Package: usincometaxes (via r-universe)

August 30, 2024

Title Calculate Federal and State Income Taxes in the United States

Version 0.7.1

Description Calculates federal and state income taxes in the United States. It acts as a wrapper to the NBER's TAXSIM 35 (<http://taxsim.nber.org/taxsim35/>) tax simulator. TAXSIM 35 conducts the calculations, while 'usincometaxes' prepares the data for TAXSIM 35, sends the data to TAXSIM 35's server or communicates with the Web Assembly file, retrieves the data, and places it into a data frame. All without the user worrying about this process.

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URL <https://github.com/shanejorr/usincometaxes>, <https://shaneorr.io/r/usincometaxes>

BugReports <https://github.com/shanejorr/usincometaxes/issues>

Depends R (>= 3.1)

Imports datasets, vroom, tibble, utils, V8

Suggests dplyr, ggplot2, knitr, rmarkdown, scales, testthat (>= 3.0.0), tidyr, tools

VignetteBuilder knitr

Config/testthat/edition 3

Encoding UTF-8

LazyData true

Roxygen list(markdown = TRUE)

RoxygenNote 7.2.3

Repository https://shanejorr.r-universe.dev

RemoteUrl https://github.com/shanejorr/usincometaxes

RemoteRef HEAD

RemoteSha 439e83e2991d15c6696e82016fe8a3001bf20e52

Contents

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usincometaxes-package   *usincometaxes: A package for calculating state and federal income taxes in the United States.*

Description

The usincometaxes package is a single function packages that calculates state and federal income taxes in the United State. It relies on the NBER's TAXSIM 35 tax calculator for the calculations. See https://taxsim.nber.org/taxsim35/ for more information on TAXSIM 35.

Author(s)

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See Also

Useful links:

- https://github.com/shanejorr/usincometaxes

- https://shaneorr.io/r/usincometaxes

- Report bugs at https://github.com/shanejorr/usincometaxes/issues

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create_dataset_for_taxsim

Convert a data frame to the TAXSIM 35 output.

Description

This function takes a data set that is in the format required for taxsim_calculate_taxes, checks it to make sure it is in the proper format for TAXSIM 35, and then cleans so it can be sent to TAXSIM 35. This function is useful for troubleshooting. It is not needed to calculate taxes. The function is useful if you continue receiving unreasonable errors from taxsim_calculate_taxes. In such as case, you can run this function on your data set. You should then save the resulting data frame as a csv file. Then, upload the file to TAXSIM 35.

Usage

```
create_dataset_for_taxsim(.data)
```

Arguments

.data   Data frame containing the information that will be used to calculate taxes. This
               data set will be sent to TAXSIM. Data frame must have specified column names
               and data types.

Details

[create_dataset_for_taxsim](#) takes the same columns as column names as [TAXSIM 35](#).

Value

A data frame that that can be manually uploaded to [TAXSIM 35](#).

Examples

```
family_income <- data.frame(
    taxsimid = c(1, 2),
    state = c('North Carolina', 'NY'),
    year = c(2015, 2015),
    mstat = c('single', 'married, jointly'),
    pwages = c(10000, 100000),
    page = c(26, 36)
)

family_taxes <- create_dataset_for_taxsim(family_income)
```

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get_state_soi   *Get state SOI from state name.*

Description

Converts state names or state abbreviations to numeric SOI codes, which are required for TAXSIM.

Usage

```
get_state_soi(state_column)
```

Arguments

state_column   Vectors containing the states to calculate taxes for. Generally, this is the state
               column from the data set that will be sent to TAXSIM.

Value

Named integer vector with each number between 1 and 51 representing the state's SOI. Names are the state's two letter abbreviation.

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taxpayer_finances   *Financial and household characteristics of 1,000 taxpayer units.*

Description

A data set containing financial and household characteristics of 1,000 taxpayer units. The data set was randomly generated and does not reflect real data. It is formatted and ready for use in the `usincometaxes` package.

Usage

```
taxpayer_finances
```

Format

A data frame with 1,000 rows and 16 variables. Variable definitions can be found in the following article: https://www.shaneorr.io/r/usincometaxes/articles/taxsim-input.html

Source

Created through random data generation.

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taxsim_calculate_taxes

Calculate state and federal taxes using TASXSIM 35.

Description

This function calculates state and federal income taxes using the TAXSIM 35 tax simulator. See http://taxsim.nber.org/taxsim35/ for more information on TAXSIM 35. The function uses a compiled WebAssembly (wasm) version of the TAXSIM app that is part of the package to calculate taxes. Details about generating the wasm file can be found here: https://github.com/tmm1/taxsim.js

Usage

```
taxsim_calculate_taxes(
  .data,
  marginal_tax_rates = "Wages",
  return_all_information = FALSE
)
```

Arguments

.data   Data frame containing the information that will be used to calculate taxes. This
                 data set will be sent to TAXSIM. Data frame must have specified column names
                 and data types.

marginal_tax_rates
                 Variable to use when calculating marginal tax rates. One of 'Wages', 'Long
                 Term Capital Gains', 'Primary Wage Earner', or 'Secondary Wage Earner'. De-
                 fault is 'Wages'.

return_all_information
                 Boolean (TRUE or FALSE). Whether to return all information from TAXSIM
                 (TRUE), or only key information (FALSE). Returning all information returns 42
                 columns of output, while only returning key information returns 9 columns. It
                 is faster to download results with only key information.

Value

The output data set contains all the information returned by TAXSIM 35, using the same column
names. Descriptions of these columns can be found at the bottom of the page containing TAXSIM
35's documentation.

Formatting your data

In the input data set, .data, each column is a tax characteristic (year, filing status, income, etc.)
and each row is a tax filing unit.

Columns should take the same names, and fulfill the same requirements, as those needed for
TAXSIM 35. Potential columns, with there names and descriptions, can be found at: http://taxsim.nber.org/taxsim35/.

The following columns are required: taxsimid, year, mstat, and state.

There are two points where taxsim_calculate_taxes departs from TAXSIM 35.

1. For filing status, mstat, users can either enter the number allowed by TAXSIM 35 or one of
   the following descriptions:

   - "single"
   - "married, jointly"
   - "married, separately"
   - "dependent child"
   - "head of household"

1. For state, users can either enter the SOI code, as required by TAXSIM 35, the two-letter state
   abbreviation, or the full name of the state.

It is OK if the input data set, .data, contains columns in addition to the ones that are used by
TAXSIM 35.

Giving credit where it is due

The NBER's TAXSIM 35 tax simulator does all tax calculations. This package simply lets users interact with the tax simulator through R. Therefore, users should cite the TASXSIM 35 tax simulator when they use this package in their work:

Feenberg, Daniel Richard, and Elizabeth Coutts, An Introduction to the TAXSIM Model, Journal of Policy Analysis and Management vol 12 no 1, Winter 1993, pages 189-194.

Examples

```
family_income <- data.frame(
    taxsimid = c(1, 2),
    state = c('North Carolina', 'NY'),
    year = c(2015, 2015),
    mstat = c('single', 'married, jointly'),
    pwages = c(10000, 100000),
    page = c(26, 36)
)


family_taxes <- taxsim_calculate_taxes(family_income)

merge(family_income, family_taxes, by = 'taxsimid')
```

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