

KYIV SCHOOL OF ECONOMICS

Applied Macroeconomics II, 2014

Instructor: Maksym Obrizan

HOMEWORK 1 by _____(First and Last Name)

Due: Submit homework electronically to pkanel@kse.org.ua or bring it as a hard copy any time prior to 10.30 am on Wednesday, November 19th. Homeworks submitted 10 minutes after class begins **will have reduced scores.**

Instructions: Answer all questions to the best of your knowledge in the space provided. Each problem has the same weight for a total of 100 points. Similarly, all parts within each problem are equally weighted. To get full credit **always show your calculations** and not just answers.

I. Assume that investment and saving are determined by the following equations: $I=50-r$ and $S = 4r$.¹

- a. How is this economy different from what we studied in Chapter 5 of Mankiw?
- b. If the economy is closed, what are the equilibrium levels of the interest rate, savings, investment and trade balance?
- c. How would your answer change in part (b) if the country is a small open economy and the world interest rate is 8 percent?
- d. Recompute the solution above if the world interest rate is 12 percent.

II. Suppose that Poltava is populated by a single agent who derives utility from domestic (D) and imported goods (M) according to $D^\alpha M^{1-\alpha}$. Let e denote the exchange rate in UAH per USD. Prices of goods are denoted as P_D and P_M and agent's income is I .

- a. Set up the agent maximization problem and solve for D^* and M^* in terms of exogenous variables.
- b. Find the optimal ratio D^*/M^* . How will the ratio change if α increases? Explain the economic

¹This example is adapted from "Macroeconomics in the Global Economy" by Sachs and Larrain

logic in 2-3 sentences.

c. Suppose that the central bank doubled the income of a person. How will the ratio D^*/M^* change in this case? Explain the economic logic in 2-3 sentences.

d. Suppose that the real exchange rate doubled. How will the ratio D^*/M^* change in this case? Explain the economic logic in 2-3 sentences.

III. Solve problem 2 on page 143 of the 5th edition of Mankiw text.

IV. Solve problem 7 on page 144 of the 5th edition of Mankiw text.