



<input checked="" type="checkbox"/> Trading – Interest Rate Derivatives	<input checked="" type="checkbox"/> Back-office - Options
<input checked="" type="checkbox"/> Trading – Equity and Index Derivatives	<input checked="" type="checkbox"/> Technology
<input checked="" type="checkbox"/> Back-office – Futures	<input checked="" type="checkbox"/> Regulation

**CIRCULAR**  
June 5, 2013

**REQUEST FOR COMMENTS**

**AMENDMENTS TO THE RULES OF BOURSE DE MONTRÉAL INC.**

**ARTICLE 6368 – TRADING STAGES**

**AND**

**TO THE SPECIFICATIONS OF INTEREST RATES FUTURES CONTRACTS AND**

**OPTIONS ON FUTURES CONTRACTS LISTED ON BOURSE DE MONTRÉAL INC.**

The Rules and Policies Committee of Bourse de Montréal Inc. (the Bourse) has approved amendments to article 6368 of the Rules of the Bourse and to the specifications of interest rates Futures contracts and Options on Futures contracts listed on the Bourse. The purpose of these amendments is to allow for a random variable opening which would serve as a preventive measure to counter attempts of market manipulation at the opening, while reducing the number of transactions involving no change in beneficial ownership and creating a more reliable indication of market prices.

Comments on the proposed amendments to article 6368 of the Rules of the Bourse and to the specifications of interest rates Futures contracts and Options on Futures contracts listed on the Bourse must be submitted within 30 days following the date of publication of the present notice, at the latest on July 5, 2013. Please submit your comments to:

*M<sup>e</sup> Pauline Ascoli*  
*Vice-President, Legal Affairs (Derivatives)*  
*Bourse de Montréal Inc.*  
*Tour de la Bourse*  
*P.O. Box 61, 800 Victoria Square*  
*Montréal, Quebec H4Z 1A9*  
*E-mail: [legal@m-x.ca](mailto:legal@m-x.ca)*

Circular no.: 108-2013

A copy of these comments shall also be forwarded to the Autorité to:

*M<sup>e</sup> Anne-Marie Beaudoin*  
*Corporate Secretary*  
*Autorité des marchés financiers*  
*800 Victoria Square, 22<sup>nd</sup> Floor*  
*P.O. Box 246, Tour de la Bourse*  
*Montréal (Quebec) H4Z 1G3*  
E-mail: [consultation-en-cours@lautorite.qc.ca](mailto:consultation-en-cours@lautorite.qc.ca)

## **Appendices**

For your information, you will find in appendices an analysis document of the proposed rule amendments as well as the proposed regulatory text. The implementation date of the proposed amendments will be determined by the Bourse, in accordance with the self certification process as established in the Derivatives Act (2008, c.24).

## **Process for Changes to the Rules**

Bourse de Montréal Inc. is authorized to carry on business as an exchange and is recognized as a self-regulatory organization (SRO) by the Autorité des marchés financiers (the Autorité). The Board of Directors of the Bourse has delegated to the Rules and Policies Committee of the Bourse its powers to approve and amend its Rules. The Rules of the Bourse are submitted to the Autorité in accordance to the self-certification process as established in the Derivatives Act (2008, c.24).

In its SRO capacity, the Bourse assumes market regulation and supervision responsibilities of its approved participants. The responsibility for regulating the market and the approved participants of the Bourse comes under the Regulatory Division of the Bourse (the Division). The Division carries on its activities as a distinct business unit separate from the other activities of the Bourse.

The Division is under the authority of a Special Committee appointed by the Board of Directors of the Bourse. The Special Committee is empowered to recommend to the Board of Directors the approval or amendment of some aspects of the Rules of the Bourse governing approved participants. The Board of Directors has delegated to the Rules and Policies Committee of the Bourse its powers to approve or amend these Rules upon recommendation from the Special Committee.



**AMENDMENTS TO THE RULES OF BOURSE DE MONTRÉAL INC.  
ARTICLE 6368 – TRADING STAGES  
AND  
TO THE SPECIFICATIONS OF INTEREST RATES FUTURES CONTRACTS AND OPTIONS ON  
FUTURES CONTRACTS LISTED ON BOURSE DE MONTRÉAL INC.**

## **I. INTRODUCTION**

Bourse de Montréal Inc. (the Bourse) proposes to amend the recommended methodology for establishing the opening price for interest rate futures contracts and options on futures contracts, listed for trading on the Bourse. The proposed amendments are related to the deployment of an IT solution to implement a market opening based on the Calculated Theoretical Opening (CTO) price at a randomly selected moment within a pre determined time range and to reduce the stage of non-cancellation. As a result, changes are also proposed to article 6368 of the Rules of the Bourse (*Trading stages*) and to the specifications of futures contracts and options on futures contracts on interest rate listed on the Bourse.

## **II. DETAILED ANALYSIS**

### **Nature and purpose of the proposed amendments**

The introduction and use of auction at the opening of markets aims to optimize the opening price (one price) and maximize the trading volume. Reduction in volatility and the prevention of manipulative practices are some of the many benefits of using auctions.

Major exchanges around the world use different auctions mechanisms at various trading stages (pre-opening, closing and intraday). A comprehensive study was conducted in order to identify what improvements could be made in the opening process of the Bourse's current interest rates futures contracts and options on futures contracts market to enable the introduction of preventive measures to counter the manipulative activity on these instruments. The main differences between the international markets typically reside in the following points:

#### 1- Type of orders allowed

Most exchanges currently allow limit and market orders during the auction. However, some exchanges, such as the Hong Kong Stock Exchange, have introduced a new type of order, an auction price order ("at auction order"). This type of order is similar to a market order except that it is automatically cancelled at the opening of the regular session if it is not matched and executed during the auction. There are also differences in the periods during which certain types of orders can be entered. For example, the "pre-order matching period" (from 9:15 a.m. to 9:20 a.m.) of the Hong Kong Stock Exchange is the period preceding the "matching period" of orders in the book (from 9:20 a.m. to 9:28 a.m.). During this period, the only authorized orders are orders at the auction price ("At auction orders") and limit orders that have already been entered during the entry of orders period ("order input period") that extends from 9:00 a.m. to 9:15 a.m.

Another interesting example is from the New York Stock Exchange (NYSE). When the order book is unbalanced (buy or sell side), the NYSE refuses orders that would accentuate the imbalance between 9:29 a.m. and the end of the auction. Thus, if there is an imbalance on the sell side (i.e. more sell orders than buy orders), the NYSE system refuses any sell orders from 9:29 a.m. until the end of the auction.

## 2- Auction duration

The duration of the auction may be fixed (ex: Montreal, NYSE and Hong Kong) or variable (London, Frankfurt and Australia). Variable length auctions are conducive to the early involvement of stakeholders by encouraging the entry of "real" orders as early as possible. Since the market can open at any time, variable length auctions discourage manipulative orders<sup>1</sup> such as the issuance misleading orders as there could be unwanted execution risk.,. The matching orders period can be shorter, resulting in the regular trading session starting sooner than expected. The matching period can also be extended.

## 3- Auction mechanism

Some exchanges have dual mechanisms that simultaneously call for a manual auction from liquidity providers (referred to as "Sponsors" markets makers or specialists) and an electronic auction that involves various participants. Very often the liquidity providers are required to intervene in the electronic auction to rebalance the order book. This is the case of the London Stock Exchange and New York Stock Exchange.

## 4- Auction process' level of transparency

There are several differences in the information disseminated to the market at the auction by various exchanges. The most conservative ones restrict the information to be disseminated to price and theoretical volumes at opening (Frankfurt Stock Exchange) while others also disseminate non executed volumes (NYSE) and may go as far as communicating the full order book (London and Montreal).

## 5- Actors who can participate in the auction process

The majority of exchanges only allow the participation of dealers trading for their own accounts or those of their clients during the pre-opening auction. Others also use "off-market" quotes provided by "specialists" or "designated market makers" when there are imbalances in the order book in order to replenish the available liquidity and reduce the increased volatility that may result from a strong dichotomy between the bid and ask. This is the case of the NYSE and of the London Stock Exchange.

## 6- The auction process of the various global exchanges

Below are the characteristics of various global exchanges regarding the opening auction process. A more detailed description of the process for variable auction length regarding the London Stock Exchange, the Deutsche Börse and the Australian Securities Exchange is explained further below.

---

<sup>1</sup> The "issuing of misleading orders ", also known as "spoofing" is a practice that involves the use of limits orders that are not intended to be executed and that would affect prices. Some spoofing strategies are used at the opening and closing of the market and include distorting the indicators of market imbalance disseminated through the entry of non-genuine orders, waiting for the presence of an "iceberg ", to affect the calculated theoretical opening and engaging in aggressive or bold trading activities during the opening or closing sessions for improper purposes.

**Table 1: Characteristics of various global exchanges using fixed term auction**

Pre-opening Phase	Bourse de Montréal	New York Stock Exchange (Arca)	Hong Kong Exchange	Australian Securities Exchange (ASX24)	Euronext (European Equities)	BATS	NYSE Liffe US	Inter continental Exchange (ICE)	CME (Eurodollar Futures)
Product type	Derivatives	Equities & derivatives	Equities & derivatives	Derivatives	Equities	Equities	Derivatives	Derivatives	Derivatives
System	Auction	Double: auction off-market	Auction	Auction	Auction	Auction	Auction	Auction	Auction
Duration	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
Non-cancellation period	2 minutes	1 minute	15 minutes	30 seconds	Momentarily (Matter of seconds)	2 minutes	N/A	< 15 minutes	30 seconds

**Table 2: Characteristics of various global exchanges using variable term auction**

Pre-opening Phase	Deutsche Bourse (Xetra)	London Stock Exchange	Australian Securities Exchange (ASX)
Type of product	Equities & derivatives	Equities	Equities
System	Auction	Double: auction off-market	Auction
Duration	Random	Random	Random
Non-cancellation period	N/A	N/A	30 seconds
Random opening period	30 seconds	30 seconds	30 seconds

### Deutsche Börse AG - Random auction opening

The opening auction period includes a call phase, a price determination phase and - for all equities without market imbalance information - a balancing phase<sup>2</sup>.

The opening auction begins with a call phase (see Diagram 1: *Flow of opening auction*). Market participants are able to enter orders and quotes in this phase as well as modify and delete their own existing orders and quotes. Information on the current order situation is provided continuously during the call phase. The indicative auction price is displayed when orders are executable. The duration of the

<sup>2</sup> Deutsche Börse can disseminate information about an imbalance on the buy side (or sell side) of a security to replenish the order book accordingly.

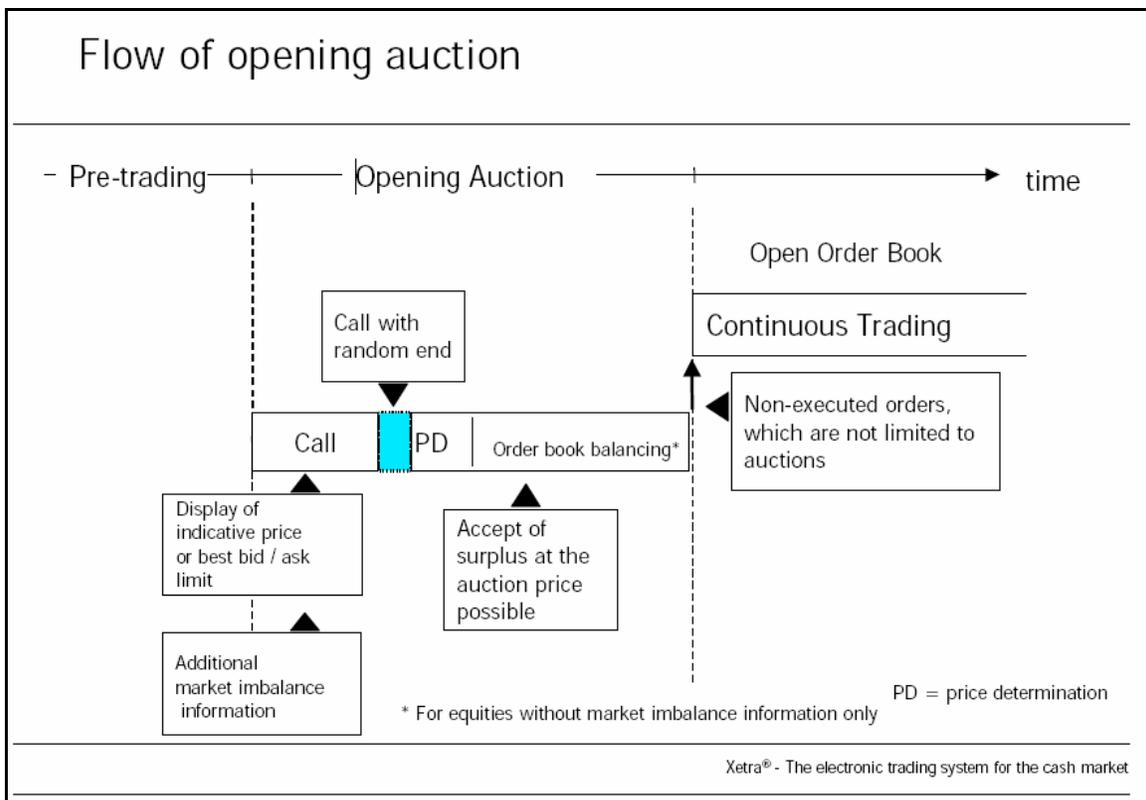
phase of purchase may vary depending on the liquidity of the instrument. The purchase process has a random closing period after a minimum time period in order to avoid price manipulation.

The call phase is followed by the price determination phase. The auction price is determined according to the principle of most executable volume on the basis of the order book situation at the end of the call phase. The auction price is the price with the highest order volume and the lowest surplus for each limit in the order book.

In equities without market imbalance information an order book balancing phase takes place if there is a surplus. Executable orders, which cannot be executed in the price determination phase, will be made available to the market for a limited period of time. Orders are executed at the determined auction price in the order book balancing phase. Orders of the respective equity can neither be changed nor deleted during order book balancing.

Market participants can either accept the surplus partially or fully by entering accept surplus orders. Accept surplus orders are executed at the auction price in accordance with time priority. Only accepted surplus orders can be entered during the order book balancing phase. The system will reject any other orders as well as quotes and quote requests.

**Diagram 1: Deutsche Börse AG – Flow of opening auction**



## London Stock Exchange - Random opening

The London Stock Exchange also uses a random opening auction mechanism, as well as a random closing session.

The manner in which stocks are assigned a random opening depends on which sector the stock is in and its individual requirements for auction call extensions. If, at the end of the scheduled auction call phase, some or all of the market orders on the order book can not be executed, then the auction call is extended for two minutes to allow the market to react to the imbalance.

Since orders indicate a willingness to trade at any price, such extensions are only triggered if the total volume of market orders on one side of the book can not be fully matched against all orders on the opposite side of the book. Market order extensions delay the auction match, drawing attention to the imbalance. Since all orders can be viewed during the auction call phase, the market can immediately identify and respond to the market order imbalance by entering buy or sell volume to clear the imbalance. If at the end of the auction call phase the indicative auction price lies a given distance or more from the reference price, then an extension of the call phase occurs.

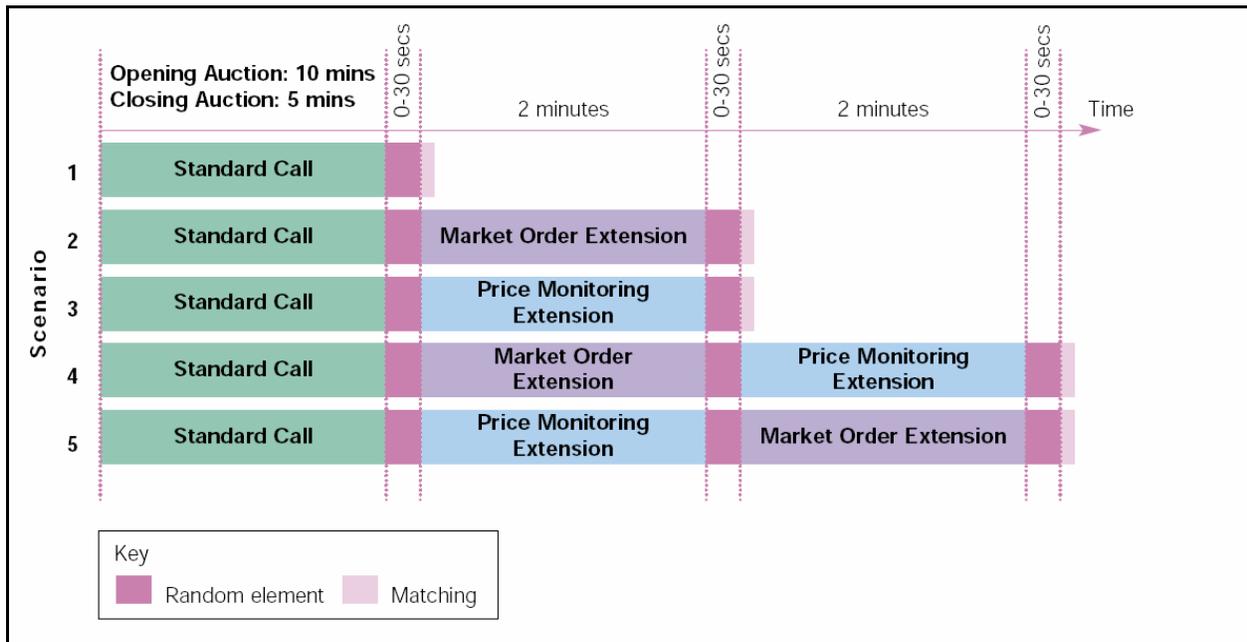
The reference price is either the last automated trade in the case of an opening auction or continuous execution suspension, or the closing 10 minutes VWAP in the case of a closing auction. Price monitoring extensions delay the auction match, drawing attention to the pending price move. The extension gives the market time to respond to this price move by entering additional orders or deleting existing orders. If at the end of the price monitoring extension the theoretical auction price remains outside acceptable threshold, then this price is accepted by the trading system and the auction price stands.

The London Stock Exchange (LSE) also mentions that with a random time element to the auction, market participants can no longer be certain of the exact time that the stock moves into a new stage (or period), such as an auction match, or an auction extension. The incentive to enter erroneous orders in order to influence price formation near the end of the auction call is therefore significantly reduced since market participants entering such orders run the risk of having to execute transactions at those prices.

Furthermore, LSE mentions that for those participants entering a legitimate order on the market, there will be no adverse effect. However, random opening deters orders from participants without a legitimate intention to trade according to the conditions of their orders.

Diagram 2 summarizes all possible combinations of auction extensions.

**Diagram 2: London Exchange - Possible combinations of auction extensions**



**Australian Securities Exchange (ASX) - Random opening auctions**

The equities, exchange-traded Options, interest rate securities and warrants listed on the Australian Securities Exchange are traded on a screen-based trading system called *ASX Trade*. On the other hand, interest rate, equity Index, commodity and energy and environmental futures contracts and options on futures contracts are traded on another screen-based trading system called *ASX24*. As shown in Tables 1 and 2 above, the *ASX Trade* platform uses a random opening time differing from the *ASX24* which uses a fixed time opening.

As with other exchanges, the ASX goes through a number of phases on any trading day. The particular market phase determines the type of action that may be taken for an order on *ASX Trade*, which in turn affects how trading is conducted. Below are the different Equity Market Phases:

7:00a.m. – 10:00 a.m.	Pre-opening
10:00 a.m.*	Opening
10:00 a.m. – 16:00 p.m.	Normal trading hours
16:00 p.m. – 16:10 a.m.	Pre-closing of auction – Unique price
16:00 p.m. – 16:12 p.m.	Closing of auction – Unique price
16:12 p.m. – 17:00 p.m.	Adjustment

\*Random (+/- 15 seconds)

The pre-opening takes place between 7:00 a.m. and 10:00 a.m., Sydney time. During the pre-opening, brokers enter orders in the *ASX Trade* platform in preparation for the opening of the market. Investors may also enter their orders online without the *ASX Trade* platform trading these orders. Orders remain queued based on price-time priority and will not be negotiated until the opening of the market.

*ASX Trade* calculates the opening price during the opening phase. The opening is at 10:00 a.m. and lasts about 10 minutes. Products open in five groups according to the first letter of their ASX code:

- Group 1 10:00:00 a.m. +/- 15 secs A-B, e.g. ANZ, BHP
- Group 2 10:02:15 a.m. +/- 15 secs C-F, e.g. CPU, FXJ
- Group 3 10:04:30 a.m. +/- 15 secs G-M, e.g. GPT
- Group 4 10:06:45 a.m. +/- 15 secs N-R, e.g. QAN
- Group 5 10:09:00 a.m. +/- 15 secs S-Z, e.g. TLS

The time is randomly generated by *ASX Trade* and occurs up to 15 seconds on either side of the times given above, e.g. group 1 may open at any time between 9:59:45 a.m. and 10:00:15 a.m.

## 7 – Conclusion

During the study of different auction mechanisms, it was possible to ascertain that some specifics were likely to significantly counter potentially manipulative practices at the opening of the market for futures contracts on interest rates. By not revealing the exact moment of the market opening time, random opening markets have the objective of increasing the risk of execution for "fake" orders.

More specifically, a client wishing to cancel an order during the "non-cancellation" period can send an opposite order for the same number of contracts. This practice allows market participants to avoid execution risk and has exactly the same effect as an order cancellation. The main problem with this approach is that the theoretical opening price can be affected. As the theoretical opening price is calculated based on the maximum number of executable contracts, it may be affected by this transaction considered "fake".

Several market participants of the Bourse have mentioned over the last few months, that the 2 minutes "non-cancellation" period for derivatives on interest rates did not meet industry standards when compared to other exchanges including the Chicago mercantile Exchange (CME). A liquidity provider may wish to provide liquidity during the pre-opening period but due to external circumstances may also want to cancel an order before the opening of the trading session. The current 2-minute period applied by the Bourse is considered excessively long.

A reduction of time for the "non-cancellation" period would bring more stability to the Bourse's derivative interest rate instruments without facing the risk of filling the order book with opposite side same price orders a few seconds before opening, that result in transactions with no change in beneficial ownership that are subsequently cancelled.

The Bourse also proposes that random opening be used for interest rate derivatives to counter the effect of the phenomenon described above. Enabling such functionality would encourage participants not to wait until the very last second before entering their orders (as they may not be executed at the opening) therefore creating a more reliable indication of market prices and increased liquidity.

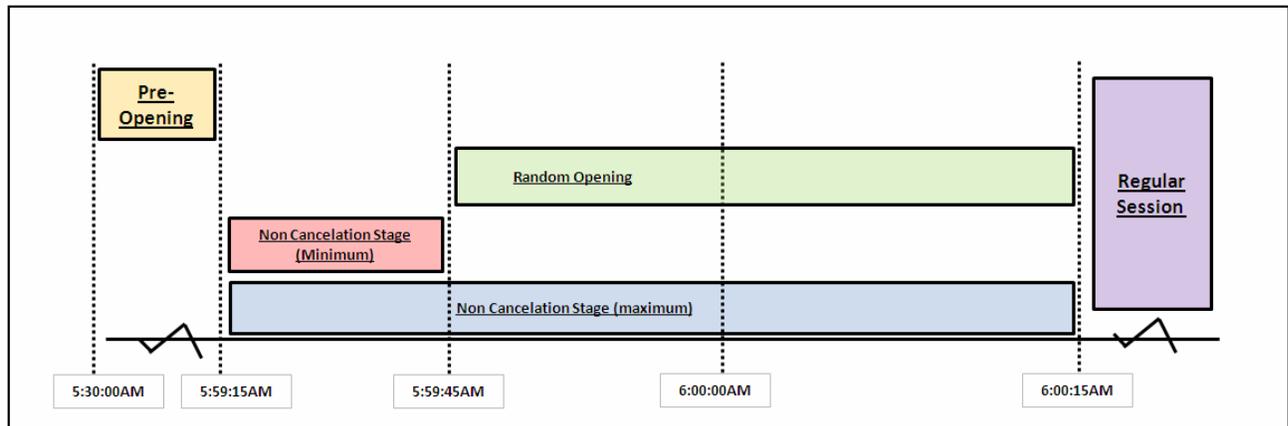
In conclusion, the following elements have been identified as the most beneficial to establish an opening price for futures contracts and options on futures contracts on interest rates, that is representative of market conditions:

- Random opening within a variable time range. It is essential that this opening period be customizable by derivative instrument and reassessed as required by the Bourse.
- Reduction of the non-cancellation period. It is essential that this period of non-cancellation be customizable by derivative instrument and reassessed as required by the Bourse.

For more information on the proposal above, please refer to diagram 3

### Diagram 3 - Bourse de Montréal –Opening auction proposal

(ex Futures contracts on Three-month Canadian Bankers' Acceptance (BAX), where non-cancellation period begins N = 30 seconds before the random opening period lasting M = 30 seconds (i.e. 8:00 + / -15 seconds)



#### Non-cancellation phase – Pre-closing

Given the fact that the "non-cancellation" phase on pre-closing is not part of the current process to determine the settlement price for any derivative instrument listed on the Bourse and that article 6368 of the Rules of the Bourse has not been amended when the procedure was changed in the early 2000s, it is proposed to eliminate any mention of the non-cancellation phase for the pre-closing in said article 6368.

#### Impacts on technological systems

Impacts on technological systems of the Bourse and of approved participants should be minimal. The Bourse already possesses features to implement a variable random opening and to reduce the non-cancellation phase. These features only need to be activated. Approved participants will not have to make any changes to their technology infrastructure.

### III. PROPOSED AMENDMENTS TO ARTICLE 6368 – TRADING STAGES AND TO SPECIFICATIONS OF INTEREST RATES FUTURES CONTRACTS AND OPTIONS ON FUTURES CONTRACTS LISTED ON THE BOURSE

In connection with the above proposal to amend the methodology for establishing the opening price, it is also proposed to amend article 6368 – *Trading stages* and the specifications of interest rates futures contracts and options on futures contracts listed on the Bourse.

1° Article 6368 – *Trading stages* - It is proposed to amend this article so that it refers to a non-cancellation period starting "N" <sup>3</sup> seconds before the beginning of the random variable opening of the market.

2° Specifications of interest rates futures contracts and options on futures contracts listed on the Bourse - It is proposed to change specifications to reflect a random variable opening market within a range of determined time (open time ± "M" seconds).

<sup>3</sup> The designated time for the non-cancellation period will be determined by futures instrument on interest rates and reassessed as required by the Bourse.

3<sup>o</sup> Article 6368 – *Trading Stages* - It is proposed to amend this article in order to remove any reference to a “pre-closing” stage.

#### **IV. OBJECTIVE OF THE PROPOSED AMENDMENTS TO THE RULES OF THE BOURSE**

1. Change in methodology for determining the opening price of interest rate futures contracts and options on futures contracts, will serve as a preventive measure to counter attempts to manipulate the market at the opening.
2. Reduction of the non-cancellation period will reduce the number of transactions involving no change in beneficial ownership at market opening as stakeholders will have more time to cancel orders that otherwise would cause this type of transaction.
3. Enabling the feature that would allow for a random variable opening will deter participants from waiting until the last possible moment before entering their orders thus creating a more reliable indication of market prices and increasing liquidity.

#### **V. PUBLIC INTEREST**

Auctions during pre-opening periods remain an important mechanism for price discovery and pricing of financial products for the majority of international exchanges. The pre-opening period reduces the asymmetry in the information available to stakeholders through the auction mechanism. The proposed changes to Article 6368 – *Trading stages*, and to the specifications for interest rate futures contracts and options on futures contracts listed on the Bourse, are of public interest as they will optimize market prices during the non-cancellation stage, reduce volatility and counter the manipulative practices for market openings. Finally, the implementation of the suggested changes will provide the public with better information on market prices in a timely manner.

#### **VI. PROCESS**

The proposed amendments to Article 6368 – *Trading stages*, as well as to the specifications for interest rate futures contracts and options on futures contracts listed on the Bourse must be approved by the Rules and Policies Committee of the Bourse. Once approved by this committee, amendments must be submitted to the AMF in accordance with the self-certification process as well as the Ontario Securities Commission for information purposes. There must also be a “Request for comments” circular published by the Bourse for a minimum period of 30 days.

#### **VII. REFERENCES**

Bourse de Montreal Inc. – Article 6368 of the Rules of Bourse de Montréal Inc. – Trading Stages: [http://www.m-x.ca/f\\_regles\\_en/06\\_en.pdf](http://www.m-x.ca/f_regles_en/06_en.pdf)

Bourse de Montreal Inc. – Products – Trading Hours & Stages: [http://www.m-x.ca/f\\_publications\\_en/tradinghoursphases\\_en.pdf](http://www.m-x.ca/f_publications_en/tradinghoursphases_en.pdf)

NYSE Arca – Auctions: [http://www.nyse.com/pdfs/5653\\_NYSEArca\\_Auctions.pdf](http://www.nyse.com/pdfs/5653_NYSEArca_Auctions.pdf)

Deutsche Börse AG (Xetra) – Market Model Equities 9.1.1: [http://xetra.com/xetra/dispatch/en/binary/gdb\\_content\\_pool/imported\\_files/public\\_files/10\\_downloads/31\\_trading\\_member/10\\_Products\\_and\\_Functionalities/20\\_Stocks/50\\_Xetra\\_Market\\_Model/marktmodell\\_aktien.pdf](http://xetra.com/xetra/dispatch/en/binary/gdb_content_pool/imported_files/public_files/10_downloads/31_trading_member/10_Products_and_Functionalities/20_Stocks/50_Xetra_Market_Model/marktmodell_aktien.pdf)

Hong Kong Exchange – Trading Mechanism: [http://www.hkex.com.hk/eng/market/sec\\_tradinfra/tradmech.htm](http://www.hkex.com.hk/eng/market/sec_tradinfra/tradmech.htm)

Hong Kong Exchange – FAQ in relation to Pre-opening Session:  
[http://www.hkex.com.hk/eng/market/sec\\_tradinfra/Documents/preopenfaq.pdf](http://www.hkex.com.hk/eng/market/sec_tradinfra/Documents/preopenfaq.pdf)

London Stock Exchange – Market enhancements: <http://www.londonstockexchange.com/products-and-services/technical-library/technical-guidance-notes/technicalguidancenotesarchive/release.pdf>

Australian Securities Exchange – Calculating opening and closing prices:  
<http://www.asx.com.au/products/calculate-open-close-prices.htm>

Australian Securities Exchange – ASX Trade Technical Bulletin 17/2: [https://www.asxonline.com/intradoc-cgi/groups/trading\\_and\\_market\\_information/documents/communications/asx\\_034504.pdf](https://www.asxonline.com/intradoc-cgi/groups/trading_and_market_information/documents/communications/asx_034504.pdf)

Australian Securities Exchange – ASX trading hours/market phases:  
<http://www.asx.com.au/products/ASX-Trading%20hours-Market-phases.htm>

NYSE Euronext (European Equities) – Auction Trading Process:  
<https://europeanequities.nyx.com/en/trading/auction-trading-process>

**REGULATORY AMENDMENTS**

**Rule Six - Article 6368**

**6368 Trading Stages**  
(25.09.00, 24.09.01)

The following is a list of trading stages:

- Pre-opening/~~Pre-closing~~

No-cancel stage – Lasting for a time period as prescribed by the Bourse not exceeding the~~the~~ last 2 minutes of the Pre-opening stage /Pre-closing, orders can not be cancelled or CFO'ed (Modification of an order). Orders can only be entered.

- Opening/ Closing

- Market Session (Continuous Trading)

Depending on the product, trading stages and no-cancel stage may vary, as determined by the products specifications.



## PRODUCTS – TRADING HOURS & STAGES

All trading hours for products listed on SOLA are determined by the Montréal Exchange (MX). In the case of a modification to these trading hours or stages, the MX will issue a circular describing the modification.

### Definitions of different stages

**Pre-opening:** Order entry, cancellation and modification *permitted*  
**No-cancellation:** Order entry *permitted*; cancellation and modification *not permitted*  
**Opening:** Order entry, cancellation and modification *permitted*  
**Closing**

\* There is no extended session on the last trading day of the expiring contract month. During early closing days of interest rate futures, the regular trading session closes at 1:00 p.m., time at which the daily settlement price is established. In those circumstances, the extended session is from 1:09 p.m. (or 1:06 p.m. for bond market instruments) to 1:30 p.m.

### Money Market Derivatives

<b>BAX OBX ONX OIS</b>	5:30 a.m.	Pre-opening
	<del>5:58 a.m.</del> 5:59:15 a.m.	No-cancellation
	<b>6:00 a.m. *</b>	<b>Opening (regular session)</b>
	4:00 p.m.	Closing

\* +/- 15 seconds

<b>BAX – OBX ONX – OIS STRATEGIES</b>	5:30 a.m.	Pre-opening
	<del>5:58 a.m.</del> 5:59:15 a.m.	No-cancellation (BAX strategies)
	<del>5:59 a.m.</del> 6:00:15 a.m.	No-cancellation (OBX – ONX – OIS strategies)
	<b>6:01 a.m. *</b>	<b>Opening (regular session)</b>
	4:00 p.m.	Closing

\* +/- 15 seconds

### Bond Market Derivatives

<b>CGZ – CGF CGB – LGB OGB</b>	5:30 a.m.	Pre-opening
	<del>5:58 a.m.</del> 5:59:15 a.m.	No-cancellation
	<b>6:00 a.m. *</b>	<b>Opening (regular session)</b>
	4:00 p.m.	Closing

\* +/- 15 seconds

<b>CGZ – CGF CGB LGB OGB STRATEGIES</b>	5:30 a.m.	Pre-opening
	<del>5:59 a.m.</del> 5:59:15 a.m.	No-cancellation
	<b>6:01 a.m. *</b>	<b>Opening (regular session)</b>
	4:00 p.m.	Closing

\* +/- 15 seconds

**BAX – Three-Month Canadian Bankers' Acceptance Futures**

<b>Trading Unit</b>	C\$1,000,000 of Canadian bankers' acceptances with a three-month maturity.
<b>Contract Months</b>	March, June, September and December plus two nearest non-quarterly months (serials).
<b>Price Quotation</b>	Index: 100 minus the annualized yield of a three-month Canadian bankers' acceptance.
<b>Last Day of Trading</b>	Trading ceases at 10:00 a.m. (Montréal time) on the 2 <sup>nd</sup> London (Great Britain) banking day prior to the 3 <sup>rd</sup> Wednesday of the contract month. If the determined day is an exchange or banking holiday in Montréal or Toronto, the last trading day shall be the previous bank business day.
<b>Contract Type</b>	Cash settlement.
<b>Minimum Price Fluctuation</b>	<ul style="list-style-type: none"> <li>■ 0.005 = C\$12.50 per contract for the nearest three listed contract months, including serials.</li> <li>■ = C\$25 per contract for all other contract months.</li> </ul>
<b>Reporting Limit</b>	300 contracts.
<b>Position Limits</b>	Information on position limits can be obtained from the Exchange as they are subject to periodical changes.
<b>Final Settlement Price</b>	Based on the average of the three-month Canadian bankers' acceptance bid rates as quoted on CDOR page of Reuters' Monitor Service on the last trading day at 10:15 a.m. (Montréal time), excluding the highest and the lowest values. CDOR is based on 365 days.
<b>Minimum Margin Requirements</b>	Information on minimum margin requirements can be obtained from the Exchange as they are subject to periodical changes.
<b>Daily Price Limits</b>	None.
<b>Trading Hours</b> (Montréal time)	Regular session: 6:00 a.m.** to 4:00 p.m.  ** +/- 15 seconds  Note: During early closing days, the regular session closes at 1:30 p.m.
<b>Clearing Corporation</b>	Canadian Derivatives Clearing Corporation (CDCC).
<b>Ticker Symbol</b>	BAX

## OBX - Options on Three-Month Canadian Bankers' Acceptance Futures

<b>Trading Unit</b>	One Three-Month Canadian Bankers' Acceptance Futures (BAX).
<b>Underlying Futures Contract</b>	<p>For standard OBX options, the underlying BAX futures contract is the futures contract that expires in the month in which the option expires.</p> <p>For Serial Mid-Curve Options (OBW), the underlying BAX futures contract is the futures contract that expires one-year from the next quarterly month that is nearest to the expiration of the option. For example, the underlying futures contract for the One-year Mid-Curve option that expires in January or February is the March futures contract in the next calendar year.</p> <p>For 1-Year (OBY) and 2-year (OBZ) Quarterly Mid-Curve Options, the underlying BAX futures contract is the corresponding quarterly futures contract that expires one or two years after the option expires, respectively. For example, the underlying futures contract for the One-year Quarterly Mid-Curve option that expires in June is the June futures contract in the next calendar year.</p>
<b>Contract Months</b>	<p>For standard OBX options and for 1-Year (OBY) and 2-year (OBZ) Quarterly Mid-Curve Options: Four nearest months of the quarterly cycle: March, June, September and December.</p> <p>For Serial Mid-Curve Options (OBW): Two nearest non quarterly months (serials): January, February, April, May, July, August, October and November.</p>
<b>Price Quotation</b>	Quoted in points where each 0.01 point (1 basis point) represents C\$25. For example, a quote of 0.465 represents a total option premium of C\$1,162.50 (i.e. 46.5 basis points x C\$25).
<b>Cabinet trades</b>	Cabinet trades (defined as options with a premium less than 0.01) are quoted in 0.001 point (0.1 basis point) where each 0.001 point represents C\$2.50.
<b>Last Day of Trading</b>	<p>For standard OBX Options: Trading ceases at 10:00 a.m. (Montréal time) on the 2nd London (Great Britain) banking day prior to the 3rd Wednesday of the contract month. If the fixed day is a Bourse or bank holiday in Montréal or Toronto, the last trading day shall be the previous bank business day.</p> <p>For all Mid-Curve Options: Trading ceases at 10:00 a.m. (Montréal time) on the Friday immediately preceding the 3rd Wednesday of the contract month. If the fixed day is an exchange or banking holiday in Montreal or Toronto, the last trading day shall be the previous bank business day.</p>
<b>Contract Type</b>	American style.
<b>Price Fluctuation</b>	0.005 = C\$12.50 per contract.
	0.001 = C\$2.50 per contract for cabinet trades.
<b>Strike Prices</b>	Set at a minimum 0.125 point intervals.
<b>Reporting Limit</b>	300 options or futures equivalent contracts. For the purpose of calculating this limit, positions in the options contracts are aggregated with positions in the underlying futures contracts. For aggregation purposes, one option contract is equivalent to one futures contract.
<b>Daily Price Limits</b>	None.

## Specifications of futures contracts and options on futures contracts on interest rates – OBX

---

<b>Trading Hours</b> (Montréal time)	Regular session: 6:00 a.m.** to 4:00 p.m.  <u>** +/- 15 seconds</u>  Note: During early closing days, the regular session closes at 1:30 p.m.
<b>Ticker Symbol</b>	For standard OBX Options: OBX For Serial Mid-Curve Options : OBW For 1-Year Quarterly Mid-Curve Options : OBY For 2-Year Quarterly Mid-Curve Options : OBZ

---

## ONX – 30-Day Overnight Repo Rate Futures

<b>Trading Unit</b>	Each contract shall be for a nominal value of C\$5,000,000.
<b>Contract Months</b>	March, June, September and December plus three nearest non-quarterly months (serials).
<b>Price Quotation</b>	Index: 100 minus the monthly average overnight repo rate for the contract month.
<b>Last Day of Trading</b>	Last business day of the contract month.
<b>Contract Type</b>	Cash settlement.
<b>Minimum Price Fluctuation</b>	0.005 = C\$20.55 (one-half of 1/100 of one percent of C\$5,000,000 on a 30-day basis).
<b>Reporting Limit</b>	300 contracts.
<b>Position Limits</b>	Information on position limits can be obtained from the Exchange as they are subject to periodical changes.
<b>Final Settlement Price</b>	The contract is cash settled against the monthly average of the daily overnight repo rate for the contract month. The daily overnight repo rate (CORRA) is calculated and reported by the Bank of Canada. The monthly average is a simple arithmetic average corresponding to the sum of the daily overnight repo rates divided by the number of calendar days in the month. Weekend and holiday rates are considered to be the rate applicable on the previous business day for which a rate was reported. For example, Friday's rate is used for Saturday and Sunday rates.  The final settlement price is determined on the first business day following the last day of trading.
<b>Minimum Margin Requirements</b>	Information on minimum margin requirements can be obtained from the Exchange as they are subject to periodical changes.
<b>Daily Price Limits</b>	None
<b>Trading Hours (Montréal time)</b>	Regular session: 6:00 a.m.** to 4:00 p.m.  <b>** +/- 15 seconds</b>  Note: During early closing days, the regular session closes at 1:30 p.m.
<b>Clearing Corporation</b>	Canadian Derivatives Clearing Corporation (CDCC).
<b>Ticker Symbol</b>	ONX

## OIS – Overnight Index Swap Futures

<b>Trading Unit</b>	Each contract shall be for a nominal value of C\$5,000,000.
<b>Underlying</b>	The compounded daily overnight repo rate (CORRA) quoted in terms of an overnight repo rate index.
<b>Fixed Rate and Floating Rate of the Swap</b>	Fixed for floating interest rate swap where a fixed rate is swapped against a floating rate. The floating rate is the compounded daily overnight repo rate (CORRA) over the period of the contract month.
<b>Contract Months</b>	Contract months will be listed to match the Bank of Canada's schedule of Fixed Announcement Dates.
<b>Price Quotation</b>	Index: 100 – R

R = the compounded daily overnight repo rate (CORRA) for the contract month. It is calculated in accordance with the following formula:

$$R = \left[ \prod_{i=1}^{d_o} \left( 1 + \frac{ORR_i \times n_i}{365} \right) - 1 \right] \times \frac{365}{d} \times 100$$

where:

“ $d_o$ ”, the number of Business Days in the calculation period;

“ $i$ ” is a series of whole numbers from one to  $d_o$ , each representing the relevant Business Day in chronological order from, and including, the first Business Day in the relevant Calculation Period;

$ORR_i$  = Overnight Repo Rate (CORRA) on the  $i^{th}$  day of the calculation period (if the  $i^{th}$  day is not a business day, the previous available CORRA is used);

“ $n_i$ ” is the number of calendar days in the relevant Calculation Period on which the rate is  $ORR_i$ ;

“ $d$ ” is the number of calendar days in the relevant Calculation Period.

<b>Last Trading Day</b>	The day of a Bank of Canada Fixed Announcement Date.
<b>Contract Type</b>	Cash settlement.
<b>Minimum Price Fluctuation</b>	0.001 = C\$6.25 (one-tenth of 1/100 of one percent of C\$5,000,000 on a 45.625/365 day basis).
<b>Reporting Limit</b>	300 contracts.
<b>Position Limits</b>	Information on position limits can be obtained from the Exchange as they are subject to periodical changes.

<b>Final Settlement Price</b>	<p>The final settlement price shall be determined by the Bourse and shall be equal to 100 minus the compounded daily overnight repo rate (CORRA) expressed in terms of an overnight repo rate index and calculated over the period of the contract month that begins the day following the last Bank of Canada Fixed Announcement Date to the day of the next Bank of Canada Fixed Announcement Date. Weekend and holiday rates are considered to be the rate applicable on the previous business day for which a rate was reported. For example, Friday's rate is used for Saturday and Sunday rates.</p> <p>The daily overnight repo rate (CORRA) is calculated and reported by the Bank of Canada.</p> <p>The final settlement price is rounded to the nearest 1/10th of one basis point (0.001). In the case a decimal fraction ends with 0.0005 or higher, the final settlement price shall be rounded up</p> <p>The final settlement price is determined on the first business day following the last day of trading.</p>
<b>Minimum Margin Requirements</b>	<p>Information on minimum margin requirements can be obtained from the Exchange as they are subject to periodical changes.</p>
<b>Daily Price Limit</b>	None
<b>Trading Hours</b> (Montréal time)	<p>Regular session: 6:00 a.m.** to 4:00 p.m.</p> <p><b>** +/- 15 seconds</b></p> <p>Note: During early closing days, the regular session closes at 1:30 p.m.</p>
<b>Clearing Corporation</b>	Canadian Derivatives Clearing Corporation (CDCC).
<b>Ticker Symbol</b>	OIS

## CGZ – Two-Year Government of Canada Bond Futures

<b>Trading Unit</b>	C\$200,000 nominal value Government of Canada Bond with 6% notional coupon
<b>Contract Months</b>	March, June, September and December.
<b>Price Quotation</b>	Par is on the basis of 100 points, with one point equal to C\$2,000.
<b>Last Trading Day</b>	Trading ceases at 1:00 p.m. (Montréal time) on the seventh business day preceding the last business day of the delivery month.
<b>Contract Type</b>	Physical delivery of eligible Government of Canada Bonds.
<b>Delivery Notices</b>	Delivery notices should be submitted before 5:30 p.m. or before such time set by the clearing corporation on any business day, between the second business day preceding the first business day of the delivery month, and the second business day preceding the last business day of the delivery month inclusively.
<b>Delivery Date</b>	Delivery shall be made on the second business day following the submission of the delivery notice by the member holding a seller's position or on any other day as determined by the clearing corporation. Delivery shall be completed no later than the last business day of the delivery month.
<b>Minimum Price Fluctuation</b>	0.005 = C\$10 per contract.
<b>Reporting Level</b>	250 contracts.
<b>Position Limits</b>	Information on position limits can be obtained from Exchange as they are subject to periodic changes.
<b>Minimum Margin Requirements</b>	Information on minimum margin requirements can be obtained from the Exchange as they are subject to periodic changes.
<b>Delivery Standards</b>	Government of Canada Bonds which: <ul style="list-style-type: none"> <li>i) have a remaining time to maturity of between 1½ year and 2½ years as of the first day of the delivery month, calculated by rounding down to the nearest whole month period;</li> <li>ii) have an outstanding amount of at least C\$2.4 billion nominal value;</li> <li>iii) are originally issued at two-year, five-year or ten-year Government of Canada bond auctions;</li> <li>iv) are issued and delivered on or before the 15th day preceding the first delivery notice day month of the contract.</li> </ul>
<b>Daily Price Limit</b>	3 points (C\$6,000) per contract above or below the previous day's settlement price.
<b>Trading Hours</b> (Montréal time)	Regular session: 6:00 a.m.** to 4:00 p.m.  <u>** +/- 15 seconds</u>  Note: During early closing days, the regular session closes at 1:30 p.m.
<b>Clearing Corporation</b>	Canadian Derivatives Clearing Corporation (CDCC).
<b>Ticker Symbol</b>	CGZ

## CGF - Five-Year Government of Canada Bond Futures Contract

<b>Trading Unit</b>	C\$100,000 nominal value Government of Canada Bond with 6% notional coupon
<b>Contract Months</b>	March, June, September and December.
<b>Price Quotation</b>	Par is on the basis of 100 points, with one point equal to C\$1,000.
<b>Last Trading Day</b>	Trading ceases at 1:00 p.m. (ET) on the seventh business day preceding the last business day of the delivery month.
<b>Contract Type</b>	Physical delivery of eligible Government of Canada Bonds.
<b>Delivery Notices</b>	Delivery notices should be submitted before 5:30 p.m. or before such time set by the clearing corporation on any business day, between the third business day preceding the first business day of the delivery month, and the third business day preceding the last business day of the delivery month inclusively.
<b>Delivery Date</b>	Delivery shall be made on the third business day following the submission of the delivery notice by the member holding a seller's position or on any other day as determined by the clearing corporation. Delivery shall be completed no later than the last business day of the delivery month.
<b>Minimum Price Fluctuation</b>	0.01 = C\$ 10 per contract.
<b>Reporting Level</b>	250 contracts.
<b>Position Limits</b>	Information on position limits can be obtained from Bourse de Montréal Inc. as they are subject to periodic changes.
<b>Minimum Margin Requirements</b>	Information on Minimum Margin Requirements can be obtained from the Bourse as they are subject to periodic changes.
<b>Delivery Standards</b>	Government of Canada Bonds which: <ul style="list-style-type: none"> <li>• have a remaining time to maturity of between 4 years 3 months and 5 years 3 months as of the first day of the delivery month, calculated by rounding down to the nearest whole month period;</li> <li>• have an outstanding amount of at least C\$3.5 billion nominal value;</li> <li>• are originally issued at five-year Government of Canada bond auctions;</li> <li>• are issued and delivered on or before the 15th day preceding the first delivery notice day month of the contract.</li> </ul>
<b>Daily Price Limit</b>	None
<b>Trading Hours</b>	Regular session: 6:00 a.m.** to 4:00 p.m. (ET)  <u>** +/- 15 seconds</u>
	Note: During early closing days, the regular session closes at 1:30 p.m.
<b>Clearing Corporation</b>	Canadian Derivatives Clearing Corporation (CDCC).
<b>Ticker Symbol</b>	CGF

## Specifications of futures contracts and options on futures contracts on interest rates – CGB

## CGB – Ten-year Government of Canada Bond Futures

<b>Trading Unit</b>	Each contract represents C\$100,000 nominal value Government of Canada bond with 6% notional coupon.
<b>Contract Months</b>	March, June, September and December.
<b>Price Quotation</b>	Per C\$100 nominal value.
<b>Last Day of Trading</b>	Trading ceases at 1:00 p.m. (Montréal time) on the 7 <sup>th</sup> business day preceding the last business day of the delivery month.
<b>Contract Type</b>	Delivery of eligible Government of Canada bonds.
<b>Minimum Price Fluctuation</b>	0.01 = C\$10 per contract.
<b>Reporting Limit</b>	250 contracts.
<b>Position Limits</b>	Information on position limits can be obtained from the Exchange as they are subject to periodical changes.
<b>Delivery Notices</b>	Delivery notices should be submitted before 5:30 p.m. or before such time set by the clearing corporation on any business day, between the 3 <sup>rd</sup> business day preceding the first business day of the delivery month and the 3 <sup>rd</sup> business day preceding the last business day of the delivery month, inclusively.
<b>Delivery Day</b>	Delivery should be made on the 3 <sup>rd</sup> business day following the submission of the delivery notice by the member holding a seller's position or on any other day as determined by the clearing corporation. Delivery shall be completed no later than the last business day of the delivery month.
<b>Delivery Standards</b>	Government of Canada bonds which: <ul style="list-style-type: none"> <li>• have a remaining time to maturity of between 8 years and 10½ years as of the first day of the delivery month, calculated by rounding down to the nearest whole three-month period;</li> <li>• have an outstanding amount of at least C\$3.5 billion nominal value;</li> <li>• are originally issued at ten-year auctions;</li> <li>• are issued and delivered on or before the 15<sup>th</sup> day preceding the first delivery notice day of the contract.</li> </ul>
<b>Minimum Margin Requirements</b>	Information on minimum margin requirements can be obtained from the Exchange as they are subject to periodical changes.
<b>Daily Price Limits</b>	3 points (C\$3,000) per contract above or below the previous day's settlement price.
<b>Trading Hours</b> (Montréal time)	Regular session: 6:00 a.m.** to 4:00 p.m.  <u>** +/- 15 seconds</u>  Note: During early closing days, the regular session closes at 1:30 p.m.
<b>Clearing Corporation</b>	Canadian Derivatives Clearing Corporation (CDCC).
<b>Ticker Symbol</b>	CGB

## LGB – 30-Year Government of Canada Bond Futures

<b>Trading Unit</b>	C\$100,000 nominal value Government of Canada Bond with 6% notional coupon
<b>Contract Months</b>	March, June, September and December.
<b>Price Quotation</b>	Quoted on a 100 points basis where 1 point equals C\$1,000.
<b>Last Trading Day</b>	Trading ceases at 1:00 p.m. (Montréal time) on the seventh business day preceding the last business day of the contract month.
<b>Contract Type</b>	Physical delivery of eligible Government of Canada Bonds.
<b>Delivery Notices</b>	Delivery notices must be submitted before 5:30 p.m. or before such time set by the clearing corporation on any business day, between the third business day preceding the first business day of the delivery month and the third business day preceding the last business day of the delivery month inclusively.
<b>Delivery Date</b>	Delivery must be made on the third business day following the submission of the delivery notice by the member holding a seller's position or on any other day as determined by the clearing corporation. Delivery shall be completed no later than the last business day of the delivery month.
<b>Minimum Price Fluctuation</b>	0.01 = C\$10 per contract.
<b>Reporting Level</b>	250 contracts.
<b>Position Limits</b>	Information on position limits can be obtained from the Exchange as they are subject to periodic changes.
<b>Minimum Margin Requirements</b>	Information on minimum margin requirements can be obtained from the Exchange as they are subject to periodic changes.
<b>Delivery Standards</b>	Government of Canada Bonds which: <ul style="list-style-type: none"> <li>• have a remaining time to maturity of not less than 25 years, as of the first day of the delivery month, calculated by rounding down to the nearest entire three-month period;</li> <li>• have an outstanding amount of at least C\$3.5 billion nominal value;</li> <li>• are originally issued at thirty-year Government of Canada Bond auctions;</li> <li>• are issued and delivered on or before the 15th day preceding the first delivery notice day of the contract month.</li> </ul>
<b>Daily Price Limit</b>	None.
<b>Trading Hours</b> (Montreal time)	Regular session: 6:00 a.m.** to 4:00 p.m.  ** +/- 15 seconds
	Note: During early closing days, the regular session closes at 1:30 p.m.
<b>Clearing Corporation</b>	Canadian Derivatives Clearing Corporation (CDCC).
<b>Ticker Symbol</b>	LGB

## OGB – Options on Ten-Year Government of Canada Bond Futures

<b>Trading Unit</b>	One Ten-Year Government of Canada Bond Futures (CGB)
<b>Contract Months</b>	March, June, September and December, plus monthly options contracts based on the next quarterly futures contract that is nearest to the options contract.
<b>Price Quotation</b>	Quoted in points where each 0.005 point (0.5 basis point) represents C\$5.
<b>Last Trading Day / Expiration</b>	Trading ceases on the 3 <sup>rd</sup> Friday of the month preceding the options contract month, provided however, that such Friday is a business day and precedes at least 2 business days the 1 <sup>st</sup> notice day of the underlying futures contract.
<b>Contract Type</b>	American Style
<b>Minimum Price Fluctuation</b>	0.005 = C\$5
<b>Reporting Limits</b>	250 options or futures equivalent contracts. For the purpose of calculating the reporting limit, positions in the options contracts are aggregated with positions in the underlying futures contracts. For aggregation purposes, the futures equivalent of one in-the-money option contract is one futures contract and the futures equivalent of one out-of-money option contract is half a futures contract.
<b>Strike Prices</b>	Set at a minimum of 0.5 points intervals per Ten-Year Government Bond Futures
<b>Position Limits</b>	Information on position limits can be obtained from the Exchange as they are subject to periodical changes.
<b>Minimum Margin Requirements</b>	Information on minimum margin limits can be obtained from the Exchange as they are subject to periodical changes.
<b>Daily Price Limits</b>	None
<b>Trading Hours (Montréal time)</b>	Regular session: 6:00 a.m.** to 4:00 p.m.  <u>+/- 15 seconds</u>  Note: During early closing days, the regular session closes at 1:30 p.m.
<b>Clearing Corporation</b>	Canadian Derivatives Clearing Corporation (CDCC).
<b>Ticker Symbol</b>	OGB