
Macroeconomics
Winter term 2023
Tutorial 5

1. Assume a closed economy in which there are no subsidies, only households save but do not invest and companies use all loopholes to avoid paying taxes.
 - (a) How many poles does this economic cycle have?
 - (b) Draw the economic cycle with the remaining interdependencies.
 - (c) Set up the equation for each pole based on the circular flow axiom.
 - (d) There are a total of 8 individual variables to be determined, how many variables must be known numerically so that in principle the still undetermined variables can be determined meaningfully.
 - (e) Assume that companies pay twice as much in wages as the state with a total wage bill of 3000 billion euros. Private consumption and taxes correspond to half the wage bill with a wage tax rate of $3.\bar{3}\%$ is 1400 billion euros and household taxes are 100 billion euros. Determine the share of savings in household income in the country and the maximum level of government consumption. Why is it not possible to determine all the variables with the information provided so far?
 - (f) Assume that government investment in the course of the energy transition and digitalization is four times as high as corporate investment. Determine all other variables under this assumption.
 - (g) Determine the GDP in this economy.
 - (h) Next year, consumer prices will rise by 15%, while the quantities consumed will remain the same. In the case of investments, both quantities and prices will rise by 10% and there will be no change in government spending. Determine nominal and real economic growth, as well as the rate of change of the GDP deflator.
 - (i) Under these extreme conditions, households complain about a negative real interest rate of -4.5%. Is the nominal interest rate therefore above or below 10%?
 - (j) Identify the previously determined nominal interest rates as the long-term interest rates in the country. Short-term interest rates should be 8%. What is the minimum liquidity premium in percentage points if economic expectations look gloomy and the augurs expect the central bank to act accordingly?