PART I, PAPER 2: MACROECONOMIC PRINCIPLES II

SUPERVISION 2

The short-run model: Foundations for AD and AS

Short questions

1. Consider an economy in which the central bank is following a version of the Taylor Rule:

$$R = \bar{r} + m_\pi \left(\pi - \pi^T\right) + m_Y \left(Y - \bar{Y}\right)$$

Assume that the price level is fixed in the short run. Using IS-MP analysis, explain the short-run implications of: (a) an increase in inflation, and (b) an increase in the feedback coefficient on output, m_Y.

2. Under what circumstances will the interest-sensitivity of money demand (i.e., the responsiveness of $L(i, Y)$to i) affect the size of the fiscal multiplier?

3. Explain why the observed behaviour of the real wage over the business cycle provides difficulties for the sticky-wage model.

Long questions

1. Consider a closed economy with no government, in which aggregate consumption, C, is given by the function:

$$C = \bar{C} + cY + d\frac{M}{P}$$

where Y is aggregate income, $\frac{M}{P}$ is the stock of real money balances, $\bar{C} > 0$ is the autonomous component of consumption, and $0 < c < 1$ and $d > 0$ are fixed parameters. Investment, I, is given by the function:

$$I = a - br$$

where r is the real interest rate, and $a > 0$ and $b > 0$ are parameters.
The monetary authority sets the real interest rate equal to a fixed value $\bar{R}$. It does this by controlling the supply of real money balances, where the demand for money is given by:

$$\left(\frac{M}{P}\right)^d = \alpha Y - \beta\left(r + \bar{\pi}\right)$$

with $\alpha > 0$ and $\beta > 0$ parameters. Throughout we assume that the inequality $\alpha d + c < 1$ holds.$\bar{\pi}$ is expected inflation. Suppose for now that $\bar{\pi} = 0$.

(a) Express equilibrium output as a function of $\bar{R}$, $\bar{C}$, and the parameters (a, b, c, d, α and β)

(b) What is the multiplier associated with an increase in autonomous consumption, $\frac{dY}{d\bar{C}}$? Is this larger or smaller than the standard Keynesian multiplier? Explain briefly why.

(c) The dependence of C on $\frac{M}{P}$ is known as a 'Pigou effect'. Is there an AD relationship between Y and P due to this effect? Explain why, or why not.

Suppose now that inflation expectations, $\bar{\pi}$, are equal to the current inflation rate, π.

(d) Show that there is now a downward-sloping AD curve in (π, Y) space. Would this result go through without a Pigou effect? Explain.

2. "The short-run aggregate supply curve must assume that either firms or workers behave irrationally." Do you agree?