Name:_____

Intermediate Macroeconomic Theory II, Winter 2010
Instructor: Dmytro Hryshko
Problem Set 2 (45 points). Due Thursday, April 1, by 4PM, admin. office 8th floor Tory building

1. (**10 points, 2 points each**) Indicate for each of the statements below whether it is true or false, or elaborate on a statement if it does not require a true/false judgment. Briefly explain, supporting your argument with graphs, formulas, or simple reasoning.

   (a) In accordance with the *classical dichotomy*, an increase in the money supply in the economy should lead to an increase in the real production in the long run.

   (b) Suppose the economy is on a balanced growth path; the growth in the efficiency of labor equals 2%; and the growth of population equals 3%. If the growth of the money stock is equal to 2%, and the income velocity of money is constant, the aggregate prices in the economy will be increasing in the long run.

   (c) Suppose the government sets taxes on the *nominal* capital gains. If the nominal interest rate equals 4%, realized inflation rate equals 2%, and the tax rate on nominal gains equals 50%, the investor's real purchasing power increased by 1%.

(d) Suppose the government sets taxes on the *real* capital gains. If the nominal interest rate equals 4%, realized inflation rate equals 2%, and the tax rate on *real* gains equals 50%, the investor's real purchasing power increased by 1%.

(e) (**OE–LR**) Assume two countries with different but *constant* income velocities of money. Assume that country I(-ndustrialized) has money growth equal to 2%, while country D(-eveloping) has money growth equal to 10%. Assume that the population growth in both economies as well as the growth of the efficiency of labor are zero. Assume that the absolute purchasing power parity for both economies holds. We may conclude that, in the long run, currency of country I will depreciate in nominal terms relative to the currency in country D by 10%.

2. (**5 points**) Suppose the economy's output fluctuates due to real technological shocks, and the economy's prices are *fully flexible*, even in the short run. If the central bank aims to stabilize the price level (that is to keep the price level constant), what would it do to the money supply when, for example, the economy experiences a positive technological shock? As a result of this policy, does output change in the same direction as money supply? Would you make an inference that money causes output (as monetarists claim), or the real shocks cause unidirectional fluctuations in money and output (as RBC theorists would)?

3. (**5 points**) Use the IS–LM *and* AD-AS diagrams to determine the short- and long-run effects of an *increase in the expected inflation rate* on the equilibrium values of

   - output;
   - real interest rate;
   - consumption;
   - investment;
   - price level, and
   - real money balances.

   Draw the relevant diagrams to show how you arrived at your answer. Assume that consumption is *not* responsive to changes in the real interest rate; and that the economy is initially

at the natural level of output. Track the effects for normal cases, i.e., do not bother about vertical/horizontal IS–LM curves.

4. (**5 points**) Suppose that money demand is not responsive to the interest rate, and desired money holdings depend on the amount of desired purchases of goods and services. What does this imply for the slope of the LM curve? Suppose that there is insufficient demand for money to support the full-employment level of output, that is, the economy is currently in recession. Discuss the relative effectiveness of monetary and fiscal policy in stabilizing real output. Explain your results. Draw the relevant diagrams. (You may not bother about the AD-AS diagram here.)

5. (**5 points**) (You may not bother about the AD-AS diagram here.) Suppose that the only shocks in the economy are changes in the assessments of expected inflation π^e, and that the central bank is considering which policy to implement:

   - keeping the money stock constant, or
   - keeping the real interest rate constant.

   Which policy leads to smaller fluctuations in real GDP in response to the economy's shocks? Draw an appropriate IS–LM schedule. (*Hint*: you may use the IS–LM schedule as in the textbook's discussion of the Great Depression, with nominal interest rate on the vertical axis and real GDP on the horizontal axis.)

6. (a) (**5 points**) (**OE–SR–Real shock**) Use the Mundell-Fleming model to predict the effects of a fall in domestic consumers' confidence on aggregate income, the exchange rate, and the trade balance in a small open economy with a flexible exchange rate regime.

(b) (**5 points**) (**OE–SR–Real Shock**) Use the Mundell-Fleming model to predict the effects of a fall in domestic consumers' confidence on aggregate income, the exchange rate, and the trade balance in a small open economy with a fixed exchange rate regime.

(c) (**5 points**) (**OE–SR–Money demand shock**) Use the Mundell-Fleming model to predict the effects of the introduction of ATMs that leads to a fall in the domestic demand for money on aggregate income, the exchange rate, and the trade balance in a small open economy with a fixed exchange rate regime.