

ECON 202
MACROECONOMIC THEORY
Dr. Yetkiner

11 June 2014

Final Exam

1. (30 Points) Suppose the Phillips curve is given by $\pi_t = \pi_t^e + 0.015 - 0.15u_t$, where $\pi_t^e = \theta\pi_{t-1}$, for some $\theta \geq 0$.

A. Suppose FIRST that θ is equal to 0.

- a) (5 pts) What is the natural level of unemployment?
- b) (5 pts) Illustrate the Philips Curve (do not forget to indicate numerically the points cutting vertical and horizontal axes)

B. Suppose NOW that θ is equal to 1.

- c) (5 pts) What is the natural level of unemployment?
- d) (5 pts) Illustrate the Philips Curve for any given value of $\pi_{t-1} > 0$.

C. Suppose NOW that θ is equal to 1 and $\pi_0 = 0.05$.

- e) (5 pts) Find π_1 , π_2 and π_3 for $u_1 = u_2 = u_3 = 0.075$.
- f) (5 pts) Illustrate (e).

2. (20 Points) Suppose that the following equations describe an open economy:
 $C = 20 + (0.5)(Y - T)$, $T = 10$, $I = 10$, $G = 10$, $X = 15$, $M = 5 + (0.05)Y$,
and $\epsilon = 0.5$.

- (a) Find the **multiplier** and equilibrium **GDP** values of this economy (5 Points)
- (b) Find the equilibrium **net export** value of this economy. (5 Points)
- (c) What would be net export, were exogenous part of import decreased by 2.5 (from 5 to 2.5)? (5 Points)
- (d) Suppose that exchange rate depreciates by 50% (from $\epsilon = 0.5$ to $\epsilon = 0.25$). What would be the new GDP and net export at equilibrium? Why did you get this **odd** result? Explain. (5 Points)

3. (25 Points) Please do solve the following short questions.

3.1 Consumption

Let's assume that you have 4 periods of life (**younghood**, **young-adulthood**, **old-adulthood** and **retirehood**) and that the real rate of interest is **0%** per period. Assume also that you earn in (real dollars) \$40,000, \$140,000, \$160,000, and \$80,000 during these four periods of life. Given that you do not like any deviation in your consumption level (=you want your consumption to be perfectly smooth), what should be your consumption during your **YOUNGHOOD**?

3.2. Investment

Suppose that the cost of investment project is \$300. The return is **\$121 for Year 1**, **\$120 for Year 2** and **\$122 for Year 3**. The project ends in the three years. If the real rate of interest is 10% for these 3 years, should the firm make the investment?

3.3 RER

Suppose that 1 kg of apple was \$2.5 in the United States, £1.245 in UK, and the nominal exchange rate was \$1.10/£ in 2012. In 2013, the nominal exchange rate became \$1.20/£ and the price of apple did not change in both countries. Did the real exchange rate appreciate or depreciate from the viewpoint of US?

3.4 Interest Parity condition

Consider a financial investor choosing between US bonds and Japanese bonds. Suppose that one year interest rate on US bonds is 1.1%, the one-year interest on Japanese bonds is 4.9% and Japanese Yen depreciates by 3.7%. Which country should the investor prefer to invest? SHOW your Calculations! (no points without calculations)

3.5 Marshall-Lerner Condition

Suppose that 1% depreciation leads to a proportional change in export of 0.6% and to proportional change in import of -0.5%. How does the trade balance change? Improve or deteriorate? Calculate!

4. (20 Points) Suppose output is at its natural level, but the economy is running a large trade deficit. The government would like to reduce the trade deficit while leaving output unchanged. What should it do? Answer this question under a **simple Keynesian framework**. Support your answer by extensive discussion and illustration.

5. (15 Points) Compare and contrast the impact of a deficit reducing policy under **IS-LM** and **EXPECTATIONS AUGMENTED IS-LM** frameworks. **Do not forget to support your answer by detailed discussion and illustrations.**