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**To: Borsa Italiana market participants**

**Borsa Italiana - Cash and Derivatives markets**

**MiFIR / MiFID II: ORDER TO TRADE RATIO AND TRADING VENUE**

**TRANSACTION IDENTIFICATION CODE (TVTIC)**

Dear Customer,

following the requirements of the revised Markets in Financial Instruments Directive (MiFID II) and Regulation (MiFIR) on 3 January 2018, and according to Borsa Italiana market rules 3.3.2(2), BIt GEM rule 1451 and AIM Italia rule 1451, Borsa Italiana will introduce a new regime related to the ratio between unexecuted orders and transactions (“order-to-trade ratio” or “OTR”) for its market participants<sup>1</sup>.

CDR 566/2017 requires trading venues to define, at the level of each financial instrument<sup>2</sup>:

- a maximum permissible OTR expressed “in volume terms”, and;
- a maximum permissible OTR expressed “in number terms”;

(hereinafter, the “Maximum OTR Permitted Values”) and to calculate these ratios on a daily basis, for each market participant and separately for each trading venue where an individual instrument is traded.

This document provides details regarding the implementation of the new OTR regime for Borsa Italiana’s markets. The maximum values of the OTRs and related floors are also included in

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<sup>1</sup> Commission Delegated Regulation (EU) 566/2017 of 18 May 2016, supplementing Directive 2014/65/EU of the European Parliament and of the Council on markets in financial instruments with regard to regulatory technical standards for the ratio of unexecuted orders to transactions in order to prevent disorderly trading conditions.

<sup>2</sup> All instruments traded on Borsa Italiana are traded “on an electronic continuous order book, a quote-driven or a hybrid trading system”.

section “Ratio between unexecuted orders and transactions (Order To Trade Ratio)” of Borsa Italiana’s “Guide to Parameters”.

In addition, field 3 of Annex to CDR 2017/580<sup>3</sup> (“Trading venue transaction identification code” or “TVTIC”) requires market participants to indicate “a number generated by trading venues and disseminated to both the buying and selling parties in accordance with Article 12 of RTS 24”. Section 2 of this document complements technical documentation regarding Borsa Italiana’s trading systems Millennium Exchange and SOLA, describing how market participants can source a TVTIC that is fully compliant with the requirements of CDR 2017/580 and with ESMA’s technical specifications for Transaction Reporting<sup>4</sup>.

## **Section 1: Order-to-trade ratio**

### **1.1 Calculation methodology**

Starting from 3 January 2018, Borsa Italiana will calculate the two required OTRs, on a daily basis, for each: i) instrument (i.e. individual ISIN code), ii) market participant, iii) trading venue where an individual instrument is traded, and iv) separately for order flows submitted to the trading venue under a market making agreement signed with the trading venue.

The two OTRs are calculated as follows:

$$OTR \text{ (in volume terms)} = \frac{\text{Total volume of orders}}{\text{Total volume of executed transactions}} - 1$$

$$OTR \text{ (in number terms)} = \frac{\text{Total number of orders}}{\text{Total number of executed transactions}} - 1$$

Where the definition of:

- “order” means all input messages, including messages on submission, modification and cancellation sent to the trading system of a trading venue, relating to an order or a quote, but excluding cancellation messages sent subsequent to: (i) uncrossing in an auction; (ii) a loss of venue connectivity; (iii) the use of a kill functionality;
- “transaction” means a totally or partially executed order;
- “volume” means the quantity of financial instruments traded, expressed as any of the following: (i) the number of instruments for shares, depositary receipts,

<sup>3</sup> Commission Delegated Regulation (EU) 2017/580 of 24 June 2016, supplementing Regulation (EU) 600/2014 of the European Parliament and of the Council, with regards to regulatory technical standards for the maintenance of relevant data relating to orders in financial instruments.

<sup>4</sup> [www.esma.europa.eu/document/annex-ii-data-validation-rules-transaction-reporting](http://www.esma.europa.eu/document/annex-ii-data-validation-rules-transaction-reporting)

ETFs/ETCs/ETNs, certificates and other similar financial instruments, (ii) the nominal value for bonds and structured finance products and, (iii) the number of standard contracts for derivatives.

Rules to calculate the numerator and denominator of the two ratios are based on ESMA's guidelines described in Annex I to CDR 566/2017.

### **1.2 Floor Value**

A minimum value of the numerator of the “number terms” OTR (the “Floor Value”) will also be defined. “OTR rules” will not be deemed as breached in case the numerator of the “number terms” OTR is below the Floor Value (see also under “OTR breach”).

### **1.3 Breach of the “OTR rules”**

A market participant will be considered to have breached the OTR Rules on a specific instrument, for a trading day, relatively to a specific trading venue where the instrument is traded, acting as a normal participant or as a Market Maker, in case:

- at least one of the two OTRs exceeds the respective Maximum OTR Permitted Value;  
and
- the numerator of the “number terms” ratio exceeds the Floor Value.

In case of OTR breaches, Borsa Italiana notifies the market participant and may evaluate further actions according to its Rules<sup>5</sup>.

As concerns financial instruments traded on MTA, MIV and AIM MAC, please also refer to paragraph “Existing fees in place for equity markets”.

### **1.4 Maximum OTR Permitted Values and Floor Values**

The following table indicates the maximum permitted value of the two OTRs and the value of the Floor, for each Borsa Italiana's trading venue or segment. Dedicated values for market participants who provide liquidity under an agreement signed with Borsa Italiana (here collectively, the “Market Makers”) are also indicated.

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<sup>5</sup> Borsa Italiana Rules, Art. 3.4.

		<b>Max. OTR Permitted Value</b>	<b>Floor Value</b>	<b>Max. OTR Permitted Value for Market Makers</b>	<b>Floor Value for Market Makers</b>
MTA, AIM MAC, MIV, BitGEM & TAH	Number terms	2,000	75,000 ord.	10,000	150,000 ord.
	Value terms	10,000		50,000	
Index futures	Number terms	2,000	75,000 ord.	10,000	150,000 ord.
	Value terms	10,000		50,000	
Index options	Number terms	2,000	75,000 ord.	10,000	150,000 ord.
	Value terms	10,000		50,000	
Single name derivatives <sup>1</sup>	Number terms	1,000	75,000 ord.	10,000	150,000 ord.
	Value terms	5,000		50,000	
Commodity derivatives <sup>2</sup>	Number terms	500	25,000 ord.	2,000	50,000 ord.
	Value terms	2,500		10,000	
MOT, ExtraMOT	Number terms	75,000	150,000 ord.	150,000	300,000 ord.
	Value terms	750,000		1,500,000	
ETFplus	Number terms	4,000	200,000 ord.	20,000	400,000 ord.
	Value terms	20,000,000		100,000,000	
SeDeX	Number terms	4,000	200,000 ord.	20,000	400,000 ord.
	Value terms	20,000,000		100,000,000	

(1) Stock options, stock futures & stock dividend futures; (2) All derivatives traded on IDEX and Agrex.

### 1.5 Existing fees for the excessive usage of the system in place or equity markets

Starting from April 2012, Borsa Italiana has been charging market participants in case of excessive usage of the trading system, on the basis of the number of orders entered or modified in excess of an Order-to-Trade Ratio (OTR or ratio), calculated by member firm, day, and group of instruments, for trading services on the instruments traded on MTA, MIV and AIM MAC.

Existing fees for the excessive usage of the system will remain in place until further notice.

## **Section 2: Trading Venue Transaction Identification Code (TVTIC) and Transaction Reporting**

Field 3 of Annex to CDR 2017/580<sup>6</sup> (“Trading venue transaction identification code”) requires Market Participants to indicate “a number generated by trading venues and disseminated to both the buying and selling parties in accordance with Article 12 of RTS 24”. The trading venue transaction identification code shall be alphanumeric (with max. length of 52 chars) and “*unique, consistent and persistent per ISO10383 segment MIC and per trading day*”. A trading venue transaction identification code fulfilling these requirements is made available to Market Participants as follows:

- for Millennium Exchange trading protocols: field “TradeMatchID” in native trading gateway; Tag 880 (TrdMatchID) in FIX trading gateway. Available in Execution Report messages;
- as concerns the SOLA trading protocols:
  - in SOLA native (SAIL) protocol, a unique trade identifier across all instruments traded on IDEM and for the trading day can be created by chaining information in the following fields in Execution Notice messages<sup>7</sup>:
    - “Instrument”;
    - “Group”;
    - “Trade number”<sup>8</sup>;
  - in SOLA FIX protocol, in Tag 17 (ExecID) in Execution Report messages.

ESMA’s technical specifications for the TVTIC to be used in Transaction Reports<sup>9</sup>, while indicating this should be an alphanumeric-52, require that the TVTIC to be received by ESMA’s systems includes only Latin capital letters and numbers.

In order to properly handle this additional formatting requirement, market participant must be aware of the following:

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<sup>6</sup> Commission Delegated Regulation (EU) 2017/580 of 24 June 2016, supplementing Regulation (EU) 600/2014 of the European Parliament and of the Council, with regards to regulatory technical standards for the maintenance of relevant data relating to orders in financial instruments.

<sup>7</sup> This chained identifier, unique across all instruments of the trading venue and for the trading day, is also disseminated in HSVF Trade and Post Trade messages.

<sup>8</sup> All 8 bytes must be maintained, also in case of initial zeroes i.e. “00000234” must not be treated as “234”.

<sup>9</sup> <https://www.esma.europa.eu/document/annex-ii-data-validation-rules-transaction-reporting>

<b>Millennium Exchange</b>		
Native trading gateway	Field "TradeMatchID" (Execution Report Messages)	This is a numeric value.
FIX trading gateway	Tag 880 ("TrdMatchID") (Execution Report Messages)	Can include uppercase letters A-Z, lowercase letters a-z and numbers.
<b>SOLA</b>		
Native (SAIL) protocol	"Instrument"+"Group"+"Trade number" (Execution Notice messages)	Can include uppercase letters A-Z, lowercase letters a-z and numbers.
FIX protocol	Tag 17 ("ExecID") (Execution Report Messages)	This is a numeric value.

Due to ESMA's additional formatting requirements, TVTIC in: i) Millennium IT FIX trading gateway, and; ii) SOLA native (SAIL) protocol must be converted in order to remove lowercase letters.

The conversion process can be executed as follows:

- Millennium IT FIX trading gateway:
  - remove the most left character from content of Tag 880 ("TrdMatchID");
  - convert the rest of the digits into a numeric value using Base-62 decoding;
- SOLA native (SAIL) protocols:
  - convert the concatenated string "Instrument"+"Group"+"Trade number" into a numeric value using Base-62 decoding.

Market Participants are also reminded that Borsa Italiana is offering end-of-day reconciliation reports (the "Reconciliation Report" services) for its cash and derivatives markets, that include a converted version of the TVTIC. Reconciliation reports for orders and trades offer another opportunity to Market Participants to collect information to support: (a) their internal reconciliation procedures, and (b) regulatory reporting to Competent Authorities, according of MiFIR / MiFID II requirements. In case of interest for this value-added services offered by Borsa Italiana, please refer to section "Borsa Italiana – Trading services" of Borsa Italiana's website

[www.borsaitaliana.it/borsaitaliana/gestione-mercati/gestione-mercati.en.htm](http://www.borsaitaliana.it/borsaitaliana/gestione-mercati/gestione-mercati.en.htm)

and, more specifically, to the following links:

- MIT601 - Report Reconciliation Specification - Issue 3.2;
- Report Reconciliation Specification - Issue 1.4.

Example (Millennium IT FIX trading gateway):

ASCII base 62 Trade ID for FIX	G1aNhwVdkv
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**Step 1:** Remove the left most Byte 'G' → 1aNhwVdkv

**Step 2:** Convert the rest of the digits to decimal using the base 62 dictionary

Trade ID (ASCII Character)	Decimal Value	Base 62 <sup>x</sup>	Value	Multiplied Value	Decimal
v	57	62 <sup>0</sup>	1	57	
k	46	62 <sup>1</sup>	62	2,852	
d	39	62 <sup>2</sup>	3,844	149,916	
V	31	62 <sup>3</sup>	238,328	7,388,168	
w	58	62 <sup>4</sup>	14,776,336	857,027,488	
h	43	62 <sup>5</sup>	916,132,832	39,393,711,776	
N	23	62 <sup>6</sup>	56,800,235,584	1,306,405,418,432	
a	36	62 <sup>7</sup>	3,521,614,606,208	126,778,125,823,488	
1	1	62 <sup>8</sup>	218,340,105,584,896	218,340,105,584,896	
<b>Total</b>				<b>346,464,895,107,073</b>	