

Replication files for “Rationalizing Rational Expectations: Characterizations and Tests”

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The R package `RationalExp` should first be installed, see the included `.tar.gz` file.¹ All functions in the package are documented and followed with an example. The package is also associated with a vignette available [here](#).

Instructions for replicating the simulations in the paper

1. The script `SIMULATIONS_without_x.R` contains the code to replicate the Figure 1 (Power curves) running the Monte-Carlo simulations without covariates X of Section 4. Figure 1 is plotted in a specific window by typing `x11()`.
2. The script `SIMULATIONS_with_x.R` contains the code to replicate the Figure S1 (Power curves) of the web appendix running the Monte-Carlo simulations with covariates of Section 5 of the Appendix. Figure S1 is plotted in a specific window by typing `x11()`.

As both Monte Carlo simulations are computationally intensive, we recommend using a large number of cores when running the script (*i.e.* the parameter `nbcores` on line 59 of both codes).

Instructions for replicating the empirical results in the paper

1. The application is based on two samples from the Survey of Consumer Expectations ([SCE](#)), namely the labor market module in March 2015 and July 2015 and the SCE micro data for this period. Both datasets are freely, publicly, and directly available. Note that these SCE data files are periodically updated. In the replication files we only include the treated dataset that we used in our analysis. The script that is used to generate this dataset from the SCE data is `prepare_data.R`.

The folder “data” contains the five datasets we use:

- `sub_data_real.Rdata` is obtained from the SCE labor microdata and includes realized earnings;
- `sub_data_exp.Rdata` is obtained from the SCE labor microdata and includes anticipated earnings;
- `sub_data.Rdata` is obtained from the SCE public microdata and includes individual characteristics and survey weights.

¹The package can also be downloaded from R CRAN [here](#).

- `data_1_sel.Rdata` merge `sub_data_real.Rdata` and `sub_data.Rdata`.
 - `data_2_sel.Rdata` merge `sub_data_exp.Rdata` and `sub_data.Rdata`.
2. **Important:** In the scripts below, the lines `path=""` should be modified by including the path to the codes folder.
 3. The script `descriptive_statistics.R` replicates the empirical results of Table 1 (Descriptive statistics of the SCE sample).
 4. The script `Appli_RationalExp_table2.R` replicates the empirical results of Table 2 (Tests of RE on annual earnings).
 5. The script `Appli_RationalExp_table3.R` replicates the empirical results of Table 3 (Direct test, our test, and combined test of RE on annual earnings). The column of the Full RE test is not computed as it corresponds to Column 4 of Table 2. To perform the combined test, it uses modifications of the code which are included in the file `test_combi.R`. Finally, Table S2 of the web appendix is also generated using `Appli_RationalExp_table3.R`.
 6. The script `Appli_RationalExp_tableS1.R` replicates the empirical results of Table S1 (Effect of the Winsorization on the RE tests).