

# Package ‘simfinapi’

September 28, 2020

**Type** Package

**Title** Accessing 'SimFin' Data

**Version** 0.1.0

**Description** Through simfinapi, you can intuitively access the 'SimFin' Web-API (<<https://simfin.com/>>) to make 'SimFin' data easily available in R. To obtain an 'SimFin' API key (and thus to use this package), you need to register at <<https://simfin.com/login>>.

**License** GPL-3

**URL** <https://github.com/Plebejer/simfinapi>

**BugReports** <https://github.com/Plebejer/simfinapi/issues>

**Depends** R (>= 3.2)

**Imports** checkmate (>= 2.0.0), data.table (>= 1.12.8), future.apply (>= 1.4.0), httr, memoise (>= 1.1.0), RcppSimdJson (>= 0.1.1), utils

**Suggests** covr (>= 3.5.0), secret, testthat, knitr, rmarkdown, fastmatch

**Encoding** UTF-8

**LazyData** true

**RoxygenNote** 7.1.1

**VignetteBuilder** knitr

**NeedsCompilation** no

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**Repository** CRAN

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check_inputs	<i>Generic input checks</i>
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### Description

This function covers all kinds of (recurring) input checks in simfinapi. This keeps the other functions cleaner.

### Usage

```
check_inputs(
  api_key = NULL,
  cache_dir = NULL,
  Ticker = NULL,
  SimFinId = NULL,
  statement = NULL,
  period = NULL,
  fyear = NULL,
  start = NULL,
  end = NULL,
  ttm = NULL,
  shares = NULL,
  ratios = NULL,
  type = NULL
)
```

### Arguments

api_key	<b>character</b> Your 'SimFin' API key. It's recommended to set the API key globally using <a href="#">sfa_set_api_key</a> .
cache_dir	<b>character</b> Your cache directory. It's recommended to set the cache directory globally using <a href="#">sfa_set_cache_dir</a> .

Ticker	<b>integer</b> Ticker of the companies of interest.
SimFinId	<b>integer</b> 'SimFin' IDs of the companies of interest. Any SimFinId will be internally translated to the respective Ticker. This reduces the number of queries if you would query the same company via Ticker <i>and</i> SimFinId.
statement	<b>character</b> Statement to be retrieved. One of <ul style="list-style-type: none"> <li>• "p1": Profit &amp; Loss statement</li> <li>• "bs": Balance Sheet</li> <li>• "cf": Cash Flow statement</li> <li>• "derived": Derived figures &amp; fundamental ratios</li> <li>• "all": Retrieves all 3 statements + ratios. Please note that this option is reserved for SimFin+ users.</li> </ul>
period	<b>character</b> Filter for periods. As a non-SimFin+ user, you have to provide exactly one period. As SimFin+ user, this filter can be omitted to retrieve all statements available for the company. <ul style="list-style-type: none"> <li>• "q1": First fiscal quarter.</li> <li>• "q2": Second fiscal quarter.</li> <li>• "q3": Third fiscal quarter.</li> <li>• "q4": Fourth fiscal quarter.</li> <li>• "fy": Full fiscal year.</li> <li>• "h1": First 6 months of fiscal year.</li> <li>• "h2": Last 6 months of fiscal year.</li> <li>• "9m": First nine months of fiscal year.</li> <li>• "6m": Any fiscal 6 month period (first + second half years; reserved for SimFin+ users).</li> <li>• "quarters": All quarters (q1 + q2 + q3 + q4; reserved for SimFin+ users).</li> </ul>
fyear	<b>integer</b> Filter for fiscal year. As a non-SimFin+ user, you have to provide exactly one fiscal year. As SimFin+ user, this filter can be omitted to retrieve all statements available for the company.
start	<b>Date</b> Filter for the report dates (reserved for SimFin+ users). With this filter you can filter the statements by the date on which the reported period ended ('Report Date'). By specifying a value here, only statements will be retrieved with report dates ending <b>AFTER</b> the specified date.
end	<b>Date</b> Filter for the report dates (reserved for SimFin+ users). With this filter you can filter the statements by the date on which the reported period ended ('Report Date'). By specifying a value here, only statements will be retrieved with report dates ending <b>BEFORE</b> the specified date.
ttm	<b>logical</b> If TRUE, you can return the trailing twelve months statements for all periods, meaning at every available point in time the sum of the last 4 available quarterly figures.
shares	<b>logical</b> If TRUE, you can display the weighted average basic & diluted shares outstanding for each period along with the fundamentals. Reserved for SimFin+ users (as non-SimFin+ user, you can still use the shares outstanding endpoints).
ratios	<b>logical</b> With TRUE, you can display some price related ratios along with the share price data (reserved for SimFin+ users). The ratios that will be displayed are:

- Market-Cap
- Price to Earnings Ratio (quarterly)
- Price to Earnings Ratio (ttm)
- Price to Sales Ratio (quarterly)
- Price to Sales Ratio (ttm)
- Price to Book Value (ttm)
- Price to Free Cash Flow (quarterly)
- Price to Free Cash Flow (ttm)
- Enterprise Value (ttm)
- EV/EBITDA (ttm)
- EV/Sales (ttm)
- EV/FCF (ttm)
- Book to Market Value (ttm)
- Operating Income/EV (ttm).

`type` [character](#) Filter for fiscal year. Only works with `type = "wa-basic"` and `type = "wa-diluted"`. As SimFin+ user, this filter can be omitted to retrieve all shares outstanding available for the company. You can also chain this filter with a comma, to retrieve multiple years at once (e.g. `fyear = "2015,2016,2017"` to retrieve the data for 3 years at once).

---

`sfa_get_entities`      *Get a table of all available 'SimFin' ID's with ticker and name.*

---

## Description

Get a table of all available 'SimFin' ID's with ticker and name.

## Usage

```
sfa_get_entities(
  api_key = getOption("sfa_api_key"),
  cache_dir = getOption("sfa_cache_dir")
)
```

## Arguments

`api_key` [character](#) Your 'SimFin' API key. It's recommended to set the API key globally using [sfa\\_set\\_api\\_key](#).

`cache_dir` [character](#) Your cache directory. It's recommended to set the cache directory globally using [sfa\\_set\\_cache\\_dir](#).

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sfa_get_info	<i>Get basic company information</i>
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**Description**

Get basic company information

**Usage**

```
sfa_get_info(
  Ticker = NULL,
  SimFinId = NULL,
  api_key = getOption("sfa_api_key"),
  cache_dir = getOption("sfa_cache_dir")
)
```

**Arguments**

Ticker	<a href="#">integer</a> Ticker of the companies of interest.
SimFinId	<a href="#">integer</a> 'SimFin' IDs of the companies of interest. Any SimFinId will be internally translated to the respective Ticker. This reduces the number of queries if you would query the same company via Ticker <i>and</i> SimFinId.
api_key	<a href="#">character</a> Your 'SimFin' API key. It's recommended to set the API key globally using <a href="#">sfa_set_api_key</a> .
cache_dir	<a href="#">character</a> Your cache directory. It's recommended to set the cache directory globally using <a href="#">sfa_set_cache_dir</a> .

---

sfa_get_info_	<i>Get basic company information</i>
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---

**Description**

Internal function.

**Usage**

```
sfa_get_info_(ticker, api_key, cache_dir)
```

**Arguments**

ticker	<a href="#">integer</a> Ticker of the companies of interest.
api_key	[ <a href="#">character(1)</a> ] Your 'SimFin' API key. For simplicity use <code>options(sfa_api_key = "yourapikey")</code> .
cache_dir	<a href="#">character</a> Your cache directory. It's recommended to set the cache directory globally using <a href="#">sfa_set_cache_dir</a> .

---

sfa_get_prices	<i>Get price data</i>
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---

### Description

Get price data

### Usage

```
sfa_get_prices(
  Ticker = NULL,
  SimFinId = NULL,
  ratios = NULL,
  start = NULL,
  end = NULL,
  api_key = getOption("sfa_api_key"),
  cache_dir = getOption("sfa_cache_dir")
)
```

### Arguments

Ticker	<b>integer</b> Ticker of the companies of interest.
SimFinId	<b>integer</b> 'SimFin' IDs of the companies of interest. Any SimFinId will be internally translated to the respective Ticker. This reduces the number of queries if you would query the same company via Ticker <i>and</i> SimFinId.
ratios	<b>logical</b> With TRUE, you can display some price related ratios along with the share price data (reserved for SimFin+ users). The ratios that will be displayed are: <ul style="list-style-type: none"> <li>• Market-Cap</li> <li>• Price to Earnings Ratio (quarterly)</li> <li>• Price to Earnings Ratio (ttm)</li> <li>• Price to Sales Ratio (quarterly)</li> <li>• Price to Sales Ratio (ttm)</li> <li>• Price to Book Value (ttm)</li> <li>• Price to Free Cash Flow (quarterly)</li> <li>• Price to Free Cash Flow (ttm)</li> <li>• Enterprise Value (ttm)</li> <li>• EV/EBITDA (ttm)</li> <li>• EV/Sales (ttm)</li> <li>• EV/FCF (ttm)</li> <li>• Book to Market Value (ttm)</li> <li>• Operating Income/EV (ttm).</li> </ul>
start	<b>Date</b> Filter for the report dates (reserved for SimFin+ users). With this filter you can filter the statements by the date on which the reported period ended ('Report Date'). By specifying a value here, only statements will be retrieved with report dates ending <b>AFTER</b> the specified date.

end	<b>Date</b> Filter for the report dates (reserved for SimFin+ users). With this filter you can filter the statements by the date on which the reported period ended ('Report Date'). By specifying a value here, only statements will be retrieved with report dates ending BEFORE the specified date.
api_key	<b>character</b> Your 'SimFin' API key. It's recommended to set the API key globally using <a href="#">sfa_set_api_key</a> .
cache_dir	<b>character</b> Your cache directory. It's recommended to set the cache directory globally using <a href="#">sfa_set_cache_dir</a> .

---

sfa_get_shares	<i>Get basic company information</i>
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---

## Description

Get basic company information

## Usage

```
sfa_get_shares(
  Ticker = NULL,
  SimFinId = NULL,
  type,
  period = "fy",
  fyear = data.table::year(Sys.Date()) - 1L,
  start = NULL,
  end = NULL,
  api_key = getOption("sfa_api_key"),
  cache_dir = getOption("sfa_cache_dir")
)
```

## Arguments

Ticker	<b>integer</b> Ticker of the companies of interest.
SimFinId	<b>integer</b> 'SimFin' IDs of the companies of interest. Any SimFinId will be internally translated to the respective Ticker. This reduces the number of queries if you would query the same company via Ticker <i>and</i> SimFinId.
type	<b>character</b> Filter for fiscal year. Only works with type = "wa-basic" and type = "wa-diluted". As SimFin+ user, this filter can be omitted to retrieve all shares outstanding available for the company. You can also chain this filter with a comma, to retrieve multiple years at once (e.g. fyear = "2015,2016,2017" to retrieve the data for 3 years at once).
period	<b>character</b> Filter for periods. Only works with type = "wa-basic" and type = "wa-diluted". This filter can be omitted to retrieve all shares outstanding available for the company. You can also chain this filter with a comma (e.g. period = "quarters,fy" to retrieve all quarters and the full financial year figures).

- "q1": First fiscal quarter.
- "q2": Second fiscal quarter.
- "q3": Third fiscal quarter.
- "q4": Fourth fiscal quarter.
- "fy": Full fiscal year.
- "h1": First 6 months of fiscal year.
- "h2": Last 6 months of fiscal year.
- "9m": First nine months of fiscal year.
- "6m": Any fiscal 6 month period (first + second half years).
- "quarters": All quarters (q1 + q2 + q3 + q4).

fyear	<a href="#">integer</a> Filter for fiscal year. As a non-SimFin+ user, you have to provide exactly one fiscal year. As SimFin+ user, this filter can be omitted to retrieve all statements available for the company.
start	<a href="#">Date</a> Filter for the report dates (reserved for SimFin+ users). With this filter you can filter the statements by the date on which the reported period ended ('Report Date'). By specifying a value here, only statements will be retrieved with report dates ending AFTER the specified date.
end	<a href="#">Date</a> Filter for the report dates (reserved for SimFin+ users). With this filter you can filter the statements by the date on which the reported period ended ('Report Date'). By specifying a value here, only statements will be retrieved with report dates ending BEFORE the specified date.
api_key	<a href="#">character</a> Your 'SimFin' API key. It's recommended to set the API key globally using <a href="#">sfa_set_api_key</a> .
cache_dir	<a href="#">character</a> Your cache directory. It's recommended to set the cache directory globally using <a href="#">sfa_set_cache_dir</a> .

---

sfa\_get\_shares\_      *Get basic company information*

---

### Description

Get basic company information

### Usage

```
sfa_get_shares_(Ticker, type, period, fyear, start, end, api_key, cache_dir)
```

### Arguments

Ticker	<a href="#">integer</a> Ticker of the companies of interest.
type	<a href="#">character</a> Filter for fiscal year. Only works with type = "wa-basic" and type = "wa-diluted". As SimFin+ user, this filter can be omitted to retrieve all shares outstanding available for the company. You can also chain this filter with a comma, to retrieve multiple years at once (e.g. fyear = "2015,2016,2017" to retrieve the data for 3 years at once).



period	<p><b>character</b> Filter for periods. Only works with type = "wa-basic" and type = "wa-diluted". This filter can be omitted to retrieve all shares outstanding available for the company. You can also chain this filter with a comma (e.g. period = "quarters, fy" to retrieve all quarters and the full financial year figures).</p> <ul style="list-style-type: none"> <li>• "q1": First fiscal quarter.</li> <li>• "q2": Second fiscal quarter.</li> <li>• "q3": Third fiscal quarter.</li> <li>• "q4": Fourth fiscal quarter.</li> <li>• "fy": Full fiscal year.</li> <li>• "h1": First 6 months of fiscal year.</li> <li>• "h2": Last 6 months of fiscal year.</li> <li>• "9m": First nine months of fiscal year.</li> <li>• "6m": Any fiscal 6 month period (first + second half years).</li> <li>• "quarters": All quarters (q1 + q2 + q3 + q4).</li> </ul>
fyear	<p><b>integer</b> Filter for fiscal year. As a non-SimFin+ user, you have to provide exactly one fiscal year. As SimFin+ user, this filter can be omitted to retrieve all statements available for the company.</p>
start	<p><b>Date</b> Filter for the report dates (reserved for SimFin+ users). With this filter you can filter the statements by the date on which the reported period ended ('Report Date'). By specifying a value here, only statements will be retrieved with report dates ending AFTER the specified date.</p>
end	<p><b>Date</b> Filter for the report dates (reserved for SimFin+ users). With this filter you can filter the statements by the date on which the reported period ended ('Report Date'). By specifying a value here, only statements will be retrieved with report dates ending BEFORE the specified date.</p>
api_key	<p><b>character</b> Your 'SimFin' API key. It's recommended to set the API key globally using <a href="#">sfa_set_api_key</a>.</p>
cache_dir	<p><b>character</b> Your cache directory. It's recommended to set the cache directory globally using <a href="#">sfa_set_cache_dir</a>.</p>

---

sfa\_get\_statement      *Get basic company information*

---

## Description

Get basic company information

## Usage

```
sfa_get_statement(
    Ticker = NULL,
    SimFinId = NULL,
    statement,
    period = "fy",
```

```

fyear = data.table::year(Sys.Date()) - 1L,
start = NULL,
end = NULL,
ttm = FALSE,
shares = FALSE,
api_key = getOption("sfa_api_key"),
cache_dir = getOption("sfa_cache_dir")
)

```

## Arguments

Ticker	<b>integer</b> Ticker of the companies of interest.
SimFinId	<b>integer</b> 'SimFin' IDs of the companies of interest. Any SimFinId will be internally translated to the respective Ticker. This reduces the number of queries if you would query the same company via Ticker <i>and</i> SimFinId.
statement	<b>character</b> Statement to be retrieved. One of <ul style="list-style-type: none"> <li>"pl": Profit &amp; Loss statement</li> <li>"bs": Balance Sheet</li> <li>"cf": Cash Flow statement</li> <li>"derived": Derived figures &amp; fundamental ratios</li> <li>"all": Retrieves all 3 statements + ratios. Please note that this option is reserved for SimFin+ users.</li> </ul>
period	<b>character</b> Filter for periods. As a non-SimFin+ user, you have to provide exactly one period. As SimFin+ user, this filter can be omitted to retrieve all statements available for the company. <ul style="list-style-type: none"> <li>"q1": First fiscal quarter.</li> <li>"q2": Second fiscal quarter.</li> <li>"q3": Third fiscal quarter.</li> <li>"q4": Fourth fiscal quarter.</li> <li>"fy": Full fiscal year.</li> <li>"h1": First 6 months of fiscal year.</li> <li>"h2": Last 6 months of fiscal year.</li> <li>"9m": First nine months of fiscal year.</li> <li>"6m": Any fiscal 6 month period (first + second half years; reserved for SimFin+ users).</li> <li>"quarters": All quarters (q1 + q2 + q3 + q4; reserved for SimFin+ users).</li> </ul>
fyear	<b>integer</b> Filter for fiscal year. As a non-SimFin+ user, you have to provide exactly one fiscal year. As SimFin+ user, this filter can be omitted to retrieve all statements available for the company.
start	<b>Date</b> Filter for the report dates (reserved for SimFin+ users). With this filter you can filter the statements by the date on which the reported period ended ('Report Date'). By specifying a value here, only statements will be retrieved with report dates ending <b>AFTER</b> the specified date.

end	<b>Date</b> Filter for the report dates (reserved for SimFin+ users). With this filter you can filter the statements by the date on which the reported period ended ('Report Date'). By specifying a value here, only statements will be retrieved with report dates ending BEFORE the specified date.
ttm	<b>logical</b> If TRUE, you can return the trailing twelve months statements for all periods, meaning at every available point in time the sum of the last 4 available quarterly figures.
shares	<b>logical</b> If TRUE, you can display the weighted average basic & diluted shares outstanding for each period along with the fundamentals. Reserved for SimFin+ users (as non-SimFin+ user, you can still use the shares outstanding endpoints).
api_key	<b>character</b> Your 'SimFin' API key. It's recommended to set the API key globally using <a href="#">sfa_set_api_key</a> .
cache_dir	<b>character</b> Your cache directory. It's recommended to set the cache directory globally using <a href="#">sfa_set_cache_dir</a> .

---

sfa\_get\_statement\_     *Get basic company information*

---

## Description

Get basic company information

## Usage

```
sfa_get_statement_(
  Ticker,
  statement,
  period,
  fyear,
  start,
  end,
  ttm,
  shares,
  api_key,
  cache_dir
)
```

## Arguments

Ticker	<b>integer</b> Ticker of the companies of interest.
statement	<b>character</b> Statement to be retrieved. One of <ul style="list-style-type: none"> <li>• "pl": Profit &amp; Loss statement</li> <li>• "bs": Balance Sheet</li> <li>• "cf": Cash Flow statement</li> <li>• "derived": Derived figures &amp; fundamental ratios</li> </ul>

	<ul style="list-style-type: none"> <li>• "all": Retrieves all 3 statements + ratios. Please note that this option is reserved for SimFin+ users.</li> </ul>
period	<p><b>character</b> Filter for periods. As a non-SimFin+ user, you have to provide exactly one period. As SimFin+ user, this filter can be omitted to retrieve all statements available for the company.</p> <ul style="list-style-type: none"> <li>• "q1": First fiscal quarter.</li> <li>• "q2": Second fiscal quarter.</li> <li>• "q3": Third fiscal quarter.</li> <li>• "q4": Fourth fiscal quarter.</li> <li>• "fy": Full fiscal year.</li> <li>• "h1": First 6 months of fiscal year.</li> <li>• "h2": Last 6 months of fiscal year.</li> <li>• "9m": First nine months of fiscal year.</li> <li>• "6m": Any fiscal 6 month period (first + second half years; reserved for SimFin+ users).</li> <li>• "quarters": All quarters (q1 + q2 + q3 + q4; reserved for SimFin+ users).</li> </ul>
fyear	<p><b>integer</b> Filter for fiscal year. As a non-SimFin+ user, you have to provide exactly one fiscal year. As SimFin+ user, this filter can be omitted to retrieve all statements available for the company.</p>
start	<p><b>Date</b> Filter for the report dates (reserved for SimFin+ users). With this filter you can filter the statements by the date on which the reported period ended ('Report Date'). By specifying a value here, only statements will be retrieved with report dates ending AFTER the specified date.</p>
end	<p><b>Date</b> Filter for the report dates (reserved for SimFin+ users). With this filter you can filter the statements by the date on which the reported period ended ('Report Date'). By specifying a value here, only statements will be retrieved with report dates ending BEFORE the specified date.</p>
ttm	<p><b>logical</b> If TRUE, you can return the trailing twelve months statements for all periods, meaning at every available point in time the sum of the last 4 available quarterly figures.</p>
shares	<p><b>logical</b> If TRUE, you can display the weighted average basic &amp; diluted shares outstanding for each period along with the fundamentals. Reserved for SimFin+ users (as non-SimFin+ user, you can still use the shares outstanding endpoints).</p>
api_key	<p><b>character</b> Your 'SimFin' API key. It's recommended to set the API key globally using <a href="#">sfa_set_api_key</a>.</p>
cache_dir	<p><b>character</b> Your cache directory. It's recommended to set the cache directory globally using <a href="#">sfa_set_cache_dir</a>.</p>

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sfa_set_api_key	<i>Set your 'SimFin' API key globally</i>
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---

## Description

It is highly recommended to set the API key globally as it makes specifying the `api_key` argument of other `sfa_*` functions obsolete.

There are two ways to set your API key globally:

1. Provide the API key directly as a string (`api_key = "YourApiKey"`).
2. Create a system-wide environment variable containing you API key and refer to that (`env_var = "YourEnvVar"`). How to create a system-wide environment variable depends on your operating system.

The second option is recommended because your R scripts won't contain your API key and it is safe to keep your scripts in an open repository like GitHub.

## Usage

```
sfa_set_api_key(api_key, env_var)
```

## Arguments

<code>api_key</code>	<b>character</b> You API key. Ignored if you specify <code>env_var</code> as well.
<code>env_var</code>	<b>character</b> Name of an environment variable holding you API key, e.g. <code>SIMFIN_API_KEY</code> . Leave empty (NULL, default) if you want to set your API key directly.

## Examples

```
## Not run:  
# set API key directly  
sfa_set_api_key(api_key = "YourApiKey")  
  
# set API key via environment variable  
# (this assumes you already created an environment variable called  
# 'SIMFIN_API_KEY' which contains you API key)  
sfa_set_api_key(env_var = "SIMFIN_API_KEY")  
  
## End(Not run)
```

---

sfa\_set\_cache\_dir      *Set cache directory globally*

---

### Description

It is highly recommended to set the cache directory globally. This has two advantages:

1. Results from the 'SimFin' API calls are cached over the end of the session. This is especially interesting if you don't have a SimFin+ account and the number of API calls is limited to 2,000 per day.
2. It makes specifying the cache\_dir argument of other sfa\_\* functions obsolete.

### Usage

```
sfa_set_cache_dir(path, create = FALSE)
```

### Arguments

path	<b>character</b> The directory where you want to cache the responses from the 'SimFin' API calls.
create	<b>logical</b> Set TRUE if you want to create path automatically if it does not yet exist.

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