

# Fundamentals of R

## Getting started with R

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# The world back then... (and now)



# Who are we?



*Henrique*



*Livio*

# Roadmap

- What is R?
- Course outline
- Installation and first (R)steps
- Case study

# What is R?

- Programming language and software developed in 1990s by Ihaka and Gentleman (see [Ihaka and Gentleman 1996](#)), but really only released in 2000...
- Open source with extensive and coherent set of tools for statistical analysis and programming
- More than a statistics software:
  - text analysis
  - web scraping
  - building websites
  - interactive apps
  - presentations (like this one)
  - and much more!

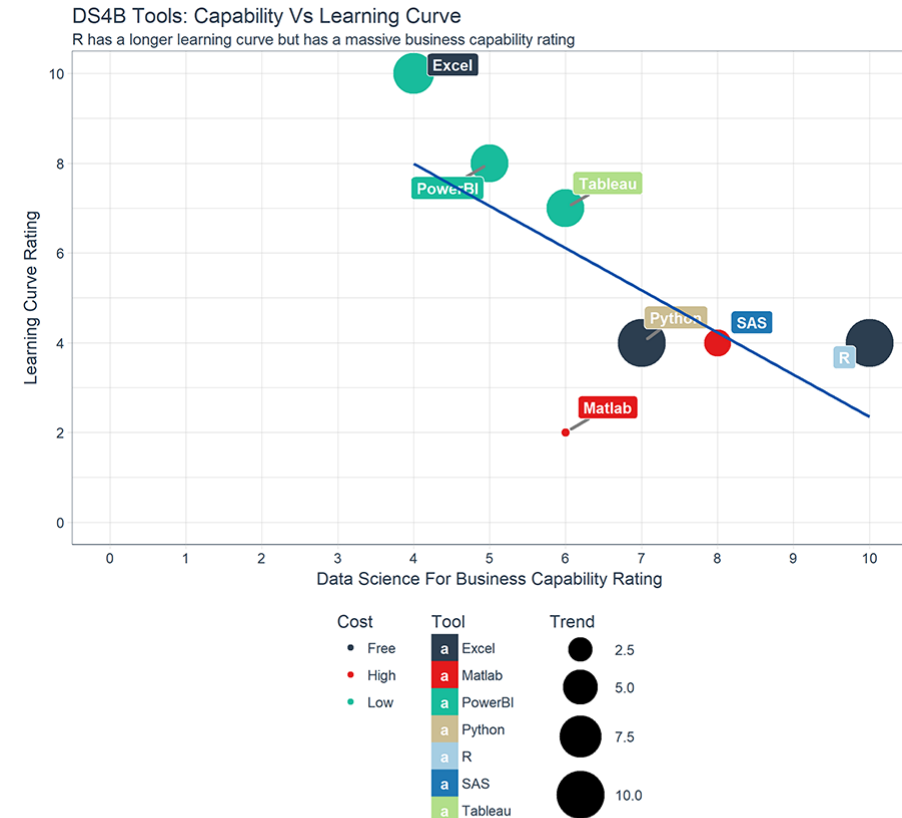


*Thank you RStudio (and [Hadley](#))!*

# Why R?

- R growth has been impressive, specially within academia and governments
- Fast(ish), Flexible, and Free
- Visualize, Communicate, Share, and Reproduce
- Thousands of packages
- Other programming languages can be integrated (as Python and C)

But the learning curve can be steep...



Why R? Tools like Excel, Tableau, PowerBI are easier to learn, but have lower Business Capability. Tools like Python, SAS, and Matlab have high Data Science Capability, but lack the visualization and interactive application tools needed for business. R has the best data science, visualization, and interactive tools plus it's free!

# Is this course for you?

## This course is not...

- a statistics course, but...
- a programming course, but...

## This course is...

- for beginners...
- for social science research ...

**No statistical software is a substitute for clear conceptual thinking, they are just tools (specially R).  
Thinking and data are compliments, not substitutes (Mesquita and Fowler 2021).**

# Course objectives

By the end of this course you should be able to:

- import data
- clean and wrangle data
- visualize variation
- produce reproducible reports

*Above all:*

- *continue to learn R on your own*
- *ask/find help online*



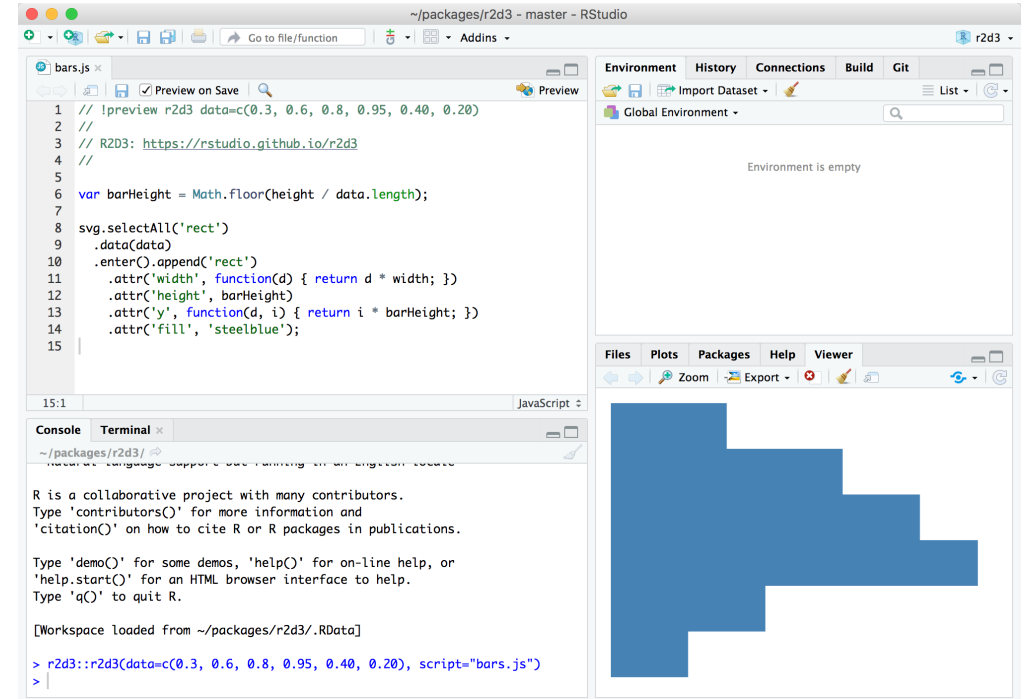
# How to... google

- R is collaborative
- Google, google, google (and stack overflow) until you make it!
- "How to (...) in R?"
- But if none of that works, ask in the Moodle and we will help



# The R(Studio) panes

- Console
- Source Editor
- Environment
- Plots (and files)



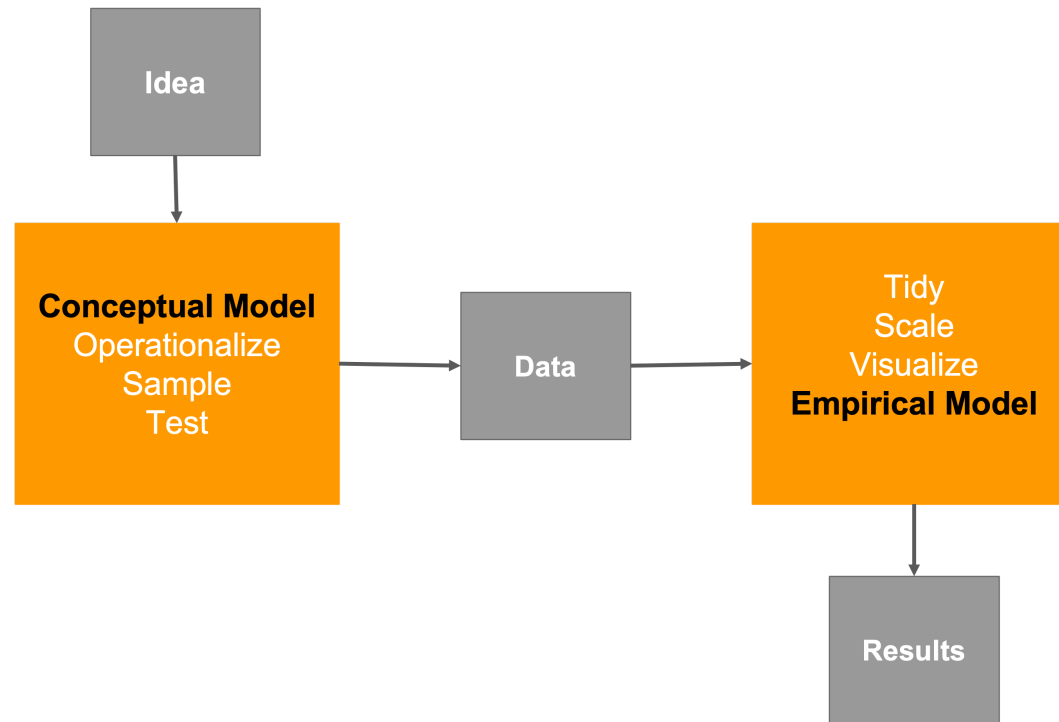
# Questions?

## Rstallation

- If you do not have R installed, let's install now!
- If you do have R installed already, take a 5 minutes brake...

# Case study

*Who makes international regimes possible?*



# References

Made with `{iheiddown}`, the R-package for IHEID publications (Hollway, 2021).

Hollway, J. (2021). *iheiddown: A package for writing IHEID documents in RMarkdown*. R package version 0.8.0.  
URL: <https://github.com/jhollway/iheiddown>.