ME2720 Macroeconomics for Business

Assignment 3
Consumption, Prices and Economic Policy

Deadline: December 5, 2017 at 13:15[†]

General Comments & Instructions

In most empirical exercises it is hard to find the exact variable you are looking for. Presumably, you will need to make assumptions in order to solve questions[1]. Of course you should clearly state (and motivate!) your assumptions so that others can evaluate your work. Also, do not forget to document which methods and formulas were used to perform calculations, as we all know that different formulas yield different results! Finally, note that an important part of this exercise is to offer economic interpretations of your results.

All teams are required to solve at least 3 of the 5 exercises in Assignment 3. If it is your turn to present the solutions to a particular exercise in class then you need to send me your presentation slides a day in advance (December 3, before 13:15).

Last but not least, the solutions that you hand in must be comprised in ONE coherent *pdf*-file, supplemented with ONE Excel file, or alternatively with the code of the programming language you used, where all calculations must be easy to follow. The *pdf*-file should be easy to read, logically structured, and it must clearly show what you have done and which databases you have used.

[†]Submission to luis.perez@indek.kth.se.

[1]For instance, you are interested in the total number of workers in the economy but such data are not available. Then, it might be a good idea to look at the total population aged 18−64 as it represents the population that could *legally* work.

Presentations

(1) Government Size and Economic Growth
Group 7: Adrian Ekström, Oliver Hollingsaeter, Mathias Nilsson

(2) MPCs and Keynesian Multipliers
Group 1: Arian Kalantari, Christopher Roberts, Ian Sandholm

(3) The Phillips Curve
Group 8: Filip Hedman, Negin Nayeri, Karl Johan Tegner

(4) Inflation
Group 4: Greta Olsson-Lööf, Anna Palsdottir, Aleksandra Vojcic

1 Government Size and Economic Growth

Different types of investments (in education, in research, etc.) are imperative for economic growth. But, without a government that protects private property and enforces law, incentives to invest would be rather small. However, having a government that is too big will also be negative for investments due to the large taxes it needs to collect. According to this reasoning, we may expect a non-linear relationship with an inverted-U shape between real GDP per capita growth and the overall tax pressure[2]. Use data for as many countries as possible to assess this claim and present your results in a scatter plot, including a trend line from a fitted second-order polynomial. Base your scatter plot on the average growth rate and average tax pressure over a sufficient number of years. What is the optimal size of government according to your results? Motivate!

2 MPCs and Keynesian Multipliers

Randomly select six OECD countries and estimate the marginal propensity to consume[3] and the income multiplier for each country (see page 215 in the book). You need to do the calculations yourself and are not allowed to just pick somebody else's estimates. Make sure to provide comments. Are your results plausible? If all governments increase spending by 10,000 millions (in the corresponding monetary unit), which country will experience the highest increase in income?

[2] *Hint*: You can use taxes as a percentage of GDP as a proxy for the tax pressure.

[3] *Hint*: You will need data for several years in order to estimate MPCs using regression analysis.

3 The Phillips Curve

Consider the six OECD countries randomly selected in Exercise 2. Provide one scatter plot per country showing the Phillips curve (see Figure 1). Also include a suitable trend line in each graph in order to facilitate interpretation. Use as long time series as possible. Further see if there has been a shift in the Phillips' curves between the early time period and the late time period in your sample. Make sure to provide comments. Note that you may use price inflation instead of wage inflation.

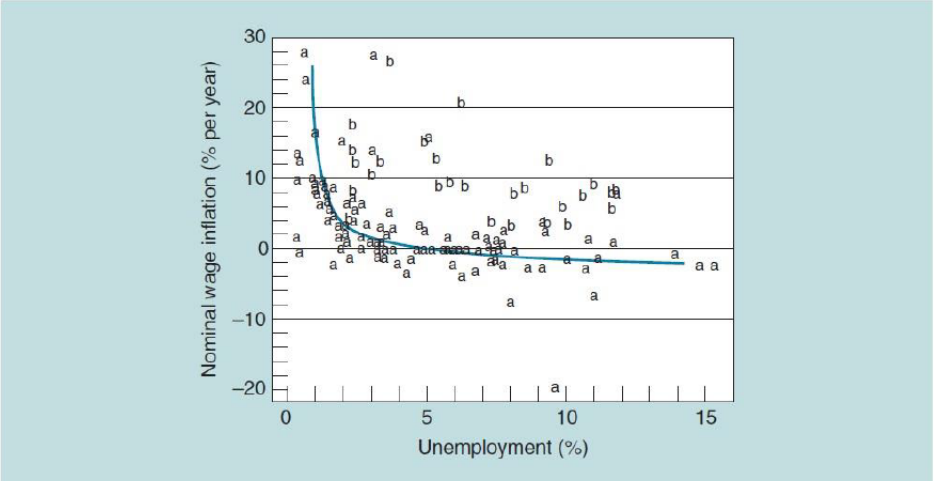

Figure 1: The Phillips Curve

4 Inflation

Countries with high inflation rates also tend to have very volatile inflation. Use data from a random sample of 30 countries to assess this claim both visually by using a scatter plot (see Figure 2) and analytically by using regression analysis. Use the most recent inflation rates available. Make sure to provide comments.

5 Your choice!

Make a short macroeconomic analysis of whatever topic you are interested in!

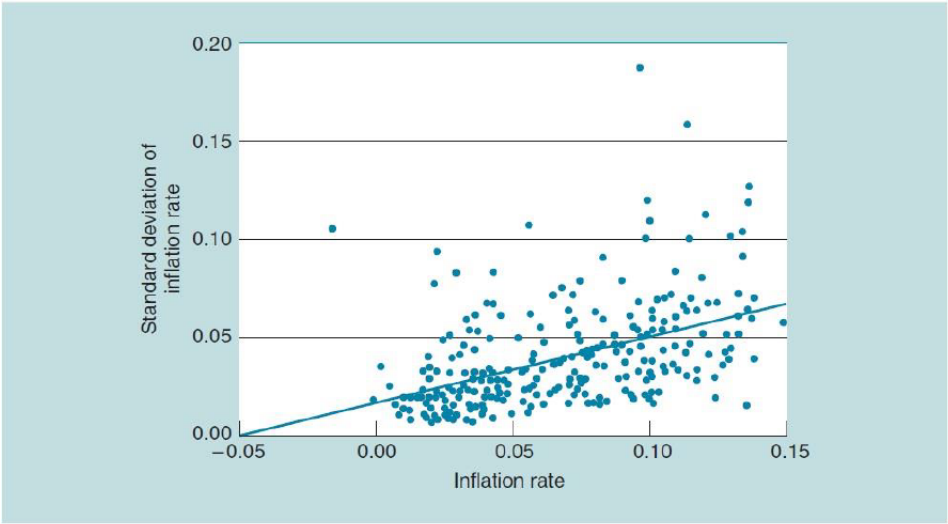

Figure 2: Inflation and inflation volatility