Getting Started with R for Economists

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2025-01-06

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Preface

R is a free and powerful software environment for statistical computing and data visualization. It is widely used in academia and industry for data analysis and research. As one of the top programming languages for data science, R provides a variety of tools for statistical modeling, computing, and visualization.

Since empirical research is essential in economics, programming skills are crucial for conducting real-world data analysis. This textbook will introduce you to R and help you develop fundamental data science skills.

About This Book

This textbook is designed for beginners, providing a strong foundation in R for economic research. It focuses on **the tidyverse** ecosystem, a collection of R packages that provide a simple yet powerful approach to data analysis. You will learn how to use tidy tools to manage and analyze data efficiently, covering the entire lifecycle of a data science project.

1 Introduction to R and RStudio

1.1 Installing R and Rstudio

- **Step 1:** First download R freely from the Comprehensive R Archive Network (CRAN) https://cran.r-project.org/. (At the moment of writing, R 4.4.2 is the latest version. Choose the most recent one.)
- **Step 2:** Then install R Studio's IDE (stands for integrated development environment), a powerful user interface for R from [https://posit.co/download/rstudio-desktop/](https://posit.co/download/rstudio-desktop/. Get the Open Source Edition of RStudio Desktop. RStudio allows you to run R in a more user-friendly environment.
  - You need to install **both** R and Rstudio to use RStudio.
  - If you have a pre-existing installation of R and/or RStudio, I highly recommend that you reinstall both and get as current as possible.
- **Step 3:** Then open **Rstudio**.

1.1.1 Posit Cloud

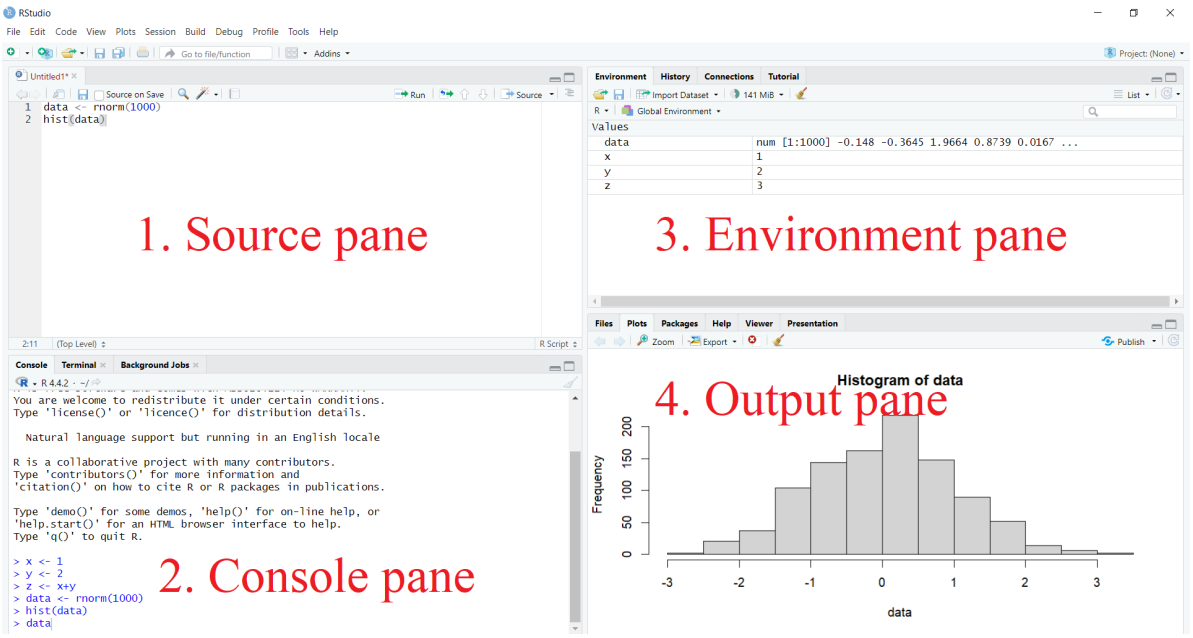
- In 2022, RStudio changed its corporate name to Posit with the aim of expanding its focus beyond R to include users of Python and Visual Studio Code.
- If you don't want to download or install R and R Studio, you can use RStudio on Posit Cloud (https://posit.cloud/) for free.

1.2 RStudio layout

The RStudio interface consists of four panes: See Figure 1)

1. **Source pane**
2. **Console pane**: This is where you type and run all your R commands.
3. **Environment pane**, containing the Environment, History, Connections, Build, and Tutorial tabs

4. **Output pane**, containing the Files, Plots, Packages, Help, Viewer, and Presentation tabs



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