eurex *circular 123/17*

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Recipients:	All Trading Participants of Eurex Deutschland and Eurex Zürich and Vendors
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Redesign of the Order-to-Trade Ratio (OTR) in the context of MiFID II

Related Eurex circulars: 164/13, 213/13, 129/14, 082/17, 102/17

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Content may be most important for:	**Attachments:**
➲ All departments	none

Summary:

As of January 2018, the Order-to-Trade Ratio (OTR) concept in place at Eurex Deutschland and Eurex Zürich AG (collectively: the Eurex Exchanges) will be redesigned. The following changes are planned:

1. Reduction of the observation period from monthly to daily.

2. Introduction of a transaction-based OTR and change of the methodology of the current volume-based OTR.

A one-month testing phase for the new OTR will start on **4 December 2017**. On **3 January 2018**, the new OTR regime will come into effect. This circular provides a brief description of the new OTR and further relevant information.

The changes outlined in this circular are subject to the approval by the relevant bodies, such as the Exchange Council of Eurex Deutschland, the Board of Directors of Eurex Zürich AG, and the competent authorities. Approval is expected until mid-December 2017.

Redesign of the Order-to-Trade Ratio (OTR) in the context of MiFID II

Eurex Deutschland and Eurex Zürich AG (collectively: the Eurex Exchanges) will redesign the Order-to-Trade-Ratio (OTR) concept with effect from 3 January 2018. The main changes compared to the current OTR regime is the switch from monthly to daily observation period and the introduction of a transaction based OTR.

The limits for the volume-based OTR are set on the ratio between the volume of all order entries (ordered volume) to the trading volume per product and per day, generated by orders and quotes sent by the Participants to the Eurex trading system T7. The limits for the transaction-based OTR are set on the ratio between number of all order entries (number of orders) to the number of trades per product and per day, generated by orders and quotes sent by the Participants to T7. For calculation of the ordered volume (respectively the number of orders), all types of orders and/or quotes are considered. This includes any/all of the following actions: add, modify and delete. For calculation of the traded volume (number of trades), all executions are taken into account. Please note that aggregation of volume is done on a daily basis.

The limits are defined on the basis of the product type. For some products with a different behaviour, the limits are increased by a product-specific factor. In case a Participant fulfilled the minimum quotation requirements, the limits will be increased considering the quotation performance.

At the end of a day, if the value of an OTR for a particular product for a particular Participant is greater than a pre-defined limit, such instance is considered a violation. Such a violation may trigger sanctions against the Participant.

Participants can calculate a preliminary value of the OTR as well as the respective limit themselves with the supplied intraday reports. However, the conclusion whether the OTR is violated can be drawn only at the end of the day.

1. OTR calculation

The **volume-based OTR** is calculated using the following equation:

$$\text{OTR vol} = [\text{ordered volume}] / [\text{traded volume}] - 1$$

The ordered volume is the sum of:

- the number of contracts generated by orders and quotes that are accepted by the matching engine and entered in the order book and

- the number of contracts that the Participant deletes from the matching engine and thus have not been executed.

Modifying an order or quote is processed as a "delete" followed by an "add". Thus, the original order and the new order will both be counted towards the ordered volume. This process applies regardless of which attribute of the order and/or quote is changed.

If an order or a quote is fully or partially deleted by the Self-Match Prevention (SMP) functionality, then the ordered volume increases both on the buy- and the sell-side only by the number of deleted contracts.

The traded volume is the executed volume in the order book. If the traded volume is smaller than the volume-based minimum value, it will be replaced with the volume-based minimum value.

The limit of the volume-based OTR considers the product type and the product. For Participants who fulfil the minimum quotation requirements, the Eurex Exchanges apply higher and dynamic limits. The dynamic limits are dependent on the quote performance (i.e. number of instruments and time with quotes in relation to the minimum requirements), the spread quality, the average quote size, as well as quotation during stressed market conditions.

The **transaction-based OTR** is calculated using the following equation:

$$\text{OTR count} = [\text{ number of orders }] / [\text{ number of trades }] - 1$$

The number of orders is the sum of:

- the number of orders and quotes that are accepted by the matching engine and entered in the order book and
- the number of orders the Participant deletes from the matching engine and thus have not been executed.

"Modifying" an order or quote is treated as a "delete" followed by an "add". Thus, the original order and the new order will both be counted towards the number of orders. This process applies regardless of which attribute of the order and/or quote is changed.

If an order or a quote is fully or partially deleted by the Self-Match Prevention (SMP) functionality, then the number of orders increases both on the buy- and the sell-side only by the number of involved orders.

The number of trades is the number of executions in the order book. If the number of trades is smaller than the transaction-based minimum value, it will be replaced with the transaction-based minimum value.

The limit of the transaction-based OTR considers the product type, the product. For Participants who fulfil the minimum quotation requirements, the Eurex Exchanges apply higher and dynamic limits. The dynamic limits are dependent on the quote performance (i.e. number of instruments and time with quotes in relation to the minimum requirements), the spread quality as well as quotation during stressed market conditions.

A concept paper describing the OTR concept in detail including the various parameters that are considered for the calculation of the OTR and an example showing step-by-step calculation is available on the Eurex website www.eurexchange.com under the following link:

Resources > EU regulations > MiFID II/MiFIR > Order to Trade Ratio (OTR)

2. Limit parameters

The following tables show the parameters used to calculate the **volume-based OTR**.

Please note: The limit is based on the product type of the product.

Product group*	Product type	Grace factor	Volume based minimum value	Volume based base limit	Spread quality	Volume based MQ base factor	Volume based SMC factor
Single Stock Futures	FSTK	0.10	10,000	250	0.00	1.00	1.20
					0.20	1.25	
					0.40	1.50	
					0.60	1.75	
Equity Index Futures	FINX	0.10	10,000	400	0.00	1.00	1.20
					0.20	1.25	
					0.40	1.50	
					0.60	1.75	
Volatility Index Futures	FVOL	0.10	10,000	350	0.00	1.00	1.20
					0.20	3.00	
					0.40	3.50	
					0.60	4.00	
Equity Index Options	OINX	0.10	10,000	5,500	0.00	1.00	1.20
					0.20	1.75	
					0.40	2.00	
					0.60	2.25	
Equity Index Dividend Options	OFIX	0.10	10,000	1,200	0.00	1.00	1.20
					0.20	1.25	
					0.40	1.75	
					0.60	2.00	
FX Options	OCUR	0.10	10,000	6,500	0.00	1.00	1.20
					0.20	1.25	
					0.40	1.50	
					0.60	1.75	
FX Futures	FCUR	0.10	10,000	400	0.00	1.00	1.20
					0.20	1.25	
					0.40	1.50	
					0.60	1.75	
Equity Options	OSTK	0.10	10,000	1,100	0.00	1.00	1.20
					0.20	1.25	
					0.40	1.50	
					0.60	1.75	
Fixed Income Futures / Money Market Futures	FBND / FINT	0.10	10,000	400	0.00	1.00	1.20
					0.20	1.25	
					0.40	1.50	
					0.60	1.75	
Options on Fixed Income Futures / Options on Money Market Futures	OFBD / OFIT	0.10	10,000	1,200	0.00	1.00	1.20
					0.20	1.25	
					0.40	1.50	
					0.60	1.75	
New asset classes	New asset classes	0.10	10,000	5,500	0.00	1.00	1.20
					0.20	1.25	
					0.40	1.50	
					0.60	1.75	

* The table contains only the main product group per product type. The list of the product group names shown above in the table is not exhaustive.

Product name	Product ID	Volume based product factor
Options on Banco Bilbao Vizcaya Argentaria	BBVD	1.50
Commerzbank 1st Friday Weekly Options	CBK1	1.75
Options on Unicredit	CRI5	1.50
Credit Suisse 1st Friday Weekly Options	CSG1	1.25
Credit Suisse 2nd Friday Weekly Options	CSG2	1.50
Credit Suisse 4th Friday Weekly Options	CSG4	1.50
Deutsche Bank 1st Friday Weekly Options	DBW1	1.25
Deutsche Bank 2nd Friday Weekly Options	DBW2	1.50
Deutsche Bank 4th Friday Weekly Options	DBW4	1.25
Deutsche Bank 5th Friday Weekly Options	DBW5	2.00
E.ON Options	EOA	1.50
Futures on E.ON Uniper Basket	EOAH	2.50
Options on iShares DAX (DE)	EXS1	4.25
Bloomberg Commodity Futures	FCCO	3.00
Futures on DivDax	FDIV	1.75
Euro Stoxx Select Dividend 30 Index Futures	FEDV	1.25
Euro Stoxx Banks Futures	FESB	1.25
Euro Stoxx 50 Futures	FESX	1.25
Euro-Schatz Futures	FGBS	1.25
Stoxx Europe Mid 200 Index Futures	FMCP	1.25
MSCI Europe Index Futures	FMEU	2.00
Arcelor Mittal Options	ISPH	2.00
Lenzing Options	LEN	1.25
Options on Nokia (European)	NOAE	2.00
DAX 1st Friday Weekly Options	ODX1	2.00
DAX 2nd Friday Weekly Options	ODX2	1.50
DAX 4th Friday Weekly Options	ODX4	2.50
DAX 5th Friday Weekly Options	ODX5	1.25
1st Friday Weekly Options on Euro Stoxx 50	OES1	1.25
2nd Friday Weekly Options on Euro-Bund Futures	OGB2	1.25
4th Friday Weekly Options on Euro-Bund Futures	OGB4	1.25
5th Friday Weekly Options on Euro-Bund Futures	OGB5	1.25
Options on Euro-OAT Futures	OOAT	2.25
Options on VSTOXX® Futures	OVS2	1.50
Royal Dutch Shell 4th Friday Weekly Options	ROY4	1.25
UBS 4th Friday Weekly Options	UBS4	1.50
Unilever NV 1st Friday Weekly Options	UNI1	1.25
Unilever NV 2nd Friday Weekly Options	UNI4	1.50
Unilever NV 4th Friday Weekly Options	UNI5	1.50

If a product is not included in the table, i.e. has no product factor assigned, the default value of 1.00 is applied.

The following tables show the parameters used to calculate the **transaction-based OTR**.

Please note: The limit is based on the product type of the product.

Product group*	Product type	Grace factor	Transaction based minimum value	Transaction based base limit	Spread quality	Transaction based MQ base factor	Transaction based SMC factor
Single Stock Futures	FSTK	0.10	10,000	75	0.00	3.00	1.20
					0.20	5.00	
					0.40	7.50	
					0.60	20.00	
Equity Index Futures	FINX	0.10	10,000	150	0.00	3.00	1.20
					0.20	5.00	
					0.40	7.50	
					0.60	20.00	
Volatility Index Futures	FVOL	0.10	10,000	75	0.00	3.00	1.20
					0.20	5.00	
					0.40	7.50	
					0.60	20.00	
Equity Index Options	OINX	0.10	10,000	225	0.00	20.00	1.20
					0.20	80.00	
					0.40	150.00	
					0.60	225.00	
Equity Index Dividend Options	OFIX	0.10	10,000	75	0.00	3.00	1.20
					0.20	20.00	
					0.40	30.00	
					0.60	50.00	
FX Options	OCUR	0.10	10,000	225	0.00	3.00	1.20
					0.20	5.00	
					0.40	7.50	
					0.60	20.00	
FX Futures	FCUR	0.10	10,000	150	0.00	3.00	1.20
					0.20	5.00	
					0.40	7.50	
					0.60	20.00	
Equity Options	OSTK	0.10	10,000	75	0.00	6.00	1.20
					0.20	20.00	
					0.40	30.00	
					0.60	40.00	
Fixed Income Futures / Money Market Futures	FBND / FINT	0.10	10,000	75	0.00	3.00	1.20
					0.20	5.00	
					0.40	7.50	
					0.60	20.00	
Options on Fixed Income Futures / Options on Money Market Futures	OFBD / OFIT	0.10	10,000	225	0.00	4.50	1.20
					0.20	20.00	
					0.40	30.00	
					0.60	40.00	
New asset classes	New asset classes	0.10	10,000	225	0.00	20.00	1.20
					0.20	80.00	
					0.40	150.00	
					0.60	225.00	

* The table contains only the main product group per product type. The list of the product group names
   shown above in the table is not exhaustive.

Product name	Product ID	Transaction based product factor
ASML Holding Options	ASM	1.50
Option on Commerzbank (European)	CBKE	1.25
Euro-Bund Futures	FGBL	1.25
Iliad Options	ILD	1.75
Anheuser-Busch InBev Options	ITK	1.50
Lenzing Options	LEN	1.25
Options on Lindt & Spruengli	LISN	1.25
Options on Norilsk Nickel	NNIA	1.50

If a product is not included in the table, i.e. has no product factor assigned, the default value of 1.00 is applied.

A list of all products including their product types is published on the Eurex website www.eurexchange.com and can be downloaded under the following link:

Products > Product Overview > Complete list of all Eurex products in csv format

3. Reports

The following reports will be available for the Participants on the Common Report Engine:

- CB069 (Transaction Report): Enhanced report, which will be generated on a daily basis (intraday versions will also be available)
- TR100 (Order to Trade Ratio): New report which will be generated on a daily basis

Detailed information on all reports is contained in the document "Eurex XML Reports - Reference Manual" which is available on the Eurex website under the link:

Technology > T7 Trading architecture > System documentation > Release 6.0 > Eurex Reports > T7 Release 6.0 – XML Report Reference Manual

4. Timeline

There will be a one-month testing phase in December 2017 for Participants in order to take necessary actions to stay within the defined limits of the OTR with their trading activities. There will be no penalties for violation of the OTR during this testing phase. The final rules of the OTR will be applied from 3 January 2018 onwards.

Dates:

- **4 December 2017:** Start of the one-month testing phase
- **3 January 2018:** The new OTR comes into effect

5. Contact

If you have any questions or require further information, please contact your Group Client Key Account Manager Trading or send an e-mail to: customer.readiness@eurexchange.com.

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