Final Exam. Econ520. Fall 2024

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UNC

Instructions:

- Answer all questions.
- Write legibly.
- Write your answers on the question sheets. Use additional pages, if needed.
- *Explain* your answers – do not just state them.
- *Show* your derivations – do not just state the final result.
- Do not refer to any notes or books. You may use a calculator.
- The total time is **180** minutes. The total number of points is **120**.

Name:	PID:

1 Short Questions: Closed Economy

Be sure to explain your answers. No models are required.

1. [10 points] Suppose the Fed raised its **inflation target** permanently to 5 percent per year. What changes would you expect in the long run? Explain. (Ignore possible real world complications such as tax brackets that are specified in nominal terms.)

2. [10 points] The **Phillips Curve** implies that rising inflation expectations need to be "validated" through higher inflation. Otherwise unemployment will rise. Explain the intuition.

3. [10 points] Comment on the following statement: "If the government budget deficit rises today, the government has to either raise taxes or cut expenditures in the future." Think r versus g.

2 Short Questions: Open Economy

Be sure to explain your answers. No models are required.

1. [10 points] Comment on the following quote by Robert Scott: "While growing exports tend to support domestic employment, growing imports costs jobs and reduces domestic output." Think of the quote as referring to the medium run.

2. [10 points] Suppose that the Chinese government implements policies that increase the saving rate of Chinese households. Explain why this policy might lead to a larger U.S. trade deficit? You need to explain what market adjustments change U.S. savings or investment.

3. [10 points] Explain why the central bank loses control over the money supply under fixed exchange rates. Explain why this can be an advantage for some countries.

4. [10 points] Suppose the U.S. opens up **trade with a low wage country**. What do you expect to happen to U.S. real wages? How do U.S. workers gain from trade? And how does the answer depend on the mobility of workers across sectors?

3 Floating: Rising Saving Rate

The U.S. has run a large and growing trade deficit for many years. Consider the proposal to fix the trade deficit by increasing the household saving rate.

The environment is an open economy with a floating exchange rate. The model equations are:

IS:

$$Y = C\left(Y - T\right) + I\left(Y, i\right) + G + NX\left(Y, Y^*, \frac{P}{EP^*}\right) \tag{1}$$

LM:

$$M/P = Y \times L\left(i\right) \tag{2}$$

AS:

$$Y = F\left(\frac{P}{P^e}\frac{1}{1+m}, z\right) \tag{3}$$

UIP:

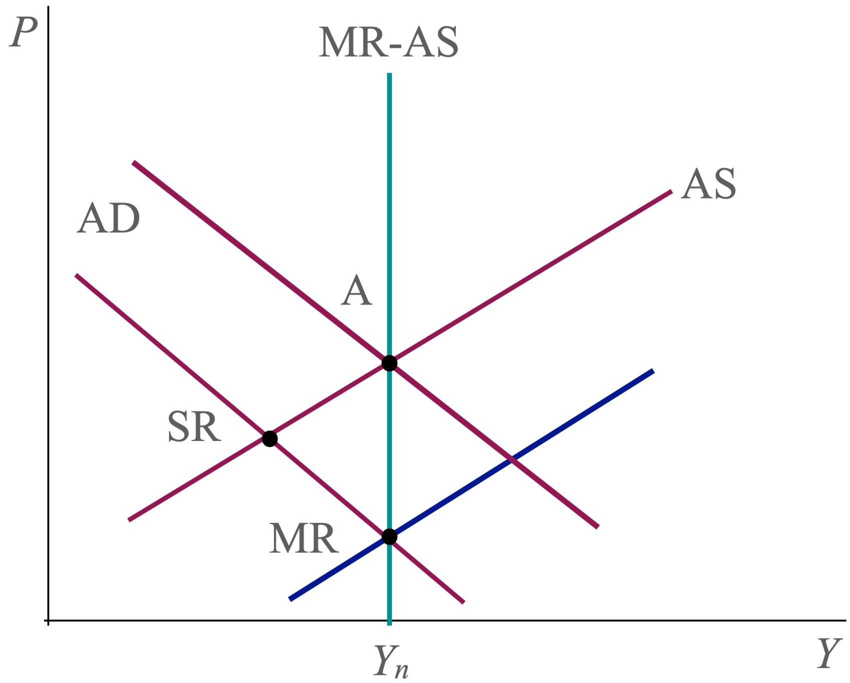
$$E = E^e \frac{1+i^*}{1+i} \tag{4}$$

Recall that we combine IS + LM + UIP into AD:

$$Y = C\left(Y - T\right) + I\left(Y, \hat{L}\left(\frac{M}{PY}\right)\right) + G + NX\left(Y, Y^*, \frac{P}{E^e P^*}\frac{1+\hat{L}\left(\frac{M}{PY}\right)}{1+i^*}\right) \tag{5}$$

Questions

1. [5 points] The graph below shows the implications of a **permanent increase in the saving rate**. A higher saving rate may be modeled as an exogenous drop in C for given disposable income $Y - T$. Explain precisely why this graph describes how a higher saving rate affects the short-run and medium-run equilibrium. Explain which curves shift and why. Additional explanations are deferred to the following sub-questions.



2. [15 points] Derive what happens in the **medium run** to consumption, investment, the interest rate, the exchange rate, M/P, and net exports. Be sure to follow the model's logic and support your conclusions with the model equations.
   Explain in words how a higher saving rates affects the trade balance in the MR.

3. [8 points] Derive what happens in the **short run** to the same variables.

4. [10 points] Explain in words how the economy returns to full employment during the transition from SR to MR. What causes aggregate demand to rise along the transition?

   In your answer, assume that i falls during the transition (you should explain why). (Strictly speaking, the change in i along the transition is ambiguous, but you should ignore this problem.)

5. [12 points] What do you think would happen in the medium run if the saving rate rises in **both** countries (home and foreign)? To keep things simple, assume that the two countries are identical. How would balanced trade be restored?