

BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF COMMERCE

DEPARTMENT: ECONOMICS

PROGRAMME: MSC FINANCIAL ECONOMICS

COURSE CODE MEC522(1) Advanced Monetary Economics

DURATION: 3 HOURS

TOTAL MARKS: 100

### INSTRUCTIONS TO CANDIDATES

1. This paper carries six questions
2. Answer any four (4) questions.
3. All questions carry 25 marks.
4. Cellphones are not allowed in the examination room.

#### QUESTION 1

(25 marks)

- (a). Critically evaluate the proposition that "money is neutral in the long run" using the context of both classical and Keynesian economic theories. [10 marks]
- (b). Imagine an economy experiencing hyperinflation. Discuss how money neutrality might be violated in the short run. [10 marks]
- (c). What policies could the central bank implement to restore long-term neutrality. [5 marks]

#### QUESTION 2

(25 marks)

Let the consumer's utility function be  $U(c, l) = \alpha \ln C_{1t} + (1 - \alpha) \ln C_{2t} - \gamma h_t$  where  $h$  denotes hours worked,  $C_1$  is a good which can only be purchased with cash and  $C_2$  denotes a good which can be purchased using credit. Households can hold two assets: money ( $m$ ) or government bonds ( $b$ ), the latter earn the return  $R$ . The household seeks to maximise utility subject to two constraints:

- (i) a cash in advance constraint

$$p_t C_{1t} \leq m_t + (1 + R_{t+1})b_t - b_{t+1}$$

- (ii) a resource constraint

$$C_{1t} + C_{2t} + \frac{m_{t+1}}{p_t} + \frac{b_{t+1}}{p_t} \leq w_t h_t + \frac{m_t}{p_t} + \frac{(1 + R_{t+1})b_t}{p_t}$$

- (a) Write down an expression for the share of cash goods in total consumption as a function of the interest rate [15 marks]
- (b) Write down an expression for the velocity of money. Is this a plausible model? [10 Marks]

**QUESTION 3****(25 marks)**

- (a) Briefly describe the structure of the Zimbabwean financial sector, including the key types of financial institutions that operate within the country. [5 marks]
- (b) What are the main functions of the Reserve Bank of Zimbabwe, and how do they impact the overall financial stability of the country? [7 marks]
- (c) Analyze the challenges faced by Zimbabwe's financial sector in the context of economic sanctions and political instability. How have these factors influenced the operational environment for financial services? [13 marks]

**QUESTION 4****(25 marks)**

Suppose consumers maximises the present value of utility choosing

$$\{C_t, N_t^s, X_t, m_t, b_t\}_{t=0}^{\infty}$$

They choose consumption and labor, and they are also going to choose their assets like real bonds, nominal bonds and money, subject to a series of budget and Cash in Advance constraints taking as given prices and transfers

$$\begin{aligned} \max_{\{C_t, N_t^s, X_t, m_t, b_t\}_{t=0}^{\infty}} & \sum_{t=0}^{\infty} B^t [U(C_t) - V(N_t)] \\ p_t C_t + (1 + \alpha) q_t b_{t+1} + p_t s_t X_{t+1} + p_t T_t + (1 + \alpha) m_{t+1} \\ & = m_t + b_t + p_t X_t + p_t w_t N_t + p_t \pi_t \end{aligned}$$

$$p_t C_t + (1 + \alpha) q_t b_{t+1} + p_t s_t X_{t+1} + p_t T_t = m_t + b_t + p_t X_t$$

- (a) Write down the consumers' Lagrangian problem [5 marks]
- (b) Solve for the first order conditions [12 marks]
- (c) Express the first order conditions as Marginal Benefit (MB) = Marginal Cost (MC) [8 marks]

**QUESTION 5****(25 marks)**

- (a) Distinguish between the money market and the capital market. [10 marks]
- (b) Explain the relationship between Real Business Cycle theories and theories of economic growth. Can RBC models capture long-term growth phenomena? If so, how? [15 marks]

**QUESTION 6****(25 marks)**

- (a) Discuss the role of central banks in shaping monetary policy [7 marks].
- (b) Differentiate between expansionary and contractionary monetary policies, providing an example of a situation in which each might be used. [8 marks]
- (c) How do central banks use interest rates to control inflation and stimulate economic growth? [10 marks]

**END OF PAPER**