

**ECON 463 - International Monetary Relations  
Midterm Exam**

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March 3, 2005**

*Use a large blue book to answer the following questions. Always use graphs where they are helpful, especially if they are suggested, but be sure to clearly label them, and also explain your answers clearly. Neatness and organization count! You have until 10:55 PM. You will still be challenged for time, so manage it well.*

1. (10%) Suppose that we receive a large transfer of savings from foreign countries. How does this affect our gross national income? Assuming we produce two types of goods, importable and exportable goods, and both have normal income elasticities, how does the transfer affect our consumption of each? How does the transfer affect  $E$ , the direct foreign exchange rate? Under what circumstances would our terms of trade be improved by the transfer?
2. (15%) Consider a small emerging economy, with a relatively high rate of return on investment compared to the rest of the world.
  - a) Using an intertemporal PPF for two time periods, with the present on the horizontal axis and the future on the vertical axis, show how its income and consumption depends on its current savings under autarky.
  - b) On a new PPF, show what happens to its domestic savings, its investment, and its consumption if it opens its capital markets to foreign savings flows (i.e., either lending or borrowing).
  - c) How would the foreign savings flow in (b) affect the small country's current account balance in the present? How would this affect its current account balance in the future?
3. (10%) In 2003, the U.S. exported \$713 in merchandise and \$307 in services (all amounts are in billions), while our merchandise imports amounted to \$1,261 and service imports amounted to \$256. Receipts from factors abroad (mostly interest and profits, but some compensation for labor) totaled \$294, while payments to foreigners for their factors here totaled \$261. There were also \$67 of outflows in unilateral transfers. Foreign-owned assets in the U.S. increased by \$829 as a result of savings inflows, while U.S.-owned assets abroad increased by \$283 as a result of savings outflows. There was also a net outflow of \$3 due to miscellaneous capital account transactions.
  - a) What is the amount of the: (i) Merchandise Trade Balance, (ii) the Balance on Goods and Services, (iii) the Balance on Current Account, and (iv) the Balance on the Capital and Financial Accounts? What is the (v) statistical discrepancy?
  - b) In the Financial Account, we find that the U.S. Federal Reserve decreased its holdings of foreign currency reserves by \$2 billion, while foreign central banks increased their U.S. Dollar-denominated official reserve assets by \$249 billion. What would have happened to  $E$  had these official reserve transactions not taken place? What does this tell you about the purpose of these official reserve transactions?
4. (10%) In the last year or two, the U.S. Dollar has depreciated significantly against most major foreign currencies. Would you expect this to increase or decrease the balance on our current account? How would your answer differ if (a) we were running a current account surplus versus a deficit, and (b) in the short-run versus the long-run? Explain.
5. (10%) Graph and explain the IS-LM model for a closed economy. What market equilibrium conditions are assumed in the IS and LM curves? Explain the difference between expansionary monetary and expansionary fiscal policy, and use the model to show how they differ in their effects on the interest rates, investment, and aggregate demand (i.e., income or output).

6. (25%) Assume that the current direct spot rate for the Japanese Yen is 0.946 cents per yen, while the six-month forward rate is 0.961 cents.

- a) What is the equation for the interest rate parity condition?
- b) If the annual interest rate on six-month U.S. Treasury Bills is 4.2% per year, and both the U.S. and Japan are considered equally safe countries to invest in, what is the equivalent interest rate for Japanese government securities?
- c) Suppose the above Japanese interest rate was 3.0%. Assuming spot and forward rates are the same as above, does this create an arbitrage opportunity? If so, design a transaction in the swap market that takes advantage of it.
- d) If the dollar direct spot price of the Euro is \$1.29, what is the cross-price of the Euro in Yen? What forces this to be true?
- e) If I buy a forward contract to sell Yen for dollars in one year but don't currently have any, and wait a year to buy them on the spot market, am I speculating or hedging? What if I expected a payment in Yen for the amount of the forward contract next year by a Japanese importer of my goods?
- f) Suppose that you think U.S. interest rates will increase next year, while Japanese interest rates will remain constant. Use a diagram to predict how this would affect the direct spot price for the Yen next year. Then use another diagram to predict how this change to the forward rate should affect the current direct spot price for the Yen.
- g) Suppose that you are importing goods from Japan in six months, and you think the forward rate on the yen is overvalued. Your boss will fire you, however, if you buy yen on the spot market in six months for more than the forward rate. What type of option would you buy, a call or a put? Which would cost you more, a strike price of 0.961 cents or 0.946 cents? Suppose that on the strike date in six months the spot rate is 0.92 cents, would you be in or out of the money? Would you exercise the option? Would you be better off with the option or with the forward contract?

7. (20%) Suppose that Foreign money supply is expected to grow by 6% per year, while foreign money demand is expected to grow by 2% per year. In the U.S., our money supply is expected to grow by 6% per year, and money demand by 3%.

- a) Using the monetary model with relative purchasing power parity, what is the expected rate of change for  $E$ , the direct foreign exchange rate?
- b) Suppose that foreign income is suddenly expected to grow faster, perhaps as a result of improved productivity. How would this affect money demand? How would this affect the expected rate of change for  $E$ ?
- c) Now use the standard trade model. Suppose that the foreign country increases productivity in both its export and import sectors. How would this affect  $E$ ?
- d) Suppose instead that domestic money supply decreases. Using the monetary model with relative purchasing power parity, what do you predict will happen to  $E$ ? Would your prediction be any different using the standard trade model?
- e) Compare a one-time decrease in the domestic money supply with an announcement that the growth rate of domestic money supply will decrease permanently to 5%. Show your predictions for  $R$  (the interest rate),  $P$  (the price level), and  $E$  over time. Explain how your predictions are consistent with interest rate parity in the short run and relative purchasing power parity in the long run.

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