# Package 'PNSIBGE'

June 24, 2021

**Type** Package

**Title** Downloading, Reading and Analysing PNS Microdata

**Version** 0.1.4

**Description** Provides tools for downloading, reading and analysing the PNS,
a household survey from Brazilian Institute of Geography and Statistics - IBGE.
The data must be downloaded from the official website <https://www.ibge.gov.br/>.
Further analysis must be made using package 'survey'.

**Depends** R (>= 3.2.0)

**Imports** survey, readr, dplyr, magrittr, projmgr, httr, RCurl, utils,
timeDate, readxl, tibble

**Suggests** tidyverse, convey

**License** GPL-3

**Encoding** UTF-8

**RoxygenNote** 7.0.1

**NeedsCompilation** no

**Author** Gabriel Assuncao [aut, cre],
Luna Hidalgo [aut],
Douglas Braga [ctb]

**Maintainer** Gabriel Assuncao <pacotesipd@ibge.gov.br>

**Repository** CRAN

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# R topics documented:

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get_pns                          *Download, label, deflate and create survey design object for PNS mi-*
                                 *crodata*

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#### Description

Core function of package. With this function only, the user can download a PNS microdata from a
year and get a sample design object ready to use with `survey` package functions.

#### Usage

```
get_pns(
  year,
  selected = FALSE,
  anthropometry = FALSE,
  vars = NULL,
  labels = TRUE,
  deflator = TRUE,
  design = TRUE,
  savedir = tempdir()
)
```

#### Arguments

| | |
|---|---|
| year | The year of the data to be downloaded. Must be a number equal to 2013 or 2019. Vector not accepted. |
| selected | Logical value. If `TRUE`, the specific questionnaire for selected resident will be used. If `FALSE`, the basic questionnaire for household and residents will be used. |
| anthropometry | Logical value. If `TRUE`, the specific questionnaire for the anthropometry module of the selected resident will be used. If `FALSE`, the questionnaire defined by the `selected` argument of this function will be used. This argument will be used only if `year` is equal to 2019. |
| vars | Vector of variable names to be kept for analysis. Default is to keep all variables. |
| labels | Logical value. If `TRUE`, categorical variables will presented as factors with labels corresponding to the survey's dictionary. |
| deflator | Logical value. If `TRUE`, deflator variable will be available for use in the micro-data. |
| design | Logical value. If `TRUE`, will return an object of class `survey.design`. It is strongly recommended to keep this parameter as `TRUE` for further analysis. If `FALSE`, only the microdata will be returned. |
| savedir | Directory to save the downloaded data. Default is to use a temporary directory. |

#### Value

An object of class `survey.design` with the data from PNS and its sample design, or a tibble with
selected variables of the microdata, including the necessary survey design ones.

## Note

For more information, visit the survey official website <`https://www.ibge.gov.br/estatisticas/sociais/saude/9160-pesquisa-nacional-de-saude.html?=&t=o-que-e`> and consult the other functions of this package, described below.

## See Also

read_pns for reading PNS microdata.
pns_labeller for labelling categorical variables from PNS microdata.
pns_deflator for adding deflator variable to PNS microdata.
pns_design for creating PNS survey design object.
pns_example for getting the path of the PNS example files.

## Examples

```
pns.svy <- get_pns(year=2019, selected=FALSE, anthropometry=FALSE, vars=c("J007","J009"),
                   labels=TRUE, deflator=TRUE, design=TRUE, savedir=tempdir())
# Calculating proportion of people diagnosed with chronic diseases
if (!is.null(pns.svy)) survey::svymean(x=~J007, design=pns.svy, na.rm=TRUE)
pns.svy2 <- get_pns(year=2019, selected=TRUE, anthropometry=FALSE, vars=c("N001","N00101"),
                   labels=TRUE, deflator=TRUE, design=TRUE, savedir=tempdir())
# Calculating proportion of people's self-rated health
if (!is.null(pns.svy2)) survey::svymean(x=~N001, design=pns.svy2, na.rm=TRUE)
pns.svy3 <- get_pns(year=2019, selected=FALSE, anthropometry=TRUE, vars=c("W00101","W00201"),
                   labels=TRUE, deflator=TRUE, design=TRUE, savedir=tempdir())
# Calculating the average weight of people
if (!is.null(pns.svy3)) survey::svymean(x=~W00101, design=pns.svy3, na.rm=TRUE)
```

---

pns_deflator *Add deflator variable to PNS microdata*

---

## Description

This function adds deflator variable to PNS microdata. For deflation of income variables, the documentation provided through the following address must be used: `https://ftp.ibge.gov.br/PNS/Documentacao_Geral/PNSIBGE_Deflator.pdf`.

## Usage

```
pns_deflator(data_pns, deflator.file)
```

## Arguments

data_pns       A tibble of PNS microdata read with read_pns function.

deflator.file  The deflator file for selected survey available on official website: (select the deflator zip file) - `https://ftp.ibge.gov.br/PNS/Documentacao_Geral/`.

## Value

A tibble with the data provided from PNS survey and the deflator variable added for use.

## Note

For more information, visit the survey official website <[https://www.ibge.gov.br/estatisticas/](https://www.ibge.gov.br/estatisticas/sociais/saude/9160-pesquisa-nacional-de-saude.html?=&t=o-que-e)[sociais/saude/9160-pesquisa-nacional-de-saude.html?=&t=o-que-e](https://www.ibge.gov.br/estatisticas/sociais/saude/9160-pesquisa-nacional-de-saude.html?=&t=o-que-e)> and consult the other functions of this package, described below.

## See Also

[get_pns](#) for downloading, labelling, deflating and creating survey design object for PNS microdata.
[read_pns](#) for reading PNS microdata.
[pns_labeller](#) for labelling categorical variables from PNS microdata.
[pns_design](#) for creating PNS survey design object.
[pns_example](#) for getting the path of the PNS example files.

## Examples

```
# Using data read from disk
input_path <- pns_example(path="input_example.txt")
data_path <- pns_example(path="exampledata.txt")
dictionary.path <- pns_example(path="dictionaryexample.xls")
deflator.path <- pns_example(path="deflatorexample.xls")
pns.df <- read_pns(microdata=data_path, input_txt=input_path, vars=c("J007","J009"))
pns.df <- pns_labeller(data_pns=pns.df, dictionary.file=dictionary.path)
pns.df <- pns_deflator(data_pns=pns.df, deflator.file=deflator.path)

# Downloading data
pns.df2 <- get_pns(year=2019, selected=FALSE, anthropometry=FALSE, vars=c("J007","J009"),
                   labels=TRUE, deflator=FALSE, design=FALSE, savedir=tempdir())
deflator.path2 <- pns_example(path="deflatorexample.xls")
pns.df2 <- pns_deflator(data_pns=pns.df2, deflator.file=deflator.path2)
```

---

pns_design                    *Create PNS survey object with its sample design*

---

## Description

This function creates PNS survey object with its sample design for analysis using `survey` package functions.

## Usage

```
pns_design(data_pns)
```

## Arguments

data_pns          A tibble of PNS microdata read with `read_pns` function.

## Value

An object of class `survey.design` with the data from PNS and its sample design.

## Note

For more information, visit the survey official website <[https://www.ibge.gov.br/estatisticas/](https://www.ibge.gov.br/estatisticas/) [sociais/saude/9160-pesquisa-nacional-de-saude.html?=&t=o-que-e](https://www.ibge.gov.br/estatisticas/sociais/saude/9160-pesquisa-nacional-de-saude.html?=&t=o-que-e)> and consult the other functions of this package, described below.

## See Also

get_pns for downloading, labelling, deflating and creating survey design object for PNS microdata.
read_pns for reading PNS microdata.
pns_labeller for labelling categorical variables from PNS microdata.
pns_deflator for adding deflator variable to PNS microdata.
pns_example for getting the path of the PNS example files.

## Examples

```
# Using data read from disk
input_path <- pns_example(path="input_example.txt")
data_path <- pns_example(path="exampledata.txt")
dictionary.path <- pns_example(path="dictionaryexample.xls")
deflator.path <- pns_example(path="deflatorexample.xls")
pns.df <- read_pns(microdata=data_path, input_txt=input_path, vars=c("J007","J009"))
pns.df <- pns_labeller(data_pns=pns.df, dictionary.file=dictionary.path)
pns.df <- pns_deflator(data_pns=pns.df, deflator.file=deflator.path)

pns.svy <- pns_design(data_pns=pns.df)
# Calculating proportion of people diagnosed with chronic diseases
if (!is.null(pns.svy)) survey::svymean(x=~J007, design=pns.svy, na.rm=TRUE)

# Downloading data
pns.df2 <- get_pns(year=2019, selected=FALSE, anthropometry=FALSE, vars=c("J007","J009"),
                   labels=TRUE, deflator=TRUE, design=FALSE, savedir=tempdir())
pns.svy2 <- pns_design(data_pns=pns.df2)
# Calculating proportion of people diagnosed with chronic diseases
if (!is.null(pns.svy2)) survey::svymean(x=~J007, design=pns.svy2, na.rm=TRUE)
```

---

pns_example *Get the path of the PNS example files*

---

## Description

This function provides the path of the microdata from year 2019 of the PNS example files, loaded with this package.

## Usage

```
pns_example(path = NULL)
```

## Arguments

path            Name of file. If `NULL`, the PNS example files names will be listed.

## Value

A vector with names of all the available PNS example files or the path for specific requested PNS example file.

## Note

For more information, visit the survey official website <`https://www.ibge.gov.br/estatisticas/sociais/saude/9160-pesquisa-nacional-de-saude.html?=&t=o-que-e`> and consult the other functions of this package, described below.

## See Also

get_pns for downloading, labelling, deflating and creating survey design object for PNS microdata.
read_pns for reading PNS microdata.
pns_labeller for labelling categorical variables from PNS microdata.
pns_deflator for adding deflator variable to PNS microdata.
pns_design for creating PNS survey design object.

## Examples

```
pns_example()
pns_example(path="exampledata.txt")
pns_example(path="input_example.txt")
pns_example(path="dictionaryexample.xls")
pns_example(path="deflatorexample.xls")
```

---

pns_labeller            *Label categorical variables from PNS microdata*

---

## Description

This function labels categorical variables from PNS microdata.

## Usage

```
pns_labeller(data_pns, dictionary.file)
```

## Arguments

data_pns          A tibble of PNS microdata read with read_pns function.

dictionary.file

>                 The dictionary file for selected survey available on official website: (select the dictionary and input zip file, according to the appropriated year, microdata folder and then, inside, documentation) - `https://ftp.ibge.gov.br/PNS/`.

## Value

A tibble with the data provided from PNS survey and its categorical variables as factors with related labels.

## Note

For more information, visit the survey official website <`https://www.ibge.gov.br/estatisticas/sociais/saude/9160-pesquisa-nacional-de-saude.html?=&t=o-que-e`> and consult the other functions of this package, described below.

## See Also

get_pns for downloading, labelling, deflating and creating survey design object for PNS microdata.
read_pns for reading PNS microdata.
pns_deflator for adding deflator variable to PNS microdata.
pns_design for creating PNS survey design object.
pns_example for getting the path of the PNS example files.

## Examples

```
# Using data read from disk
input_path <- pns_example(path="input_example.txt")
data_path <- pns_example(path="exampledata.txt")
dictionary.path <- pns_example(path="dictionaryexample.xls")
pns.df <- read_pns(microdata=data_path, input_txt=input_path, vars=c("J007","J009"))
pns.df <- pns_labeller(data_pns=pns.df, dictionary.file=dictionary.path)

# Downloading data
pns.df2 <- get_pns(year=2019, selected=FALSE, anthropometry=FALSE, vars=c("J007","J009"),
                      labels=FALSE, deflator=FALSE, design=FALSE, savedir=tempdir())
dictionary.path2 <- pns_example(path="dictionaryexample.xls")
pns.df2 <- pns_labeller(data_pns=pns.df2, dictionary.file=dictionary.path2)
```

---

read_pns                        *Read PNS microdata*

---

## Description

This function reads PNS microdata.

**Usage**

```
read_pns(microdata, input_txt, vars = NULL)
```

**Arguments**

| | |
|---|---|
| microdata | A text file containing microdata from PNS survey, available on official website: (select a microdata file, according to the appropriated year, microdata folder and then, inside, data) - https://ftp.ibge.gov.br/PNS/. |
| input_txt | A text file, related to the microdata, containing the input script for SAS, available on official website: (select the dictionary and input zip file, according to the appropriated year, microdata folder and then, inside, documentation) - https://ftp.ibge.gov.br/PNS/. |
| vars | Vector of variable names to be kept for analysis. Default is to keep all variables. |

**Value**

A tibble with selected variables of the microdata, including the necessary survey design ones.

**Note**

For more information, visit the survey official website <https://www.ibge.gov.br/estatisticas/sociais/saude/9160-pesquisa-nacional-de-saude.html?=&t=o-que-e> and consult the other functions of this package, described below.

**See Also**

get_pns for downloading, labelling, deflating and creating survey design object for PNS microdata.
pns_labeller for labelling categorical variables from PNS microdata.
pns_deflator for adding deflator variable to PNS microdata.
pns_design for creating PNS survey design object.
pns_example for getting the path of the PNS example files.

**Examples**

```
input_path <- pns_example(path="input_example.txt")
data_path <- pns_example(path="exampledata.txt")
pns.df <- read_pns(microdata=data_path, input_txt=input_path, vars=c("J007","J009"))
```

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