

**Internal Control Systems and Risk  
Management in the Life and Health  
Insurance Industry: Current issues**

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## **Internal Control Systems and Risk Management in the Life and Health Insurance Industry: Current issues**

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# **Internal Control Systems and Risk Management in the Life and Health Insurance Industry: Current issues**

Paul André, Diane Coté and Raymond Morissette

## **Abstract**

The increased use of derivative products by both financial and non-financial institutions and recent events or scandals (Barings, Morgan Grenfell Asset management, Jardines, Prudential, Long Term Capital Management) continue to demonstrate the need for enhanced standards of control over risks undertaken by all active participants in capital markets. This is of greatest interest for insurance companies, banks, securities houses and other financial institutions given the extent of their activities in derivative products.

The objective of this paper is to present the role and importance of internal control systems in good risk management practice, with a particular emphasis on the internal audit and compliance functions within such a framework. Our focus is on the Life and Health Insurance industry in Canada. We will draw attention to the regulatory environment and recent regulatory and supervisory developments with respect to risk management practice. *Generally Accepted Risk Principles* (GARP) developed by Coopers & Lybrand, UK; *Guidelines on Standards of Sound Business and Financial Practices* issued by a joint industry/regulatory committee comprised of representatives of the Office of the Superintendent of Financial Institutions (OSFI), Quebec's Inspecteur général des institutions financières (IGIF), the Canadian Life and Health Insurance Association (CLHIA) and the Canadian Life and Health Insurance Compensation Corporation (CompCorp); OSFI Guidelines on *Derivative Best Practices*; and *Guidance on Controls* promulgated by the Committee on Controls (CoCo) of the Canadian Institute of Chartered Accountants (CICA) are discussed. An audit program for assessing the adequacy of internal controls surrounding the use and processing of derivative products and a compliance program for assessing an organization's respect of regulations are suggested. We conclude with a discussion of two recent and useful management tools that can be used in a global risk management practice: Control and Risk Self Assessment (CRSA) and the Balanced Scorecard approach including a Risk Management perspective.

*Keywords:* Derivative products, Financial derivatives, Internal control systems, Risk management, Generally Accepted Risk Principles (GARP), Life and Health Insurance companies, Financial institutions, Balanced Scorecard.

*JEL Classification:* G22, M41.

## Résumé

L'usage accru des instruments financiers (produits dérivés) au sein des institutions autant financières que non financières et les récents scandales financiers (Barings, Morgan Grenfell Asset Management, Jardines, Prudential, Long Term Capital Management) démontrent bien le besoin urgent de développer de nouveaux standards de contrôle des risques pris en charge par les intermédiaires sur les marchés financiers. Ces nouveaux standards sont d'autant plus importants pour les sociétés d'assurance, banques, sociétés de courtage et autres sociétés financières compte tenu de leurs activités grandissantes en matière d'utilisation et de développement d'instruments financiers.

L'objectif de cet article est de mettre en évidence l'importance et le rôle que jouent les systèmes de contrôle interne au sein d'une saine politique de gestion des risques. Nous examinons plus particulièrement le point de vue de la vérification interne dans le secteur canadien de l'assurance de personnes. De fait, l'article traite principalement des aspects nouveaux en matière de réglementation et de contrôle ayant trait à la gestion du risque. Dans un premier temps, l'article présente les *Generally Accepted Risk Practices* (GARP) développés par Coopers & Lybrand (Angleterre), le document *Code de pratiques commerciales et financières saines* émis par le comité conjoint industrie/réglementation formé de représentants du Bureau du surintendant des institutions financières du Canada (BSIF), de l'Inspecteur général des institutions financières du Québec, de l'Association canadienne des compagnies d'assurance de personnes (ACCAP) et de la Société canadienne d'indemnisation pour les assurances de personnes (SIAP); de *Mécanismes efficaces en matière d'instruments dérivés* émis par le BSFI et des *Recommandations sur le contrôle* émis par le Conseil sur les critères de contrôle (CCC) de l'Institut Canadien des Comptables Agréés (ICCA). Cet article propose un programme de vérification innovateur ayant pour objectif l'évaluation du niveau de fiabilité des contrôles entourant l'utilisation et le traitement des instruments financiers de même que le respect par la société d'assurance de la réglementation en vigueur en matière d'instruments financiers. Finalement, l'article propose deux outils innovateurs utilisés dans les pratiques de gestion globale du risque soit *l'Auto-évaluation des risques et des contrôles* et le *Tableau de bord intégré de gestion du risque*.

*Mots clés* : produits financiers, produits dérivés, systèmes de contrôle interne, gestion du risque, société d'assurance de personnes, institutions financières, tableau de bord intégré.

*Classification JEL* : G22, M41.

## **Introduction**

The increased use of derivative products by both financial and non-financial institutions and recent events or scandals (Barings, Morgan Grenfell Asset management, Jardines, Prudential, Long Term Capital Management) continue to demonstrate the need for enhanced standards of control over risks undertaken by all active participants in capital markets. This is of greatest interest for insurance companies, banks, securities houses and other financial institutions given the extent of their activities in derivative products.

The objective of this paper is to present the role and importance of internal control systems in good risk management practice in general and surrounding the use and processing of derivative products, with a particular emphasis on the internal audit and compliance functions within such a framework. Our focus is on the Life and Health Insurance (LHI) industry in Canada. The LHI industry in Canada represents over 130 companies which protect some 22 millions Canadians with at least one of its products or services. Top firms in the industry beyond Standard Life include Sun Life, Manulife, Great-West, Canada Life, The Mutual Group, Industrielle-Alliance and Desjardins-Laurentienne. At the end of 1996, Canada's LHIs had over \$193 billion invested in Canada's economy (government bonds, corporate stocks and bonds, commercial and residential loans, derivative products). Other facts and figures from the Canadian Life and Health Insurance Association (CLHIA) indicate that by the end of 1996, Canadians owned \$1,660 billion in life insurance, having paid some \$30 billion in premiums on existing and new policies while also receiving over \$30 billion in payments.

In the following pages, we will draw attention to the regulatory environment and recent regulatory and supervisory developments with respect to risk management practice. *Generally Accepted Risk Principles* (GARP) developed by Coopers and Lybrand, *Guidelines on Standards of Sound Business and Financial Practices* issued by a joint industry/regulatory committee comprised of representatives of the Office of the Superintendent of Financial Institutions (OSFI), Quebec's Inspecteur général des institutions financières (IGIF), the Canadian Life and Health Insurance Association (CLHIA) and the Canadian Life and Health Insurance Compensation Corporation (CompCorp), OSFI Guidelines on *Derivative Best Practices and Guidance on Controls* promulgated by the Committee on Controls (CoCo) of the Canadian Institute of Chartered Accountants (CICA) are discussed. A compliance and audit program for assessing risk management practices surrounding the use and processing of financial products are suggested.

We conclude with a discussion of two recent and useful management tools that can be used in a global risk management practice: Control and Risk Self Assessment (CRSA) and the Balanced Scorecard approach with an integrated risk management perspective.

### **Regulatory environment**

Financial institutions are some of the most regulated industries in every country. Insurance companies, trusts, banks are important pillars of most economic system. The Life and Health Insurance industry in Canada is of no exception. The increasing use of various financial instruments, including derivative products, to manage their risks and the number of scandals that have occurred in the recent years has lead to an increase intervention by regulators. In order to better understand current risk management practices/requirements, we present a brief description of the regulatory environment of Life and Health Insurers. While most companies are affected by both federal and provincial rules, we will limit our exposition to the federal domain. Further, it should be noted that numerous companies, by their dealings in other jurisdictions, for example in the United States, and by their corporate structures, must also comply or at least take into account regulations from other countries. For example, Standard Life Assurance Company in Canada being a branch of Standard Life Assurance Company of the UK must comply for some of its activities with very stringent regulations of the UK Financial Services Authority (FSA) and the Investment Management Regulatory Organization (IMRO) and Industrielle-Alliance is in a similar context with its American and Caribbean activities

Figure 1 presents the main regulatory bodies that affect Life and Health Insurers in Canada. LHIs are governed by the Insurance Companies Act (S.C. 1991, c. 47) proclaimed in force on June 1, 1992. The Act is administered by the Office of the Superintendent of Financial Institutions (OSFI) created by an Act of Parliament in 1985 and reinforced by Bill C-15 in 1996. OSFI is the primary regulator of federal financial institutions and pension plans. Its mission is to safeguard policyholders, depositors and pension plan members from undue losses. Thus, OSFI advances and administers a regulatory framework that contributes to public confidence in a competitive financial system. The most recent list of Life insurance companies that are regulated by OSFI included 128 names.

The industry has also created through time a number of self regulating organizations, the most important being the Canadian Life and Health Insurance Association (CLHIA) and the Canadian Life and Health Insurance Compensation Corporation (CompCorp). As a trade association, the CLHIA exists to serve its member companies in dealing with very different issues including laws and rules on how companies are structured; how to operate and how to provide the best services and products to consumers, and risk management, taxation and financial reporting. It also acts as a

consumer information service for CompCorp. CompCorp was created by the life and health insurance industry to provide Canadian policyholders with protection, within limits, against loss of policy benefits in the event of the insolvency of their insurance company. It is funded by CompCorp's more than 190 members.

These two self-regulating industry organizations along with OSFI and other interested parties such as the Securities commissions and the accounting profession via the Committee on Controls (CoCo) of the Canadian Institute of Chartered Accountants (CICA) and the Big Five accounting firms (Arthur Andersen, Deloitte & Touche, Ernst & Young, KPMG Peat Marwick, PriceWaterhouseCoopers) have played a major role in developing better ways of addressing risk management. One of the most interesting results has been Generally Accepted Risk Practices or GARP.

### **Generally Accepted Risk Principles (GARP)**

One of the most extensive attempts at establishing a benchmark of best practices for those who manage and regulate complex trading activities, particularly banks and other major financial institutions active in the capital markets, was undertaken by Coopers & Lybrand in the UK. The result of this work was given the acronym GARP, Generally Accepted Risk Principles. While there is nothing completely new, the document builds on some of the work of the Basle Committee, the Group of 30 and the Derivatives Policy Group in the international arena and on the work of the Treadway Commission (also known as the Committee of Sponsoring Organizations or COSO) in the United States, GARP distills and codifies major principles for managing and controlling risk in financial institutions. As such, it has been and still is an important guide in many Canadian financial.

GARP is driven by four fundamental themes: (1) the ultimate responsibility for risk management must be with the board, i.e., risk management must be driven top down; (2) the board and management must recognize a wide variety of risk types (an exhaustive listing is presented in Table 1) and ensure an adequate control framework to cover these; (3) risk management objectives and policies must be the driver of the overall business strategy and must be implemented through supporting operational procedures and controls; and (4) support and control function, such as the back and middle offices, internal audit, compliance, legal, information technologies, and human resources need to be an integral part of the overall risk management framework (see Figure 2).

A series of 89 principles are grouped under the following headings: Risk management strategy, Risk management function, Risk measurement, reporting and control, Operations, and Risk management systems. Hence, Principle 74 (Internal audit) states the following: "An internal audit

function should be set up by the board to examine, evaluate and report on accounting and other controls over operations. Internal audit should be specifically charged with assessing, for each area that it examines, the adequacy or otherwise of the IT and other systems in operation, in relation to the risk management strategy adopted". When examining the risk map of Table 1, it can be seen that the audit function is most concerned with "Operational Risk".

Principle 76 (Regulation) goes as follows: "The board should ensure that a fully-staffed compliance department has been established, charged with managing the firm's compliance with financial and business conduct regulations on a global basis. In addition, the board should ensure that the activities of the firm are subject to frequent review by regulatory experts so that the business should not be exposed to material risk of loss due to breaches of regulations or failure to anticipate regulatory changes and issues". Thus, this principle addresses the Legal and Regulatory Risk components of Business/Event Risk (Table 1). Before pursuing on the more specific of the internal audit and compliance functions, the next section examine specific Guidelines that Life and health insurers in Canada must respect. These have been greatly inspired by work such as GARP.

### **Guidelines from the Office of the Superintendent of Financial Institutions (OSFI)**

The first guidelines issued by OSFI were condensed in Guideline B-7 *Derivatives Best Practices* issued in May 1995. These are general factors that OSFI expects management and board of directors to consider when derivative instruments are part of a company's investment and financing profile. The Guideline was greatly inspired by the work of the Global Derivatives Study Group (Group of 30) which issued a report in July 1993 titled *Derivatives: Practices and Principles*.

The Guideline identifies the primary component of a sound risk management process: policies and procedures that (1) clearly delineate lines of responsibility for managing risk, (2) set in place adequate systems for measuring risks, (3) create appropriately structured limits on risk taking, (4) establish effective independent internal controls, and (5) describe comprehensive and timely risk monitoring and reporting. While discussing management's and board's involvement in setting these policies and procedures, Guideline B-7 points out the necessity of having an internal inspection program to identify any potential internal control weakness or operating system deficiencies. Naturally, the internal inspection function must be independent of the function and controls it inspects.

Guideline B-7 also discusses in length specific risk management considerations with respect to market risk, credit risk, liquidity risk, legal issues, and last but not least, operations and systems

risk. These are related to the potential unexpected loss resulting from deficiencies in information systems or internal controls and are the focus of internal inspections. The main considerations are:

- adequate mechanism in place to ensure the confirmation, maintenance, and safeguarding of derivatives contract documentation (including exception reporting to senior management);
- accurate and timely information processing to meet risk exposure monitoring needs;
- appropriate processing and reporting capabilities before introducing new products;
- consistent and documented valuation approach within each portfolio (with adequate references to valuation principles, see Guideline D-6, *Derivatives Disclosure*, 1995, for greater details); and
- segregation of the trading and valuation functions (including adequate security arrangements with respect to access).

*Guidelines on Standards of Sound Business and Financial Practices* was recently (February 1998) issued by a joint industry/regulatory committee comprised of representatives of the Office of the Superintendent of Financial Institutions (OSFI), Quebec's Inspecteur général des institutions financières (IGIF), the Canadian Life and Health Insurance Association (CLHIA) and the Canadian Life and Health Insurance Compensation Corporation (CompCorp). The ten (10) standards are grouped in five (5) broad categories as follows:

<b>Category</b>	<b>Standard</b>
Capital	Capital management
Asset Quality	Credit risk management
	Foreign exchange risk management
	Securities portfolio management
	Real estate appraisals
Liability Quality	Product design and pricing management
	Underwriting and liability management
Relationship of assets and liabilities	Interest rate risk management
	Liquidity Management
Controls	Internal control

The objective of this last standard on internal control is of particular interest. Its main objective is to ensure that each federally incorporated or regulated life and health insurer has in place and applies sound and prudent policies and appropriate procedures and controls in order to prudently manage and control the significant risks to which the company is exposed. The standards are

minimum standards and, furthermore, the standard suggest using two documents in establishing internal control frameworks: *Guidance on Control* issued by the Committee on Controls (CoCo) of the Canadian Institute of Chartered Accountants (CICA) in November 1995 and *Internal Control-Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in September 1992. Other groups have also published monographs or papers on the issue, including The Institute of Internal Auditors (IIA) Statement on Internal Auditing Standards No. 9 (December 1991) *Risk Assessment*.

The Standard sets out to define the internal control environment. The control environment is composed of the following:

- a board of directors that is actively concerned with sound corporate governance;
- a management team that manages in a sound and prudent way;
- organizational and procedural controls supported by an effective management information system to manage the company's exposure to risk; and
- an independent audit mechanism to monitor the effectiveness of the organizational and procedural controls.

Furthermore, a minimum list of organizational and procedural controls under the Standard includes:

- developing and implementing a formal code of conduct;
- developing, at least annually, and implementing a comprehensive business plan;
- establishing, within the management structure, either a reporting requirement or another method of ensuring that significant risks are identified and evaluated, and that policies and procedures are developed and implemented to manage and control these risks and business activities;
- developing and implementing appropriate and effective human resource policies and procedures;
- developing and maintaining comprehensive documentation that set out the controls;
- clearly defining prudent and appropriate levels of delegation of authorities;
- establishing and maintaining an effective management information system;
- developing and implementing appropriate and effective asset and liability management safeguards and controls (both on- and off-balance sheet);
- developing and implementing sound and conservative valuation policies and procedures; and
- developing and implementing prudent and appropriate information technology and business interruption controls.

The key element in monitoring and assessing the integrity of internal controls and the internal control environment dealing with risk management surrounding financial derivatives are independent

audits. However, these audits can only be effective if the internal audit function: (1) has an appropriate mandate governing its duties and objectives; (2) is independent of the functions and internal controls it inspects; (3) has sufficient resources to achieve this mandate; and (4) conducts its audits through a professional audit program. Such a program is presented in the next section.

### **An audit program**

The main objective of the following section is to illustrate an audit program whose objective is to identify and to assess the adequacy of internal controls surrounding the use and processing of derivative products.

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## ***The Risk Management Function***

### **Derivative activities are clearly aligned to business objectives.**

1. Obtain current and draft investment policies over derivatives. Should include department policies.
2. Ensure that Senior Management reviews the adequacy and appropriateness of written policies periodically.
3. Obtain current investment agreements for derivative activities
4. Review all pertinent legislation and ensure that derivative activities meet legislative requirements (i.e., OSFI, CLHIA, OSC).
5. Obtain derivative activity report for the year in question. Select sample of transactions to be tested through-out audit. Ensure that each derivative transaction has been appropriately authorised by the appropriate management.

### **Management periodically reviews derivative transaction activity, holdings, recording methods, and performance measures to facilitate oversight of such derivatives.**

6. Determine reporting structure over derivative activity.
7. Determine whether periodic reporting is performed at the appropriate level.
8. Select a sample of management reports used to monitor derivative trading activity. Agree the reported activity to source documentation to ensure the accuracy and completeness of the information. Evidence management's review of derivative activities.

## ***Risk Measurement, Reporting & Control***

### **Credit Risk**

**Counterparty Evaluation control procedures and standards ensure credit exposure risks are assessed and reviewed.**

9. Obtain current Counterparty Evaluation policies and procedures.
10. Obtain listing of authorised counterparties and dollar limits.
11. Ensure that listing has been approved by appropriate management.
12. Ensure that the listing is monitored/updated on a periodic basis by appropriate management.
13. Ensure that credit risk analysis/evaluation function is separate from the derivative dealer function.
14. Review and evaluate the procedures and criteria used during initial credit analysis of counterparty.
15. Review and evaluate procedures followed in the establishment of credit limits. Should consider credit rating of counterparty, anticipated volumes of transactions with counterparty, and potential exposure amounts.
16. Determine and evaluate the controls in place to monitor compliance with established limits.
17. Ensure that the overall exposure to an individual counterparty is reviewed versus pre-authorised limits daily.
18. Ensure that each contract's current exposure (market value) is reviewed periodically.
19. Ensure that potential credit exposure (potential increase in market value) of each contract is reviewed periodically as well.

**Market Risk**

**Ability to accurately measure market risk against formal internal exposure limits in a timely fashion is a prerequisite for management controls.**

20. Management should incorporate an institution's derivatives business into its approved limits on market risk of all financial instruments.
21. The appropriateness and adequacy of the assumptions and parameters that underpin an institution's technique for measuring market risk should be fully documented and reviewed at least annually against actual experience and updated market information.
22. At a minimum, risk measurement systems should evaluate the possible impact on the institution's earnings and capital which may result from adverse changes in interest rates, exchange rates, and other relevant market conditions.
23. Dealers should regularly perform simulations that change the assumptions of their models to determine how their portfolios would perform under stress conditions.
24. Simulations should reflect both historical events and future possibilities. Stress scenarios should include abnormally large market swings and periods of prolonged inactivity.

25. Results of simulations should be reported to the appropriate management on a timely basis.

**Valuation policies and procedures are consistent with industry and regulatory practices.**

26. Ensure that the approach taken to value derivatives is documented and approved by appropriate management.

27. Determine the method/procedures for valuing each derivative type including source of values and frequency of valuation.

28. Review valuation procedures for consistency with industry practices and compliance with regulatory requirements. Look for independent review by management. Determine if market prices are obtained from sources other than counterparties.

29. For manually priced derivatives obtain and review documentation for pricing models used.

30. The valuation function and the trading function should be separated and conducted independently by different personnel and units.

31. Test accuracy of valuation procedures by performing the following:

- For exchange traded derivatives, trace pricing to a third source, i.e., Wall Street Journal.
- For derivatives manually priced, recalculate.
- Compare to prior periods for accuracy.

**Operational Risk**

**Information and processing systems adequately support management and monitoring of derivative activities and exposures.**

32. Appropriate information processing and reporting capabilities should be put into place and be fully operational before introducing new derivatives products and before commencing trading/dealing in those products.

33. Prepare an information systems flow covering trade input, trade settlement, cash settlement, and GL recording of derivative transactions.

34. Determine if access to trade input systems and accounting systems is segregated between front and back office. Review levels of access within the back office.

35. Assess the availability of management information reports and the ability to provide adhoc reporting.

36. Where valuation systems are automated, security should be in place to restrict access to a list of authorised personnel.

**Appropriate accounting guidelines or policies are used to record derivative transactions on a timely basis.**

37. Accounting policies relating to derivative transactions are adequately documented.

38. Ensure that policies are in accordance with Derivative Disclosure Guideline issued by OSFI.
39. The following information should be disclosed (in accordance to OSFI and CICA):
- Extent and nature of financial instruments.
  - Exposure to interest rate risk.
  - Exposure to credit risk.
  - Fair value of the instrument.
  - Financial assets carried in excess of fair value.
  - Hedges of anticipated future transactions.
40. Additional disclosure information required by OSFI:
- An explanation of the nature and extent of the institution's use of derivatives.
  - The business purpose they serve.
  - The risks associated with them.
  - Information about management's policies for controlling risks.
  - The positive replacement cost, credit equivalent amount and the risk-weighted equivalent by class of derivative. Life insurers should use MCCSR guideline.
  - The revenue from trading activities for derivatives and on-balance sheet assets held for trading purposes should be disclosed.

**Brokers used to deal derivatives have been approved. Settlements are processed efficiently and in a timely manner.**

41. Ensure procedures to approve a new broker are documented.
42. Obtain list of authorised brokers and ensure sample trades are processed through an authorised broker.
43. Ensure settlement procedures are documented.
44. For sample selection, ensure settlement occurs on a timely basis.
45. Review settlement confirmations, and ensure that information is accurate.
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The use of such an audit program should allow internal auditors to assess the level with which internal controls monitor, prevent, detect and initiate corrective measures to ensure that the organization bears risk according to its desired level. The following section details a compliance program which addresses more particularly regulatory risks.

## **A compliance program**

Beyond assessing the adequacy of internal controls, most LHIs must also comply with numerous regulations with respect to their trading. The objective of compliance review programs is in fact to ensure that funds managed by the company and that the use and processing of derivative products are in compliance with various regulatory requirements. The frequency and number of tests to perform during such reviews should be determined by (1) the specific requirements of the regulatory board, (2) the result of the risk analysis which is produced on a regular (i.e., yearly) basis, and (3) results of prior tests. Reviews should be performed by a well trained staff (the number need not be very high) and reports that include remedial actions should be issued regularly.

Following is a brief overview of what should be covered within each review. The review should be performed on a sample of deals to be selected using criteria that covers the risks previously identified. Each review should also include a follow up of previously reported errors and recommendations which should appear in a separate and clearly identified section on the report. Findings should be ranked in terms of risk valuation (High, Medium, Low). The deal sample should be used to test the following areas:

- **Open Position**
  - Statements are sent to the customers when they are in an Uncovered Open Position.
  - Documentary evidence exist in the customers' file.
- **Contingent Liability Transaction**
  - Ensure that the transaction was made on a Designated Investment Exchange.
  - Cross check authorization authority on the transaction.
  - If for hedging purposes, ensure that the customer holds the position.
- **Best Execution (sampling to be expanded in case of error(s) or suspicions)**
  - Ensure that the transaction settlement has been properly approved.
  - Ensure that a confirmation of the settlement has been received.
  - Ensure that brokers have been properly approved.
  - Review market volatility and question trading activity if market conditions are abnormal.
- **Stress Testing**
  - Ensure that stress simulations is performed (daily for position active position takers and monthly for limited end-users)
  - Ensure that the stress simulations are reviewed by supervisor.
- **Timely Allocation**
  - Assess whether deals are allocated within a reasonable time after authorization.
- **Eligible Markets (sample should be expanded in the case of error(s))**
  - Ensure that the product dealt appears on an eligible market.
- **Breaches**

- Ensure that breaches have been reviewed by the supervisor from the originating area.
- Ensure that action undertaken will prevent the occurrence of further similar breaches.
- Ensure that the Director of Compliance have been notified of the breach and that it was properly documented.
- Ensure that regulatory agency has been notified of any significant breaches.
- **Complaints**
  - Ensure that new complaints: i) have been properly recorded, ii) have been recognized and have been correctly treated if significant, iii) have been answered promptly, and iv) proper procedures have been followed in terms of content of the response to the complainant.
  - Ensure that for outstanding complaints: i) the responses include the regulatory required notifications, ii) a suitable level of staff is dealing with the complaint, and iii) when relevant, a breach has been recorded and appropriate steps have been followed.
- **Service Level Agreement**
  - Ensure that record keeping procedures are being followed
  - Ensure compliance with the agreement
- **Personal Dealing Procedures**
  - Ensure that each personal trade is appropriately approved
  - Ensure that the 'No Dealings List' is up to date and that personal security holdings and trading activities of related persons are exempt of these deals as specified in regulations.
- **Investment Constraints (sampling size must be expanded in the case of error(s))**
  - Select a number of products (all products should be covered in a year) and ensure that any new investments since the last review are within the constraints (instrument, counterparty...).
  - Review the reports produced to monitor investment and ensure that any breaches are quickly and properly corrected.
  - Ensure that these reports show evidence of review.

Furthermore, an annual review should be performed to ensure that procedures are in place, are fully documented and are understood. The annual review should (a) check all the relevant procedure, (b) ensure that the written procedures on file are the current procedures and reflect any differences found during the regular reviews, and (c) include interviews with relevant staff to check their knowledge.

## **New trends**

With the growing emphasis on risk management and proper controls with respects to dealings in financial instruments, companies have attempted to integrate these issues in their strategic management. Two such tools are discussed: Control and Risk Self Assessment (CRSA) and the Balanced Scorecard approach with a risk management perspective.

### **New trends #1: Control and Risk Self Assessment**

Traditionally, top management has been responsible for company wide risk assessment. Recently, a new approach has emerged to second top management with operation grounded risk assessment. The approach is labeled Control and Risk Self Assessment (CRSA). CRSA is a process whereby employees at different levels participate in assessing an organization's effectiveness in achieving important objectives. Its five main steps are:

1. Clearly identify the key business objectives of the division, department or process.
2. Identify the risks which could prevent the achievement of these objectives.
3. Assess the effectiveness of the control environment.
4. Identify and assess the effectiveness of the controls in place to manage the key risks.
5. Develop and implement action plans to make needed control improvements to the control environment and/or to the specific controls mitigating key risks.

Figure 3 provides a graphical description of the CRSA process.

A CRSA project will normally be composed of two half-day workshops. In the first workshop, the participants will identify the major business objectives as well as the risks to their achievement, and rank the risks in terms of possible impact and likelihood of the effects on the organization. The use of a voting technology is usually recommended. In the second workshop which takes place one to two weeks later, the participants will identify and evaluate the control environment in general and more specifically, with the use of a control framework, the adequacy of the controls in place to manage the key risks. If control gaps are identified, participants will develop remedial action plans and assign responsibility for the implementation of the plans.

In a traditional audit, the assessment of risks and controls is done mainly by Internal Audit. In contrast, in the CRSA process this assessment is done by line managers and employees with the

assistance of Internal Audit. This innovative risk assessment and remediation process improves the more traditional risk determination.

The main objective of CRSA is to reinforce the principle that managers and employees are accountable for controls within their activities, and to provide a methodology which will allow them to assess the adequacy of their systems of internal control. The main benefits of CRSA are as follows:

- ❑ Support the achievement of business objectives;
- ❑ Focus on key risks and controls;
- ❑ Provide increased assurance to the management and the board about the control environment;
- ❑ Help managers to appropriate responsibilities for effective control and risk management;
- ❑ Increase the awareness and ongoing evaluation of risks and controls;
- ❑ Promote the principles of employee involvement and empowerment of Total Quality Management (TQM), Total Customer Satisfaction (TCS) or other similar types of programs;
- ❑ Use team work to develop workable solutions; and
- ❑ Improve the quality of internal control information.

CRSA is a process owned by line management. However, Internal Audit can be the champion of the project given its expertise on controls and risks. Internal control can thus be integrated to the process to advise and report on the process as it would for any other process which has significant potential impact on internal control. Internal Audit can prepare material for CRSA workshops, assist in the facilitation of the workshops, analyze and communicate results, and identify potential areas requiring additional management or audit analysis or attention. Internal Audit should ultimately report on the effectiveness of the CRSA process itself. Thus, aside from the tangible benefits that are provided by this innovative approach to risk assessment, its also enhances the internal audit's role as a key player in the process.

### **New trend #2 : Risk Management and the Balanced Scorecard**

An useful and increasingly used tool for performance measurement is the Balanced Scorecard developed by Nolan Norton and Robert Kaplan. The concept is well documented in their 1996 book titled *The Balance Scorecard-Translating Strategy into Action* and in a number of articles (for example, see Norton and Kaplan 1992,1997; St-Onge and Magnan 1994; André and Morissette 1998a, 1998b). The main objective of the tool is to reflect the strategy of a company in addition to indicating how well it is performing using both financial and non financial measures. The

approach focuses on four inter-linked perspectives in achieving corporate goals: the customer perspective; the learning and innovation perspective; the internal process perspective and financial perspective. A detailed discussion of the approach is beyond the scope of this article.

Our objective is to present a version of a Balanced Scorecard that incorporates a risk management perspective. This comprehensive framework is graphically presented in Figure 4. The traditional process of creating a Balanced Scorecard requires a certain number of critical steps: (1) Develop a vision for the company; (2) Understand critical success factors; (3) Identify business objectives; (4) Define adequate performance measures; (5) Develop appropriate information systems; and (6) Implement the process. We suggest integrating in step (2) a specific evaluation of risk factors. Defining the strategic objectives and performance measures for each of the perspective including a risk management perspective could be as follows:

*Financial perspective*

While the Balanced Scorecard approach emphasizes the importance of non financial measures in strategic management, it remains that the company must ultimately attain various financial goals. The following are potential objectives and measures with an encouragement in using a more complete global measure such as economic earnings:

<b>Strategic objectives</b>	<b>Performance measures</b>
Improve return to shareholders	Economic earnings, ROE
Improve growth of business	Revenue growth, market shares
Improve operating efficiency	Operating costs/Revenue, operational yields
Improve product mix	Gross Product Margin, New products

*Risk management perspective*

After stating the firm's vision, the firm should jointly assess key success factors, set the corporate strategy and establish formal objectives with respect to risk issues, such as follows:

<b>Strategic objectives</b>	<b>Performance measures</b>
Periodic Control and Risk Self Assessment	Progress report, Risk reduction rate
Reduce transaction risk	Number of execution errors
Monitor aggregate risks	Value at risk (VAR)
Balance risk and performance	Risk adjusted performance measure (RAPM)

*Customer perspective*

The customer perspective addresses the main focus of the company, the customer. Thus, it is a link with recent management tools to ensure a company's prioritization of customer needs, tools such as Total Quality Management (TQM) or Total Customer Satisfaction (TCS). The following are potential objectives and measures:

<b>Strategic objectives</b>	<b>Performance measures</b>
Improve market share	Percent of market, Growth in revenues
Maximize customer satisfaction	Number of complaints/Total orders
Obtain new clients	Number of new clients, Rate of new products introduction
Retain clients	Number of repeat orders, Retention rate

*Internal process perspective*

The internal process perspective addresses the efficiency and effectiveness of a firm's processes used in achieving its goals. The following are potential objectives and measures:

<b>Strategic objectives</b>	<b>Performance measures</b>
Best execution	Time to execution
Efficient execution	Cost per transaction, # of orders executed outside accepted parameters
Provide optimal mix of products	Revenue per product vs budget or plan
Appropriate information processing	# of processing errors, Downtime

*Learning and innovation perspective*

Last but not the least, the learning and innovation perspective deals with the human factor. The following are potential objectives and measures:

<b>Strategic objectives</b>	<b>Performance measures</b>
Retain key employees	Employee turnover, # of vacant positions
Increase employee satisfaction	Employee satisfaction index
Increase employee skills	Competency grid, Hours of training

Implement new information systems	Project status vs plan, rate of system change
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The combination of the five dimensions of the risk management balanced scorecard may help managers better monitor their organization's performance while controlling for risks, including the particular risks associated with the use of derivative products. This strategic tool may also help officers to question how managers have taken actions to improve the organization efficiency and effectiveness to carry out transactions involving varied levels of risks. In the end, the balanced scorecard may also help the board of directors in fulfilling its responsibilities towards shareholders and policy holders and ensuring that they acted in their best interests, among others, in terms of risk bearing and transacting on financial derivative products.

**Conclusion**

This paper has attempted to describe some of the Guidelines and Best practices in risk management in the Life and Health Insurance industry of Canada. Inspired by Generally Accepted Risk Principles and regulated by OSFI Guidelines Derivatives Best Practices and Standards of Sound Business and Financial Practices, organizational and procedural controls with respect to the dealing in complex financial instruments has greatly evolved in recent years. The role and function of internal audit and compliance have also changed greatly with an increase in responsibility with respect to ensuring adequate risk management in the firm. The paper offered an overview of an internal audit and compliance review program. In closing, we presented two new management tools that can assist in the implementation and follow up of best practices in risk management and controls. Control and Risk Self Assessment (CRSA) and the Balanced Scorecard with a Risk Management perspective may represent innovative tools to provide top management and the board of directors with a more detailed knowledge and a more integrated view on how their organization has achieved its objectives and has managed risks in favor of policyholders.

## References

André, P. and R. Morissette, "Gouvernement d'entreprise et information non financière de gestion: le Tableau de bord de régie d'entreprise", *Revue de gestion internationale*, automne 1998, p. 76-82.

André, P., A. Mersereau, and R. Morissette, "Valeur économique ajoutée et tableaux de bord: une combinaison stratégique", *Revue de gestion internationale*, été 1998, p. 14-19.

Coopers & Lybrand, Generally Accepted Risk Principles (GARP), Coopers & Lybrand, 1996, 228 p.

Kaplan, R. S. and D. D. Norton, "The Balanced Scorecard - Measures that Drive Performance", *Harvard Business Review*, January-February 1992, p. 71-79.

Kaplan, R. S. and D. D. Norton, 1996 "The Balanced Scorecard: Translating Strategy into Action", Harvard Business School Press, 322 p.

Kaplan, R. S. and D. D. Norton, "Why does business need a balanced scorecard?", *Journal of Cost Management*, may/june 1997, p. 5-10.

Laroche, P. and L. St-Cyr, *Les instruments financiers dérivés: utilisation, comptabilisation, vérification et contrôle*, Centre de perfectionnement HEC, Presses HEC, 1996, 204 p.

St-Onge, S. and M. L. Magnan, "La mesure de la performance organisationnelle: un outil de gestion et de changements stratégiques", *Revue de gestion internationale*, été 1994, p. 29-37.

Tory Tory Deslauriers & Binnington, *Consolidated Insurance Companies Act and Regulations*, Carswell, Thomson Professional Publishing, 1998, 622 p.

Figure 1 : Regulatory environnement

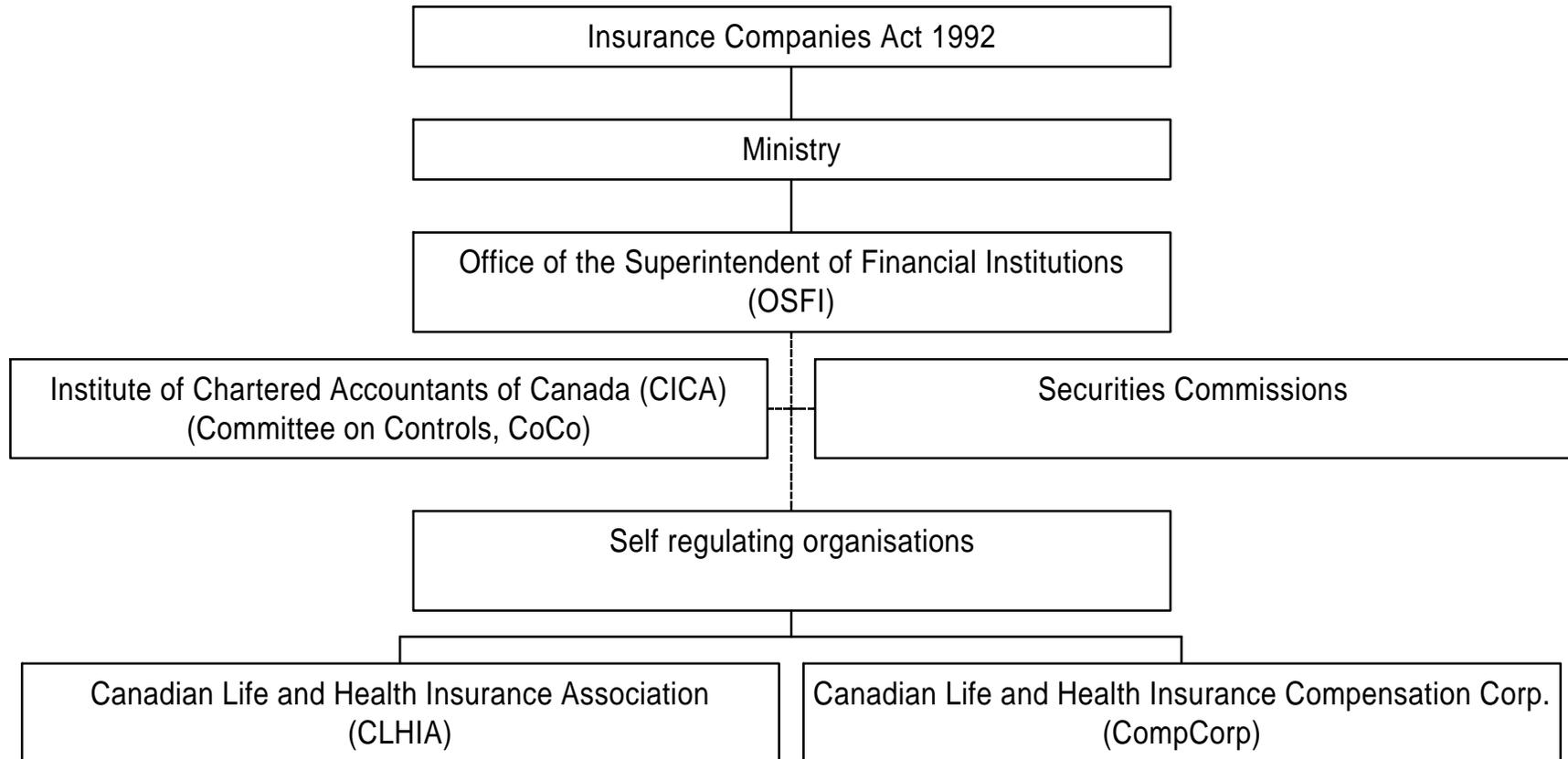
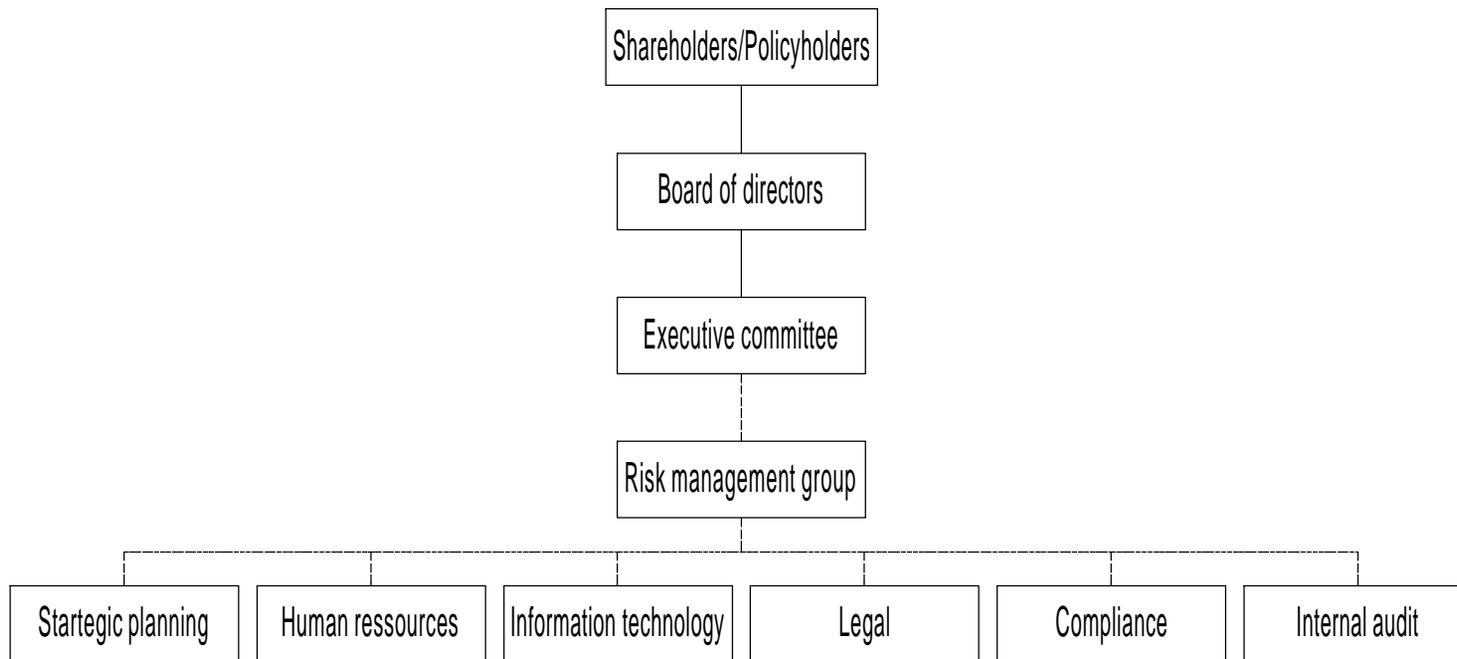


Figure 2: Risk management function



**Figure 3 : Control and Risk Self Assessment**

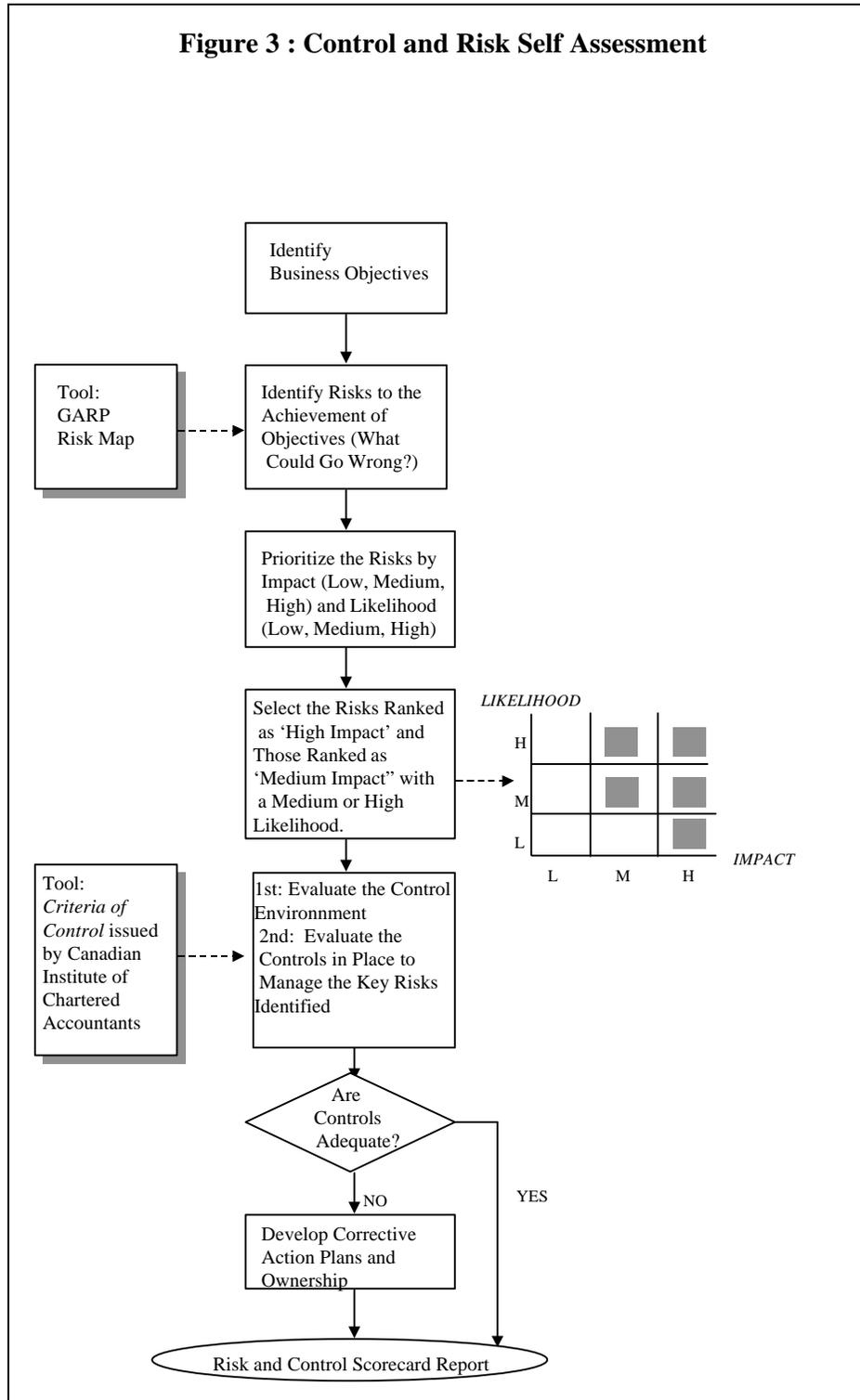
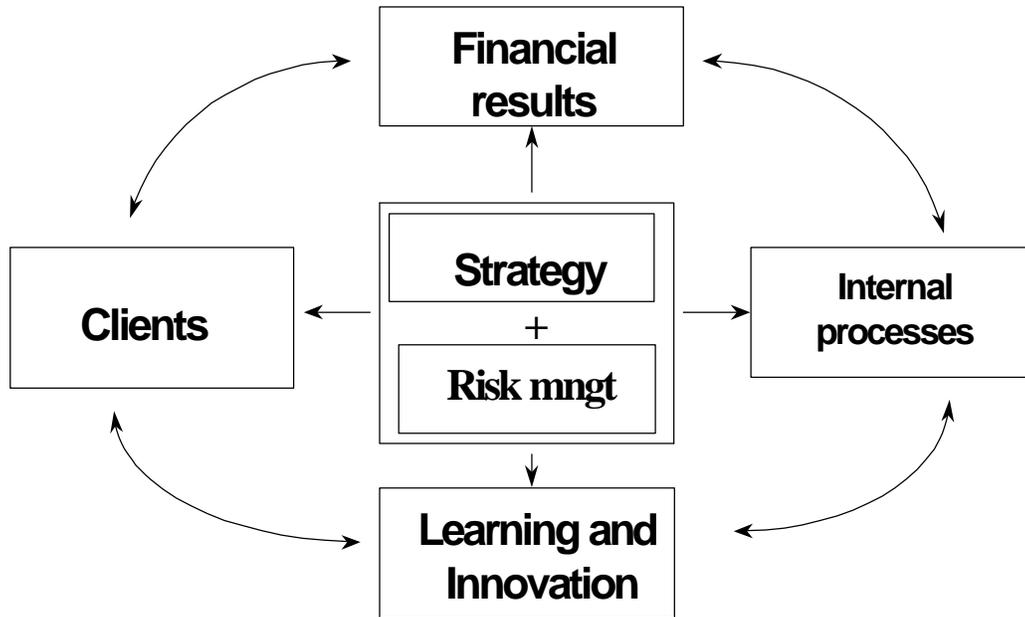


Figure 4: Risk management and the Balanced Scorecard



**Table 1  
Risk Map per GARP\***

Credit risk	Direct credit risk
	Credit equivalence exposure
	Settlement risk
Market risk	Correlation risk
	Equity risk
	Interest rate risk
	Currency risk
	Commodity risk
	Credit spread risk
Portfolio concentration	Instrument
	Major transaction
	Economic sector
Liquidity Risk	Market liquidity risk
	Prudential liquidity risk
Operational risk	Transaction risk
	Operational control risk
	Systems risk
Business/Event risk	Currency convertibility risk
	Shift in credit rating
	Reputation risk
	Taxation risk
	Legal risk
	Disaster risk
	Regulatory risk

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\* Coopers & Lybrand, Generally Accepted Risk Principles (GARP), 1996, p.32.