TOBB-ETU, Economics Department

Macroeconomics I (IKT 233)

2020/21 Summer Term-Homework 1

(Due on Tue, June 22, 16:30 pm)

1. The Quantity Theory of Money is expressed by the following identity

$$M * V = P * Y,$$

where Y is the Real GDP, P is the GDP Deflator, V is the Income Velocity of Money, and M is a measure of money supply. In percentage-change form, the same equation can be written as

$$\begin{aligned} &\%\text{ Change in M} + \%\text{ Change in V} \\ = \quad &\%\text{ Change in P} + \%\text{ Change in Y} \end{aligned} \tag{1}$$

Use the EVDS (elektronik veri dağıtım sistemi) of CBRT (Türkiye Cumhuriyet Merkez Bankası) and collect data for M, P and Y. Then by using Equation (1) calculate changes in the velocity of money over time. To do so, you can use CPI (TUFE) based inflation instead of GDP deflator, and you can use M1 as a measure of M. The data for M1 are available under "Para Arzi" statistics of EVDS. Note that the variables in (1) may have different data collection frequencies. You can use EVDS website to bring them into the same frequency (quarterly for instance).

2 Use the World Bank Data set to generate graphs for the growth rate of GDP per capita (in constant prices, whether it is US dollars or LCU, local currency unit) over time of five developed, five developing countries, and five under-developed (African for instance) countries. Are your results consistent with the prediction of the Solow-Swan model?