

Package ‘COVIDIBGE’

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Type Package

Title Downloading, Reading and Analyzing PNAD COVID19 Microdata

Version 0.2.0

Description Provides tools for downloading, reading and analyzing the PNAD COVID19, 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 dplyr, httr, magrittr, projmgr, RCurl, readr, readxl, survey, tibble, timeDate, utils

Suggests convey, SIPDIBGE, srvyr

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BugReports <https://github.com/Gabriel-Assuncao/COVIDIBGE/issues>

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covid_deflator	<i>Add deflator variables to PNAD COVID19 microdata</i>
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Description

This function adds deflator variables to PNAD COVID19 microdata. For deflation of income variables, the documentation provided through the following address must be used: https://ftp.ibge.gov.br/Trabalho_e_Rendimento/Pesquisa_Nacional_por_Amostra_de_Domicilios_PNAD_COVID19/Microdados/Documentacao/COVIDIBGE_Deflator.pdf.

Usage

```
covid_deflator(data_covid, deflator.file)
```

Arguments

`data_covid` A tibble of PNAD COVID19 microdata read with `read_covid` function.

`deflator.file` The deflator file for selected survey available on official website: (select the deflator zip file) - https://ftp.ibge.gov.br/Trabalho_e_Rendimento/Pesquisa_Nacional_por_Amostra_de_Domicilios_PNAD_COVID19/Microdados/Documentacao/.

Value

A tibble with the data provided from PNAD COVID19 survey and the deflator variables added for use.

Note

For more information, visit the survey official website <<https://www.ibge.gov.br/estatisticas/investigacoes-experimentais/estatisticas-experimentais/27946-divulgacao-semanal-pnadcovid1?t=o-que-e>> and consult the other functions of this package, described below.

See Also

[get_covid](#) for downloading, labeling, deflating and creating survey design object for PNAD COVID19 microdata.

[read_covid](#) for reading PNAD COVID19 microdata.

[covid_labeller](#) for labeling categorical variables from PNAD COVID19 microdata.

[covid_design](#) for creating PNAD COVID19 survey design object.

[covid_example](#) for getting the path of the PNAD COVID19 toy example files.

Examples

```
# Using data read from disk
data_path <- covid_example(path="exampledata.csv")
dictionary.path <- covid_example(path="dictionaryexample.xls")
deflator.path <- covid_example(path="deflatorexample.xls")
covid.df <- read_covid(microdata=data_path, vars=c("C001", "C002"))
covid.df <- covid_labeller(data_covid=covid.df, dictionary.file=dictionary.path)
covid.df <- covid_deflator(data_covid=covid.df, deflator.file=deflator.path)

# Downloading data
covid.df2 <- get_covid(year=2020, month=5, vars=c("C001", "C002"),
                    labels=TRUE, deflator=FALSE, design=FALSE, savedir=tempdir())
deflator.path2 <- covid_example(path="deflatorexample.xls")
covid.df2 <- covid_deflator(data_covid=covid.df2, deflator.file=deflator.path2)
```

covid_design

Create PNAD COVID19 survey object with its sample design

Description

This function creates PNAD COVID19 survey object with its sample design for analysis using survey package functions.

Usage

```
covid_design(data_covid)
```

Arguments

`data_covid` A tibble of PNAD COVID19 microdata read with `read_covid` function.

Value

An object of class `survey.design` or `svyrep.design` with the data from PNAD COVID19 and its sample design.

Note

For more information, visit the survey official website <<https://www.ibge.gov.br/estatisticas/investigacoes-experimentais/estatisticas-experimentais/27946-divulgacao-semanal-pnadcovid1?t=o-que-e>> and consult the other functions of this package, described below.

See Also

[get_covid](#) for downloading, labeling, deflating and creating survey design object for PNAD COVID19 microdata.
[read_covid](#) for reading PNAD COVID19 microdata.
[covid_labeller](#) for labeling categorical variables from PNAD COVID19 microdata.
[covid_deflator](#) for adding deflator variables to PNAD COVID19 microdata.
[covid_example](#) for getting the path of the PNAD COVID19 toy example files.

Examples

```
# Using data read from disk
data_path <- covid_example(path="exampledata.csv")
dictionary.path <- covid_example(path="dictionaryexample.xls")
deflator.path <- covid_example(path="deflatorexample.xls")
covid.df <- read_covid(microdata=data_path, vars=c("C001","C002"))
covid.df <- covid_labeller(data_covid=covid.df, dictionary.file=dictionary.path)
covid.df <- covid_deflator(data_covid=covid.df, deflator.file=deflator.path)

covid.svy <- covid_design(data_covid=covid.df)
# Calculating proportion of people temporarily away from work
if (!is.null(covid.svy)) survey::svymean(x=~C002, design=covid.svy, na.rm=TRUE)

# Downloading data
covid.df2 <- get_covid(year=2020, month=5, vars=c("C001","C002"),
                    labels=TRUE, deflator=TRUE, design=FALSE, savedir=tempdir())
covid.svy2 <- covid_design(data_covid=covid.df2)
# Calculating proportion of people temporarily away from work
if (!is.null(covid.svy2)) survey::svymean(x=~C002, design=covid.svy2, na.rm=TRUE)
```

covid_example

Get the path of the PNAD COVID19 toy example files

Description

This function provides the path of the microdata from month 5 of year 2020 of the PNAD COVID19 toy example files, loaded with this package.

Usage

```
covid_example(path = NULL)
```

Arguments

path	Name of file. If NULL, the PNAD COVID19 toy example files names will be listed.
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Value

A vector with names of all the available PNAD COVID19 toy example files or the path for specific requested PNAD COVID19 toy example file.

Note

For more information, visit the survey official website <<https://www.ibge.gov.br/estatisticas/investigacoes-experimentais/estatisticas-experimentais/27946-divulgacao-semanal-pnadcovid1?t=o-que-e>> and consult the other functions of this package, described below.

See Also

[get_covid](#) for downloading, labeling, deflating and creating survey design object for PNAD COVID19 microdata.

[read_covid](#) for reading PNAD COVID19 microdata.

[covid_labeller](#) for labeling categorical variables from PNAD COVID19 microdata.

[covid_deflator](#) for adding deflator variables to PNAD COVID19 microdata.

[covid_design](#) for creating PNAD COVID19 survey design object.

Examples

```
covid_example()  
covid_example(path="exampledata.csv")  
covid_example(path="dictionaryexample.xls")  
covid_example(path="deflatorexample.xls")
```

covid_labeller

Label categorical variables from PNAD COVID19 microdata

Description

This function labels categorical variables from PNAD COVID19 microdata.

Usage

```
covid_labeller(data_covid, dictionary.file)
```

Arguments

`data_covid` A tibble of PNAD COVID19 microdata read with `read_covid` function.

`dictionary.file`

The dictionary file for selected survey available on official website: (select a dictionary xls file) - https://ftp.ibge.gov.br/Trabalho_e_Rendimento/Pesquisa_Nacional_por_Amostra_de_Domicilios_PNAD_COVID19/Microdados/Documentacao/.

Value

A tibble with the data provided from PNAD COVID19 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/investigacoes-experimentais/estatisticas-experimentais/27946-divulgacao-semanal-pnad-covid1? t=o-que-e](https://www.ibge.gov.br/estatisticas/investigacoes-experimentais/estatisticas-experimentais/27946-divulgacao-semanal-pnad-covid1?t=o-que-e)> and consult the other functions of this package, described below.

See Also

[get_covid](#) for downloading, labeling, deflating and creating survey design object for PNAD COVID19 microdata.

[read_covid](#) for reading PNAD COVID19 microdata.

[covid_deflator](#) for adding deflator variables to PNAD COVID19 microdata.

[covid_design](#) for creating PNAD COVID19 survey design object.

[covid_example](#) for getting the path of the PNAD COVID19 toy example files.

Examples

```
# Using data read from disk
data_path <- covid_example(path="exampledata.csv")
dictionary.path <- covid_example(path="dictionaryexample.xls")
covid.df <- read_covid(microdata=data_path, vars=c("C001","C002"))
covid.df <- covid_labeller(data_covid=covid.df, dictionary.file=dictionary.path)

# Downloading data
covid.df2 <- get_covid(year=2020, month=5, vars=c("C001","C002"),
                      labels=FALSE, deflator=FALSE, design=FALSE, savedir=tempdir())
dictionary.path2 <- covid_example(path="dictionaryexample.xls")
covid.df2 <- covid_labeller(data_covid=covid.df2, dictionary.file=dictionary.path2)
```

get_covid	<i>Download, label, deflate and create survey design object for PNAD COVID19 microdata</i>
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Description

Core function of package. With this function only, the user can download a PNAD COVID19 microdata from a month and get a sample design object ready to use with survey package functions.

Usage

```
get_covid(
  year,
  month,
  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 2020. Vector not accepted.
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month	The month of the year of the data to be downloaded. Must be number from 5 to 11. Vector not accepted.
vars	Vector of variable names to be kept for analysis. Default is to keep all variables.
labels	Logical value. If TRUE, categorical variables will be presented as factors with labels corresponding to the survey's dictionary.
deflator	Logical value. If TRUE, deflator variables will be available for use in the microdata.
design	Logical value. If TRUE, will return an object of class <code>survey.design</code> or <code>svyrep.design</code> . 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` or `svyrep.design` with the data from PNAD COVID19 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/investigacoes-experimentais/estatisticas-experimentais/27946-divulgacao-semanal-pnadcovid1?t=o-que-e>> and consult the other functions of this package, described below.

See Also

[read_covid](#) for reading PNAD COVID19 microdata.
[covid_labeller](#) for labeling categorical variables from PNAD COVID19 microdata.
[covid_deflator](#) for adding deflator variables to PNAD COVID19 microdata.
[covid_design](#) for creating PNAD COVID19 survey design object.
[covid_example](#) for getting the path of the PNAD COVID19 toy example files.

Examples

```
covid.svy <- get_covid(year=2020, month=5, vars=c("C001","C002"),
                      labels=TRUE, deflator=TRUE, design=TRUE, savedir=tempdir())
# Calculating proportion of people temporarily away from work
if (!is.null(covid.svy)) survey::svymean(x=~C002, design=covid.svy, na.rm=TRUE)
```

read_covid	<i>Read PNAD COVID19 microdata</i>
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Description

This function reads PNAD COVID19 microdata.

Usage

```
read_covid(microdata, vars = NULL)
```

Arguments

microdata	A comma-separated values file containing microdata from PNAD COVID19 survey, available on official website: (select a microdata file) - https://ftp.ibge.gov.br/Trabalho_e_Rendimento/Pesquisa_Nacional_por_Amostra_de_Domicilios_PNAD_COVID19/Microdados/Dados/ .
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/investigacoes-experimentais/estatisticas-experimentais/27946-divulgacao-semanal-pnad-covid1?t=o-que-e>> and consult the other functions of this package, described below.

See Also

[get_covid](#) for downloading, labeling, deflating and creating survey design object for PNAD COVID19 microdata.
[covid_labeller](#) for labeling categorical variables from PNAD COVID19 microdata.
[covid_deflator](#) for adding deflator variables to PNAD COVID19 microdata.
[covid_design](#) for creating PNAD COVID19 survey design object.
[covid_example](#) for getting the path of the PNAD COVID19 toy example files.

Examples

```
data_path <- covid_example(path="exampledata.csv")  
covid.df <- read_covid(microdata=data_path, vars=c("C001", "C002"))
```


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