

Bit-NAVweb SERVICE GUIDE for Users

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1. INTRODUCTION

The document describes and illustrates the functionality of the system Bit - NAVWEB SERVICE available to Issuer every day. The system does not work from 3am to 6am (CET)

1.1 Acronyms, figures

1.1.1 Acronyms

In this document the following acronyms are used:

NAVweb	system Bit - NAVWEB SERVICE
NAV	Net Asset Value
OS	Outstanding Shares
BITFTP	FTP server owned by Borsa Italiana

1.1.2 Figures

In this document all figures have to be intended only for descriptive purpose.

2 NAVweb Login

According to Article 2.4 of the General Conditions, the Issuer:

1. signs the NAVWEB “Request for Blt - NAVweb SERVICE” and sends it to: “ETFs Listing Italy” office;
2. sends an email (“Starting email”) to “BITNAVservice@borsaitaliana.it” to communicate:
 - a) the “email for NAV-Blt alerts” (according to Article 2.3 of the General Conditions - see the below paragraph “Mail Box”). Following the below criteria.

The email address must contain the Issuers’ name, for example:
if the Issuers’ name is ROSSI1 plc → the email address must contain
....ROSSI1@....

The Issuer will make the email address accessible to all subjects that operate on the NAVweb

- b) the contact numbers and email address for each user.
Moreover it will detail the list of Issuers of the same group for which the same users are authorized to work contextually (if any).

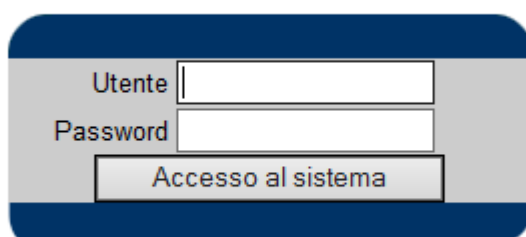
Borsa Italiana sends an email to each user to explain all steps.

The user shall call Borsa Italiana (phone number indicated in the email);

Borsa Italiana will help him for the first access; in particular, to:

1. Install certificates. The certificate can be installed only on a primary host and on a secondary host (for backup), but simultaneous access from the two host is not allowed.
2. Send login and temporary password for each users.

To login into NAVweb system, users have to type user and password at the following link: <https://bitservices.borsaitaliana.it/prd/> and click on Access button (see Figure 1)



Utente

Password

Accesso al sistema

Figure 1 Login

3 NAVweb HOMEPAGE

Once entered into NAVweb, the user could see this home page:



Figure 2 Home Page

At the top there are four first level menus to allow the use of system functionality, especially:

- Insert NAV will be used to insert NAV via web form and/or via csv file;
- Modify NAV will be used to modify NAV previously inserted, via web form and/or via csv file;
- Bank Holidays will be used to add further Bank Holidays for each ISIN in respect of the ones fixed for Borsa Italiana;
- Mail Box will be used to see all communications regarding reminders for missing NAV/OS. The number between brackets highlights communications not yet read; if there are communications not read a warning message (“There are emails waiting in your inbox”) will be shown in the home page.

Moreover, each User can visualize the list of Issuer for which he is authorized to work



Figure 2.1 List Issuer

4 INSERT NAV


There are two ways to insert Nav:

4.1 Insert NAV (via web form)


User selects Web form in menu Insert NAV, as shown:



Figure 3 Insert Nav menu





The system shows a report (Figure 4) made up of three columns containing Issuer, ISIN and Valuation Date, sortable by clicking on the header. Using icon  the user obtains the search form based on ISSUER, ISIN and/or Valuation Date criteria.

Insert NAV

Search filter 

Issuer

ISIN

Valuation Date from   to  

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Issuer	Isin	Valuation Date
LYXOR INTERNATIONAL ASSET MANAGEMENT S.A.	FR0010468983	2013/11/08
LYXOR INTERNATIONAL ASSET MANAGEMENT S.A.	FR0010481093	2013/11/08
LYXOR INTERNATIONAL ASSET MANAGEMENT S.A.	FR0010737544	2013/11/08
LYXOR INTERNATIONAL ASSET MANAGEMENT S.A.	FR0010814236	2013/11/08
LYXOR INTERNATIONAL ASSET MANAGEMENT S.A.	FR0010820258	2013/11/08
DB-X-TRACKERS	LU0292103651	2013/11/08
DB-X-TRACKERS	LU0292104030	2013/11/08
DB-X-TRACKERS	LU0292104469	2013/11/08
DB-X-TRACKERS	LU0292104899	2013/11/08
DB-X-TRACKERS	LU0292105193	2013/11/08

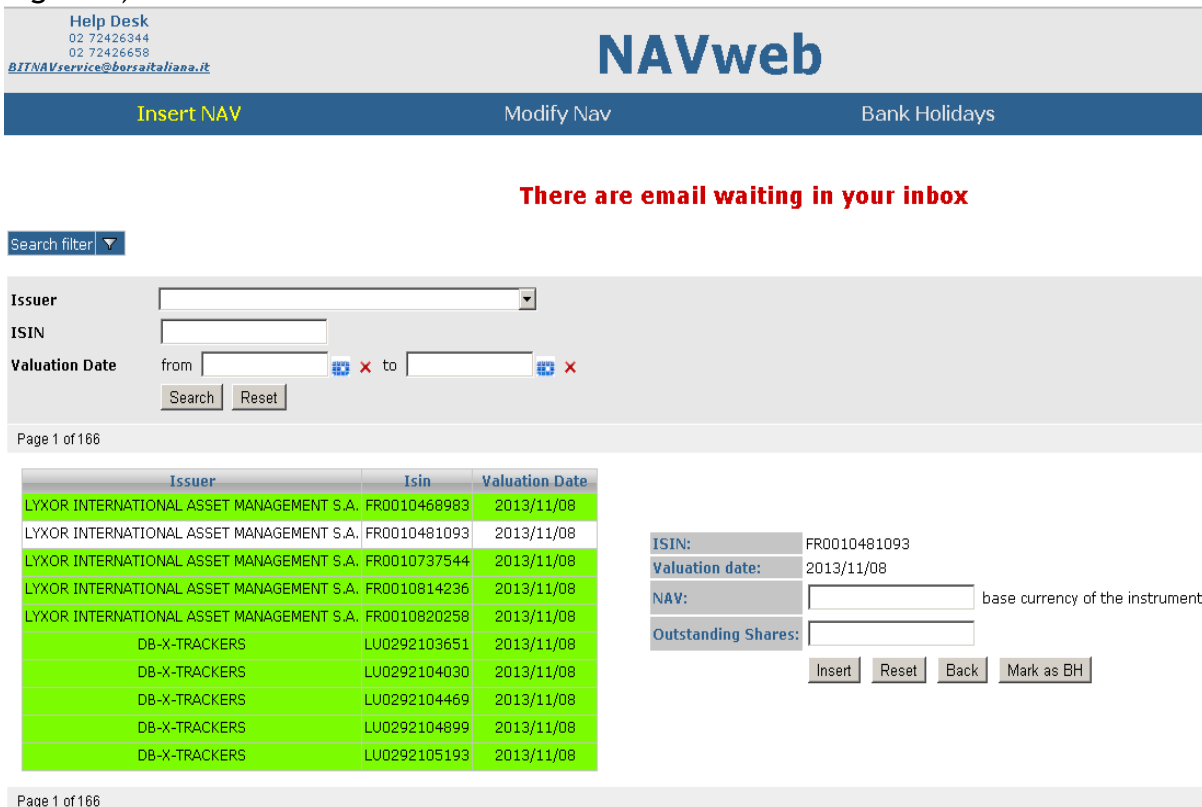
Page 1 of 166

Figure 4 Insert Nav Report

At T time the pair ISIN/valuation date regarding Nav to be sent for valuation date at T-1 time will be **green** highlighted until cut off time set by Borsa Italiana. After cut-off time the pair will be **red** highlighted. (The cut-off time is specified in *Addendum 1*)

Once a NAV has been successfully inserted, the corresponding ISIN won't be shown again in the report page.

Clicking on the row with the desired ISIN, the system shows a form to be compiled. (see Figure 5)



Help Desk
02 72426344
02 72426658
BITNAVservice@borsaitaliana.it

NAVweb

Insert NAV Modify Nav Bank Holidays

There are email waiting in your inbox

Search filter ▼

Issuer:

ISIN:

Valuation Date: from to

Search Reset

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Issuer	Isin	Valuation Date
LYXOR INTERNATIONAL ASSET MANAGEMENT S.A.	FR0010468983	2013/11/08
LYXOR INTERNATIONAL ASSET MANAGEMENT S.A.	FR0010481093	2013/11/08
LYXOR INTERNATIONAL ASSET MANAGEMENT S.A.	FR0010737544	2013/11/08
LYXOR INTERNATIONAL ASSET MANAGEMENT S.A.	FR0010814236	2013/11/08
LYXOR INTERNATIONAL ASSET MANAGEMENT S.A.	FR0010820258	2013/11/08
DB-X-TRACKERS	LU0292103651	2013/11/08
DB-X-TRACKERS	LU0292104030	2013/11/08
DB-X-TRACKERS	LU0292104469	2013/11/08
DB-X-TRACKERS	LU0292104899	2013/11/08
DB-X-TRACKERS	LU0292105193	2013/11/08

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ISIN: FR0010481093
Valuation date: 2013/11/08
NAV: base currency of the instrument
Outstanding Shares:

Insert Reset Back Mark as BH

Figure 5 Insert Nav Form

User has to fill up NAV and OS: clicking on *Insert* button these values will be sent to Borsa Italiana. Pop-up windows will be shown for any errors.

Reset button is useful to remove values previously inserted and not yet sent.

Back button is useful to go back to ISIN report

Mark as BH is useful to insert a Bank holiday for the selected ISIN/valuation date.

4.2 Insert NAV (via csv file)

User selects Csv in menu Insert NAV (see Figure 3)

The system shows a window for loading files:



Figure 6 Insert/Modify Nav csv

Browse button allows selecting the .csv file on its own pc and then, using the *Upload* button, this file will be parsed and NAV contained will be loaded into NAVweb.

The user can select a file with n rows corresponding to instruments he wants to valorize with NAV.

Format of .csv is specified in Addendum 1 .

Reset button is useful to remove file already selected, but not uploaded, in order to select a new .csv file.

Wrong rows in .csv file aren't loaded and for each of them index row is shown and errors are highlighted subdivided by type (with different colours):

- Invalid rows format: rows with no standard format;
- Invalid field: single-field error in the row. Example:
 - Date: Incorrect valuation date format
 - Isin: Isin not compliant
 - Nav: Nav not compliant
 - Out_shares: outstanding shares not compliant
- Logic check failed: pair ISIN - Valuation Date not available or duplicated etc
- Field too long: maximum size of field exceeded

Right rows are loaded and highlighted with dots. Then the user can proceed with a new upload.

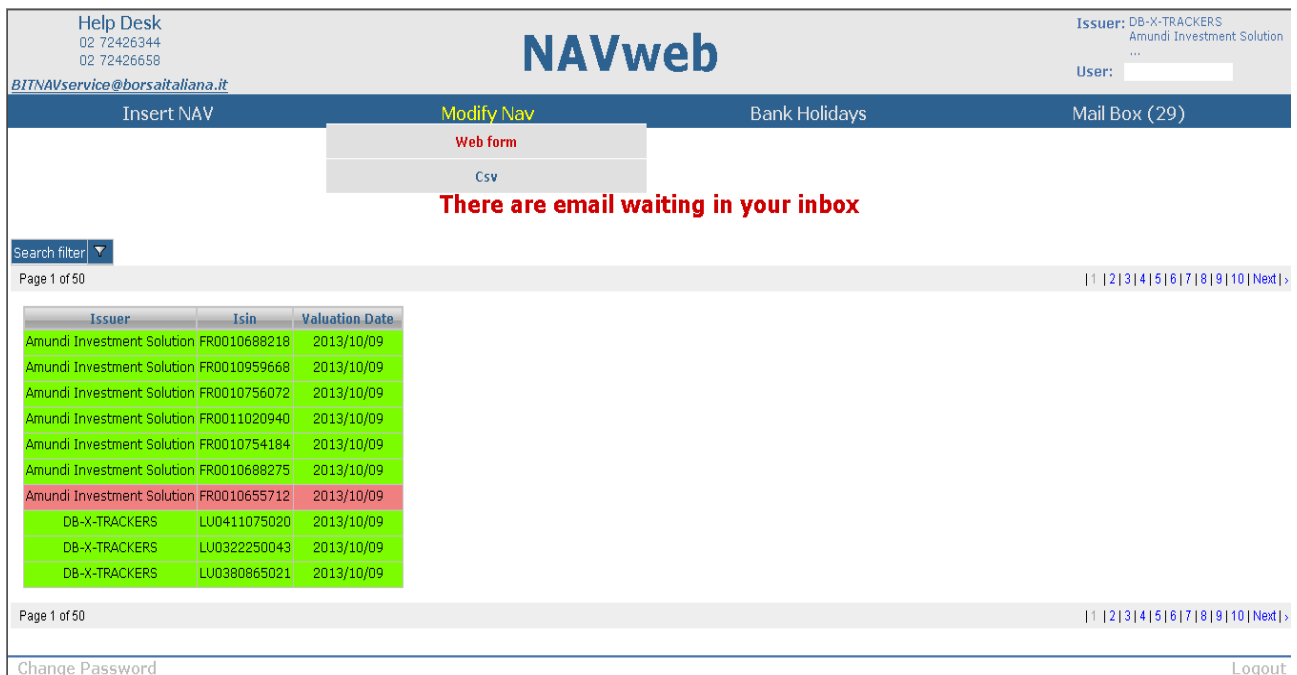
The user can upload n file, not necessarily all instruments in a single file.

5 Modify NAV

User can change a previous inserted NAV in two ways: via web form and/or via csv. In this menu context the user will be advised (with a popup window), that every changes will be tracked and consequently he chooses to continue or not.

5.1 Modify NAV (via web form)

User selects Web form in the menu Modify NAV, as shown:



Help Desk
02 72426344
02 72426658
BITNAVservice@borsaitaliana.it

NAVweb

Issuer: DB-X-TRACKERS
Amundi Investment Solution
...
User:

Insert NAV **Modify Nav** Bank Holidays Mail Box (29)

Web form
Csv

There are email waiting in your inbox

Search filter ▾


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Issuer	Isin	Valuation Date
Amundi Investment Solution	FR0010688218	2013/10/09
Amundi Investment Solution	FR0010959668	2013/10/09
Amundi Investment Solution	FR0010756072	2013/10/09
Amundi Investment Solution	FR0011020940	2013/10/09
Amundi Investment Solution	FR0010754184	2013/10/09
Amundi Investment Solution	FR0010688275	2013/10/09
Amundi Investment Solution	FR0010655712	2013/10/09
DB-X-TRACKERS	LU0411075020	2013/10/09
DB-X-TRACKERS	LU0322250043	2013/10/09
DB-X-TRACKERS	LU0380865021	2013/10/09

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Change Password Logout

Figure 7 Modify Nav menu

As for inserting Nav, the system shows a report made up of two columns containing ISIN and Valuation Date, sortable by clicking on the header. Using icon  the user obtains the search form based on ISSUER, ISIN and Valuation Date criteria (see Figure 8).

The pair ISIN/valuation date will be **green** highlighted until cut off time and **red** highlighted after.

Clicking on the row containing the desired ISIN, the system asks again for a confirmation and then shows a form to be compiled to change NAV (see Figure 8). NAV and OS fields will be populated with the previously inserted values.

Help Desk
 02 72426344
 02 72426658
 BITNAVservice@borsaitaliana.it

NAVweb

Insert NAV
Modify Nav
Bank Holidays

Web form
Csv

There are email waiting in your inbox

Search filter ▼

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Issuer	Isin	Valuation Date
Amundi Investment Solution	FR0010688218	2013/10/09
Amundi Investment Solution	FR0010959668	2013/10/09
Amundi Investment Solution	FR0010756072	2013/10/09
Amundi Investment Solution	FR0011020940	2013/10/09
Amundi Investment Solution	FR0010754184	2013/10/09
Amundi Investment Solution	FR0010688275	2013/10/09
Amundi Investment Solution	FR0010655712	2013/10/09
DB-X-TRACKERS	LU0411075020	2013/10/09
DB-X-TRACKERS	LU0322250043	2013/10/09
DB-X-TRACKERS	LU0380865021	2013/10/09

ISIN:

FR0010959668

Valuation date:

2013/10/09

NAV:

380208

base currency of the instrument

Outstanding Shares:

1832100

Correction Notes:

Insert

Reset

Restore

Back

Mark as BH

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[Change Password](#)

Figure 8 Modify Nav web Form

The modification form contains an optional field *Correction Notes* to insert a justificative.

The user can fill in NAV, OS and Correction notes. Clicking on *Insert* button these values will be sent to Borsa Italiana. Pop-up windows will be shown for any errors.

Reset button is useful to remove values previously inserted and not yet sent.

Restore button is useful to go back at previously inserted values.

Back button is useful to go back to ISIN report.

Mark as BH is useful to insert a Bank holiday for the selected ISIN/valuation date.

NAVweb system advises if changes are carried out before or after cut-off time with pop-up alert:

1. "Any change made will be saved. The modifications are in the limit of cut-off time". Isin involved highlighted in green.
2. "Any change made will be saved. The modifications are beyond the cut-off time". Isin involved highlighted in red.

5.2 Modify NAV (via csv)

User selects Csv in the menu -Modify NAV (see Figure 7)

The system shows a window to load files identical to Figure 6:

Browse button allows selecting the .csv file on its own pc and then, using **Upload** button, this file will be parsed and the inserted NAV will be changed into NAVweb.

User can select a file with n rows corresponding to instruments he would like to modify NAV.

Format of .csv is specified in *Addendum 1*.

Reset Button is useful to remove file already selected, but not uploaded, in order to select a new .csv file.

Wrong rows in .csv file aren't loaded and for each wrong row index row is shown and errors are highlighted subdivided by type (with different colours):

- Invalid rows format: row with no standard format;
- Invalid field: single-field error in the row. Example:
 - Date: Incorrect valuation date format
 - Isin: Isin not compliant
 - Nav: Nav not compliant
 - Out_shares: outstanding shares not compliant
- Logic check failed: pair ISIN - Valuation Date not available or duplicated, etc.
- Field too long: maximum size of field exceeded
- The following lines are not expected: unexpected pair ISIN - Valuation Date
- Overflow: exceeded the number of modification allowed in a day (see below for further details)

The following figure is an example of NAV modification via CSV in case of errors:

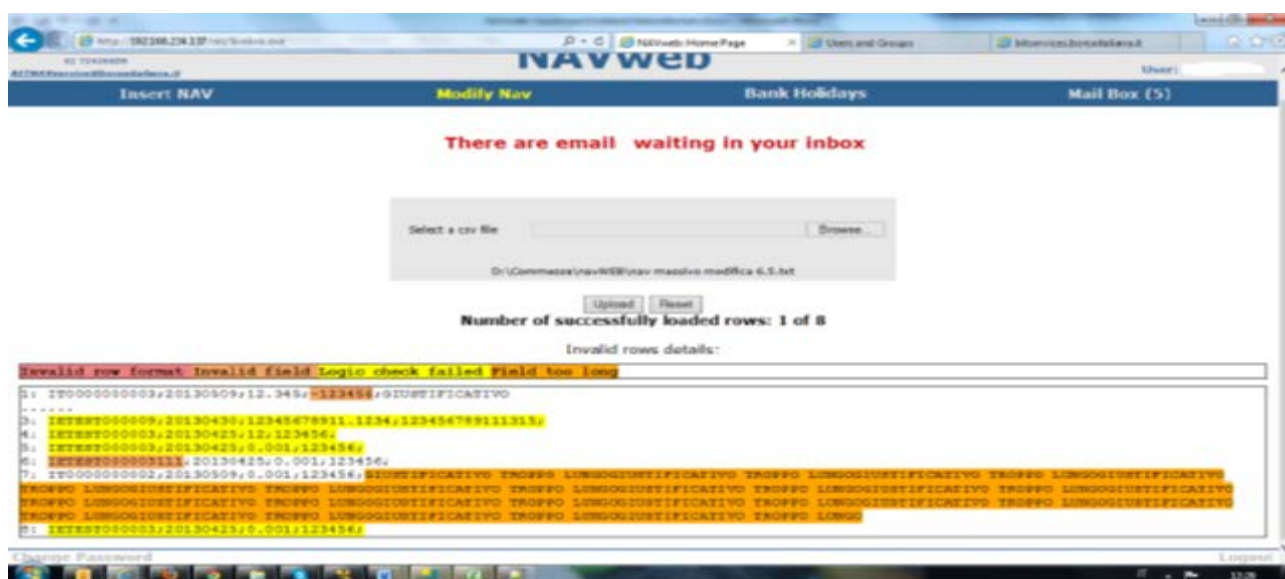


Figure 9 Modify Nav csv in case of errors

Right rows are loaded and highlighted with dots. Then, the user can proceed with a new upload.

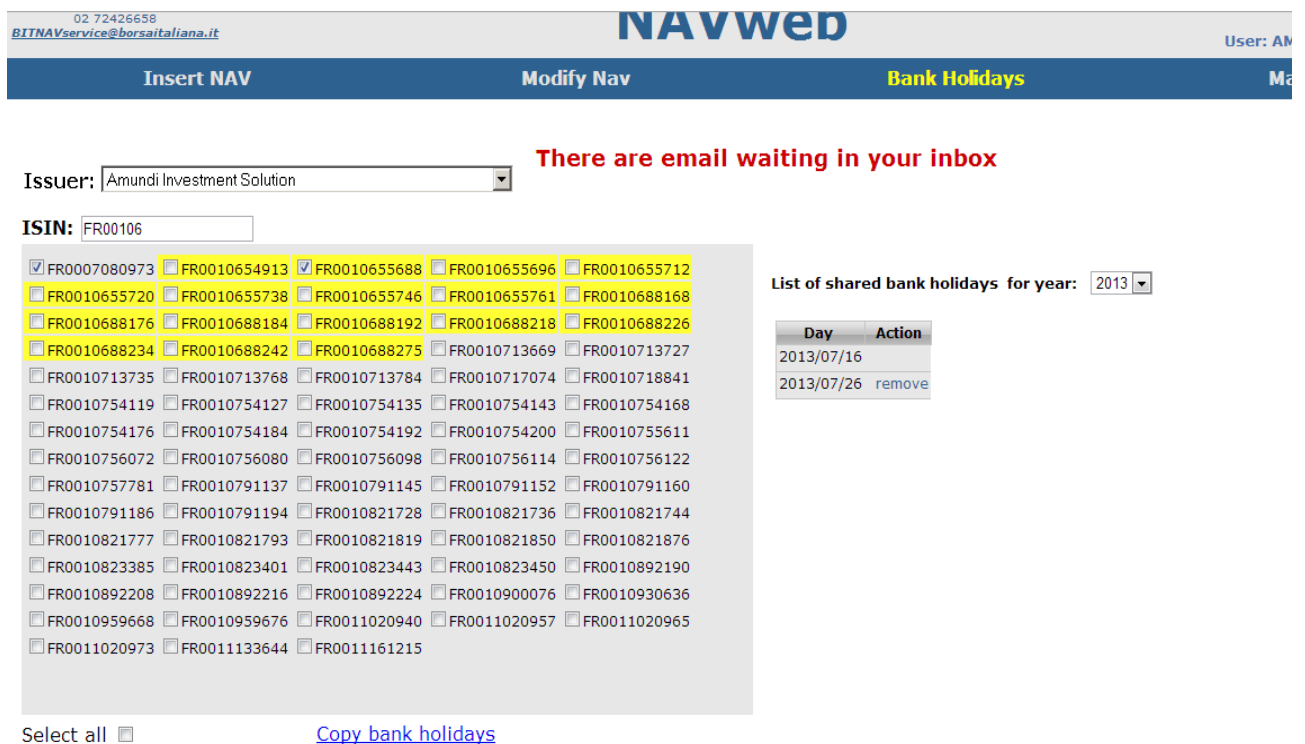
User can upload “n” file. He is not forced to upload all instruments in a single file.

On a daily basis, user can modify only a limited percentage of NAV, fixed by Borsa Italiana. If user exceeds this percentage, he will be advised with the following alert: “You have reached the maximum value of daily changes. In case of need, please send an email to infofi&sd@borsaitaliana.it”

6 BANK HOLIDAYS

Bank Holidays menu allows user to insert days in which NAV won’t be calculated for each security identified by ISIN code (BH or Bank Holiday days). These days are added to Borsa Italiana closed days which are already considered as Bank Holidays.

At the beginning the system shows this window:



02.72426658
BITNAVservice@borsaitaliana.it

NAVweb User: AN

Insert NAV Modify Nav **Bank Holidays** Ma

There are email waiting in your inbox

Issuer:

ISIN:

FR0007080973 FR0010654913 FR0010655688 FR0010655696 FR0010655712
 FR0010655720 FR0010655738 FR0010655746 FR0010655761 FR0010688168
 FR0010688176 FR0010688184 FR0010688192 FR0010688218 FR0010688226
 FR0010688234 FR0010688242 FR0010688275 FR0010713669 FR0010713727
 FR0010713735 FR0010713768 FR0010713784 FR0010717074 FR0010718841
 FR0010754119 FR0010754127 FR0010754135 FR0010754143 FR0010754168
 FR0010754176 FR0010754184 FR0010754192 FR0010754200 FR0010755611
 FR0010756072 FR0010756080 FR0010756098 FR0010756114 FR0010756122
 FR0010757781 FR0010791137 FR0010791145 FR0010791152 FR0010791160
 FR0010791186 FR0010791194 FR0010821728 FR0010821736 FR0010821744
 FR0010821777 FR0010821793 FR0010821819 FR0010821850 FR0010821876
 FR0010823385 FR0010823401 FR0010823443 FR0010823450 FR0010892190
 FR0010892208 FR0010892216 FR0010892224 FR0010900076 FR0010930636
 FR0010959668 FR0010959676 FR0011020940 FR0011020957 FR0011020965
 FR0011020973 FR0011133644 FR0011161215

List of shared bank holidays for year:

Day	Action
2013/07/16	
2013/07/26	remove

Select all [Copy bank holidays](#)

Figure 10 Bank Holidays

On the left side there are all available ISIN. You can digit in input text ISIN on the left to highlight corresponding Isin to select for Bank Holidays.

Selecting one or more ISIN, user can associate them to BH as shown below:

There are email waiting in your inbox

Issuer:


ISIN:

- FR0007080973 FR0010654913 FR0010655688 FR0010655696 FR0010655712
- FR0010655720 FR0010655738 FR0010655746 FR0010655761 FR0010688168
- FR0010688176 FR0010688184 FR0010688192 FR0010688218 FR0010688226
- FR0010688234 FR0010688242 FR0010688275 FR0010713669 FR0010713727
- FR0010713735 FR0010713768 FR0010713784 FR0010717074 FR0010718841
- FR0010754119 FR0010754127 FR0010754135 FR0010754143 FR0010754168
- FR0010754176 FR0010754184 FR0010754192 FR0010754200 FR0010755611
- FR0010756072 FR0010756080 FR0010756098 FR0010756114 FR0010756122
- FR0010757781 FR0010791137 FR0010791145 FR0010791152 FR0010791160
- FR0010791186 FR0010791194 FR0010821728 FR0010821736 FR0010821744
- FR0010821777 FR0010821793 FR0010821819 FR0010821850 FR0010821876
- FR0010823385 FR0010823401 FR0010823443 FR0010823450 FR0010892190
- FR0010892208 FR0010892216 FR0010892224 FR0010900076 FR0010930636
- FR0010959668 FR0010959676 FR0011020940 FR0011020957 FR0011020965
- FR0011020973 FR0011133644 FR0011161215

List of shared bank holidays for year:

Day	Action
2013/07/01	
2013/07/12	
2013/08/05	remove
2013/08/15	remove
2013/10/16	remove
2013/11/15	remove
2013/12/09	remove
2013/12/18	remove

Figure 11 Shared Bank Holidays

Clicking on the calendar icon  located on the right of *Select data* box, user can choose new BH for selected ISIN.

Then, clicking on the Add button, the user will add the desired BH.

At the end, on the right side, there will all BH for selected ISIN in the selected year.

Selecting more ISIN, the system specifies when there is a “List of shared bank holidays”.

The link [remove](#) in column Action will allow deleting the BH for selected ISIN.

An alert advises the user that this action will enable him to remove the day for all selected ISIN.

By means of a flag on *Select all*, all available ISIN will be selected with corresponding shared BH days.

Selecting one or more ISIN, the system shows a link [Copy bank Holidays](#) (see Figure 10) to allow the copy of BH from a set of ISIN selected into another set of ISIN. When user clicks on this link, the system shows this window:

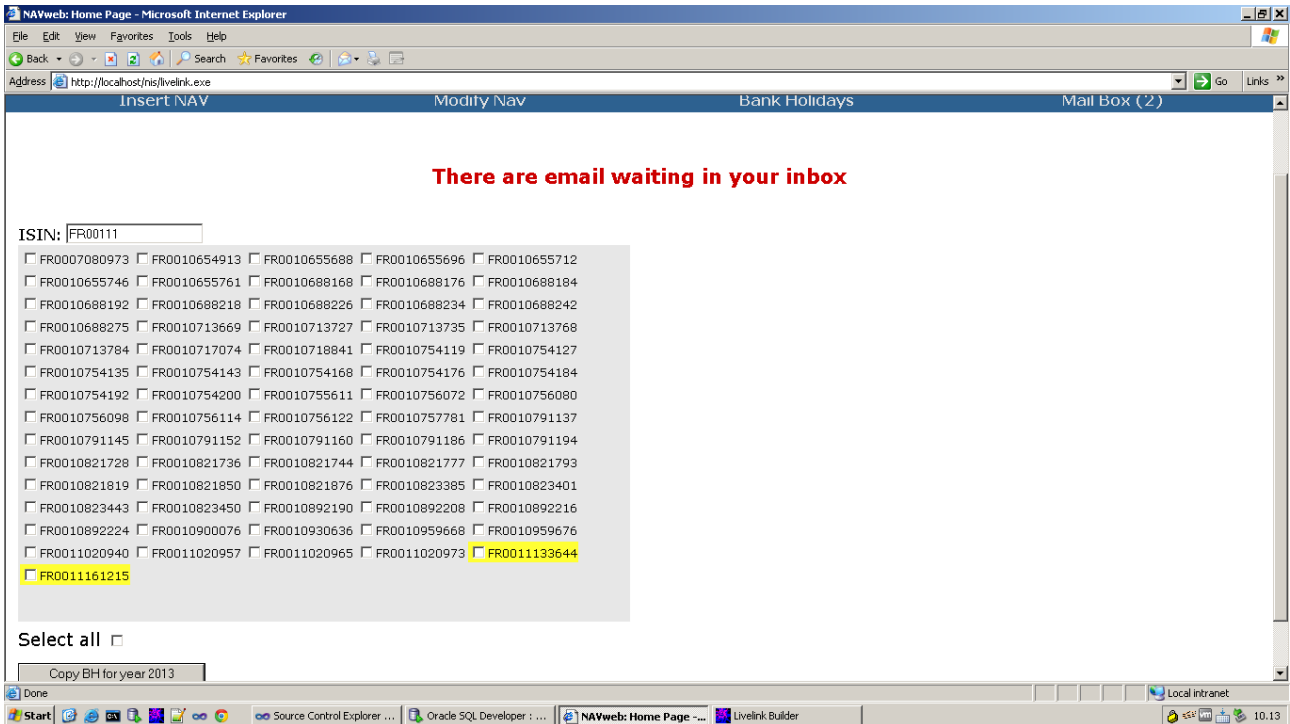


Figure 12 Copy bank holidays

User can digit in input text ISIN on the left to highlight corresponding Isin to select for copying the Bank Holidays. User can select one or more ISIN and then, clicking on button Copy BH for year YYYY, bank holidays are copied from ISIN source to ISIN destination and the system redirects to Bank Holidays menu.

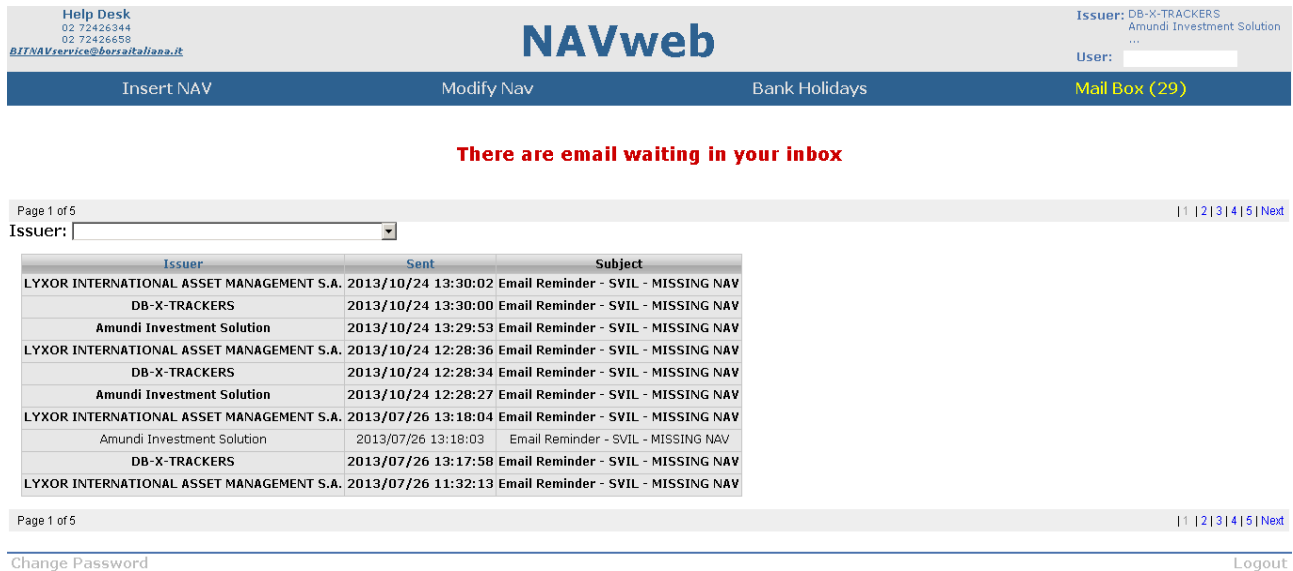
User can also add BH from Insert/Modify NAV web form. In order to add a new BH, user has to click on “Mark as BH” button. The valuation date/ISIN couple will disappear from the corresponding list and a new BH for the ISIN will be shown on the Bank Holiday menu.



Figure 13 Add BH from Insert/modify form

7 MAIL BOX

The Mail Box menu shows a report of all reminders for missing NAV and/or missing OS sent to issuers. It is made up by three columns containing Issuer, Sent date and Subject message as shown below:



Help Desk
02 72426344
02 72426658
BITNAVservice@borsaitaliana.it

NAVweb

Issuer: DB-X-TRACKERS
Amundi Investment Solution
User:

Insert NAV Modify Nav Bank Holidays **Mail Box (29)**

There are email waiting in your inbox

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Issuer:

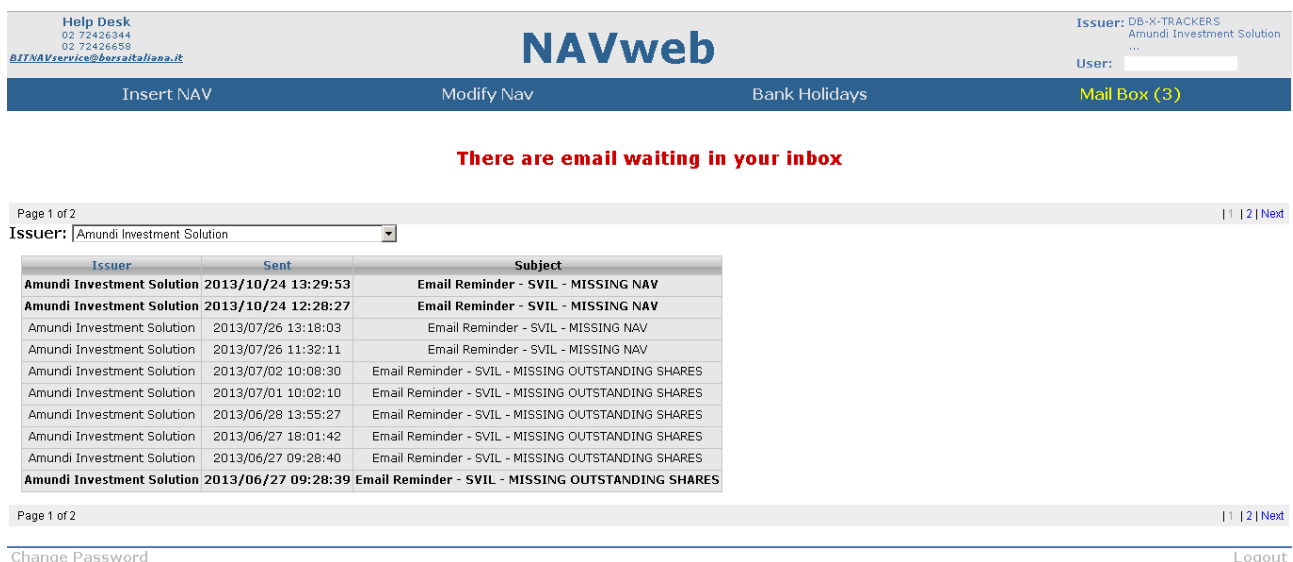
Issuer	Sent	Subject
LYXOR INTERNATIONAL ASSET MANAGEMENT S.A.	2013/10/24 13:30:02	Email Reminder - SVIL - MISSING NAV
DB-X-TRACKERS	2013/10/24 13:30:00	Email Reminder - SVIL - MISSING NAV
Amundi Investment Solution	2013/10/24 13:29:53	Email Reminder - SVIL - MISSING NAV
LYXOR INTERNATIONAL ASSET MANAGEMENT S.A.	2013/10/24 12:28:36	Email Reminder - SVIL - MISSING NAV
DB-X-TRACKERS	2013/10/24 12:28:34	Email Reminder - SVIL - MISSING NAV
Amundi Investment Solution	2013/10/24 12:28:27	Email Reminder - SVIL - MISSING NAV
LYXOR INTERNATIONAL ASSET MANAGEMENT S.A.	2013/07/26 13:18:04	Email Reminder - SVIL - MISSING NAV
Amundi Investment Solution	2013/07/26 13:18:03	Email Reminder - SVIL - MISSING NAV
DB-X-TRACKERS	2013/07/26 13:17:58	Email Reminder - SVIL - MISSING NAV
LYXOR INTERNATIONAL ASSET MANAGEMENT S.A.	2013/07/26 11:32:13	Email Reminder - SVIL - MISSING NAV

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Change Password Logout

Figure 14 Mail Box

If select a Issuer shows a report of all the reminder for this issuer.



Help Desk
02 72426344
02 72426658
BITNAVservice@borsaitaliana.it

NAVweb

Issuer: DB-X-TRACKERS
Amundi Investment Solution
User:

Insert NAV Modify Nav Bank Holidays **Mail Box (3)**

There are email waiting in your inbox

Page 1 of 2 1 | 2 | Next

Issuer:

Issuer	Sent	Subject
Amundi Investment Solution	2013/10/24 13:29:53	Email Reminder - SVIL - MISSING NAV
Amundi Investment Solution	2013/10/24 12:28:27	Email Reminder - SVIL - MISSING NAV
Amundi Investment Solution	2013/07/26 13:18:03	Email Reminder - SVIL - MISSING NAV
Amundi Investment Solution	2013/07/26 11:32:11	Email Reminder - SVIL - MISSING NAV
Amundi Investment Solution	2013/07/02 10:08:30	Email Reminder - SVIL - MISSING OUTSTANDING SHARES
Amundi Investment Solution	2013/07/01 10:02:10	Email Reminder - SVIL - MISSING OUTSTANDING SHARES
Amundi Investment Solution	2013/06/28 13:55:27	Email Reminder - SVIL - MISSING OUTSTANDING SHARES
Amundi Investment Solution	2013/06/27 18:01:42	Email Reminder - SVIL - MISSING OUTSTANDING SHARES
Amundi Investment Solution	2013/06/27 09:28:40	Email Reminder - SVIL - MISSING OUTSTANDING SHARES
Amundi Investment Solution	2013/06/27 09:28:39	Email Reminder - SVIL - MISSING OUTSTANDING SHARES

Page 1 of 2 1 | 2 | Next

Change Password Logout

Figure 15 Mail Box (Issuer)

Unread messages are in bold, number of unread email is between brackets in Mail Box Menu and a red sentence is in all section of NAVweb system.

Clicking on a row containing the reminder will allow the user to read the message on the right side with a CVS attachment (see Figure 16).

Downloading this attachment will enable the user to check anomalies related to the ISIN list, sorted by Valuation Date.

Help Desk
02 72426344
02 72426658
BITNAVservice@borsaitaliana.it

NAVweb

Issuer: DB-X-TRACKERS
Amundi Investment Solution
...

User:

Insert NAV
Modify Nav
Bank Holidays
Mail Box (29)

There are email waiting in your inbox

Page 1 of 5
| 1 | 2 | 3 | 4 | 5 | Next

Issuer:

Issuer	Sent	Subject
LYXOR INTERNATIONAL ASSET MANAGEMENT S.A.	2013/10/24 13:30:02	Email Reminder - SVIL - MISSING NAV
DB-X-TRACKERS	2013/10/24 13:30:00	Email Reminder - SVIL - MISSING NAV
Amundi Investment Solution	2013/10/24 13:29:53	Email Reminder - SVIL - MISSING NAV
LYXOR INTERNATIONAL ASSET MANAGEMENT S.A.	2013/10/24 12:28:36	Email Reminder - SVIL - MISSING NAV
DB-X-TRACKERS	2013/10/24 12:28:34	Email Reminder - SVIL - MISSING NAV
Amundi Investment Solution	2013/10/24 12:28:27	Email Reminder - SVIL - MISSING NAV
LYXOR INTERNATIONAL ASSET MANAGEMENT S.A.	2013/07/26 13:18:04	Email Reminder - SVIL - MISSING NAV
Amundi Investment Solution	2013/07/26 13:18:03	Email Reminder - SVIL - MISSING NAV
DB-X-TRACKERS	2013/07/26 13:17:58	Email Reminder - SVIL - MISSING NAV
LYXOR INTERNATIONAL ASSET MANAGEMENT S.A.	2013/07/26 11:32:13	Email Reminder - SVIL - MISSING NAV

Sent 2013/07/26 13:18:03

From

Subject Email Reminder - SVIL - MISSING NAV

Message Please consider that NAV's for the attached ISIN are missing

Attachment [CSV of missing NAV](#)

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[Change Password](#)
[Logout](#)

Figure 166 Mail Box details

Automatic checks are performed by NAVweb in each day in which NAV has to be calculated (i.e.: no Borsa closing days and no BH for ISIN).

In case of omissions of NAV/OS communications, the NAVweb will send an email alert to the “Client email for NAV-Bit alerts” to made aware of missing NAV/OS. Here below the messages the user will receive:

“There is a new message in your NAVweb mailbox: NAV MISSING” or

“There is a new message in your NAVweb mailbox: OUTSTANDING SHARES MISSING”.

On the Mail Box, details about Nav and outstanding shares missing will be available. The user will see the email and the file attached with the couple ISIN code/valuation date.

The Issuer will continue to receive emails until the solution of the problem. Each email will contain historical data missing.

8 *FTP*

8.1 Scope and main features

The system was designed to provide an efficient way to transmit NAV data to Borsa Italiana and to build a strong integration between NAVweb platform and FTP server used by fund managers.

The old mode of communication will be extended to return the response files describing the result of loading process.

8.2 Communication process

The fund manager/issuer can log on BITFTP server to upload NAV files and to download response files.

Please consider that it is possible to upload NAV files but it is not possible on BITFTP to upload files to modify NAV correctly uploaded already.

The NAV files must be uploaded into the home folder of FTP server.

For each uploaded NAV file the system will produce a response file and put it in the folder <home>\response.

The response file will be provided within 30 minutes and will be available on server for 2 days.

The NAVweb platform does not work from 3am to 6am (CET). During this period the loading process is stopped.

BITFTP server address is *etf.borsaitaliana.it*

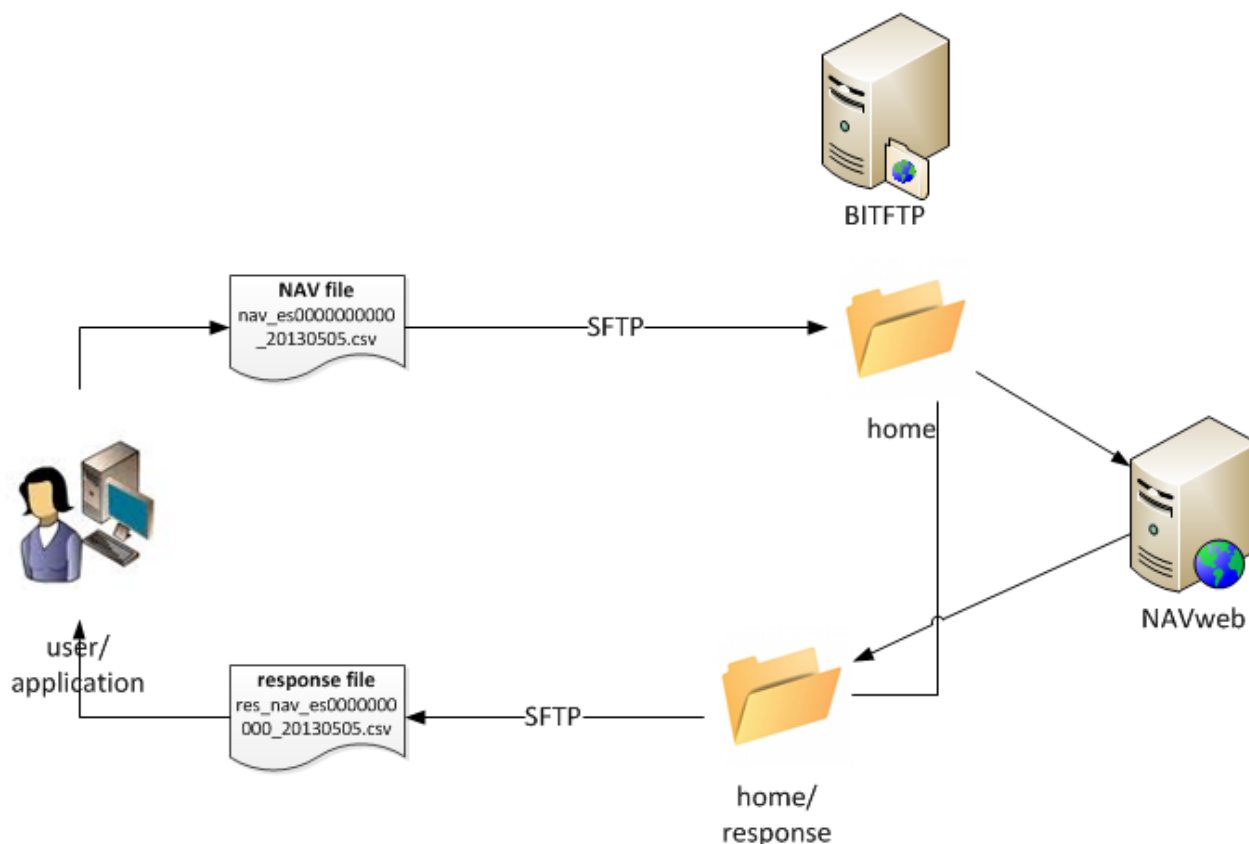


Figure 17 communication process schema

8.3 Folder structure and naming convention

The fund manager/issuer accesses his own <home> folder in the FTP server.
He must put the NAV files in the <home> folder.

Naming convention	
NAV_XXXXXXXXXX_yyyymmdd.csv	This file must contain one NAV value. This type of file is backward compatible.
XXXXXXXXXX is the Isin code of the security yyymmdd is the valuation date of the NAV	

Response files are located in <home>\response directory
File name is composed by “res_” prefix followed by the original file name.

Sample:
RES_NAV_IT0123456789_20131010.csv

8.4 NAV File format

Format of .csv is specified in Addendum 1.

8.5 Response File format

Response file is in CSV format.

The first row provides general information about the loading process result.

Header ROW			
Field Order	Field Name	Data Type	Description
1	Global error code	Number (4 int)	0000: No error, file loaded (also partially) 0001: invalid file name 0002: invalid file format
2	N. of records	Number (5 int)	Number of rows of original file
3	N. of records OK	Number (5 int)	Number of rows of original file successfully loaded
4	N. of records KO	Number (5 int)	Number of rows of original file NOT loaded

After the header row the content can be:

- If Global error code \neq 0000: the content of original file
- If Global error code $=$ 0000: there is a result row for each original row. The first field contains the result of loading process. Rows successfully loaded are marked with code 0000.
Rows which are not successfully loaded contain error code according with table in 8.6. Please note that only one error is provided. The evaluation of the row is stopped after the first failed check. From second field it is reported the original row.

Sample file: one record OK

```
0000;1;1;0
0000;IT0123456789;20131021;12.6841;185500000
```

Sample file: one record KO

```
0000;1;0;1
0007;IT0123456789;20131021;12.6841;185500000
```

Header
Error code

Original row

8.6 Error codes

Error code	Description
0000	NO Error
0001	Invalid file name
0002	Invalid file format
0003	Invalid row format
0004	Invalid date format
0005	Invalid NAV format
0006	Invalid OS format
0007	Logic check failed. The pair isin/Valuation date is invalid.
9999	Unknown error

9 Addendum 1

CSV Format for massive upload

The Issuers are required to deliver the NAV/OS communications within 11:00 am (CET) of each market day. Values must be the last available.

The NAVweb will be stopped every day from 3am to 6am (CET).

File .csv can be composed by one or more rows, each of them referring to a pair ISIN/Valuation Date. ISIN are related to securities traded on ETFPlus market of Borsa Italiana.

Each row has to be compliant with the rules described in the following tables:

Field Order	Field Name	Data Type	Description
1	Isin Code	Char (12)	Security ISIN code
2	Valuation Date	Number (8 int)	NAV valuation date in format <i>yyyymmdd</i>
3	NAV	Real (11 int 4 dec)	NAV Value of ETF (or ETC official value) expressed in the currency of the ETF (or ETC)
4	Outstanding shares	Number (15 int)	Number of <u>Outstanding</u> shares
5	Justificative (for modify Nav via csv)	Char (250)	Correction Notes (not use in the file for FTP)

Separator	Character
Field separator	; (semi column)
Thousands separator	None
Decimal separator	. (dot)

Length of numeric fields can be different, but the max length is reported in Data Type column and user cannot exceed it.

Size of ISIN code must be 12 characters.

Valuation date must have *yyyymmdd* format.

Maximum Size of Justificative is 250 characters.

Here below an example record:

IT0123456789;20090312;12.6841;185500000;Correction

No naming convention is required for csv files in the case of uploading on NAVweb. On the contrary, in order to upload the file on BITFTP, see the paragraph 9.3.