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DERIVATIVES RISK MANAGEMENT GUIDELINE

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Preamble

The *Autorité des marchés financiers* ("AMF") establishes guidelines setting out its expectations with respect to financial institutions' legal requirement to follow sound and prudent management practices. These guidelines therefore cover the execution, interpretation and application of this requirement.

The AMF favours a principles-based approach rather than a specific rules-based approach. As such, the guidelines provide financial institutions with the necessary latitude to determine the requisite strategies, policies and procedures for implementation of such management principles and to apply sound practices based on the nature, size and complexity of their activities.

The AMF considers governance, integrated risk management and compliance (GRC) as the foundation stones for sound and prudent management of financial institutions and, consequently, as the basis for the prudential framework provided by the AMF.

This guideline is part of this approach and sets out the AMF's expectations regarding sound and prudent derivatives risk management practices.

Introduction

Although derivatives are used for managing risks, they can also be a major source of risk and can ultimately act as factors which causes financial market instability. Derivatives are basically subject to the same risks as so-called traditional financial instruments. However, by their very nature, the risks tied to derivatives can manifest themselves differently and, in the case of certain instruments, may be amplified. For instance, highly leveraged positions may increase the risks tied to the use of derivatives such that the financial markets may be undermined. This may result in the threat of systemic risk.

Moreover, the complexity of some of these instruments as well as the speed and frequency of transactions may increase the risk of losses. In some cases, significant losses may be incurred in a matter of days, if not hours. As well, the compensation system, when closely tied to performance, may encourage front-office staff to excessive risk-taking.

The AMF therefore considers derivatives risks to be sufficiently important to specifically set out its expectations with respect thereto. Under the various sector-based laws it administers,[1] the AMF has the power to establish guidelines regarding sound and prudent management practices for financial institutions.

With this in mind, financial institutions should adopt sound management practices for their derivatives activities and ensure that the use of derivatives is properly conducted. The AMF expects financial institutions to perform an analysis of their needs to determine the appropriateness of using derivatives and, as the case may be, to use such instruments based on the competence of staff. Specific measures to manage the risks particularly related to derivatives should also be put into place as part of the institution's integrated risk management.

The principles set out in this guideline with respect to derivatives risk management are in keeping with the approach favoured by the *Derivatives Act*[2] which came into force on February 1, 2009. For the sake of uniformity, derivatives terminology used in this guideline is consistent with the terminology used in the *Derivatives Act*. Moreover, recognizing that derivatives markets and products are constantly evolving, both this guideline and the Act provide a responsive, flexible and modern framework for these types of instruments.

[1] *An Act respecting insurance*, R.S.Q., c. A-32, ss. 325.0.1 and 325.0.2;
An Act respecting financial services cooperatives, R.S.Q., c. C-67.3, s. 565;
An Act respecting trust companies and savings companies, R.S.Q., c. S-29.01, s. 314.1.

[2] *Derivatives Act,* R.S.Q., c. I-14.01.

Scope

This derivatives risk management guideline is intended for insurers of persons (life and health), damage insurers, portfolio management companies controlled by an insurer, mutual insurance associations, financial services cooperatives as well as trust and savings companies, which are governed by the following Acts:

- *An Act respecting insurance*, R.S.Q., c. A-32
- *An Act respecting financial services cooperatives,* R.S.Q., c. C-67.3
- *An Act respecting trust companies and savings companies*, R.S.Q., c. S-29.01.

This guideline applies to financial institutions operating independently as well as to financial institutions operating as members of a financial group.[3] As regards financial services cooperatives and mutual insurance associations that are members of a federation, the standards or policies adopted by the federation should be consistent with—and even converge on—the principles of sound and prudent management prescribed by law and detailed in this guideline.

The generic terms “financial institution” and “institution” refer to all financial entities covered by the scope of this guideline.

[3] For purposes of this guideline, “financial group” refers to any group of legal persons composed of a parent company (financial institution or holding company) and legal persons affiliated therewith.

Coming into effect and updating

This derivatives risk management guideline will come into effect on month xx, 201X.

With respect to the legal requirement of institutions to follow sound and prudent management practices, the AMF expects each institution to develop strategies, policies and procedures based on its nature, size, complexity and risk profile, to ensure the adoption of the principles underlying this guideline by month xx, 201X (2 years after the coming into effect). Where an institution has already implemented such a framework, the AMF may verify whether it enables the institution to satisfy the requirements prescribed by law.

This guideline will be updated based on developments in derivatives risk management and in light of the AMF's observations in the course of its supervision of financial institutions.

1. Sound and prudent derivatives risk management

Sound derivatives risk management requires that a financial institution establish a written policy and written procedures clearly defining its orientations in the matter. Derivatives risk management should therefore form part of an institution's integrated risk management and be compatible with the institution's orientations, level of capital, strategy, investment experience and risk appetite.

The financial institution should consider the application of derivatives risk management principles in conjunction with the investment strategy and policy adopted by it. The Investment Management Guideline[4] sets out the AMF's expectations in this regard in greater detail.

It should be noted that this guideline does not cover factors related to the compatibility of derivatives or capital requirements, which are discussed specifically in respective capital adequacy standards.

The principles set out in this guideline apply to end users of derivatives as well as to derivatives traders. A financial institution is considered to be an end user when it uses derivatives to manage risk by carrying out hedging and assuming positions in the course of current account transactions on its own behalf. It is considered to be a trader when it acts as an intermediary between two users or more frequently as a counterparty. It trades in derivatives to earn a profit (in accordance with its articles and the strategy adopted by it) through speculation, arbitrage, market making or a combination thereof.

2. General framework for derivatives risk management

Principle 1: Roles and responsibilities of the board of directors and senior management

The AMF expects derivatives risk management to be supported by effective and efficient governance.

The AMF considers the board of directors and senior management to be ultimately responsible for decisions made with respect to derivatives activities and it expects them to exercise tight control over such activities, given the lack of transparency of derivatives, the risks related to derivatives and the changing nature of the derivatives markets.

The Governance Guideline[5] sets out sound management principles that a financial institution should consider in light of the particular nature of derivatives risk management.

[4] *Autorité des marchés financiers*, Investment Management Guideline, Month 201x.

[5] *Autorité des marchés financiers*, Governance Guideline, April 2009.

The board of directors and senior management should also instil a culture of risk management by fostering discussions among its members, senior management and staff involved in derivatives activities, as regards the risks faced by the institution and the process for managing such risks.

Roles and responsibilities of the board of directors

The roles and responsibilities of the board of directors with regard to a financial institution's derivatives risk management should principally be as follows:

- approve the policy applicable to derivatives activities;
- ensure that board members as a whole have the required knowledge to understand the risks related to the use of derivatives. When necessary, the board can mandate a committee for such purpose or call on independent external resources;
- approve the risk appetite and risk tolerance levels the institution is prepared to assume with respect to derivatives activities;
- inquire on a regular basis about the risks tied to derivatives activities faced by the institution;
- ensure that internal controls and audit mechanisms relating to derivatives are in place.

Roles and responsibilities of senior management

The roles and responsibilities of senior management with regard to a financial institution's derivatives risk management should principally be as follows:

- define the risk appetite and risk tolerance levels the institution is prepared to assume with respect to derivatives activities;
- approve, limit or prohibit the use of derivatives in accordance with the existing policies and procedures, and ensure that the limits are followed on a continuous basis;
- ensure that the institution has the ability to verify the price valuation models independently, particularly where over-the-counter derivatives are used;
- ensure that relevant information is provided to it regarding the nature of the institution's derivatives activities and the risks tied thereto;
- ensure compliance with the legal and regulatory provisions applicable to derivatives;

- understand risk assessment methods and measures, and determine the relevance and consistency of the assumptions used to support analysis, in light of the institution's risk appetite;

- ensure the institution has adequate and sufficient capital with respect to risk exposures related to derivatives.

- ensure the institution has an independent and qualified staff whose compensation is based on long-term profit incentives.

Principle 2: Independence, competence and compensation

The AMF expects derivatives activities to be handled by independent and qualified staff. The compensation policy for these staff members should be established so as to avoid potentially encouraging excessive risk-taking.

Independence

The management of derivatives activities includes three distinct functions: the front office, the back office and the middle office. The institution should ensure that these three functions are independent, in particular so as to prevent excessive risk-taking, potential fraud and conflicts of interest.

Competence

Staff assigned to the three functions referred to previously should have the necessary skills to perform their respective mandates. Thus, they should have appropriate training and the necessary experience to understand the risks to which the institution is exposing itself. They should also be adequately familiar with the institution's policy and procedures related to derivatives activities. Otherwise, the institution should seek to conduct business with a specialized dealer if it intends to use derivatives.

Furthermore, middle office staff supervising and controlling derivatives activities should have the knowledge required to appreciate the risks tied to such activities, in particular so as to prevent excessive risk-taking, fraud and embezzlement.

Compensation

The compensation policy should be established so as to avoid practices considered to be risky, such as excessive risk-taking in order to obtain higher returns. For example, front office staff compensation should not be closely tied to the profitability of derivatives transactions. At the same time, compensation of back-office staff and middle-office staff should not be tied to the profits generated by front-office staff. As well, it is important to establish compensation on a long-term basis, since profits reflected in short-term compensation may for example result in a long-term loss.

Principle 3: Principles relating to the use of derivatives

The AMF expects financial institutions to establish specific and unambiguous limits on their derivatives activities and ensure compliance therewith.

Limits

The types of derivatives which the institution intends to use should be subject to the prior authorization of the board of directors or a committee created for that purpose by the board. The board of directors and senior management should also limit or prohibit the use of certain derivatives if they deem it necessary to do so.

The institution's exposure to derivatives should be limited based on the purpose for using derivatives and the risks tied thereto. The limits on the use of derivatives should form an integral part of the general limits set by the institution, in particular in connection with the institution's investment policy. These limits should take diversification into consideration. Thus, limits may apply to transactions by type of product or by marketplace. In the same vein, the institution should also set quantitative limits on its counterparty exposure. These limits should be set at two levels:

- reporting limits (where positions must be analyzed);
- hard limits (where positions must be liquidated to comply with limits).

The positions taken by the institution should fall within the established limits. Any limit that is exceeded must be analyzed and treated in the same manner, regardless of whether a loss or gain is generated. Where limits are exceeded, middle-office staff should intervene to prevent additional risks from being taken and promptly notify senior management, who will report the matter to the board of directors. The board may decide to authorize any excess limits if it deems it appropriate to do so.

Authorization to use derivatives

Before undertaking derivatives activities, senior management and the board of directors should ensure that internal control mechanisms are adequate and that all necessary approvals have been obtained. Authorizations prior to derivatives transactions should take the following elements, among others, into consideration:

- the intended purpose for using derivatives;
- the potential risks related to such instruments;
- the methods which the institution intends to use to measure, monitor and control the risks related to derivatives;

- the applicable accounting standards and tax treatment;
- the legal and regulatory provisions applicable to derivatives;
- capital adequacy.
- the resources required to trade in derivatives (reliable and efficient systems, specialists with specific expertise, etc.).

Restriction or prohibition on the use of certain derivatives

With the derivatives market constantly changing, the board of directors and senior management should ensure, on a permanent basis, the suitability of trading in certain types of derivatives. Thus, it may be appropriate to limit or prohibit the use of certain types of derivatives in the following situations, among others:

- the potential exposure cannot be measured reliably;
- it may be difficult to close out a position because of its complexity or magnitude (e.g.: over-the-counter derivatives transactions);
- it is impossible to obtain an independent review of the price of the derivative;
- the creditworthiness of counterparties is not satisfactory.
- the complexity of the product and related risks are improperly understood.

Derivatives activities involve risk-taking. Front-office staff should be able to take positions on future market fluctuations that they consider appropriate even if doing so involves exceeding the established limits. When the opportunities justify it, authorization to temporarily depart from limits should be sought from the board of directors and senior management. All authorized limit excesses should be documented.

3. Assessment of derivatives risks

Principle 4: Risks specific to derivatives

> The AMF expects financial institutions to identify and assess the specific risks related to their derivatives activities.

Derivatives are subject to the same risks as so-called traditional financial instruments. However, given their additional lack of transparency and their leverage effect, the risks tied to derivatives can manifest themselves differently, thereby requiring a more precise assessment and more frequent monitoring.

This section provides an overview of the risks most typically related to derivatives and a brief explanation. It is therefore not an exhaustive list of risks. An institution should conduct business with a specialized dealer if it intends to use derivatives.

Specific risks tied to standardized derivatives

Standardized derivatives are traded on a published market, such as an exchange. Credit risk exposure for standardized derivatives is assumed by the clearing house, which relies on compulsory margin deposits and clearing agreements. These mechanisms exist in order to limit credit risk and liquidity problems if market participants are unable to honour their commitments. However, margin calls may affect a financial institution's liquidity when market prices fluctuate significantly. In order to determine margin levels, it is therefore necessary to understand how the clearing house applies its procedure.

Specific risks tied to over-the-counter derivatives

Any non-standardized derivative is an over-the-counter derivative. In other words, this type of derivative is not traded on an organized exchange. By contrast with standardized derivatives, given that over-the-counter derivatives are "tailor-made" instruments, it is difficult to transfer them or close out a position. Furthermore, over-the-counter derivatives can be cancelled only with the counterparty's approval. Generally speaking, institutions limit their exposures by taking positions with similar but opposing characteristics so as to offset the initial positions. This practice reduces the market risk, but increases credit risk, liquidity risk and transaction fees.

In the case of over-the-counter derivatives, the credit risk is assumed by the counterparties. Before trading in a derivative, the financial institution should consider the overall financial position of the counterparty and its ability to honour its commitments. To this end, the financial institution should establish eligibility criteria for its counterparties. It should also require that cash or property be deposited as security. Furthermore, it may enter into netting agreements.

Leverage effect

Due to the significant leverage effect of certain derivatives, market risk is amplified. Minor fluctuations in the value of the underlying interest can cause major fluctuations in the value of the derivative. This impact may increase if cash flows from the derivative are based on a multiple of the value of the underlying interest. The value of a derivative that has a leverage effect can be highly volatile. A policy for use of the leverage effect should be developed and implemented.

Settlement and pre-settlement risk

Credit risk in derivatives takes the form of settlement risk and pre-settlement risk. The latter can result in a decrease in the value of a derivative (if cash flow payments decline) or a decrease in its current value. Settlement risk is the risk assumed by the institution when it has satisfied its obligations under a contract, but has not yet been paid by the counterparty. A settlement risk becomes a credit risk if the counterparty defaults during the settlement period; in international transactions this is usually due to time zone differences and the fact that legal holidays differ from country to country.

Depending on the terms of delivery, settlement risk is greater than pre-settlement risk for the majority of derivatives. In order to manage its risks properly, the institution should be familiar with the settlement process for the derivatives it trades and the risks related thereto.

Operational risk

The financial institution should ensure that its computer systems and the models used for valuing derivatives are reliable so as to mitigate the risk of manipulation or error. The models and systems used to value derivatives can be a source of significant losses. These losses may result, among other things, from inadequate models, biased assumptions, computer system deficiencies and the falsification of findings. To mitigate or counter these risks, access to the computer systems used to value derivatives should be restricted to designated users, in accordance with their requirements.

Principle 5: Scenario analysis and stress testing

The AMF expects financial institutions to carry out scenario analysis and stress testing on a regular basis so as to determine the potential impact of the use of derivatives on their financial health.

The simulated scenarios may be extreme historical events, hypothetical—yet plausible—scenarios, or, ideally, a combination of the two. Scenario analysis allow the institution to draw up a more complete profile of the risks to which it is exposed in connection with its derivatives activities. The financial institution's stress testing should explicitly cover the use of ordinary derivatives as well as the use of more complex derivatives. For example, stress testing could take the following factors into consideration:

- the underlying interests and their exposure to fluctuations due to various factors (interest rates, exchange rates, etc.);
- specific contractual provisions (deposit of cash or property, master netting agreement, etc.);
- the leverage effect;
- unanticipated discrepancies in correlations;
- periods of high market volatility and market stagnation;
- the effect of decreased liquidity on trading costs;

- margin calls/requests for additional security deposits;
- the exercise of options before maturity;
- requests to close out positions before maturity.

Moreover, front-office staff should evaluate derivatives based on various assumptions and carry out scenario analysis and stress testing before taking a position. The valuation models used by the back office and middle office should be more conservative in recognizing profits throughout the life of a position in derivatives.

Periodic reports based on testing should indicate the profits and losses that could result from specific market fluctuations. Forecast profits and losses should be compared with actual profits and losses in order to ensure the reliability of the valuations performed. The valuation method adopted for derivatives should be duly documented.

4. Mitigating derivatives risks

Principle 6: Eligibility of counterparties

The AMF expects financial institutions to ensure that the counterparties to their derivatives activities are accredited under the *Derivatives Act* and are eligible based upon the policy they have elaborated.

Under the *Derivatives Act*, an over-the-counter derivative may not be created or marketed without authorization by the AMF unless the transaction is entered into by two accredited counterparties. A financial institution that seeks to create or market an over-the-counter derivative must therefore ensure that the counterparty is properly accredited under the Act. In addition, it is the responsibility of the institution to implement any useful compliance process needed to ensure that the counterparty with which it intends to enter into an over-the-counter derivatives transaction is accredited under the Act.

The financial institution’s policy should explicitly state the criteria that counterparties must meet in order to be eligible as well as the contractual terms required for taking positions in over-the-counter derivatives. The institution should also limit the concentration of its positions per counterparty and be satisfied that any counterparty risk is properly factored in margins and requests for security deposits.

In order to maintain counterparty risk at an acceptable level, the institution can impose position limits for each counterparty or impose an overall counterparty risk exposure limit for all its positions. The method used to measure counterparty risk should be based on the volume and complexity of its derivatives activities.

Assessing the eligibility of counterparties could be based on the following elements, among others:

- the extent of exposure per counterparty;
- the probabilities of default by counterparties;
- correlations between the probabilities of default associated with the counterparties;
- the expected recovery rate in the event of a default;
- the amounts at risk;
- the security offered.

Reports should be provided to senior management justifying the credit commitments for each of the institution's counterparties. These reports should also take into consideration the other loan commitments the institution has made with its counterparties. The institution could mandate a third party to monitor settlements and netting in respect of certain over-the-counter transactions and provide documentation.

Principle 7: Margin deposit

The AMF expects financial institutions to examine all aspects of the margin deposits in which they are involved, whether as receiving parties or depositors.

The financial institution should consider several elements before becoming involved with a deposit of cash or property, including the following:

- the type of property to be accepted or given as security or as a guarantee deposit;
- cash or property concentration limits per issuer, country, industry or asset class;
- the correlation between the price of the securities deposited and the price of the derivative being traded;
- the time of delivery of the asset deposited as security (concurrently with the transaction, when the counterparty's credit rating decreases, when there is a change in the exposure level, etc.);
- the valuation methods (frequency of revaluations, haircuts, etc.);
- the possibility of hypothecating or rehypothecating property;

- the ability to access or realize the cash and property, particularly when the deposits are in another jurisdiction;

- dispute resolution clauses.

When the institution deposits cash, it should ensure that its liquidity is not thereby compromised and that its overall risk profile is not adversely affected, particularly in times of crisis.

Principle 8: Netting agreements

The AMF expects financial institutions to document the netting agreements to which they are parties for existing and future derivatives transactions and verify the legality of such agreements.

An institution may enter into netting agreements with its counterparties in order to reduce counterparty risk. Netting agreements allow for netting through settlement or liquidation. A financial institution seeking to enter into netting agreements for its derivatives activities should:

- sign a netting contract or written netting agreement;

- obtain written legal opinions to the effect that in the event of legal dispute of the agreement, the institution's exposure will be equal to the net amount under the laws of all relevant jurisdictions;

- ensure that a given transaction has been taken into consideration in the legal opinions before including that transaction in a netting tranche;

- update the legal opinions in order to ensure that the netting contract or agreement continues to be enforceable;

- retain all documents relating to netting contracts or agreements;

- analyze all termination clauses included in the netting contracts or agreements and assess the risks thereof.

Supervision of sound and prudent management practices

To foster the establishment of sound and prudent management practices within financial institutions, the AMF, acting within the scope of its activities, intends to assess the degree of compliance with the principles set forth in this guideline in light of the specific attributes of each institution. Consequently, it will examine the effectiveness and relevance of the strategies, policies and procedures adopted by financial institutions as well as the quality of oversight and control exercised by their board of directors and senior management.

Derivatives management practices are constantly evolving. The AMF therefore expects decision makers at financial institutions to remain current with best practices and to adopt such practices, to the extent that they address their needs.