Introduction to Statistics
lab 9

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Data

This lab is based on the replication data for Ross (2004).[1] While Ross (2004) uses panel data –
a set of countries observed over a number of years – we will be using a cross-section – only one
year – for 1997. The data is available as `ross_1997.dta` on the teaching data page.

Multiple regression

We have earlier performed simple regression analysis, whereby there is only one independent vari-
able. As a refresher, the syntax is as follows, assuming a dependent variable **y** and an independent
variable **x**:

SPSS: `REGRESSION /DEPENDENT = y /METHOD = ENTER x.`

R: `summary(mdl <- lm(y ~ x, data = dt))`

Stata: `reg y x`

When there are multiple independent variables, e.g., **x1**, **x2**, and **x3**, this becomes:

SPSS: `REGRESSION /DEPENDENT = y /METHOD = ENTER x1 x2 x3.`

R: `summary(mdl <- lm(y ~ x1 + x2 + x3, data = dt))`

Stata: `reg y x1 x2 x3`

Democracy and corruption

1. Perform a regression analysis with corruption as the dependent variable and the level of
   democracy as the independent variable.

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[1]The data is available as Michael L. Ross, "Replication data for: Does Taxation Lead to Representation?",
`http://hdl.handle.net/1902.1/14305 UNF:5:8Ymx2XXoRulfSgFb5Xq1uQ==.`

2. Produce a scatterplot with regression line for these two variables.

3. Repeat the regression analysis adding at least four relevant control variables (not including region).

4. Consider for each of the control variables why you think this is a good variable to include.

5. Fully interpret the regression results—what does it tell yo uabout the relation between democracy and corruption?

Corruption and taxation

1. Perform a regression analysis with democracy as the dependent variable and the level of taxation (**taxes**) as the independent variable.

2. Produce a scatterplot with regression line for these two variables.

3. Repeat the regression analysis adding at least three relevant control variables.

4. Consider for each of the control variables why you think this is a good variable to include.

5. Fully interpret the regression results—what does it tell yo uabout the relation between taxation and corruption?

And more ...

Continue running relevant regressions and try to fully understand the output.

References

Ross, Michael. 2004. "Does taxation lead to representation?" *British Journal of Political Science* 34:229–249.