

ECON 202
MACROECONOMIC THEORY
Dr. Yetkiner**6 June 2009****Final Exam****1. (20 Points)** Consider the following model:

$$C = 400 + 0.75YD;$$

$$T = 100 + t \cdot Y;$$

$$I = 300;$$

$$G = 600$$

$$M^d = 2Y - 23000 \cdot i$$

$$M^s = 3000$$

$$P = 3;$$

$$t = 0.25$$

(real money demand)

(nominal money supply)

- (a) **Derive** the IS equation.
- (b) **Derive** the LM equation.
- (c) **Find** and **illustrate** the equilibrium Y and i .

2. (20 Points) Suppose that utility function u of a representative agent is $u = c^{0.5}l^{0.5}$, where c is consumption of physical goods and l is consumption of leisure. Suppose that production technology is represented by $y = N^{0.5}$ where y is output and N is labor demand. We assume that $24 = l + N$ and w is the real wage. There is no government in the economy.

a) Find the optimal values of c , l , N , y , w , π , and u under the competitive equilibrium assumption.

b) **Just formulate** the social planner's problem (**just write the Lagrange equation without solving it**). Do you expect results different? Why or why not?

Izmir University of Economics
Department of Economics

I. Hakan Yetkiner
<http://homes.ieu.edu.tr/~iyetkiner/>

Izmir University of Economics
Department of Economics

I. Hakan Yetkiner
<http://homes.ieu.edu.tr/~iyetkiner/>

3. (20 Points) Suppose that Daniel has income of **100** when he is young and **120** when he is old. The real interest rate is $r = 0.2$. The overall utility function of Daniel is $U = 4c_1^{0.25} + (0.5)4c_2^{0.25}$. Find the optimal values of c_1 , c_2 , s and U .

4. (20 Points) You are the **sophomore level** economic advisor to King Hakan in Neverland. The King called you to discuss the current economic situation of the country. The King said ‘Economic advisor, I don’t understand this. In the past, we had a very prosperous economic climate. In the last four quarters (=one year), however, our GDP, consumption, investment, real wage and employment have **all fallen**. Why? I need an answer. If you give me the right answer, you will be become a **junior level** economic advisor. If not, you will be severely punished. Tell me, what is the source of this fall, given modern macroeconomic theory?’

5. (20 Points) You are the sophomore level economic advisor to King Hakan in Neverland. The King called you to discuss the macroeconomic implications of the recent war between Neverland and NowhereLand. Neverland won the war but lost almost half of its physical capital. The king was wondering whether it is possible for Neverland to recover from the loss. You replied 'Neverland may even perform better than before, under certain conditions'. Analyze the case and show under which assumption(s) the war may be beneficial to the Neverland economy, given modern macroeconomic theory.