UNIVERSITY OF WARWICK

Summer Examinations 2015/16

Applied Macroeconomics

Time Allowed: 1.5 Hours

Answer TWO questions in Section A and TWO questions in Section B. All questions carry equal marks (25 marks each). Separate answer books are required for Section A and Section B.

Read carefully the instructions on the answer book provided and make sure that the particulars required are entered on each answer book. If you answer more questions than are required and do not indicate which answers should be ignored, we will mark the requisite number of answers in the order in which they appear in the answer book(s): answers beyond that number will not be considered.

Section A: Answer TWO Questions

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1. Consider a New Keynesian model defined by the following three equations:

$$\text{Aggregate Supply:} \quad \pi_t = \beta \mathbb{E}_t \{\pi_{t+1}\} + \kappa \left(\hat{y}_t - \Gamma^{NC} \hat{g}_t\right) \tag{1}$$

$$\text{Dynamic IS:} \quad \hat{y}_t - \hat{g}_t = \mathbb{E}_t \{\hat{y}_{t+1} - \hat{g}_{t+1}\} - \sigma \left(i_t - \mathbb{E}_t \{\pi_{t+1}\} - \rho\right) \tag{2}$$

$$\text{Monetary Policy Rule:} \quad i_t = \max \{0, \phi(\pi_t, \hat{y}_t)\} \tag{3}$$

Assume that a government policy shock obeys the following process:

$$\hat{g}_{t+1} = \rho^g \hat{g}_t$$

(a) Assume that monetary policy obeys a policy rule such that the nominal interest rate is kept constant:

$$i_t = \rho.$$

Under this policy regime, find the multiplier for government spending, Γ_g and briefly comment on its size. **(10 marks)**

(Question 1 continued overleaf)

(b) Briefly outline the transmission mechanism of fiscal policy, taking into account the interaction between discretionary fiscal policy and the stance of monetary policy. **(5 marks)**

(c) Succinctly describe the transmission mechanism of conventional monetary policy using the model described above as your frame of reference. Assuming full fiscal backing of the monetary authority, identify and explain the differences, if any, between *quantitative* and *credit* easing. **(10 marks)**

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2. Consider a New Keynesian model defined by the following three equations:

$$\text{Aggregate Supply:} \quad \pi_t = \beta \mathbb{E}_t \{\pi_{t+1}\} + \kappa \left(\hat{y}_t - \Gamma^{NC} \hat{g}_t\right) \tag{4}$$

$$\text{Dynamic IS:} \quad \hat{y}_t - \hat{g}_t = \mathbb{E}_t \{\hat{y}_{t+1} - \hat{g}_{t+1}\} - \sigma \left(i_t - \mathbb{E}_t \{\pi_{t+1}\} - \rho\right) \tag{5}$$

$$\text{Monetary Policy Rule:} \quad i_t = \max \{0, \phi(\pi_t, \hat{y}_t)\} \tag{6}$$

Assume that a government policy shock obeys the following process:

$$\hat{g}_{t+1} = \rho^g \hat{g}_t$$

(a) Assume that monetary policy obeys a policy rule such that the **real** interest rate is kept constant:

$$i_t = \rho + \mathbb{E}_t \{\pi_{t+1}\}.$$

What is the government expenditure multiplier, Γ_g, in this case? **(5 marks)**

(b) Find the government expenditure multiplier in the IS-LM model when the monetary policy rule is such that real interest rates stay constant. Describe the transmission mechanism for the multiplier you found in (a) and compare it to the IS-LM multiplier. **(10 marks)**

(c) Assume that the balance sheet of the monetary authority is given by the following equation:

$$\tau_t^g = m_t - \frac{m_{t-1}}{1+\pi_t} - \left(b_t^m - \frac{1+i_{t-1}}{1+\pi_t} b_{t-1}^m\right), \quad \tau_t^g, \geq 0$$

where the constraint on the size of τ_t^g indicates that while the monetary authority transfers profits to the fiscal authority, there is no fiscal backing of the central bank. Denoting

$$s_t^m = m_t - \frac{m_{t-1}}{1+\pi_t},$$

(Question 2 continued overleaf)

solve the equation forward for b^m_{t-1}. What happens when there is a partial default on assets previously purchased by the monetary authority under a *quantitative easing* programme, so that the new value of the debt, $b^{*,m}_{t-1}$, is such that $b^m_{t-1} \geq b^{*,m}_{t-1}$?
(10 marks)

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3. Assume that the government's budget constraint is given by:

$$b_t = b_{t-1} + r_{t-1}b_{t-1} - s^f,$$

where b_t is the value of government debt carried over from period t to period $t+1$, r_{t-1} is the interest rate paid on government debt held in period t but determined in period $t-1$ and s^f is the government surplus, which the government sets to an exogenous value with $s^f < r_{t-1}b_{t-1}$.

(a) Solve the government's budget constraint forward to get a value for b_{t-1}, which is the value of current government debt today under the assumption that the central bank sets policy so as to ensure that $r_{t-1} = r_t = r$. **(10 marks)**

(b) Briefly describe the type of fiscal policy the government follows, under the same assumption over the stance of monetary policy as described above. **(5 marks)**

(c) In the New Keynesian model, forward guidance has a very large impact on the output gap and inflation, and the impact of policy announcements is stronger the further out in the future these changes will occur. In contrast, *quantitative easing* does not, in standard models, have any impact on equilibrium allocations. Briefly explain how these results can be reconciled with empirical findings suggesting that *quantitative easing* has a small to moderate impact on inflation and output. **(10 marks)**

(Continued overleaf)

Section B: Answer TWO questions

4. The literature on institutionalist explanations of cross country differences in income per capita has thrived in recent times among economists. There are two main hypotheses discussed in this literature. One asserts that greater enforcement of the rule of law has positive developmental effects and the second is that economic liberalisation is always and everywhere good for growth.

(a) Discuss the main criticisms to these two hypotheses. **(13 marks)**

(b) Comment on the problems inherent in the empirical evidence of cross-country regressions on which this literature is based. **(12 marks)**

5. That institutions co-vary with political and economic inequality seems obvious, however there are different views on the direction of causality. While most economists and political scientists argue that institutions affect inequality, a second line of more recent work has argued the opposite causal direction i.e. inequality affects institutions.

(a) Explain the main arguments for both views. **(10 marks)**

(b) Are there alternative theories that explain the observed correlation between institutions and inequality? Discuss. **(10 marks)**

(c) What are the problems that economists (and other social scientists) may encounter when using regression analysis to analyse the direction of causality between institutions and inequality? **(5 marks)**

6. Some authors are sceptical about the redistributive advantages of "government-initiated" land-reforms; these authors argue in favour of more "market-oriented" land reforms that secure property rights and enhance the operation of factor markets.

(a) Discuss the advantages and disadvantages of government-initiated land reforms and why these may vary across different countries/regions. **(13 marks)**

(Question 6 continued overleaf)

(b) It has been largely hypothesised that European colonial rule interfered in the distribution of land in colonised territories. Explain the mechanisms emphasised in the literature through which colonial rule may have affected land distribution.
(12 marks)

(End)