

Macroeconomic Policy Homework I (aka exercise set 5)

Please write full answers to questions 1 and 2 and put your homework in the course work post box outside room CB 304 by 5 p.m. Wednesday 1st of November. You can replace either question 1 or 2 (but not both) with question 3 if you find them too difficult. Question 3, though, is worth only 35 points rather than 50. You are strongly encouraged to work in groups if you so like (you will get full marks anyway). If you do so, please write the names of the other members of the group so that I do not have to mark the same work various times!

1. Assume workers' labour supply is perfectly elastic at the exogenous nominal wage \bar{w} (of course this means that workers do not care about their real purchasing power). All markets are competitive and firms maximize profits subject to the production function $Y = F(L)$. The IS and LM curves have the standard form. Expected inflation equals zero. The Bank of England keeps the interest rate constant by supplying any amount of money that agents may demand.
 - Define the economic equilibrium.
 - Explain what variables are determined on what markets.
 - What is the effect of an increase in the nominal wage \bar{w} on the equilibrium value of endogenous variables? Does the Classical dichotomy hold?
2. Use the simple version of Fischer's theory of consumption in the lecture notes.

Individuals live for two periods and are endowed with Y units of the consumption good when young and nothing when old. In the absence of government intervention, they can neither borrow nor lend as there are no financial assets in the economy. Furthermore, individual cannot even save by storing the good between one period and the other as it melts away if it is not consumed within the current period.

The government can intervene in three possible ways.

1. Stand willing to exchange government-printed pieces of paper (money) for units of the consumption good and viceversa at any time, subject to the constraint that individuals cannot consume more than Y over their lifetime. The rate of exchange is one piece of paper for one unit of the consumption good.
2. Issue bonds that yield a real interest rate equal to r . (The government has access to a technology that transforms each unit of the consumption good today into $1 + r$ units of consumption good tomorrow).
3. Impose a lump-sum pension contribution τ on all present and future young generations and pay to all present and future old generations a pension equal to $(1 + \gamma)\tau$, where γ is the ratio of young to old people (i.e. the government uses the contributions of young people to pay their parents' pensions).

Which form of government intervention maximizes individual welfare: a, b, c or none? What is the intuition behind your findings? Be careful in distinguishing the effect on welfare for the generation of currently young and old people.

3. "Given that consumption is a function of lifetime, rather than current, disposable income, taxes are not a viable tool for short run stabilization policy. Temporary changes in taxes have only negligible effects on consumption." Using the two-period intertemporal model of consumption presented in the lectures, and assuming that $Y_2 = 0$, argue for or against this statement.