

Introduction to R

Thomas J. Leeper

Department of Political Science and Government
Aarhus University

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1 The R Language

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Try on your own

Use R as a calculator:
Do the “Basic Math” tutorial

Tips

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- `↑` and `↓` cycle through your command history
- Page Up and Page Down control your screen
- `>` prompt means R is ready for a command
+ means your last command wasn't complete

Questions so far?

Your first analysis in R

- Load data
- Estimate 4 regression models
- Look at coefficients

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- Estimate 4 regression models
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- Data from:
Cusack, Iversen, Soskice. (2007). "Economic Interests and the Origins of Electoral Systems"
APSR 101(3):373–391.

Your first analysis in R

TABLE 3. Replication and Re-test of Boix's Model on the Choice of Electoral Rules in the Interwar Period

Dependent Variable:	(1)	(2)	(3)	(4)
Average Effective Threshold in 1919–1939	Replication Using Data Reported in Boix (1999)	Replication as in (1) but with 19 Cases	Replication Using our Timing and	Replication as in (3) but with Dominance-based Threat Score
Constant	31.30* (4.68)	32.79* (4.93)	29.64* (5.48)	24.54* (5.82)
Threat	-.134* (.049)	-.143* (.052)	-.101 (.059)	-.029 (.062)
Ethnic-linguistic division X area dummy	-33.16* (14.75)	-35.28* (14.74)	-35.18* (16.48)	-33.92 (17.84)
Adj. R-squared	.33	.37	.22	.09
SEE	10.57	10.50	11.71	12.67
Number of Obs.	22	19	19	19

* sig. at .05 level.

Note: Cols 2, 3, and 4 exclude Finland, Greece, and Luxembourg from the analysis.

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data = cis)
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lm3_3 <- lm(thresh~threat13 + fragdum,
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function(i)
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R Language Basics

- Everything in R is an “object”

Try on your own

Create variables:
Do the “Variables” tutorial

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- Everything in R is an “object”
- All objects have a “class”

Try on your own

Understand R data structures:

- “Vectors”
- “Vector indexing”
- “Matrices”
- “Lists”
- “Dataframes”

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- We execute functions on objects
 - Functions work differently (or not at all) on different classes
- Functions return objects *and* print to the console
- We can then do further things with those objects

Try on your own

Understand objects and printing:
Do the “Objects” tutorial

When things go wrong...

When things go wrong...

1 Don't panic

2 Parsing errors versus syntax errors:

- `Error: unexpected ')' in "lm(y ~)"`
- `Error in eval(expr, envir, enclos) :
object 'y' not found`

3 Google the error or warning

4 Use StackOverflow

A script editor makes your life easier...

- Helps you understand code more easily
- Work interactively to build a script
 - R script is like a Stata do file
 - File extension: `.R` or `.r`
- Write down all of your code
- Use comments (`#`) liberally

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