



Guideline

Subject: Capital Adequacy Requirements (CAR)

Chapter 1 – Overview

Effective Date: April 2018

Subsections 485(1) and 949(1) of the *Bank Act* (BA), subsection 473(1) of the *Trust and Loan Companies Act* (TLCA), and 409(1) of the *Cooperative Credit Associations Act* (CCAA) require banks (including federal credit unions), bank holding companies, federally regulated trust companies, federally regulated loan companies and cooperative retail associations to maintain adequate capital. The CAR Guideline is not made pursuant to subsections 485(2) or 949(2) of the BA, to subsection 473(2) of the TLCA or to 409(2) of the CCAA. However, the capital standards set out in this guideline together with the leverage requirements set out in the Leverage Requirements Guideline provide the framework within which the Superintendent assesses whether a bank, a bank holding company, a trust company, a loan company or a cooperative retail association maintains adequate capital pursuant to the Acts. For this purpose, the Superintendent has established two minimum standards: the leverage ratio described in the Leverage Requirements Guideline, and the risk-based capital ratio described in this guideline. The first test provides an overall measure of the adequacy of an institution's capital. The second measure focuses on risk faced by the institution. Notwithstanding that a bank, bank holding company, trust company, loan company or cooperative retail association may meet these standards, the Superintendent may direct a bank or bank holding company to increase its capital under subsections 485(3) or 949(3) of the BA, a trust company or a loan company to increase its capital under subsection 473(3) of the TLCA or a cooperative retail association to increase its capital under 409(3) of the CCAA.

Canada, as a member of the Basel Committee on Banking Supervision, participated in the development of the capital framework, including *Basel II: International Convergence of Capital Measurement and Capital Standards: A Revised Framework – Comprehensive Version* (June 2006) and *Basel III: A global regulatory framework for more resilient banks and banking systems*. This domestic guidance is based on the Basel II and III frameworks. It also includes updates of relevant parts of the 1988 Basel Accord and the 1996 amendment to the Accord that sets out a framework for calculating the capital requirements for market risk. This guideline also reflects changes to both the Basel II and market risk frameworks that have occurred since their original implementation.



Where relevant, the Basel II and III paragraph numbers are provided in square brackets at the end of each paragraph referencing material from the Basel II and III frameworks. Some chapters include boxed-in text (called OSFI Notes) that set out how certain requirements are to be implemented by banks, trust companies, loan companies and cooperative retail associations. From time to time, OSFI will issue capital implementation notes to clarify supervisors' expectations on compliance with the technical provisions of the internal ratings based approach set out in Chapter 6 of this guideline.

Chapter 1- Overview

The Capital Adequacy Requirements (CAR) for banks (including a federal credit union), bank holding companies, federally regulated trust companies, federally regulated loan companies and cooperative retail associations are set out in nine chapters, each of which has been issued as a separate document. This document, which contains Chapter 1 – Overview, should be read in conjunction with the other CAR chapters which include:

Chapter 1	Overview
Chapter 2	Definition of Capital
Chapter 3	Credit Risk – Standardized Approach
Chapter 4	Settlement and Counterparty Risk
Chapter 5	Credit Risk Mitigation
Chapter 6	Credit Risk- Internal Ratings Based Approach
Chapter 7	Structured Credit Products
Chapter 8	Operational Risk
Chapter 9	Market Risk

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Chapter 1 - Overview

1. Outlined below is an overview of capital adequacy requirements for banks, bank holding companies, federally regulated trust companies, federally regulated loan companies and cooperative retail associations, collectively referred to as ‘institutions’.

2. This chapter is drawn from the Basel Committee on Banking Supervision (BCBS) Basel III framework, entitled: “*Basel III: A global regulatory framework for more resilient banks and banking systems – December 2010 (rev June 2011)*”. For reference, the Basel III text paragraph numbers that are associated with the text appearing in this chapter are indicated in square brackets at the end of each paragraph¹.

1.1. Scope of application

3. These capital adequacy requirements apply on a consolidated basis and apply to all institutions as defined in paragraph 1 above. The consolidated entity includes all subsidiaries except insurance subsidiaries.

1.2. Regulatory capital

4. Total capital consists of the sum of the following elements:

- i. Tier 1 capital, consisting of:
 - a. Common Equity Tier 1 capital
 - b. Additional Tier 1 capital
- ii. Tier 2 capital

5. The criteria for the capital elements comprising the two tiers, as well as the various limits, restrictions and regulatory adjustments to which they are subject, are described in chapter 2.

1.3. Total risk weighted assets

1.3.1 Credit risk approaches

1.3.1.1. Internal ratings based (IRB) approaches

6. Institutions that have total regulatory capital (net of deductions) in excess of CAD \$5 billion, or that have greater than 10% of total assets or greater than 10% of total liabilities that are international², are expected to use the Advanced Internal Ratings Based approach for all material portfolios and credit businesses in Canada and the United States. Under this approach,

¹ Following the format: [BCBS June 2011 par x]

² This includes assets and liabilities booked outside of Canada as well as assets and liabilities of non-residents booked in Canada.

described in Chapter 6, risk weights are a function of four variables and the type of exposure (corporate, retail, small to medium sized enterprise, etc.). The variables are:

- Probability of default (PD) of the borrower
- Loss given default (LGD)
- Maturity
- Exposure at default (EAD)

7. Under the Foundation Internal Ratings Based approach (FIRB), institutions determine PDs, while other variables are determined by OSFI. Under the Advanced Internal Ratings Based approach (AIRB), institutions determine all variables.

8. Under the IRB approaches, EAD is determined gross of all specific allowances. The amount used in the calculation of EAD should normally be based on book value, except for the following where EAD should be based on amortized cost:

Certain financial instruments in the banking book

- loans fair valued under the fair value option or fair value hedge
- debt and loans fair valued under available for sale accounting.

1.3.1.2. Standardized approach

9. The default approach to calculating risk-weighted assets is the Standardized approach as described in Chapter 3. Under this approach, assessments from qualifying rating agencies are used to determine risk weights for:

- Claims on sovereigns and central banks
- Claims on non-central government public sector entities (PSEs)
- Claims on multilateral development banks (MDBs)
- Claims on banks and securities firms
- Claims on corporates

10. On-balance sheet exposures under the standardized approach should normally be measured at book value, except the following where exposures should be measured at amortized cost:

Certain financial instruments in the banking book

- loans fair valued under the fair value option or fair value hedge
- own-use property, plant and equipment

11. For own-use property that is accounted for using the revaluation model, reported exposures should be based on an adjusted book value that reverses the impact of:

-
- the balance of any revaluation surplus included in Other Comprehensive Income; and
 - accumulated net after-tax revaluation losses that are reflected in retained earnings at conversion to IFRS or as a result of subsequent revaluations

12. For own-use property that is accounted for using the cost model, and where the deemed value of the property was determined at conversion to IFRS by using fair value, reported exposures should be based on an adjusted book value that reverses the impact of after tax unrealized fair value gains and losses reflected in retained earnings at conversion to IFRS.

1.3.2 Operational risk approaches

13. There are three approaches to operational risk described in Chapter 8: the Basic Indicator Approach, the Standardized Approach and the Advanced Measurement Approach.

14. The Basic Indicator Approach requires institutions to calculate operational risk capital requirements by applying a factor of 15% to a three-year average of positive annual gross income.

15. The Standardized Approach divides institutions' activities into eight business lines. The capital requirement is calculated by applying a factor to a three-year average of annual gross income for each business line. Individual business line requirements are added to arrive at the capital requirement for operational risk.

16. Under the Advanced Measurement Approach, the operational risk capital requirement is based on the institution's internal operational risk measurement system. Institutions using an IRB approach to credit risk are expected to implement, over time, an Advanced Measurement Approach to operational risk.

1.3.3 Market risk

17. Market risk requirements, as outlined in paragraphs 2 and 3 of Chapter 9, apply to internationally active institutions and all institutions designated by OSFI as domestic systemically important banks (D-SIBs). Market risk requirements may be calculated using the Standardized Approach or the Internal Models Approach, both of which are described in Chapter 9.

18. OSFI retains the right to apply the framework to other institutions, on a case by case basis, if trading activities are a large proportion of overall operations.

19. The Standardized Approach is a building block approach where the capital charge for each risk category is determined separately.

20. Alternatively, institutions may use their own internal risk management models to calculate specific risk and general market risk exposures, providing they meet:

- Certain general criteria concerning the adequacy of the risk management system
- Qualitative standards for internal oversight of the use of models

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- Guidelines for specifying an appropriate set of market factors
 - Quantitative standards setting out the use of common minimum statistical parameters for measuring risk
 - Guidelines for stress testing and back testing
 - Validation procedures for external oversight and the use of models

1.4. Approval to use the advanced approaches

21. Institutions must receive explicit prior approval from OSFI in order to use any of the following approaches for regulatory capital purposes: the Foundation and Advanced IRB Approaches to credit risk, Advanced Measurement Approaches to operational risk and Internal Models Approach to market risk. The steps involved in the application for approval of these approaches are outlined in OSFI Implementation Notes issued pursuant to this Guideline.

22. OSFI will consider AIRB approval with conditions for those institutions that have made a substantial effort and are close to being ready for parallel reporting consistent with the rollout plan but are not completely ready. Institutions that do not receive approval will be required to employ a form of the Standardized Approach to credit risk and either the Basic Indicator or Standardized Approach to operational risk.

23. An institution achieving approval with conditions will be allowed to use the IRB approach but may be required to adhere to a higher initial floor. Once it achieves full compliance with IRB rollout and data requirements, and OSFI has agreed, the institution may proceed to the first threshold floor of 90% described in section 1.9. In either case, OSFI will not rule out the possibility of requiring floors on individual asset classes or reviewing approval conditions based on implementation progress.

24. Besides meeting the qualitative and quantitative requirements for an IRB rating system, institutions will need, at a minimum, to satisfy the following requirements to obtain approval with conditions (with a possibly higher initial floor):

- The institution is able to provide parallel reporting for at least two quarters – at least one without material manual intervention.
- The institution is meeting the IRB use test.
- On implementation the institution will have rolled out IRB to approximately 80% of its consolidated credit exposures, as of the end of the fiscal year prior to the fiscal year in which the institution first applies to use the IRB approach, measured in terms of gross exposure and total credit risk-weighted assets.

25. Once an institution has received an approval to use the IRB Approach, OSFI will monitor, on a quarterly basis, the institution's compliance with the 80% IRB threshold for its consolidated credit exposures. In the post-approval period, compliance will be measured in terms of gross exposure and total credit risk-weighted assets as at the applicable quarter.

26. An institution will remain in the approval with conditions category until it meets both the qualitative and quantitative requirements for an IRB rating system set out in this Guideline and the requirements listed below:

- The institution adheres to its agreed rollout plan and conditions.
- Internal audit provides an opinion as to the design and effectiveness of the internal controls, including those for material manual intervention, that ensure data quality and integrity.
- The institution has a functioning capital management program that makes use of robust stress testing. An institution should be able to demonstrate the potential cross-cycle sensitivity of its capital ratios and minimum capital requirements and how the institution intends to manage this within its broader capital planning process.

27. Once an institution meets the above requirements, it may proceed to full approval subject to the capital floor described in section 1.9.

1.5. Calculation of OSFI minimum capital requirements

28. Institutions are expected to meet minimum risk-based capital requirements for exposure to credit risk, operational risk and, where they have significant trading activity, market risk. Total risk-weighted assets are determined by multiplying the capital requirements for market risk and operational risk by 12.5 and adding the resulting figures to risk-weighted assets for credit risk. The capital ratios are calculated by dividing regulatory capital by total risk-weighted assets. The three important ratios consist of common equity tier 1, tier 1 and total capital and are calculated as follows:

$$\text{Risk Based Capital Ratios} = \frac{\text{Capital}}{\text{Credit RWA}_{\text{Standardized}} + 1.06 \times \text{Credit RWA}_{\text{IRB}} + 12.5 \times \text{Operational Risk} + 12.5 \times \text{Market Risk}}$$

Where:

Capital = Common equity tier 1 (CET1), tier 1 capital, or total capital as set out in Chapter 2.

Credit RWA_{Standardized} = Risk-weighted assets for credit risk determined using the Standardized approach in Chapters 3 and 7.

Credit RWA_{IRB} = Risk-weighted assets for credit risk determined using the Internal Ratings Based (IRB) approaches in Chapters 6 and 7.

Operational Risk = The operational risk capital charge calculated using one of the approaches in Chapter 8.

Market Risk = The market risk capital charge using one or a combination of the standardized or internal models approaches set out in Chapter 9.

29. Table 1 provides the minimum common equity tier 1, tier 1 and total capital ratios before application of the capital conservation buffer. Institutions are expected to meet the minimum capital requirements on a continuous basis. The ratios between 2019 and 2021 include the phase-out of non-qualifying capital instruments as outlined in chapter 2. The phase-in of regulatory adjustments described in chapter 2 has concluded in Q4 2017.

Table 1: Minimum capital requirements – effective Q1 each year									
	2013	2014	2015	2016	2017	2018	2019	2020	2021
Common Equity Tier 1 (CET1)	3.5%	4.0%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
Tier 1 capital	4.5%	5.5%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
Total capital	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Phase-in and Phase-out elements									
Phase-in: Regulatory Adjustments – see Chapter 2, section 2.3 for details)		20%	40%	60%	80%	100%	100%	100%	100%
Phase-out: Capital instruments that no longer qualify as non-core Tier 1 or Tier 2 capital – phased out over 10 year horizon beginning in 2013.	90%	80%	70%	60%	50%	40%	30%	20%	10%

1.6. Mandated Capital Buffers

30. In addition to the minimum capital ratios, institutions will be required to hold a capital conservation buffer and, where it has been activated by the Superintendent, a countercyclical buffer.

1.6.1 Capital Conservation Buffer

31. The capital conservation buffer is designed to avoid breaches of minimum capital requirements. Outside of periods of stress, institutions should hold buffers of capital above the regulatory minimums. Should buffers be drawn down, institutions should implement a capital restoration plan for rebuilding buffers within a reasonable timeframe or, where the breach is expected to be corrected promptly, a plan that provides assurance that the capital conservation buffer recovery is not temporary. The capital restoration plan should be discussed with OSFI. There are a range of actions that can be taken to rebuild buffers including reducing discretionary distributions of earnings. This could include reducing dividend payments, share-buy-backs and to the extent they are discretionary, staff bonus payments. Institutions may also choose to raise new capital from the private sector as an alternative to conserving internally generated capital. [BCBS June 2011 par 122, 123, 124]

32. Greater efforts should be made to rebuild buffers the more they have been depleted. In the absence of raising capital in the private sector, the share of earnings retained by institutions for the purpose of rebuilding capital buffers should increase the nearer that actual capital levels are to minimum capital requirements. [BCBS June 2011 par 125]

33. It is not acceptable for institutions which have depleted their capital buffers to use future predictions of recovery as justification for maintaining generous distributions to shareholders, other capital providers and employees. These stakeholders, rather than depositors, must bear the risk that recovery will not be forthcoming. [BCBS June 2011 par 126]

34. The capital conservation buffer establishes a safeguard above the minimum capital requirements and can only be met with Common Equity Tier 1 capital. The capital conservation buffer is being phased-in between 2016 and 2019 and when fully transitioned the buffer is 2.5% of risk weighted assets. Institutions should maintain the minimum Common Equity Tier 1 capital ratio, Tier 1 capital ratio and Total capital ratio plus the capital conservation buffer. [BCBS June 2011 par 129, 130]

Table 2: Capital conservation buffer – effective Q1 each year							
	2013	2014	2015	2016	2017	2018	2019
Capital conservation buffer				0.625%	1.25%	1.875%	2.50%
Minimum capital ratios including the applicable capital conservation buffer							
Common equity tier 1 (CET1)	3.5%	4.0%	4.5%	5.125%	5.75%	6.375%	7.0%
Tier 1 capital	4.5%	5.5%	6.0%	6.625%	7.25%	7.875%	8.5%
Total capital	8.0%	8.0%	8.0%	8.625%	9.25%	9.875%	10.5%

35. Table 3 sets out the capital conservation ratios an institution must meet at various levels of Common Equity Tier 1 capital³, and reflects the phase-in of the capital conservation buffer (which will be fully in place for 2019). Once imposed, conservation ratios will remain in place until such time as capital ratios have been restored. If an institution wants to make payments in excess of the constraints set out in Table 3, sufficient capital must be raised in the private sector to fully compensate for the excess distribution. This alternative should be discussed with OSFI as part of an institution's Internal Capital Adequacy Assessment Process (ICAAP). For the purposes of determining the minimum conservation buffer, the Common Equity Tier 1 ratio includes amounts used to meet the 4.5% minimum Common Equity Tier 1 requirement, but excludes any additional Common Equity Tier 1 needed to meet the 6% Tier 1 and 8% Total Capital requirements. For example, in 2019, a bank with 8% CET1 and no additional Tier 1 or Tier 2 capital would meet all minimum capital requirements, but would have a zero conservation buffer and therefore be subject to the 100% constraint on capital distributions. [BCBS June 2011 par 131].

Table 3: Minimum capital conservation ratios for corresponding levels of Common Equity Tier 1 (CET1), by relevant year				
2016 CET1 Ratio	2017 CET1 Ratio	2018 CET1 Ratio	2019 CET1 Ratio	Capital Conservation Ratio (expressed as percentage of earnings)
4.5% - 4.656%	4.5% - 4.813%	4.5% - 4.969%	4.5% - 5.125%	100%

³ Similar capital conservation ratios apply where an institution breaches its Tier 1 capital or Total capital requirements. In the event that an institution simultaneously breaches more than one capital requirement (e.g. 7% CET1, 8.5% Tier 1, 10.5% Total capital in 2019) it must apply the most constraining Capital Conservation Ratio.

2016 CET1 Ratio	2017 CET1 Ratio	2018 CET1 Ratio	2019 CET1 Ratio	Capital Conservation Ratio (expressed as percentage of earnings)
>4.656% - 4.813%	>4.813% - 5.125%	>4.969% – 5.438%	>5.125% - 5.75%	80%
>4.813% - 4.969%	>5.125% - 5.438%	>5.438% - 5.906%	>5.75% - 6.375%	60%
>4.969% - 5.125%	>5.438% - 5.75%	>5.906% - 6.375%	>6.375% - 7.0%	40%
>5.125%	>5.75%	>6.375%	>7.0%	0%

36. Commencing January 1, 2016, if an institution’s capital ratios fall below the levels set out in Table 2, capital conservation ratios will be imposed that automatically limit distributions. As outlined in Table 3, these limits increase as an institution’s capital levels approach the minimum requirements. For example, an institution with a CET1 capital ratio in the range of 5.125% to 5.75%, in 2019, would be required to maintain the equivalent of 80% of its earnings in the subsequent quarter. For clarity, where an institution’s disclosed ratios are within the ranges where restrictions apply, distributions for the following quarter will be constrained based on the current reported ratio irrespective of the capital position of the institution at that point. For illustration, an institution reporting to OSFI a CET1 ratio of 5.37% for Q1 2019 would be required to conserve 80% of its Q2 2019 earnings. Restrictions would remain in place until the capital conservation buffer is restored. [BCBS June 2011 par 129]

37. Items considered to be distributions include dividends and share buybacks, discretionary payments on additional tier 1 capital instruments and discretionary bonus payments to staff. Payments that do not result in depletion of common equity tier 1, which may for example include certain stock dividends, are not considered distributions. [BCBS June 2011 par 132a)]

38. Earnings are defined as distributable profits calculated prior to the deduction of elements subject to the restriction on distributions. Earnings are calculated after the tax which would have been reported had none of the distributable items been paid. As such, any tax impact of making such distributions are reversed out. Where an institution does not have positive earnings and has a shortfall in its Common Equity Tier 1, Tier 1, or Total Capital ratio, it will be restricted from making positive net distributions. [BCBS June 2011 par 132(b)]

39. As outlined in Table 2, the capital conservation buffer will be phased-in between the first fiscal quarter of 2016 and year-end 2018 becoming fully effective in the first fiscal quarter of 2019. It began at 0.625% of RWAs for the first fiscal quarter of 2016 and increases each subsequent year by an additional 0.625 percentage points, to reach its final level of 2.5% of RWAs in the first fiscal quarter of 2019. [BCBS June 2011 par 133]

1.6.2 Countercyclical Buffer

40. The countercyclical buffer aims to ensure that banking sector capital requirements take account of the macro-financial environment in which banks operate. It will be deployed when excess aggregate credit growth is judged to be associated with a build-up of system-wide risk to

ensure the banking system has a buffer of capital to protect it against future potential losses. [BCBS June 2011 par 137]

41. The countercyclical buffer regime consists, in Canada, of the following elements:

- (a) OSFI, in consultation with its Senior Advisory Committee⁴ (SAC) partners, will monitor credit growth and other indicators⁵ that may signal a build-up of system-wide risk⁶ and make an assessment of whether credit growth is excessive and is leading to the build-up of system-wide risks. Based on this assessment, a countercyclical buffer requirement, ranging from 0% to 2.5% of total risk-weighted assets, will be put in place when circumstances warrant. This requirement will be released when OSFI, in consultation with its SAC partners, assesses that system-wide risks have dissipated or crystallized.
- (b) Institutions with private sector credit exposures outside Canada will look at the geographic location of those exposures and calculate their consolidated countercyclical capital buffer requirement as a weighted average of the requirements that are being applied in jurisdictions to which they have credit exposures.
- (c) The countercyclical buffer requirement to which the institution is subject will be implemented by way of an extension of the capital conservation buffer. Institutions will be subject to restrictions on distributions of earnings if they do not meet the requirement.

[BCBS June 2011 par 138]

42. Institutions must meet this buffer with Common Equity Tier 1. The requirement to which an institution is subject is implemented through an extension of the capital conservation buffer described in section 1.6.1. Consistent with the capital conservation buffer, the Common Equity Tier 1 ratio in this context includes amounts used to meet the 4.5% minimum Common Equity Tier 1 requirement, but excludes any additional Common Equity Tier 1 needed to meet the 6% Tier 1 and 8% Total Capital requirements, i.e. CET1 must first be used to meet minimum capital requirements (including the Tier 1 and Total Capital requirements) before the remainder can contribute to the capital buffers. [BCBS June 2011 footnote 53]

43. Table 4 below shows the minimum capital conservation ratios an institution must meet at various levels of CET1 capital ratio⁷. [BCBS June 2011 par 147]

⁴ SAC is a non-statutory body chaired by the Deputy Minister of Finance. Its membership is the same as the Financial Institutions Supervisory Committee (“FISC”), i.e. OSFI, the Department of Finance, the Bank of Canada, the Canada Deposit Insurance Corporation, and the Financial Consumer Agency of Canada. The SAC operates as a consultative body and provides a forum for policy discussion on issues pertaining to the financial sector.

⁵ The document *Guidance for national authorities operating the countercyclical capital buffer* sets out the principles that national authorities have agreed to follow in making buffer decisions. This document provides information that should help institutions to understand and anticipate the buffer decisions made by national authorities in the jurisdictions to which they have credit exposures. This document is available at www.bis.org/publ/bcbs187.pdf. [BCBS June 2011 par 140]

⁶ The Bank of Canada’s Financial System Review (FSR) will be the primary source of public information on macro-financial developments and the state of vulnerabilities in Canada with regard to the countercyclical buffer.

⁷ Similar constraints apply with respect to breaches of Tier 1 capital and Total capital requirements. Institutions should apply the most constraining Capital Conservation Ratio where they breach more than one requirement.

Table 4 – Individual institution minimum capital conservation standards	
Common Equity Tier 1	Minimum Capital Conservation Ratios (expressed as a percentage of earnings)
Within first quartile of buffer	100%
Within second quartile of buffer	80%
Within third quartile of buffer	60%
Within fourth quartile of buffer	40%
Above top of buffer	0%

44. The consolidated buffer will be a weighted average of the buffers deployed in Canada and across BCBS member jurisdictions and selected non-member jurisdictions⁸ to which the institution has private sector credit exposures. [BCBS June 2011 par 143]

45. Institutions will look at the geographic location of their private sector credit exposures and calculate their consolidated countercyclical buffer as a weighted average of the buffers that are being applied in each jurisdiction to which they have such exposures. The buffer that will apply to an institution will thus reflect the geographic composition of its portfolio of private sector credit exposures. [BCBS June 2011 par 143]

46. The weighting applied to the buffer in place in each jurisdiction will be the institution's credit risk RWA that relates to private sector credit exposures in that jurisdiction divided by the institution's credit risk RWA that relates to private sector credit exposures across all jurisdictions. [BCBS June 2011 par 144]

47. Institutions will thus be subject to a consolidated countercyclical buffer that varies between 0%, where no jurisdiction where exposures reside has activated a buffer, and 2.5% of total RWA. [BCBS June 2011 par 142]

48. Private sector credit exposures in this context include all private sector credit exposures⁹, other than exposures subject to the *Market Risk* Framework as specified in Chapter 9 of this guideline, that attract a credit risk capital charge (RWA), including non-bank financial sector and securitizations but excluding banks. [BCBS June 2011 par 143]

49. When considering the jurisdiction to which a private sector credit exposure relates, institutions should use an ultimate risk basis. Ultimate risk refers to the jurisdiction where the final risk lies¹⁰ as opposed to the jurisdiction of the immediate counterparties. [BCBS June 2011 footnote 52]

⁸ Institutions are expected to reciprocate the buffers implemented by every jurisdiction listed on the dedicated page of the BIS website: <http://www.bis.org/bcbs/ccyb/index.htm>.

⁹ See Basel Capital Adequacy Return (BCAR) instructions at http://www.osfi-bsif.gc.ca/Eng/fi-if/rtn-rlv/fr-rf/dti-id/Pages/BCAR_BA.aspx for detailed technical instructions.

¹⁰ For purposes of determining the country of residence of the ultimate obligor, guarantees and credit derivatives are considered but not collateral with the exception of exposures where the lender looks primarily to the revenues generated by the collateral, both as the source of repayment and as security for the exposure, such as *Project*

50. The decision to activate, increase, decrease or release the countercyclical buffer will be formally communicated through an OSFI Advisory. The Superintendent may exempt groups of institutions, other than DSIBs and foreign bank subsidiaries in Canada, from the countercyclical buffer requirements if the application would not meet the stated objectives of the countercyclical buffer^{11,12}. The scope of application and the rationale would be described in the OSFI Advisory. To give institutions time to adjust to a buffer level, OSFI will pre-announce its decision to activate or raise the level of the countercyclical buffer by up to 12 months but no less than 6 months. Conversely, decisions to release the countercyclical buffer will normally take effect immediately. Institutions with foreign exposures are expected to match host jurisdictions' implementation timelines unless the announcement period is shorter than 6 months in which case compliance will only be required 6 months after the host's announcement. [BCBS June 2011 par 141]

51. The countercyclical capital buffer regime will be phased-in in parallel with the capital conservation buffer becoming fully effective in the first fiscal quarter of 2019. During the phase-in period, institutions will only be expected to comply with foreign countercyclical buffers according to the transitional arrangements. This means that the maximum countercyclical buffer relating to foreign private sector credit exposures will be capped at 1.25% of total RWAs in the first quarter of 2017 and increase each subsequent year by an additional 0.625%, to reach its final maximum of 2.5% of total RWAs in the first quarter of 2019. Jurisdictions may choose to accelerate the build-up of the countercyclical buffer or choose to implement larger buffer; in such cases the reciprocity provisions will not apply to the additional amounts or earlier time-frames. In addition, institutions are not expected to replicate sectorial buffers or similar measures adopted by foreign jurisdictions that depart from the internationally agreed countercyclical buffer. [BCBS June 2011 par 150]

52. The phase-in arrangements apply solely in the context of complying with foreign countercyclical buffers and do not prevent OSFI from accelerating the deployment of a countercyclical buffer in Canada.

53. Institutions must ensure that their countercyclical buffer requirements are calculated and publically disclosed with at least the same frequency as their minimum capital requirements. In addition, when disclosing their buffer requirement, if any, institutions must also disclose the geographic breakdown of their private sector credit exposures used in the calculation of the buffer requirement. [BCBS June 2011 par 149]

Finance. The location of a securitization exposure is the location of the underlying obligor or, where the exposures are located in more than one jurisdiction, the institution can allocate the exposure to the country with the largest aggregate unpaid principal balance.

¹¹ The Superintendent will consider factors such as whether an institution's business model involves providing credit through intermediation of funds or whether the conditions that give rise to financial system-wide issues are explicitly addressed in a robust manner in the institution's internal capital targets.

¹² The CCyB is to be computed and applied at the consolidated FRFI parent level, i.e. OSFI regulated deposit-taking institutions who are subsidiaries of an OSFI regulated deposit-taking institution are not subject to the CCyB.

1.7. Capital targets

54. In addition to the OSFI minimum capital requirements stipulated in section 1.5, OSFI expects all institutions to maintain target capital ratios equal to or greater than the 2019 minimum capital ratios plus conservation buffer level. For all institutions this means a target CET1 ratio of 7%, 8.5% for Tier 1 and 10.5% for Total capital.

55. These targets are applicable to all institutions and are triggers for supervisory intervention consistent with the OSFI Guide to Intervention¹³. If an institution is off-side the relevant target ratios, supervisory action will be taken proportional to the shortfall and circumstances that caused the shortfall and may include a range of actions, including restrictions on distributions.

56. The Superintendent may set higher target capital ratios for individual institutions or groups of institutions where circumstances warrant.

57. The need for a higher target capital ratio would consider how robust existing capital ratios are in light of an institution's allowances, stress testing program and ICAAP results¹⁴. Such higher target capital ratios are a prudential measure only and are therefore meant to ensure institutions have a buffer of capital for protection against future potential losses.

1.8. Domestic Systemically Important Bank (D-SIB) Surcharge

58. OSFI has designated six Canadian institutions as Domestic Systemically Important Banks (D-SIBs): Bank of Montreal, Bank of Nova Scotia, Canadian Imperial Bank of Commerce, National Bank of Canada, Royal Bank of Canada, and Toronto-Dominion Bank of Canada¹⁵. D-SIBs will be subject to a Common Equity Tier 1 surcharge equal to 1% of risk-weighted assets (RWA), commencing January 1, 2016. The 1% capital surcharge will be periodically reviewed in light of national and international developments. This is consistent with the levels and timing set out in the BCBS D-SIB framework¹⁶.

59. The 1% surcharge will be implemented through an extension of the capital conservation buffer. This is in line with the treatment of the additional loss absorbency requirement for globally systemically important banks (G-SIBs). Table 5 below sets out the capital conservation ratios a D-SIB must meet at various levels of Common Equity Tier 1 capital¹⁷ and reflects the phase-in of the capital conservation buffer. D-SIBs will thus be subject to a pre-determined set of restrictions on the ability to make distributions, such as dividends and share buy-backs, if they do not meet these requirements (see relevant provisions of section 1.6.1).

¹³ [Guide to Intervention for Federally Regulated Deposit-Taking Institutions](#)

¹⁴ For OSFI's expectations refer to [Guideline E-18: Stress Testing](#) and [Guideline E-19: Internal Capital Adequacy Assessment Process \(ICAAP\)](#).

¹⁵ Annex 1 contains additional details around OSFI's process for designating Canadian institutions as D-SIBs.

¹⁶ [A framework for dealing with domestic systemically important banks](#) (BCBS: October 2012)

¹⁷ Similar capital conservation ratios apply where a DSIB breaches its Tier 1 capital or Total capital requirements. In the event that a DSIB simultaneously breaches more than one capital requirement (e.g. 8% CET1, 9.5% Tier 1, 11.5% Total Capital in 2019) it must apply the most constraining Capital Conservation Ratio.

Table 5: Minimum capital conservation ratios for D-SIBs at various levels of Common Equity Tier 1 (CET1), by relevant year				
2016 CET1 Ratio	2017 CET1 Ratio	2018 CET1 Ratio	2019 CET1 Ratio	Capital Conservation Ratio
4.5% - 4.906%	4.5% - 5.063%	4.5% - 5.219%	4.5% - 5.375%	100%
>4.906% - 5.313%	>5.063% - 5.625%	>5.219% - 5.938%	>5.375% - 6.250%	80%
>5.313% - 5.719%	>5.625% - 6.188%	>5.938% - 6.656%	>6.250% - 7.125%	60%
>5.719% - 6.125%	>6.188% - 6.75%	>6.656% - 7.375%	>7.125% - 8.0%	40%
>6.125%	>6.75%	>7.375%	>8.0%	0%

60. In addition to the requirements set out in Table 5, OSFI expects all D-SIBs to maintain target capital ratios equal to or greater than the 2019 minimum capital ratios plus conservation buffer level, i.e. 8% CET1, 9.5% Tier 1, and 11.5% Total Capital. The capital targets for D-SIBs, commencing January 1, 2016, will be expressed as single target ratios rather than a conservation buffer plus surcharge. As such, the combined targets for a D-SIB will be triggers for supervisory intervention consistent with the OSFI Guide to Intervention.¹⁸ There are a number of circumstances where OSFI may set higher capital targets, including: Pillar 2 results; OSFI assessment that an institution is high risk and requires additional capital; changes in systemic importance; and establishment of a countercyclical buffer (see section 1.6.2). When setting higher capital targets, OSFI will give consideration to the additional loss coverage provided by the D-SIB surcharge.¹⁹

1.9. Capital floor – advanced approaches

61. For institutions using advanced approaches for credit risk or operational risk, there is a capital floor. The calculation of the floor is set out below for institutions that have implemented the IRB approach for credit risk or the AMA for operational risk as of year-end 2012. Institutions that plan to implement one of the advanced approaches for credit risk or operational risk after year-end 2012 should discuss an appropriate floor calculation with OSFI.

Institutions that have implemented one of the advanced approaches for credit or operational risk as of year-end 2012 must calculate the difference between

- (i) the floor as defined in section 1.9.1, and
- (ii) an adjusted capital requirement as defined in section 1.9.2.

62. If the floor amount is larger than the adjusted capital requirement (i.e. the difference is positive), institutions are required to add 12.5 times the difference to the total risk-weighted assets otherwise calculated under this guideline. This adjusted risk-weighted asset figure must be used as the denominator in the calculation of the risk-based capital ratios.

1.9.1 The capital floor

¹⁸ [Guide to Intervention for Federally Regulated Deposit-Taking Institutions](#)

¹⁹ Paragraph 56 allows the Superintendent to set higher targets for individual institutions or groups of institutions.

63. The capital floor is determined under Guideline A-3 – Calculation of Transitional Capital Floors (November 2007), which is a modified version of the Capital Adequacy Requirements Guideline that was in effect prior to Basel II. The floor is derived by applying an adjustment factor to the net total of the following amounts:

- i. 8% of total risk-weighted assets, plus
- ii. all Tier 1 and Tier 2 deductions, less
- iii. the amount of any general allowance that may be recognized in Tier 2.

64. The adjustment factor is normally set at 90%. However, depending in the results of OSFI reviews of individual institutions, OSFI may set a higher or lower adjustment factor.

1.9.2 Adjusted capital requirement

65. The adjusted capital requirement, calculated during the years in which a floor applies, is based on application of this guideline and is equal to the net total of the following amounts:

- i. 8% of total risk-weighted assets, plus
- ii. all Tier 1 and 2 deductions, less
- iii. excess provisions included in Tier 2, less
- iv. the amount of general allowances that may be recognized in Tier 2 in respect of exposures for which the standardized approach is used.

1.10. Credit Valuation Adjustment (CVA) Transitioning and Market Risk Hedges

66. The CVA capital charge, as specified in Chapter 4 of this guideline, will be phased in over a five year period beginning in 2014 according to either Option 1 or Option 2 as discussed below.

67. Although market risk hedges of CVA are not recognized in the CVA capital charge, market risk hedges used for the purposes of mitigating CVA risk and managed as such, are exempt from market risk capital requirements.

68. Institutions must choose between the following two options for calculating CVA RWA for purposes of calculating CET1, Tier 1 and Total capital ratios during the period from Q1 2014 to Q4 2018.

Option 1

CET1 Ratio = CET1 Capital / CET1 Capital RWA

Tier 1 Ratio = Tier 1 Capital / Tier 1 Capital RWA

Total Capital Ratio = Total Capital / Total Capital RWA

Where :

$$\text{CET1 Capital RWA} = \text{RWA (Non-CVA)} + \text{RWA (CVA)} * \text{CET1 Capital scalar}$$

$$\text{Tier 1 Capital RWA} = \text{RWA (Non-CVA)} + \text{RWA (CVA)} * \text{Tier 1 Capital scalar}$$

$$\text{Total Capital RWA} = \text{RWA (Non-CVA)} + \text{RWA (CVA)} * \text{Total Capital scalar}$$

The values for the CET1 Capital scalar, Tier 1 Capital scalar, and Total Capital scalar vary by year and can be found in Table 6 below.

<i>Table 6: Scalars for CET1, Tier 1 and Total Capital, by relevant year</i>						
	2014	2015	2016	2017	2018	2019
CET1 Capital scalar	0.57	0.64	0.64	0.72	0.80	1.00
Tier 1 Capital scalar	0.65	0.71	0.71	0.77	0.83	1.00
Total Capital scalar	0.77	0.77	0.77	0.81	0.86	1.00

In the years after 2019, the scalar of 1.00 will be applied (i.e. no modification to the rules in this guideline).

Option 2

$$\text{CET1 Ratio} = \text{CET1 Capital} / \text{Total Capital RWA}$$

$$\text{Tier 1 Ratio} = \text{Tier 1 Capital} / \text{Total Capital RWA}$$

$$\text{Total Capital Ratio} = \text{Total Capital} / \text{Total Capital RWA}$$

Where :

$$\text{Total Capital RWA} = \text{RWA (Non-CVA)} + \text{RWA (CVA)} * \text{Total Capital scalar}$$

Annex 1 – Domestic Systemic Importance and Capital Targets

1. The framework²⁰ for dealing with D-SIBs set out by the BCBS indicates that domestic systemic importance should be assessed with reference to the impact that a bank's failure could have on the domestic economy. Further, it notes that this assessment should consider bank-specific characteristics of systemic importance, such as size, inter-connectedness and substitutability, which are correlated with the systemic impact of failure. Accordingly, OSFI's assessment of domestic systemic importance for Canadian banks considers a range of indicators such as asset size, intra-financial claims and liabilities, and their roles in domestic financial markets and in financial infrastructures. This section describes the inferences from various measures of systemic importance.

Size

2. In general, a bank's distress or failure is more likely to damage the Canadian financial system or economy if its activities comprise a large share of domestic banking activity. When Canadian banks are compared according to their size as measured by total consolidated assets, and by place of booking of assets, that is, according to whether the assets are booked in Canada or abroad, the data show that:
 - the largest six banks account for more than 90% total banking assets;
 - the differences among the largest banks are smaller if only domestic assets are considered; and
 - relative importance declines rapidly after the top five banks and after the sixth bank.

Inter-connections

3. The more inter-connected a bank is to other financial institutions, the greater is the potential for the failure of that bank to transmit problems throughout the financial system and to the broader economy. As a result, measuring inter-connectedness is also helpful to gauge systemic importance. Comparing Canadian banks according to measures of intra-financial assets (i.e. claims on other financial institutions) and intra-financial liabilities (i.e. obligations to other financial institutions) again points to the dominance of the largest banks. The rank-ordering among these banks, however, depends on the specific inter-connectedness measure under consideration.

Substitutability

4. The systemic impact of a bank's distress or failure is greater the less easily it can be replaced as both a market participant and a financial service provider. As a result, identification of D-SIBs also takes into account the types of roles that banks play in domestic financial markets and in domestic financial infrastructures, which inform views regarding substitutability. For example, this includes underwriter rankings in Canadian financial markets, and the shares of Canadian dollar payments made through Canada's Large Value Transfer System (LVTS) and

²⁰ [A framework for dealing with domestic systemically important banks](#) (BCBS: October 2012)

the Automated Clearing and Settlement System (ACSS); the latter handles all Canadian dollar payments not processed by the LVTS. Again, activity and volume in both LVTS and ACSS are dominated by the largest banks, and bank relative importance varies according to the measure of interest. The largest banks are also the dominant participants in CDSX, the clearing and settlement system for securities transactions in Canada. Some large Canadian banks also play key roles as members of the CLS Bank, the global institution that settles foreign exchange transactions between banks in Canadian dollars and other major currencies.²¹ For example, the Royal Bank of Canada and the Canadian Imperial Bank of Commerce are the key Canadian-dollar liquidity providers for settling Canadian dollar foreign exchange transactions through the CLS network.

5. A variety of additional information has been assessed and recurring themes across the range of evidence are the following:
 - The five largest banks are by far the dominant banks in Canada, and consistently play central roles in a range of activities in the Canadian financial system; and
 - The rank-order importance of the largest banks, as well as the relative differences between them, varies somewhat according to the measure considered.
6. This suggests that there are strong grounds for treating these banks in the same way, rather than relying on arbitrary weights to develop a single index of systemic importance. Further, distinguishing reliably between the adverse effects on the Canadian economy from individual D-SIB failures is largely moot, given the difficulty of credibly differentiating between the large adverse impacts on the Canadian economy from the failure of any one of the largest banks. This also argues against making distinctions between identified Canadian D-SIBs to assign degrees of systemic importance.
7. Given these various considerations, the Canadian D-SIBs are judged to be Bank of Montreal, Bank of Nova Scotia, Canadian Imperial Bank of Commerce, Royal Bank of Canada, and Toronto-Dominion Bank, without further distinction between them. The National Bank of Canada has also been designated as a D-SIB given its importance relative to other less prominent banks and in the interest of prudence given the inherent challenges in identifying ahead of time which banks are likely to be systemic in times of stress. The designation of D-SIB status will be periodically reviewed and updated as needed.

Higher Loss Absorbency Targets

8. The goal of a higher loss absorbency target is to reduce further the probability of failure compared to non-systemic institutions, reflecting the greater impact that a D-SIB failure may have on the domestic financial system and the economy. This surcharge takes into account the structure of the Canadian financial system, the importance of large banks to this financial architecture, and the expanded regulatory toolkit to resolve a troubled financial institution. The BCBS D-SIB framework provides for national discretion to accommodate characteristics of the domestic financial system, and other local features, including the domestic policy

²¹ CLS Bank provides a real-time global network that links a number of national payments systems to settle the foreign exchange transactions of its member banks

framework. The additional capital surcharge for banks designated as systemically important provides credible additional loss absorbency given:

- Extreme loss events as a percentage of RWA among this peer group over the past 25 years would be less than the combination of the CET1 (2.5%) capital conservation buffer and an additional 1%; and
- Current business models of the six largest banks are generally less exposed to the fat tailed risks associated with investment banking than some international peers, and the six largest banks have a greater reliance on retail funding models compared to wholesale funding than some international peers – features that proved beneficial in light of the experience of the last financial crisis.

From a forward looking perspective:

- Canadian banks that hold capital at current targets plus a 1% surcharge (i.e. 8%) should be able to weather a wide range of severe but plausible shocks without becoming non-viable; and
- The higher loss absorbency in a crisis scenario (conversion to common equity or permanent write downs) of the 2% to 3% non-common equity capital in Tier 1 and subordinated debt in total capital required by Basel III also adds to the resiliency of banks.

Relationship with Basel Committee G-SIB Framework

9. OSFI will be adopting the Basel Committee’s framework on the assessment methodology for GSIBs commencing January 1, 2016. The assessment methodology for GSIBs follows an indicator-based approach agreed by the BCBS that will determine which banks are to be designated as GSIBs and subject to additional loss absorbency requirements that range from 1% to 2.5% CET1, depending on a bank's global systemic importance.²² If, and when, a Canadian bank is designated a G-SIB, the higher of the D-SIB and G-SIB surcharges will apply.

Supervisory Implications

10. Canadian D-SIBs are expected to have advanced practices in terms of the design and operation of oversight functions and internal controls. OSFI expects these practices to continue to improve as supervision becomes more intensive and leading international practices evolve. The banks designated as D-SIBs have historically had, and will continue to be subject to, more intensive supervision because of their larger size, broader and more complex business models and consequently more significant risk profiles. The principles of risk based supervisory intensity are reflected in OSFI’s Supervisory Framework.²³ The Framework is applied, on a consolidated basis to all Canadian banks and requires OSFI supervisors to determine the level, extent and intensity of the supervision of banks based on

²² [Global systemically important banks: Assessment methodology and additional loss absorbency requirement](#) (BCBS: November 2011)

²³ [OSFI’s Supervisory Framework](#) (OSFI: February 2011)

the size, nature, complexity and risk profile of the bank. OSFI's enhanced supervision of D-SIBs includes the following:

- Extensive use of supervisory colleges to share and coordinate supervision, including the execution of supervisory plans, with applicable host-country jurisdictions of Canadian D-SIBs;
- Greater frequency and intensity of on- and off-site monitoring of the activities, including more granular forms of risk management reporting to OSFI, and more structured interactions with boards and senior managements;
- More extensive use of specialist expertise relating to credit risk, market risk, operational risk, corporate governance, and AML/compliance;
- Stronger control expectations for important businesses, including the use of 'advanced' approaches for Pillar 1 reporting of credit, market and operational risks;
- Greater use of cross-institution reviews, both domestically and internationally, in order to confirm the use of good risk management, corporate governance and disclosure practices;
- Selective use of external reviews to benchmark leading risk-control practices, especially for instances where best practices may reside outside Canada;
- Regular use of stress tests to inform capital and liquidity assessments;
- Setting, monitoring, and enforcing minimum and target TLAC ratios as set out in OSFI's TLAC Guideline; and
- Development of recovery and resolution plans, as well as discussion of such plans at crisis management groups.
 - The *Key Attributes of Effective Resolution Regimes for Financial Institutions*, released by the FSB in 2011, stress the importance of GSIBs and any other financial institution that could be systemically significant or critical if it fails, being subject to an effective resolution regime. All GSIBs are currently subject to recovery and resolution planning and the FSB is actively tracking progress. In Canada, we began this work some time ago for the list of banks we are now naming as D-SIBs, given the importance of these banks for the domestic regime, with OSFI leading on recovery planning and CDIC (as the federal resolution authority for its member institutions) leading on resolution planning. CDIC has committed significant new resources to the resolution planning process. Recovery and resolution planning is coordinated with other material foreign regulators through crisis management meetings which are coordinated with the broader supervisory college process

Information Disclosure Practices

11. Canadian D-SIBs are expected to have public information disclosure practices covering their financial condition and risk management activities that are among the best of their international peers. Enhanced disclosure of bank risk models and risk management practices can play a helpful role in enhancing market confidence in the model-generated risk weights

used by banks to calculate their capital requirements. As a result, D-SIBs are expected to adopt the recommendations of the Financial Stability Board’s Enhanced Disclosure Task Force²⁴, future disclosure recommendations in the banking arena that are endorsed by international standard setters and the Financial Stability Board, as well as evolving domestic and international bank risk disclosure best practices.

²⁴ [Enhancing the Risk Disclosures of Banks](#). (FSB: October 2012).