

Package ‘HiddenSafetynet2025’

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Type Study Replication Package

Title HiddenSafetynet2025

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Description Replication Package for Hidden Safety Net of Underutilized Supplemental Insurance in US Agriculture.

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URL <https://github.com/you/HiddenSafetynet2025>

BugReports <https://github.com/you/HiddenSafetynet2025/issues>

Encoding UTF-8

Roxygen list(markdown = TRUE)

RoxygenNote 7.3.2

VignetteBuilder knitr

Depends R (>= 4.1.0)

Imports data.table, rfcip, future.apply

Remotes github::dylan-turner25/rfcip, github::UrbanInstitute/urbnmapr, github::dylan-turner25/rfsa

Suggests dplyr, tidyr, knitr, rmarkdown, mockery, withr, testthat (>= 3.0.0)

LazyData true

Cite-us If you find it useful, please consider starring the repository and citing the following studies

- Tsiboe, F. and Turner, D. (2025). ``Incorporating buy-up price loss coverage into the United States farm safety net." Applied Economic Perspectives and Policy.
- Tsiboe, F., et al. (2025). ``Risk reduction impacts of crop insurance in the United States." Applied Economic Perspectives and Policy.
- Gaku, S. and Tsiboe, F. (2024). Evaluation of alternative farm safety net program combination strategies. Agricultural Finance Review.

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`clean_rma_sco_and_eco_adm`*Build SCO/ECO/Area ADM table for a given year (adds SCO88/SCO90)*

Description

Downloads yearly ADM fragments from GitHub Releases for *Supplemental SCO*, *Supplemental ECO*, and *Area* plans, aggregates key parameters by common grouping keys, linearly interpolates SCO rates to 88% and 90% (using AYP and, for years ≥ 2021 , ECO anchors), and returns the cleaned, stacked table.

Usage

```
clean_rma_sco_and_eco_adm(year)
```

Arguments

`year` Integer. commodity year (e.g., 2022).

Value

A [data.table](#) containing original SCO/ECO/Area ADM rows plus synthesized **SCO88** (`insurance_plan_code + 10`) and **SCO90** (`insurance_plan_code + 20`) rows with non-invalid `base_rate`.

Note

Requires internet access. Missing plan files for a year are skipped silently.

`clean_rma_sobtpu` *Clean and enrich RMA Summary of Business (SOB) data*

Description

Processes RMA Summary of Business (SOB) data to produce an analysis-ready dataset with aggregated core insurance metrics and **shares** of Supplemental Coverage Option (SCO) and Enhanced Coverage Option (ECO) by coverage level.

Usage

```
clean_rma_sobtpu(  
  study_env = setup_environment(),  
  output_directory = "data-raw/data"  
)
```

Arguments

`study_env` A list-like environment produced by `setup_environment()` that must include `year_beg` and `year_end` (inclusive integers). Defaults to `setup_environment()`.

`output_directory` Character string specifying the directory where the processed `.rds` file should be saved. Defaults to `"data-raw/data"`. The file will be named `"cleaned_rma_sobtpu.rds"`.

Details

The output file will be written to `file.path(output_directory, "cleaned_rma_sobtpu.rds")`. The directory is created if it does not exist.

Value

A character message describing the processed year range and number of output rows; the main side effect is writing an `.rds` file to disk.

`setup_environment` *Setup Project Environment*

Description

Loads project settings, creates directories, sets R options and a random seed, and stores the analysis year range for the supplemental protection project.

Usage

```
setup_environment(year_beg = 2015, year_end = 2024, seed = 1980632)
```

Arguments

`year_beg` Integer. Beginning year of the analysis (default: 2015).

`year_end` Integer. Ending year of the analysis (default: 2024).

`seed` Integer. Random seed for reproducibility (default: 1980632).

Details

This function:

- Detects the operating system and sets a root `fastscratch` directory:
 - Windows - `"C:/fastscratch"`
 - Linux/macOS - `"/fastscratch/<username>"`
- Creates subdirectories for simulation results, expected values, draw-farm, and draw-cost outputs under `fastscratch/HiddenSafetyNet2025/output/`.
- Ensures `data-raw/data`, `data-raw/output`, and `data-raw/data/agentdata` exist in the project root.
- Sets R options:
 - `scipen = 999` - prefer fixed notation over scientific
 - `future.globals.maxSize = 8 * 1024^3` (~8 GiB)
 - `dplyr.summarise.inform = FALSE` - suppress summarise messages
- Sets the global RNG seed via `set.seed(seed)`.

Value

A named list with:

wd List of working directory paths (fastscratch + subfolders).

year_beg The starting year.

year_end The ending year.

Examples

```
env <- setup_environment(year_beg = 2015, year_end = 2024, seed = 42)
env$wd$dir_sim
env$year_beg
```

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