

Package ‘HiddenSafetynet2025’

September 6, 2025

Type Package

Title HiddenSafetynet2025

Version 0.0.0.9000

Author Francis Tsiboe [aut, cre] (<<https://orcid.org/0000-0001-5984-1072>>)

Maintainer Francis Tsiboe <ftsiboe@hotmail.com>

Creator Francis Tsiboe

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

License GPL-3 + file LICENSE

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

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.

Contents

clean_agents_data	2
clean_rma_sco_and_eco_adm	2
clean_rma_sobtpu	3
setup_environment	4

clean_agents_data	Clean agent-level data for a given year
-------------------	---

Description

Downloads, merges, and processes agent-level insurance data for the specified year. Combines revenue draws, calibrated yields, and RMA reference data, computes premium/subsidy measures, and saves the cleaned dataset as an RDS file.

Usage

```
clean_agents_data(  
  year,  
  cleaned_rma_sobtpu_file_path = "data/cleaned_rma_sobtpu.rds",  
  cleaned_rma_sco_and_eco_adm_file_path = "data/cleaned_rma_sco_and_eco_adm.rds",  
  output_directory = "data/cleaned_agents_data"  
)
```

Arguments

- year Integer. Commodity year to process (e.g., 2015).
- cleaned_rma_sobtpu_file_path Path to cleaned RMA SOB/TPU RDS file. Default: "data-raw/data/cleaned_rma_sobtpu.rds".
- cleaned_rma_sco_and_eco_adm_file_path Path to cleaned RMA SCO & ECO admin RDS file. Default: "data-raw/data/cleaned_rma_sco_and_eco_adm.rds".
- output_directory Directory to save output RDS file. Created if missing. Default: "data-raw/data/cleaned_agents_data".

Value

Returns the input year on success, with attributes for save_path and number of rows. Returns NULL on error.

Note

Requires **data.table**, access to GitHub-hosted RDS files, and the helper function `get_compressed_adm()`.

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	<i>Clean and enrich RMA Summary of Business (SOB) data</i>
------------------	--

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")
```

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". 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	<i>Setup Project Environment</i>
-------------------	----------------------------------

Description

Loads project settings, creates working directories (both under a fast scratch area and in the project), sets useful options(), fixes the RNG seed, and stores the analysis year range.

Usage

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

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).
fastscratch_root	Optional character. Root directory where intermediate files from simulations and estimations will be written for later aggregation. If NULL, it is set automatically based on the operating system: <ul style="list-style-type: none"> • Windows: "C:/fastscratch" • Linux/macOS: "/fastscratch/<username>"

Details

Creates these directories (if absent):

- Fast scratch tree (for large, intermediate outputs): <fastscratch_root>/HiddenSafetyNet2025/output/ with subfolders sims, expected, draw_farm, draw_cost.
- Project-local (for smaller, version-controlled artifacts): data/, data/output/, data/cleaned_agents_data/.

Sets:

- options(scipen = 999)
- options(future.globals.maxSize = 8 * 1024^3) (= 8 GiB)
- options(dplyr.summarise.inform = FALSE)
- set.seed(seed)

Requires the packages **future.apply**, **rfcip**, **data.table**, and **rfcipCalcPass**.

Value

A list with:

wd Named list of working directories (fastscratch root and subfolders).

year_beg Starting year (integer).

year_end Ending year (integer).

Index

`clean_agents_data`, [2](#)
`clean_rma_sco_and_eco_adm`, [2](#)
`clean_rma_sobtpu`, [3](#)

`data.table`, [3](#)

`setup_environment`, [4](#)
`setup_environment()`, [3](#)