# Understanding the Portfolio Input Check Tool

This document describes the [**Key Processes**](#_Key_Processes)**,** [**Outputs**](#_Outputs)**,** and[**Identifiers**](#_Data_Dictionary) associated with the initial data preparation.

## Key Processes

### Input Holding Validity

### This R code Decides if for each row of the input portfolio (a "holding"), did the user/investor provide valid input data for the analysis. Sets “Valid.Input” equal to 1 or 0 (True or False)

### Fund Breakdown

This R code matches with Morningstar fund database to "break down" as many funds as possible into their underlying holdings. Sets “Direct.Holding” equal to 1 or 0 (True or False).

### Analysis Validity

### This R code matches with Bloomberg security-level financial data, and then determines for each row if we have the associated financial data that is needed to perform the analysis. Sets “Valid.BBG” equal to 1 or 0 (True or False).

### Analysis/Methodology to Perform

### This R code determines which "Asset.Type" each row is. Possible values are BONDS, EQUITY, also OTHER (no analysis), or NA (no analysis). At the end of the *portfolio input check tool* the “TwoD.Valid” field combines the results of both “Valid.Input” and “Valid.BBG”. If TwoD.Valid is equal to 1, it can be included in the anlysis, and if TwoD.Valid is equal to 0 it cannot.

## Outputs

### Output Files

The files below are used for tracking how securities in the input portfolio map to physical asset data, and therefore contribute to the overall results.

|  |  |  |
| --- | --- | --- |
| Type of Data | File Name | Purpose |
| Valid Equity & Bond Portfolios | EQPortfolio.rda  DebtPortfolio.rda | Data-frames with either valid equity or bond portfolios. |
| Valid Equity & Bond Portfolios with Balance Sheet Data | BVPortfolio.rda | Data-frame with valid equity and bond portfolios mapped to company balance sheets and therefore production in the asset-level data. |

### Flags

The table below contains possible output flags when running the *portfolio input check tool* in R. The left-hand column contains all possible flags generated in the R console. The middle column contains the coding process during which the flag was generated. The right-hand column describes the purpose of the flag and possible the solutions.

|  |  |  |
| --- | --- | --- |
| Flag | Process | Purpose |
| “Missing ISIN” | Fund Breakdown | One or more securities are missing ISINs from the input data. Please, reassess input data ISINs for completeness and formatting errors. |
| “Invalid ISIN Input” | Fund Breakdown | One or more securities are missing ISINs from the input data. Please, reassess input data for formatting errors and completeness. |
| "No Currency" | Fund Breakdown | One or more securities have a market value but no currency. If input data provides the market value, currencies must be provided for the *portfolio input check tool* to properly treat the data. |
| "No Position Data" | Fund Breakdown | One or more securities have no position data. Position data must be provided to complete portfolio assessment. Please, reassess input data for formatting errors and completeness. |
| "No Exchange Rate" | Fund Breakdown | One or more securities have a currency but no exchange rate. The exchange rate must be provided to normalize asset values. Please, reassess input data for formatting errors and completeness. |
| "Negative market value" | Fund Breakdown | One or more securities have a negative market value. The negative market value is most likely due to a formatting error; please reassess input data. |
| "Negative number of shares" | Fund Breakdown | One or more securities have a negative number of shares. The negative number of shares is most likely due to a formatting error; please reassess input data. |
| “Warning,\_\_\_out of, \_\_\_rows are valid inputs. \_\_\_are invalid." | Fund Breakdown | Warning message containing the number of rows with valid and invalid inputs. |
| "Company incorrectly classified" | Data Validation | One or more securities were classified correctly to a climate relevant sector. |
| "No ALD available" | Data Validation | One or more securities were not mapped to asset level data (ADL). Without asset level data, a security cannot be mapped to a company’s balance sheets and therefore production assets. |
| "Included in analysis" | Data Validation | Confirmation that one or more security was included in the portfolio assessment. No action required. |
| "In climate relevant sector" | Data Validation | Confirmation that one or more security was in a climate relevant sector and therefore included in the portfolio assessment. No action required. |
| "Not in climate relevant sector" | Data Validation | Confirmation that one or more security was not in a climate relevant sector and therefore excluded from the portfolio assessment. No action required. |
| "Error,\_\_\_Holdings remain unclassified" | Data Validation | Warning message containing the number of securities that are not classified in a sector. |
| "Error, your portfolio has no equity or bond holdings matched to our databases. The analysis cannot proceed." | ‘Subsetting’ Portfolio by Asset Class (Equities & Bonds) | Warning message that the input data has no equity or bond holdings matched in the 2 Degrees Investing Initiative databases. The analysis will not proceed. Please, reassess input data for formatting errors and completeness. |
| "Warning, your portfolio has no equity holdings matched to our databases. The equity analysis cannot be performed. However, your bond portfolio can be analysed." | ‘Subsetting’ Portfolio by Asset Class (Equities & Bonds) | Warning message that the input data has no equity holdings matched in the 2 Degrees Investing Initiative databases. The analysis will proceed but only the bond portfolio can be analysed. If equities were included in the input data, please reassess input data for formatting errors and completeness. |
| "Warning, our portfolio has no bond holdings matched to our databases. The bond analysis cannot be performed. However, your equity portfolio can be analysed." | ‘Subsetting’ Portfolio by Asset Class (Equities & Bonds) | Warning message that the input data has no bond holdings matched in the 2 Degrees Investing Initiative databases. The analysis will proceed but only the equity portfolio can be analysed. If bonds were included in the input data, please reassess input data for formatting errors and completeness. |

## Data Dictionary

Describes the columns in the scenario analysis results files.

### Identifiers

This table describes the unique identifiers used to map and track securities during the portfolio assessment.

|  |  |  |  |
| --- | --- | --- | --- |
| ****Name**** | ****Which asset class does this column apply to?**** | ****Type**** | ****Description**** |
| Holding.ID | EQ, CB | Security | Uniquely identifies each row of the portfolio. If Holding.ID is not a column that the user passes, this column will be created. This uniquely identifies each input holding, so the investor can track each holding they input. If funds are broken down into parts, this identifier will be duplicated across multiple rows. |
| Row.ID | EQ, CB | Asset | Uniquely identifies each output row. One Holding.ID may have multiple Row.ID in the case of where one portfolio was broken down into multiple constituents with individual rows. This is used for to track each row during further analysis. |
| Analysis.ID | EQ, CB | Company/Sector | Uniquely identifies in a portfolio the company and Fin.Sector combination. Used as the unit of analysis for the rest of the portfolio assessment. |