MACROECONOMICS COLLECTION PAPER

TRINITY TERM 2020

Total time allowed: 3 hours

Please start the answer to each question on a separate page.

There are EIGHT questions in this paper.

Answer ALL short questions from Part A and TWO long questions from Part B.

Part A attracts 40% of the marks in total and within part A all questions carry equal weight; each question in part B attracts 30% of the total marks.

Candidates may use their own calculators.

Do not turn over until told that you may do so.
PART A

Answer ALL questions in this section.

1. Consider a closed economy IS-PC-MR model. There is a one period lag in the effect of real interest rates on output in the IS curve and the Phillips Curve is based on adaptive expectations for inflation. Suppose that in period $t$ (and in advance of interest rates being set for period $t$) the central bank announces that the inflation target is to be reduced from 2% to 1% with immediate effect.

   (i) Explain the adjustment of real interest rates, output and inflation from period $t$ until the time that the new inflation target is achieved. (50%)
   (ii) Sketch and explain the paths followed by involuntary unemployment and voluntary unemployment from period $t$ until the time that the new inflation target is achieved. (50%)

2. Consider the Solow growth model. The rates of capital depreciation, population growth and technological progress are all positive and the economy is initially in steady-state.

   (i) Suppose that the saving rate increases. Use the standard Solow diagram to show how the new saving rate changes the steady-state level of capital per effective unit of labour. (40%)
   (ii) Using a diagram with time on the horizontal axis, sketch the path of consumption per effective labour unit as it adjusts from the old steady-state to the new steady-state. Provide intuition for the adjustment path that you sketch. (60%)

3. Consider an inter-temporal consumption model with infinite horizon consumers and perfect capital markets.

   (i) Explain why consumption is a function of wealth, including human wealth. (50%)
   (ii) Assume that utility takes the form $u(c_t) = 1 - e^{-c_t}$, where $c_t$ is consumption in period $t$. Write down the consumption Euler equation in this case. Will there be precautionary saving by consumers in this case? (30%)
   (iii) Explain whether Ricardian Equivalence will hold when there is precautionary saving by consumers. (20%)
PART B

Answer **TWO** questions from the five in this section.

4. Discuss the advantages and disadvantages of replacing a central bank inflation target with a target for the path of nominal GDP.

5. “When responding to an exogenous cost-push shock a central bank in a closed economy will have to change the real interest rate by a larger amount than will a central bank in an open economy.” Discuss.

6. In models of economic growth, how is globalization expected to affect income convergence between and within nations?

7. Consider an economy that is well described by a standard RBC model. Assume that labour income and capital income are taxed at an equal rate, $\tau_t$, which might change over time ($t$ denotes a time period). Assume that tax revenues are used by the government to finance some constant government expenditures; government expenditures do not affect households’ utility, nor firms’ production functions.

   i. Describe how the economy responds to a temporary positive shock to technology. In what way does the answer differ when $\tau_t = 0$ for all $t$ compared with the case where $\tau_t > 0$ for all $t$? (60%)

   ii. Compare the effects on the volatility of output, consumption and employment of a policy that keeps the tax rate constant versus one that balances the budget in every period. (30%)

   iii. Explain whether the government, in this economy, should change the tax rate in a countercyclical manner. (10%)

8. Discuss political economy explanations for the existence of an upward bias in public debt relative to the level justified by intertemporal theories of debt management and tax smoothing. What are the costs when public debt is too high? Discuss the advantages and disadvantages of the Maastricht norms for the ratios of the budget deficit and public debt to GDP.

LAST PAGE