AUTORITÉ
DES MARCHÉS
FINANCIERS

GUIDELINE ON CAPITAL ADEQUACY REQUIREMENTS

Property and casualty insurance

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Chapter 1. Introduction and general requirements

1.1 Introduction

1.1.1 Guideline objective

~~*An Act respecting insurance*~~The *Insurers Act* (CQLR, Chapter A-32.1) (the "Act") prescribes that every insurer must adhere to sound and prudent management practices."~~[1]~~ Moreover, under the Act, the *Autorité des marchés financiers* (the "AMF") may establish guidelines, for all authorized insurers, informing them of measures that they may establish to satisfy their obligations under Titles II and IV of the Act, including the obligation to adhere to practices that provide that they maintain adequate capital to ensure their sustainability.~~pertaining notably to the adequacy of capital may be given to insurers.~~[2]

The objective of these guidelines is essentially to increase the transparency and predictability of the criteria used by the ~~*Autorité des marchés financiers* (the "~~AMF~~")~~ in assessing the quality and prudence of the management practices of the financial institutions for which those criteria are intended. The ability of these institutions to meet their obligations toward investors and policyholders is key to achieving this objective. This principle is reflected in the capital adequacy requirements for property and casualty (P&C) insurers ("damage" insurers in Québec) set forth in this guideline.

The risk-based capital adequacy framework is based on an assessment of the riskiness of insurance risk, market risk, credit risk and operational risk, by applying varying risk factors and margins. P&C insurers are required to meet a ***capital available to capital required*** test. The definition of capital available to be used for this purpose is described in Chapter 2 and is calculated on a consolidated basis.

The *Guideline on Capital Adequacy Requirements* outlines the capital framework, using a risk-based formula for target capital requirements and minimum capital requirements, and defines the capital that is available to meet the minimum standard. The Minimum Capital Test (MCT) determines the minimum capital required and not the optimum capital required at which an insurer must operate.

1.1.2 Scope of application

This guideline applies to all P&C insurers licensed to transact insurance business in Québec and holding a charter issued by the province of Québec or by another Canadian jurisdiction (hereinafter the "P&C insurers"). It applies on a consolidated basis in accordance with Canadian generally accepted accounting principles (CGAAP)[3]. Accordingly, each component of capital available and capital required is calculated in such

~~[1] Section 222.1.~~

[2] Sections ~~325.0.1 and 325.0.2~~74, 463 and 464 of the Act.

[3] The Canadian Accounting Standards Board has adopted International Financial Reporting Standards (IFRS) as Canadian GAAP for publicly accountable enterprises, including insurers. The primary source of Canadian GAAP is the Chartered Professional Accountants of Canada Handbook.

a way as to include all of the insurer's operations as well as any financial activity by its subsidiaries.

However, ~~For~~ for purposes of this guideline, non-qualifying subsidiaries[4] should be deconsolidated and accounted for using the equity method. Interests in non-qualifying subsidiaries are ~~therefore~~ excluded from capital available and capital required calculations, as are loans or other debt instruments issued to them if they are considered as capital in the entity (Section 2.4).

For insurers operating in both P&C insurance and life and health insurance ("insurance of persons" in Québec), this guideline only applies to balance sheet items and off-balance-sheet instruments attributed by the insurer to the P&C insurance sector and to the accident and sickness class of insurance business.

1.1.3 Effective date

This updated Guideline is effective as of January 1, ~~2019~~2020.

1.1.4 Clarification

Unless the context indicates otherwise, in this guideline, concepts pertaining to corporate relationships, such as subsidiaries, associates, joint ventures and related enterprises, as well as terminology, should be interpreted in accordance with CGAAP.

Assets and liabilities of subsidiaries consolidated for the purposes of this guideline are therefore subject to risk factors and liability margins in the insurer's MCT.

1.1.5 Interpretation

Because the requirements set forth in this guideline are intended mainly as guidance for managers, the terms, conditions and definitions contained therein may not cover all situations arising in practice. The results of applying these requirements should therefore not be interpreted as being the sole indicator for assessing an insurer's financial position or the quality of its management. Insurers are expected to submit to the AMF beforehand, where applicable, any situation for which treatment is not covered in this guideline or for which the recommended treatment seems inadequate. This also applies with respect to any issue arising from an interpretation of the requirements set forth in this guideline.

Furthermore, notwithstanding the stated requirements, in any case where the AMF believes that the capital treatment is inappropriate, a specific capital requirement may be determined.

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4 ~~Under this guideline, a subsidiary that is a dissimilar regulated financial institution, such as a bank, trust company, savings company or life and health insurer, and a subsidiary, which is not a legal person under Section 244.2 of the Act, are~~ See Section 2.4 for the definition of "non-qualifying subsidiary".~~ies.~~

1.2 Risk-based capital adequacy

The AMF expects P&C insurers to meet the MCT capital requirements at all times. To be considered as regulatory capital to be used for this purpose, capital instruments must meet qualifying criteria and are subject to capital composition limits and deductions and adjustments (reference Chapter 2). Under this guideline, the notion of capital encompasses capital available within all subsidiaries that are consolidated for the purpose of calculating the MCT ratio.

Under the MCT, capital requirements for various risks are set directly at a pre-determined target confidence level. The AMF has elected 99% of the expected shortfall (conditional tail expectation or CTE 99%) over a one-year time horizon as a target confidence level.[5]

As a first step, the risk factors defined in this guideline are used to compute the target capital requirements on a consolidated basis. The minimum capital required is then determined as the sum of the target capital requirements for each risk component, less the diversification credit, the result of which is divided by 1.5.

The target capital requirements are calculated as follows:

Sum of:

- capital required for insurance risk (reference Chapter 3):
  - margins required for unpaid claims and premium liabilities;
  - margin required for reinsurance ceded under unregistered reinsurance agreements;
  - ~~catastrophe~~ earthquake reserves.
- capital required for market risk (reference Chapter 4):
  - margin required for interest rate risk;
  - margin required for foreign exchange risk;
  - capital required for equity risk;
  - capital required for real estate risk;
  - capital required for other market risk exposures.
- capital required for credit risk (reference Chapter 5):
  - capital required for counterparty default risk for balance sheet assets;
  - capital required for counterparty default risk for off-balance sheet exposures;

[5] As an alternative, the AMF used a value at risk (VaR) at 99.5% confidence level or expert judgement when it was not practical to use the CTE approach.

- capital required for guarantee instruments held for unregistered reinsurance (reference Section 3.4.2) and self-insured retention (reference Section 3.5).

- capital required for operational risk (reference Chapter 6).

Less:

- diversification credit (reference Chapter 7).

The minimum capital required is then calculated as follows:

- target capital required divided by 1.5.

The MCT ratio, expressed as a percentage, is then calculated by dividing the insurer's capital available by minimum capital required.

1.3 General requirements

1.3.1 Minimum ratio, intervention target ratio and internal capital target ratio

Capital management is a broad process which covers not only the measurement of capital adequacy, but also all the strategies, policies and procedures used by an institution to determine and plan its capital.

While this guideline ~~describes~~ sets out the AMF's expectations regarding capital adequacy required for sound and prudent management, [6] the objective of the *Capital Management Guideline* issued by the AMF is to articulate the principles which should guide and oversee financial institutions' management of capital on a more global basis, that is, beyond the determination of the minimum level of regulatory capital.

In addition to capital management principles such as:

- integration into strategic planning and risk management activities;
- presence of a sound governance structure;
- the implementation of a capital management framework consistent with the institution's risk profile as well as of a strategy conductive to maintaining adequate capital levels.

The *Capital Management Guideline* ~~describes~~ sets out the AMF's expectations regarding the different incremental levels of capital[7] that a financial institution should maintain, taking into account regulatory requirements, its risk profile and its other current or future needs. These levels are established in relation with the requirements related to the calculation of the MCT ratio.

[6] By determining and comparing the insurers' capital needs and capital available, to ensure that they meet the prescribed requirements.

[7] Regulatory capital, internal capital target and excess capital.

Thus, P&C insurers are required to maintain, continuously and at a minimum, an MCT ratio of 100%, this means that capital available must be equal or superior to minimum capital required. However, during the course of its supervisory activities, the AMF expects an MCT intervention target capital ratio, or intervention target ratio, of 150%. These two ratios correspond to the regulatory capital requirement levels as defined in the *Capital Management Guideline.*

The 150% intervention target ratio provides a sufficient cushion above the minimum capital required and allows for early detection of issues by the AMF, so that intervention can be timely if the insurer's situation so requires, and for there to be a reasonable expectation that the insurer's actions can successfully address the difficulties. The intervention target ratio provides additional capacity to absorb unexpected losses in relation to the risks covered in this guideline.

However, the minimum ratio and the intervention target ratio do not explicitly consider all risks that could occur. In fact, these ratios are based upon simplifying assumptions common to a standard approach to solvency valuation. Quantifying several of these risks using a standard methodology for all insurers is not warranted at this time given that, on the one hand, the level of exposure to these risks and the risk profile vary from one insurer to the other and that, on the other hand, using a standard approach to measure them is difficult.

Consequently, the AMF requires that each insurer assess its overall capital adequacy based on its risk profile for the purposes of sound and prudent management. Insurers will therefore determine an internal capital target ratio that is superior to the 150% intervention target ratio.

To establish this internal capital target ratio, insurers must determine the target capital required to cover the risks related to their operations, considering specifically their risk appetite and the results of sensitivity analyses based on various scenarios and simulations.[8] Therefore, in addition to the risks covered in the calculation of the MCT ratio, the internal capital target ratio must also take into account at least the following risks:

- residual credit, market and insurance risks; for example, certain risks related to risk transfers are types of market risk not covered in the calculation of the MCT ratio;
- liquidity risk;
- concentration risk;
- regulatory risk;
- strategic risk;
- risk related to access to market capital;

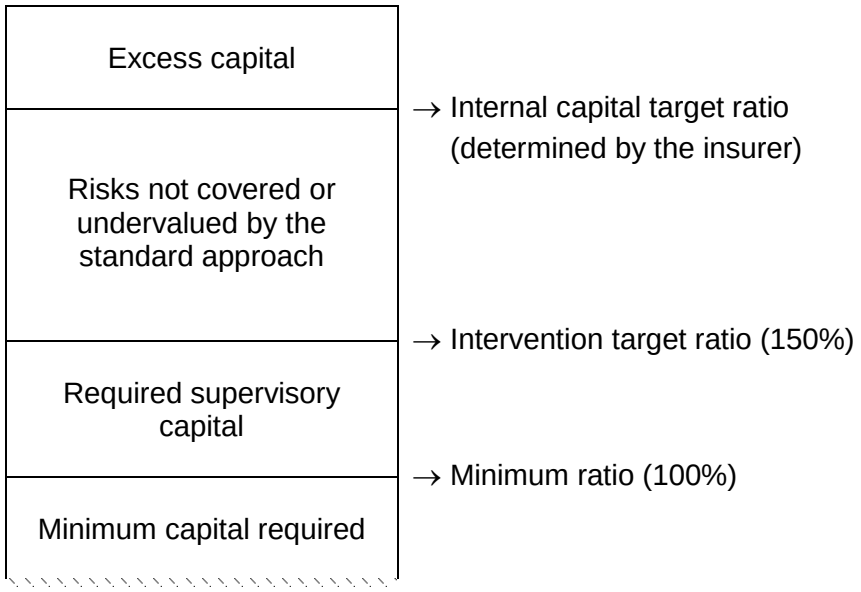
[8] In order to make sure that the internal capital target ratio is above the intervention target ratio, the level of internal target capital should be expressed as a percentage of the insurer's minimum capital requirements as set forth following this guideline, and compared to the minimum capital ratio and the intervention target capital ratios.

- reputation risk.

Insurers should then consider the risks specific to them when determining their respective internal capital target ratios. Insurers can meet this requirement by drawing, for example, on adverse plausible financial condition~~dynamic capital adequacy~~ testing (~~DCAT~~FCT) ~~plausible adverse~~ scenarios~~,~~ or on stress testing scenarios. The impact of the various scenarios should be tested on the internal capital target ratio instead of the insurer's actual capital ratio.

The AMF's expectations are illustrated in the diagram below.

Minimum ratio, intervention target ratio and internal capital target ratio



In addition, the AMF expects insurers to hold a level of capital in excess of the level of capital underlying the internal capital target ratio to enable them to:

- take into account the variable nature of the MCT ratio and the possibility that it could fall below their internal capital target ratio under their routine operating conditions due, among other reasons, to normal market volatility and insurance experience;
- maintain or attain a credit rating;
- innovate by, for example, developing new products;
- keep pace with business combination trends, in particular, opportunities to acquire portfolios or companies;
- be prepared for global industry-wide change, including standard-setting developments such as changes in accounting and actuarial standards.

The internal capital target ratio must be reported in the ~~DCAT~~ FCT Report. At the AMF's request, insurers will be required to justify their internal capital target ratio and support

their explanations with an appropriate calculation method and data. The AMF may require an insurer to establish a new internal capital target ratio if the justifications do not demonstrate to the AMF's satisfaction that the capital ratio submitted is relevant and sufficient.

Failure to comply with the internal capital target ratio will result in supervisory measures by the AMF commensurate with the circumstances and the corrective actions taken by the insurer to comply with the established target.

1.3.2 Considerations relating to reinsurance

1.3.2.1 Definitions

In this guideline, the expressions "registered reinsurance" and "unregistered reinsurance" refer to Annex A of the *Reinsurance Risk Management Guideline*.

1.3.2.2 Registered reinsurance

Capital requirement calculations under the MCT reflect insurers' use of registered reinsurance in the course of their activities. Amounts receivable and recoverable under registered reinsurance agreements are subject to the risk factors described in Section 5.1.3 of this guideline.

1.3.2.3 Unregistered reinsurance

For business under an unregistered reinsurance agreement, amounts receivable and recoverable from the agreement and reported on the balance sheet are deducted from capital available, that is, calculations must be made as if the business was not registered, to the extent that they are not covered by amounts payable to assuming reinsurers. A ceding insurer may also ask the AMF to benefit from a credit in respect of this capital requirement if it demonstrates to the AMF that these amounts are covered by acceptable collateral[9] obtained from assuming reinsurers, which allow the insurer to guarantee the performance of its obligations in Québec.

Section 3.4.2 of this guideline provides additional guidance on capital deduction, the margin requirement on amounts recoverable from unregistered reinsurance and the limit on the use of guarantee instruments.

1.3.3 Audit requirement

The AMF expects the MCT ratio to be audited annually by the auditor designated and charged with the functions provided for under Chapter VII of Title II ~~appointed under Section 291~~ of the Act[10]. ~~An audit report should be prepared separately from the auditor's report accompanying the P&C annual statement filed with the AMF. It should be prepared in~~

[9] The AMF may, if deemed appropriate, require the insurer to provide the necessary documents or to observe certain formalities in order to obtain the credit. Insurers are advised to consult the AMF's Website before any request to see if instructions have been issued in this regard.

[10] Sections 115 and 130 of the Act.

~~accordance with the relevant audit standards as promulgated by the Canadian Auditing and Assurance Standards Board.~~ The auditor's opinion should address compliance with this guideline as at the time ~~with respect to the calculation of~~ the MCT ratio is determined. ~~presented on page 30.61 of the P&C – 1Q quarterly return.~~

Chapter 2. Capital available

This chapter establishes requirements for the adequacy and appropriateness of capital resources used to meet capital requirements, having regard to their ability to meet P&C insurers' obligations to policyholders and creditors and to absorb losses in periods of stress. This includes the determination of the criteria for assessing the quality of capital components for inclusion in capital available and the composition of capital available, focussing on the predominance of highest quality capital.

2.1 Capital components

Capital available is determined on a consolidated basis, but in agreement with Section 1.1.2, which provides for the deconsolidation of non-qualifying subsidiaries[11].

The four primary considerations underlying the qualifying criteria of the capital available components of a financial institution for the purpose of measuring capital adequacy are:

- its availability: the extent to which the capital element is fully paid in and available to absorb losses;
- its permanence: the period for, and extent to which, the capital element is available;
- absence of encumbrances and mandatory servicing costs: the extent to which the capital element is free from mandatory payments or encumbrances;
- subordination: the extent to which and the circumstances under which the capital element is subordinated to the rights of policyholders and other creditors of the institution in an insolvency or winding-up.

The integrity of capital elements is paramount to the protection of policyholders. Therefore, these considerations will be taken into account in the overall assessment of a P&C insurer's financial condition.

Capital available is defined as the sum of the following components: common equity (or category A capital), category B capital, and category C capital.

2.1.1 Category A capital (common equity)

- Common shares issued by the P&C insurer that meet the category A qualifying criteria as described in Annex 1;
- surplus (share premium) resulting from the issuance of common equity capital instruments;
- other contributed surplus[12];
- retained earnings;

[11] See section 2.4 for the definition of "non-qualifying subsidiary".

[12] Where repayment is subject to the AMF's approval.

- earthquake, nuclear and general contingency reserves;
- accumulated other comprehensive income.

Retained earnings and other comprehensive income include interim profit or loss. Dividends are removed from capital available in accordance with relevant accounting standards.

For an instrument to be included in capital available under category A, it must meet all of the criteria listed in Annex 1.

2.1.2 Category B capital

- Instruments issued by the insurer that meet category B criteria listed in Annex 2 and do not meet the criteria for classification as category A, subject to applicable limits;
- surplus (share premium) resulting from the issuance of instruments meeting category B criteria.

For an instrument to be included in capital available under category B, it must meet all of the criteria listed in Annex 2.

Purchase for cancellation of category B capital instruments is permitted at any time with the prior approval of the AMF. For further clarity, a purchase for cancellation does not constitute a call option at the initiative of the issuer as described in the qualifying criteria for category B capital instruments laid down in Annex 2.

Tax and regulatory event calls are permitted during an instrument's life subject to the prior approval of the AMF and provided the insurer was not in a position to anticipate such an event at the time of issuance.

Dividend stopper arrangements that stop payments on common shares or category B instruments are permissible provided the stopper does not impede the full discretion the insurer must have at all times to cancel distributions or dividends on the category B instrument, nor must it act in a way that could hinder the recapitalization of the insurer pursuant to qualifying criterion #13 of Annex 2. For example, it would not be permitted for a stopper on a category B instrument to:

- attempt to stop payment on another instrument where the payments on the other instrument were not also fully discretionary;
- prevent distributions to shareholders for a period that extends beyond the point in time that dividends or distributions on the category B instrument are resumed;
- impede the normal operation of the insurer or any restructuring activity, including acquisitions or disposals.

A dividend stopper may also act to prohibit actions that are equivalent to the payment of a dividend, such as the insurer undertaking discretionary share buybacks.

Where an amendment or variance of a category B instrument's terms and conditions affects its recognition as capital available under this guideline, such amendment or variance will only be permitted with the prior approval of the AMF.[13]

Insurers are permitted to "re-open" offerings of capital instruments to increase the principal amount of the original issuance provided that call options will only be exercised, with the prior approval of the AMF, on or after the fifth anniversary of the closing date of the latest re-opened tranche of securities.

Defeasance options may only be exercised on or after the fifth anniversary of the closing date with the prior approval of the AMF.

2.1.3 Category C capital

- Instruments issued by the insurer that meet category C criteria listed in Annex 3, but do not meet the category A or B criteria, subject to an applicable limit;
- surplus (share premium) resulting from the issuance of instruments meeting the category C criteria.

For an instrument to be included in capital available under category C, it must meet all of the criteria listed in Annex 3.

Category C capital instruments must not contain restrictive covenants or default clauses that would allow the holder to trigger acceleration of repayment in circumstances other than the insolvency, bankruptcy or winding-up of the issuer.

Purchase for cancellation of category C capital instruments is permitted at any time with the prior approval of the AMF. For further clarity, a purchase for cancellation does not constitute a call option at the initiative of the issuer as described in the qualifying criteria for category C capital instruments laid down in Annex 3.

Tax and regulatory event calls are permitted during an instrument's life subject to the prior approval of the AMF and provided the insurer was not in a position to anticipate such an event at the time of issuance.

Where an amendment or variance of a category C instrument's terms and conditions affects its recognition as capital available under this guideline, such amendment or variance will only be permitted with the prior approval of the AMF.[14]

Insurers are permitted to "re-open" offerings of capital instruments to increase the principal amount of the original issuance provided that call options will only be exercised, with the

[13] Any modification of, addition to, or renewal or extension of the term of an instrument issued to a related enterprise may be subject to the provisions of the Act regarding transactions with natural persons or groups that are restricted parties ~~and~~ with respect to the insurer~~associates of directors or officers~~.

[14] Any modification of, addition to, or renewal or extension of the term of an instrument issued to a related enterprise may be subject to the provisions of the Act regarding transactions with natural persons or groups that are restricted parties ~~and~~ with respect to the insurer~~associates of directors or officers~~.

prior approval of the AMF, on or after the fifth anniversary of the closing date of the latest re-opened tranche of securities.

Defeasance options may only be exercised on or after the fifth anniversary of the closing date with the prior approval of the AMF.

2.1.3.1 Amortization

Category C capital instruments are subject to straight-line amortization in the final five years prior to maturity. Hence, as these instruments approach maturity, redemption or retraction, such outstanding balances are to be amortized based on the following schedule:

Years to maturity	Included in capital
5 years or more	100%
4 years and less than 5 years	80%
3 years and less than 4 years	60%
2 years and less than 3 years	40%
1 year and less than 2 years	20%
Less than 1 year	0%

For instruments issued prior to January 1, 2015, where the terms of the instrument include a redemption option that is not subject to prior approval of the AMF and/or holders' retraction rights, amortization should begin five years prior to the effective dates governing such options. For example, a 20-year debenture that can be redeemed at the insurer`s option at any time on or after the first 10 years would be subject to amortization commencing in year 5. Further, where a su~~-~~bordinated debt was redeemable at the insurer`s option at any time without the prior approval of the AMF, the instrument would be subject to amortization from the date of issuance. For greater certainty, this would not apply when redemption requires the AMF's approval as is required for all instruments issued pursuant to the qualifying criteria found in Annex 3.

Amortization should be computed at the end of each fiscal quarter based on the "years to maturity" schedule above. Thus, amortization would begin during the first quarter that ends within five calendar years to maturity. For example, if an instrument matures on October 15, 2020, 20% amortization of the issue would occur on October 16, 2015 and be reflected in the December 31, 2015 regulatory return. An additional 20% amortization would be reflected in each subsequent December 31 return.

2.1.4 Consolidated qualifying non-controlling interests

Insurers are permitted to include in capital available, qualifying non-controlling interests in subsidiaries that are consolidated for MCT purposes, provided that:

- the capital instruments meet the qualifying criteria under category A, B and C;
- the capital in the subsidiary is not excessive in relation to the amount necessary to carry on the subsidiary's business;
- the level of capitalization of the subsidiary is comparable to that of the insurer as a whole.

If a subsidiary issues capital instruments for the funding of the insurer or that are substantially in excess of its own requirements, the terms and conditions of the issue, as well as the intercompany transfer, must ensure that investors are placed in the same position as if the instrument were issued by the insurer directly in order for it to qualify as capital available upon consolidation. This can only be achieved by the subsidiary using the proceeds of the issue to purchase a similar instrument from the insurer. Since subsidiaries cannot buy shares in the insurer, it is likely that this treatment will only be applicable to the subordinated debt. In addition, to qualify as capital for the consolidated entity, the debt held by third parties cannot effectively be secured by other assets, such as cash, held by the subsidiary.

2.2 Capital composition limits

The inclusion of capital instruments qualifying under category B and category C criteria is subject to the following limits:

- The sum of capital instruments meeting the qualifying criteria under category B and category C will not exceed 40% of total capital available, excluding accumulated other comprehensive income.
- Capital instruments meeting the qualifying criteria under category C will not exceed 7% of total capital available, excluding accumulated other comprehensive income.

Category B and category C capital exceeding the allowable limits will be subject to the following treatment for capital available purposes:

- In cases where capital instruments qualifying under one of either category B or C exceed the limits, the capital in excess of the limits will not be considered in the calculation of capital available. In cases where capital instruments both under category B and category C are in excess of the prescribed limits, the greater value of the two excess amounts will be excluded from capital available. In doing so, P&C insurers must first fully exclude excess capital under category C, followed by excess capital under category B.
- Under certain exceptional circumstances and subject to the AMF's approval, an insurer may be permitted to continue to include such excess amounts in capital available temporarily, upon providing the AMF with a satisfactory plan outlining the company's strategy to achieve compliance with the limits as soon as possible. Typically, only those excesses arising after issuance and as a result of operating losses or extraordinary events beyond the control of management will normally be eligible for temporary inclusion in capital available. In most other circumstances, for example, excesses resulting from:

- purchases or redemptions of capital instruments;
- discretionary dividend payments;
- new issuances of non-common capital instruments within the same fiscal quarter; or
- foreseeable events,

would generally not qualify for inclusion in capital available.

2.3 Deductions/Adjustments

2.3.1 Deductions

The following amounts must be deducted from the capital available:

- interests in non-qualifying subsidiaries[15], associates and joint ventures[16] in which the insurer holds more than a 10% ownership interest (reference Section 2.4);
- loans or other forms of lending provided to non-qualifying subsidiaries, associates and joint ventures in which the insurer holds more than a 10% ownership interest which are considered as capital (reference Section 2.4);
- amounts receivable and recoverable from unregistered reinsurance agreements to the extent that they are not covered by amounts payable to assuming reinsurers or by acceptable collateral from assuming reinsurers (reference Section 3.4.2);
- self-insured retentions (SIR), included in other recoverables on unpaid claims, where the AMF requires acceptable collateral to ensure collectability of recoverables, and no collateral has been received (reference Section 3.5);
- the earthquake premium reserve (EPR) not used as part of financial resources to cover earthquake risk exposure (reference Section ~~3.6.1~~3.6);
- deferred policy acquisition expenses (DPAE) associated with accident and sickness business, other than those arising from commissions and premium taxes;[17]
- accumulated other comprehensive income on cash flow hedges. The amount of cash flow hedge reserve that relates to the hedging of items that are not fair valued on the balance sheet (including projected cash flows) must be derecognized in the calculation of capital available. This includes items that are not recognized on the balance sheet but excludes items that are fair valued on the balance sheet. Positive amounts should be deducted from capital available and negative amounts should

[15] See section 2.4 for the definition of "non-qualifying subsidiary".

[16] Interests in limited partnerships that are reported using the equity method of accounting are subjects to the same capital treatment as joint ventures.

[17] The methodology for calculating insurance risk margin for accident and sickness business will be revised at a future date. The current methodology where risk factors are applied to earned premiums necessitates a full deduction from capital of DPAE – other, and a capital requirement for DPAE – commissions (reference section 3.7.1).

be added back. This treatment specifically identifies the element of the cash flow hedge reserve that is to be derecognized for prudential purposes. It removes the element that gives rise to artificial volatility in capital available, as in this case the reserve only reflects one half of the picture (the fair value of the derivative, but not the changes in fair value of the hedged future cash flow);

- defined benefit pension fund assets and liabilities. For each defined benefit pension fund that is in a surplus position and reported as an asset on the insurer's balance sheet, the amounts reported as a surplus asset on the balance sheet must be deducted from capital available, net of any associated deferred tax liability (DTL) that would be extinguished if the asset becomes impaired or derecognized under the relevant accounting standards, and net of any amount of available refunds of defined benefit pension fund surplus assets to which the insurer has unrestricted and unfettered access. Insurers can only reduce this deduction by an amount of available refunds of defined benefit pension fund surplus assets if they obtain prior written supervisory authorization from the AMF;[18]

- net after-tax impacts of shadow accounting if the insurer has elected to use the shadow accounting option within International Financial Reporting Standards (IFRS);

- deferred tax assets (DTAs) except for those eligible for the 10% risk factor, must be deducted from capital available. In addition, the amount of DTAs that is in excess of the amount that could be recoverable from income taxes paid in the three immediately preceding years is deducted from capital available. DTAs may be netted with associated DTLs only if the DTAs and DTLs relate to taxes levied by the same taxation authority and offsetting is permitted by the relevant taxation authority.[19] The DTLs permitted to be netted against DTAs must exclude amounts that have been netted against the deduction of goodwill, intangibles and defined benefit pension plan assets, and must be allocated on a pro rata basis between DTAs that are to be deducted in full and DTAs that are subject to the 10% risk factor (reference Section 5.1.3);

- accumulated net after-tax unrealized gains (losses) that have resulted from changes in the fair value of a P&C insurer's financial liabilities that are due to changes in the insurer's own credit risk must be deducted from capital available. In addition, with regard to derivative liabilities, all accounting valuation adjustments arising from the insurer's own credit risk should also be deducted on an after-tax basis. The offsetting between valuation adjustments arising from the insurer's own credit risk and those arising from its counterparties' credit risk is not permitted.

- goodwill and other intangible assets:

  - goodwill related to consolidated subsidiaries and subsidiaries deconsolidated

[18] To obtain the AMF written supervisory authorization, the insurer must demonstrate, to the AMF's satisfaction, that it has clear entitlement to the surplus and that it has unrestricted and unfettered access to the surplus pension assets including, among other things, having obtained an acceptable independent legal opinion and the prior authorization from the pension plan members and the pension regulator, where applicable.

[19] This does not permit offsetting of DTAs across provinces.

for regulatory capital purposes and the proportional share of goodwill in joint ventures subject to the equity method of accounting must be deducted from capital available. The amount reported on the balance sheet is to be deducted net of any associated DTL that would be extinguished if the goodwill becomes impaired or derecognized under relevant accounting standards;

- all other intangible assets[20] must be deducted from capital available. This includes intangible assets related to consolidated subsidiaries and subsidiaries deconsolidated for regulatory capital purposes, and the proportional share of intangible assets in joint ventures subject to the equity method of accounting. The full amount is to be deducted net of any associated DTL that would be extinguished if the intangibles assets become impaired or derecognized under relevant accounting standards.

- investments in own instruments (treasury stock). All of an insurer's investments in its own instruments, whether held directly or indirectly, must be deducted from capital available (unless already derecognized under IFRS). In addition, any own stock that the insurer could be contractually obliged to purchase should be deducted from capital available;
- reciprocal cross holdings in the common shares of insurance, banking and financial entities (e.g. Insurer A holds shares of Insurer B and Insurer B in return holds shares of Insurer A), also known as back-to-back placements, that are designed to artificially inflate the capital position of institutions must be fully deducted from capital available.

No asset factor is applied to items that are deducted from capital available.

2.3.2 Adjustments

The following amounts are reversed from the total of capital available:

- owner-occupied property valuations:[21]

  - for owner-occupied property accounted for using the cost model and where the deemed value of the property was determined at conversion to the IFRS by using fair value, unrealized after tax fair value gains (losses) must be reversed from the insurer's reported retained earnings for capital adequacy purposes. The amount determined at conversion is an on-going deduction from capital available and can only be changed as a result of a sale of owner-occupied properties (owned at the time of IFRS conversion) and the resulting realization of actual gains (losses);
  - accumulated net after tax revaluation losses in excess of gains accounted for using the revaluation model must be reversed from retained earnings. Net after tax revaluation gains must be reversed from accumulated other

[20] This includes computer software intangibles.

[21] No adjustments are required for "investment properties," as fair value gains (losses) are allowed for capital purposes.

comprehensive income included in capital available.

2.4 Interests in and loans to subsidiaries, associates and joint ventures

The equity method of accounting is used for all interests in non-qualifying subsidiaries, associates and joint ventures[16]. These interests remain unconsolidated for MCT purposes.

Under this guideline, a non-qualifying subsidiary is a dissimilar regulated financial institution, such as a bank, trust company, savings company or insurer of persons, or any subsidiary other than a subsidiary:

- that is a P&C insurer;
- that carries on only activities similar to those the insurer is authorized to carry on;
- whose principal activity is the purchase, management, sale or leasing of immovables;
- whose principal activity is the offering of shares in investment portfolios, the making of loans and investments, factoring, leasing, the offering of computing services or actuarial advisory services;
- whose principal activity is complementary to the distribution of certain insurance products such as travel assistance, legal assistance and road assistance;
- whose activities are those of a firm within the meaning of the *Act respecting the distribution of financial products and services* (CQLR, chapter D-9.2) or that offers financial products and services outside Québec; or
- that operates a residential and long-term care centre.

2.4.1 Qualifying consolidated subsidiaries

The assets and liabilities of these subsidiaries are fully consolidated in the insurer's regulatory financial statements and are included in the calculation of capital available and required; they are therefore subject to risk factors and liability margins in the insurer's MCT.

2.4.2 Joint ventures with less than or equal to 10% ownership interest

Where an insurer holds less than or equal to 10% ownership interest in a joint venture, the investment is included in capital available. The investment is reported under capital required for equity risk and is subject to the risk factor applicable to investments in common shares (reference Section 4.3).

2.4.3 Non-qualifying subsidiaries, associates and joint ventures with more than a 10% ownership interest

Interests in non-qualifying subsidiaries, associates and joint ventures in which the insurer holds more than a 10% ownership interest are excluded from capital available. Loans or

other forms of lending provided to these entities are also excluded from capital available of the insurer if they are considered as ~~capital~~ equity in the entity.

Loans or other forms of lending provided to these entities that are not considered as ~~capital~~ equity in the entity are subject to a risk factor of 45% (or higher for higher risk loans). Insurers should contact the AMF to discuss higher risk factors.

Insurance receivables from registered reinsurers that are associates will attract a risk factor of 0.7%. Other receivables from these entities will attract a risk factor of 5% or 10% depending on how long the balances are outstanding (reference Section 5.1.3).

2.4.4 Ownership interests in intra-group investment arrangement

Where an insurer participates in an intra-group investment arrangement, and the arrangement has received prior approval from the AMF, the insurer is not required to deduct from capital available its ownership interest. A “look-through” approach should be used for intra-group investments similar to that for mutual funds.

In particular, investments of the insurer held and managed by a limited partnership on behalf of the insurer are treated as direct investments of the insurer, provided that the insurer can demonstrate to the AMF’s satisfaction that these investments are not used to capitalize such a partnership under the laws and regulations governing it. Consequently, the capital required for such investments is calculated using a “look-through” approach to the underlying assets held by the limited partnership, by applying the risk factors in Chapters 4 and 5 to the limited partnership investments.[22]

[22] In such circumstances, requirements regarding limited partnerships using the equity method of accounting do not apply.

Chapter 3. Insurance risk

3.1 Description of insurance risk

Insurance risk is the risk arising from the potential for claims or payouts to be made to policyholders or beneficiaries. Exposure to this risk results from the present value of losses being higher than the amounts originally estimated.

Insurance risk includes uncertainties around:

- the ultimate amount of net cash flows from premiums, commissions, claims, and related settlement expenses;
- the timing of the receipt and payment of these cash flows.

The "insurance risk" component reflects the insurer's consolidated risk profile by its individual classes of insurance and results in specific margin requirements for insurance risk. For the MCT, the risk associated with insurance exposure is divided into four parts:

- reserving risk associated with variation in claims provisions (unpaid claims);
- underwriting risk including catastrophe risk, other than earthquakes and nuclear, (premium liabilities);
- earthquake and nuclear risks;
- risk associated with unregistered reinsurance.

3.2 Diversification credit within insurance risk

The risk factors for each line of business contain an implicit diversification credit based on the assumption that insurers have a well-diversified portfolio of risks for a given portfolio of business.

3.3 Margins for unpaid claims and premium liabilities

Given the uncertainty that provisions will be sufficient to cover underlying liabilities, margins are added to cover the potential shortfall.

From the AMF's perspective, these margins are included to take into account possible unexpected negative variations in the provision amounts, given the fact that the margins added by actuaries in their valuations are primarily intended to cover expected variations.

The margin on unpaid claims is calculated by class of insurance, by multiplying the net amount at risk (i.e., net of reinsurance, salvage and subrogation, and SIRs) less the provision for adverse deviations (PfAD), by the applicable risk factors.

The margin for premium liabilities is calculated by class of insurance, by multiplying the applicable risk factors by the greater of the net premium liabilities (i.e. net of reinsurance) less the PfAD, and 30% of the net written premiums in the past 12 months.

The insurance risk factors are as follows:

Class of insurance	Risk factor unpaid claims	Risk factor premium liabilities
Personal property	15%	20%
Commercial property	10%	20%
Aircraft	20%	25%
Automobile – Liability	10%	15%
Automobile – Personal accident	10%	15%
Automobile – Other	15%	20%
Boiler and machinery	15%	20%
Credit	20%	25%
Credit protection	20%	25%
Fidelity	20%	25%
Hail	20%	25%
Legal expense	25%	30%
Liability	25%	30%
Other approved products	20%	25%
Surety	20%	25%
Title	15%	20%
Marine	20%	25%
Accident and sickness	See Annex 4	See Annex 4

3.4 Risk mitigation and risk transfer mechanisms - reinsurance

The risk of default for amounts recoverable from reinsurers arises from both credit and actuarial risk. Credit risk relates to the risk that the reinsurer will fail to pay the ceding insurer what it is owed. Actuarial risk relates to the risk associated with the mis-assessment of the amount of the required provision.

3.4.1 Registered reinsurance

The risk factor applied to unpaid claims and unearned premiums recoverable from registered reinsurance agreements is treated as a combined weight under the MCT, reflecting both the credit risk and the risk of variability or insufficiency of unpaid claims and

unearned premiums (reference Section 5.1.3). Intra-group pooling arrangements approved by the AMF are exempt from the application of the risk factor.

The balance sheet values used to calculate the risk requirement for reinsurance assets arising from registered reinsurance may be reduced to a minimum of zero by:

- the funds held by the ceding insurer for the exclusive benefit of the ceding insurer (e.g. funds withheld reinsurance) to secure the payment to the ceding insurer by the reinsurer of the reinsurer's share of any loss or liability for which the reinsurer is liable under the reinsurance agreement; and
- any other liabilities of the ceding insurer due to the reinsurer for which the ceding insurer has a legal and contractual right of setoff against the amount recoverable from the reinsurer.

Total reinsurance assets by reinsurer cannot be negative. Acceptable collateral posted by the reinsurers under registered reinsurance agreements may be recognized provided the conditions under Section 3.4.2.3 are met.

3.4.2 Unregistered reinsurance

3.4.2.1 Deduction from capital available

Rather than being applied a risk factor to cover the risk of default of the reinsurers, amounts receivable and recoverable from unregistered reinsurance agreements, as reported on the balance sheet, are deducted from capital available to the extent that they are not covered by amounts payable to assuming reinsurers or acceptable collateral. Acceptable collateral is defined as guarantee instruments from assuming reinsurers and funds held to secure payment from assuming reinsurers. Section 3.4.2.3 outlines further conditions for using collateral to obtain credit for unregistered reinsurance agreements. Amounts payable to assuming reinsurers may be deducted from amounts receivable and recoverable only where there is a legal and contractual right of setoff against the latter.

The deduction is calculated in the unregistered reinsurance exhibit of the P&C Returns. The amount is the sum, for each of the unregistered reinsurance agreements, of the following calculation where the result is positive:

$$A + B + C - D - E - F - G$$

where:

A: is the amount of unearned premiums ceded to the assuming reinsurer

B: is the amount of outstanding losses recoverable from the assuming reinsurer

C: is the amount of receivables from the assuming reinsurer

D: is the amount of payables to the assuming reinsurer

E: is the amount of non-owned deposits or other assets held as security from the assuming reinsurer, as a guarantee instrument for reinsurance

F: is the amount of funds held to secure payment from the assuming reinsurer

G: is the amount of acceptable letters of credit held as security from assuming reinsurer

3.4.2.2 Margin required

The margin for unregistered reinsurance is calculated in the unregistered reinsurance exhibit of the P&C Returns and reported on the "Reinsurance Ceded to Unregistered Insurers" line on the MCT calculation page of the Returns.

The margin is 20% of the ceded unearned premiums under unregistered reinsurance agreements and of the outstanding losses recoverable from such agreements (collectively, "ceded policy liabilities"). The margin requirement for each unregistered reinsurance agreement may be reduced to a minimum of zero by payables to the reinsurer and acceptable collateral that are in excess of the amount of ceded policy liabilities and receivables from unregistered reinsurance agreements.

Transition

Policy liabilities ceded under unregistered reinsurance agreements on or before December 31, 2019 and any associated new claims or development on incurred claims are subject to a 15% margin required until December 31, 2022, the end of the transition period. During the transition period, any ceded policy liabilities on business from direct policies, or assumed business with underlying direct policies, with an effective date of January 1, 2020 or later are subject to the 20% margin required. After the transition period, starting January 1, 2023, all ceded policy liabilities for all unregistered reinsurance agreements, including any remaining ceded policy liabilities that were subject to transition, are subject to the 20% margin required.

3.4.2.3 Collateral

A ceding insurer is given credit for unregistered reinsurance where the insurer obtains and maintains a valid and enforceable guarantee interest that has priority over any other security interest in assets of an unregistered reinsurer that are held in Canada, to secure the payment to the ceding insurer by the reinsurer of the reinsurer's share of any loss or liability for which the reinsurer is liable under the reinsurance agreement.

The collateral used to obtain credit for a specific unregistered reinsurance agreement must materially reduce the risk arising from the credit quality of the reinsurer. In particular, the instruments used may not be related party obligations of the unregistered reinsurer (i.e. obligations of the reinsurer itself, its parent, or one of its subsidiaries or associates). With respect to the above three sources available to obtain credit, this implies that:

- to the extent that a ceding insurer is reporting obligations due from a related party of the reinsurer as assets in its annual return, the ceding insurer is precluded from taking credit for funds held to secure payment from the unregistered reinsurer;

- reinsurer's assets located in Canada in which a ceding insurer has a valid and perfected first priority security interest under applicable law, may not be used to obtain credit if they are obligations of a related party of the unregistered reinsurer;
- a letter of credit is not acceptable if it has been issued by a related party of the unregistered reinsurer.

Collateral must be available to the insurer for a period of not less than the remaining term of the ceded liabilities in order to be valid towards obtaining credit for unregistered reinsurance. In cases where an arrangement contains a renewal provision for the ceding insurer to maintain collateral for a part or the whole of the remaining term of ceded liabilities (e.g. additional fees or higher interest rate), the renewal provision should be included when determining the ceded reserves.

Letters of credit held as guarantee against unregistered reinsurance are considered a direct credit substitute and are subject to risk factors based on the credit rating of the issuing/confirming bank and the term of ceded liabilities (reference Section 5.2). Where a letter of credit is issued or confirmed by a related enterprise of a ceding insurer, no reduction in capital required is permitted.

Guarantee instruments other than letter of credits, such as non-owned deposits, held as guarantee against unregistered reinsurance, are subject to the same risk factors as those applied to similar assets owned by the insurer (reference Sections 4.3 and 5.1).

Capital requirements for collateral associated with unregistered reinsurance are calculated on an aggregate basis using applicable risk factors, on the total amount of acceptable collateral from each reinsurer. However, acceptable collateral that is greater than the unregistered reinsurance requirements is considered excess collateral and is not subject to capital requirements. Where appropriate, the total amount of capital required for the collateral is pro-rated in order to exclude capital otherwise required on the excess portion of collateral.

Two steps are required to compute excess collateral and arrive at a reduction in capital required for excess collateral.

Step 1: Computation of excess collateral

Reinsurance ceded under unregistered reinsurance agreements	Amount ($)
Unearned premiums ceded to assuming reinsurer	100
Outstanding losses recoverable from assuming reinsurer	500
20% margin on ceded policy liabilities[23]	120
Receivable from assuming reinsurer	40
Payable to assuming reinsurer	(20)
Unregistered reinsurance exposure	**740**
Collateral required to reduce margin required to 0 (500 + 100) x 120% + 40 - 20	740
Non-owned deposits	1,000
Funds held	100
Letters of credit	100
Total collateral	**1,200**
Excess collateral (no capital required on this amount) ~~1,100~~1,200 - ~~710~~740	**460**

The amount of excess collateral should be calculated separately for each individual reinsurer and then added together.

Step 2: Reduction in capital required for excess collateral

Using the above example, the ratio of 0.38 x (460/1,200) should be applied to the total amount of capital required for collateral, in order to calculate the capital requirement for collateral excluding the excess portion.

[23] For ceded policy liabilities subject to transition per section 3.4.2.2, a 15% margin will apply until December 31, 2022.

The calculation is provided in the following table.

	Collateral amount (01)	Risk factor (02)	Total capital required (03)=(01)x(02)	Proportional allocation of excess collateral (04)	Reduction in capital required for excess collateral (05)=(03)x(04)
Letters of credit (AA rating ≤1 year)	$100	0.25%	$0.25		
Non-owned deposits (AAA bonds ≤1 year)	$500	0.25%	$1.25		
Non-owned deposits (AA bonds >1 year ≤5 years)	$500	1.00%	$5.00		
Funds held (demand deposits)	$100	0.25%	$0.25		
Total	$1,200		$6.75	0.38	$2.57

The capital requirements for acceptable collateral, less the excess, are reported as part of capital required for credit risk (reference Chapter 5).

Letters of credit

The limit on the use of letters of credit to obtain capital credit for unregistered reinsurance is 30% of ceded unearned premiums under unregistered reinsurance agreements and of the outstanding losses recoverable from such agreements. This limit is applied in the aggregate and not against individual reinsurance exposures.

Non-owned deposits from reinsurers received as security

Deposits from reinsurers received under unregistered reinsurance agreements and that are “not owned” by the insurer, including deposits held in trust on behalf of reinsurers, are not to be reported on the insurer's balance sheet. Details of these deposits must also be reported in the unregistered reinsurance exhibit of the P&C Returns.

Non-owned deposits held as security on behalf of an unregistered assuming reinsurer must be valued at market value as at the end of the statement year, including the amount of investment income due and accrued respecting these deposits.

Funds held as security against unregistered reinsurance

Cash and securities received to secure payment from unregistered reinsurance agreements that have been co-mingled with the insurer’s own funds should be reported

on the insurer's balance sheet in the appropriate asset categories and will be subject to the corresponding risk factors. Funds held also include reinsurance premiums withheld by the ceding insurer as specified in the reinsurance agreement. Details of funds held must be reported in the unregistered reinsurance exhibit of the P&C Returns. The reinsurance agreement must clearly provide that, in the event of the ceding insurer's or reinsurer's insolvency, the funds withheld must form part of the property of the ceding insurer's general estate[24].

In order for a ceding insurer to obtain credit for funds held under a funds withheld reinsurance agreement, the agreement must not contain any contractual provision that would require payment of funds withheld to the reinsurer, other than those funds that, together with other forms of acceptable collateral, if any, are in excess of the ceded policy liabilities and the margin required for unregistered reinsurance, before all subject policies have expired and all claims settled. (e.g. an acceleration clause). Furthermore, the ceding insurer may not provide non-contractual or implicit support, or otherwise create or sustain an expectation that any funds withheld could be paid to the reinsurer, other than those funds that, together with other forms of acceptable collateral, if any, are in excess of the ceded policy liabilities and the margin required for unregistered reinsurance, before all subject policies have expired and all claims settled.

3.5 Self-insured retentions

Self-insured retention (SIR) represents the portion of a loss that is payable by the policyholder. In some cases, SIRs may be included in the policy declaration or in an endorsement to the policy, stipulating that the policy limit applies in excess of the SIR.

To admit SIRs recoverable for regulatory capital purposes, the AMF must be satisfied with the collectability of recoverables, and may require collateral to ensure collectability. For example, collateral may be required when it is deemed that there is an excessive concentration of SIRs owed by any one debtor.

Letters of credit and other acceptable securities may be used as collateral for SIRs. Collateral used may not be related party obligations of the policyholder (i.e. obligations of the policyholder itself, its parent, or one of its subsidiaries or associates); in such cases, no reduction in capital required is permitted.

Letters of credit for SIRs are considered a direct credit substitute and are subject to a risk factor based on the credit rating of the issuing/confirming bank and the term of ceded liabilities (subject to the provision for excess guarantees) (reference Section 5.2). Risk factors for collateral other than letters of credit are the same as those applied to similar assets owned by the insurer (reference Chapters 4 and 5).

[24] This requirement only applies to reinsurance agreements that came into force on or after January 1, 2018, or that have been renewed after that date.

3.6 ~~Catastrophes~~Earthquake risk exposure

~~3.6.1 Earthquake risk exposure~~

Insurers must refer to the AMF's *Sound Management and Measurement of Earthquake Exposure Guideline* (the "Earthquake Guideline") for details on the AMF's expectations relating to P&C insurers' earthquake exposure risk management and the related definitions. The present guideline outlines the framework for quantifying the earthquake risk exposure for regulatory capital purposes and assessing insurers' capacity and financial preparedness to meet contractual obligations that may arise from a major earthquake.

The amount of earthquake reserves includes the Earthquake Premium Reserve (EPR) and the Earthquake Reserve Component (ERC) and is added to total capital requirements for the purposes of the MCT as target capital requirement. The earthquake reserve is to be set using the following formula:

Earthquake Reserves at target level = (EPR + ERC) x 1.25

where:

ERC (Section ~~3.6.1.3~~3.6.3)	=	{Earthquake Risk Exposure (Section ~~3.6.1.1~~3.6.1)} - {Financial Resources (Section ~~3.6.1.2~~3.6.2)}

ERC ≥ 0

In the case where the EPR is not used as part of financial resources to cover the earthquake risk exposure, i.e. the insurer has enough financial resources to cover its earthquake risk exposure without the voluntary reserve, the EPR can be deducted from capital available instead of being added to total capital requirements.

~~3.6.1.1~~3.6.1 Measurement of earthquake risk exposure

The earthquake Probable Maximum Loss (PML) is the threshold dollar value of losses beyond which losses caused by a major earthquake are unlikely. Gross PML, which is the PML amount ***after*** deductibles but ***before*** catastrophic and other reinsurance protection, is used for calculating earthquake risk exposure for regulatory purposes. In this section, PML refers to a dollar amount[25] that includes adjustments for data quality, non-modelled exposures and model uncertainty as outlined in the Earthquake Guideline.

3.6.1.1 Model approach

- Insurers with material exposure to earthquake risk are required to use models to estimate their PML. Earthquake models include models licensed from various commercial vendors and maintained in-house or run by third parties on behalf of the insurer or can be an internal estimation technique or model developed by the insurer.

[25] The PML amount corresponds to the worldwide exposure.

Whichever is used, it must be to the AMF's satisfaction, as explained in the Earthquake Guideline;

- the AMF expects that insurers continue to progress to a 500 year PML from earthquakes, as defined below, by 2022. Consequently, the AMF expects an insurer to meet a test of financial preparedness for a 500 year return period country-wide earthquake event by no later than the end of fiscal year 2022. This requirement can be determined as follows:

$$\text{Country-wide PML500} = (\text{East Canada PML500}^{1.5} + \text{West Canada PML500}^{1.5})^{\frac{1}{1.5}},$$

where:

  - East Canada PML500 refers to a one in 500 year Eastern Canada event, which represents the 99.8th percentile of the exceeding probability curve plus appropriate adjustments for data quality, model uncertainty, non-modelled business etc., using exceeding probability curves based only on earthquake risk exposure in Eastern Canada;
  - West Canada PML500 refers to a one in 500 year Western Canada event, which represents the 99.8th percentile of the exceeding probability curve plus appropriate adjustments for data quality, model uncertainty, non-modelled business etc., using exceeding probability curves based only on earthquake risk exposure in Western Canada.

- recognizing the impact resulting from the new country-wide PML500 requirement, insurers may continue to phase-in their increased earthquake risk exposure until 2022 using the following formula:

$$\text{Country-wide PML (Year)} = \text{Country-wide PML500} \times (\text{Year} - 2014)/8 + \text{MAX [East Canada PML420, West Canada PML420]} \times (2022 - \text{Year})/8$$

where:

  - Year is the current reporting year[26] (subject to a maximum of 2022);
  - East Canada PML420 refers to a one in 420 year Eastern Canada event, which represents the 99.76th percentile of the exceeding probability curve plus appropriate adjustments for data quality, model uncertainty, non-modelled business etc., using exceeding probability curves based only on earthquake risk exposure in Eastern Canada;
  - West Canada PML420 refers to a one in 420 year Western Canada event, which represents the 99.76th percentile of the exceeding probability curve plus appropriate adjustments for data quality, model uncertainty, non-modelled business etc., using exceeding probability curves based only on earthquake

[26] Current reporting year is the financial reporting year being filed.

risk exposure in Western Canada.

3.6.1.2 Standard approach

- Insurers should use the standard formula for calculating their PML if:
  - the insurer does not use an earthquake model for calculating its PML; or
  - an earthquake risk exposure estimation technique or model is not to the AMF's satisfaction.
- the standard formula is defined as:

Country-wide PML = MAX (East Canada PTIV, West Canada PTIV)

where:

PTIV: is the property total insured value for earthquake risk exposure after applicable policyholder deductibles, which includes building, contents, outbuildings, additional living expenses and business interruption

~~3.6.1.2~~3.6.2 Financial resources

An insurer must have adequate financial resources to cover its earthquake risk exposure calculated in Section ~~3.6.1.1~~3.6.1. Financial resources that can be used to support the insurer's earthquake risk exposure include:

- capital & surplus:
  - insurers can count up to a maximum of 10% of capital and surplus as part of their financial resources to cover their earthquake risk exposure. This maximum limit is subject to the AMF's discretion and can be lowered to an amount less than 10% of capital and surplus;
  - the amount of capital and surplus corresponds to a maximum of 10% of total equity as at the end of the reporting period being filed.
- earthquake premium reserve:
  - The EPR is the voluntary accumulation of earthquake premiums. This amount must not exceed the country-wide PML500.[27]
  - In the case where the earthquake coverage premium is implicitly included in an overall policy premium, the insurer should be able to demonstrate the reasonableness of the premium allocation specifically attributed to earthquake coverage. As an example, in the case of catastrophic reinsurance coverage

[27] Refer to the tax laws applicable to the insurer in Canada ~~*Taxation Act* (CQLR 1985, C. 1)~~ for the annual contribution limit.

not specific to earthquake risk, an allocation of the premium amount must be made and the reasonableness of the reinsurer's premium allocation must be demonstrated.

- Any earthquake premium contributed to the EPR must remain in the EPR unless there is a material decrease in the exposure. The AMF reserves the right to require information on any decrease in the ERC.
- Should an earthquake occur and trigger claims, insurers would establish an unpaid claims provision as well as a provision for claims adjustment expenses. The EPR component would be reduced by an amount equal to the claims reserves.
- Any reduction in the EPR should be brought back into unappropriated surplus immediately.
- The EPR is a component of the reserves amount reported on the balance sheet.

- reinsurance coverage:
  - The estimated reinsurance coverage available should be based on reinsurance in force on the day immediately following the end of the financial reporting period and should be equal to an amount of reinsurance collectable for a loss of the size of the PML, net of retention (e.g. policies in force on July 1 for MCT calculations as on June 30).
- capital market financing:
  - Prior supervisory approval from the AMF is required before these instruments can be recognized as a financial resource in the calculation of the earthquake risk formula. Refer to the Earthquake Guideline for additional information.

~~3.6.1.3~~3.6.3 Earthquake reserve component

The ERC is an additional component used to cover an insurer's earthquake risk exposure not covered by the financial resources. The formula to compute the ERC is as follows:

ERC = {Country-wide PML500 x (Year - 2014)/8 + MAX [East Canada PML420, West Canada PML420] x (2022 - Year)/8} - capital and surplus - reinsurance coverage - capital market financing - EPR

- Should an earthquake occur and trigger claims, insurers would establish an unpaid claims provision as well as a provision for claims adjustment expenses. The ERC component would be reduced after the EPR, by an amount equal to the claims reserves.
- Any reduction in the ERC should be brought back into unappropriated surplus immediately.
- The ERC is a component of the reserves amount reported on the balance sheet.

3.7 Other classes

3.7.1 Accident and sickness insurance

Accident and sickness reserves determined by actuaries in their valuations are primarily intended to cover expected variations in these requirements based on assumptions about mortality and morbidity. Margins on unearned premiums and unpaid claims for accident and sickness insurance are included in the MCT to take into account possible unexpected negative variations in actual requirements.

The unearned premiums margin is calculated by applying a factor to annual earned premiums. Generally, the factor varies with the length of the premium guarantee remaining. A margin for DPAE arising from commissions is also required and is calculated by multiplying DPAE commissions, net of an adjustment for unearned commissions, by 45%. The unpaid claims margin is calculated by applying a factor to the unpaid claims experience relating to prior years. Generally, the factor varies with the length of benefit period remaining.

Instructions for calculating the margin required for accident and sickness business are included in Annex 4. The total requirement calculated should be included in the amount reported as the margin required for unpaid claims and premium liabilities in the MCT.

3.7.2 Mortgage insurance

Consult the AMF.

Chapter 4. Market risk

Market risk arises from potential changes in rates or prices in various markets such as for interest rates, foreign exchange rates, equities, real estate, and other market risk exposures. Exposure to this risk results from trading, investing, and other business activities, which create on- and off-balance sheet positions.

Investments in mutual funds or other similar assets must be broken down by type of investment (bonds, preferred shares, common shares, etc.) and assigned the appropriate risk factor relating to the investment. If the information available on an investment is not broken down, then the factor of the riskiest asset held in the fund is assigned to the entire investment.

4.1 Interest rate risk

Interest rate risk represents the risk of economic loss resulting from market changes in interest rates and the impact on interest rate sensitive assets and liabilities. Interest rate risk arises due to the volatility and uncertainty of future interest rates.

Assets and liabilities whose value depends on interest rates are affected. Interest rate sensitive assets include fixed income assets. Interest rate sensitive liabilities include those for which the values are determined using a discount rate.

To compute the interest rate risk margin, a duration and an interest rate shock factor are applied to the fair value of interest rate sensitive assets and liabilities. The interest rate risk margin is the difference between the change in the value of interest rate sensitive assets and the change in the value of interest rate sensitive liabilities, taking into account the change in the value of recognized interest rate derivative contracts, as appropriate.

The components used to calculate the interest rate risk margin are as follows.

4.1.1 Interest rate sensitive assets

The interest rate sensitive assets to be included in the calculation of the interest rate margin requirement are those for which their fair value will change with movements in interest rates. Although certain assets, for example loans and bonds held to maturity, may be reported on the balance sheet on an amortized cost basis, their economic value, and changes in that value, are to be considered for interest rate risk margin purposes. Interest rate sensitive assets include the following:

- term deposits and other similar short-term securities (excluding cash);
- bonds and debentures;
- commercial paper;
- loans;
- mortgages (residential and commercial;
- mortgage-backed and asset-backed securities (MBS and ABS);

- preferred shares;
- interest rate derivatives held for other than hedging purposes.

Assets in mutual funds and other similar assets that are interest rate sensitive are to be included in the determination of the fair value of the insurer's total interest rate sensitive assets.

Other assets, such as cash, investment income due and accrued, common shares and investment properties, are not to be included in the determination of the value of interest rate sensitive assets. Such assets are assumed for interest rate risk margin determination purposes to be insensitive to movements in interest rates.

4.1.2 Interest rate sensitive liabilities

The interest rate sensitive liabilities to be included in the calculation of the interest rate risk margin are those for which their fair value will change with movements in interest rates. The following liabilities are considered sensitive to interest rates and are to be included:

- net unpaid claims and adjustment expenses;
- net premium liabilities; and
- liabilities due to reinsurers under funds withheld reinsurance agreements.

Insurer must obtain the AMF's approval in order to be able to consider other liabilities in the calculation of the interest rate risk margin.

Net unpaid claims and adjustment expenses, which include PfAD, are net of reinsurance, salvage and subrogation, and self-insured retentions. Net premium liabilities, which also include PfAD, are after reinsurance recoverables.

4.1.3 Allowable interest rate derivatives

Interest rate derivatives are those for which the cash flows are dependent on future interest rates. They may be used to hedge a P&C insurer's interest rate risk and as such may be recognized in the determination of the margin required for interest rate risk, subject to the conditions below.

Only plain-vanilla interest rate derivatives that clearly serve to offset fair value changes in an insurer's capital position due to changes in interest rates may be included in the interest rate risk calculation. Plain-vanilla interest rate derivative instruments are limited to the following:

- interest rate and bond futures;
- interest rate and bond forwards;
- single-currency interest rate swaps.

Other interest rate derivatives, including interest rate options, caps and floors are not considered plain-vanilla and may not be recognized in the determination of the interest rate risk margin.

Insurers must understand the interest rate hedging strategies that they have in place and be able to demonstrate to the AMF, upon request, that the underlying hedges decrease interest rate risk exposure and that the addition of such derivatives does not result in overall increased risk. For example, insurers are expected to be able to demonstrate that they have defined the hedging objectives, the class of risk being hedged, the nature of the risk being hedged, the hedge horizon and have considered other factors, such as the cost and liquidity of hedging instruments. In addition, the ability to demonstrate an assessment, retrospectively or prospectively, of the performance of the hedge would be appropriate. If the insurer cannot demonstrate that the derivatives result in decreased overall risk, then additional capital may be required, and insurers in this situation should contact the AMF for details.

Derivatives used for hedging an insurer's interest rate risk are subject to credit risk requirements. Refer to Section 5.2 for further details.

4.1.4 Duration of interest rate sensitive assets and liabilities

Insurers are required to calculate the duration of the interest rate sensitive assets and liabilities for the purpose of the interest rate risk capital requirement calculation. The duration of an asset or a liability is a measure of the sensitivity of the value of the asset or liability to changes in interest rates. More precisely, it is the percentage change in an asset or liability value given a change in interest rates.

The calculation of duration for an asset or liability will depend on the duration measure chosen and whether the cash flows of the asset or liability are themselves dependent on interest rates. Modified duration is a duration measure in which it is assumed that interest rate changes do not change the expected cash flows. Effective duration is a duration measure in which recognition is given to the fact that interest rate changes may change the expected cash flows.

An insurer may use either modified duration or effective duration to calculate the duration of its assets and liabilities. However, the duration methodology chosen should apply to all interest rate sensitive assets and liabilities under consideration and the same methodology must be used consistently from year to year (i.e. "cherry-picking" is not permitted).

The cash flows associated with interest rate derivatives are sensitive to changes in interest rates and therefore the duration of an interest rate derivative must be determined using effective duration. In particular, if an insurer has interest rate derivatives on its balance sheet that lie within the scope of Section 4.1.3, then it must use effective duration for all of its interest rate sensitive assets and liabilities.

The portfolio duration (modified or effective) can be obtained by calculating the weighted average of the duration of the assets or the liabilities in the portfolio.

The dollar duration of an asset or liability is the change in dollar value of an asset or liability for a given change in interest rates.

4.1.4.1 Modified duration

Modified duration is defined as the approximate percentage change in the present value of cash flows for a 100 basis point change in the annually compounded yield rate, assuming that expected cash flows do not change when interest rates change.

Modified duration can be written as:

$$\text{Modified duration} = \frac{1}{(1+\text{yield}/k)} \times \frac{\sum t \times PVCF_t}{k \times \text{Market Value}}$$

where:

- *k*: number of periods, or payments, per year (e.g. *k* = 2 for semi-annual payments and *k* = 12 for monthly payments)
- yield: periodically compounded yield to maturity of the cash flows
- $PVCF_t$: present value of the cash flow at time t discounted at the yield rate

4.1.4.2 Effective duration

Effective duration is a duration measure in which recognition is given to the fact that interest rate changes may change the expected cash flows. Although modified duration will give the same estimate of the percentage fair value change for an option-free series of cash flows, the more appropriate measure for any series of cash flows with an embedded option is effective duration.

Effective duration is determined as follows:

$$\text{Effective duration} = \frac{\text{Fair value if yields decline} - \text{Fair value if yields rise}}{2 \times (\text{initial price}) \times (\text{change in yield in decimal})}$$

Denoting:

- Δy: change in yield in decimal
- V_0: initial fair value
- V_-: fair value if yields decline by Δy
- V_+: fair value if yields increase by Δy

Then, effective duration is as follows:

$$\frac{V_- - V_+}{2 \times (V_0) \times (\Delta y)}$$

4.1.4.3 Portfolio duration

The duration of a portfolio of interest rate sensitive assets or liabilities is to be determined by calculating the weighted average of the duration of the assets or liabilities in the portfolio. The weight is the proportion of the portfolio that a security comprises. Mathematically, a portfolio's duration is calculated as follows:

$$w_1D_1 + w_2D_2 + w_3D_3 + \ldots + w_KD_K$$

where:

w_i: fair value of security i / fair value of the portfolio

D_i: duration of security i

K: number of securities in the portfolio

4.1.4.4 Dollar fair value change

Modified and effective duration are related to percentage fair value changes. The interest rate risk capital requirements depend on determining the adjustment to the fair value of interest rate sensitive assets and liabilities for dollar fair value changes. The dollar fair value change can be measured by multiplying duration by the dollar fair value and the number of basis points (in decimal form). In other words:

Dollar fair value change = duration x dollar fair value x interest rate change (in decimal)

4.1.5 Duration of allowable interest rate derivatives

Effective duration is the appropriate measure that should be used when assets or liabilities have embedded options. For portfolios with eligible plain-vanilla interest rate derivatives, insurers should be using effective dollar duration[28] because the insurer is hedging the dollar interest rate risk exposure.

Example 4-1: Effective dollar duration of a swap

Assuming an insurer has a longer duration for its interest rate sensitive assets and a shorter duration for its interest rate sensitive liabilities, the current dollar duration position of the insurer, prior to taking into consideration any interest rate derivatives, is effectively as follows:

Insurer's dollar duration = dollar duration of assets – dollar duration of liabilities > 0

The insurer enters into a single-currency interest rate swap in which it pays fixed-rate and receives floating-rate. The dollar duration of a swap for a fixed-rate payer can be broken down as follows:

[28] Effective dollar duration is the fair value change in dollars for a unit change in the yield (per one percentage point or per one basis point).

Effective dollar duration of a swap for a fixed-rate payer	=	effective dollar duration of a floating-rate bond – effective dollar duration of a fixed-rate bond

Assuming the dollar duration of the floater is near zero, then:

Effective dollar duration of a swap for a fixed-rate payer	=	0 – effective dollar duration of a fixed-rate bond

The dollar duration of the swap position is negative; therefore, adding the swap position reduces the insurer's dollar duration of assets and moves the insurer's overall dollar duration position closer to zero.

4.1.6 Interest rate risk margin

The interest rate risk margin is determined by measuring the economic impact on the insurer of a Δy change in interest rates. The Δy interest rate shock factor is 1.25% ($\Delta y = 0.0125$).

(A) The estimated change in the interest sensitive asset portfolio for an interest rate increase of Δy is determined as follows:

Dollar fair value change of the interest rate sensitive asset portfolio	=	(Duration of interest rate sensitive asset portfolio) x Δy x (Fair value of interest rate sensitive asset portfolio)

(B) The change in the interest rate sensitive liabilities for an interest rate increase of Δy is determined as follows:

Dollar fair value change of the interest rate sensitive liabilities	=	(Duration of interest rate sensitive liabilities) x Δy x (Fair value of interest rate sensitive liabilities)

(C) The change in the allowable interest rate derivatives for an interest rate increase of Δy is determined as follows:

Effective dollar duration of the allowable interest rate derivatives portfolio	=	Sum of the effective dollar duration of the allowable interest rate derivatives for a Δy increase in interest rates

(D) The capital requirement for an interest rate increase of Δy is determined as the greater of zero and A - B + C.

(E) Steps A through C are repeated for an interest rate decrease of Δy (i.e. $-\Delta y$) and the capital requirement for an interest rate decrease of Δy is the greater of zero and A - B + C.

(F) The interest rate risk margin is then determined as the maximum of D or E.

4.2 Foreign exchange risk

The foreign exchange risk margin is intended to cover the risk of loss resulting from fluctuations in currency exchange rates and is applied to the entire business activity of the insurer.

4.2.1 General requirements

Two steps are necessary to calculate the foreign exchange risk margin. The first is to measure the exposure in each currency position. The second is to calculate the capital requirement for the portfolio of positions in different currencies.
The foreign exchange risk margin is 10% of the greater of:

- the aggregate net long positions in each currency, adjusted by effective allowable foreign exchange rate hedges if any are used;
- the aggregate net short positions in each currency, adjusted by effective allowable foreign exchange rate hedges if any are used.

Effective allowable foreign exchange rate hedges are limited to plain-vanilla foreign currency derivatives such as futures and forward foreign currency contracts and currency swaps.

Assets in mutual funds and other similar assets that are denominated in a foreign currency are to be included in the calculation to determine the capital requirement for each currency position. In cases where a claim liability is recorded in Canadian dollars but the settlement of the claim will be made in a foreign currency, the liability must be included in the foreign exchange risk margin.

4.2.2 Foreign exchange risk margin

Step 1: Measuring the exposure in a single currency

The net open position for each currency is calculated by summing:

- the net spot position, defined as all asset items less all liability items denominated in the currency under consideration, including accrued interest and accrued expenses if they are subject to exchange rate fluctuations;
- the net forward position (i.e. all net amounts under forward foreign exchange transactions, including currency futures and the principal on currency swaps), valued at current spot market exchange rates or discounted using current interest rates and translated at current spot rates;
- guarantees (and similar instruments) that are certain to be called and are likely to be irrecoverable;
- net future income/expenses not yet accrued but already fully hedged (at the discretion of the reporting institution); and
- any other item representing a profit or loss in foreign currencies.

Adjustments

For insurers with foreign operations, those items that are currently deducted from capital available in calculating the MCT ratio and are denominated in the corresponding currency may be excluded from the calculation of net open currency positions, to a maximum of zero. For example:

- goodwill and other intangibles;
- interests in non-qualifying subsidiaries, associates and joint ventures;
- non-allowable foreign exchange rate hedges that are not considered in capital available.

Carve-out

An insurer with a net open long position in a given currency may reduce the amount of the net exposure, to a maximum of zero, by the amount of a carve-out, which is equivalent to a short position of up to 25% of the liabilities denominated in the corresponding currency.

Step 2: Calculating the capital requirement for the portfolio

The nominal amount (or net present value) of the net open position in each foreign currency calculated in Step 1 is converted at a spot rate into Canadian dollars. The gross capital requirement is 10% of the overall net open position, calculated as the greater of:

- the sum of the net open long positions; and
- the absolute value of the sum of the net open short positions.

Example 4-2

An insurer has $100 of U.S. assets and $50 of U.S. liabilities and the spot exchange rate is 1.000.

- the net spot position, defined as assets less liabilities, is a long position of $50;
- the carve-out, using 25% of liabilities, is:

  = 25% x $50

  = $12.50

- therefore, the foreign exchange risk margin is:

  = 10% x MAX[29] ((net spot position - carve-out), 0)

  = 10% x MAX (($50 – $12.50), 0)

  = 10% x $37.50

  = $3.75

4.2.2.1 Allowable foreign currency hedges

Foreign currency derivatives are those for which the cash flows are dependent on future foreign exchange rates. They may be used to hedge an insurer's foreign exchange risk and as such, may be recognized in the determination of the capital requirement for foreign exchange risk, subject to the following requirements.

Only effective hedges that offset the changes in fair value of the hedged item may be included in the foreign exchange risk calculation. The company must be able to demonstrate to the AMF the effectiveness of its foreign exchange hedges.

Insurers with foreign currency derivatives on their balance sheet must be able to demonstrate that the addition of such derivatives does not result in increased risk. If the insurer cannot demonstrate that the derivatives do not result in increased risk, then the AMF may require additional capital.

Only plain-vanilla foreign currency derivatives may be recognized in the calculation of the foreign exchange capital requirement. Plain-vanilla foreign currency derivative instruments are limited to the following:

- futures foreign currency contracts;
- forward foreign currency contracts;
- currency swaps.

Other foreign currency derivatives, including options on foreign currencies, are not considered plain-vanilla and are not to be recognized in the determination of the foreign exchange risk margin.

Derivatives used for hedging a P&C insurer's foreign exchange risk are subject to credit risk requirements. Refer to Section 5.2 for further details.

4.2.2.2 Measurement of forward currency positions

Forward currency positions should be valued at current spot market exchange rates. It would not be appropriate to use forward exchange rates since they partly reflect current interest rate differentials. Insurers that base their normal management accounting on net present values are expected to use the net present values of each position, discounted

[29] The carve-out can be used to reduce the net open long currency position to a minimum of zero.

using current interest rates and translated at current spot rates, for measuring their forward currency positions.

4.2.2.3 Accrued and unearned interest income and expenses

Accrued interest, accrued income and accrued expenses should be treated as a position if they are subject to exchange rate fluctuations. Unearned but expected future interest, income or expenses may be included, provided the amounts are certain and have been fully hedged by allowable forward foreign exchange contracts. Insurers must be consistent in their treatment of unearned interest, income and expenses and must have written policies covering the treatment. The selection of positions that are only beneficial to reducing the overall position will not be permitted for capital purposes.

4.2.2.4 Unregistered reinsurance

A separate component calculation must be performed for each group of liabilities ceded under an unregistered reinsurance agreement to a reinsurer that is backed by a distinct pool of assets, where the defining characteristic of the pool is that any asset in the pool is available to pay any of the corresponding liabilities.

Each calculation should take into consideration the ceded liabilities, the assets supporting them, and deposits placed by the reinsurer to cover the capital requirement for the ceded liabilities, if the deposits are in a currency different from the currency in which the ceded liabilities are payable to policyholders.

If some of the assets supporting the liabilities ceded under an unregistered reinsurance agreement are held by the ceding insurer (e.g. funds withheld), the insurer's corresponding liability should be treated as an asset in the calculation of the open positions for the ceded business.

Excess deposits placed by an unregistered reinsurer within a pool of supporting assets may be used to reduce the foreign exchange risk requirement for the corresponding ceded business to a minimum of zero. Any requirements not covered by excess deposits must be added to the ceding company's own requirement.

4.3 Equity risk

Equity risk is the risk of economic loss due to fluctuations in the value of common shares and other equity securities.

4.3.1 Common shares and joint ventures

A 30% risk factor applies to investments in common shares and joint ventures in which an insurer holds less than or equal to 10% ownership interest.

4.3.2 Futures, forwards and swaps

Equity futures, forwards, and swaps attract a 30% risk factor, which is applied to the market value of the underlying equity security or index. Where a swap exchanges a return

on an equity security or index for a return on a different equity security or index, a 30% risk factor applies to the market value of both equity securities and indices for which the returns are being exchanged.

Example 4-3

A P&C insurer has entered into a one-year swap during which it will pay the 3-month Canadian Dollar Offered Rate (CDOR) plus fees, and receive the total return on a notional index of equities that was worth $100 at the time of inception. The index of equities is currently worth $110. A 30% equity risk capital charge will apply to $110 for the long position in the index, but no capital will be required on the short position in the bond because such a position is not subject to a capital charge.

In addition to the capital requirements set out in this section, futures, forwards, and swaps are subject to credit risk requirements. Refer to Section 5.2 for further details.

4.3.3 Short positions

The capital requirements for short positions in common shares, equity futures, forwards, and swaps that do not wholly or partially offset a long equity position are determined by assuming the instrument is held long and then applying the corresponding risk factor. Common shares, futures, forwards, and swaps eligible for offset recognition and the corresponding capital treatment are described in Section 4.3.4.

4.3.4 Recognition of equity hedges

Equity futures, forwards, and swaps, as well as common shares can be used to wholly or partially hedge an equity exposure. P&C insurers may recognize qualifying equity hedges in the calculation of the capital requirements in accordance with Sections 4.3.4.1 and 4.3.4.2.

P&C insurers must document the equity hedging strategies employed and demonstrate that the hedging strategies decrease the overall risk. The documentation must be available for review, upon request. If the P&C insurer cannot demonstrate, to the AMF's satisfaction, that the hedging strategies result in decreased overall risk, then additional capital above that calculated per Sections 4.3.4.1 and 4.3.4.2 may be required, at the discretion of the AMF.[30]

For hedges to qualify, the instruments which make them up must be issued by an entity that:

- issues obligations which attract a 0% factor under Section 5.1.3; or
- is rated A- or ~~better~~ higher (including clearing houses rated A- or ~~better~~higher).

[30] An insurer may contact the AMF to discuss the adequacy of its documentation and/or risk assessment to assess the likelihood or amount of potential additional capital that may be required.

4.3.4.1 Identical equity securities or indices

Long and short positions in exactly the same underlying equity security or index may be considered to be offsetting so that the capital requirements are calculated for the net exposure only. Individual instruments of portfolios that qualify for the capital treatment under Section 4.3.4.2 cannot be carved out of the portfolios to receive the capital treatment of Section 4.3.4.1.

Only common shares and plain-vanilla equity futures, forwards, and swaps can obtain the capital treatment under this section. Options and other exotic equity derivatives[31] do not qualify for this treatment.

4.3.4.2 Closely linked equity securities or indices

A portfolio of common shares and equity futures, forwards, and swaps can be used to partially hedge the equity exposure of another portfolio of similar instruments. When the instruments contained in both portfolios are closely linked, instead of following the capital requirements set out in Sections 4.3.1, 4.3.2, and 4.3.3, P&C insurers may calculate the capital requirements for the combined portfolios in the following manner:

(1- Correlation Factor) x 1.5 × MIN (market value of the portfolio of hedging instruments, market value of the portfolio of instruments being hedged)

The capital requirements set out above are capped at 60% of the minimum market value of both portfolios.

The difference between the market value of the two portfolios is not considered a hedged position and is subject to a 30% risk factor.

The Correlation Factor (CF) is derived by using:

CF = A x (B/C)

where:

A: represents the historical correlation between the returns on the portfolio of instruments being hedged and the returns on the portfolio of hedging instruments

B: represents the minimum of (standard deviation of returns on the portfolio of instruments being hedged, standard deviation of returns on the portfolio of hedging instruments)

C: represents the maximum of (standard deviation of returns on the portfolio of instruments being hedged, standard deviation of returns on the portfolio of hedging instruments)

[31] An example of an exotic derivative would be one that has a discontinuous payoff structure.

The historical correlations and standard deviations must be calculated on a weekly basis, covering the previous 52-week period. The returns on each portfolio of hedging instruments used to calculate the components of the CF must be determined by assuming that the portfolio is held long. The returns on each portfolio must be measured net of additional capital injections, and must include the returns on each component of the portfolio. For example, the returns on both the long and short legs of a total return swap included in a portfolio must be reflected in the calculation of the CF.

The CF for the previous 52 weeks is required to be calculated for each of the past four quarters. The correlation factor is the lowest of the four CFs calculated and is used to calculate capital requirements.

In order for the portfolios to obtain the capital treatment set out in this section, the following conditions must be met:

- the instruments in both portfolios are limited to exchange-traded common shares, and plain-vanilla equity futures, forwards, and swaps where the underlying asset is an exchange-traded common share or an equity index. Options and other exotic equity derivatives do not qualify for this treatment. Portfolios that contain instruments other than those specified in this section will be subject to the capital treatment under Sections 4.3.1, 4.3.2, and 4.3.3;
- the CF is determined at the portfolio level. Individual instruments cannot be carved out of the portfolios and receive the capital treatment as per Section 4.3.4.1;
- the portfolios that are part of a hedging strategy must have been established at least two years prior to the reporting date. In addition, the hedging strategy and the active management strategy on which both portfolios are based must not have changed in the past two years prior to the reporting date.[32] Portfolios that have been established for at least two years but have undergone a change in the hedging strategy or active management strategy will attract a 30% risk factor.

Example 4-4

Suppose a portfolio of instruments is valued at $200 and is paired with another portfolio of instruments as part of a qualifying equity hedge. Assuming that the second portfolio is worth $190 and that the correlation factor between the two portfolios is 0.95, the total capital charge for both portfolios will be $190 x 5% x 1.5 + $10 x 30% = $17.25.

Portfolios recently established

Portfolios that were established less than two years prior to the reporting date attract the following capital treatment:

[32] For the purposes of this section, the hedging strategy and active management strategy together are deemed to be unchanged if the ex-ante equity risk profile of the combined portfolios is maintained. For example, the ex-ante equity risk profile is maintained if the combined beta is continuously targeted to be zero (the hedging strategy), and if instrument selection is continuously based on the price-earnings ratio (the active management strategy).

- no recognition of the equity hedge in the first year following the establishment of the portfolios (i.e. a 30% factor is applied to both portfolios); and
- in the second year, the sum of:
  - T x capital requirements for the combined portfolios using the correlation factor approach described in this section;[33] and
  - (1-T) x capital requirements without recognition (as set out above).

  where T equals 20%, 40%, 60%, and 80% in the first, second, third, and fourth quarter, respectively, of the second year following the establishment of the portfolios.

Example 4-5

Two portfolios (as part of an equity hedge), each equal to $100, are established on April 1, 2016. On March 31, 2017, the capital charge for both portfolios will be (30% x $100 + 30% x $100) = $60. On June 30, 2017, assuming that the Correlation Factor is 0.90, the combined portfolios will be subject to a capital charge of (20% × 10% x 1,5 x $100 + 80% x 30% x 2 x $100) = $51.

4.4 Real estate risk

Real estate risk is the risk of economic loss due to changes in the value of a property or in the amount and timing of cash flows from investments in real estate.

Risk factor	Real estate
10%	Owner-occupied properties
20%	Held for investment purposes

For owner-occupied properties, the risk factor is applied to the value using the cost model, excluding any unrealized fair value gains (losses) resulting from the conversion to IFRS, or subsequent unrealized fair value gains (losses) due to revaluation.

4.5 Right-of-use assets

The risks associated with right-of-use assets are related to fluctuating market lease rates and ~~to potential~~contingent changes in the amount and timing of cash flows arising from early cancellation penalties~~,~~ and the costs associated with renegotiating or ~~locating~~ finding a new lease.

[33] For the purposes of this calculation, the CF must be determined based on actual portfolio returns (i.e. portfolio returns up to the reporting date). Projected (simulated) returns cannot be used. The CF must be determined as the lowest of available 52 week CF given the actual history of portfolio returns. During the second year, the number of available 52 week CF will increase from one to four as time elapses.

A 10% risk factor is applied to right-of-use assets, determined in accordance with ~~relevant~~ applicable accounting ~~standards~~principles~~,~~ and associated with leased ~~owner-occupied~~ properties occupied by the insurer and ~~associated~~ with leased assets that fall ~~in~~ into the ~~category~~ "Other assets" category, for example, ~~(e.g.~~ equipment~~)~~.

A 20% risk factor is applied to right-of-use assets, determined in accordance with ~~relevant~~ applicable accounting ~~standards~~principles~~,~~ and associated with leases~~d investment~~ on properties used for investment purposes.

4.6 Other market risk exposures

Other market risk exposures include assets that fall in the category "Other assets", for example, equipment, that are exposed to asset value fluctuations that may result in the value realized upon disposal being less than the balance sheet carrying value. A 10% risk factor applies to other assets as part of the total capital requirements for market risk.

Chapter 5. Credit risk

Credit risk is the risk of loss arising from a counterparty's potential inability or unwillingness to fully meet its contractual obligations due to an insurer. Exposure to this risk occurs any time funds are extended, committed, or invested through actual or implied contractual agreements. Components of credit risk include loan loss/principal risk, pre-settlement/replacement risk and settlement risk. Counterparties covered by this guideline include issuers, debtors, borrowers, brokers, policyholders, reinsurers and guarantors.

All on- and off-balance sheet exposures are subject to a specific risk factor that either:

- corresponds to the external credit rating of the counterparty or issuer; or
- represents a prescribed factor determined by the AMF.

To determine the capital requirements for balance sheet assets, factors are applied to the balance sheet values or other specified values of these assets. To determine the capital requirements for off-balance sheet exposures, factors are applied to the exposure amounts determined according to Section 5.2. Collateral and other forms of credit risk mitigators may be used to reduce the exposure. No risk factors are applied to assets deducted from capital available (reference Section 2.3.1). The resulting amounts are summed to arrive at the credit risk capital requirements.

5.1 Capital requirements for balance sheet assets

For the purpose of calculating the capital requirements for credit risk, balance sheet assets should be valued at their balance sheet carrying amounts, with the following exceptions:

- loans carried at fair value under the fair value option, fair value hedge accounting, or available-for-sale accounting, which should be valued at amortized cost;
- off-balance sheet exposures which should be valued in accordance with Section 5.2.

5.1.1 Use of ratings

Many of the risk factors in this guideline depend on the external credit rating assigned to an asset or an obligor. In order to use a factor that is based on a rating, a P&C insurer must meet all of the conditions specified below.

Insurers may recognize credit ratings from the following rating agencies for MCT purposes:

- DBRS;
- Moody's Investors Service;
- Standard and Poor's (S&P);
- Fitch Rating Services;
- Kroll Bond Rating Agency (KBRA).

An insurer must choose the rating agencies it intends to rely on and then use their ratings for MCT purposes consistently for each type of claim. Insurers should not select the assessments provided by different rating agencies with the sole intent to reduce their capital requirements (i.e. “cherry picking” is not permitted).

Any rating used to determine a factor must be publicly available, i.e., the rating must be published in an accessible form and included in the rating agency’s transition matrix. Ratings that are made available only to the parties to a transaction do not satisfy this requirement.

If an insurer is relying on multiple rating agencies and there is only one assessment for a particular claim, that assessment should be used to determine the capital requirement for the claim. If there are two assessments from the rating agencies used by an insurer and these assessments differ, the insurer should apply the risk factor corresponding to the lower of the two ratings. If there are three or more assessments for a claim from an insurer’s chosen rating agencies, the insurer should exclude one of the ratings that corresponds to the lowest risk factor, and then use the rating that corresponds to the lowest risk factor of those that remain (i.e., the insurer should use the second-highest rating from those available, allowing for multiple occurrences of the highest rating).

Where an insurer holds a particular securities issue that carries one or more issue-specific assessments, the capital requirement for the claim will be based on these assessments. Where an insurer’s claim is not an investment in a specifically rated security, the following principles apply:

- In circumstances where the borrower has a specific rating for an issued debt security, but the insurer’s claim is not an investment in this particular security, a rating of BBB- or higher on the rated security may only be applied to the insurer’s unrated claim if this claim ranks *pari passu* or senior to the rated claim in all respects. If not, the credit rating cannot be used and the insurer’s claim must be treated as an unrated obligation.
- In circumstances where the borrower has an issuer rating, this assessment typically applies to senior unsecured claims on that issuer. Consequently, only senior claims on that issuer will benefit from a BBB- or higher issuer assessment; other unassessed claims on the issuer will be treated as unrated. If either the issuer or one of its issues has a rating of BB+ or lower, this rating should be used to determine the risk factor for an unrated claim on the issuer.
- Short-term assessments are deemed to be issue specific. They can only be used to derive capital requirements for claims arising from the rated security. They cannot be generalized to other short-term claims, and in no event can a short-term rating be used to support a risk factor for an unrated long-term claim.
- Where the capital requirement for an unrated exposure is based on the rating of an equivalent exposure to the borrower, foreign currency ratings should be used for exposures in foreign currency. Canadian currency ratings, if separate, should only be used to determine the capital requirements for claims denominated in Canadian currency.

The following additional conditions apply to the use of ratings:

- External assessments for one entity within a corporate group may not be used to determine the risk factor for other entities within the same group. This condition does not apply to assets held with a credit union that is a member of a federation within the meaning of *An Act respecting financial services cooperatives* (CQLR, Chapter C-67.3).[34]
- No rating may be inferred for an unrated entity based on assets that the entity possesses.
- In order to avoid the double counting of credit enhancement factors, insurers may not recognize credit risk mitigation if the credit enhancement has already been reflected in the issue-specific rating.
- An insurer may not recognize a rating if the rating is at least partly based on unfunded support (e.g. guarantees, credit enhancement or liquidity facilities) provided by the insurer itself or one of its associates.
- Any assessment used must take into account and reflect the entire amount of credit risk exposure an insurer has with regard to all payments owed to it. In particular, if an insurer is owed both principal and interest, the assessment must fully take into account and reflect the credit risk associated with repayment of both principal and interest.
- Insurers may not rely on unsolicited ratings in determining the risk factor for an asset, except where the asset is a sovereign exposure and a solicited rating is not available.

5.1.2 Variable credit risk factors

Various risk factors are applied to invested assets depending on the external credit ratings and the remaining term to maturity as outlined below.

Investments in mutual funds or other similar assets must be broken down by type of investment (bonds, preferred shares, etc.) and assigned the appropriate risk factor relating to the investment. If the information available on an investment is not broken down, then the factor of the riskiest asset held in the fund is assigned to the entire investment.

5.1.2.1 Long-term Obligations

- Long-term obligations, including term deposits, bonds debentures and loans that are not eligible for a 0% risk factor, and that are not Canadian municipal bonds, have risk factors according to the following table:

[34] To qualify for this exception, the insurer must refer to a rating assigned to a financial services cooperative by a rating agency duly recognized under this guideline, which rating should be closely linked to the evaluation of the quality of the financial condition and the risk assessment of the credit unions that are members of the federation. If more than one financial services cooperative is assessed, the insurer must apply the risk factor corresponding to the lowest rating.

Rating	Remaining term to maturity		
	1 year or less	Greater than 1 year up to and including 5 years	Greater than 5 years
AAA	0.25%	0.5%	1.25%
AA+ to AA-	0.25%	1%	1.75%
A+ to A-	0.75%	1.75%	3%
BBB+ to BBB-	1.5%	3.75%	4.75%
BB+ to BB-	3.75%	7.75%	8%
B+ to B-	7.5%	10.5%	10.5%
Unrated	6%	8%	10%
Below B-	15.5%	18%	18%

- Bonds of Canadian municipalities only[35] have risk factors according to the following table:

Rating	Remaining term to maturity		
	1 year or less	**Greater than 1 year up to and including 5 years**	**Greater than 5 years**
AAA	0.125%	0.25%	0.625%
AA+ to AA-	0.125%	0.5%	0.875%
A+ to A-	0.375%	0.875%	1.5%
BBB+ to BBB-	0.75%	1.875%	2.375%
BB+ to BB-	1.875%	3.875%	4%
B+ to B-	3.75%	5.25%	5.25%
Unrated	3%	4%	5%
Below B-	7.75%	9%	9%

- Long-term obligations generally have an original term to maturity at issue of 1 year or more.
- Remaining term to maturity denotes the number of years from the reporting date until the maturity date.
- Insurers may use effective maturity as an option for determining risk factors for investments in long-term obligations subject to a determined cash flow schedule. The following formula may be used to calculate effective maturity:

$$\text{Effective maturity (M)} = \frac{\sum t \times CF_t}{\sum CF_t}$$

where CF_t denotes the cash flows (principal, interest payments and fees) contractually payable by the borrower in period t.

- In cases where an insurer elects not to calculate an effective maturity or if it is not feasible to do so using the above formula, the insurer is required to use the maximum remaining time (in years) that the borrower is permitted to fully discharge its contractual obligation (principal, interest, and fees) under the terms of the loan

[35] For other municipal bonds, refer to the risk factors of the other long-term obligations.

agreement. Normally, this would correspond to the nominal maturity or term to maturity of the instrument;

- Where information is not available to determine the redemption/maturity of an asset, insurers must use the "Greater than 5 years" category for that asset.

5.1.2.2 Short-term obligations

- Short-term obligations, including commercial paper, that are not eligible for a 0% risk factor, have risk factors assigned according to the following table:

Rating	Factor
A-1, F1, P-1, R-1 or equivalent	0.25%
A-2, F2, P-2, R-2 or equivalent	0.5%
A-3, F3, P-3, R-3 or equivalent	2%
Unrated	6%
All other ratings, including non-prime and B or C ratings	8%

- Short-term obligations generally have an original term to maturity at issue of no more than 365 days.

5.1.2.3 Asset-backed securities

The category of asset-backed securities encompasses all securitizations, including collateralized mortgage obligations and mortgage-backed securities, as well as other exposures that result from stratifying or tranching an underlying credit exposure. For exposures that arise as a result of asset securitization transactions, the insurer should refer to Chapter 6 (Dispositions relatives à la titrisation) of the AMF's *Adequacy of capital base* guideline given to financial services cooperatives, to determine whether there are functions provided (e.g. credit enhancement and liquidity facilities) that require capital for credit risk.

National Housing Act (NHA) mortgage-backed securities

NHA mortgage-backed securities that are guaranteed by the Canada Mortgage Housing Corporation (CMHC) receive a 0% risk factor to recognize the fact that obligations incurred by CMHC are legal obligations of the Government of Canada.

Other asset-backed securities

The capital requirements for all other asset-backed securities are based on their external credit ratings. In order for an insurer to use external credit ratings to determine a capital requirement, the insurer must comply with all of the operational requirements for the use

of ratings found in the AMF's *Adequacy of capital base* guideline given to financial services cooperatives.

For asset-backed securities (other than resecuritizations) rated BBB or higher, the capital requirement is the same as the requirement specified in section 5.1.2.1 for a long-term obligation having the same rating and maturity as the asset-backed security. If an asset-backed security is rated BB, a P&C insurer may recognize the rating only if it is a third-party investor in the security. The credit risk factor for an asset-backed security (other than a resecuritization) rated BB in which a company is a third-party investor is 300% of the requirement for a long-term obligation rated BB having the same maturity as the security.

The credit risk factors for short-term asset-backed securities (other than resecuritizations) rated A-3 or higher are the same as those in section 5.1.2.2 for short-term obligations having the same rating.

The credit risk factor for any resecuritization rated BBB or higher is 200% of the risk factor applicable to an asset-backed security having the same rating and maturity as the resecuritization.

The credit risk factor for any asset-backed security that is not mentioned above (including unrated securities) is 60%.

5.1.2.4 Preferred shares

- Preferred shares risk factors should be assigned according to the following table:

Rating	Factor
AAA, AA+ to AA-, Pfd-1, P-1 or equivalent	3%
A+ to A-, Pfd-2, P-2 or equivalent	5%
BBB+ to BBB-, Pfd-3, P-3 or equivalent	10%
BB+ to BB-, Pfd-4, P-4 or equivalent	20%
B+ or lower, Pfd-5, P-5 or equivalent or unrated	30%

5.1.3 Fixed credit risk factors

0% Risk factor

- Cash held on the insurer's own premises.
- Obligations[36] of federal, provincial and territorial governments in Canada.

[36] Including securities loans and accounts receivable.

- Obligations of agents of the federal, provincial or territorial governments in Canada whose obligations are, by virtue of their enabling legislation, direct obligations of the parent government.
- Obligations of sovereigns rated AA- or higher and their central banks.[37]
- Obligations that have been explicitly, directly, irrevocably and unconditionally guaranteed by a government Grade entity eligible for a 0% risk factor including, for example, residential mortgages insured under the NHA or equivalent provincial mortgage insurance program, and NHA mortgage-backed securities that are guaranteed by the Canada Mortgage and Housing Corporation.
- Current tax assets (income tax receivable).
- DPAE, including DPAE on commissions, premium taxes and others, and excluding DPAE on commissions for accident and sickness business.
- Instalment premiums receivable (not yet due).
- Any deductions from capital, including goodwill, intangible assets and interests in non-qualifying subsidiaries, associates, and joint ventures with more than 10% ownership interest.

0.25% Risk factor

- Demand deposits, certificates of deposit, drafts, checks, acceptances and similar obligations that have an original maturity of less than three months, and that are drawn on regulated deposit-taking institutions subject to the solvency requirements of the Basel Framework.[38]

0.70% Risk factor

- Insurance receivables from registered reinsurers excluding intra-group pooling arrangement approved by the AMF.
- Accounts receivable from the Facility Association and the *Plan de répartition des risques* (PRR).

2.5% Risk factor

- Investment income due and accrued.
- Unearned premiums recoverable from registered reinsurers excluding intra-group pooling arrangement approved by the AMF (reference Section 3.4.1).
- Unpaid claims and adjustment expenses recoverable from registered reinsurers excluding intra-group pooling arrangement approved by the AMF (reference Section 3.4.1).

[37] Sovereign obligations rated lower than AA- may not receive a factor of 0%, and are instead subject to the factor requirements in section 5.1.2.

[38] Where the maturity of the asset is longer than three months, the risk factor related to the credit rating of the regulated deposit-taking institution would apply instead.

4% Risk factor

- First mortgages on one- to four-unit residential dwellings.

5% Risk factor

- Accounts receivable, not yet due and outstanding less than 60 days, from agents, brokers, non-qualifying subsidiaries, associates, joint ventures and policyholders, including other receivables.[39]
- Instalment premiums outstanding less than 60 days.

10% Risk factor

- Accounts receivable, outstanding 60 days or more, from agents, brokers, non-qualifying subsidiaries, associates, joint ventures and policyholders, including instalment premiums and other receivables.[40]
- Commercial mortgages and other residential mortgages that do not qualify as first mortgages on one- to four-unit residential dwellings.
- The amount of available refunds of defined benefit pension plan surplus assets included in capital available.
- DTAs arising from temporary differences that the institution could recover from income taxes paid in the three immediately preceding years. DTAs from temporary differences that are in excess of the amount of taxes recoverable in the three immediately preceding years should be deducted from capital available.
- Other investments not specified in this section or Section 4.5 as part of other market risk exposures, excluding derivative-related amounts. Capital requirements for derivative-related amounts included in other investments are set out in Section 5.2.
- Other assets not specified in this section or Section 4.5 as part of other market risk exposures, excluding other investments.

15% Risk factor

- Mortgages secured by undeveloped land (e.g. construction financing), other than land used for agricultural purposes or for the production of minerals. A property recently constructed or renovated will be considered as “under construction” until it is completed and 80% leased.

20% Risk factor

- Other recoverables (mainly salvage and subrogation) on unpaid claims.

[39] Includes receivables for assumed business from unregistered insurers.

[40] Includes receivables for assumed business from unregistered insurers.

- SIR recoverables not deducted from capital (reference Section 3.5).
- Assets held for sale (other than financial).[41]

45% Risk factor

- Loans or other forms of lending (bonds, debentures, mortgages, etc.) provided to non-qualifying (non-consolidated) subsidiaries, associates and joint ventures with more than a 10% ownership interest which are not considered as capital;
- DPAE on commissions related to accident and sickness business, net of the adjustment for unearned commissions, where the net value is positive (reference Section 3.7.1).

5.2 Capital requirements for off-balance sheet assets exposures

The capital required for off-balance sheet exposures such as structured settlements, letters of credit or non-owned deposits, derivatives and other exposures is calculated in a manner similar to the on-balance sheet assets in that the credit risk exposure is multiplied by a counterparty risk factor to arrive at the capital required. However, unlike most assets, the face amount of an off-balance sheet exposure does not necessarily reflect the true credit risk exposure. To approximate this exposure, a credit equivalent amount is calculated for each exposure. This amount, net of any collateral or guarantees, is then multiplied by a credit conversion factor. For letters of credit and non-owned deposits, the credit equivalent amount is the face value. The determination of the counterparty credit risk categories and the approach for determining the eligibility of collateral and guarantees is the same as it is for other assets. For letters of credit and non-owned deposits, the counterparty credit risk is found under Section 3.4.2.3.

The risk to a P&C insurer associated with structured settlements, letters of credit, non-owned deposits, derivatives and other exposures and the amount of capital required to be held against this risk is:

- the credit equivalent amount of the instrument at the reporting date;
- less: the value of eligible collateral securities or guarantees (reference Section 5.3);
- multiplied by: a factor reflecting the nature and maturity of the instrument (Credit Conversion Factors); and
- multiplied by: a factor reflecting the risk of default of the counterparty to a transaction (Risk Factors).

[41] 1) Alternatively, assets classified as held for sale may be re-consolidated (look-through approach) at the option of the insurer. If this method is selected, any write-down made as a result of re-measuring the assets classified as held for sale at the lower of carrying amount and fair value less costs to sell should be reflected in the MCT after re-consolidation. Any asset within a consolidated group that is deducted from capital available for MCT purposes should continue to be deducted from capital when it becomes an asset held for sale.

2) If the insurer has elected to apply a 20% risk factor to assets held for sale instead of using the look-through approach, associated liabilities held for sale should be subject to the usual MCT treatment of liabilities as per Chapter 3.

5.2.1 Credit equivalent amount

The credit equivalent amount related to off-balance sheet exposures varies according to the type of instrument.

5.2.1.1 Structured settlements

The credit equivalent amount for a “Type 1” structured settlement is the current replacement cost of the settlement, which is gross of the coverage provided by Assuris.

“Type 1” structured settlements are not recorded as liabilities on the balance sheet and have the following characteristics:

- An annuity is purchased by a P&C insurer who is named as the owner. There is an irrevocable direction from the P&C insurer to the annuity underwriter to make all payments directly to the claimant.
- Since the annuity is non-commutable, non-assignable and non-transferable, the P&C insurer is not entitled to any annuity payments and there are no rights under the contractual arrangement that would provide any current or future benefit to the P&C insurer.
- The P&C insurer is released by the claimant indicating settlement of the claim amount.
- The P&C insurer remains liable to make payments to the claimant in the event and to the extent the annuity underwriter fails to make payments under the terms and conditions of the annuity and the irrevocable direction given.

Under this type of structured settlement arrangement, the P&C insurer is not required to recognize a liability to the claimant, nor is it required to recognize the annuity as a financial asset. However, the P&C insurer is exposed to some credit risk by guaranteeing the obligation of the annuity underwriter to the claimant and, consequently, must set aside additional capital.

For details on the types of structured settlements, insurers should refer to Special Topics, Section IV of the Instructions to the P&C Returns.

5.2.1.2 Derivatives

The credit equivalent amount for derivatives is the positive replacement cost (obtained by marking to market) plus an amount for potential future credit exposure (an “add-on” factor).

Derivatives include forwards, futures, swaps, purchased options, and other similar contracts. Insurers are not exposed to credit risk for the full face value of these contracts (notional principal amount), only to the potential cost of replacing the cash flow (on contracts showing a positive value) if the counterparty defaults. The credit equivalent amounts are assigned the risk factor appropriate to the counterparty in order to calculate the capital requirement.

The credit equivalent amount depends on the maturity of the contract and the volatility of the underlying instrument. It is calculated by adding:

- the total replacement cost (obtained by marking to market) of all contracts with positive values; and
- an amount for potential future credit exposure (or "add-on"). This is calculated by multiplying the notional principal amount by the following "add-on" factors.

Residual Maturity	Interest Rate (01)	Exchange Rate and Gold (02)	Equity (03)	Precious Metals except Gold (04)	Other Instruments (05)
One year or less	0%	1%	6%	7%	10%
One year to five years	0.5%	5%	8%	7%	12%
Over five years	1.5%	7.5%	10%	8%	15%

Notes

- Instruments traded on exchanges do not require capital for counterparty credit risk where they are subject to daily margining requirements.
- For contracts with multiple exchanges of principal, the factors are to be multiplied by the number of remaining payments in the contract.
- For contracts that are structured to settle outstanding exposures following specified payment dates, and where the terms are reset so that the market value of the contract is zero on these specified dates, the residual maturity is considered to be the time until the next reset date. In the case of interest rate contracts with residual maturities of more than one year and that also meet the above criteria, the add-on factor is subject to a floor of 0.5%.
- Contracts not covered by columns 01 to 04 in the above table are to be treated as "Other Instruments" for the purpose of determining the "add-on" factor.
- No potential credit exposure would be calculated for single currency floating/floating interest rate swaps; the credit exposure on these contracts would be evaluated solely on the basis of their mark-to-market value.
- The add-ons are based on effective rather than stated notional amount. In the event that the stated notional amount is leveraged or enhanced by the structure of the transaction, insurers must use the actual or effective notional amount when determining potential future exposure. For example, a stated notional amount of $1 million with payments calculated at two times LIBOR would have an effective notional amount of $2 million.

- Potential credit exposure is to be calculated for all over-the-counter (OTC) contracts (with the exception of single currency floating/floating interest rate swaps), regardless of whether the replacement cost is positive or negative.

No add-on for potential future exposure is required for credit derivatives. The credit equivalent amount for a credit derivative is equal to the greater of its replacement cost or zero.

5.2.1.3 Other exposures

Commitments

A commitment involves an obligation (with or without a material adverse change clause or similar clause) of the insurer to fund its customer in the normal course of business should the customer seek to draw down the commitment. This includes:

- extending credit in the form of loans or participations in loans, lease financing receivables, mortgages or loan substitutes; or
- purchasing loans, securities, or other assets.

Normally, commitments involve a written contract or agreement and a commitment fee or some other form of consideration.

The maturity of a commitment should be measured from the date when the commitment was accepted by the customer, regardless of whether the commitment is revocable or irrevocable, conditional or unconditional, until the earliest date on which:

- the commitment is scheduled to expire; or
- the insurer can, at its option, unconditionally cancel the commitment.

Repurchase and reverse repurchase agreements

A securities repurchase (repo) is an agreement whereby a transferor agrees to sell securities at a specified price and repurchase the securities on a specified date and at a specified price. Since the transaction is regarded as a financing transaction for accounting purposes, the securities remain on the balance sheet. Given that these securities are temporarily assigned to another party, the factor accorded to the asset should be the higher of the factor of the security and the factor of the counterparty to the transaction (net of any eligible collateral).

A reverse repo agreement is the opposite of a repo agreement, and involves the purchase and subsequent sale of a security. Reverse repos are treated as collateralized loans, reflecting the economic reality of the transaction. The risk is therefore to be measured as an exposure to the counterparty. Where the asset temporarily acquired is a security that attracts a lower factor, this would be recognized as collateral and the factor would be reduced accordingly.

Guarantees provided in securities lending

In securities lending, insurers can act as principal to the transaction by lending their own securities or as agent by lending securities on behalf of clients. When the insurer lends its own securities, the risk factor is the higher of:

- the risk factor related to the instruments lent; or
- the risk factor for an exposure to the borrower of the securities. The exposure to the borrower may be reduced if the insurer holds eligible collateral (reference Section 5.3.1). Where the insurer lends securities through an agent and receives an explicit guarantee of the return of the securities, the insurer may treat the agent as the borrower subject to the conditions in Section 5.3.2.

When the insurer, acting as agent, lends securities on behalf of a client and guarantees that the securities lent will be returned or the insurer will reimburse the client for the current market value, the insurer should calculate the capital requirement as if it were the principal to the transaction. The capital requirements are those for an exposure to the borrower of the securities, where the exposure amount may be reduced if the insurer holds eligible collateral (reference Section 5.3.1).

For details on how to record these and other such exposures, contact the AMF. In addition, insurers should refer to any other applicable guidelines.

5.2.2 Credit conversion factors

Separate credit conversion factors exist for structured settlements, letters of credit, non-owned deposits, derivatives and other exposures.

For other exposures, the weighted average of the credit conversion factors, described below, for all of these instruments held by the insurer, should be used.

100% Conversion factor

- Direct credit substitutes (general guarantees of indebtedness and guarantee-type instruments, including standby letters of credit and non-owned deposits serving as financial guarantees for, or supporting, loans and securities).
- Derivatives such as forwards, futures, swaps, purchased options (including options purchased over the counter) and other similar derivative contracts, including:
    - interest rate contracts (single currency interest rate swaps, basis swaps, forward rate agreements and derivative contracts with similar characteristics, interest rate futures, interest rate options purchased, and similar derivative contracts based on specific parameters or on indices, etc.);
    - equity contracts (forwards, swaps, purchased options, and similar derivative contracts based on specific parameters or on indices, etc.);
    - exchange rate contracts (gold contracts, cross-currency swaps, cross-

currency interest rate swaps, outright forward foreign exchange contracts, currency futures, currency options purchased, and similar derivative contracts based on specific parameters or on indices, etc.);

- precious metals (except gold) and other commodity contracts (forwards, swaps, purchased options, and similar derivative contracts based on specific parameters or on indices, etc.);
- other derivative contracts based on specific parameters or on indices (such as catastrophe insurance options and futures).

- Forward agreements (contractual obligations) to purchase assets.
- Sale and repurchase agreements.
- All other exposures not contemplated elsewhere (provide details).

50% Conversion factor

- Structured settlements that are not recorded as liabilities on the balance sheet (refer to Type 1 characteristics and to Section IV, Special Topics, of the Instructions to the P&C Returns).
- Transaction-related contingencies (for example, warranties and standby letters of credit related to a particular transaction).
- Commitments with an original maturity exceeding one year.

20% Conversion factor

- Commitments with an original maturity of one year or less.

0% Conversion factor

- Commitments that are unconditionally cancellable at any time without prior notice.[42]

5.2.3 Risk factors

Off-balance sheet exposures are assigned a risk factor consistent with Section 5.1. All criteria in Section 5.1 around the use of ratings are applicable to off-balance sheet exposures.

Risk factors for structured settlements, which are considered long-term exposures, are based on the credit rating of the counterparty from which the annuity is purchased. The risk factors to be applied are:

[42] Other than any notice required under legislation or court rulings that require notice.

Rating	Factor
Rated A- or higher	2%
Rated BBB+ to B-	8%
Unrated	10%
Below B-	18%

If the structured settlement is not rated by one of the four rating agencies listed in Section 5.1.1, a P&C insurer may use a credit rating from another reputable rating agency. The use of an alternative rating agency must comply with all the criteria around the use of ratings specified in Section 5.1.1, including a consistent use of the same rating agency in order to assign a risk factor based on the credit rating of the annuity underwriter.

5.3 Capital treatment of collateral and guarantees

5.3.1 Collateral

A collateralized transaction is one in which:

- an insurer has a credit exposure or potential credit exposure; and
- the credit exposure or the potential credit exposure is hedged in whole or in part by collateral posted by a counterparty or by a third party on behalf of the counterparty.

Recognition of collateral in reducing the capital requirements is limited to cash or securities rated A- or ~~better~~higher. Any collateral must be held throughout the period for which the exposure exists. Only that portion of an exposure that is covered by eligible collateral will be assigned the risk factor given to the collateral. while the uncovered portion retains the risk factor of the underlying counterparty. Only collateral securities with a lower risk factor than the underlying exposure will lead to reduced capital requirements. All criteria in Section 5.1 around the use of ratings are applicable to collateral. Where a rating is not available for the collateral asset, exposure, or counterparty where applicable, no reduction in capital required is permitted.

The effects of collateral may not be double counted. Therefore, insurers may not recognize collateral on claims for which an issue-specific rating is used that already reflects that collateral.

Collateral securities used to reduce capital requirements must materially reduce the risk arising from the credit quality of the underlying exposure. In particular, collateral used may not be related party obligations of the issuer of the underlying exposure (i.e. obligations of the underlying counterparty itself, its parent, or one of its subsidiaries or associates).

5.3.2 Guarantees

Investments (principal and interest) or exposures that have been explicitly, directly, irrevocably and unconditionally guaranteed by a guarantor whose long-term issuer credit rating is A- or ~~better~~higher, may attract the risk factor allocated to a direct claim on the guarantor where the desired effect is to reduce the risk exposure. Thus only guarantees[43] issued by entities with a lower risk factor than the underlying counterparty will lead to reduced capital requirements.

Where the recovery of losses on a loan, financial lease agreement, security or exposure is partially guaranteed, only the part that is guaranteed is to be weighted according to the risk factor of the guarantor (see following examples). The uncovered portion retains the risk factor of the underlying counterparty.

All criteria in Section 5.1 around the use of ratings remain applicable to guarantees. Where a rating is not available for the investment, exposure, or guarantor where applicable, no reduction in capital required is permitted.

An insurer may not recognize a guarantee provided by a related enterprise (parent, subsidiary or associate). This treatment follows the principle that guarantees within a corporate group are not a substitute for capital.

The effects of credit protection may not be double counted. Therefore, no capital recognition is given to credit protection on claims for which an issue-specific rating is used that already reflects that protection.

To be eligible, a guarantee must cover the full term of the exposure, i.e. no recognition will be given to a guarantee if there is a maturity mismatch[44], and be legally enforceable.

5.3.2.1 Additional requirements for guarantees

The following conditions must be satisfied in order for a guarantee to be recognized:

- on the qualifying default/non-payment of the counterparty, the insurer may in a timely manner pursue the guarantor for any monies outstanding under the documentation governing the transaction. The guarantor may make one lump sum payment of all monies under such documentation to the insurer, or the guarantor may assume the future payment obligations of the counterparty covered by the guarantee. The insurer must have the right to receive any such payments from the guarantor without first having to take legal action in order to pursue the counterparty for payment;
- the guarantee is an explicitly documented obligation assumed by the guarantor;
- except as noted in the following sentence, the guarantee covers all types of payments the underlying obligor is expected to make under the documentation

[43] Letters of credit for which a company is the beneficiary are included within the definition of guarantees, and receive the same capital treatment.

[44] A maturity mismatch occurs when the residual maturity of the credit protection is less than that of the underlying exposure.

governing the transaction, for example notional amount, margin payments etc. Where a guarantee covers payment of principal only, interest and other uncovered payments should be treated as an unsecured amount in accordance with Section 5.1.

5.3.3 Examples

Example 5-1: Credit risk exposure

To record a $100,000 bond rated AAA due in 10 years that has a government guarantee of 90%, the insurer would report a balance sheet value of $90,000 ($100,000 x 90%) in the 0% risk weighted category and a balance sheet value of $10,000 ($100,000 - $90,000) in the AAA category under "Term Deposits, Bonds and Debentures - Expiring or redeemable in more than five years". The capital required in the 0% risk weighted category is $0 ($90,000 x 0.0%). The capital required in the AAA category is $125 ($10,000 x 1.25%) for a total capital requirement of $125.

An example of the calculation, assuming no other assets, is provided in the table below.

	Risk factor (%)	Balance sheet value	Capital required
Investments :			
Term Deposits, Bonds and Debentures :			
Expiring or redeemable in more than five years:			
0% risk factor	0%	$90,000	$0
Rating: AAA	1.25%	$10,000	$125
Total		$100,000	$125

Example 5-2: Type 1 structured settlement

To record a $300,000 Type 1 structured settlement rated BBB+ to B-, backed by collateral or by a guarantee of $200,000 from a counterparty rated A- or higher, the insurer would report a credit equivalent amount of $300,000 and collateral and guarantees of negative $200,000 in the BBB+ to B- category, and collateral and guarantees of $200,000 in the A- or higher category.

The capital required in the BBB+ to B- category is $4,000 (($300,000 - $200,000) x 50% x 8%). The capital required in the A- or higher category is $500 ($200,000 x 50% x 0.5%) for a total capital requirement of $4,500. An example of the calculation, assuming no other exposures, is provided in the following table.

	Credit equivalent amount	Collateral and guarantees	Credit conversion factor (%)	Risk factor (%)	Capital required
Structured Settlements					
0% risk factor					
Rating: A- or higher		$200,000	50%	0.5%	$500
Rating: BBB+ to B-	$300,000	($200,000)	50%	8%	$4,000
Total					$4,500

Chapter 6. Operational risk

Operational risk is the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. The definition includes legal risk[45] but excludes strategic and reputation risk.

Exposure to operational risk results from either day-to-day operations or a specific, unanticipated event.

6.1 Operational risk formula

The two risk drivers used to determine the operational risk margin are capital required and premiums, subject to a cap.

$$\text{Operational risk margin} = \text{MIN}\{30\%\ CR_0,\ (8.50\%\ CR_0 + 2.50\%\ P_d + 1.75\%\ P_a + 2.50\%\ P_c + 2.50\%\ P_\Delta) + \text{MAX}(0.75\%\ P_{aig},\ 0.75\%\ P_{cig})\}$$

where:

- CR_0: is the total capital required for the reporting period, before the operational risk margin and diversification credit
- P_d: is the direct premiums written in the past 12 months
- P_a: is the assumed premiums written in the past 12 months arising from third party reinsurance[46]
- P_{aig}: is the assumed premiums written in the past 12 months arising from intra-group pooling arrangements[47]
- P_c: is the premiums ceded in the past 12 months arising from third party reinsurance[46]
- P_{cig}: is the premiums ceded in the past 12 months arising from intra-group pooling arrangements[47]
- P_Δ: is the growth in gross premiums written in the past 12 months above a 20% threshold

[45] Legal risk includes, but is not limited to, exposure to fines, penalties, or punitive damages resulting from supervisory actions, as well as private settlements.

[46] Includes reinsurance arrangements with insurers within the same group that do not qualify as intra-group pooling arrangements.

[47] The mere cession of premiums from one insurer to another within a group is not considered as an intra-group pooling arrangement under this guideline. Assumed and ceded premiums between insurers within a group will be recognised as part of an intra-group pooling arrangement only where the arrangement contains provisions to, for example, insure a common management of the MCT ratio or the profitability of the participating insurers.

6.2 Components of operational risk margin

6.2.1 Capital required

A portion of the operational risk margin is based on total capital required, reflecting the overall riskiness of an insurer. An 8.50% risk factor applies to total capital required, before the operational risk margin and diversification credit.

6.2.2 Premium volume

The following risk factors apply to insurance premiums:

- 2.50% for direct premiums written;
- 1.75% for assumed premiums written arising from third party reinsurance;
- 0.75% for assumed premiums written arising from intra-group pooling arrangements;
- 2.50% for ceded premiums arising from third party reinsurance;
- 0.75% for ceded premiums arising from intra-group pooling arrangements.

The 2.50% risk factor for direct premiums and 1.75% risk factor for assumed premiums from third party reinsurance capture an insurer's operational risk exposure on new business and renewals.

The 2.50% risk factor for ceded premiums from third party reinsurance captures the operational risk remaining with the ceding insurer. While the insurer cedes a portion of its insurance risk exposure through reinsurance, the operational risk remains with the ceding insurer. Because the capital requirements for insurance liabilities (reference Section 3.3) are calculated on the net amount of risk (net of reinsurance), the portion of operational risk requirement calculated as 8.50% of capital required does not account for the operational risk on the entire business of the insurer.

6.2.2.1 Intra-group pooling arrangements

The 0.75% risk factor for assumed and ceded premiums arising from intra-group pooling arrangements captures the additional operational risks associated with pooling premiums within a group compared to a company that does not enter into transactions moving the premiums from a company to another within a group.

Only premiums assumed and ceded from intra-group pooling arrangements between related Canadian federally or provincially regulated insurers are included in P_{aig} and P_{cig}, and a prior approval from the AMF is required in order to be allowed to apply this approach. If prior approval is not granted, the premiums assumed and ceded in the intra-group pooling arrangement will be considered as premiums arising from a third party reinsurance arrangement and, therefore, will be included in P_a and P_c for capital requirement calculation purposes.

In cases where P&C subsidiaries are consolidated in the financial statements of the P&C parent company, P_d, P_a, and P_c, at the parent level, must be determined on a consolidated basis, while P_{aig} and P_{cig} must be equal to the non-consolidated intra-group pooled premiums assumed and ceded by the parent company, respectively. For example:

- assume that two subsidiaries, insurer Y and insurer Z, cede 100% of their direct written business to insurer X (the parent);
- insurer X then cedes 20% of the total of the direct business of each insurer (including the parent's business) to each subsidiary;
- assuming that each of the three insurers writes $100 of direct premiums, the following amounts would apply to calculate the operational risk margin for insurer X:

  P_d: 3 x $100 (direct premiums written by each insurer) = $300

  P_a, P_c: $0 (assuming all three insurers are not part of third party reinsurance arrangements)

  P_{aig}: 2 x $100 (premiums assumed by insurer X as part of the intra-group arrangement) = $200

  P_{cig}: 2 x $60 (premiums ceded by insurer X as part of the intra-group arrangement) = $120

  P_Δ: $0 (growth in gross premiums written exceeding 20%)

- the capital requirement for operational risk associated with the premiums for insurer X would be calculated as follows:

  = (2.50% P_d + 1.75% P_a + 2.50% P_c + 2.50% P_Δ) + MAX (0.75% P_{aig}, 0.75% P_{cig})

  = (2.50% x $300 + 1.75% x $0 + 2.50% x $0 + 2.50% x $0) + MAX (0.75% x $200, 0.75% x $120)

  = ($7.50 + $0 + $0 + $0) + MAX ($1.50, $0.90)

  = $9.00

6.2.3 Year-over-year premium growth beyond a threshold

Rapid growth, which is linked to the acquisition of another entity, the acquisition of a block of business through assumption reinsurance, new lines of business or changes to existing products or underwriting criteria, can create additional pressures on people and systems. Insurers with premium growth beyond a 20% threshold are subject to additional capital requirements for operational risk.

The premium growth requirement is calculated using gross premiums written, i.e. direct premiums written plus assumed premiums written. For the purposes of this section, assumed premiums written arising from intra-group pooling arrangements (i.e. P_{aig}) are excluded from gross premiums written. A 2.50% risk factor applies to the total amount of gross premiums written in the past 12 months above the 20% growth threshold compared to the gross premiums written for the same period in the previous year. For example:

- assume that as a result of rapid growth, gross premiums written increase by 50% from $100 to $150;
- then, the amount above the 20% increase ($30) is subject to an additional risk factor of 2.50%.

In the case of an acquisition, the total gross premiums written for a prior reporting period (before the acquisition) is the sum of the gross premiums written by the two separate entities, i.e. the sum of the acquiring and the acquired insurers' gross premiums written. For example:

- assume that in Year T insurer A, with gross premiums written of $100 for the 12 months period ending December 31, Year T-1, acquired insurer B with gross premiums written of $50 for the same period;
- the merged insurer reported a total of $225 in gross premiums written for the 12 months period ending December 31, Year T;
- the capital requirement for operational risk associated with rapid growth in premiums would be calculated as follows:

  2.50% x [$225 – (($100 + $50) x 1.2)] or 2.50% x $45 = $1.13

6.2.4 Cap on operational risk margin

A 30% cap serves to dampen the operational risk margin. The 30% cap is calculated in relation to total capital required, before the operational risk margin and diversification credit.

Chapter 7. Diversification credit

Because losses arising across some risk categories are not perfectly correlated with each other, an insurer is not likely to incur the maximum probable loss at a given level of confidence from each type of risk simultaneously. Consequently, an explicit credit for diversification is permitted between the sum of credit and market risk requirements and the insurance risk requirement so that the total capital required for these risks is lower than the sum of the individual requirements for these risks.

7.1 Risk aggregation and diversification credit

The diversification credit is calculated using the following formula:

$$\text{Diversification credit} = A + I - \sqrt{A^2 + I^2 + 2 \times R \times A \times I}$$

where:

A: is the asset risk margin, which is the sum of capital required for:

- credit risk, including requirements for balance sheet assets, off-balance sheet exposures and collateral for unregistered reinsurance and SIRs;
- market risk, including interest rate risk, foreign exchange risk, equity risk, real estate risk and other market risk exposures.

I: is the insurance risk margin, which is the sum of capital required for:

- unpaid claims and premium liabilities;
- margin required for unregistered reinsurance exposures;
- ~~catastrophe~~ earthquake risk.

R: is the correlation factor between A and I, determined as 50% for the diversification credit calculation.

Annex 1. Qualifying criteria for category A capital instruments[48]

For an instrument to be included in capital available under category A, it must meet all of the following criteria:

1. The instrument r~~R~~epresents the most subordinated claim in liquidation of the insurer.
2. The investor is entitled to a claim on the residual assets that is proportional with its share of issued capital, after all senior claims have been paid in liquidation (i.e. has an unlimited and variable claim, not a fixed or capped claim).
3. The principal is perpetual and never repaid outside of liquidation (setting aside discretionary repurchases or other means of effectively reducing capital in a discretionary manner that is allowable under relevant law and subject to the prior approval of the AMF).
4. The insurer does not, in the sale or marketing of the instrument, create an expectation at issuance that the instrument will be bought back, redeemed or cancelled, nor do the promotional material and statutory or contractual terms provide any feature that might give rise to such expectation.
5. Distributions are paid out of distributable items (retained earnings included). The level of distributions is not in any way tied or linked to the amount paid in at issuance and is not subject to a contractual cap (except to the extent that an insurer is unable to pay distributions that exceed the level of distributable items or to the extent that distribution on senior ranking capital must be paid first).
6. There are no circumstances under which the distributions are obligatory. Non-payment is, therefore, not an event of default.
7. Distributions are paid only after all legal and contractual obligations have been met and payments on more senior capital instruments have been made. This means that there are no preferential distributions, including in respect of other elements classified as the highest quality issued capital.
8. It is in the form of issued capital that takes the first and proportionately greatest share of any losses as they occur. Within the highest quality capital, each instrument absorbs losses on a going concern basis proportionately and *pari passu* with all the others.
9. The paid-in amount is recognized as equity capital (i.e. not recognized as a liability) for determining balance sheet solvency.
10. It is directly issued and paid-in[49] and the insurer cannot directly or indirectly have funded the purchase of the instrument. Where the consideration for the shares is

[48] The criteria also apply to non-joint stock companies, such as mutuals, taking into account their specific constitution and legal structure. The application of the criteria should preserve the quality of the instruments by requiring that they are deemed fully equivalent to common shares in terms of their capital quality as regards loss absorption and do not possess features that could cause the condition of the insurer to be weakened as a going concern during periods of market stress.

[49] Paid-in capital generally refers to capital that has been received with finality by the insurer, is reliably valued, fully under the insurer's control and does not directly or indirectly expose the insurer to the credit risk of the investor.

other than cash, the issuance of the common shares is subject to the prior approval of the AMF.

11. The paid-in amount is neither secured nor covered by a guarantee of the issuer or related enterprise[50] or subject to any other arrangement that legally or economically enhances the seniority of the claim.

12. It is only issued with the approval of the owners of the issuing insurer, either given directly by the owners or, if permitted by applicable law, given by the Board of Directors or by other persons duly authorized by the owners.

13. It is clearly and separately disclosed on the insurer's balance sheet, prepared in accordance with the relevant accounting standards.

[50] A related enterprise can include a parent company, a sister company, a subsidiary or any other affiliate. A holding company is a related enterprise irrespective of whether it forms part of the consolidated insurance group.

Annex 2. Qualifying criteria for category B capital instruments

For an instrument to be included in capital available under category B, it must meet all of the following criteria:

1. The instrument is i~~I~~ssued and paid-in in cash or, subject to the prior approval of the AMF, in property.
2. The instrument is s~~S~~ubordinated to policyholders, general creditors and subordinated debt holders of the insurer.
3. The instrument i~~I~~s neither secured nor covered by a guarantee of the issuer or related enterprise or other arrangement that legally or economically enhances the seniority of the claim vis-à-vis the insurer's policyholders and creditors.[51]
4. The instrument i~~I~~s perpetual, i.e. there is no maturity date and there are no step-ups[52] or other incentives to redeem.[53]
5. The instrument m~~M~~ay be callable at the initiative of the issuer only after a minimum of five years:
   i. to exercise a call option, an insurer must receive the prior approval of the AMF; and
   ii. an insurer must not do anything that creates an expectation that the call will be exercised; and
   iii. an insurer must not exercise a call unless:
      a) it replaces the called instrument with capital of the same or ~~better~~ higher quality, including through an increase in retained earnings, and the replacement of this capital is done at conditions that are sustainable for the income capacity of the insurer;[54] or
      b) it demonstrates that its capital position is above the internal capital target ratio after the call option is exercised.
6. Any repayment of principal (e.g. through repurchase or redemption) must require approval of the AMF and insurers should not assume or create market expectations that such approval will be given.

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51 Further, where an insurer uses a special purpose vehicle to issue capital to investors and provides support, including overcollateralization, to the vehicle, such support would constitute enhancement in breach of criterion #3 above.

52 A step-up is defined as a call option combined with a pre-set increase in the initial credit spread of the instrument at a future date over the initial dividend (or distribution) rate after taking into account any swap spread between the original reference index and the new reference index. Conversion from a fixed rate to a floating rate (or vice versa) in combination with a call option without any increase in credit spread would not constitute a step-up.

53 Other incentives to redeem include a call option combined with a requirement or an investor option to convert the instrument into common shares if the call is not exercised.

54 Replacement issuances can be concurrent with, but not after, the instrument is called.

7. Dividend/coupon discretion:

   i. the insurer must have full discretion at all times to cancel distributions/payments;[55]

   ii. cancellation of discretionary payments must not be an event of default or credit event;

   iii. the insurer must have full access to cancelled payments to meet obligations as they fall due;

   iv. cancellation of distributions/payments must not impose restrictions on the insurer except in relation to distributions to common shareholders.

8. Dividends/coupons must be paid out of distributable items.

9. The instrument cannot have a credit sensitive dividend feature, i.e., a dividend/coupon that is reset periodically based in whole or in part on the insurance organization's credit standing.[56]

10. The instrument cannot contribute to liabilities exceeding assets if such a balance sheet test forms part of national insolvency law.

11. Other than preferred shares, category B instruments included in capital available must be classified as equity per relevant accounting standards.

12. Neither the insurer nor a related enterprise over which the insurer exercises control or significant influence can have purchased the instrument, nor can the insurer directly or indirectly have funded the purchase of the instrument.

13. The instruments cannot have any features that hinder recapitalization, such as provisions that require the issuer to compensate investors if a new instrument is issued at a lower price during a specified timeframe.

14. If the instrument is not issued directly by the insurer (e.g. it is issued out of a special purpose vehicle or SPV), proceeds must be available immediately without limitation to an insurer in a form that meets or exceeds all of the other criteria for inclusion in capital available as specified under category B. For greater certainty, the only assets the SPV may hold are intercompany instruments issued by the insurer or a related enterprise with terms and conditions that meet or exceed criteria specified under category B. Put differently, instruments issued to the SPV have to fully meet or exceed all of the eligibility criteria under category B as if the SPV itself was an end investor – i.e. the insurer cannot issue a lower quality capital or senior debt

[55] A consequence of full discretion at all times to cancel distributions/payments is that "dividend pushers" are prohibited. An instrument with a dividend pusher obliges the issuing insurer to make a dividend/coupon payment on the instrument if it has made a payment on another (typically more junior) capital instrument or share. Such an obligation is inconsistent with the requirement for full discretion to cancel distributions/payments at all times. Furthermore, the term "cancel distributions/payments" means to forever extinguish these payments. It does not permit features that require the insurer to make distributions/payments in kind at any time.

[56] Insurers may use a broad index as a reference rate in which the issuing insurer is a reference entity; however, the reference rate should not exhibit significant correlation with the insurer's credit standing. If an insurer plans to issue capital instruments where the margin is linked to a broad index in which the insurer is a reference entity, the insurer should ensure that the dividend/coupon is not credit-sensitive.

instrument to an SPV and have the SPV issue higher quality capital instruments to third-party investors so as to receive recognition as qualifying capital under category B.

Annex 3. Qualifying criteria for category C capital instruments

For an instrument to be included in capital available under category C, it must meet all of the following criteria:

1. The instrument is i~~I~~ssued and paid-in in cash or, with the prior approval of the AMF, in property.
2. The instrument is s~~S~~ubordinated to policyholders and general creditors of the insurer.
3. The instrument i~~I~~s neither secured nor covered by a guarantee of the issuer or related enterprise or other arrangement that legally or economically enhances the seniority of the claim vis-à-vis the insurer's policyholders and/or general creditors.
4. Maturity:
   i. minimum original maturity of at least five years;
   ii. recognition in capital available in the remaining five years before maturity will be amortized on a straight line basis;
   iii. there are no step-ups or other incentives to redeem.
5. The instrument m~~M~~ay be callable at the initiative of the issuer only after a minimum of five years:
   i. to exercise a call option, an insurer must receive the prior approval of the AMF; and
   ii. an insurer must not do anything that creates an expectation that the call will be exercised;[57] and
   iii. an insurer must not exercise a call unless:
      a) it replaces the called instrument with capital of the same or ~~better~~ higher quality, including through an increase in retained earnings, and the replacement of this capital is done at conditions that are sustainable for the income capacity of the insurer;[58] or
      b) it demonstrates that its capital position is above the internal capital target ratio after the call option is exercised.
6. The investor must have no rights to accelerate the repayment of future scheduled payments (interest or principal), except in bankruptcy, insolvency, wind-up, or liquidation.

[57] An option to call the instrument after five years but prior to the start of the ~~amortisation~~amortization period will not be viewed as an incentive to redeem as long as the insurer does not do anything that creates an expectation that the call will be exercised at this point.

[58] Replacement issuances can be concurrent with but not after the instrument is called.

7. The instrument cannot have a credit sensitive dividend feature, i.e. a dividend/coupon that is reset periodically based in whole or in part on the insurance organization's credit standing.[59]

8. Neither the insurer nor a related enterprise over which the insurer exercises control or significant influence can have purchased the instrument, nor can the insurer directly or indirectly have funded the purchase of the instrument.

9. If the instrument is not issued directly by the insurer (e.g. it is issued out of an SPV), proceeds must be available immediately without limitation to the insurer in a form that meets or exceeds all of the criteria for inclusion specified under category C. For greater certainty, the only assets the SPV may hold are intercompany instruments issued by the insurer or a related enterprise with terms and conditions that meet or exceed the above category C criteria. Put differently, instruments issued to the SPV have to fully meet or exceed all of the eligibility criteria under category C as if the SPV itself was an end investor – i.e. the insurer cannot issue a lower capital or a senior debt instrument to an SPV and have the SPV issue higher quality capital instruments to third-party investors so as to receive recognition as qualifying capital under category C.

[59] Insurers may use a broad index as a reference rate in which the issuing insurer is a reference entity; however, the reference rate should not exhibit significant correlation with the insurer's credit standing. If an insurer plans to issue capital instruments where the margin is linked to a broad index in which the insurer is a reference entity, the insurer should ensure that the dividend/coupon is not credit-sensitive.

Annex 4. Instructions – capital required – accident and sickness insurance

Mortality/morbidity risk for accident and sickness insurance is the risk that the liability assumptions about mortality and morbidity rates will be wrong.

To compute the mortality/morbidity component, a factor is applied to the measure of the exposure to the risk. The resulting values are added to arrive at the Unearned Premiums and Unpaid Claims margin requirements.

The factors used in deriving the risk component vary with the guaranteed term remaining in the exposure measure. The measure of the exposure to risk is as follows:

Risk	Measure of exposure (before reinsurance)	Applicable guaranteed term
Disability Income, New Claims Risk	Annual net earned premiums	The length of the premium guarantee remaining
Disability Income, Continuing Claims Risk	Disability income net reserves relating to claims of prior years	The length of the benefit period remaining
Accidental Death and Dismemberment	Net amount at risk = the total net face amount of insurance less the policy liabilities (even if negative)	The period over which the mortality cost cannot be changed (limited to the remaining period to expiry or maturity)

Disability Income Insurance

The additional risks associated with non-cancellable guaranteed premium business should be recognized. As well, significant volatility is characteristic of disability income insurance, as compared with medical and dental insurance.

New claims risk

The unearned premium component relates to claims arising from the current year's coverage, and includes the risks of incidence and claims continuance. The factor applied to the measure of exposure is as follows:

Percentage of annual earned premiums[60]		Length of the premium guarantee remaining
Individually underwritten	**Other**	
15%	15%	Less than or equal to 1 year
25%	31.25%	Greater than 1 year, but less than or equal to 5 years
37.5%	50%	Greater than 5 years

Continuing claims risk

The unpaid claims component covers the risk of claims continuance arising from coverage provided in prior years. The factor applies to disability income claim reserves related to claims incurred in prior years, including the portion of the provision for incurred but unreported claims. The factor applied to the measure of risk exposure is as follows:

Duration of disability			Length of benefit period remaining
Less than or equal to 2 years	**Greater than 2 years but less than or equal to 5 years**	**Greater than 5 years**	
5%	3.75%	2.5%	Less than or equal to 1 year
7.5%	5.625%	3.75%	Greater than 1 year but less than or equal to 2 years
10%	7.5%	5%	Greater than 2 years or lifetime

60 For travel insurance, annual earned premiums should be considered revenue premiums.

Accidental death and dismemberment

To compute the components for accidental death and dismemberment, the following factors are applied to the net amount at risk:

Type		Factor	Guaranteed term remaining
Participating	Group	0.019%	Less than or equal to 1 year
	All other	0.038%	All
Non-participating *Individual*	Adjustable	0.038%	All
	All other	0.019%	Less than or equal to 1 year
		0.038%	Greater than 1 year but less than or equal to 5 years
		0.075%	Greater than 5 years, whole life, and all life insurance continued on disabled lives without payment of premiums
Non-participating *Group*	All	0.019%	Less than or equal to 1 year
		0.038%	Greater than 1 year but less than or equal to 5 years
		0.075%	Greater than 5 years, whole life, and all life insurance continued on disabled lives without payment of premiums

For participating business without meaningful dividends, and participating adjustable policies where mortality adjustability is not reasonably flexible, the factors for all other non-participating business should be used.

If current premium rates are significantly less than the maximum guaranteed premium rates, the guarantee term used is that applicable to the current rates.

Additional adjustments are according to group insurance. They are as follows:

- The above factors may be multiplied by 50% for any group benefit that carries one of the following features: 1) a “guaranteed no risk”; 2) deficit repayment by policyholders, or 3) “hold harmless” agreement where the policyholder has a legally enforceable debt to the insurer.
- No component is required for “Administrative services only” group cases where the insurer has no liability for claims.

Only “all cause” policies solicited by mail should be included in this section for automobile and common carrier accidental death and dismemberment. Specific accident perils included in accidental death and dismemberment policies solicited by mail, and “free”

coverages on premium credit card groups, should be included in the “Other Accident and Sickness Benefits” section.

Other accident and sickness benefits

New claims risk

The component requirement is 15% of annual earned premiums.

Continuing claims risk

The component requirement is 12.5% of the provision for incurred but unpaid claims relating to prior years. The use of prior years avoids a double component requirement for incurred but unpaid claims arising from coverage purchases by premiums paid in the current year.

Special policyholder arrangements

For group insurance policies, deposits in excess of liabilities may be used to reduce the component requirement to a minimum of zero. Such deposits must be:

- made by policyholders;
- available for claims payment (e.g. claim fluctuation and premium stabilization reserves, and accrued provision for experience refunds); and
- returnable, net of applications, to policyholders on policy termination.