the various objectives, risk tolerances, and guidelines identified by the institution's policies. Evaluations of the credit-, market-, and liquidity-risk exposures should be clearly and adequately documented for each acquisition. Documentation should be appropriate for the nature and type of instrument; relatively simple instruments would probably require less documentation than instruments with significant leverage or option characteristics.

Institutions with significant securities and derivative activities are expected either to conduct in-house pre-acquisition analyses or use specific third-party analyses that are independent of the seller or counterparty. Analyses provided by the originating dealer or counterparty should be used only when a clearly defined investment advisory relationship exists. Less active institutions with relatively uncomplicated holdings may use risk analyses provided by the dealer only if the analyses are derived using standard industry calculators and market conventions. Such analyses must comprehensively depict the potential risks involved in the acquisition, and they should be accompanied by documentation that sufficiently demonstrates that the acquirer understands fully both the analyses and the nature of the institution's relationship with the provider of these analyses. Notwithstanding information and analyses obtained from outside sources, management is ultimately responsible for understanding the nature and risk profiles of the



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institution's securities and derivative holdings.

When reviewing an instrument, it is a prudent practice for institutions to obtain and compare price quotes and risk analyses from more than one dealer before acquisition. Institutions should ensure that they clearly understand the responsibilities of any outside parties that provide analyses and price quotes. If analyses and price quotes provided by dealers are used, institutions should assume that each party deals at arm's length for its own account unless a written agreement stating otherwise exists. Institutions should exercise caution when dealers limit the institution's ability to show securities or derivative contract proposals to other dealers to receive comparative price quotes or risk analyses. As a general sound practice, unless the dealer or counterparty is also acting under a specific investment advisory relationship, an investor or end-user should not acquire an instrument or enter into a transaction if its fair value or the analyses required to assess its risk cannot be determined through a means that is independent of the originating dealer or counterparty.

Portfolio-management standards. Institutions should periodically review the performance and effectiveness of instruments, portfolios, and institutional programs and strategies. This review should be conducted at least quarterly and should evaluate the extent to which the institution's securities and derivative holdings meet the various objectives, risk tolerances, and guidelines established by the institution's policies. For example, the performance of instruments and portfolios used to meet objectives for tax-advantaged earnings should be evaluated to ensure that they meet the necessary credit rating, market-sensitivity, and liquidity characteristics established for this objective.

Institutions with large or highly complex holdings should conduct reviews more frequently. For internal measurements of risk, effective measurement of the credit, market, and liquidity risks of many securities and derivative contracts requires mark-to-market valuations. Accordingly, the periodic revaluation of securities and derivative holdings is an integral part of an effective risk-measurement system. Periodic revaluations should be fully documented. When available, actual market prices should be used. For less liquid or complex instruments, institutions with only limited holdings may use properly documented periodic prices and analyses provided by dealers or counterparties. More active institutions should conduct periodic revaluations and portfolio analyses using either in-house capabilities or outside-party analytical systems that are independent of sellers or counterparties. Institutions should recognize that indicative price quotes and model revaluations may differ from the values at which transactions can be executed.

Stress testing. Analyzing the credit, market, and liquidity risk of individual instruments, portfolios, and the entire institution under a variety of unusual and stressful conditions is an important aspect of the risk-measurement process. Management should seek to identify the types of situations, or the combinations of credit and market events, that could produce substantial losses or liquidity problems. Typically, management considers



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the institution's consolidated exposures when managing non-trading securities and derivative contracts; therefore, the effect of stress on these exposures should be reviewed.

Stress tests should evaluate changes in market conditions, including alternatives in the underlying assumptions used to value instruments. All major assumptions used in stress tests should be identified. Stress tests should not be limited to quantitative exercises that compute potential losses or gains, but should include qualitative analyses of the tools available to management to deal with various scenarios. Contingency plans outlining operating procedures and lines of communication, both formal and informal, are important products of such qualitative analyses.

The appropriate extent and sophistication of an institution's stress testing depend heavily on the scope and nature of its securities and derivative holdings and on its ability to limit the effect of adverse events. Institutions holding securities or derivative contracts with complex credit, market, or liquidity risk profiles should have an established regime of stress testing. Examiners should consider the circumstances at each institution when evaluating the adequacy or need for stress-testing procedures.

Risk Reporting

An accurate, informative, and timely management information system is essential. Examiners should evaluate the adequacy of an institution's monitoring and reporting of the risks, returns, and overall performance of security and derivative activities to senior management and the board of directors. Management reports should be frequent enough to provide the responsible individuals with adequate information to judge the changing nature of the institution's risk profile and to evaluate compliance with stated policy objectives and constraints.

Management reports should translate measured risks from technical and quantitative formats to formats that can be easily read and understood by senior managers and directors, who may not have specialized and technical knowledge of all financial instruments used by the institution. Institutions should ensure that they use a common conceptual framework for measuring and limiting risks in reports to senior managers and directors. These reports should include the periodic assessment of the performance of appropriate instruments or portfolios in meeting their stated objective, subject to the relevant constraints and risk tolerances.

Management Evaluation and Review

Management should regularly review the institution's approach and process for managing risks. This includes regularly assessing the methodologies, models, and assumptions used to measure risks and limit exposures. Proper documentation of the elements used in measuring risks is essential for conducting meaningful reviews. Limits should be compared with actual exposures. Reviews should also consider whether existing



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measures of exposure and limits are appropriate in view of the institution's holdings, past performance, and current capital position. The frequency of the reviews should reflect the nature of an institution's holdings and the pace of market innovations in measuring and managing risks. At a minimum, institutions with significant activities in complex cash or derivative contracts should review the underlying methodologies of the models they use at least annually-and more often as market conditions dictate-to ensure that they are appropriate and consistent.

Reviews by external auditors or other qualified outside parties, such as consultants with expertise in highly technical models and risk-management techniques, may often supplement these internal evaluations. Institutions depending on outside parties to provide various risk-measurement capabilities should ensure that the outside institution has personnel with the necessary expertise to identify and evaluate the important assumptions incorporated in the risk measurement methodologies it uses.

Comprehensive Internal Controls and Audit Procedures

Institutions should have adequate internal controls to ensure the integrity of the management process used in investment and end-user activities. Internal controls consist of procedures, approval processes, reconciliations, reviews, and other mechanisms designed to provide a reasonable assurance that the institution's risk-management objectives for these activities are achieved. Appropriate internal controls should address all of the various elements of the risk-management process, including adherence to policies and procedures, the adequacy of risk identification, and risk measurement and reporting.

An important element of a bank's internal controls for investment and end-user activities is comprehensive evaluation and review by management. Management should ensure that the various components of the bank's risk management process are regularly reviewed and evaluated by individuals who are independent of the function they are assigned to review. Although procedures for establishing limits and for operating within them may vary among banks, management should conduct periodic reviews to determine whether the organization complies with its investment and end-user risk management policies and procedures.

Positions that exceed established limits should receive the prompt attention of appropriate management and should be resolved according to the process described in approved policies. Periodic reviews of the risk-management process should also address any significant changes in the nature of instruments acquired, limits, and internal controls that have occurred since the last review. Examiners should also review the internal controls of all key activities involving securities and derivative contracts. For example, for transaction recording and processing, examiners should evaluate and assess adherence to the written policies and procedures for recording transactions. They should also analyze the transaction-processing cycle to ensure the integrity and accuracy of the institution's



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records and management reports. Examiners should review all significant internal controls associated with the management of the credit, market, liquidity, operational, and legal risks involved in securities and derivative holdings.

The examiner should review the frequency, scope, and findings of any independent internal and external auditors relative to the institution's securities and derivative activities. When applicable, internal auditors should audit and test the risk-management process and internal controls periodically. Internal auditors are expected to have a strong understanding of the specific products and risks faced by the organization. In addition, they should have sufficient expertise to evaluate the risks and controls of the institution. The depth and frequency of internal audits should increase if weaknesses and significant issues exist or if portfolio structures, modeling methodologies, or the overall risk profile of the institution has changed.

In reviewing risk management of non-trading securities and derivative activities, internal auditors should thoroughly evaluate the effectiveness of the internal controls used for measuring, reporting, and limiting risks. Internal auditors should also evaluate compliance with risk limits and the reliability and timeliness of information reported to the institution's senior management and board of directors, as well as the independence and overall effectiveness of the institution's risk-management process. The level of confidence that examiners place in an institution's audit programs, the nature of the audit findings, and management's response to those findings will influence the scope of the current examination of securities and derivative activities.

Examiners should pay special attention to significant changes in the nature of instruments acquired, risk-measurement methodologies, limits, and internal controls that have occurred since the last examination. Significant changes in earnings from securities and derivative contracts, in the size of positions, or in the value at-risk associated with these activities should also receive attention during the examination.

Evaluating Management of Specific Risks

Examiners are expected to conduct an adequate evaluation of the risk-management process used to acquire and manage the securities and derivative contracts used in non-trading activities. In conducting this analysis, examiners should evaluate the following four key elements of a sound risk-management process:

- active board and senior management oversight
- adequate risk-management policies and limits
- appropriate risk-measurement and reporting systems
- comprehensive internal controls

This section identifies basic factors that examiners should consider in evaluating these elements for investment and end-user activities; it reiterates and supplements existing



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guidance and directives on the use of these instruments for non-trading purposes as provided in various supervisory letters and examination manuals.

In evaluating an institution's risk-management process, examiners should consider the nature and size of its holdings. Examiner judgment plays a key role in assessing the adequacy of an institution's risk-management process for securities and derivative contracts. Examiners should focus on evaluating an institution's understanding of the risks involved in the instruments it holds. Regardless of any responsibility, legal or otherwise, assumed by a dealer or counterparty for a particular transaction, the acquiring institution is ultimately responsible for understanding and managing the risks of the transactions into which it enters. Failure of an institution to adequately understand, monitor, and evaluate the risks involved in its securities or derivative positions, either through lack of internal expertise or inadequate outside advice, constitutes an unsafe and unsound banking practice.

As with all risk-bearing activities, institutions should fully support the risk exposures of non-trading activities with adequate capital. Banking organizations should ensure that their capital positions are sufficiently strong to support all the risks associated with these activities on a fully consolidated basis and should maintain adequate capital in all affiliated entities engaged in these activities. In evaluating the adequacy of an institution's capital, examiners should consider any unrecognized net depreciation or appreciation in an institution's securities and derivative holdings. Further consideration should also be given to the institution's ability to hold these securities and thereby avoid recognizing losses.

Specific considerations in evaluating the key elements of sound risk-management systems as they relate to the credit, market, liquidity, operating, and legal risks involved in securities and derivative contracts for non-trading activities are described below.

Credit Risk

Broadly defined, credit risk is the risk that an issuer or counterparty will fail to perform on an obligation to the institution. The policies of an institution should recognize credit risk as a significant risk posed by the institution's securities and derivative activities. Accordingly, policies should identify credit-risk constraints, risk tolerances, and limits at the appropriate instrument, portfolio, and institutional levels. In doing so, institutions should ensure that credit-risk constraints are clearly associated with specified objectives. For example, credit-risk constraints and guidelines should be defined for instruments used to meet pledging requirements, generate tax-advantaged income, hedge positions, generate temporary income, or meet any other specifically defined objective.

As a matter of general policy, an institution should not acquire securities or derivative contracts until it has assessed the creditworthiness of the issuer or counterparty and determined that the risk exposure conforms to its policies. The credit risk arising from



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these positions should be incorporated into the overall credit-risk profile of the institution to the fullest extent possible.

Given the interconnectedness of the various risks facing the institution, organizations should also evaluate the effect of changes in issuer or counterparty credit standing on an instrument's market and liquidity risk. As a matter of policy, the board of directors and responsible senior management should be informed of the institution's total credit-risk exposures at least quarterly.

Selection of securities dealers. In managing their credit risk, institutions also should consider settlement and pre-settlement credit risk. The selection of dealers, investment bankers, and brokers is particularly important in managing these risks effectively. An institution's policies should identify criteria for selecting these organizations and list all approved firms. The approval process should include a review of each firm's financial statements and an evaluation of its ability to honor its commitments. An inquiry into the general reputation of the dealer is also appropriate. The board of directors or a committee thereof should set limits on the amounts and types of transactions authorized for each firm. They should also periodically review and reconfirm the list of authorized dealers, investment bankers, and brokers.

The management of a depository institution should have sufficient knowledge about the securities firms and personnel with whom they are doing business. A depository institution should not engage in securities transactions with any securities firm that is unwilling to provide complete and timely disclosure of its financial condition. Management should review the securities firm's financial statements and evaluate the firm's ability to honor its commitments both before entering into transactions with the firm and periodically thereafter. An inquiry into the general reputation of the dealer also is necessary.

The board of directors or an appropriate committee of the board should periodically review and approve a list of securities firms with whom management is authorized to do business. The board or an appropriate committee thereof should also periodically review and approve limits on the amounts and types of transactions to be executed with each authorized securities firm. Limits to be considered should include dollar amounts of unsettled trades, safekeeping arrangements, repurchase transactions, securities lending and borrowing, other transactions with credit risk, and total credit risk with an individual dealer.

At a minimum, depository institutions should consider the following in selecting and retaining a securities firm:

- the ability of the securities dealer and its subsidiaries or affiliates to fulfill commitments as evidenced by their capital strength,



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liquidity, and operating results (This evidence should be gathered from current financial data, annual reports, credit reports, and other sources of financial information.)

- the dealer's general reputation or financial stability and its fair and honest dealings with customers (Other depository institutions that have been or are currently customers of the dealer should be contacted.)
- information available from securities regulators and securities industry self-regulatory organizations
- in those instances when the institution relies on the advice of a dealer's sales representative, the experience and expertise of the sales representative with whom business will be conducted

In addition, the board of directors (or an appropriate committee of the board) must ensure that the depository institution's management has established appropriate procedures to obtain and maintain possession or control of securities purchased. Purchased securities and repurchase agreement collateral should only be left in safekeeping with selling dealers when (1) the board of directors or an appropriate committee thereof is completely satisfied as to the creditworthiness of the securities dealer and (2) the aggregate market value of securities held in safekeeping is within credit limitations that have been approved by the board of directors (or an appropriate committee of the board) for unsecured lending

A bank's Board of Directors should establish prudent limits for safekeeping arrangements. These prudential limits generally involve a fiduciary relationship, which presents operational rather than credit risks.

To avoid concentrations of assets or other types of risk, banking organizations should, to the extent possible, try to diversify the firms they use for safekeeping arrangements. Further, while certain transactions with securities dealers and safekeeping custodians may entail only operational risks, other transactions with these parties may involve credit risk that could, under some limited circumstances, be subject to statutory lending limits, depending on applicable state laws. If certain transactions are deemed subject to a state's legal lending limit statute because of a particular safekeeping arrangement, the provisions of the state's statutes would, of course, control the extent to which the safekeeping arrangement complies with an individual legal lending limit.



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Limits. An institution's credit policies should also include guidelines on the quality and quantity of each type of security that may be held. Policies should provide credit-risk diversification and concentration limits, which may define concentrations to a single or related issuer or counterparty, in a geographical area, or in obligations with similar characteristics. Policies should also include procedures, such as increased monitoring and stop-loss limits, for addressing deterioration in credit quality. Sound credit-risk management requires that credit limits be developed by personnel who are independent of the acquisition function. In authorizing issuer and counterparty credit lines, these personnel should use standards that are consistent with those used for other activities conducted within the institution and with the organization's overall policies and consolidated exposures. To assess the creditworthiness of other organizations, institutions should not rely solely on outside sources, such as standardized ratings provided by independent rating agencies, but should perform their own analysis of a counterparty's or issuer's financial strength. In addition, examiners should review the credit approval process to ensure that the credit risks of specific products are adequately identified and that credit-approval procedures are followed for all transactions.

For most cash instruments, credit exposure is measured as the current carrying value. In the case of many derivative contracts, especially those traded in OTC markets, credit exposure is measured as the replacement cost of the position, plus an estimate of the institution's potential future exposure to changes in the replacement value of that position in response to market price changes. Replacement costs of derivative contracts should be determined using current market prices or generally accepted approaches for estimating the present value of future payments required under each contract, at current market rates.

The measurement of potential future credit risk exposure for derivative contracts is more subjective than the measurement of current exposure and is primarily a function of the time remaining to maturity; the number of exchanges of principal; and the expected volatility of the price, rate, or index underlying the contract. Potential future exposure can be measured using an institution's own simulations. Regardless of the method an institution uses, examiners should evaluate the reasonableness of the assumptions underlying the institution's risk measure.

For derivative contracts and certain types of cash transactions, master agreements (including netting agreements) and various credit enhancements (such as collateral or third-party guarantees) can reduce settlement, issuer, and counterparty credit risk. In such cases, an institution's credit exposures should reflect these risk reducing features only to the extent that the agreements and recourse provisions are legally enforceable in all relevant jurisdictions. This legal enforceability should extend to any insolvency proceedings of the counterparty. Institutions should be prepared to demonstrate sufficient due diligence in evaluating the enforceability of these contracts.

In reviewing credit exposures, examiners should consider the extent to which positions exceed credit limits and whether exceptions are resolved according to the institution's



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adopted policies and procedures. Examiners should also evaluate whether the institution's reports adequately provide all personnel involved in the acquisition and management of financial instruments with relevant, accurate, and timely information about the credit exposures and approved credit lines.

Management of the Equity Investment Process

Institutions engaging in equity investment activities should have a sound process for executing all elements of investment management, including initial due diligence, periodic reviews of holdings, investment valuation, and realization of returns. This process requires appropriate policies, procedures, and management information systems, the formality of which should be commensurate with the scope, complexity, and nature of an institution's equity investment activities. The supervisory review should be risk-focused, taking into account the institution's stated tolerance for risk, the ability of senior management to govern these activities effectively, the materiality of activities in comparison to the institution's risk profile, and the capital position of the institution.

Depository institutions engaging in equity investment activities require effective policies that (1) govern the types and amounts of investments that may be made, (2) provide guidelines on appropriate holding periods for different types of investments, and (3) establish parameters for portfolio diversification. Investment strategies and permissible types of investments should be clearly identified.

Portfolio diversification policies should identify factors pertinent to the risk profile of the investments being made, such as industry, sector, geographic, and market factors. Policies establishing expected holding periods should specify the general criteria for liquidation of investments and guidelines for the divestiture of an underperforming investment. Decisions to liquidate underperforming investments are necessarily made on a case-by-case basis considering all relevant factors. Policies and procedures, however, should require more frequent review and analysis for investments that are performing poorly or that have been in a portfolio for a considerable length of time, as compared with the other investments overall.



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Policies and Limits

Policies should identify the aggregate exposure that the institution is willing to accept, by type and nature of investment (for example, direct or indirect, industry sectors). The limits should include funded and unfunded commitments. Formal and clearly articulated hedging policies and strategies should identify limits on hedged exposures and permissible hedging instruments.

Procedures

Management and staff compensation play a critical role in providing incentives and controlling risks within a private equity business line. Clear policies should govern compensation arrangements, including co-investment structures and staff sales of portfolio company interests.

Institutions have different procedures for assessing, approving, and reviewing investments based on the size, nature, and risk profile of an investment. The procedures used for direct investments may be different than those used for indirect investments made through private equity funds. For example, different levels of due diligence and senior management approvals may be required. When constructing management infrastructures for conducting these investment activities, management should ensure that operating procedures and internal controls appropriately reflect the diversity of investments.

The potential diversity in investment practice should be recognized when conducting supervisory reviews of the equity investment process. The supervisory focus should be on the appropriateness of the process employed relative to the risk of the investments made and on the materiality of this business line to the overall soundness of the depository institution, as well as the potential impact on affiliated depository institutions. The procedures employed should include the following:

- *Investment analysis and approvals, including well-founded analytical assessments of investment opportunities and formal investment approval processes.*

The methods and types of analyses conducted should be appropriately structured to adequately assess the specific risk profile, industry dynamics, management, specific terms and conditions of the investment opportunity, and other relevant factors. All elements of the analytical and approval processes, from initial review through the formal investment decision, should be documented and clearly understood by the staff conducting these activities.

The evaluation of existing and potential investments in private equity funds should involve an assessment of the adequacy of a fund's structure. Consideration should be given to the (1) management fees, (2) carried interest and its computation on an aggregate



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portfolio basis, (3) sufficiency of capital commitments that are provided by the general partners in providing management incentives, (4) contingent liabilities of the general partner, (5) distribution policies and wind-down provisions, and (6) performance benchmarks and return-calculation methodologies.

• *Investment-risk ratings.*

Internal risk ratings should assign each investment a rating based on factors such as the nature of the company, strength of management, industry dynamics, financial condition, operating results, expected exit strategies, market conditions, and other pertinent factors. Different rating factors may be appropriate for indirect investments and direct investments.

• *Periodic and timely investment strategy and performance (best, worst, and probable case assessment) reviews of equity investments, conducted at the individual and portfolio levels.*

Management should ensure that periodic and timely review of the institution's equity investments takes place at both individual-investment and portfolio levels. Depending on the size, complexity, and risk profile of the investment, reviews should, when appropriate, include factors such as-

- the history of the investment, including the total funds approved;
- commitment amounts, principal-cash investment amounts, cost basis, carrying value, major-investment cash flows, and supporting information including valuation rationales and methodologies;
- the current actual percentage of ownership in the portfolio company on both a diluted and undiluted basis;
- a summary of recent events and current outlook;
- the recent financial performance of portfolio companies, including summary compilations of performance and forecasts, historical financial results, current and future plans, key performance metrics, and other relevant items;
- internal investment-risk ratings and rating change triggers;
- exit strategies, both primary and contingent, and expected internal rates of return upon exit; and
- other pertinent information for assessing the appropriateness, performance, and expected returns of investments.



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Portfolio reviews should include an aggregation of individual investment-risk and performance ratings; an analysis of appropriate industry, sector, geographic, and other pertinent concentrations; and total portfolio valuations. Portfolio reports that contain the cost basis, carrying values, estimated fair values, valuation discounts, and other factors summarizing the status of individual investments are integral tools for conducting effective portfolio reviews. Reports containing the results of all reviews should be available to supervisors for their inspection.

Given the inherent uncertainties in equity investment activities, institutions should include in their periodic reviews consideration of the best case, worst case, and probable case assessments of investment performance. These reviews should evaluate changes in market conditions and the alternative assumptions used to value investments-including expected and contingent exit strategies. Major assumptions used in valuing investments and forecasting performance should be identified. These assessments need not be confined to quantitative analyses of potential losses, but may also include qualitative analyses. The formality and sophistication of investment reviews should be appropriate for the overall level of risk the depository institution incurs from this business line.

• Assessment of the equity investment valuation and accounting policies and the procedures used, their impact on earnings, and the extent of their compliance with Egyptian accounting principles

Valuation and accounting policies and procedures can have a significant impact on the earnings of institutions engaged in equity investment activities. Many equity investments are made in privately held companies, for which independent price quotations are either unavailable or not available in sufficient volume to provide meaningful liquidity or a market valuation. Valuations of some equity investments may involve a high degree of judgment on the part of management or the skillful use of peer comparisons. Similar circumstances may exist for publicly traded securities that are thinly traded or subject to resale and holding-period restrictions, or when the institution holds a significant block of a company's shares. It is of paramount importance that an institution's policies and procedures on accounting and valuation methodologies for equity investments be clearly articulated.

In determining fair value, the valuation methodology plays a critical role. Formal valuation and accounting policies should be established for investments in public companies; direct private investments; indirect fund investments; and, where appropriate, other types of investments with special characteristics. When establishing valuation policies, institutions should consider market conditions, taking account of lockout provisions, the restrictions by the Capital Markets Authority or the Central Bank of Egypt, liquidity features, the dilutive effects of warrants and options, and industry characteristics and dynamics.

Accounting and valuation of equity investments should be subject to regular periodic



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review. In all cases, valuation reviews should produce documented audit trails that are available to supervisors and auditors. These reviews should assess the consistency of the methodologies used in estimating fair value.

Accounting and valuation treatments should be assessed in light of their potential for abuse, such as through the inappropriate management or manipulation of reported earnings on equity investments. For example, high valuations may produce overstatements of earnings through gains and losses on investments reported at “fair value.” On the other hand, inappropriately understated valuations can provide vehicles for smoothing earnings by recognizing gains on profitable investments when an institution’s earnings are otherwise under stress. While reasonable people may disagree on valuations given to illiquid private equity investments, institutions should have rigorous valuation procedures that are applied consistently.

Increasingly, equity investments are contributing to an institution’s earnings. The potential impact of these investments on the composition, quality, and sustainability of overall earnings should be appropriately recognized and assessed by both management and supervisors.

- *A review of assumed and actual equity investment exit strategies and the extent of their impact on the returns and reported earnings.*

The principal means of exiting an equity investment in a privately held company include initial public stock offerings, sales to other investors, and share repurchases. An institution’s assumptions on exit strategies can significantly affect the valuation of the investment. Management should periodically review investment exit strategies, with particular focus on larger or less liquid investments.

- *Policies and procedures governing the sale, exchange, transfer, or other disposition of equity investments.*

Policies and procedures to govern the sale, exchange, transfer, or other disposition of the institution’s investments should state clearly the levels of management or board approval required for the disposition of investments.

- *Internal methods for allocating capital based on the risk inherent in the equity investment activities, including the methods for identifying all material risks and their potential impact on the safety and soundness of the institution.*

Depository institutions that are conducting material equity investment activities should have internal methods for allocating economic capital. These methods should be based on the risk inherent in the equity investment activities, including the identification of all material risks and their potential impact on the institution. Organizations that are substantially engaged in these investment activities should have strong capital positions



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supporting their equity investments. The economic capital that organizations allocate to their equity investments should be well in excess of the current regulatory minimums applied to lending activities. The amount of percentage of capital dedicated to the equity investment business line should be appropriate to the size, complexity, and financial condition of the institution. Assessments of capital adequacy should cover not only the institution's compliance with regulatory capital requirements and the quality of regulatory capital, but should also include an institution's methodologies for internally allocating economic capital to this business line.

As with other financial activities, the assessments of an organization's compliance with both written and implied policies and procedures should be independent of line decision making functions to the fullest extent possible. When fully independent reviews are not possible in smaller, less complex institutions, alternative checks and balances should be established. These alternatives may include random internal audits, reviews by senior management who are independent of the function, or the use of outside third parties.

Documentation

Documentation of key elements of the investment process, including initial due diligence, approval reviews, valuations, and dispositions, is an integral part of any private equity investment internal-control system. This documentation should be accessible to supervisors.

Legal Compliance

An institution's internal controls should focus on compliance with all Egyptian laws and regulations that are applicable to the institution's investment activities. Regulatory compliance requirements, in particular, should be incorporated into internal controls so managers outside of the compliance or legal functions understand the parameters of permissible investment activities.

Disclosure of Equity Investment Activities

Given the important role that market discipline plays in controlling risk, institutions should ensure that they adequately disclose the information necessary for the markets to assess the institution's risk profile and performance in this business line. Indeed, it is in the institution's interest, as well as that of its creditors and shareholders, to publicly disclose information about earnings and risk profiles. Institutions are encouraged to disclose in public filings information on the type and nature of investments, portfolio concentrations, returns, and their contributions to reported earnings and capital. Supervisors should fully review and use these disclosures, as well as periodic regulatory reports filed by publicly held banking organizations, as part of the information they review routinely.



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The following topics are relevant for public disclosure, though disclosures on each of these topics may not be appropriate, relevant, or sufficient in every case:

- the size of the portfolio
- the types and nature of investments (for example, direct or indirect, domestic or international, public or private, equity or debt with conversion rights)
- initial cost, carrying value, and fair value of investments and, when applicable, comparisons to publicly quoted share values of portfolio companies
- the accounting techniques and valuation methodologies, including key assumptions and practices affecting valuation and changes in those practices
- the realized gains (or losses) arising from sales and unrealized gains (or losses)
- insights regarding the potential performance of equity investments under alternative market conditions

Investment Securities

Examination Objectives

1. To determine if policies, practices, procedures, and internal controls regarding fixed income, equity, and derivatives based on fixed income and equity investments are adequate.
2. To determine if bank officers are operating in conformance with the established guidelines.
3. To determine the scope and adequacy of the audit function.
4. To determine the overall quality of the fixed income and equity investment portfolio and how that quality relates to the soundness of the bank.
5. To determine compliance with laws and regulations.
6. To initiate corrective action when policies, practices, procedures or internal controls are deficient or when violations of laws or regulations have been noted.



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Investment Securities

Examination Procedures

1. Complete or update the “Investment Securities” section of the internal control questionnaire.
2. Based on the evaluation of internal controls and the work performed by internal or external auditors, determine the scope of the examination.
3. Test for compliance with policies, practices, procedures, and internal controls in conjunction with performing the following examination procedures. Also, obtain a listing of any deficiencies noted in the latest review done by internal or external auditors, and determine if any corrections have been accomplished. Determine the extent and effectiveness of investment-policy supervision by-
 - a. reviewing the abstracted minutes of meetings of the board of directors or appropriate committees;
 - b. determining that proper authorizations have been made for investment officers or committees;
 - c. determining any limitations or restrictions on delegated authorities;
 - d. evaluating the sufficiency of analytical data used by the board or investment committee;
 - e. reviewing the reporting methods used by department supervisors and internal auditors to ensure compliance with established policy; and
 - f. preparing a memo for the examiner who is assigned “Duties and Responsibilities of Directors” and the examiner who is in charge of the international examination, if applicable, stating conclusions on the effectiveness of directors’ supervision of the domestic or international division investment policy. All conclusions should be documented.
4. Obtain the following:
 - a. Trial balances of investment-account holdings and money market instruments, such as commercial paper, banker’s acceptances, negotiable certificates of deposit, securities purchased under agreements to resell, and any funds sold. Identify any depository instruments placed through money brokers.
 - b. A list of any assets carried in loans, and a list of discounts on which interest is



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exempt from federal income taxes and which are carried in the investment account on call reports.

- c. A list of open purchase and sale commitments.
 - d. A schedule of all securities, forward placement contracts, futures contracts, contracts on exchange-traded puts and calls, option contracts on futures puts and calls, and standby contracts purchased or sold since the last examination.
 - e. A maturity schedule of securities sold under repurchase agreements.
 - f. A list of pledged assets and secured liabilities.
 - g. A list of the names and addresses of all securities dealers doing business with the bank.
 - h. A list of the bank's personnel authorized to trade with dealers.
 - i. A list of all Egyptian government-guaranteed loans that are recorded and carried as an investment-account security.
 - j. For international division and overseas branches, a list of investments-
 - held to comply with various foreign governmental regulations requiring such investments;
 - used to meet foreign reserve requirements;
 - required as stock exchange guarantees or used to enable the bank to provide securities services;
 - representing investment of surplus funds;
 - used to obtain telephone and telex services;
 - representing club and school memberships;
 - acquired through debts previously contracted;
 - representing minority interests in nonaffiliated companies;
 - representing trading-account securities;
 - held for other purposes.
5. Using updated data available from reports of condition, printouts, and investment advisor and correspondent bank portfolio-analysis reports, obtain or prepare an analysis of investment and money market holdings that includes-
- a. a month-by-month schedule of par, book, and market values of issues maturing in one year;
 - b. schedules of par, book, and market values of holdings in the investment portfolio



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(schedules should be indexed by maturity date, and individual schedules should be detailed by maturity dates over the following time periods: over one through five years, over five through 10 years, and over 10 years);

c. book-value totals of holdings by obligor or industry; related obligors or industries; geographic distribution; yield; and special characteristics, such as moral obligations, conversion, or warrant features;

d. a list of international investment holdings (foreign-currency amounts and Egyptian pound equivalents) to include- • descriptions of securities held (par, book, and market values),

- names of issuers,
- issuers' countries of domicile,
- interest rates, and
- pledged securities.

6. Review the reconciliation of investment and money market account (or accounts) trial balances to the general-ledger control account (or accounts).

7. Using either an appropriate sampling technique or the asset-coverage method, select from the trial balance (or balances) the international investments, municipal investments, and money market holdings for examination. If transaction volume permits, include all securities purchased since the last general examination in the population of items to be reviewed.

8. Perform the following procedures for each investment and money market holding selected in step 7:

a. Check appropriate legal opinions or published data outlining legal status.

b. If market prices are provided to the bank by an independent party (excluding affiliates and securities dealers selling investments to the bank) or if they are independently tested as a documented part of the bank's audit program, accept those prices. If the independence of the prices cannot be established, test market values by reference to one of the following sources:

- published quotations, if available
- appraisals by outside pricing services, if performed

c. If market prices are provided by the bank and cannot be verified by reference to published quotations or other sources, test those prices by using the "comparative yield method" to calculate approximate yield to maturity:



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- Compare the bank-provided market price and the examiner-calculated approximate yield to maturity with an independent publicly offered yield or market price for a similar type of investment with similar rating, trading volume, and maturity or call characteristics.
 - Compare nonrated issues with fourth rated bonds.
 - Investigate market-value variances in excess of 5 percent.
- d. For investments and money market obligations in the sample that are rated, compare the ratings provided with the most recent published ratings. International division holdings should be reviewed with domestic holdings to ensure compliance, when combined, with applicable legal requirements.
9. To the extent practical under the circumstances, perform credit analyses of-
- a. the obligors on securities purchased under agreements to resell, when the readily marketable value of the securities is not sufficient to satisfy the obligation;
 - b. all international investments, nonrated securities, and money market instruments selected in step 7 or acquired since the last examination;
 - c. all previously detailed or currently known speculative issues; and
 - d. all defaulted issues.
10. Classify speculative and defaulted issues according to the following standards (except those securities on which special instructions have been issued):
- a. The entire book value of speculative grade municipal general obligation securities that are not in default will be classified substandard. Market depreciation on other speculative issues should be classified doubtful. The remaining book value usually is classified substandard.
 - b. The entire book value of all defaulted municipal general obligation securities will be classified doubtful. Market depreciation on other defaulted bonds should be classified loss. The remaining book value usually is classified substandard.
 - c. Market depreciation on nonexempt stock should be classified loss.
 - d. Report comments should include-
 - a description of the issue;
 - how and when each issue was acquired;
 - the default date, if appropriate;



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- the date interest paid to;
- the rating at time of acquisition; and
- comments supporting the classification.

11. Review the bank's maturity program.

a. Review the maturity schedules.

- Compare book and market values and, after considering the gain or loss on year-to-date sales, determine if the costs of selling intermediate and long-term issues appear prohibitive.
- Determine if recent acquisitions show a trend toward lengthened or shortened maturities. Discuss such trends with management, particularly with regard to investment objectives approved by the investment committee.

b. Review the pledged asset and secured liability schedules and isolate pledged securities by maturity segment. Then determine the market value of securities pledged in excess of net secured liabilities.

c. Review the schedule of securities sold under repurchase agreement and determine-

- whether financing for securities purchases is provided by repurchase agreement by the securities dealer who originally sold the security to the bank;
- whether funds acquired through the sale of securities under agreement to repurchase are invested in money market assets, or if short-term repurchase agreements are being used to fund longer-term, fixed-rate assets;
- the extent of matched asset repo and liability repo maturities and the overall effect on liquidity resulting from unmatched positions;
- whether the interest rate paid on securities sold under agreement to repurchase is appropriate relative to current money market rates; and
- whether the repurchase agreement is at the option of the buying or selling bank.

d. Review the list of open purchase and sale commitments and determine the effect of their completion on maturity scheduling.

e. Submit investment portfolio information regarding the credit quality and practical liquidity of the investment portfolio to the examiner who is assigned "Asset/Liability Management."

12. Consult with the examiner responsible for the asset/liability management analysis to determine what information is needed to assess the bank's sensitivity to interest-rate fluctuations and its ability to meet short-term funding requirements. If requested, compile the information using bank records or other appropriate sources. Information which may be required to be furnished includes-



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- a. the market value of unpledged government and federal-agency securities maturing within one year;
 - b. the market value of other unpledged government and federal-agency securities which would be sold without loss;
 - c. the market value of unpledged municipal securities maturing within one year;
 - d. the book value of money market instruments, such as banker's acceptances, commercial paper, and certificates of deposit (provide amounts for each category); and
 - e. commitments to purchase and sell securities, including futures, forward, and standby contracts. (Provide a description of the security contract, the purchase or sales price, and the settlement or expiration date.)
13. Determine whether the bank's investment policies and practices are satisfactorily balancing earnings and risk considerations.
- a. Use average call report data to calculate investments as a percentage of total assets, and use average yields on government and nontaxable investments to-
 - compare results with peer-group statistics,
 - determine the reasons for significant variances from the norm, and
 - determine if trends are apparent and the reasons for such trends.
 - b. Calculate current market depreciation as a percentage of gross capital funds.
 - c. Review the analysis of municipal and corporate issues by rating classification and-
 - determine the total in each rating class and the total of nonrated issues,
 - determine the total of nonrated investment securities issued by obligors located outside of the bank's service area (exclude Egyptian government-guaranteed issues), and
 - review acquisitions since the prior examination and ascertain reasons for trends that may suggest a shift in the rated quality of investment holdings.
 - d. Review coupon rates or yields (when available) and compare those recently acquired investments and money market holdings with coupon rates or yields that appear high or low with similarly acquired instruments of analogous types, ratings, and maturity characteristics (Discuss significant rate or yield variances with management.)



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e. Review the schedule of securities, futures, forward, and standby contracts purchased and sold since the last examination, and determine whether the volume of trading is consistent with policy objectives. (If the bank does not have a separate trading account, determine whether such an account should be established, including appropriate record keeping and controls.)

f. If the majority of sales resulted in gains, determine if profit-taking is consistent with stated policy objectives or is motivated by anxiety for short-term income.

g. Determine whether the bank has discounted or has plans to discount future investment income by selling interest coupons in advance of interest payment dates.

h. Review the list of commitments to purchase or sell investments or money market investments. (Determine the effect of completion of these contracts on future earnings.)

14. Determine that proper risk diversification exists within the portfolio by-

a. reviewing totals of holdings by single obligor or industry, related obligors or industries, geographic distribution, yields, and securities that have special characteristics (include individual due from bank accounts from the list received from the bank or from the examiner assigned “Due from Banks” and all money market instruments) and-

- detail, as concentrations, all holdings equaling 30 percent or more of capital funds and
 - list all holdings equaling at least 10 percent but less than 30 percent of capital funds and submit that information to the examiner assigned “Loan Portfolio Management” (These holdings will be combined with any additional advances in the lending areas.)
- and

b. performing a credit analysis of all non-rated holdings determined to be a concentration if not performed in step 9.

15. If the bank is engaged in financial futures, exchange-traded puts and calls, forward placement, or standby contracts, determine if-

a. the policy is specific enough to outline permissible contract strategies and their relationships to other banking activities;

b. recordkeeping systems are sufficiently detailed to permit a determination of whether operating personnel have acted in accordance with authorized objectives;



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- c. the board of directors or its designee has established specific contract position limits and reviews contract positions at least monthly to ascertain conformance with those limits;
- d. gross and net positions are within authorized positions and limits, and if trades were executed by persons authorized to trade futures; and
- e. the bank maintains general-ledger memorandum accounts or commitment registers which, at a minimum, include-
 - the type and amount of each contract,
 - the maturity date of each contract,
 - the current market price and cost of each contract, and
 - the amount held in margin accounts:
 - All futures contracts and forward and standby and options contracts are revalued on the basis of market or the lower of cost or market at each month-end.
 - Securities acquired as the result of completed contracts are valued at the lower of cost or market upon settlement.
 - Fee income received by the bank on standby contracts is accounted for properly.
 - Financial reports disclose futures, forwards, options, and standby activity.
 - The bank has instituted a system for monitoring credit-risk exposure in forward and standby contract activity.
 - The bank's internal controls, management reports, and audit procedures are adequate to ensure adherence to policy.

16. If the bank is engaged in financial futures, forward placement, options, or standby contracts, determine if the contracts have a reasonable correlation to the bank's business needs (including gap position) and capacity to fulfill its obligations under the contracts by-

- a. comparing the contract commitment and maturity dates to anticipated offset,
- b. reporting significant gaps to the examiner assigned "Asset/Liability Management" (refer to step 12),
- c. comparing the amounts of outstanding contracts to the amounts of the anticipated offset,
- d. ascertaining the extent of the correlation between expected interest-rate movements on the contracts and the anticipated offset, and
- e. determining the effect of the loss recognition on future earnings, and, if significant, reporting it to the examiner assigned "Analytical Review and Income and Expense."



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17. On the basis of pricings, ratings, and credit analyses performed above, and using the investments selected in step 7 or from lists previously obtained, test for compliance with applicable laws and regulations by-

a. determining if the bank holds investments that are predominantly speculative in nature or securities that are not marketable;

b. reviewing the recap of investment securities by legal types, and competent legal opinions, as follows:

- If a security is readily marketable, and if the purchaser's judgment was based on evidence of the obligor's ability to perform, determine if the par value of such securities issued by a single obligor, which the bank owns or is committed to purchase, exceeds 10 percent of the bank's capital funds.
- If the holding of a security was based on a reliable estimate of the obligor's ability to perform, determine if the aggregate par value of such issues exceeds 5 percent of the bank's capital funds;

c. for those investment securities that are convertible into stock or which have stock purchase warrants attached-

- determining if the book value has been written down to an amount that represents the investment value of the security, independent of the conversion or warrant provision and
- determining if the par values of other securities that have been ruled eligible for purchase are within specified capital limitations;

d. reviewing pledge agreements and secured liabilities and determining that-

- proper custodial procedures have been followed,
- eligible securities are pledged,
- securities pledged are sufficient to secure the liability that requires securing,

e. reviewing accounting procedures to determine that-

- investment premiums are being extinguished by maturity or call dates,
- premium amortization is charged to operating income
- accretion of discount is included in current income for banks required to use accrual accounting for reporting purposes,
- accretion of bond discount requires a concurrent accrual of deferred income tax payable, and
- securities gains or losses are reported net of applicable taxes and net gains or losses are reflected in the period in which they are realized;



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f. determining if securities purchased under agreement to resell are in fact securities (not loans), are eligible for investment by the bank, and are within prescribed limits. If not, determine whether the transaction is within applicable state legal lending limits;

g. reviewing securities sold under agreement to repurchase and determining whether they are, in fact, deposits;

h. determining that securities and money market investments held by foreign branches comply with Egyptian regulation as to-

- acquiring and holding securities and
- underwriting, distributing, buying, and selling obligations of the national government of the country in which the branch is located

18. Test for compliance with other laws and regulations as follows:

a. Review lists of affiliate relationships and lists of directors and principal officers and their interests.

- Determine if the bank is an affiliate of a firm that primarily is engaged in underwriting or selling securities.
- Determine if directors or officers are engaged in or employed by firms that are engaged in similar activities.
- Review the list of federal funds sold, securities purchased under agreements to resell, interest-bearing time deposits, and commercial paper, and determine if the bank is investing in money market instruments of affiliated banks or firms).
- Determine if transactions involving affiliates, insiders, or their interests have terms that are less favorable to the bank than transactions involving unrelated parties.

b. Review the nature and duration of federal-funds sales to determine if term federal funds are being sold in an amount exceeding the limit imposed by state legal lending limits.



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APPENDIX D
PROPOSED REGULATORY REPORTS

1. Connected Lending

		CREDIT RISK EXPOSURE TO BANK INSIDERS						
		Direct	Indirect	Total	LE (000) % of Capital	Classified 3	(months) 6	12
a) Aggregate Amount of All Credit to these Persons	1) Executive Officers Connected Parties			Subtotal (1)				
	2) Principal Shareholders Connected Parties			Subtotal (2)				
	3) Employees							
b) Investment of the Bank in Stocks, Bonds, or Other Similar Obligations of a Connected Legal Person	Other Similar Obligations of a Connected Legal Person							
		Total						



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2. Large Exposures

	Number		% of	
	Loans	Direct	Indirect	Total Capital
Loans Secured by a Common Security				
Loans Dependent Upon a Particular Crop or Herd				
Loans to Major Employers in a Service Area, Their Employees and Major Suppliers				
Loans within Industry Groups (indicate industry)_____				
Loans within Product Groups (indicate product)_____				
Commercial Real Estate Construction Loans				
Other				



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Definitions for Regulatory Reports

Concentrations of Credit

Concentration of Credit - a large credit risk exposure consisting of direct and indirect advances and loans and contingent liabilities that, when aggregated, exceed 30 percent of the bank's capital structure

Direct - advances and loans, immediate credits, discounted bills, cash items, suspense resources, leases, acceptances, Due From Banks and other on-balance assets that represent a credit risk for the bank

Indirect - advances and loans endorsed, guaranteed or co-signed, letters of credit, derivatives, foreign exchange contracts and other off-balance items that represent a credit risk to the bank

Capital - Tier I capital and the General Provision for Loan Losses

Loans to Insiders

Insider - Executive Officers at the level of General Manager and above, Principal Shareholders (10 percent ownership of shares of the bank), and connected parties (as defined in Law No. 88, June 15, 2003) of directors, executive officers and Principal Shareholders

Direct - advances and loans, immediate credits, discounted bills, cash items, suspense resources, leases, acceptances, Due From Banks and other on-balance assets that represent a credit risk for the bank

Indirect - advances and loans endorsed, guaranteed or co-signed, letters of credit, derivatives, foreign exchange contracts and other off-balance items that represent a credit risk to the bank

Capital - Tier I capital and the General Provision for Loan Losses

Similar Obligations of a Connected Party - include (but are not limited to) capital instruments such as redeemable or preferred stock, subordinated debentures, capital notes, convertible notes, commercial paper and warrants.

In addition to securities such as equities and bonds, include amounts of equity of a borrower the bank has converted from a loan in payment for outstanding obligations to the bank.



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3. Market Risk

a. Derivatives and Off-Balance Sheet Items

Derivatives and Off-Balance Sheet Items

Please read carefully the instructions for the preparation of this schedule.

Some of the amounts reported in this schedule are regarded as volume indicators and not necessarily as measures of risk.

(Egyptian Pounds)

Millions Thousands

1. Unused commitments:
 - a. Revolving, open-end lines secured by 1-4 family residential properties, e.g., home equity lines
 - b. Credit card lines
 - c. Commercial real estate, construction, and land development:
 - (1) Commitments to fund loans secured by real estate
 - (2) Commitments to fund loans not secured by real estate
 - d. Securities underwriting
 - e. Other unused commitments
2. Financial standby letters of credit and foreign office guarantees
 - a. Amount of financial standby letters of credit conveyed to others
3. Performance standby letters of credit and foreign office guarantees
 - a. Amount of performance standby letters of credit conveyed to others
4. Commercial and similar letters of credit
5. Participations in acceptances (as described in the instructions) conveyed to others by the reporting bank
6. Securities lent (including customers' securities lent where the customer is indemnified against loss by the reporting bank)
7. Credit derivatives:
 - a. Notional amount of credit derivatives(reporting bank is the guarantor)
 - (1) Gross positive fair value
 - (2) Gross negative fair value
 - b. Notional amount of credit derivatives(reporting bank is the beneficiary)
 - (1) Gross positive fair value
 - (2) Gross negative fair value
8. Spot foreign exchange contracts
9. All other off-balance sheet liabilities (exclude derivatives)
 - a. Securities borrowed
 - b. Commitments to purchase when-issued securities



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- 10. All other off-balance sheet assets (exclude derivatives)
 - a. Commitments to sell when-issued securities
 - b.
 - c.
 - d.
 - e.
- 11. Year-to-date merchant credit card sales volume:
 - a. Sales for which the reporting bank is the acquiring bank
 - b. Sales for which the reporting bank is the agent bank with risk

(Egyptian Pounds, 000s)

Derivative Position Indicators

Interest Rate Contracts	Foreign Exchange Contracts	Equity Derivative Contracts	Commodity & other Contracts
-------------------------------	----------------------------------	-----------------------------------	-----------------------------------

12. Gross amounts (e.g., notional amounts) (for each column, sum of items 12.a. through 12.e must equal sum of items 13 and 14):

- a. Futures contracts
- b. Forward contracts
- c. Exchange-traded option contracts:
 - (1) Written options
 - (2) Purchased options
- d. Over-the-counter option contracts:
 - (1) Written options
 - (2) Purchased options
- e. Swaps

13. Total gross notional amount of derivative contracts held for trading

14. Total gross notional amount of derivative contract held for purposes other than trading...

a. Interest rate swaps where the bank has agreed to pay a fixed rate.....

15. Gross fair values of derivative contracts

- a. Contracts held for trading:
 - (1) Gross positive fair value
 - (2) Gross negative fair value
- b. Contracts held for purposes other than trading:
 - (1) Gross positive fair value
 - (2) Gross negative fair value



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TRADING ASSETS and LIABILITIES

This schedule is to be completed by banks that reported average trading assets or more for any quarter of the preceding calendar year.
(Egyptian Pounds)

ASSETS

Year-to-date
Millions Thousands

1. Egyptian Treasury securities in domestic offices
2. Egyptian Government agency obligations in domestic offices (exclude mortgage-backed securities)
3. Securities issued by regions and political subdivisions in Egypt in domestic offices
4. Mortgage-backed securities (MBS) in domestic offices:
 - a. Pass-through securities issued or guaranteed
 - b. Other mortgage-backed securities issued or guaranteed
- c. All other mortgage-backed securities
5. Other debt securities in domestic offices
6. - 8. Not applicable
9. Other trading assets in domestic offices
10. Trading assets in foreign offices
11. Revaluation gains on derivative contracts:
 - a. In domestic offices
 - b. In foreign offices
12. Total trading assets (sum of items 1 through 11)

LIABILITIES

13. Liability for short positions
 14. Revaluation losses on derivative contracts
 15. Total trading liabilities (sum of items 13 and 14)
-