

## Supplemental Introductory Assignment

Do Exercise D2.3, using the United Nations social indicators data set in `UnitedNations.txt` (on the website for the *Applied Regression* text) and examining the relationship between the total fertility rate (treated as the response variable) and each of GDP per capita, female illiteracy, and contraception. Use the `scatterplot` function in the **car** package to examine these relationships. If you're working on your own computer, make sure to install the **car** package from CRAN, e.g., with the command `install.packages("car")`.

After starting R, you can proceed as follows:

- If you have an active Internet connection, you can read the data directly from the web site for the text,

```
UN <- read.table(
"http://socserv.socsci.mcmaster.ca/jfox/Books/Applied-Regression-2E/datasets/UnitedNations.txt",
header=TRUE)
```

- Alternatively, using a web browser, download the data file to your computer, and read it via

```
UN <- read.table(file.choose(), header=TRUE)
```

- Finally,

```
library(car)
scatterplot(tfr ~ GDPperCapita, span=0.5, data=UN)
scatterplot(tfr ~ illiteracyFemale, span=0.5, data=UN)
scatterplot(tfr ~ contraception, span=0.5, data=UN)
```

In each case, adjust the span of the local regression if necessary to obtain a smooth, but not over-smooth, fit. Optionally check out `?scatterplot` and explore some variations.

If you like, you may do this analysis using the R Commander:

- Start the R Commander with the command `library(Rcmdr)`. You must first install the **Rcmdr** package, e.g., by `install.packages("Rcmdr")`. The first time that it starts, the **Rcmdr** will ask to download packages on which it depends; you should allow it to do that.
- Select *Data* → *Import Data* → *from text file, clipboard, or URL*, change the data set name to UN (if you wish), and navigate to the location of the data file, `UnitedNations.txt` or enter the URL for the file.
- Select *Graphs* → *Scatterplot* from the menus and complete the dialog box appropriately to make each scatterplot.

Submit the three graphs that you draw, along with your commentary (don't forget the commentary!).