



Guideline

**Subject: Minimum Capital Test
For Federally Regulated Property and Casualty Insurance Companies**

No: A Effective Date: January 1, 2016

Subsection 515(1) of the *Insurance Companies Act (ICA)* requires Federally Regulated Property and Casualty Insurance Companies (property and casualty companies) to maintain adequate capital. Subsection 608(1) of the *ICA* requires foreign property and casualty companies operating in Canada on a branch basis (foreign property and casualty companies) to maintain an adequate margin of assets in Canada over liabilities in Canada. The Minimum Capital Test (MCT) Guideline is not made pursuant to subsections 515(2) and 608(3) of the *Act*. However, the minimum and supervisory target capital standards set out in this guideline provide the framework within which the Superintendent assesses whether a property and casualty company maintains adequate capital pursuant to subsection 515(1) and whether a foreign property and casualty company maintains an adequate margin pursuant to subsection 608(1). Notwithstanding that a property and casualty company may meet these standards, the Superintendent may direct the property and casualty company to increase its capital under subsection 515(3) or the foreign property and casualty company to increase the margin of assets in Canada over liabilities in Canada under subsection 608(4).

This guideline outlines the capital framework, using a risk-based formula, for target and minimum capital/margin required, and defines the capital/assets that are available to meet the minimum standard. The MCT determines the minimum capital/margin required and not the level of capital/margin required at which property and casualty companies must operate.

Foreign property and casualty companies are reminded that the MCT is only one element in the determination of the required assets that must be maintained in Canada by foreign property and casualty companies. Foreign property and casualty companies must vest assets in accordance with the Adequacy of Assets in Canada test as prescribed in the *Assets (Foreign Companies) Regulations*.

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Chapter 1. Overview and General Requirements

The Minimum Capital Test (MCT) Guideline applies to Canadian property and casualty insurance companies and foreign property and casualty companies operating in Canada on a branch basis, collectively referred to as P&C insurers. Chapter 3 of this guideline, *Foreign Companies Operating in Canada on a Branch Basis*, defines assets available for foreign property and casualty companies operating in Canada on a branch basis (foreign companies). The MCT Guideline uses generic expressions that are meant to apply to both Canadian P&C insurers and foreign companies; e.g., capital available also refers to assets available for Branch Adequacy of Assets Test (BAAT) purposes, capital required refers to margin required for BAAT purposes and capital adequacy refers to margin adequacy for BAAT purposes.

This chapter provides an overview of the MCT Guideline and sets out general requirements. More detailed information on specific components of the capital test is contained under subsequent chapters.

Further guidance concerning some of the requirements of the MCT Guideline may be found in other guidelines and advisories available on OSFI's website under the Property and Casualty Insurance Companies section.

- [Table of OSFI Guidelines](#)
- [Guidelines and Related Advisories – Capital](#)
- [Regulatory and Legislative Advisories](#)

1.1. Overview

1.1.1. Minimum and target capital requirements under the MCT

Under the MCT, regulatory capital requirements for various risks are set directly at a pre-determined target confidence level. OSFI has elected 99% of the expected shortfall (conditional tail expectation or CTE 99%) over a one-year time horizon as a target confidence level.¹

The risk factors defined in this guideline are used to compute capital requirements at the target level. The resulting MCT capital requirements are then divided by 1.5 to derive the minimum capital requirements. The MCT ratio is expressed as the capital available over the minimum capital required.

1.1.2. Risk-based capital adequacy

P&C insurers are required to meet the MCT capital requirements at all times. The definition of capital available to be used for this purpose is described in chapter 2 and includes qualifying criteria for capital instruments, capital composition limits, and regulatory adjustments and

¹ As an alternative, a value at risk (VaR) at 99.5% confidence level or expert judgement was used when it was not practical to use the CTE approach.

deductions. The definition encompasses capital available within all subsidiaries that are consolidated for the purpose of calculating the MCT ratio.

P&C insurers' minimum capital requirements are calculated on a consolidated basis and determined as the sum of the capital requirements at the target level for each risk component, less the diversification credit, divided by 1.5.

The minimum capital requirements are calculated as follows:

Sum of:

- i.) Capital required for insurance risk (reference chapter 4):
 - a. Capital required for unpaid claims and premium liabilities;
 - b. Catastrophe reserves;
 - c. Margin required for reinsurance ceded to unregistered reinsurers.
- ii.) Capital required for market risk (reference chapter 5):
 - a. Capital required for interest rate risk;
 - b. Capital required for foreign exchange risk;
 - c. Capital required for equity risk;
 - d. Capital required for real estate risk;
 - e. Capital required for other market risk exposures.
- iii.) Capital required for credit risk (reference chapter 6):
 - a. Capital required for counterparty default risk for balance sheet assets;
 - b. Capital required for counterparty default risk for off-balance sheet exposures;
 - c. Capital required for collateral held for unregistered reinsurance and self-insured retention (reference section 4.3.3).
- iv.) Capital required for operational risk (reference chapter 7).

Less:

- v.) Diversification credit (reference chapter 8).

Divided by 1.5.

1.1.3. Scope of consolidation

The capital adequacy requirements apply on a consolidated basis. The consolidated entity includes the P&C insurer and all of its directly or indirectly held subsidiaries, which carry on business that the parent could carry on directly in accordance with the *Insurance Companies Act* (ICA), including holding companies (e.g. P&C insurance and ancillary businesses such as agencies, brokerages and mutual funds). It therefore excludes:

- life insurance subsidiaries,

- other regulated financial institutions carrying on business that the parent would not be permitted to carry on directly under the *Insurance Companies Act* (ICA).

Whether a subsidiary should be consolidated is determined by the nature of the subsidiary's business (i.e. whether it carries on business related to P&C insurance), not the location where the subsidiary conducts its business (e.g. a U.S. P&C insurance subsidiary). All other interests in subsidiaries are considered "non-qualifying" for capital purposes and are excluded from capital available and capital required calculations.

1.1.4. Foreign companies

The margin requirement for foreign companies is set forth under the BAAT in chapter 3. The BAAT covers each of the risk components, and is determined using risk factors and other methods that are applied to assets under the control of the Superintendent, to specific assets under the control of the Chief Agent, and to liabilities in Canada.

The BAAT is only one element in the determination of the required assets that must be maintained in Canada by foreign companies. Foreign companies must vest assets in accordance with the Adequacy of Assets in Canada test, as prescribed in the *Assets (Foreign Companies) Regulations*.

1.1.5. Interpretation of results

The MCT is a standardized measure of capital adequacy of a P&C insurer. It is one of several indicators that OSFI uses to assess an insurer's financial condition and should not be used in isolation for ranking and rating insurers.

1.2. General Requirements

1.2.1. MCT supervisory capital ratio for federally regulated P&C insurers

The MCT ratio is expressed as a percentage and is calculated by dividing the P&C insurer's capital available by minimum capital required, which is derived from capital required calculated at the target level for specific risks.

Federally regulated P&C insurers are required, at a minimum, to maintain an MCT ratio of 100%. OSFI has established an industry-wide supervisory target capital ratio (supervisory target) of 150% that provides a cushion above the minimum requirement and facilitates OSFI's early intervention process. The supervisory target provides additional capacity to absorb unexpected losses and addresses capital needs through on-going market access.

OSFI expects each P&C insurer to establish an internal target capital ratio (internal target) per Guideline A-4 [*Regulatory Capital and Internal Capital Targets*](#), and maintain on-going capital, above this target. However, the Superintendent may, on a case-by-case basis, establish an alternative supervisory target (in consultation with a P&C insurer) based upon the P&C insurer's individual risk profile.

P&C insurers are required to inform OSFI immediately if they anticipate falling below their internal target and to lay out their plans, for OSFI's supervisory approval, to return to their internal target. OSFI will consider any unusual conditions in the market environment when evaluating P&C insurers' performance against their internal targets.

P&C insurers are expected to maintain their MCT ratios at or above their established internal targets on a continuous basis. Questions about an individual P&C insurer's target ratio should be addressed to the Relationship Manager at OSFI.

1.2.2. Audit requirement

P&C insurers are required to engage their auditor appointed pursuant to section 337 or 633 of the ICA to report annually on the MCT or BAAT prepared as at fiscal year-end, in accordance with the relevant standards for such assurance engagements, as promulgated by the Canadian Auditing and Assurance Standards Board (AASB).

The annual audit report of the MCT or BAAT must be prepared separately from the audit report for the financial statements, and is to be filed no later than 90 days after the P&C insurers' fiscal year-end. The annual audit opinion provided must be with respect to the current fiscal year-end, for page 30.61 of the P&C quarterly return.

1.2.3. Transitional arrangements

P&C insurers are required to phase-in the capital impact of the revised MCT framework. The phase-in should be done on a straight-line basis, over twelve quarters, starting with the first quarter ending in 2015.

The capital impacts to be phased-in must be computed separately for capital available and capital required. The net capital impact is equal to the difference between capital available (old framework versus new framework) and minimum capital required (old framework versus new framework). In order to do so, P&C insurers are required to calculate two sets of MCT requirements as at December 31, 2014 (or October 31, 2014): one under the old framework, and another one under the new framework. The MCT requirements under the old framework are the same as those prepared and filed with OSFI for regulatory compliance purposes. The MCT requirements under the new framework as at December 31, 2014 (or October 31, 2014) do not need to be filed with OSFI.

In order to ensure that all companies are treated equally, the phase-in is mandatory for all insurers whether they are affected positively or negatively.

For example, a P&C insurer with a December 31 year-end must file with OSFI its MCT as at December 31, 2014 under the old framework and must calculate an additional MCT under the new framework as at the same date. The difference in capital available and the difference in capital required are the capital impacts to be amortized evenly over the next twelve quarters. The amortization of capital available and capital required impact amounts must be reported each

quarter until December 31, 2017. Insurers with an October 31 year-end must calculate the capital impacts (old versus new) as at October 31, 2014. The amortization of capital available and capital required amounts must be reported each quarter until October 31, 2017.

The phase-in amounts for capital available and capital required are a one-time impact based on December 31, 2014 (or October 31, 2014) which will uniformly unwind to zero over the next twelve quarters and are to be calculated using the following formulae:

Phased-in Capital Available = Capital Available under the New MCT - $n/12 \times$ (Capital Available under the New MCT at December 31, 2014 – Capital Available under the old MCT at December 31, 2014)

Where n declines from 11 in the first quarter 2015 to 0 in the fourth quarter 2017

Phased-in Capital Required = Capital Required under the New MCT - $n/12 \times$ (Capital Required under the New MCT at December 31, 2014 – Capital Required under the old MCT at December 31, 2014)

Where n declines from 11 in the first quarter 2015 to 0 in the fourth quarter 2017

Equity Derivatives, Common Shares Held Short and Eligible Hedges

P&C insurers are required to phase-in the capital impact of the capital treatment for equity derivatives (futures, forwards, and swaps), common shares held short and eligible hedges that are already in place at the time of issuance of this guideline whether the capital impact is positive or negative. The capital impact should be phased-in over eight quarters starting with the first quarter ending in 2016.

The capital impact is equal to the market risk capital treatment for equity derivatives, common shares held short and eligible hedges as per section 5.3 and must be calculated and reported at the end of each quarter. Therefore, the capital impact to be phased-in will vary by quarter. The capital impact must be phased-in using 1/8 of the new capital charge (or credit) in the first quarter 2016 increasing to 8/8 or full recognition in the fourth quarter 2017 (the end of the phase-in period will be October 31, 2017 for insurers with an October 31 year-end).

Phase-in = Capital Required for Market Risk for equity derivatives, common shares held short and eligible hedges as at the quarter end $\times n/8$

Where n increases from 1 in the first quarter 2016 to 8 in the fourth quarter 2017

Chapter 2. Definition of 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 for regulatory purposes, focussing on the predominance of highest quality capital.

2.1. Summary of Capital Components

The four primary considerations for defining the capital available of a company for the purpose of measuring capital adequacy are:

- availability: the extent to which the capital element is fully paid in and available to absorb losses;
- 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; and
- subordination: the extent to which and the circumstances under which the capital element is subordinated to the rights of policyholders and creditors of the insurer in an insolvency or winding-up.

Regulatory capital available will consist of 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 (i.e. common equity)

- Common shares issued by the P&C insurer that meet the category A qualifying criteria as described below;
- Surplus (share premium) resulting from the issuance of instruments included in common equity capital and other contributed surplus²;
- Retained earnings;
- Earthquake, nuclear and general contingency reserves; and
- Accumulated other comprehensive income.

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

² Where repayment is subject to Superintendent's approval.

2.1.1.1. Qualifying criteria for inclusion of capital instruments in category A for regulatory capital purposes³

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

1. Represents 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 Superintendent).
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 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-in⁴ and the insurer cannot directly or indirectly have funded the purchase of the instrument. Where the consideration for the shares is other than cash, the issuance of the common shares is subject to the prior approval of the Superintendent.

³ 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.

11. The paid-in amount is neither secured nor covered by a guarantee of the issuer or related entity⁵ 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.

2.1.2. *Category B capital*

- Instruments issued by the institution that meet category B criteria 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.

2.1.2.1 *Qualifying criteria for inclusion of capital instruments in category B for regulatory capital purposes*

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

1. Issued and paid-in in cash or, subject to the prior approval of the Superintendent, in property.
2. Subordinated to policyholders, general creditors and subordinated debt holders of the insurer.
3. Is neither secured nor covered by a guarantee of the issuer or related entity or other arrangement that legally or economically enhances the seniority of the claim vis-à-vis policyholders and creditors.⁶
4. Is perpetual, i.e. there is no maturity date and there are no step-ups⁷ or other incentives to redeem⁸

⁴ Paid-in capital generally refers to capital that has been received with finality by the institution, is reliably valued, fully under the institution's control and does not directly or indirectly expose the institution to the credit risk of the investor.

⁵ A related entity can include a parent company, a sister company, a subsidiary or any other affiliate. A holding company is a related entity irrespective of whether it forms part of the consolidated insurance group.

⁶ Further, where an institution 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.

⁷ 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.

⁸ 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.

5. May be callable at the initiative of the issuer only after a minimum of five years:
 - a. To exercise a call option, an insurer must receive prior approval of the Superintendent; and
 - b. An insurer's actions and the terms of the instrument must not create an expectation that the call will be exercised; and
 - c. An insurer must not exercise a call unless:
 - i. It replaces the called instrument with capital of the same or better 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 insurer⁹; or
 - ii. The insurer demonstrates that its capital position is well above the supervisory target capital requirements after the call option is exercised.
6. Any repayment of principal (e.g. through repurchase or redemption) must require approval of the Superintendent and insurers should not assume or create market expectations that such approval will be given.
7. Dividend/coupon discretion:
 - a. the insurer must have full discretion at all times to cancel distributions/payments;¹⁰
 - b. cancellation of discretionary payments must not be an event of default or credit event;
 - c. insurers must have full access to cancelled payments to meet obligations as they fall due;
 - d. 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.¹¹
10. The instrument cannot contribute to liabilities exceeding assets if such a balance sheet test forms part of national insolvency law.

⁹ Replacement issuances can be concurrent with, but not after, the instrument is called.

¹⁰ 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. This obligation is inconsistent with the requirement for full discretion 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.

¹¹ Institutions may use a broad index as a reference rate in which the issuing institution is a reference entity; however, the reference rate should not exhibit significant correlation with the institution's credit standing. If an institution plans to issue capital instruments where the margin is linked to a broad index in which the institution is a reference entity, the institution should ensure that the dividend/coupon is not credit-sensitive.

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 party 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 entity 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 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.

Purchase for cancellation of Category B capital instruments is permitted at any time with the prior approval of the Superintendent. For further clarity, a purchase for cancellation does not constitute a call option as described in the above Category B qualifying criteria.

Tax and regulatory event calls are permitted during an instrument's life subject to the prior approval of the Superintendent 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 institution pursuant to criterion number 13 above. 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 institution 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 regulatory capital, such amendment or variance will only be permitted with the prior approval of the Superintendent.¹²

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 Superintendent, 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 Superintendent.

2.1.3. *Category C capital*

- Instruments issued by the institution that meet category C criteria, 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.

2.1.3.1. *Qualifying criteria for inclusion of capital instruments in Category C for regulatory capital purposes*

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

1. Issued and paid-in in cash or, with the prior approval of the Superintendent, in property.
2. Subordinated to policyholders and general creditors of the insurer.
3. Is neither secured nor covered by a guarantee of the issuer or related entity 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:
 - a. minimum original maturity of at least five years;
 - b. recognition in regulatory capital in the remaining five years before maturity will be amortized on a straight line basis;
 - c. there are no step-ups¹³ or other incentives to redeem.

¹² Any modification of, addition to, or renewal or extension of an instrument issued to a related party is subject to the legislative requirement that transactions with a related party be at terms and conditions that are at least as favourable to the institution as market terms and conditions.

¹³ 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.

5. May be callable at the initiative of the issuer only after a minimum of five years:
 - a. To exercise a call option, an insurer must receive the prior approval of the Superintendent; and
 - b. An insurer must not do anything that creates an expectation that the call will be exercised;¹⁴ and
 - c. An insurer must not exercise a call unless:
 - i. It replaces the called instrument with capital of the same or better 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;¹⁵ or
 - ii. The insurer demonstrates that its capital position is well above the supervisory target capital requirements 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.
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 insurer's credit standing¹⁶.
8. Neither the insurer nor a related party 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 institution or a related entity 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 institution 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.

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.

¹⁴ An option to call the instrument after five years but prior to the start of the amortisation 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.

¹⁵ Replacement issuances can be concurrent with but not after the instrument is called.

¹⁶ 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.

Purchase for cancellation of category C instruments is permitted at any time with the prior approval of the Superintendent. For further clarity, a purchase for cancellation does not constitute a call option as described in the above Category C criteria.

Tax and regulatory event calls are permitted during an instrument's life subject to the prior approval of the Superintendent 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 regulatory capital, such amendment or variance will only be permitted with the prior approval of the Superintendent¹⁷.

Institutions 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 Superintendent, 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 Superintendent.

2.1.3.2. 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:

<i>Years to Maturity</i>	<i>Included in Capital</i>
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 Superintendent 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 subordinated debt was redeemable at the insurer's option at any time without

¹⁷ Any modification of, addition to, or renewal or extension of an instrument issued to a related party is subject to the legislative requirement that transactions with a related party be at terms and conditions that are at least as favourable to the institution as market terms and conditions.

the prior approval of the Superintendent, the instrument would be subject to amortization from the date of issuance. For greater certainty, this would not apply when redemption requires the Superintendent's approval as is required for all instruments issued pursuant to the above criteria in section 2.1.3.1.

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. Non-controlling interests

P&C insurers are permitted to include, in capital available, non-controlling interests in operating consolidated subsidiaries, provided:

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

If a subsidiary issues capital instruments for the funding of the P&C 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 P&C 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 parent. Since subsidiaries cannot buy shares of the parent P&C insurance company, 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 regulatory capital 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 OSFI's supervisory approval, a company may be permitted to continue to include such excess amounts in capital available temporarily, upon providing OSFI 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:
 - 1) purchases or redemptions of capital instruments;
 - 2) discretionary dividend payments;
 - 3) new issuances of non-common capital instruments within the same fiscal quarter; or
 - 4) foreseeable events;
 would generally not qualify for inclusion in capital available.

2.3. Regulatory Adjustments to Capital Available

2.3.1. Deductions:

1. Interests in and loans to non-qualifying subsidiaries, associates, and joint ventures in which the company holds more than a 10% ownership interest:
 - Interests in non-qualifying subsidiaries, associates, and joint ventures in which the company holds more than a 10% ownership interest must be deducted from capital available (reference section [2.4](#));
 - Loans to non-qualifying subsidiaries, associates, and joint ventures in which the company holds more than a 10% ownership interest that are considered as capital must be deducted from capital available (reference section [2.4](#)).
2. Unsecured unregistered reinsurance exposures and self-insured retentions:
 - Amounts receivable and recoverable from unregistered reinsurers to the extent that they are not covered by deposits or letters of credit held as security from assuming reinsurers (reference section [4.3](#)) must be deducted from capital available;
 - Self-insured retentions, included in other recoverables on unpaid claims, where OSFI requires acceptable collateral to ensure collectability of recoverables, and no collateral has been received (reference section [4.4](#)) must be deducted from capital available.

3. The earthquake premium reserve (EPR) not used as part of financial resources to cover earthquake risk exposure (reference section [4.5](#)).
4. Deferred policy acquisition expenses (DPAE) associated with accident and sickness (A&S) business, other than those arising from commissions and premium taxes.

The methodology for calculating insurance risk margin for A&S business will be revised at a future date. The current methodology where risk factors are applied to unearned premiums necessitates a full deduction from capital of DPAE – other, and a capital requirement for DPAE – commissions (reference section [4.6](#)).

5. 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 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).

6. Accumulated impact of shadow accounting:

If an insurer has elected to use the shadow accounting option within IFRS, the accumulated net after-tax impact must be reversed from capital available.

7. Goodwill and other intangible assets:

- Goodwill related to consolidated subsidiaries and subsidiaries deconsolidated for regulatory capital purposes and the proportional share of goodwill in joint ventures subject to the equity method accounting must be deducted from capital available. The amount reported on the balance sheet is to be deducted net of any associated deferred tax liability that would be extinguished if the goodwill becomes impaired or derecognized under relevant accounting standards.
- All other intangible assets¹⁸ 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 deferred tax liability that would be extinguished if the intangible assets become impaired or derecognized under relevant accounting standards.

8. Deferred tax assets:

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

¹⁸ This includes computer software intangibles.

the amount that could be recoverable from income taxes paid in the three immediate preceding years is deducted from capital available. Deferred tax assets may be netted with associated deferred tax liabilities (DTLs) only if the DTAs and DTLs relate to taxes levied by the same taxation authority and offsetting is permitted by the relevant taxation authority¹⁹. 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 [6.1](#)).

9. Cumulative gains and losses due to changes in own credit risk on fair valued financial liabilities:

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

10. 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 institution'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 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. P&C insurers may only reduce this deduction by an amount of available refunds of defined benefit pension plan surplus assets if they obtain a prior written supervisory approval from OSFI²⁰.

11. Investments in own instruments (treasury stock):

All of institution'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 institution could be contractually obliged to purchase should be deducted from capital available.

12. Reciprocal cross holdings in the common shares of insurance, banking and financial entities:

Reciprocal cross holdings in common shares (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

¹⁹ This does not permit offsetting of DTAs across provinces.

²⁰ To obtain OSFI supervisory approval, a P&C insurer must demonstrate, to OSFI's satisfaction, that it has clear entitlement to the surplus and that it has unrestricted and unfettered access to the surplus pension assets. Evidence required by OSFI may include, among other things, an acceptable independent legal opinion and the prior authorization from the pension plan members and the pension regulator.

placements, that are designed to artificially inflate the capital position of institutions must be fully deducted from capital available.

13. All securitization exposures for which deduction is required under Guideline B-5 [Asset Securitization](#).

Items that are deducted from capital available will be subject to a 0% risk factor for capital required purposes.

2.3.2. *Adjustments:*

Adjustments to owner-occupied property valuations²¹:

- For owner-occupied property accounted for using the cost model and where the deemed value of the property was determined at conversion to the International Financial Reporting Standards (IFRS) by using fair value, unrealized after tax fair value gains (losses) must be reversed from the institution'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); and
- 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 comprehensive income included in capital available.

2.4. Capital Treatment of 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 ventures²². These interests remain unconsolidated for MCT purposes.

2.4.1. *Consolidated subsidiaries (e.g. P&C insurance and ancillary businesses such as agencies, brokerages and mutual funds)*

The financial statements of the subsidiaries are fully consolidated and the net value is included in the parent's capital available. The assets and liabilities of these subsidiaries are therefore subject to risk factors and liability margins in the parent's MCT.

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

²² Limited partnerships using the equity method of accounting are subject to the same capital treatment as joint ventures.

2.4.2. *Non-qualifying subsidiaries*

Interests in non-qualifying subsidiaries are excluded from capital available. Loans to, or other debt instruments issued to non-qualifying subsidiaries, if they are considered as capital in the non-qualifying subsidiaries, are also excluded from capital available of the P&C insurer. Loans, or other debt instruments, issued to non-qualifying subsidiaries that are **not** considered capital, are subject to a risk factor of 45%. Receivables from non-qualifying subsidiaries will attract a risk factor of 5% or 10% depending on how long the balances are outstanding (reference section [6.1](#)).

2.4.3. *Associates*

An enterprise is an associate of another enterprise if:

- both are subsidiaries of the same enterprise; or
- each of them represents an investment by the same person or enterprise, in which the investor holds 20% or more of the voting power in each investment; or
- one enterprise exerts significant influence over the other. The notion of significant influence is defined in accordance with IFRS; or
- if an insurance broker is economically dependent on the P&C insurer, then the broker must be treated as an associate of the P&C insurer for capital purposes.

Interests in associates are excluded from capital available. Loans, or other debt instruments, issued to associates, if they are considered as capital in the associates, are also excluded from capital available of the P&C insurer. Loans, or other debt instruments, issued to associates that are **not** considered capital are subject to a risk factor of 45%. Receivables from associates will attract a risk factor of 5% or 10% depending on how long the balances are outstanding (reference section [6.1](#)).

2.4.4. *Joint ventures in which a company holds less than or equal to 10% ownership interest*

Where a P&C insurer holds less than or equal to 10% ownership 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 [5.3](#)).

2.4.5. *Joint ventures in which a company holds more than a 10% ownership interest*

Interests in joint ventures with more than 10% ownership are excluded from capital available. Loans to, or other debt instruments issued to joint ventures with more than a 10% ownership interest, if they are considered as capital in joint ventures with more than a 10% ownership interest, are also excluded from capital available of the P&C insurer. Loans, or other debt instruments, issued to joint ventures with more than a 10% ownership interest that are **not** considered capital are subject to a risk factor of 45%. Receivables from joint ventures with more than a 10% ownership interest will attract a risk factor of 5% or 10% depending on how long the balances are outstanding (reference section [6.1](#)).

2.4.6. Ownership interests in an intra-group investment arrangement

Where companies participate in an intra-group investment arrangement, and the arrangement has been approved by OSFI pursuant to the requirements of the ICA, companies are not required to deduct from capital available their ownership interest. A “look-through” approach should be used for intra-group investments, similar to that for mutual funds (reference section [6.1](#)).

2.4.7. Summary of exposures

Types of exposures a P&C insurer might have with non-qualifying subsidiaries, associates, and joint ventures:

Exposure	Capital treatment
Common or preferred shares (non-qualifying subsidiaries and associates) including share of accumulated earnings/losses less dividends received based on equity accounting	Excluded from capital available
Ownership interests > 10% joint venture)	Excluded from capital available
Ownership interests $\leq$ 10% joint venture	Included in capital available with a risk factor of 30% applied to the ownership interest
Loans or other debt instruments (bonds, debentures, mortgages, etc.) considered as capital	Excluded from capital available
Loans or other debt instruments (bonds, debentures, mortgages, etc.) not considered as capital	Included in capital available with a risk factor of 45%
Receivables	Included in capital available with a risk factor of 5% or 10% depending on how long the balances are outstanding

Appendix 2-A: Information Requirements for Capital Confirmations

Given the potential impact of the disqualification of a capital instrument, P&C insurers are encouraged to seek confirmations of capital quality from OSFI prior to issuing instruments²³. In conjunction with such requests, the insurer is expected to provide the following information to the Capital Division:

1. An indicative term sheet specifying indicative dates, rates and amounts and summarizing key provisions in respect of all proposed instruments.
2. The draft and final terms and conditions of the proposed instrument supported by relevant documents (i.e. Prospectus, Offering Memorandum, Debt Agreement, Share Terms, etc.).
3. A copy of the institution's current by-laws or other constating documents relevant to the capital to be issued as well as any material agreements, including shareholders' agreements, which may affect the capital quality of the instrument.
4. Where applicable, for all debt instruments only:
 - a) the draft and final Trust Indenture and supplemental indentures; and
 - b) the terms of any guarantee relating to the instrument.
5. Where the terms of the instrument include a redemption option or similar feature upon a tax event, an external tax opinion confirming the availability of such deduction in respect of interest or distributions payable on the instrument for income tax purposes²⁴.
6. An accounting opinion describing the proposed treatment and disclosure of the capital instrument (other than common shares) on the institution's financial statements²⁵.
7. Where the initial interest or coupon rate payable on the instrument resets periodically or the basis of the interest rate changes from fixed to floating (or vice versa) at a pre-determined future date, calculations demonstrating that no incentive to redeem, or step-up, will arise upon the change in the initial rate. Where applicable, a step-up calculation should be provided according to the swap-spread methodology, which confirms there is no step-up upon the change in interest rate, and supported by screenshots of the applicable reference index rate(s).
8. Capital projections demonstrating that the insurer will be in compliance with its supervisory target capital ratios as well as the capital composition requirements specified in section [2.2](#) at the end of the quarter in which the instrument is expected to be issued.
9. An assessment of the features of the proposed capital instrument against the qualifying criteria for category B capital instruments or category C capital instruments, as applicable, as specified in the MCT Guideline. For greater certainty, this assessment would only be required for an initial issuance or precedent and is not required for subsequent issuances provided the terms of the instrument are not materially altered.

²³ If an insurer fails to obtain a capital confirmation (or obtains a capital confirmation without disclosing all relevant material facts to OSFI), OSFI may, at its discretion and at any time determine that such capital does not comply with these principles and is to be excluded from the insurer's capital available.

²⁴ OSFI reserves the right to require a Canada Revenue Agency advance tax ruling to confirm such tax opinion if the tax consequences are subject to material uncertainty.

²⁵ OSFI reserves the right to require such accounting opinion to be an external opinion of a firm acceptable to OSFI if the accounting consequences are subject to material uncertainty.

10. A written attestation from a senior officer of the institution confirming that the insurer has not provided financing to any person for the express purpose of investing in the proposed capital instrument.

Chapter 3. Foreign Companies Operating in Canada on a Branch Basis

Under subsection 608(1) of the ICA, a foreign company is required to maintain in Canada an adequate margin of assets over liabilities in respect of its insurance business in Canada. The Branch Adequacy of Assets Test (BAAT) provides the framework within which the Superintendent assesses whether foreign companies maintain an adequate margin pursuant to subsection 608(1).

All provisions in this guideline apply to branches unless stated otherwise in this chapter.

Notwithstanding the stated requirements, in any case where the Superintendent believes that the capital treatment is inappropriate, a specific additional capital requirement will be determined.

3.1. Branch Adequacy of Assets Test

The BAAT ratio measures the adequacy of net assets available to meet the margin requirements as determined in accordance with this guideline. The BAAT ratio is defined as the net assets available divided by the minimum margin required, expressed as a percentage. The determination of the net assets available and the minimum margin required is described below.

3.1.2. *Net assets available*

For BAAT purposes, net assets available are calculated as follows, subject to regulatory adjustments:

Total vested assets

Less:

Total net liabilities, which are equal to total liabilities, net of:

- Recoverables from registered reinsurers;
- Recoverables from unregistered reinsurers;
- Other (allowable) recoverables on unpaid claims, including salvage and subrogation;
- Self-insured retention recoverables to the extent permitted by OSFI (reference section [4.4](#));
- Unearned commissions; and
- Deferred policy acquisition expenses (DPAE) associated with accident and sickness (A&S) business (reference section [4.6](#)), equal to:
 - 55% of the net of deferred commissions and unearned commissions (if the net value is zero or negative, there is no adjustment for this item); and
 - 100% of deferred premium taxes.

3.1.3. Regulatory adjustments to net assets available:

Additions:

1. Deferred policy acquisition expenses, including DPAA associated with commissions, premium taxes and others, net of unearned commissions. This excludes DPAA relating to A&S business (reference section 4.6).
2. Receivables from agents and policyholders, including brokers.
3. Accumulated net after tax revaluation losses in excess of gains on owner-occupied properties that are reflected in the head office account for accounting purposes.
4. Amounts due from federally regulated insurers and approved reinsurers in respect of insurance business in Canada that can be legally netted against the actuarial liabilities of the Canadian branch of the foreign company and that meet the following conditions:
 - The amount due does not exceed the liability owed to the insurer (i.e. any excess of receivables over liabilities is excluded).
 - The foreign company has executed a written, bilateral netting agreement with the insurer in which the monies owed are payable only to the extent of the net sum, if any, that is outstanding after all of the liabilities of the Canadian branch of the foreign company have been paid directly by the insurer due to default, bankruptcy or, liquidation of the foreign company or other similar circumstances where the foreign company fails to satisfy its liabilities to the insurer.
 - The netting arrangement specifies that only the liabilities to the insurer arising out of the insurance business in Canada of the foreign company may be taken into consideration in determining the net amount owed.
 - The foreign company must have written legal opinions confirming the view that, in the event of any legal challenge, the relevant courts or administrative authorities will likely find the amount owed under the netting agreement to be the net amount under the laws of all relevant jurisdictions. In reaching this conclusion, legal opinions must address the validity and enforceability of the entire netting agreement under its terms.
 - The laws of “all relevant jurisdictions” are: a) the laws of the jurisdiction where the foreign company is incorporated; b) the law governing the individual insurance transaction; and c) the law governing any contracts or agreements required to effect the netting arrangement.
 - The foreign company must have procedures in place to update legal opinions as necessary to ensure continuing enforceability of the netting arrangement in light of possible changes in relevant law.
 - The netting contract/agreements terms and conditions and the quality and content of the legal opinions must meet the above conditions to the satisfaction of the Superintendent and be made available to OSFI for review, upon request.

Deductions:

5. Amounts recoverable from unregistered reinsurers to the extent that they are not covered by deposits and letters of credit held as security from assuming reinsurers (reference section 4.3).
6. Unrealized fair value gains (losses) on owner-occupied properties reflected in the head office account at conversion to IFRS.
7. Accumulated net after tax revaluation gains on owner-occupied properties that are reflected in the accumulated other comprehensive income for accounting purposes.
8. Net after-tax impacts of shadow accounting. Where a P&C insurer has elected to use the shadow accounting option within IFRS, net after-tax impact of shadow accounting should be deducted from net assets available.

3.1.4. Margin required

Margin required is calculated with respect to the branch's liabilities, vested assets and other assets available. The BAAT minimum margin required is the sum of the following risk margins, less the diversification credit, divided by 1.5:

Sum of:

- i) Margin required for insurance risk (reference chapter 4):
 - a. Margin required for unpaid claims and premium liabilities;
 - b. Catastrophe reserves;
 - c. Margin required for reinsurance ceded to unregistered reinsurers.
- ii) Margin required for market risk (reference chapter 5):
 - a. Margin required for interest rate risk;
 - b. Margin required for foreign exchange risk;
 - c. Margin required for equity risk;
 - d. Margin required for real estate risk;
 - e. Margin required for other market risk exposures.
- iii) Margin required for credit risk (reference chapter 6):
 - a. Margin required for counterparty default risk for balance sheet assets;
 - b. Margin required for counterparty default risk for off-balance sheet exposures;
 - c. Margin required for collateral held for unregistered reinsurance and self-insured retention (reference section 4.3.3).
- iv) Margin required for operational risk (reference chapter 7).

Less:

- v) Diversification credit (reference chapter 8).

Divided by 1.5.

Chapter 4. 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:

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

The insurance risk component reflects the P&C insurer's consolidated risk profile by 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:

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

4.1. 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.

4.2. Margins for Unpaid Claims and Premium Liabilities

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

4.2.1. *Margin for unpaid claims*

The margin for unpaid claims is calculated by line of business, by multiplying the net amount at risk (i.e. net of reinsurance, salvage and subrogation, and self-insured retentions) less the provision for adverse deviation (PfAD), by the applicable risk factors.

4.2.2. *Margin for premium liabilities*

The margin for premium liabilities is calculated by line of business, by multiplying the greater of:

- net premium liabilities (i.e. net of reinsurance) less the PfAD; and
- 30% of the net written premiums for the past 12 months

by the applicable risk factors.

The insurance risk factors are as follows:

Class of Insurance	Risk Factor for Unpaid Claims	Risk Factor for Premium Liabilities
Personal property	15%	20%
Commercial Property	10%	20%
Aircraft	20%	25%
Auto – Liability	10%	15%
Auto – Personal Accident	10%	15%
Auto – Other	15%	20%
Boiler & 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%
Warranty	Use same risk factors as the underlying line of business	
Accident & Sickness	Refer to section 4.6	

4.2.3. Risk factors for warranty business

The risk factors to be used for home and product warranty should be the same as those applied for personal property. The risk factors to be used for equipment warranty should be the same as the risk factors applied for boiler and machinery.

4.3. Risk Mitigation and Risk Transfer - Reinsurance

4.3.1. General

The terms "registered" and "unregistered," as defined below, are relevant in determining whether credit can be taken for reinsurance placed by P&C insurers. In order for a P&C insurer to obtain credit for reinsurance on account of any reinsurance arrangement with a registered or unregistered reinsurer, the reinsurance arrangement must comply with the requirements of Guideline B-3 [Sound Reinsurance Practices and Procedures](#).

4.3.2. Registered reinsurers

4.3.2.1. Definition of registered reinsurer

A reinsurer is generally considered to be a registered reinsurer if it is:

- (a) a reinsurer that is either:
 - i. incorporated federally and has reinsured the risks of the ceding company, or
 - ii. a foreign company that has reinsured in Canada the risks of the ceding company, and is authorized by order of the Superintendent to do so;
- (b) a provincially/territorially regulated insurer that has been approved by the Superintendent;
- (c) the Insurance Corporation of British Columbia;
- (d) the Manitoba Public Insurance Corporation;
- (e) Saskatchewan Government Insurance; and
- (f) Export Development Canada.

Subsection 578(5) of the ICA requires a foreign company, in respect of risks it reinsures in Canada, to set out in all premium notices, applications for policies and policies (which may include cover notes, offer letters or quotations) a statement that the document was issued or made in the course of its insurance business in Canada. In cases where the cover note, offer letter or quotation can be considered neither an application for a policy nor a policy, a P&C insurer will be permitted to treat a reinsurance arrangement as registered reinsurance only if the foreign reinsurer includes, in the cover note, offer letter or quotation, a statement that the foreign reinsurer intends to issue the policy under negotiation in the course of its insurance business in Canada, and that it will take measures to ensure that the cedant's risks will be reinsured in Canada in accordance with OSFI's advisory No. 2007-01-R1 entitled [*Insurance in Canada of Risks*](#).

With respect to a Canadian company's reinsurance of out-of-Canada business only, reinsurers regulated in an OECD country may be recognized as "registered" on the basis of financial soundness, provided that the reinsurance agreements are recognized by the regulatory agencies of the countries in question. OSFI retains the authority to disqualify such reinsurance if not satisfied with the financial condition of the reinsuring company.

All out-of-Canada business ceded to reinsurers not satisfying the recognized "registered" definition in the previous paragraph must follow the requirements of section 4.3.3 and must be reported in the exhibit *Reinsurance Ceded to Unregistered Insurers* (the unregistered reinsurance exhibit) of the P&C Returns.

4.3.2.2. Risk factors

The risk of uncollectability of recoverables from reinsurers arises from the risk that the reinsurer will fail to pay the P&C insurer what it is owed. There is additional risk associated with mis-assessing the amount of the required provision. The risk factor applied to unpaid claims and

unearned premiums recoverable from registered non-associated reinsurers is treated as a combined weight under the MCT and is set at 2.5% (reference section 6.1).

The registered reinsurer risk factors are as follows:

Balance Sheet Asset	From Non-Associated Registered Reinsurer Risk Factor	From Associated Registered Reinsurer Risk Factor
Insurance receivables	0.7%	0%
Unearned premiums recoverable	2.5%	0%
Unpaid claims recoverable	2.5%	0%

4.3.3. Unregistered reinsurers

4.3.3.1. Definition of unregistered reinsurer

A reinsurer is generally considered to be unregistered if it is not a registered reinsurer as defined in section 4.3.2.1.

A ceding P&C insurer is given credit for unregistered reinsurance where the ceding P&C insurer obtains and maintains a valid and enforceable security interest that has priority over any other security interest in assets of an unregistered reinsurer that are held in Canada in accordance with OSFI's [Guidance for Reinsurance Security Agreements \(RSA\)](#). A ceding P&C insurer is also given credit for the amount of acceptable letters of credit held to secure the payment to the ceding P&C insurer by the reinsurer of the reinsurer's share of any loss or liability for which the reinsurer is liable under the reinsurance agreement. P&C insurers should refer to [General Guidelines for Use of Letters of Credit](#) available on OSFI's website.

4.3.3.2. Deduction from capital available

Amounts receivable and recoverable from unregistered reinsurers, 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 (including funds withheld), non-owned deposits under a RSA and letters of credit held as security from assuming reinsurers. Amounts payable to assuming reinsurers may be deducted from amounts receivable and recoverable only where there is a legal and contractual right of offset. Canadian P&C insurers are not to include any amounts payable to assuming P&C insurers that are associates and non-qualifying subsidiaries.

The deduction from capital available for receivables and recoverables from unregistered reinsurers is calculated in the unregistered reinsurance exhibit of the P&C Returns. In respect of each unregistered reinsurer to which a P&C insurer has ceded business, a deduction from capital available is required if the following calculation is positive:

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

where,

(A) is the amount of unearned premiums ceded to the assuming insurer;

- (B) is the amount of outstanding losses recoverable from the assuming insurer;
- (C) is the amount of receivables from the assuming insurer;
- (D) is the amount of payables to the assuming insurer (for Canadian P&C insurers, only payables to non-associated and qualifying unregistered reinsurers may be included);
- (E) is the amount of non-owned deposits held as security from assuming insurer under an acceptable RSA;
- (F) is the amount of acceptable letters of credit held as security from assuming insurer.

4.3.3.3. *Margin required*

The margin required for unregistered reinsurance is calculated in the unregistered reinsurance exhibit of the P&C Returns and reported as margin required for “Reinsurance ceded to unregistered insurers” in the MCT.

The margin is 15% of “Unearned premiums ceded to assuming insurer” and “Outstanding losses recoverable from assuming insurer.” The margin requirement for each unregistered reinsurer may be reduced to a minimum of 0 by payables to the reinsurer, letters of credit and non-owned deposits held as security that are in excess of the amount of ceded policy liabilities and receivables from the assuming insurer.

4.3.3.4. *Collateral*

The collateral used to obtain credit for a specific unregistered reinsurer must materially reduce the risk arising from the credit quality of the reinsurer. In particular, collateral 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 P&C insurer is reporting obligations due from a related party of the reinsurer as assets in its annual return, the ceding P&C insurer is precluded from taking credit for funds held to secure payment from the unregistered reinsurer;
- Reinsurers’ assets located in Canada in which a ceding company 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; and
- 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 company 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 cedant to maintain collateral for a part of 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.

Non-owned deposits from reinsurers

P&C insurers that have received non-owned deposits provided by an unregistered reinsurer must comply with OSFI's [Guidance for Reinsurance Security Agreements](#).

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

Non-owned deposits held 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.

Letters of credit

In order to be recognized for capital purposes, letters of credit must be approved by OSFI. P&C insurers should refer to [Guidelines for Use of Letters of Credit](#), available on OSFI's website, for OSFI's requirements relating to the use of LOCs and their approvals.

The limit on the use of letters of credit to obtain capital credit for unregistered reinsurance is 30% of “Unearned premiums ceded to assuming insurer” and “Outstanding losses recoverable from assuming insurer.” This limit is applied in the aggregate and not against individual reinsurance exposures.

Capital requirements

Letters of credit for 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. Non-owned deposits held as collateral are subject to the same risk factors as those applied to similar assets owned by the P&C insurer (reference section [6.1](#)).

Capital requirements for collateral associated with unregistered reinsurance are calculated on an aggregate basis for the total amount of letters of credit and non-owned deposits from each reinsurer using applicable risk factors. Non-owned deposits and letters of credit that are greater than the unregistered reinsurance requirements are considered excess collateral and are not subject to capital requirements.

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 (reference P&C unregistered reinsurance exhibit of the P&C Returns)

Reinsurance Ceded to an Unregistered Insurer	Amount (\$)
Unearned premiums ceded to assuming insurer	100
Outstanding losses recoverable from assuming insurer	500
15% margin on unearned premiums and outstanding losses recoverable	90
Receivable from assuming insurer	40
Payable to assuming insurer ²⁶	(20)
Unregistered reinsurance exposure	710
Collateral required to reduce the margin required to 0 (500 + 100) x 115% + 40 - 20	710
Non-owned deposits	1,000
Letters of credit	100
Total collateral	1,100
Excess collateral (no capital required on this amount) 1,100-710	390

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

The total amount of capital required for collateral should be pro-rated to discount for excess collateral. Following step 1, the ratio of 0.35 (390/1,100) should be applied to the total amount of capital required for collateral in order to calculate the capital required for collateral excluding the excess. 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)
LOCs (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		
Total	\$1,100		\$6.50	0.35	\$2.28

The capital requirements for letters of credit and collateral other than letters of credit, less the excess, are reported as part of capital required for credit risk (reference chapter [6](#)).

²⁶ For Canadian insurers, only payables to non-associated and qualified unregistered reinsurers are included.

4.3.3.5. Funds held to secure payment from unregistered reinsurer

Cash and securities received to secure payment from unregistered reinsurers that have been co-mingled with the P&C 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. Details of these deposits must also be reported in the unregistered reinsurance exhibit of the P&C Returns.

4.4. Self-Insured Retention

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, OSFI 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 policyholder.

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).

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 collateralization). General guidelines concerning letters of credit as referred to in section 4.3 also apply to SIRs. Risk factors for collateral other than letters of credit are the same as those applied to similar assets owned by the P&C insurer (reference section 6.1).

4.5. Catastrophes

4.5.1. Earthquake risk exposure

Insurers must refer to OSFI's Guideline B-9 [Earthquake Exposure Sound Practices](#) for details on OSFI's expectations relating to P&C insurers' earthquake exposure risk management and the related definitions. The MCT 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.

Earthquake Reserves Formula:

$\text{Earthquake Reserves} = (\text{EPR} + \text{ERC}) \times 1.25$
--

The amount of earthquake reserves includes Earthquake Premium Reserve (EPR) and Earthquake Reserve Component (ERC) and is added to total capital requirements for the purposes of the MCT/BAAT as capital/margin required at the target level.

$$\text{ERC (Section 4.5.1.3)} = \{\text{Earthquake Risk Exposure (Section 4.5.1.1)}\} - \{\text{Financial Resources (Section 4.5.1.2)}\} \geq 0$$

The ERC must always be greater than or equal to 0.

In the case where EPR is not used as part of financial resources to cover the earthquake risk exposure, i.e. the company 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.

4.5.1.1. 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 amount²⁷ that includes adjustments for data quality, non-modelled exposures and model uncertainty as outlined in Guideline B-9 [Earthquake Exposure Sound Practices](#).

Model approach

P&C 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 to OSFI's satisfaction.

OSFI requires that P&C insurers continue to progress to a 500 year PML from earthquakes by 2022. Consequently, OSFI 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.

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

where

- *East Canada PML500* refers to a one in 500 year Eastern Canada event, which represents the 99.8th percentile of the exceedance probability curve plus appropriate adjustments for data quality, model uncertainty, non-modelled business etc., using exceedance 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 exceedance probability curve plus appropriate adjustments for data quality, model uncertainty, non-modelled business etc., using

²⁷ The PML amount corresponds to the worldwide exposure for Canadian insurers and Canadian exposure for branches of foreign insurers.

exceedance 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:

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

where

- *Year* is the current reporting year ²⁸(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 exceedance probability curve plus appropriate adjustments for data quality, model uncertainty, non-modelled business etc., using exceedance probability curves based only on earthquake risk exposure in Eastern Canada. *East Canada PML420* is determined by using linear interpolation between PML 250 and PML500 (i.e. *East Canada PML420* = 0.68x*East Canada PML500* + 0.32x*East Canada PML250*).
- *West Canada PML420* refers to a one in 420 year Western Canada event, which represents the 99.76th percentile of the exceedance probability curve plus appropriate adjustments for data quality, model uncertainty, non-modelled business etc., using exceedance probability curves based only on earthquake risk exposure in Western Canada. *West Canada PML420* is determined by using linear interpolation between PML 250 and PML500 (i.e. *West Canada PML420* = 0.68x*West Canada PML500* + 0.32x*West Canada PML250*).

Standard approach

P&C insurers should use the following 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 is not to OSFI's satisfaction

$$\text{Country-wide PML} = \text{Maximum (East Canada PTIV} - \text{applicable policyholder deductibles, West Canada PTIV} - \text{applicable policyholder deductibles}),$$

where

PTIV is the property total insured value for earthquake risk exposure, which includes building, contents, outbuildings, additional living expenses and business interruption.

²⁸ Current reporting year is the financial reporting year being filed.

4.5.1.2. Financial Resources

An insurer must have adequate financial resources to cover its earthquake risk exposure calculated in section 4.5.1.1. Financial resources that can be used to support the insurer's earthquake risk exposure include:

- capital & surplus;
- earthquake premium reserve;
- reinsurance coverage; and
- capital market financing.

➤ *Capital and 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 supervisory discretion and can be lowered to an amount less than 10% of capital and surplus.

For Canadian P&C insurers, 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.

A Canadian branch of a foreign P&C insurer may use up to 10% of its worldwide capital and surplus to cover its earthquake risk exposure; however, it must be able to demonstrate that after an event, at least 10% of the worldwide capital and surplus is still available to meet its obligations to Canadian policyholders. The amount of worldwide capital and surplus corresponds to the Canadian dollar amount as at the end of the most recent reporting period filed in the home jurisdiction.

➤ *Earthquake Premium Reserve*

Earthquake Premium Reserve (EPR) is the voluntary accumulation of earthquake premiums. This amount must not exceed the country-wide PML500²⁹.

- 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 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.
- Should an earthquake occur and trigger claims, companies 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.

²⁹ Refer to the Canadian *Income Tax Act* for the annual contribution limit.

- 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 at June 30).

➤ *Capital Market Financing*

Prior supervisory approval from OSFI is required before these instruments can be recognized as a financial resource in the calculation of the earthquake risk formula. Refer to Guideline B-9 [Earthquake Exposure Sound Practices](#) for additional information.

4.5.1.3. *Earthquake Reserve Component*

Earthquake Reserve Component (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:

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

- Should an earthquake occur and trigger claims, companies 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.

4.5.2. *Nuclear reserve*

P&C insurers issuing nuclear risk policies are required to record an additional provision of 100% of net premiums written, net of commissions, multiplied by 1.25. In the absence of meaningful statistical data on the severity and frequency of losses, OSFI considers it appropriate for P&C insurers to reverse this provision after twenty years.

4.6. Accident and Sickness Business

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 abnormal 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. For Canadian P&C insurers, a margin for deferred policy acquisition expenses (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.

A worksheet for calculating the margin required for accident and sickness business as well as instructions for completing the worksheet are included in this section. The total requirement calculated on the worksheet should be included in the amount reported as the margin required for unpaid claims and premium liabilities in the MCT.

Instructions for completing the worksheet

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	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)

1. Disability income insurance

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

Unearned premium margin

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

Percentage of Annual Earned Premiums ³⁰		Length of 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

Unpaid claims margin

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	
5.0%	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
10.0%	7.5%	5.0%	greater than 2 years or lifetime

2. Accidental death and dismemberment

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

³⁰ For travel insurance, annual earned premiums should be considered revenue premiums.

Type		Factor	Guaranteed Term Remaining
Participating	Group	.019%	less than or equal to 1 year
	All other	.038%	all
Non-participating <i>Individual</i>	Adjustable	.038%	all
	All other	.019%	less than or equal to 1 year
		.038%	greater than 1 year but less than or equal to 5 years
		.075%	greater than 5 years, whole life, and all life insurance continued on disabled lives without payment of premiums
Non-participating <i>Group</i>	All	.019%	less than or equal to 1 year
		.038%	greater than 1 year but less than or equal to 5 years
		.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.

3. Other accident and sickness benefits

Unearned premium margin

The component requirement is 15% of annual earned premiums.

Unpaid claims margin

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.

4. Special policyholder arrangements

For group insurance deposits in excess of liabilities, excluding the liability for such deposits may reduce the component requirement on any policy 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.

Worksheet – Capital Required: Accident and Sickness Business
 (\$,000)

	01	02	03
	Earned Premiums	Factor	Margin
A. Unearned Premiums Margin			
1. Disability Income Insurance			
Length of premium guarantee remaining			
Individually underwritten < 1 year		15.0%	
1 – 5 years		25.0%	
> 5 years		37.5%	
Other < 1 year		15.0%	
1 – 5 years		31.25%	
> 5 years		50.0%	
2. Accidental Death and Dismemberment		Note	
3. Other Accident and Sickness Benefits		15.0%	
4. Deferred Policy Acquisition Expenses – Commissions (balance sheet value in col. 01)		45.0%	
Total Unearned Premiums Margin			

	01	02	03
	Unpaid Claims Relating to Prior Years	Factor	Margin
B. Unpaid Claims Margin			
1. Disability Income Insurance			
Duration of Disability < 2 years			
Length of benefit period remaining			
< 1 year		5.0%	
1 – 2 years		7.5%	
> 2 years		10.0%	
Duration of Disability 2 - 5 years			
Length of benefit period remaining			
< 1 year		3.75%	
1 – 2 years		5.625%	
> 2 years		7.5%	
Duration of Disability > 5 years			
Length of benefit period remaining			
< 1 year		2.5%	
1 – 2 years		3.75%	
> 2 years		5.0%	
2. Accidental Death and Dismemberment		Note	
3. Other Accident and Sickness Benefits		12.5%	
Other adjustments			
Total Unpaid Claims Margin			

This worksheet may be used to calculate capital required for accident and sickness business. The worksheet does not need to be filed with OSFI, although OSFI may ask for details supporting the amounts reported in the MCT.

Chapter 5. 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 these investments are not reported on a prorated basis, then the factor of the riskiest asset held in the fund is assigned to the entire investment.

5.1. 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.

5.1.1. General requirements

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

5.1.1.1. Interest rate sensitive assets

The interest rate sensitive assets to be included in the calculation of the interest rate margin 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:

- 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, and
- interest rate derivatives held for other than hedging purposes.

Investments in mutual funds and other similar assets should be broken down by type of investment (bond, preferred share, common shares, etc.). The assets in the fund that are interest rate sensitive are to be included in the determination of the fair value of the P&C 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.

Branches of foreign companies are to include only vested interest rate sensitive assets in the determination of the margin for interest rate risk. Since non-vested assets are not included in net assets available, they do not attract a capital requirement for interest rate risk.

5.1.1.2. 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, and
- net premium liabilities.

P&C insurers must obtain OSFI's supervisory approval in order to be able to consider other liabilities in the calculation of interest rate risk margin.

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

5.1.1.3. 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 a company'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, and

- 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.

P&C insurers must understand the interest rate hedging strategies that they have in place and be able to demonstrate to OSFI, 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, P&C 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 the hedging instruments. In addition, the ability to demonstrate an assessment, retrospectively or prospectively, of the performance of the hedge would be appropriate. If the P&C insurer cannot demonstrate that the derivatives result in decreased overall risk, then additional capital may be required, and companies in this situation should contact OSFI for details.

Derivatives used for hedging a P&C insurer's interest rate risk are subject to credit risk requirements. Refer to section [6.2](#) for further details.

5.1.1.4. Duration of interest rate sensitive assets and liabilities

P&C insurers are required to calculate the duration of the interest rate sensitive assets and liabilities for the purpose of the interest rate risk 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.

A P&C 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 a company has interest rate derivatives on its balance sheet that lie within the scope of section 5.1.1.3, 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.

5.1.1.5. 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:

$$\text{Modified duration} = \frac{1}{1+\text{Yield}} \times \frac{\sum t \times \text{PVCF}_t}{\text{Market Value}}$$

where,

Yield = the annually compounded yield to maturity of the cash flows,
 PVCF_t = the present value of the cash flow at time t discounted at the yield rate, and

the sum in the numerator is taken over all times t at which a cash flow occurs.

5.1.1.6. 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:

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

where,

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:

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

5.1.1.7. 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:

$$w_1D_1 + w_2D_2 + w_3D_3 + \dots + w_KD_K$$

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.

5.1.1.8. Dollar fair value change

Modified and effective duration are related to percentage fair value changes. The interest rate risk 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,

$$\text{Dollar fair value change} = \text{duration} \times \text{dollar fair value} \times \text{interest rate change (in decimal)}$$

5.1.1.9. 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, P&C insurers should be using effective dollar duration because the insurer is hedging the dollar interest rate risk exposure.

Example 5-1: Effective dollar duration of a swap

Assuming a P&C 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 P&C insurer, prior to taking into consideration any interest rate derivatives, is effectively as follows:

$\text{P\&C insurer's dollar duration} = \text{dollar duration of assets} - \text{dollar duration of liabilities} > 0$
--

The P&C 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:

$\text{Effective dollar duration of a swap for a fixed-rate payer} = \text{effective dollar duration of a floating-rate bond} - \text{effective dollar duration of a fixed rate bond}$
--

Assuming the dollar duration of the floating-rate bond 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 company's dollar duration of assets and moves the P&C insurer's overall dollar duration position closer to zero.

5.1.2. Interest rate risk margin

The interest rate risk margin is determined by measuring the economic impact on the P&C 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 rate sensitive asset portfolio for an interest rate shock factor 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)
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- B. The change in the interest rate sensitive liabilities for an interest rate shock factor 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 the interest rate shock factor 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 shock factor 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 shock factor 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.

5.2. 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 P&C insurer.

5.2.1. 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:

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

where 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.

Investments in mutual funds and other similar assets should be broken down by type of investment (bonds, preferred shares, common shares, etc.) for calculating foreign exchange risk margin. The assets in the fund 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 calculation of the foreign exchange risk margin.

5.2.2. 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 P&C 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; and
- Non-allowable foreign exchange rate hedges that are not considered in capital available.

Carve-out:

A P&C 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:

A P&C insurer has \$100 of U.S. assets and \$50 of U.S. liabilities.

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

$$= 25\% * 50$$

$$= 12.5$$
- Therefore, the foreign exchange risk margin is:

$$= 10\% * \text{MAX}^{31} ((\text{net spot position} - \text{carve-out}), 0)$$

$$= 10\% * \text{MAX} ((50 - 12.5), 0)$$

$$= 10\% * 37.5$$

$$= 3.75$$

³¹ The carve-out can be used to reduce the net open long currency position to a minimum of zero.

5.2.2.1. 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 OSFI the effectiveness of its foreign exchange hedges.

Companies 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 OSFI 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, and
- 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 [6.2](#) for further details.

5.2.2.2. 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. Companies that base their normal management accounting on net present values are expected to use the net present values of each position, discounted using current interest rates and translated at current spot rates, for measuring their forward currency positions.

5.2.2.3. 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. Companies 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.

5.2.2.4. *Unregistered reinsurance*

A separate component calculation must be performed for each group of liabilities ceded to an unregistered 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 to an unregistered reinsurer are held by the ceding company (e.g. funds withheld), the company'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.

5.3. **Equity Risk**

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

5.3.1. *Common shares and joint ventures*

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

5.3.2. *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 or indices for which the returns are being exchanged.

Example:

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 charge will apply to 110 for the long position in the index, but no capital charge will be required on the short position in the bond because such a position is not subject to an equity risk 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 [6.2](#) for further details

5.3.3. *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 5.3.4.

5.3.4. *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 section 5.3.4.1 and 5.3.4.2.

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 satisfaction of the Superintendent, that the hedging strategies result in decreased overall risk, then additional capital above that calculated as per sections 5.3.4.1 and 5.3.4.2 may be required, at the discretion of the Superintendent.³²

For hedges to qualify, they must be issued by an entity that:

- issues obligations which attract a 0% factor under section 6.1.2; or
- is rated A- or better (including clearing houses rated A- or better).

5.3.4.1. *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.

Only common shares and plain-vanilla equity futures, forwards, and swaps can obtain the capital treatment under this section. Exotic equity derivatives³³ do not qualify for this treatment.

5.3.4.2. *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

³² An insurer may contact OSFI 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.

³³ An example of an exotic derivative would be one that has a discontinuous payoff structure.

out in sections 5.3.1, 5.3.2, and 5.3.3, P&C insurers may calculate the capital requirements for the combined portfolios in the following manner:

$$(1 - \text{Correlation Factor}) \times 1.5 \times \text{MIN}(\text{market value of the portfolio of hedging instruments}, \text{market value of the portfolio of instruments being hedged})$$

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 is derived by using:

$$CF = A*(B/C)$$

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]

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. Portfolios that contain instruments

other than those specified in this section will be subject to the capital treatment under sections 5.3.1, 5.3.2, and 5.3.3.

- 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 5.3.4.1.
- 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.³⁴ 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:

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 $190 \times 5\% \times 1.5 + \$10 \times 30\% = \$17.25$.

Portfolios that were established less than two years prior to the reporting date, that are not subject to the transitional arrangements set out in section 1.2.3, attract the following capital treatment:

1. 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
2. in the second year, the sum of:
 - $T \times$ capital requirements for the combined portfolios using the correlation factor approach described in this section³⁵; and
 - $(1-T) \times$ capital requirements set out in 1 above.

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.

³⁴ 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 0 (the hedging strategy), and if instrument selection is continuously based on the price-earnings ratio (the active management strategy).

³⁵ For the purposes of this calculation, the Correlation Factor must be determined based on actual portfolio returns (i.e. portfolio returns up to the reporting date). Projected (simulated) returns cannot be used. The Correlation Factor must be determined as the lowest of available 52 week Correlation Factors given the actual history of portfolio returns. During the second year, the number of available 52 week Correlation Factors will increase from one to four as time elapses.

Example:

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 $30\% \times 100 + 30\% \times 100 = 60$. On June 30, 2017, assuming that the Correlation Factor is 0.90, the combined portfolios will be subject to a capital charge of $20\% \times 10\% \times 1.5 \times 100 + 80\% \times 60\% \times 100 = 51$.

5.4. 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.

The risk factors are as follows:

Owner-occupied properties	10%
Real Estate held for investments purposes	20%

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

5.5. 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 6. 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 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: 1) corresponds to the external credit rating of the counterparty or issuer or 2) represents a prescribed factor determined by OSFI. 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 the section [6.2](#). 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](#)). The resulting amounts are summed to arrive at the credit risk capital requirements.

In respect of invested assets, P&C insurers must comply with OSFI's Guideline B-2 [Investment Concentration Limit for Property and Casualty Insurance Companies](#).

6.1. 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; and
- off-balance sheet exposures should be valued in accordance with section [6.2](#).

6.1.1. Use of ratings

Many of the risk factors in this chapter 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 in this section. For MCT purposes, P&C insurers may recognize credit ratings from the following rating agencies:

- DBRS
- Moody's Investors Service
- Standard and Poor's (S&P)
- Fitch Rating Services

A P&C insurer must choose the rating agencies it intends to rely on and then use their ratings for MCT purposes consistently for each type of asset or obligation. Companies 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 a P&C insurer is relying on multiple rating agencies and there is only one assessment for a particular asset or obligor, that assessment should be used to determine the capital requirements. If there are two assessments from the rating agencies used by a P&C insurer and these assessments differ, the P&C insurer should apply the risk factor corresponding to the lower of the two ratings. If there are three or more assessments for an asset or obligor from a P&C insurer’s chosen rating agencies, the P&C insurer should exclude one of the ratings that corresponds to the lowest capital requirement, and then use the rating that corresponds to the lowest capital requirement of those that remain (i.e. the P&C insurer should use the second-highest rating from those available, allowing for multiple occurrences of the highest rating).

Where a P&C insurer holds a particular securities issue that carries one or more issue-specific assessments, the capital requirements for the asset or obligor will be based on these assessments. Where a P&C insurer’s asset 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 P&C insurer’s asset is not an investment in this particular security, a rating of BBB- or better on the rated security may only be applied to the P&C insurer’s unrated asset if this asset ranks *pari passu* or senior to the rated security in all respects. If not, the credit rating cannot be used and the P&C insurer’s asset must be treated as an unrated obligation.
- In circumstances where the borrower has an issuer rating, this assessment typically applies to senior unsecured assets or obligations on that issuer. Consequently, only senior assets or obligations on that issuer will benefit from a BBB- or better issuer assessment; other unassessed assets or obligations 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 capital requirements for an unrated asset or obligation on the issuer.
- Short-term assessments are deemed to be issue specific. They can only be used to derive capital requirements for assets or obligations arising from the rated facility. They cannot be generalized to other short-term assets or obligations, and in no event can a short-term rating be used to support a risk factor for an unrated long-term asset or obligation.
- Where the risk factor 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 assets or obligations 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 factors for other entities within the same group.
- 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, companies may not recognize credit risk mitigation if the credit enhancement has already been reflected in the issue-specific rating.
- A P&C 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 P&C insurer itself or one of its associates.
- Any assessment used must take into account and reflect the entire amount of credit risk exposure a P&C insurer has with regard to all payments owed to it. In particular, if a P&C 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.
- P&C insurers may not rely on unsolicited ratings in determining the risk factors for an asset, except where the asset is a sovereign exposure and a solicited rating is not available.

6.1.2. *Credit risk factors*

Various risk factors are applied to invested assets depending on the external credit rating and the remaining term to maturity as outlined below. However, the risk factors for securitization exposures may in some cases be different from those assigned to similarly rated investments. Insurers should refer to Guideline B-5 [Asset Securitization](#) in order to determine the capital treatment for these exposures.

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 these investments are not reported on a prorated basis, then the factor of the riskiest asset held in the fund, is assigned to the entire investment.

1. Long-term obligations, including term deposits, bonds, debentures, and loans that are not eligible for a 0% risk factor attract risk factors according to the following table. Long-term obligations generally have an original term to maturity at issue of 1 year or more.

Long-Term Obligations			
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%	0.50%	1.25%
AA+ to AA-	0.25%	1.00%	1.75%
A+ to A-	0.75%	1.75%	3.00%
BBB+ to BBB-	1.50%	3.75%	4.75%
BB+ to BB-	3.75%	7.75%	8.00%
B+ to B-	7.50%	10.50%	10.50%
Unrated	6.00%	8.00%	10.00%
Other	15.50%	18.00%	18.00%

- Remaining term to maturity denotes the number of years from the reporting date until the maturity date.
- P&C 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:

$$\text{Effective Maturity (M)} = \frac{\sum_t t \times CF_t}{\sum_t CF_t},$$

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

- In cases where a P&C 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 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, P&C insurers must use the “greater than 5 years” category for that asset.
2. Short-term obligations, including commercial paper, that are not eligible for a 0% risk factor have risk factors assigned according to the following table. Short-term obligations generally have an original term to maturity at issue of no more than 365 days.

Short-Term Obligations	
Rating	Factor
A-1, F1, P-1, R-1 or equivalent	0.25%
A-2, F2, P-2, R-2 or equivalent	0.50%
A-3, F3, P-3, R-3 or equivalent	2.00%
Unrated	6.00%
All other ratings, including non-prime and B or C ratings	8.00%

3. Risk factors for preferred shares should be assigned according to the following table:

Preferred Shares	
Rating	Factor
AAA, AA+ to AA-, Pfd-1, P-1 or equivalent	3.00%
A+ to A-, Pfd-2, P-2 or equivalent	5.00%
BBB+ to BBB-, Pfd-3, P-3 or equivalent	10.00%
BB+ to BB-, Pfd-4, P-4 or equivalent	20.00%
B+ or lower, Pfd-5, P-5 or equivalent or unrated	30.00%

4. Other risk factors for balance sheet assets:

Factor	Asset
0.00%	- Cash held on the company's own premises³⁶, - Obligations³⁷ of federal, provincial, and territorial governments in Canada, - 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 better and their central banks³⁸, - Obligations that have been explicitly, directly, irrevocably and unconditionally guaranteed by a government entity eligible for a 0% risk factor including, for example, residential mortgages insured under the <i>National Housing Act</i> (NHA) or equivalent provincial mortgage insurance program, and NHA mortgage-backed securities that are guaranteed by the Canada Mortgage and Housing Corporation, - Instalment premiums receivable (not yet due), - Insurance receivables from associated registered reinsurers (reference section 4.3), - Unearned premiums recoverable from associated registered reinsurers (reference section 4.3), - Unpaid claims and adjustment expenses recoverable from associated registered reinsurers (reference section 4.3), - Deferred policy acquisition expenses (DPAE), including DPAE on commissions, premium taxes and others, and excluding DPAE on commissions for A&S business, - Current tax assets (income tax receivables), - Any deductions from capital, including goodwill, intangible assets and interests in non-qualifying subsidiaries, associates, and joint ventures with more than 10% ownership interest.

³⁶ Applies to all vested cash assets of branches.

³⁷ Includes securities, loans and accounts receivable.

³⁸ Sovereign obligations rated lower than AA- may not receive a factor of 0%, and are instead subject to the factor requirements in section 6.1.2.

0.25%	• 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.
0.70%	• Insurance receivables from non-associated registered reinsurers (reference section 4.3), • Receivables from the Facility Association and the Plan de répartition des risques.
2.50%	• Investment income due and accrued, • Unearned premiums recoverable from non-associated registered reinsurers (reference section 4.3), • Unpaid claims and adjustment expenses recoverable from non-associated registered reinsurers (reference section 4.3).
4%	• First mortgages on one- to four-unit residential dwellings.
5%	• Receivables, outstanding less than 60 days, from agents, brokers, non-qualifying subsidiaries, associates, joint ventures, and policyholders, including instalment premiums and other receivables³⁹.
10%	• Receivables, outstanding 60 days or more, from agents, brokers, non-qualifying subsidiaries, associates, joint ventures and policyholders, including instalment premiums and other receivables⁴⁰, • 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 fund surplus assets included in capital available, • Deferred tax assets arising from temporary differences that the institution could recover from income taxes paid in the three immediate preceding years. DTAs from temporary differences that are in excess of the amount of taxes recoverable in the three immediate preceding years should be deducted from capital available. • Other investments not specified in this section or section 5.5 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 6.2, • Other assets not specified in this section or section 5.5 as part of other market risk exposures, excluding other investments.
15%	• Mortgages secured by undeveloped land (i.e. 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%	• Other recoverables (mainly salvage and subrogation) on unpaid claims, • Self-insured retention recoverables not deducted from capital (reference section 4.4), • Assets held for sale (other than financial)⁴¹.

³⁹ Includes receivables for assumed business from unregistered insurers.

⁴⁰ Includes receivables for assumed business from unregistered insurers.

45%	- Loans to or other debt instruments (bonds, debentures, mortgages, etc.) not considered capital in non-qualifying (non-consolidated) subsidiaries, associates and joint ventures with more than a 10% ownership interest. - DPAE on commissions related to A&S business (reference section 4.6)
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6.2. Capital Requirements for Off-Balance Sheet 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 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 [4.3](#).

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:

- i.) The credit equivalent amount of the instrument at the reporting date;
- ii.) Less: the value of eligible collateral securities or guarantees (reference section [6.3](#));
- iii.) Multiplied by: a factor reflecting the nature and maturity of the instrument (credit conversion factor); and
- iv.) Multiplied by: a factor reflecting the risk of default of the counterparty to a transaction (counterparty credit risk).

6.2.1. Credit equivalent amount

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

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 4.

6.2.1.1. 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:

- i.) An annuity is purchased by a P&C insurer who is named the owner. There is an irrevocable direction from the P&C insurer to the annuity underwriter to make all payments directly to the claimant.
- ii.) 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.
- iii.) The P&C insurer is released by the claimant indicating settlement of the claim amount.
- iv.) 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.

P&C insurers should refer to Guideline D-5 [Accounting for Structured Settlements](#).

6.2.1.2. 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. P&C 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:

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

Derivative “Add-On” Factors

Residual Maturity (01)	Interest Rate (02)	Exchange Rate and Gold (03)	Equity (04)	Precious Metals except Gold (05)	Other Instruments (06)
<i>One year or less</i>	0.0%	1.0%	6.0%	7.0%	10.0%
<i>One year to five years</i>	0.5%	5.0%	8.0%	7.0%	12.0%
<i>Over five years</i>	1.5%	7.5%	10.0%	8.0%	15.0%

Notes:

1. Instruments traded on exchanges do not require capital for counterparty credit risk where they are subject to daily margining requirements.
2. For contracts with multiple exchanges of principal, the factors are to be multiplied by the number of remaining payments in the contract.
3. 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 remaining 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%.
4. Contracts not covered by columns (02) to (05) in the above table are to be treated as “other instruments” for the purpose of determining the add-on factor.
5. 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.
6. The add-ons are based on effective rather than stated notional amounts. In the event that the stated notional amount is leveraged or enhanced by the structure of the transaction, companies 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.
7. 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.

6.2.1.3. Other exposures**Commitments**

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

- i.) extending credit in the form of loans or participations in loans, lease financing receivables, mortgages or loan substitutes; or
- ii.) 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:

- i.) the commitment is scheduled to expire, or
- ii.) the P&C 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 preferential factor, this would be recognized as collateral and the factor would be reduced accordingly.

Guarantees provided in securities lending

In securities lending, P&C 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 P&C 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 P&C insurer holds eligible collateral (reference section [6.3](#)). Where the P&C insurer lends securities through an agent and receives an explicit guarantee of the return of the securities, the P&C insurer may treat the agent as the borrower subject to the conditions in section 6.3.2.

When the P&C insurer, acting as an agent, lends securities on behalf of a client and guarantees that the securities lent will be returned, or the P&C insurer will reimburse the client for the current market value, the P&C 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 P&C insurer holds eligible collateral (reference section [6.3](#)).

6.2.2. 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 P&C insurer, should be used.

Factor	Instrument
100%	• 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: - i.) Interest rate contracts (single currency interest rate swaps, basis swaps, forward rate agreements and products with similar characteristics, interest rate futures, interest rate options purchased, and similar derivative contracts based on specific parameters as well as on indices, etc.). - ii.) Equity contracts (forwards, swaps, purchased options, and similar derivative contracts based on specific parameters as well as on indices, etc.). - iii.) 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 as well as on indices, etc.). - iv.) Precious metals (except gold) and other commodity contracts (forwards, swaps, purchased options, and similar derivative contracts based on specific parameters as well as on indices, etc.). - v.) Other derivative contracts based on specific parameters as well as on indices (such as catastrophe insurance options and futures). • Forward agreements (contractual obligations) to purchase assets. • Sale and repurchase agreements. • All other exposures not reported elsewhere (provide details).
50%	• Structured settlements that are not recorded as liabilities on the balance sheet (refer to Type 1 characteristics and to Guideline D-5 Accounting for Structured Settlements). • 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%	Commitments with an original maturity of one year or less.
0%	Commitments that are unconditionally cancellable at any time without prior notice.

6.2.3. Risk factors

Risk factors for off-balance sheet exposures are assigned a risk factor consistent with section [6.1](#). All criteria in section [6.1](#) 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 are as follows:

Structured Settlements	
Rating	Risk factor
Rated A- and higher	2%
Rated BBB+ to B-	8%
Unrated	10%
Other	18%

If the structured settlement is not rated by one of the four rating agencies listed in section 6.1.1, 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 6.1.1, 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.

6.3. Capital Treatment of Collateral and Guarantees

6.3.1. Collateral

A collateralized transaction is one in which:

- a company 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 requirement is limited to cash or securities rated A- or 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 [6.1](#) 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).

6.3.2. *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- and 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 guarantees⁴² issued by entities with a lower risk factor than the underlying counterparty will lead to reduced capital requirements. To be eligible, guarantees must be legally enforceable.

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 examples below). The uncovered portion retains the risk factor of the underlying counterparty.

All criteria in section [6.1](#) 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.

A P&C insurer may not recognize a guarantee provided by a related party (parent, subsidiary or associate) of the insurer. 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 mismatch⁴³.

⁴² Letters of credit for which a company is the beneficiary are included within the definition of guarantees, and receive the same capital treatment.

⁴³ A maturity mismatch occurs when the residual maturity of the credit protection is less than that of the underlying exposure.

6.3.2.1. Additional requirements for guarantees

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

1. 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.
2. The guarantee is an explicitly documented obligation assumed by the guarantor.
3. Except as noted in the following sentence, the guarantee covers all types of payments the underlying obligor is expected to make under the documentation 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 6.1.2.

Example 6-1: Credit risk exposure.

To record a \$100,000 bond rated AAA due in 10 years that has a government guarantee of 90%, the P&C insurer would report a balance sheet value of \$90,000 ($\$100,000 \times 90\%$) in the 0% risk weighted category and a balance value of \$10,000 ($\$100,000 - \$90,000$) in the AAA category under bonds expiring or redeemable in more than five years. The capital required in the 0% risk weighted category is \$0 ($\$90,000 \times 0.0\%$). The capital required in the AAA category is \$125 ($\$10,000 \times 1.25\%$) for a total capital requirement of \$125. An example of the calculation, assuming no other assets, is provided in the chart below.

	Factor (%)	Balance Sheet Value	Capital Required
Investments:			
Term Deposits, Bonds And Debentures:			
- Expiring or redeemable in more than five years:			
0% risk factor	0.0%	\$90,000	\$0
Rating: AAA	1.25%	\$10,000	\$125
Total		\$100,000	\$125

Example 6-2: Type 1 structured settlement.

To record a \$300,000 Type 1 structured settlement rated BBB+ to B-, backed by collateral or a guarantee of \$200,000 from a counterparty rated A- or higher, the P&C 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- and higher category.

The capital required in the BBB+ to B- category is \$4,000 ($(\$300,000 - \$200,000) \times 50\% \times 8\%$). The capital required in the A- and higher category is \$500 ($\$200,000 \times 50\% \times 0.5\%$) for a total

capital requirement of \$4,500. An example of the calculation, assuming no other exposures, is provided in the table below.

	Credit Equivalent Amount (01)	Collateral and Guarantees (02)	Credit Conversion Factor (03)	Risk Factor (04)	Capital Required (05)
Structured Settlements:					
0% risk factor					
Rated A- and higher		\$200,000	50%	0.5%	\$500
Rated BBB+ to B-	\$300,000	(\$200,000)	50%	8.0%	\$4,000
Total					\$4,500

Chapter 7. 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 risk⁴⁴ but excludes strategic and reputation risk.

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

7.1. Operational Risk Formula

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

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

where:

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

7.2. Components of Operational Risk Margin

7.2.1. Capital required

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

⁴⁴ Legal risk includes, but is not limited to, exposure to fines, penalties, or punitive damages resulting from supervisory actions, as well as private settlements.

7.2.2. Premium volume

The following risk factors apply to insurance premiums:

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

The 2.50% risk factor for direct written premiums and the 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 4.2) 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.

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 associated Canadian federally or provincially regulated companies are included in P_{aig} and P_{cig} , and a prior supervisory approval from OSFI is required. 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_w , 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, company Y and company Z cede 100% of their direct written business to Company X (the parent). Company X then cedes 20% of the total of the direct business of each company (including the parent's business) to each subsidiary.

Assuming that each of the three companies write \$100 of direct premiums, the following amounts would apply to calculate the operational risk margin for company X:

P_w : 3 x \$100 (direct premiums written by each company) = \$300

P_a and P_c : \$0 (assuming all three companies are not part of third party reinsurance arrangements)

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

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

The capital requirement for operational risk associated with the premiums would be calculated as follows:

$$(2.50\% P_w + 1.75\% P_a + 2.50\% P_c + 2.50\% P_{\Delta}) + \text{MAX} (0.75\% P_{aig}, 0.75\% P_{cig}) =$$

$$(\$7.50 + 0 + 0 + 0) + \$1.50 = \$9.00$$

7.2.3. Year-over-year premium growth beyond a threshold

Rapid growth, which is linked to acquisitions, new lines of business or changes to existing products or underwriting criteria, can create additional pressures on people and systems. Companies 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, i.e. direct premiums written plus assumed premiums written. For the purposes of this section, assumed premiums written arising from intragroup pooling arrangements (i.e. P_{aig}) are excluded from gross premiums. 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 increase by 50% from \$100 to \$150. 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 written premiums 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 companies' gross written premiums.

- For example, assume that in Year T a company A with gross written premiums of \$100 for the 12 months period ending December 31, Year T-1 acquired a company B with gross written premiums of \$50 for the same period. The merged company reported a total of \$225 in gross written premiums 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:

$$2.50\% \times [225 - ((100 + 50) \times 1.20)] \text{ or } 2.50\% \times \$45 = \$1.13$$

7.2.4. *Cap on operational risk margin*

A 30% cap serves to dampen the operational risk margin for companies that have high-volume/low-complexity business. The 30% cap is calculated in relation to total capital required, before the operational risk margin and diversification credit.

Chapter 8. Diversification Credit

Because losses arising across some risk categories are not perfectly correlated with each other, a company is not likely to incur the maximum possible 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.

8.1. 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 and off-balance sheet exposures, and collateral for unregistered reinsurance and self-insured retentions;
- 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; and
- catastrophe risk.

R is the correlation factor between **A** and **I**, equal to 50%.

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