



NOTICE TO MEMBERS

No. 2018 – 036

April 19, 2018

REQUEST FOR COMMENTS

AMENDMENTS TO THE RISK MANUAL OF THE CANADIAN DERIVATIVES CLEARING CORPORATION INTRODUCING AN AMENDED METHODOLOGY TO COMPUTE MISMATCHED SETTLEMENT RISK

Summary

On February 6, 2018, the board of directors of the Canadian Derivatives Clearing Corporation (“CDCC”) approved amendments to CDCC’s Risk Manual in order to introduce an amended methodology to compute mismatched settlement risk. The proposed methodology enhancement will ensure that sufficient financial resources are available to CDCC with respect to those settlements and improve the risk assessment of the Clearing Members.

Please find enclosed an analysis document as well as the proposed amendments to the Risk Manual.

Process for Changes to the Rules

CDCC is recognized as a clearing house under section 12 of the *Derivatives Act* (Québec) by the Autorité des marchés financiers (“AMF”) and is a recognized clearing agency under section 21.2 of the *Securities Act* (Ontario) by the Ontario Securities Commission (“OSC”).

The board of directors of CDCC has the power to approve the adoption or amendment of the Rules and Manuals of CDCC. Amendments are submitted to the AMF in accordance with the self-certification process and to the OSC in accordance with the process provided in its Recognition Order.

Comments on the proposed amendments must be submitted before May 25th, 2018. Please submit your comments to:

Mr. Martin Jannelle
Legal Counsel
Canadian Derivatives Clearing Corporation
Tour de la Bourse
P.O. Box 61, 800 Victoria Square
Montréal, Québec H4Z 1A9
E-mail: legal@tmx.com

A copy of these comments shall also be forwarded to the AMF and to the OSC to:



*Mrs. Anne-Marie Beaudoin
Corporate Secretary
Autorité des marchés financiers
Tour de la Bourse, P.O. Box 246
800 Victoria Square, 22nd Floor
Montréal, Québec H4Z 1G3
E-mail: consultation-en-cours@lautorite.qc.ca*

*Manager, Market Regulation
Market Regulation Branch
Ontario Securities Commission
Suite 2200,
20 Queen Street West
Toronto, Ontario, M5H 3S8
Fax: 416-595-8940
email: marketregulation@osc.gov.on.ca*

For any question or clarification, Clearing Members may contact CDCC's Corporate Operations.

Glenn Goucher
President and Chief Clearing Officer
CDCC



**AMENDMENTS TO THE RISK MANUAL OF THE CANADIAN DERIVATIVES CLEARING
CORPORATION INTRODUCING AN AMENDED METHODOLOGY TO COMPUTE
MISMATCHED SETTLEMENT RISK**

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I. SUMMARY

The Canadian Derivatives Clearing Corporation (“CDCC” or the “Corporation”) is hereby proposing amendments to the Risk Manual in support of an amended methodology to compute Mismatched Settlement Risks.

A mismatched settlement risk is the risk arising from a lag between the settlements of positions that provide a margin offset with other positions. More specifically, CDCC may face, in certain situations, a risk that a Clearing Member settles a position that provides a Base Initial Margin offset with other positions.

The proposed methodology enhancement will ensure that sufficient financial resources are available to CDCC with respect to those settlements and improve the risk assessment of our Clearing Members.

Additionally, because of the new approach for calculating the Variation Margin requirement (exchange of securities) that will be introduced and effective shortly at CDCC, Variation Margin will be excluded from the amended methodology for computing mismatched settlement risk.

These amendments are further discussed therein. All terms beginning with a capital letter but not defined herein shall have the meaning set forth in the Operations Manual, the Risk Manual and the Default Manual, as the case may be.

II. ANALYSIS

a. Background

In June 2014, in response to IIAC Members and Bank of Canada’s request, CDCC proceeded to the assessment of the potential margin shortfall resulting from settlement mismatches.

In May 2015, CDCC started to request from its Clearing Members an Additional Margin for Mismatched Settlement Risk for Fixed Income Transactions. Essentially, this surcharge of margin takes into consideration all possible combinations for a Clearing Member to settle its positions, as well as the worst scenario amongst all the combinations, and compare the value of the margin requirement to the initial margin. The resulting difference represents the “mismatched settlement risk” as defined in the Risk Manual.

In December 2017, CDCC reviewed the methodology employed to compute such mismatched settlement risk. In specific cases, the methodology generates very conservative risk figures. The methodology enhancement now proposed by CDCC will ensure that CDCC holds sufficient financial resources and improve the risk assessment for the Clearing Members.

Additionally, because of the new approach for calculating the Variation Margin requirement (exchange of securities) that will be introduced and effective shortly at CDCC, Variation Margin will be excluded from the amended methodology for computing mismatched settlement risk.

b. Description and Analysis of Impacts

The proposed methodology enhancement will ensure that CDCC maintains its ability to mitigate the risk that a Clearing Member settles a position that provides a Base Initial Margin offset with other positions. It will also ensure that sufficient financial resources are available to CDCC and improve the risk assessment of the Clearing Members.

A decrease in the average margin requirement of all Clearing Members has been observed when using the amended methodology to compute Mismatched Settlement Risk. In fact, when comparing the existing methodology to the amended methodology over a one year period (October 2016 to October 2017), we find that the average requirement for all Clearing Members has decreased by approximately 34%.

c. Proposed Amendments

Please refer to Appendix 1 attached. The amendments have been made to the version of the Risk Manual that has been published as part of a Request for comments on August 30, 2017 (see Notice to Members 2017-126).

In short, Variation Margin will be excluded from the amended methodology for computing Mismatched Settlement Risk while several scenarios representing the potential cases that may trigger a Mismatched Settlement Risk following the settlement of positions will now replace the two scenarios that were used previously.

Please see Appendix 2 for the list of scenarios that will be used with the new methodology to compute Mismatched Settlement Risk.

d. Benchmarking

Notwithstanding our efforts to gather information from other central counterparties on this particular topic (mismatched settlement risk), given the lack of public information, CDCC was not in a position to conduct a relevant benchmarking review.

III. PRIMARY MOTIVATION

The primary motivation of the amendments to the Mismatched Settlement Risk computation methodology is to (i) allow CDCC to maintain its ability to mitigate the risk that a Clearing Member settles a position that provides a Base Initial Margin offset with other positions, (2) improve the risk assessment of the Clearing Members, and (3) adapt the methodology to the change of process for the new Variation Margin Requirement for Fixed Income Transactions that will be introduced and effective shortly at CDCC.

IV. IMPACTS ON TECHNOLOGICAL SYSTEMS

Some form of technological development will be required. However, there are no impacts on CDCC's technological systems as the analytic tools to support the mismatched settlement risk management process are developed and tested internally by CDCC, separately from CDCC's current clearing systems. In addition, the proposed changes should have no impact on the technological systems of the current and future Clearing Members.

V. OBJECTIVES OF THE PROPOSED MODIFICATIONS

By introducing the proposed changes to the margin methodology, the Corporation intends to improve the applicable risk coverage.

VI. PUBLIC INTEREST

In CDCC's opinion, the proposed amendment is not contrary to the public interest.

VII. MARKET IMPACTS

Depending on its portfolio composition, the changes to the mismatched settlement risk methodology could result in a higher or lower margin requirement for a specific Clearing Member.

However, a decrease in the average margin requirement of all Clearing Members has been observed when using the amended methodology to compute Mismatched Settlement Risk. In fact, when comparing the existing methodology to the amended methodology over a one year period (October 2016 to October 2017), we find that the average requirement for all Clearing Members has decreased by approximately 34%.

VIII. PROCESS

The proposed amendments are submitted for approval to CDCC Board of Directors. After the approval has been obtained, the proposed amendments, including this analysis, will be transmitted to the Autorité des marchés financiers in accordance with the self-certification process, and to the Ontario Securities Commission in accordance with the "Rule Change Requiring Approval in Ontario" process. The proposed amendments and analysis will also be submitted for approval to the Bank of Canada in accordance with the Regulatory Oversight Agreement.

IX. EFFECTIVE DATE

Subject to public comments and regulatory guidance, CDCC expects the proposed amendments to become effective in Q2 2018, at the latest.

X. ATTACHED DOCUMENTS

Appendix 1: Proposed amendments to the Risk Manual (based on the version published as part of a Request for comments on August 30, 2017 - see Notice to Members 2017-126).

Appendix 2: List of scenarios - Mismatched Settlement Risk.

APPENDIX 2

New Mismatched Settlement Risk

Portfolio effect is embedded in the Methodology which ensure sufficient financial resources and better risk assessment.

Eight scenarios representing the potential cases that may trigger a Mismatched Settlement Risk following the settlement of positions have been identified.

The eight “what-if scenarios” capture the different settlement cases where the CM and/or the counterparty of the CM fails to deliver the offsetting leg of the trades for settlement.

The scenario with the maximum Incremental Initial Margin value greater than zero is then used as the additional margin for mismatched settlement risk.

Variation Margin (VM) is excluded of the Mismatched methodology resulting from the new approach for calculating the VM requirement (exchange of securities).

The following table describes the portfolio composition for margining purpose for each scenario:

Scenarios	Long T	Short T	Long (T+1)	Short (T+1)	Net (T+2) and beyond
1			X	X	X
2		X	X	X	X
3	X		X	X	X
4		X		X	X
5	X		X		X
6				X	X
7			X		X
8					X



RISK MANUAL

30 AUGUST 2017

Section 1: Margin Deposits

[...]

1.1 MARGIN REQUIREMENT

The Margin Requirement is composed of the Initial Margin and the Variation Margin.

1.1.1 Initial Margin

The Initial Margin is composed of the Base Initial Margin (or Adjusted Base Initial Margin, as the case may be) and the Additional Margins. In order to cover the Initial Margin described below, Clearing Members shall deliver to CDCC an acceptable form of Deposits in accordance with Section 2 of this Manual.

[...]

1.1.1.2 Additional Margins

In addition to the Base Initial Margin (or Adjusted Base Initial Margin, as the case may be), the Corporation requires Margin Deposits for the following Additional Margins:

- (1) Additional Margin for Concentration Risk
- (2) Additional Margin for Specific Wrong-Way Risk
- (3) Additional Margin for Mismatched Settlement Risk
- (4) Additional Margin for Intra-day Variation Margin Risk
- (5) Additional Margin for Variation Margin Delivery Risk
- (6) Additional Capital Margin
- (7) Additional Margin for Uncovered Risk of Limited Clearing Members
- (8) any other additional Margins as set out in the Rules (other than Margin required pursuant to Rule D-607).

[...]

ADDITIONAL MARGIN FOR MISMATCHED SETTLEMENT RISK

The Mismatched Settlement Risk is the risk arising from a lag between the settlement of positions ~~that~~~~which~~ result in a Margin offset. More specifically, CDCC faces a risk that a Clearing Member settles a position that provides ~~either~~ a Base Initial Margin offset with other positions ~~or a~~ ~~Variation Margin credit~~ on the rest of the portfolio.

Given the fact that Margin offsets are granted when Fixed Income portfolios have both long and short positions without taking into account the settlement dates, the Additional Margin charge will be calculated ~~on a gross basis~~ for the positions that could cause mismatched settlement exposure prior to a default.

In order to address the Mismatched Settlement Risk¹, CDCC will perform forward looking analysis to forecast material changes in the Base Initial Margin Margin Requirements² as a result of ~~end-of-day settlements of~~ Fixed Income Transactions.

The Additional Margin for Mismatched Settlement Risk will be calculated by using the maximum of several scenarios representing the potential cases that may trigger a Mismatched Settlement Risk following the settlement of positions A or B, minus the total Base Initial Margin Requirement for Fixed Income Transactions.:-

~~Where A represents the maximum of the Margin Requirement for buy transactions that settle on the current Business Day (t) or Margin Requirement for sell transactions that settle on the current Business Day (t), to which is added the remaining Margin Requirement for Fixed Income Transactions that settle on t+1 and beyond.~~

~~Where B represents the maximum of the Margin Requirement for buy transactions that settle on the next Business Day (t+1) or Margin Requirement for sell transactions that settle on the current Business Day (t) and the next Business Day (t+1), to which is added the remaining Margin Requirement for Fixed Income Transactions that settle on the second Business Day following the Transaction (t+2) and beyond.~~

¹ The Additional Margin for Mismatched Settlement Risk is not applied for physical delivery of Government of Canada Bond Futures (CGB, CGZ, CGF and LGB).

~~² For the purposes of this "Additional Margin for Mismatched Settlement Risk" section, the Margin Requirement includes the Base Initial Margin (or Adjusted Base Initial Margin, as the case may be) and the Variation Margin.~~