PSA-R Guide

Peter Sun

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Setup R and RStudio

1. Download the latest version of R: https://www.r-project.org/
2. Download the latest version of RStudio Desktop: https://www.rstudio.com/products/rstudio/download/
3. Download the two PSA-R zip files under "R Syntax": https://ssw.unc.edu/psa/

Run the Code

1. To view the code output without running it, extract the "PSA-R_Output.zip" file and open "index.html"
2. To run an individual section:
   - Extract "PSA-R_Code_Data.zip"
   - Open "PSA-R.Rproj"
   - Open the desired section code in the file browser (e.g., "01_Section4.4.1.Rmd")
   - Click on "Run All"
3. To knit the entire book into HTML output, click on "Build Book"

How to Troubleshoot Errors

If a line of code using a certain package is not working, try installing an older version of that package. See the output of my `sessionInfo()` below for package versions that are known to be compatible with the PSA-R code. As of September, 2021, the latest versions of `PSweight` and `cobalt` do not work with the code anymore. Use the following code to install older versions of these packages:

```
packageVersion("PSweight")
detach("package:PSweight", unload = T)
remove.packages("PSweight")
library(devtools)
devtools::install_version("PSweight", version = "1.1.2",
                          repos = "http://cran.us.r-project.org")

packageVersion("cobalt")
detach("package:cobalt", unload = T)
remove.packages("cobalt")
library(devtools)
devtools::install_version("cobalt", version = "4.2.4",
                          repos = "http://cran.us.r-project.org")
```

PSA-R Session Info

The following output for `sessionInfo()` lists the package versions that are compatible with the PSA-R code.

```
> sessionInfo()
R version 4.1.1 (2021-08-10)
Platform: x86_64-w64-mingw32/x64 (64-bit)
Running under: Windows 10 x64 (build 19043)

Matrix products: default

locale:
[1] LC_COLLATE=English_United States.1252  LC_CTYPE=English_United States.1252
[3] LC_MONETARY=English_United States.1252 LC_NUMERIC=C
[5] LC_TIME=English_United States.1252

attached base packages:
[1] stats     graphics  grDevices utils     datasets  methods   base

loaded via a namespace (and not attached):
 [1] tidyr_1.1.3            VGAM_1.1-5             splines_4.1.1
 [4] carData_3.0-4          gtools_3.9.2           Formula_1.2-4
 [7] assertthat_0.2.1       stats4_4.1.1           coin_1.4-1
[10] cellranger_1.1.0       yaml_2.2.1             numDeriv_2016.8-1.1
[13] pillar_1.6.2           backports_1.2.1        lattice_0.20-44
[16] glue_1.4.2             digest_0.6.27          colorspace_2.0-2
[19] sandwich_3.0-1         htmltools_0.5.1.1      Matrix_1.3-4
[22] pkgconfig_2.0.3        broom_0.7.9            haven_2.4.3
[25] gmodels_2.18.1         bookdown_0.23          purrr_0.3.4
[28] mvtnorm_1.1-2          scales_1.1.1           gdata_2.18.0
[31] openxlsx_4.2.4         rio_0.5.27             tibble_3.1.4
[34] generics_0.1.0         car_3.0-11             ggplot2_3.3.5
[37] sjlabelled_1.1.8       ellipsis_0.3.2         cobalt_4.2.4
[40] TH.data_1.0-10         nnet_7.3-16            maxLik_1.5-2
[43] survival_3.2-11        magrittr_2.0.1         crayon_1.4.1
[46] readxl_1.3.1           MatchIt_4.2.0          evaluate_0.14
[49] fansi_0.5.0            MASS_7.3-54            forcats_0.5.1
[52] foreign_0.8-81         WeightIt_0.12.0        tools_4.1.1
[55] data.table_1.14.0      hms_1.1.0              mitools_2.4
[58] multcomp_1.4-17        matrixStats_0.60.1     lifecycle_1.0.0
[61] munsell_0.5.0          zip_2.2.0              systemfit_1.1-24
[64] compiler_4.1.1         rlang_0.4.11           grid_4.1.1
[67] Matching_4.9-9         miscTools_0.6-26       rbounds_2.1
[70] rmarkdown_2.10         codetools_0.2-18       gtable_0.3.0
[73] abind_1.4-5            DBI_1.1.1              curl_4.3.2
[76] R6_2.5.1               zoo_1.8-9              knitr_1.33
[79] dplyr_1.0.7            utf8_1.2.2             libcoin_1.0-8
[82] insight_0.14.3         sampleSelection_1.2-12 modeltools_0.2-23
[85] stringi_1.7.4          parallel_4.1.1         Rcpp_1.0.7
[88] vctrs_0.3.8            tidyselect_1.1.1       xfun_0.25
[91] PSweight_1.1.2         lmtest_0.9-38
```