BORSA ITALIANA HISTORICAL DATA SPECIFICATION

Issue 1.4 – Technical Specifications

SEPTEMBER 2020

BORSA ITALIANA

1. Introduction

1.1 Document History

This document has been through the follow iterations:

Issue	Date	Description
1.0	November 2018	First issue of this document distributed to customers.
1.2	February 2020	Added field Lastopeningauctionprice to Table A layout.
1.3	July 2020	Added field TradingCurrency to Table A layout.
1.4	September 2020	Added file **BRED_REFDATA_ADJ_INSTR_SDX_yyyymmdd.csv**

2. Historical Data

2.1 Service Overview

The service provides a number of separate full market end of day data files needed to provide all the necessary data for Italian markets.

Borsa Italiana Historical Data are offered in packages described below. Each package is comprehensive of files related to all markets.

PACKAGE	CONTENT
EOD Summary Data	Daily summary: includes official and reference price, first, last, highest and lowest prices, auction prices, volumes and turnover, adjustment factor
Tick Data Trades	Intraday Trades executed on book during each trading day: includes prices of execution, volume and turnover
BBO	Best bids and offers (book snapshot – first level)
10 BBO	Best 10 bids and offers (book snapshot – first 10 levels)
Monthly Statistics	Monthly official market statistics of Borsa Italiana
NAV	Net Asset Value of ETFs, ETCs ETNs and Funds
Monthly Averages Prices	Average of official prices of each instrument
Schedules	Market phases of each instruments

2.2 Access to the service

Historical Data files are available at Lseg sFTP server. Each Client will receive a username and password (or certificate) to access the service.

Files will be accessible for 5 days after the generation.

2.3 Calendar and Service hours

End of Day Data files are available on published trading days as soon as they are available, within 08:00 a.m. local market time.

2.4 Data layout

The files are created in accordance with the following specifications:

File format	Csv
Fields delimiter	; (semicolon)
Decimal symbol	. (point)
Digit grouping symbol (thousands separator)	none
Date fields format	yyyymmdd

The fields length is variable, moreover the maximum length for the field is defined in the datatype column of the tables below.

The files are made available in “zip format”.

2.5 Content

2.5.1 EOD SUMMARY DATA

MARKET	FILE NAME	LAYOUT TABLE
Euronext Milan (Italian Equity Markets) **Euronext Growth Milan** **BEM** (Italian Equity MTF) **Euronext MIV Milan** (Market for Investment Vehicles)	**BRED_LST_MTA_yyyymmdd.csv** **BRED_REFDATA_ADJ_INSTR_MTA_yyyymmdd.csv**	**Table A** **Table A.1**
ETF (ETFs, ETCs, ETNs)	**BRED_LST_ETF_yyyymmdd.csv** **BRED_REFDATA_ADJ_INSTR_ETF_yyyymmdd.csv**	**Table A** **Table A.1**
MOT (Italian Bond and Euro Bond) **ExtraMOT**	**BRED_LST_MOT_yyyymmdd.csv** **BRED_REFDATA_ADJ_INSTR_MOT_yyyymmdd.csv**	**Table A** **Table A.1**
SeDeX (Italian Securitised Derivatives Market)	**BRED_LST_SDX_yyyymmdd.csv** **BRED_REFDATA_ADJ_INSTR_SDX_yyyymmdd.csv**	**Table A** **Table A.1**
Trading After Hours	**BRED_LST_TAH_yyyymmdd.csv**	**Table A**
IDEM (Derivatives)	**BRED_LST_DER_yyyymmdd.csv**	**Table B**

Each file contains one record for each financial instrument traded on each trading date.

Table A: Record Layout EOD Summary Data – Cash Markets

Field Name	Datatype	Values Description
tradingdate	number int8	Trading day in YYYYMMDD format
isincode	Char(12)	Instrument ISIN code
suspended	Char(1)	Y or N
change	Number	Exchange rate if applied
firstopeningauctionprice	Number	First price in opening auction
firstcontinuousprice	Number	First price in continuous phase
averageprice	Number	Official price
lastcontinuousprice	Number	Last price in continuous
lastprice	Number	Price of the last contract of the day
closingauctionprice	Number	Last price in closing auction
closingprice	Number	Reference price
maxprice	Number	Highest price of the day
minprice	Number	Lowest price of the day
firstopeningauctionsize	Number	Opening volume
closingauctionsize	Number	Closing volume
totalsize	Number	Total volume

firstopeningauctiontrades	number int7	Number of contracts in opening auction
closingtrades	number int8	Number of contracts in closing auction
totaltrades	number int8	Total number of contracts
totalturnover	Number	Total turnover
firstopeningauctiontime	Char(9)	Time when the price of first Opening Auction was determined
closingauctiontime	Char(9)	Closing Auction price determined during the trading day
maxpricetime	Char(9)	Indicates the time when the first trade at maximum price was concluded
minpricetime	Char(9)	Indicates the time when the first trade at minimum price was concluded
lastopeningauctionprice	Number	Last opening price made during the day
TradingCurrency	Char(3)	Currency in which price is expressed

Table A.1: Record Layout Adjustment Factors – Cash Markets and Sedex

Field Name	Datatype	Values Description
Tradingdate	number int8	Instrument ISIN code
Isincode	char(12)	Trading day in YYYYMMDD format
Adjustmentfactor	number 20int 8d	Time of execution of the trade
Noticenumber	number int9	Market_ID
Noticedate	Number int8	Market Phase

Table B: Record Layout EOD Summary Data – Derivatives Market

Field Name	Datatype	Values Description
Tradingdate	number int8	Trading day in YYYYMMDD format
Isincode	Char(12)	Instrument ISIN code
Series	Char(32)	Series name
Contractsize	number 11int 2d	Size of the contract specification
Expirydate	number int8	Expiry day in YYYYMMDD format
Numctrstandard	Number	Total standard contracts
notional turnover	number 19int 2d	Total notional turnover

open interest	Number	Open interest at day end
closing price	Number	Closing price
first price	Number	First price
Strike	Number	Strike price
max price	Number	Highest price of the day
min price	Number	Lowest price of the day
last price	Number	Last price
Volatility	number 4int 1d	Volatility

2.5.2 TICK DATA TRADES

MARKET	FILE NAME	LAYOUT TABLE
MTA (Italian Equity Markets) **AIM Italia** **BEM** (Italian Equity MTF) **MIV** (Market for Investment Vehicles)	**BRED_TRD_MTA_yyyymmdd.csv**	**Table C**
ETF (ETFs, ETCs, ETNs)	**BRED_TRD_ETFP_yyyymmdd.csv**	**Table C**
MOT (Italian Bond and Euro Bond) **ExtraMOT**	**BRED_TRD_MOT_yyyymmdd.csv**	**Table C**
SeDeX (Italian Securitised Derivatives Market)	**BRED_TRD_SDX_yyyymmdd.csv**	**Table C**
Trading After Hours	**BRED_TRD_TAH_yyyymmdd.csv**	**Table C**
IDEM (Derivatives)	**BRED_TRD_DER_yyyymmdd.csv**	**Table D**

Each file contains one record for trade executed on each financial instrument traded in each trading date. Only active trades are reported and trades are single counted.

Table C: Record Layout Tick Data Trades– Cash Markets

Field Name	Datatype	Values Description
tradingdate	number int8	Trading day in YYYYMMDD format
isincode	Char(12)	Instrument ISIN code
tradetime	Char(36)	Time of execution of the trade
tradeprice	Number	Price of execution of the trade
tradevolume	Number	Quantity of the trade
tradeturnover	Number	Total standard contracts

Table D: Record Layout Tick Data Trades – Derivatives Market

Field Name	Datatype	Values Description
tradingdate	number int8	Trading day in YYYYMMDD format
isincode	Char(12)	Instrument ISIN code
tradetime	Char(11)	Time of execution of the trade
tradeprice	Number	Price of execution of the trade
tradevolume	Number	Quantity of the trade
series	Char(32)	Series name

2.5.3 BBO (BEST BID AND OFFERS)

MARKET	FILE NAME	LAYOUT TABLE
MTA (Italian Equity Markets) **AIM Italia** **BEM** (Italian Equity MTF) **MIV** (Market for Investment Vehicles)	**BRED_MBO1_MTA_yyyymmdd.csv**	**Table E**
ETF (ETFs, ETCs, ETNs)	**BRED_MBO1_ETF_yyyymmdd.csv**	**Table E**
MOT (Italian Bond and Euro Bond) **ExtraMOT**	**BRED_MBO1_MOT_yyyymmdd.csv**	**Table E**
SeDeX (Italian Securitised Derivatives Market)	**BRED_MBO1_SDX_yyyymmdd.csv**	**Table E**
Trading After Hours	**BRED_MBO1_TAH_yyyymmdd.csv**	**Table E**
IDEM (Derivatives)	**BRED_MBO1_DER_yyyymmdd.csv**	**Table F**

Each file contains one record for each best bid and order level in the day for each instrument

Table E: Record Layout Best Bid Offers – Cash Markets

Field Name	Datatype	Values Description
tradingdate	number int8	Trading day in YYYYMMDD format
market	Char(4)	Market code
msgtime	Char(12)	Time of the message
instrumentID	Char(12)	Instrument identifier code
isincode	Char(12)	Instrument ISIN code
alfacode	Char(6)	Alphanumeric security code
bidprice1level	number 26int 8d	First level bid price
bidsize1level	number int16	First level bid size
askprice1level	number 26int 8d	First level ask price
asksize1level	number int16	First level ask size

Table F: Record Layout Best Bid Offers – Derivatives Market (IDEM)

Field Name	Datatype	Values Description
tradingdate	number int8	Trading day in YYYYMMDD format
market	Char(4)	Market code
msgtime	Char(12)	Time of the message

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series	Char(32)	Series name
isincode	Char(12)	Instrument ISIN code
bidprice1level	number 26int 8d	First level bid price
bidsize1level	number int16	First level bid size
askprice1level	number 26int 8d	First level ask price
asksize1level	number int16	First level ask size

2.5.4 10 BBO (10 BEST BID AND OFFERS)

MARKET	FILE NAME	LAYOUT TABLE
MTA (Italian Equity Markets) **AIM Italia** **BEM** (Italian Equity MTF) **MIV** (Market for Investment Vehicles)	**BRED_MBP10_MTA_yyyymmdd.csv**	**Table G**
ETF (ETFs, ETCs, ETNs)	**BRED_MBP10_ETF_yyyymmdd.csv**	**Table G**
MOT (Italian Bond and Euro Bond) **ExtraMOT**	**BRED_MBP10_MOT_yyyymmdd.csv**	**Table G**
SeDeX (Italian Securitised Derivatives Market)	**BRED_MBP10_SDX_yyyymmdd.csv**	**Table G**
Trading After Hours	**BRED_MBP10_TAH_yyyymmdd.csv**	**Table G**

IDEM (Derivatives)	**BRED_MBP10_DER_yyyymmdd.csv**	**Table H**

Each file contains one record for the 10 best bid and order levels in the day for each instrument

Table G: Record Layout 10 Best Bid Offers – Cash Markets

Field Name	Datatype	Values Description
tradingdate	number int8	Trading day in YYYYMMDD format
market	Char(4)	Market code
msgtime	Char(12)	Time of the message
instrumentID	Char(12)	Instrument identifier code
isincode	Char(12)	Instrument ISIN code
bidprice1level	number 26int 8d	1 level bid price
bidsize1level	number int16	1 level bid size
bidnum1level	Char(6)	Number of bid orders 1 level
bid price2level	number 26int 8d	2 level bid price
bidsize2level	number int16	2 level bid size
bidnum2level	Char(6)	Number of bid orders 2 level
bidprice3level	number 26int 8d	3 level bid price
bidsize3level	number int16	3 level bid size
bidnum3level	Char(6)	Number of bid orders 3 level

bidprice4level	number 26int 8d	4 level bid price
bidsize4level	number int16	4 level bid size
bidnum4level	Char(6)	Number of bid orders 4 level
bidprice5level	number 26int 8d	5 level bid price
bidsize5level	number int16	5 level bid size
bidnum5level	Char(6)	Number of bid orders 5 level
bidprice6level	number 26int 8d	6 level bid price
bidsize6level	number int16	6 level bid size
bidnum6level	Char(6)	Number of bid orders 6 level
bidprice7level	number 26int 8d	7 level bid price
bidsize7level	number int16	7 level bid size
bidnum7level	Char(6)	Number of bid orders 7 level
bidprice8level	number 26int 8d	8 level bid price
bidsize8level	number int16	8 level bid size
bidnum8level	Char(6)	Number of bid orders 8 level
bidprice9level	number 26int 8d	9 level bid price
bidsize9level	number int16	9 level bid size
bidnum9level	Char(6)	Number of bid orders 9 level
bidprice10level	number 26int 8d	10 level bid price
bidsize10level	number int16	10 level bid size

bidnum10level	Char(6)	Number of bid orders 10 level
askprice1level	number 26int 8d	1 level ask price
asksize1level	number int16	1 level ask size
asknum1level	Char(6)	Number of ask orders 1 level
askprice2level	number 26int 8d	2 level ask price
asksize2level	number int16	2 level ask size
asknum2level	Char(6)	Number of ask orders 2 level
askprice3level	number 26int 8d	3 level ask price
asksize3level	number int16	3 level ask size
asknum3level	Char(6)	Number of ask orders 3 level
askprice4level	number 26int 8d	4 level ask price
asksize4level	number int16	4 level ask size
asknum4level	Char(6)	Number of ask orders 4 level
askprice5level	number 26int 8d	5 level ask price
asksize5level	number int16	5 level ask size
asknum5level	Char(6)	Number of ask orders 5 level
askprice6level	number 26int 8d	6 level ask price
asksize6level	number int16	6 level ask size
asknum6level	Char(6)	Number of ask orders 6 level
askprice7level	number 26int 8d	7 level ask price

asksize7level	number int16	7 level ask size
asknum7level	Char(6)	Number of ask orders 7 level
askprice8level	number 26int 8d	8 level ask price
asksize8level	number int16	8 level ask size
asknum8level	Char(6)	Number of ask orders 8 level
askprice9level	number 26int 8d	9 level ask price
asksize9level	number int16	9 level ask size
asknum9level	Char(6)	Number of ask orders 9 level
askprice10level	number 26int 8d	10 level ask price
asksize10level	number int16	10 level ask size
asknum10level	Char(6)	Number of ask orders 10 level

Table H: Record Layout 10 Best Bid Offers – Derivatives Market

Field Name	Datatype	Values Description
tradingdate	number int8	Trading day in YYYYMMDD format
market	Char(4)	Market code
msgtime	Char(12)	Time of the message
series	Char(32)	Series name

isincode	Char(12)	Instrument ISIN code
bidprice1level	number 26int 8d	1 level bid price
bidsize1level	number int16	1 level bid size
bidnum1level	Char(6)	Number of bid orders 1 level
bidprice2level	number 26int 8d	2 level bid price
bidsize2level	number int16	2 level bid size
bidnum2level	Char(6)	Number of bid orders 2 level
bidprice3level	number 26int 8d	3 level bid price
bidsize3level	number int16	3 level bid size
bidnum3level	Char(6)	Number of bid orders 3 level
bidprice4level	number 26int 8d	4 level bid price
bidsize4level	number int16	4 level bid size
bidnum4level	Char(6)	Number of bid orders 4 level
bidprice5level	number 26int 8d	5 level bid price
bidsize5level	number int16	5 level bid size
bidnum5level	Char(6)	Number of bid orders 5 level
bidprice6level	number 26int 8d	6 level bid price
bidsize6level	number int16	6 level bid size
bidnum6level	Char(6)	Number of bid orders 6 level
bidprice7level	number 26int 8d	7 level bid price

bidsize7level	number int16	7 level bid size
bidnum7level	Char(6)	Number of bid orders 7 level
bidprice8level	number 26int 8d	8 level bid price
bidsize8level	number int16	8 level bid size
bidnum8level	Char(6)	Number of bid orders 8 level
bidprice9level	number 26int 8d	9 level bid price
bidsize9level	number int16	9 level bid size
bidnum9level	Char(6)	Number of bid orders 9 level
bidprice10level	number 26int 8d	10 level bid price
bidsize10level	number int16	10 level bid size
bidnum10level	Char(6)	Number of bid orders 10 level
askprice1level	number 26int 8d	1 level ask price
asksize1level	number int16	1 level ask size
asknum1level	Char(6)	Number of ask orders 1 level
askprice2level	number 26int 8d	2 level ask price
asksize2level	number int16	2 level ask size
asknum2level	Char(6)	Number of ask orders 2 level
askprice3level	number 26int 8d	3 level ask price
asksize3level	number int16	3 level ask size
asknum3level	Char(6)	Number of ask orders 3 level

askprice4level	number 26int 8d	4 level ask price
asksize4level	number int16	4 level ask size
asknum4level	Char(6)	Number of ask orders 4 level
askprice5level	number 26int 8d	5 level ask price
asksize5level	number int16	5 level ask size
asknum5level	Char(6)	Number of ask orders 5 level
askprice6level	number 26int 8d	6 level ask price
asksize6level	number int16	6 level ask size
asknum6level	Char(6)	Number of ask orders 6 level
askprice7level	number 26int 8d	7 level ask price
asksize7level	number int16	7 level ask size
asknum7level	Char(6)	Number of ask orders 7 level
askprice8level	number 26int 8d	8 level ask price
asksize8level	number int16	8 level ask size
asknum8level	Char(6)	Number of ask orders 8 level
askprice9level	number 26int 8d	9 level ask price
asksize9level	number int16	9 level ask size
asknum9level	Char(6)	Number of ask orders 9 level
askprice10level	number 26int 8d	10 level ask price
asksize10level	number int16	10 level ask size

asknum10level	Char(6)	Number of ask orders 10 level

2.5.5 MONTHLY STATISTICS

Official Monthly Statistics by market published on Borsa Italiana website, made available in Excel.

2.5.6 NAV ETFPLUS

Net asset Value of funds, Etfs and ETC/ETN's as provided to the exchange by the issuers.

MARKET	FILE NAME	LAYOUT TABLE
ETFplus (ETFs, ETCs, ETNs)	**BRED_NAV_ETFP_yyyymmdd.csv**	**Table I**

Table I: Net Asset Value - ETFPlus

Field Name	Datatype	Values Description
NAVdate	number int8	Date of the NAV
Isincode	char(12)	Instrument ISIN code
currency	char(5)	Currency of NAV
NAV	number 19int 4d	Net Asset Value in currency
NAVineur	number 19int 4d	Net Asset Value in euro
outstandingshares	number int15	Number of outstanding quotes

2.5.7 NAV ETFPLUS

Net asset Value of ETFPlus instruments as provided to the exchange by the issuers.

MARKET	FILE NAME	LAYOUT TABLE
ETFplus (ETFs, ETCs, ETNs)	**BRED_NAV_ATF_yyyymmdd.csv**	**Table L**

Table L: Net Asset Value – ETFPlus

Field Name	Datatype	Values Description
NAVdate	number int8	Date of the NAV
Isincode	char(12)	Instrument ISIN code
currency	char(5)	Currency of NAV
NAV	number 19int 4d	Net Asset Value in currency
NAVineur	number 19int 4d	Net Asset Value in euro
outstandingshares	number int15	Number of outstanding quotes

2.5.8 MONTHLY AVERAGE PRICES

Monthly, 3 and 6 months average of official prices for all the instruments traded on BITs markets.

Table M: Monthly Averages

Field Name	Datatype	Values Description
Month	char(6)	Month

ISINCode	char(12)	Instrument ISIN code
MonthlyAverage	number 20int 4d	Monthly average of official prices
QuaterlyAverage	number 20int 4d	3 months average of official prices
SemesterAverage	number 20int 4d	6 months average of official prices

2.5.9 SCHEDULES

Market phases of each instruments

Table N: Schedules

Field Name	Datatype	Values Description
ISINCode	char(12)	Instrument ISIN code
TransactDate	number int8	Trading day in YYYYMMDD format
MessageTime	char(8)	Time of execution of the trade
Market	char(5)	Market_ID
MarketPhase	char(254)	Market Phase

CONTACTS

Market Data Team

Piazza degli Affari, 6, 20123 Milano

marketdataBIT@borsaitaliana.it

EURONEXT

borsaitaliana.it