INTERMEDIATE MACROECONOMICS 721346A
1. Exam 18.12.2017
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1. Determine whether following statements are true or false. Right answer is worth 0.5 points and wrong answer costs 0.5 points. The total points cannot be negative however. There is a single right answer to each item.

    1. Current account includes net exports and net factor payments from abroad.
    2. The government purchases of national income accounts include e.g. defense costs, costs of public education and unemployment benefits.
    3. Ricardian equivalence does not hold if there is proportional taxation of labor income.
    4. In Keynesian macroeconomic models monetary policy does not affect the real economy at all.
    5. Keynesian macroeconomic models usually include some price rigidities in the short run.
    6. In general equilibrium macro models fiscal policy has no effect on the economy.
    7. Keynesian economists typically believe that marginal propensity to consume is greater than unity.
    8. The ratio of government debt to GDP does not necessarily increase even if the government runs a primary deficit.
    9. Central banks typically use changes of reserve requirements in their day-to-day control of the money supply.
    10. According to Fisher equation there is an approximate relation $r = R - i$ between nominal interest rate $R$, real interest rate $r$ and inflation rate $i$.
    11. Unemployment rate means the ratio of unemployed people to labor force.
    12. Production function $F(K, N) = K^{0.3}N^{0.5}$ has constant returns to scale.

2. Assume a household utility function $U(c, c')$ which depends on current consumption $c$ and future consumption $c'$. Utility function has the usual properties, e.g. it is increasing in both arguments and has decreasing marginal utilities. The periodic budget constraints of the household are

$$\begin{aligned} c + s &= y \\ c' &= (1 + r)s + y', \end{aligned}$$

where $s$ is savings, $r$ is real interest rate, $y$ is current income and $y'$ is future income.

a) What is the lifetime budget constraint of the household?

b) Draw the lifetime budget constraint of the household and some indifference curves. Label the axis and the slope of the budget constraint.

c) Analyze graphically how an increase in current income $y$ affects current consumption $c$ of a household which is initially a lender.

d) Analyze graphically how an increase in real interest rate $r$ affects current consumption $c$ of a household which is initially a lender.

3. a) What is meant by *lump-sum taxes*?

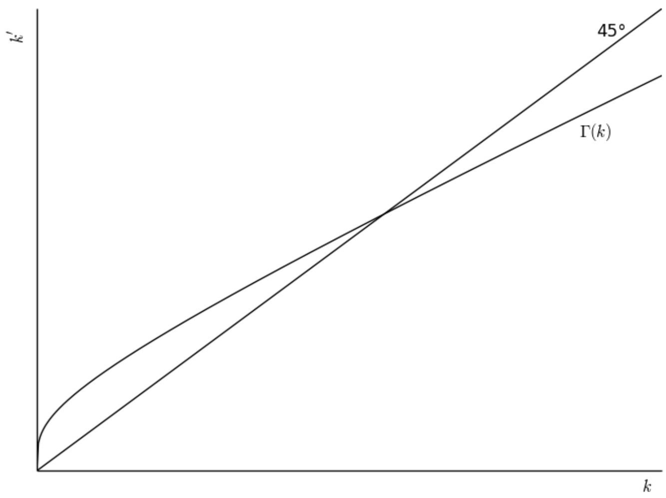
b) What is meant by the *Laffer curve*?

c) What is meant by *government expenditure multiplier*?

4. Assumptions of the basic Solow model imply law of motion of capital

$$k' = \frac{szf(k)}{1+n} + \frac{(1-d)k}{1+n}$$

where $k'$ is future capital per capita, $k$ is current capital per capita, $s$ is savings rate, $z$ is total factor productivity, $n$ is population growth rate and $f$ is production function in per capita form. Following figure, where $\Gamma(k)$ denotes the right hand side of the law of motion, describes the dynamics of capital per capita. Assume that economy is initially




in steady state and at given point of time savings rate $s$ increases permanently.

   a) Show graphically how steady state of capital per capita changes.
   b) Sketch the trajectory of capital per capita (i.e. draw a figure with time on $x$-axis).
   c) How is growth rate of the economy affected by the increase of $s$, in the long-run and in the short-run?

5. How does an increase of money supply affect the macroeconomy in the short-run and in the long-run? Compare the views of different schools of thought.