EC 361–001

R Practice 3

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INSTRUCTIONS: `R Practices` have the purpose of making students comfortable with the basics of R and RStudio for empirical macroeconomic analysis.

In this practice, you will apply the *data manipulation* techniques you've learned in the last video lecture to macroeconomic data.

Have fun!

Problem 1

In the `us_gdp_data.csv` file (available for download on `theSpring`—see `Data Files` folder), you will find data on several GDP components for the U.S. economy between 2008Q1 and 2022Q4 (notice that "Q" stands for quarter).

After loading the `{tidyverse}` package, import this data set into your RStudio environment. Call it `gdp_data`.

Then, make sure to check out its columns. These are GDP components extracted from the National Income and Product Accounts (NIPA) tables.

After you are all set up, answer the following questions:

(a) Create a new column, called `consumption`, adding up the specific components of aggregate consumption. Update your object, and call it `data_a`.

(b) From your `data_a` object, now create a new column, called `net_exports`, where you calculate the trade balance for the U.S. economy in each year. Update your object, and call it `data_b`.

(c) From your `data_b` object, now create a new column, called `total_govt_expenditures`, where you calculate aggregate government expenditures for the U.S. economy in each year. Update your object, and call it `data_c`.

(d) Notice that aggregate investment is missing from this table. Calculate its value for each year, calling this new column `investment`. Update your object, and call it `data_d`.

(e) From your `data_d` object, in what year and quarter were `imports` the smallest?

(f) From your `data_d` object, in what year and quarter were `exports` the largest?

(g) From your `data_d` object, in what year and quarter was `consumption` the largest?

(h) From your `data_d` object, in what year and quarter was `investment` the smallest?