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Econ 345 International Finance Prof. Kasa Spring 2016

MIDTERM EXAM (Solutions)

Questions 1-4. Answer True, False, or Uncertain. Briefly explain your answer. No credit without explanation (10 points each).

1. According to the Balassa-Samuelson theory, rapid productivity growth causes a country's real exchange rate to appreciate.

TRUE/UNCERTAIN. Relatively rapid productivity growth that is concentrated in <u>tradeable</u> goods industries will cause wages to rise in tradeable goods industries. This will then cause wages to rise in nontradeable goods industries (due to labor mobility), which then causes prices to rise in nontraded goods industries (due to zero profit constraint).

2. Exansionary monetary policy produces current account deficits.

FALSE/UNCERTAIN. If the Marshall-Lerner condition is satisfied, then expansionary monetary policy, which depectates the domestic currency, will produce a current account <u>surplus</u>. However, if the ML condition is <u>not</u> satisfied, then expansionary monetary policy could produce a temporary current account deficit.

3. If a country has a current account deficit, then it is borrowing from foreigners.

TRUE/UNCERTAIN. This is true if a country starts from a balanced current account position (or a deficit). However, if a country already has a positive net foreign asset position (e.g., China), then a current account deficit can be financed by reducing your foreign assets, rather than by borrowing.

4. If Canada's annual interest rate is 5% and the U.S. annual interest rate is 2%, then investors must be expecting the Canadian dollar to appreciate by 3% during the next year.

FALSE/UNCERTAIN. If Uncovered Interest Parity holds, then higher Canadian interest rates compensate for the fact that investors expect the C^{\$} to <u>depreciate</u>, not appreciate. Of course, if UIP <u>doesn't</u> hold, then it is quite possible for rates to be higher in Canada, while at the same time investors expect the C^{\$} to appreciate.

The following questions are short answer. 20 points each.

5. Last year the Canadian economy experienced slow growth and a depreciating currency. According to the DD-AA model what sort of 'shocks' must have been hitting the Canadian economy? Illustrate your answer with a graph. Provide a 'real world' example that might explain these recent observations. Show how macroeconomic policy could be used to offset the shocks. Does it matter whether you use monetary policy or fiscal policy?

Declining (or slowing) output growth could be the result of a leftward shift of <u>either</u> the DD curve or the AA curve. However, the fact that the C\$ dollar was weakening at the same time (ie, E was rising), suggests that upward sloping DD curve was the one shifting. One common example in Canada's case would be recession in the USA. However, in this more recent case, it was likely caused by a worldwide decline in demand for Canada's main export (oil). Either expansionary monetary or fiscal policies could be used to offset this shock. (The Trudeau govt seems to prefer fiscal expansion). Monetary policy would be preferred by those employed in interest rate sensitive or tradeable goods industries, since it would operate by lowering interest rates and depreciating the currency.

6. Suppose you are an economic advisor to the Bank of Canada. Your job is to keep inflation low and stable. Recently you have observed nominal interest rates rising in Canadian financial markets. You vaguely remember from Econ 305 something about the 'Fisher equation', which said that this could reflect either higher expected inflation, or a rising *real* interest rate. Why might the Bank of Canada care which it is? How would policy differ according to which it is? Explain how you could use information from the foreign exchange market to figure out what the appropriate policy response should be.

The key issue here is that the appropriate monetary policy response depends critically on <u>why</u> (nominal) interest rates are rising. If they are rising due to expected inflation, then the last thing you want to do is ratify those beliefs by expanding the money supply and creating inflation (remember, your job is to stabilize the price level). However, if nominal rates are rising due to higher <u>real</u> interest rates (due perhaps to an increase in the <u>demand</u> for money), then the central bank will want to increase the money supply, again to stabilize the price level. (If it didn't, then there might actually be deflation). If you only observe interest rates, then there is no way to decide which is the case. However, if you consult the fx market, then you get an additional signal, which helps you resolve your signal extraction problem. As discussed in class, if the domestic currency is <u>appreciating</u> at the same time, this signals an increase in <u>real</u> rates. However, if the currency is depreciating, this signals higher expected inflation.

- 7. In class we discussed the concept of 'Pricing-to-Market', where firms use their profit margins to smooth out exchange rate fluctuations, and relative prices change less than exchange rates.
 - (a) Explain why firms might want to do this. When is it more likely to occur?
 - In many industries, market share is an important consideration (e.g., in industries with network externalities, or switching costs. Firms will be reluctant to forfeit market share, and will be willing to suffer short-run losses in order to retain it. In these kinds of industries, exporters with appreciating currencies will often lower their (local currency) prices to foreign buyers, so that foreigners experience a less than proportional price increase following a depreciation of their currency. By doing this, exporters hope to minimize the loss of market share in foreign markets.

Whether this kind of strategy is effective depends on the nature of competition (there has to be some profit margin that can be smoothed!), and on the nature of exchange rate changes. If changes are primarily perceived to be permanent or very persistent, then it is less likely that exporters will try to smooth out the change by adjusting profit margins.

(b) How does Pricing-to-Market affect the workings of the DD-AA model? Does it make monetary policy more or less effective at influencing output? How about fiscal policy? Use graphs to illustrate your answer.

What matters to the slope of the DD curve is how much a given exchange rate change causes demand for domestic output to change. With PTM, a given change in E causes relative prices to change by <u>less</u> (since changes in export prices are offsetting the exchange rate change). Therefore to produce a given change in demand, E must rise by <u>more</u>. This makes the DD curve <u>steeper</u>. A steeper DD curve makes monetary policy <u>less</u> effective at influencing output. However, fiscal policy becomes <u>more</u> effective. Intuitively, since monetary policy operates by changing the exchange rate, if exchange rate changes become less effective at influencing spending, then monetary policy becomes less effective. On the other hand, since exchange rate changes tend to <u>offset</u> (or 'crowd out') the effects of fiscal policy, if these become weaker then fiscal policy becomes stronger.