

Outline of Rules for New TFX System on Interest Rate Futures Trading

TFX(Feb.2014)

Item	Description	Remarks												
1. Purpose and Date of Introduction of New System	<ul style="list-style-type: none"> • TFX has introduced the Interest Rate Futures Trading System developed by the FUJITSU LIMITED (The new system) in order (1) to upgrade existing hardware, and (2) to increase the efficiency of the system processing . 	<ul style="list-style-type: none"> • TFX upgraded the former trading system (LIFFE CONNECT®) in April 2008 . 												
2. New System Overview														
(1) Market Operating Hours	<ul style="list-style-type: none"> •The market operating hours on normal business days for all contracts are as follows: <table border="1" style="margin-left: 20px; border-collapse: collapse; width: 80%;"> <thead> <tr> <th colspan="2" style="text-align: center;">Market Operating Hours</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;">Pre-open period</td> <td style="padding: 2px;">8:30-8:45</td> </tr> <tr> <td style="padding: 2px;">Day(morning) session</td> <td style="padding: 2px;">8:45-11:30</td> </tr> <tr> <td style="padding: 2px;">Restricted period</td> <td style="padding: 2px;">11:30-12:30</td> </tr> <tr> <td style="padding: 2px;">Day(afternoon) session</td> <td style="padding: 2px;">12:30-15:30</td> </tr> <tr> <td style="padding: 2px;">Evening session</td> <td style="padding: 2px;">15:30-20:00</td> </tr> </tbody> </table>	Market Operating Hours		Pre-open period	8:30-8:45	Day(morning) session	8:45-11:30	Restricted period	11:30-12:30	Day(afternoon) session	12:30-15:30	Evening session	15:30-20:00	<ul style="list-style-type: none"> •When necessary, TFX may temporarily change the market operating hours. •TFX configures Pre-open Period in case the market is re-open after temporary suspension due to a system failure.
Market Operating Hours														
Pre-open period	8:30-8:45													
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Evening session	15:30-20:00													
(2) Order														
(A) Order type	<ul style="list-style-type: none"> • Trading Members can submit the following two types of orders. 													

Item	Description	Remarks
(a) Limit Order	<ul style="list-style-type: none"> • A “Limit Order” is a type of order executed at the price specified or better. • The unmatched part of a Limit Order, if any, remains valid until it is matched or cancelled ,but in any event not later than the end of the same day’s evening session or, if the evening session is not opened, not later than the end of the same day’s day session. • Market Order can be submitted during Pre-open period, the day and evening sessions. 	
(b) Market Order	<ul style="list-style-type: none"> •A “Market Order” is a type of order submitted without a specified price and executed at the respective best price(s). • A Market Order can be matched partially. The unmatched volume of a Market Order, if any, is immediately cancelled automatically. •Market orders can be submitted during the Pre-open period, the day and evening sessions. During the Pre-open period, a Market order shall always be submitted with “On-Open” modifier. 	<ul style="list-style-type: none"> • If a Market Order is matched for an illiquid contract month or series or in volatile market, the order may be executed at an unexpectedly high or low price. •The details of “An On Open order” are as described in 2(B) (a).
(B) Modifier	<ul style="list-style-type: none"> •A Limit Order or Market Order may be accompanied by any of the following modifiers. 	<ul style="list-style-type: none"> • In the new system, the modifiers are limited to ones frequently used. • Immediate and cancel(IC),Complete Volume(CV),Minimum Volume(MV) and Contingent Multiple Order(CMO) are not supported in the new system.

Item	Description	Remarks
<p>(a) “On-Open” modifier</p>	<p>(1) When Uncrossing Price is calculated A modifier to make a market order to match against other market orders at the Uncrossing price as of the start of the day session, and to convert the unmatched part of a Market order, if any, to a Limit Order at the said Uncrossing Price.</p> <p>(2) When Uncrossing Price is not calculated for a certain contract month or certain series A modifier to make a Market order submitted in a certain contract month or certain series to be cancelled automatically at the end of the pre-open period.</p> <ul style="list-style-type: none"> • On-Open modifier shall be applied to Market orders submitted during the Pre-open period. 	<ul style="list-style-type: none"> • An On Open order shall mean Market Order to which an On Open modifier is applied.
<p>(b) Good Till Cancelled (GTC)</p>	<ul style="list-style-type: none"> • A Good Till Cancelled (“GTC”) is a modifier to make the order valid until the Day End of a specified business day. • This modifier can only be added to Limit Orders. 	<ul style="list-style-type: none"> • When a GTC modifier is added to orders without specifying any date, the order remains valid until the Day End of the last trading day. • GTC orders may be revised or cancelled at any time during the on-line hours.
<p>(c) Good In Session (GIS)</p>	<ul style="list-style-type: none"> • A “Good In Session“(“GIS“) is a modifier to make the order valid until the end of the day session, if the order is submitted during the pre-open period or such day session, or until the end of the evening session, if the order is submitted during such evening session. • This modifier can only be added to Limit Orders. 	<ul style="list-style-type: none"> • Session1 = the pre-open period and day session, Session2 = the evening session

Item	Description	Remarks
(C) Reject to receive orders	<ul style="list-style-type: none"> • TFX may reject orders that are outside of a specific price range set by the Exchange. Such price range is set above and below the reference price that may be established by the Exchange from time to time. 	<ul style="list-style-type: none"> • Although this function is introduced in order to keep continuity of price and prevent Trading Member from submitting erroneous orders, it does not certify prevention all of incorrectly-input of orders. • Even if orders which were originally inside of the price range become outside of it as a result of market movement, they are still valid. • Maximum order volume Trading Member can submit in a single order for all Interest Rate Futures transactions, is 99,999 lots.
(D) Proprietary/Customer Account	<ul style="list-style-type: none"> • In order for a Trading Member to execute Interest Rate Futures Contracts, the Trading Member shall designate whether the order is for its house account or based on an Customer's orders for the Exchange's recognition. 	
(E) Order Volume revision	<ul style="list-style-type: none"> • The Trading Member may decrease the volume of unmatched orders in the market. 	<ul style="list-style-type: none"> • The Trading Member cannot increase the volume of unmatched orders in the market.
3. Matching Method		

Item	Description	Remarks
(A) Auction Method	<ul style="list-style-type: none"> • Interest Rate Futures Transactions on the Exchange Market shall be based on the auction method in principle and shall be executed on an individual auction basis. • The precedence of orders matched in accordance with the auction method shall be determined as follows. <ul style="list-style-type: none"> (a) A lower offer shall take precedence over any higher offer and a higher bid shall take precedence over any lower bid.(The principle of price priority.) (b) In case of multiple orders at the same price, an earlier bid shall take precedence over any later bid and an earlier offer shall take precedence over any later offer. (The principle of time priority.) • When the best offer and the best bid correspond to each other as a result of the competition among the bids, the competition among the offers, and the matching between the bids and offers, a market derivatives contract shall be executed between the corresponding bid and offer, at the contract price in the amount equal to the said best offer/best bid price; provided, however, that the foregoing shall not apply where the contract price is determined in the manner set forth in 3(B). 	<ul style="list-style-type: none"> • When limit orders and orders generating from Implied-out Function or implied-in Function are at the same price, the former shall take precedence over the latter. • As for Implied-out Function and implied-in Function, refer to 4.[E].
(B) Matching at the opening of Market Trading Period.	<ul style="list-style-type: none"> • Matching at the opening of market Trading Period is processed on the basis of uncrossing price. * <p style="margin-left: 20px;">* Uncrossing price means price at which the bids and offer can be matched at start of the day session. Specifically, it refers to one specific price which is calculated, by matching up limit orders (sum of limit orders submitted during the pre-open period and ones with GTC), to generate maximum order volume if executed.</p>	<ul style="list-style-type: none"> • This matching is processed in a manner similar to Itayose method. • This matching method is used in matching at re-opening after (temporary) suspension of trading on same business day. • Method of calculating the uncrossing price is as described in Appendix 1. • Details of matching process at the opening of Market Trading Period is described in Appendix 2.

Item	Description	Remarks
<p>(a) Trading Hours</p> <p>(b) Trading Method</p> <p>(D) Conversion</p> <p>(E) Implied Functions</p>	<ul style="list-style-type: none"> • The trading hours for a strategy trades are the same as those for the strategy components. • An order must be submitted with the price of the strategy trade. • Once a strategy trade is executed, TFX will convert it into the trade of strategy components. (Outright contracts) • TFX will calculate the prices of converted strategy components (Outright contracts) based on the traded price of the strategy and advise such prices to the Trading Member who has executed the strategy trade. 	<ul style="list-style-type: none"> • Orders for strategy trades can be submitted from a pre-open period. • An outright contract means a trade of a single contract month or series. • Positions shall be managed as positions which are converted into the trade of strategy components. • The Trading Members are required to make offset notifications for converted outright contracts.
<p>(a) Implied-in Function</p>	<ul style="list-style-type: none"> • This is a function to generate an implied-in price in the relevant Calendar Spread trade from multiple outright orders. 	<ul style="list-style-type: none"> • A price generated from the implied-in function is created with the best price of original orders. • Quotations at implied-in prices are displayed in case such price becomes the best price in the relevant Calendar market.
<p>(b) Implied-out Function</p>	<ul style="list-style-type: none"> • This is a function to generate a quotation at the implied-out price in the relevant outright contract from an order of Calendar Spread. 	<ul style="list-style-type: none"> • A price generated from the implied-out function is created with the best price of original orders. • Quotations at implied-out prices are displayed in case such price becomes the best price in the relevant outright market.

Item	Description	Remarks
5. Block Trade	<ul style="list-style-type: none"> • A block trade is applicable to an outright contract. • Members who want to execute a block trade can apply during trading hours until the 15 minutes prior to market close. • Minimum volume for block trade is 100 contracts. 	<ul style="list-style-type: none"> • Strategy trades are not allowed in any block trade.
6. Others	<ul style="list-style-type: none"> • The function of Request for Quote (RFQ), Pro-Rata Algorithm and Cabinet Trade on Options on Three-month Euroyen Futures are not available. 	<ul style="list-style-type: none"> • A request-for-quote (RFQ) is to request other Trading members for price quotation of a contract, with an intent of trading. • Pro-rata Algorithm is a matching method in which the contracts will be executed on a pro-rata basis in proportion to the amount of the respective orders when there are multiple orders at the same best price. • A “cabinet trade” is a trade quoted and transacted at price zero by Trading Member, which will be deemed to be executed at a certain price specified by TFX.

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1. Narrowing down the range of possible matching by calculating accumulated total of corresponding bids (Bid accumulation) and corresponding offers (Offer accumulation)

<Condition1>

(1) Narrowing down the range of price by determining the highest price in which Bid accumulation exceeds Offer accumulation.

(2) Narrowing down the range of price by determining the lowest price in which Offer accumulation exceeds Bid accumulation.

Mar					
	offer	price	bid	Offer Accumulation	Bid Accumulation
60		99.010		0	0
60	30	99.005	20	20	20
30		99.000	10	30	30
30	20	98.995	20	50	50
10	10	98.990		50	50
0		98.985		50	50

(1) The highest price in which Bid accumulation exceeds offer accumulation is 98.995

(2) The lowest price in which Offer accumulation exceeds Bid accumulation is 99.005

⇒ 98.995、99.000、99.005

2. Specifying the price at which either the volume of Offers or the volume of Bids can be completely executed.

<Condition2>

Among the prices that satisfies requirement of condition 1, determining the price that satisfies the following requirements (1) and (2)).

(1) Bid accumulation of the said price \geq Offer accumulation of the one-tick-size lower price than the said price
and

(2) Offer accumulation of the said price \geq Bid accumulation of the one-tick-size higher price than the said price

Mar					
	offer	price	bid	Offer Accumulation	Bid Accumulation
60		99.010		0	0
60	30	99.005	20	20	20
30		99.000	10	30	30
30	20	98.995	20	50	50
10	10	98.990		50	50
0		98.985		50	50

(1) Prices that satisfies condition 2 (1) is 99.000~98.995

(2) Prices that satisfies condition 2 (2) is 99.005~98.995

⇒ 98.995、99.000

3. Specifying the price that coincides with or nearest to the reference price.

<Condition3>

If there is more than one price specified in the condition 2, uncrossing price will be either;

- (1) the reference price when there is the same price among the said prices as the reference price,
- or
- (2) the closest price to the reference price when there is not.

Mar					
	offer	price	bid	Offer Accumulation	Bid Accumulation
60		99.010		0	0
60	30	99.005	20	20	20
30		99.000	10	30	30
30	20	98.995	20	50	50
10	10	98.990		50	50
0		98.985		50	50

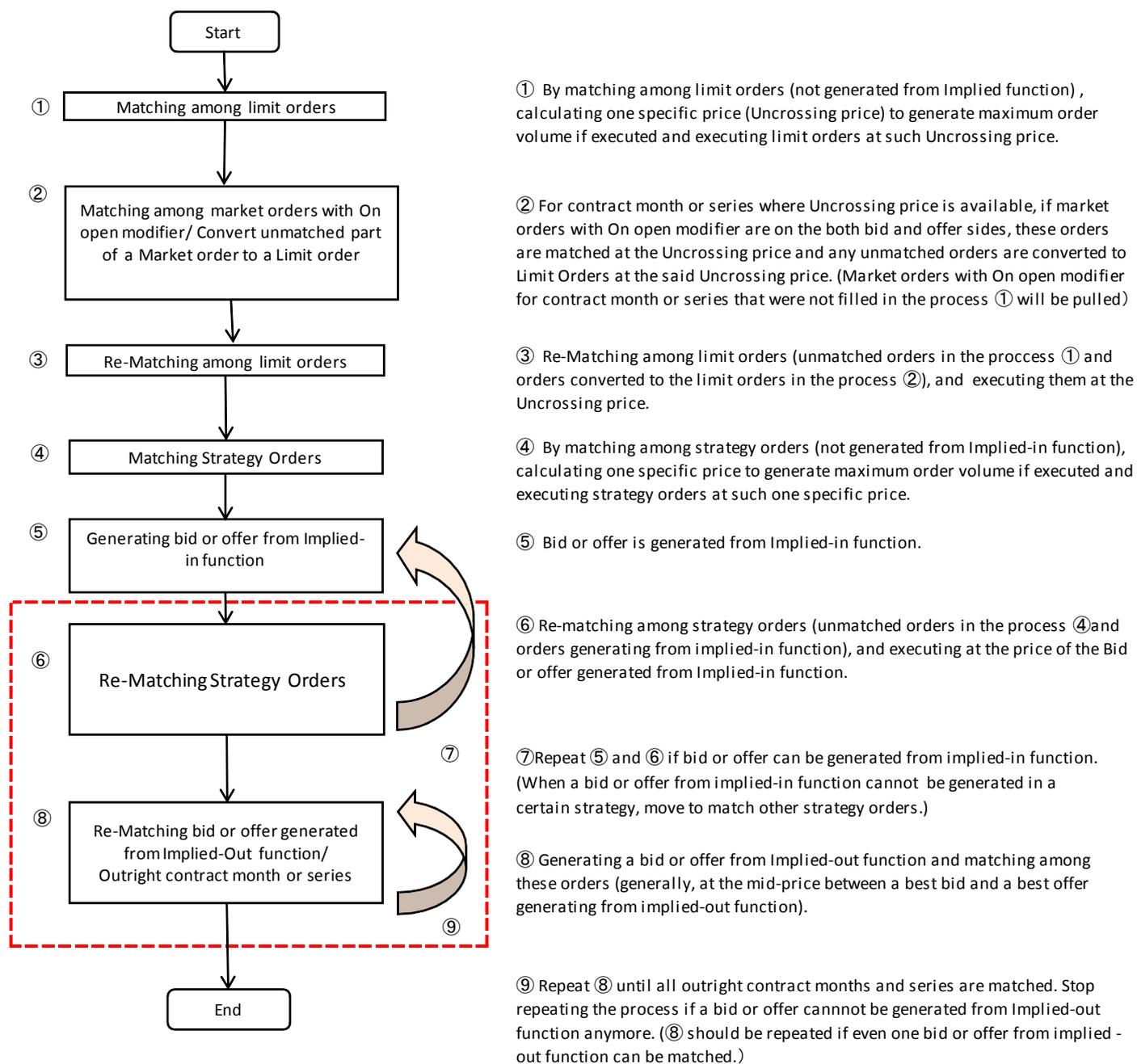
When the reference price (the Official Closing Price on the previous business day or the price designated by the Exchange) is 98.995, uncrossing price is 98.995.

As stated above, 30 lots traded at a price of 98.995. (Shaded areas show Traded orders)

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Matching Algorithm at the opening of Market Trading Period



【Process】

- ①~③ : Repeat ①~③ in all contracts or series by the contracts or series Unit.
(After processing a leading contract month, the process is handled in the order of nearest to farthest month.)
- ④~⑦ : Repeat ④~⑦ in all strategies by the strategy unit.
(After processing a leading contract month, the process is handled in the order of nearest to farthest month.)
In generating bid and offer from implied-in function,
executing trades at the price of the Bid or offer generated from Implied-in function.
- ⑧~⑨ : In generating bid and offer from implied-out function,
executing trades at the mid-price between a best bid and a best offer generated from Implied-out function.
(Odd price is given to the Bid or Offer including far month)

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