Week 9 Programming Assignment

Instructor: Chien-Hao Fu

4/18/2019

Due: 4/24/2019

Preparation

1. Download the file "tax_data.xls" from the course website
2. Import the files and save the imported data as "taxdata"
    - Hint: use the function `read_excel` from the package `readxl`
3. Load the package tidyverse

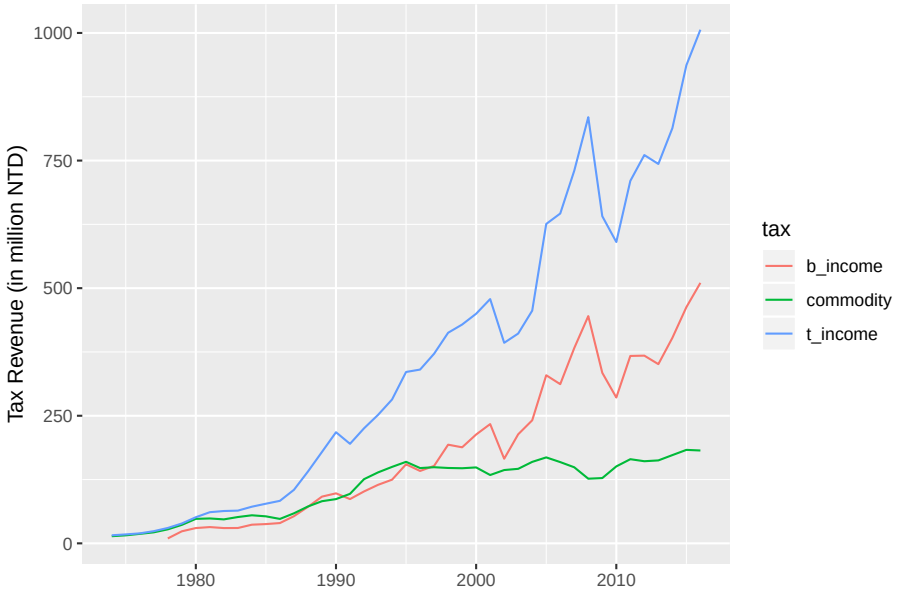
Description of the data file

Variable	Description
total	總計
customs	關稅
t_income	所得稅
b_income	營利事業所得稅
ind_income	綜合所得稅
estate_gift	遺產及贈與稅
estate	遺產稅
gift	贈與稅
commodity	貨物稅
sec_tranc	證券交易稅
futures_tranc	期貨交易稅
tob_alc	菸酒稅

Variable	Description
excise	特種貨物及勞務稅
bussiness	營業稅
mine	礦區稅
land	土地稅
farm	田賦
land_val	地價稅
land_vat	土地增值稅
house	房屋稅
veh_lic	使用牌照稅
deed	契稅
stamp	印花稅
amusement	娛樂稅
misc	特別及臨時稅課

Programming Assignment

Goal: Draw a line chart for tax revenue that is similar to the following:



Instruction

1. Select two to three taxes of your interests and keep only the relevant variables and the column `year`
    - Hint: use `select()` to select variables
2. Transform the data into a long table
3. Draw a line graph using `ggplot`
    - Hint: Use `geom_line()` to plot the variables. Map `x` to `year`, map `y` to the value of tax revenue, and map `color` to the type of taxes
4. Export your chart with appropriate height and width
5. Submit your picture (PNG) and R codes to the course website

Bonus tasks

1. Custimize the labels for the x- and y-axis using the `labs()` function in `ggplot`
2. Change the unit of the y axis in the `aes()` function
3. Use the piping operator `%>%` to simplify your code