



Cboe Europe Index File Specification

Version 1.4

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1 Introduction

This document provides technical details for the end of day (eod) files produced for the Cboe Europe Indices.

On calculation day t closing files are provided for calculation day t and opening files for calculation day $t+1$. These files are generated after close of business (COB) in the U.S. and are typically made available via the Cboe Europe trading website - <https://markets.cboe.com/account/login/>, between 11pm and 12 midnight BST/10pm and 11pm GMT. Users require a login and permission to access the required files, once appropriate licensing has been set up. If the user requires the download of these files to be automated, instructions are provided on the webpage:

If you want to automate the download of these files, there are several options. One method would be to use the wget command. Note that your version of wget may have slightly different options. For example, some versions of wget use the --http-passwd option instead of --http-password. The command below should all be on one line.

```
wget --tries=1 --http-user=myusername --http-password=mypassword --auth-no-challenge -O my_file.csv  
"https://batstrading.co.uk/account/idx_files/<solactive|factset>/download/?file=<directory/filename>"
```

This document describes the file structure and format of each file type:

File type	Description	File naming structure
Closing	Closing values	[Ticker]-CLOSING-EN-<yyyy-mm-dd>.csv
Opening	Opening values adjusted for corporate actions	[Ticker]-OPENING-EN-<yyyy-mm-dd>.csv
Corporate action	Corporate action and dividend details	[Ticker]-corporateactions-<yyyy-mm-dd>.csv
History	Index values from inception	[Ticker]_History.csv

Additionally, forecasts are provided regarding upcoming extraordinary corporate actions and rebalances. These are provided by email and are available for reference under the [Notifications section](#) of the Indices website.

Index specific files and naming structure

All 4 files are provided for each index ticker, eg BUK100P, BUK100N, etc.

File format: csv file, semicolon separated

File name convention for files generated COB June 13th, 2016:

- Example 1: <BUK100P-Closing-EN-2016-06-13.csv> = Closing File June 13th, 2016 of index ticker BUK100P.

- Example 2: <BUK100P-Opening-EN-2016-06-14.csv> = Opening File June 14th, 2016 of index ticker BUK100P. The opening file for June 14th is created together with the closing file after COB June 13th.

2 File structure

Closing/Opening File

File Field (column in csv file)	Format & max. characters/decimal places	Mandatory or Optional
Date	yyyy-mm-dd	Mandatory
Index Close Value	Numeric: max. 6 decimal places (max. 15 characters aggregated)	Mandatory
Index Divisor	Numeric: max. 6 decimal places (max. 15 characters aggregated)	Mandatory
ISIN (A)	Numeric & Text: 12 characters (if available)	Mandatory
Security Name (B)	Text: no restriction	Mandatory
Security RIC (C)	Text: no restriction	Mandatory
Security Ticker (D)	Text: no restriction	Mandatory
Security SEDOL (E)	Text & Numeric (if available) – currently null	Optional
Security CUSIP (F)	Text & Numeric (if available) - currently Cboe Europe symbol	Optional
Country of Domicile (G)	Text (Country Full Names)	Mandatory
Country based on Revenue (H)	Text	
Closing Price (I)	Numeric: max. 6 decimal places (max. 15 characters aggregated)	Mandatory
Currency (J)	Text: 3 character currency codes (all currency codes currently used are shown in the appendix)	Mandatory
Closing FX (K)	Numeric: max. 12 decimal places (max. 15 characters aggregated)	Mandatory
Total Shares (L)	Numeric: max. 10 decimal places (max. 15 characters aggregated)	Mandatory
Market Cap (Full) (M)	Numeric: max. 6 decimal places (max. 15 characters aggregated)	Mandatory
Market Cap (Free Float) (N)	Numeric: max. 6 decimal places (max. 15 characters aggregated)	Mandatory
Free Float Factor (O)	Numeric: max. 4 decimal places (max. 6 characters aggregated)	Mandatory
Weighting Cap Factor (P)	Numeric: max. 6 decimal places (max. 15 characters aggregated)	Mandatory
Index Weighting (Q)	Percentage figure: max. 6 decimal places (max. 15 characters aggregated)	Mandatory
Index Shares (R)	Numeric: max. 6 decimal places (max. 15 characters aggregated)	Mandatory

Index Value (S)	Numeric: max. 6 decimal places (max. 15 characters aggregated)	Mandatory
RBICS_ECON_NUM	Numeric: max. 0 decimal places (max. 2 characters aggregated). This field represents the latest sector classification, membership of a sector is only updated at the rebalance period.	Mandatory
RBICS_ECON_NAME	Text: no restriction	Mandatory

Table 1.1 describes the content of index specific closing/opening files. In the 1st column of the table the relevant fields within the files are shown. The cells A1-A3 (column/row combination) include Date, Index Close, Index Divisor and their respective values in B1-B3. All other information can be found starting in row 5 with the headlines and below the respective information for every index member, i.e. row 6 = index component 1, row 7 = index component 2 et cetera. The components are sorted alphabetically according to their Security RIC. RICs with numeric letters are sorted above security RICs in text format. The format of every cell is either text, numeric or a combination of both (in that case the format is automatically changed to text).

In general, files are set up as follows: There is no restriction for fields with text (Name, Country, Security Ticker, et cetera). Different restrictions apply to fields with numeric characters (Closing Price, Closing FX, et cetera). The 2nd column of the table provides information on the field format as well as maximum characters.

Note: the text marked blue in the File Field column in table 1.1 denotes that a more detailed explanation is available below the table.

Table 1.1: Index Specific Closing/Opening

Closing Price:

Closing File for calculation day t
 CXE Trade Price on the respective trading day of the stock. If the stock was not trading on the respective day, last CXE Trade Price is used in the file.
 Opening File for calculation day t+1

The Trade Price is adjusted in the opening file in case a corporate action is effective on calculation day t+1 (for details regarding adjustments of corporate actions please refer to [Cboe Europe Index Rules and Methodology](#)).

Please note, price, net and total return indices are affected by corporate actions. Only the net and total return indices are affected by cash dividends where the divisor is adjusted to build back in the value of the dividend. The opening adjusted price of a security, with a dividend going ex that day, can be different in the open file for the BUK100P to that price in the open file for the BUK100N.

Closing FX:

WMCO Closing Spot Rates of 4pm London time are used.

Total Shares:

Calculation Parameter used in the index. Can be with decimal places or without decimal places; limited to 15 digits. This is the actual total shares outstanding.

Market Cap (Full):

Always shown in respective index currency. If an index is calculated in GBP, market cap is calculated using closing price, closing fx rate and total shares. As the total shares is the actual number of shares, the market cap shown is in line with true market cap of that company on calculation day t.

Market Cap (Free Float):

Product of market cap and free float factor.

Free Float Factor

Actual free float factor or other number depending on other investment restrictions such as foreign ownership restrictions.

Weighting Cap Factor:

If the current actual market caps, i.e. actual shares outstanding should be used for index calculation purposes, some companies may exceed the maximum weight allowed in the index. Their weight can be scaled down using a Weighting Cap Factor < 1.

Index Shares:

The index shares of index component 1 are calculated by dividing the product of total shares, free float factor and weighting cap factor of index component 1 through the index divisor.

Index Value:

The index value for every index component is calculated by multiplying the index shares of index component 1 with closing price and closing fx of index component 1.

RBICS_ECON_NUM

Level 1 Economic Sector Number for the Revere Business Industry Classification System (RBICS).

RBICS_ECON_NAME

Level 1 Economic Sector Name for the Revere Business Industry Classification System (RBICS).

Corporate Action File

Corporate actions (including dividends) are available in the corporate action file generally with the effective date being the following business day. Additionally, notifications are sent for some corporate actions (marked in blue below) via email and are available under the [Notifications](#) section on the indices website. The following corporate actions are tracked in the corporate action file:

- i. Cash dividends (regular and special cash) (withholding taxes applied can be found at www.structured-solutions.eu -> indexing -> documents and downloads)
- ii. Stock dividends
- iii. [Rights issues and repurchase tender offers](#)
- iv. Stock splits

- v. Mergers and acquisitions
- vi. Spin-offs
- vii. Identifier changes (Name, ISIN, Ticker, RIC, , Change Country of domicile/incorporation)
- viii. Listing changes

File Structure

Table 2 provides an overview of the index specific corporate action files. The first row of table 2 shows the respective column in the xls corporate action forecast file. The entries start in row 5 (forecast file) with the headlines (security name, security ticker, et cetera). The headlines can be found in row 2 of table 2. Table 2 does not show columns A (Index Name), B (Index ISIN) and column C-G (security name, security ticker, - if available -, security RIC). These fields are filled for every entry. Also not shown in table 2 are columns Q and R. Column Q (Last Modified) shows the date the information was last updated and is updated for every entry. Column R (Withholding Tax) states whether the dividend is Gross or Net and is only updated for dividend entries. The same format rules as described in chapter 1 apply. If a field is marked x in table 2, the respective field is filled if the corresponding corporate action type in column H of table 2 is included in the file. The fields marked blue (*further details, current status/comment, rights issue*) are further explained below the table.

Table 2: Corporate Action Forecast File

H	I	J	K	L	M	N	O	P
Type	Effective Date	Amount	Currency	Further Details	Current Status/ Comment	Total Shares New	Freefloat Factor	Weighting Cap Factor New
Cash Dividend	x	x	x					
Special Cash	x	x	x					
Stock Dividend	x			X		X		
Stock Split	x			X		X		
Rights Issue	x	x	x	x		X		
ID-Changes	X			X				
Acquisition	X			x	x	Case by case	Case by case	Case by case
Merger	X			x	x	Case by case	Case by case	Case by case
Spinoff	x			x	x			
Deletion	x			x				

Rights Issue

Is scaled down to new shares per 1 share held, i.e. if the terms are 5 new shares per 10 shares held, the file would have 0.5 in the respective cell.

Further Details

Provides further information regarding extraordinary corporate actions, i.e. spin-offs, mergers & acquisitions, et cetera. In case one of the index components is involved in e.g. a merger, the details are laid out in further details.

Current Status/Comment

In this column there are updates regarding corporate actions such as shareholder/regulatory approval, extension of tender offer et cetera.

Historic Values File

The history file contains historic index values from the start date of the index, to current date. The file is sorted ascending by Date, with the earliest date being at the top of the file.

File Field (column in csv file)	Format & max. characters/decimal places
Date	yyyymmdd
Time Stamp	Numeric: max. 6 decimal places (max. 15 characters aggregated)
[Index RIC] eg .BUK100P	Numeric: max. 6 decimal places (max. 15 characters aggregated)

3 Appendix

Currency codes

Currency Code	Currency Description
AED	UAE Dirham
AUD	Australian Dollar
BGN	Bulgarian Lev
BHD	Bahraini Dinar
BRL	Brazilian Real
CAD	Canadian Dollar
CHF	Swiss Franc
CLP	Chilean Peso
CNY	Chinese Renminbi
COP	Columbian Peso
CZK	Czech Koruna
DKK	Danish Krone
EGP	Egyptian Pound
EUR	Euro
GBP	UK Sterling
HKD	Hong Kong Dollar

HRK	Croatian Kuna
HUF	Hungarian Forint
IDR	Indonesian Rupiah
ILS	Israeli Shekel
INR	Indian Rupee
JPY	Japanese Yen
KES	Kenyan Shilling
KRW	Korean Won
KWD	Kuwait Dinar
LTL	Lithuanian Litas
LVL	Latvian Lats
MAD	Moroccan Dirham
MXN	Mexican Peso
MYR	Malaysian Ringgit
NGN	Nigerian Naira
NOK	Norwegian Krone
NZD	New Zealand Dollar
OMR	Omani Rial
PEN	Peruvian Nuevo Sol
PHP	Philippine Peso
PKR	Pakistan Rupee
PLN	Polish Zloty
QAR	Qatari Rial
RON	Romanian Leu
RSD	Serbian Dinar
RUB	Russian Rouble
SEK	Swedish Krona
SGD	Singapore Dollar
THB	Thai Baht
TRY	Turkish Lira
TWD	Taiwan Dollar
USD	U.S. Dollar
VND	Vietnam Dong
ZAR	South African Rand

CHANGE HISTORY

Version	Update	Date
1.0	Document created	June 2016
1.1	Minor edits	April 2017
1.2	Clarify definition of RBICS data	May 2017

1.3	Re-branding changes and minor edits	Nov 2017
1.4	Re-branding of the indices	January 2018