

Dialogue

on Sound Business & Financial Practices

A publication of the Deposit Insurance Corporation of Ontario (DICO)

September 2003, Volume 8, Number 3

Dialogue is produced in association with an industry advisory committee to promote discussion between directors and management on featured topics.

Readers' questions are welcome, and may be featured in a future **Dialogue**.

Contact DICO Risk Assessment Department@ 1-800-268-6653, (416)325-9444, (416)325-9439 (fax) or e-mail: rad@dico.com.

Contributors:
Steve Kokaliaris
Richard White

Help Us Reduce Costs!

For a printable electronic version of **Dialogue**, please go to www.dico.com (Publications, Dialogues).

FUTURE TOPICS:

- OSV - FAQ's
- Board Planning Tools
- Business Planning
- Privacy Considerations
- By-law #5 Review

GAP ANALYSIS

Estimating the Likely Change in Interest Rates

Interest rate risk is defined as the exposure to adverse movements in interest rates. Since excessive interest rate risk can have a negative impact on earnings and capital, it is important that it is measured periodically and managed effectively. Although a one percent change in interest rates is typically used as an assumption to measure the impact on earnings and capital, other assumptions may be established if an analysis of the interest rate environment can demonstrate that they are appropriate.

Pursuant to O. Reg 76/95 S. 80 (1), credit unions are required to measure and report their interest rate risk (IRR) on at least a quarterly basis. For larger and more complex credit unions, IRR should be measured more frequently. While there are several tools and methodologies available to measure IRR (for example, Value-at-Risk, Duration, Monte Carlo Simulation, etc.), interest rate sensitivity or GAP analysis is the most commonly used technique. GAP analysis measures the difference between assets and liabilities that mature or reprice at different points in time. The **shock test** measures the extent to which a likely change in interest rates (both higher and lower) affects a credit union's net income. Regulation 76/95 S. 78 (2) currently sets a limit on exposure to IRR to a change in net income no greater than 15 basis points of assets. Based on the Regulation, limits to interest rate risk exposure must take into account "*fluctuations in interest rates that might reasonably be expected to occur*".

While Regulation does not require credit unions to use a symmetrical one percent change in interest rates (i.e. 1% increase and 1% decrease) when estimating the potential exposure to interest rate risk, one percent was adopted by most institutions as a benchmark in this regard. Although many member institu-

tions still use one percent to determine the impact on net income, other assumptions concerning changes in interest rates may be established. In addition to estimating the likely change in interest rates, credit unions with adequately sophisticated IRR methodologies may wish to include assumptions regarding the timing of the changes during the forecast period.

Reasonable expectations regarding interest rate movements can be formed through an analysis of interest rate forecasts from reputable third parties such as Leagues, the Conference Board of Canada, and investment dealers. Although a one percent change is typically used, it may be concluded that interest rates may likely change by a higher or lower amount following such an analysis. Since the prime rate has fluctuated between 7.5% and 3.5% during the last five years and has only occasionally remained stable for more than two quarters, an analysis of the interest rate environment should be conducted on at least a quarterly basis.

For example, over the past three years, interest rates have fluctuated significantly as a result of economic and other events. During the 13-month period from December 2000 to January 2002, interest rates declined by 3.75%. While using one percent to measure quarterly IRR exposure during this period was reasonable, a different interest rate benchmark may have been adopted with the benefit of more detailed analysis. In today's economic environment, for example, interest rates are near historical lows. The Bank of Canada expects economic growth to begin strengthening toward the end of 2003 and will likely hold rates steady. Given the foregoing, it could be concluded that interest rates are more likely to increase than decrease in the near future. It could also be reasonable to conclude that if interest rates were to decrease during the next

year, the decrease would likely be less than one percent. Therefore, expectations regarding the fluctuation of interest rates may not be symmetrical. Accordingly, a credit union's analysis might conclude that an interest rate fluctuation of +1% or -½% might be appropriate in today's economic environment. Whatever the conclusion, the assumptions and methodology to estimate the magnitude of interest rate movements must be documented and based on objective analysis.

It is important that the techniques and criteria used to estimate the likely change in interest rates are clearly identified and authorized in policy. Policy should also include a set of minimum values to deal with situations where the future path of interest rates is highly uncertain. For example, it is recommended that policy indicate a one percent change in interest rates must be used to measure IRR unless an analysis reaches a different conclusion. Irrespective of any analysis of the interest rate environment, setting a minimum interest rate change in policy, for example ½ percent, would help ensure that a conservative approach is taken when measuring the exposure to IRR. The appropriateness of the policy and the reasonableness of the assumptions are assessed during On-Site Verifications as part of the Asset/ Liability Management Module.

Fraud

Fraud can be defined as the act of deception or misrepresentation. It can occur through the misappropriation of assets, misrepresentation of financial information to conceal a misappropriation, or the deliberate falsification of financial statements, reports or other records. Although establishing trust amongst employees and members is important to the success of credit unions, the board and management nevertheless have an obligation to ensure that key information is verified. Implementation of appropriate procedures and internal controls in this regard will help prevent fraud and safe-

guard the credit union's assets.

Employee fraud and dishonesty is a leading cause of loss for financial institutions and is a constant threat regardless of the size of the institution or the number of employees. By taking effective steps to confront the problem, fraud can be discouraged and often prevented. Some examples of employee fraud include:

- manipulation of, or unauthorized, loan accounts, documents, computer records or deposit accounts;
- theft of any kind in which the employee is directly or indirectly involved (e.g. stealing from members' accounts, creating fictitious loans, stealing cash, etc.);
- unauthorized overdrafts;
- intentional violation of credit union rules, internal controls or procedures, with the expectation, knowledge or intent that the employee or a third party benefits and the member institution suffers a loss (e.g. misuse of suspense accounts);
- failure to obtain or register a security interest in collateral, or releasing collateral without justification or authority, with the expectation, knowledge or consent that the employee, member or a third party will benefit while the member institution may sustain a loss.

In most cases opportunities for fraud arise due to weak or non-existent internal controls or a breakdown of the controls. Internal controls include accounting and administrative controls and procedures that help ensure approved and appropriate decisions are made within the member institution. Accounting controls deal with the authorization of a transaction, the safeguarding of assets and the accuracy of accounting records, while administrative controls involve reporting channels, budgeting procedures and performance reports.

However, just having documented internal control policies and procedures does not prevent fraud. Internal controls must be properly implemented, employees properly trained and con-

trols continuously monitored. Even then controls can be overridden or collusion between two or more employees can occur.

It is the responsibility of the board and management to ensure that proper policies are in place, including a fraud policy, to help prevent fraud and embezzlement. Management is responsible for implementing the necessary procedures and internal controls to prevent fraud and to be alert for its presence, while the internal auditor (as applicable) should examine the adequacy and effectiveness of the controls established. The internal auditor should also be aware of the symptoms of wrongdoing and be alert for their presence. Where it is not possible to have an internal audit function, the external auditor or the Audit Committee could perform this function.

Some of the indicators or conditions that could indicate the potential for fraud are:

- lack of segregation of duties;
- limited staffing (one person operations);
- external auditors (comments / concerns raised);
- member complaints;
- material weaknesses previously identified not corrected;
- general ledger / suspense account differences;
- unusual financial trends.

The following are a few examples of elements which can assist in fraud prevention:

- diligent pre-employment screening;
- effective policies and procedures dealing with fraud prevention and internal controls;
- an ongoing internal audit program;
- ongoing employee training and education;
- segregation of duties;
- timely independent bank reconciliation;
- dual cheque signing;
- proper board reporting practices;
- ongoing monitoring of business plans and budgets;
- close monitoring and enforcement of internal controls.