Exam # 2

4/8/2026

Answer the following questions. You can use a (1 page) notes sheet and a calculator (but no other devices).

Choose 5 questions to answer. Your grade is computed as a percentage of the sum of possible points of the choice.

1. (20 points) **BOP Transactions.**

   Show how each of the following would affect the U.S. balance of payments. Include a description of the debit and credit items, and in each case identify which specific account is affected (e.g., imports of goods and services, IM; exports of assets, EXA; and so on).

   (a) A California computer manufacturer purchases a $50 hard disk from a Malaysian company, paying the funds from a bank account in Malaysia.

Example:

Description	BOP account	Account detail	Credit/Debit
Hard disk imported from Malaysia	CA ↓	IM (↑), TB(↓)	-$50
Decrease in Malaysian deposits owned by US firm	FA ↑	IM_A^F ↓	+$50

   (b) A U.S. tourist to Japan sells his iPod to a local resident for yen worth $100.

   (c) The U.S. central bank sells $500 million worth of U.S. Treasury bonds to a British financial firm and is paid in pound sterling that are added to the foreign reserves.

   (d) A U.S. owner of Sony shares receives $10,000 in dividend payments, which are paid into a Tokyo bank.

   (e) The U.S. government forgives a $50 million debt owed by a developing country.

2. (15 points) **External Wealth**. Imagine the world has two countries, home and foreign and that exists for two periods $t = 0, 1$. There is no government or investment ($G = I = 0$). As we have assumed usually, there are no expatriate workers so the only factor income comes from capital returns, and there are no valuation gains on wealth. However, **there are non-zero unilateral transfers** ($NUT \neq 0$). There is a level of pre-existing wealth in home W_{-1}. The interest rate on all assets (and liabilities) is the same and constant: r^*.

   (a) Express the budget constraint of period 0 and period 1. These should be expression for the level of wealth in each period (W_0, W_1) with the trade balance and NUT flows in the right-hand side of the equations as well as the last period level of wealth.

   (b) Use that the terminal wealth is zero ($W_1 = 0$) and obtain a simple equation for the Long-run budget constraint, it should equal the negative of the present value of wealth with that of the other flows. In your answer, split the current account (CA) flows into its sub-components.

(c) The US is running trade balance deficits ($TB < 0$) the majority of years. For a near-zero level of wealth, how should the other current account flows be (NFIA, NUT) in order to facilitate that the long-run budget constraint holds? According that what we discussed in class, have the NFIA flows in the US behaved like that in the last decade?

3. (20 points) **Gains from Financial Globalization - Investment**. Consider a country that lives for two periods. It can access the international borrowing and lending market with $r = 0.1$. The country has an investment opportunity. If it chooses to invest \$10 today, its GDP will be $Q0 = \$1000,\ Q1 = \$1150$. If it does not invest, its GDP will be $Q0 = \$1000,\ Q1 = \$1100$. The household in the country has the utility function $U = \min(C_0,\ C_1)$

   Assume there is no government expenditure and no initial wealth. Thus $GNE = C + I$ and $W_{-1} = 0$

   Should the country invest? What are the optimal consumptions with and without investing?

4. (15 points) **BOP flows** . Based on the previous question, what is the GNE, TB, CA and FA in each period ($t = 0$ and $t = 1$) if the country invests? (here we are assuming $KA = 0$)

5. (15 points) **Open vs. Closed economy models and exchange rate regimes**

   (a) In the context of an IS-LM-FX model (or of an open economy), when the interest rate falls, output increases. Why is this effect stronger in an open economy compared to a closed economy? Explain your answer.

   (b) Is the effect of an expansionary fiscal policy stronger under a floating exchange rate regime or under a fixed rate regime. Explain your answer.

6. (20 points) **More IS-LM-FX practice**. Quick questions.

   For each of the following situations, use the IS-LM-FX model to illustrate the effects of the shock. For each case, state the effect of the shock on the following variables (increase, decrease, no change, or ambiguous): Y, i, E, C, I, and TB. Assume a floating exchange regime in all cases.

   (a) Foreign output increases

   (b) Investors expect an appreciation of the home currency in the future.