

**Question 1: Economics**

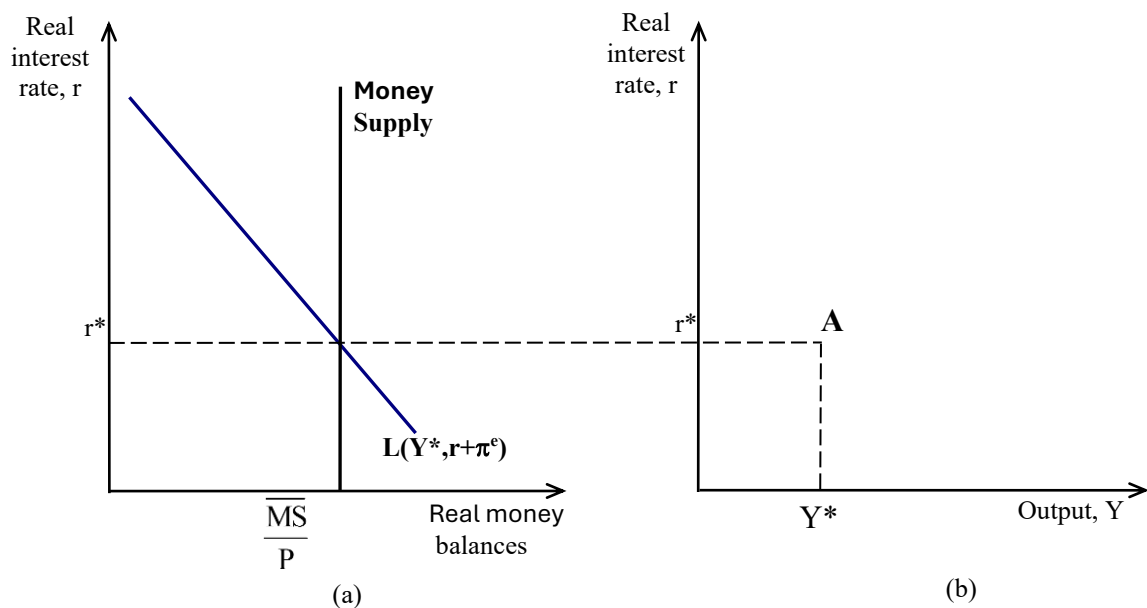
**(36 points)**

Japan's economy remains on the rise, with inflation rate being above its 2% target. At the end of June 2024, the JPY depreciated against USD to JPY 160 per USD 1, its lowest level since April 1990. On July 31<sup>st</sup>, 2024, the Bank of Japan (BOJ) decided to raise policy interest rate (i.e. unsecured overnight lending rate) to 0.25%. This was the second, rate hike after the decision to abandon the negative interest rate policy in March. The BOJ believes Japan is moving toward a stable 2% inflation target.

First, answer the following questions from a) to d) in the context of a closed economy by using the IS-LM framework.

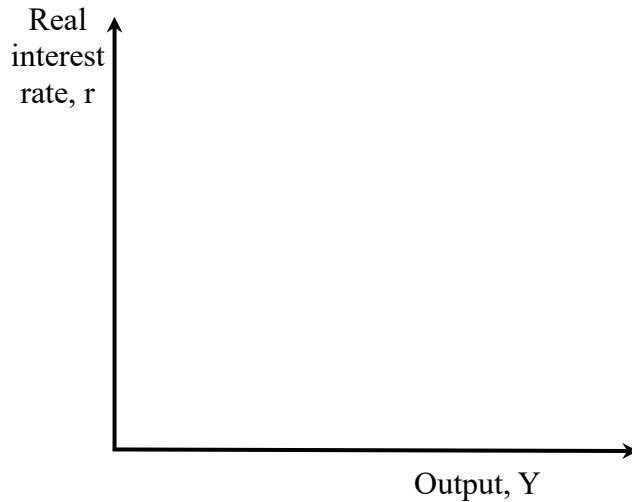
- a) What are the two principal determinants of the demand for real money balances? (2 points)
- b) In the short run, we assume the price level (P) as given (fixed) and the point A in the graph (i) below represents a money market equilibrium ( $Y^*$ ,  $r^*$ ). Plot the LM curve and explain how it is derived. [Note: Use auxiliary graphs (i) where L is the money demand function and  $\pi^e$  the anticipated inflation rate to illustrate your answer, and use the equilibrium point A as starting point.] (8 points)

**Auxiliary graph (i)**



- c) Analyse the impact of the monetary restrictive policy in a short-term perspective. Plot the IS and LM curves and explain the implications.  
[Note: Use auxiliary graph (ii) to illustrate your answer.] (4 points)

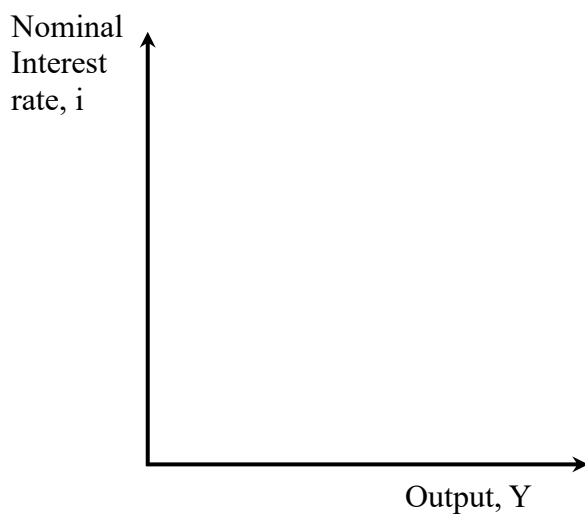
**Auxiliary graph (ii)**



In its efforts to fight inflation, BOJ not only wanted to cool economic activity by suppressing domestic demand via a restrictive monetary policy but also attempted to mitigate imported inflation.

- d) Analyse the effects of an increase in expected inflation rate for the IS-LM representation. Plot the IS and LM curves (in terms of output  $Y$  and nominal interest rate  $i$  in the graph below) before and after the expected inflation rate increase. Explain in detail (step by step) the implications for the output and nominal interest rate, and for the overall equilibrium.  
[Note: Use auxiliary graph (iii) to illustrate your answer.] (6 points)

**Auxiliary graph (iii)**



Now, answer the following questions from e) to g) in the context of an open economy in the context of IS-LM and AS-AD.

- e) Briefly explain the theory of purchasing power parity (absolute PPP). (4 points)
- f) Briefly explain the relative PPP and what it means for the relationship between the JPY/USD exchange rate and the rates of inflation in Japan and the USA. (4 points)
- g) The Japanese general price level increased greatly, describe its short-term influence on interest rate and output (production), and describe the link between price level and the output (via the aggregate demand (AD) curve). Plot the IS and LM curves, before and after the price increase. Also plot the AD curve (linked to the IS-LM changes) and explain the implications in economic terms.  
[Note: Use auxiliary graphs (iv) to illustrate your answer. Use the first one for the IS-LM curves and the second one for the AD curve.] (8 points)

**Auxiliary graph (iv)**

