# Package 'ffdata'

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**Type** Package

**Title** Automatic download of returns data from the Kenneth R. French
Data Library

**Version** 0.1.0

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**Description** Contains functions for automatically downloading returns data from the Kenneth R. French data library. The user can define start and end dates for the download, returns type (only one type of returns can be downloaded at a time) and subtype, and further relevant criteria such as dividends, NAs removal etc. The time-series of the respective returns are downloaded and then saved in a convenient .csv-format.

**License** GPL-2

**Encoding** UTF-8

**Imports** zoo

**RoxygenNote** 7.3.2

**NeedsCompilation** no

## Contents

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bivariate_download     *The bivariate_download function*

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### Description

This function automatically downloads Bivariate portfolios returns from the Kenneth R. French Data Library. The downloaded returns are saved then as a .csv-file in the chosen directory.

## Usage

```
bivariate_download(
  base,
  dir,
  sub_path,
  number_factors,
  subtype,
  freq,
  dividends,
  start,
  end,
  clean_na
)
```

## Arguments

| | |
|---|---|
| base | a character string, the Kenneth R. French Data Library address. |
| dir | a character string, the directory for saving the data. The current working directory is set by default. |
| sub_path | a character string, the folder subpath, created by ffDataDownload. |
| number_factors | an integer, the number of factors for the Bivariate portfolios. Possible values are 6 (default), 25 or 100. |
| subtype | a character string, the Bivariate portfolio subtype. Possible values are "ME_BE" (default), "ME_OP", "ME_INV", "BEME_OP", "BEME_INV", "OP_INV". |
| freq | a character string, the frequency of the returns, "m" for monthly (default) or "d" for daily. |
| dividends | a logical, TRUE (default) considers dividends. FALSE downloads the data without dividends. |
| start | a character string, start date for the download in the format "YYmm". Default value is 197501. |
| end | a character string, end date for the download in the format "YYmm". Default value is two months before Sys.Date() to insure availability. |
| clean_na | a logical, TRUE (default) replaces NAs with zoo::na.locf(). If FALSE, NAs are not cleaned. |

## Value

a .csv-file within the directory, defined in dir.

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| ffdata_download | *The ffdata_download function* |
|---|---|

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## Description

This function automatically downloads user-specified portfolio returns from the Kenneth R. French Data Library. The downloaded returns are saved as a .csv-file in the chosen directory.

## Usage

```
ffdata_download(
  dir = NULL,
  type = "USResearch",
  subtype = NULL,
  number_factors = NULL,
  freq = "m",
  dividends = TRUE,
  start = NULL,
  end = NULL,
  clean_na = TRUE
)
```

## Arguments

| | |
|---|---|
| dir | a character string, the directory for saving the data. The current working directory is set by default. |
| type | a character string, the portfolio type. Possible values are "USResearch" (default) for the Fama-French 3 or 5 Factors, "Industry" for the Industry portfolios, "Bivariate" for the Bivariate sorts on Size (ME), Book-to-Market (BE), Operational Profitability (OP) and Investment (INV), "Threeway" for the ME, BE, OP, and INV. |
| subtype | a character string, the portfolio subtype. Possible values are "ME_BE", "ME_OP", "ME_INV", "BEME_OP", "BEME_INV", "OP_INV" (for the Bivariate type) and "ME_BEME_OP", "ME_BEME_INV", "ME_OP_INV" (for the Threeway type). |
| number_factors | an integer, the number of factors for the portfolios. Possible values are 3 (default) or 5 (for the USResearch portfolios); 5 (default), 10, 12, 17, 30, 38, 48 or 49 (for the Industry portfolios) and 6 (default), 25 or 100 (for the Bivariate portfolios). |
| freq | a character string, the frequency of returns. Possible values are "m" for monthly (default) or "d" for daily. |
| dividends | a logical, TRUE (default) considers dividends. FALSE downloads the data without dividends. |
| start | a character string, start date for the download in the format "YYmm". Default value is 197501. |
| end | a character string, end date for the download in the format "YYmm". Default value is two months before Sys.Date() to insure availability. |
| clean_na | a logical, TRUE (default) replaces NAs with zoo::na.locf(). If FALSE, NAs are not cleaned. # nolint: line_length_linter. |

## Value

a .csv-file within the directory, defined in dir.

## Examples

```
## Not run:
ffdata_download()
ffdata_download(freq = "m", type = "Bivariate", subtype = "ME_BE", number_factors = 25)
```

```
## End(Not run)
```

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industry_download          *The industry_download function*

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### Description

This function automatically downloads Industry portfolios returns from the Kenneth R. French Data Library. The downloaded returns are saved then as a .csv-file in the chosen directory.

### Usage

```
industry_download(
  base,
  dir,
  sub_path,
  number_factors,
  freq,
  dividends,
  start,
  end,
  clean_na
)
```

### Arguments

| | |
|---|---|
| base | a character string, the Kenneth R. French Data Library address. |
| dir | a character string, the directory for saving the data. The current working directory is set by default. |
| sub_path | a character string, the folder subpath, created by ffDataDownload. |
| number_factors | an integer, the number of factors for the Industry portfolios. Possible values are 5 (default), 10, 12, 17, 30, 38, 48 or 49. |
| freq | a character string, the frequency of the returns, "m" for monthly (default) or "d" for daily. |
| dividends | a logical, TRUE (default) considers dividends. FALSE downloads the data without dividends. |
| start | a character string, start date for the download in the format "YYmm". Default value is 197501. |
| end | a character string, end date for the download in the format "YYmm". Default value is two months before Sys.Date() to insure availability. |
| clean_na | a logical, TRUE (default) replaces NAs with zoo::na.locf(). If FALSE, NAs are not cleaned. |

### Value

a .csv-file within the directory, defined in dir.

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threeway_download *The threeway_download function*

---

### Description

This function automatically downloads Threeway portfolios returns from the Kenneth R. French Data Library. The downloaded returns are saved then as a .csv-file in the chosen directory.

### Usage

```
threeway_download(
  base,
  dir,
  sub_path,
  subtype,
  dividends,
  start,
  end,
  clean_na
)
```

### Arguments

| | |
|---|---|
| base | a character string, the Kenneth R. French Data Library address. |
| dir | a character string, the directory for saving the data. The current working directory is set by default. |
| sub_path | a character string, the folder subpath, created by ffDataDownload. |
| subtype | a character string, the Threeway portfolio subtype. Possible values are "ME_BEME_OP" (default), "ME_BEME_INV" or "ME_OP_INV". |
| dividends | a logical, TRUE (default) considers dividends. FALSE downloads the data without dividends. |
| start | a character string, start date for the download in the format "YYmm". Default value is 197501. |
| end | a character string, end date for the download in the format "YYmm". Default value is two months before Sys.Date() to insure availability. |
| clean_na | a logical, TRUE (default) replaces NAs with zoo::na.locf(). If FALSE, NAs are not cleaned. |

### Value

a .csv-file within the directory, defined in dir.

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usresearch_download          *The usresearch_download function*

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**Description**

This function automatically downloads US-Research portfolios returns from the Kenneth R. French Data Library. The downloaded returns are saved then as a .csv-file in the chosen directory.

**Usage**

```
usresearch_download(
  base,
  dir,
  sub_path,
  number_factors,
  freq,
  start,
  end,
  clean_na
)
```

**Arguments**

| | |
|---|---|
| base | a character string, the Kenneth R. French Data Library address. |
| dir | a character string, the directory for saving the data. The current working directory is set by default. |
| sub_path | a character string, the folder subpath, created by ffDataDownload. |
| number_factors | an integer, the number of factors for the USResearch portfolios. Possible values are 3 (default) and 5. |
| freq | a character string, the frequency of returns. Possible values are "m" for monthly (default) or "d" for daily. |
| start | a character string, start date for the download in the format "YYmm". Default value is 197501. |
| end | a character string, end date for the download in the format "YYmm". Default value is two months before Sys.Date() to insure availability. |
| clean_na | a logical, TRUE (default) replaces NAs with zoo::na.locf(). If FALSE, NAs are not cleaned. |

**Value**

a .csv-file within the directory, defined in dir.

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