SIMON FRASER UNIVERSITY
Department of Economics

Econ 345 | Prof. Kasa
International Finance | Spring 2017

MIDTERM EXAM
(Solutions)

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

1. Tax cuts cause the exchange rate to appreciate.

   TRUE. *Tax cuts shift out the DD curve, so E falls and Y rises. The higher spending and output causes interest rates to rise, which causes the currency to appreciate. (There are cases where deficit-financed tax cuts have no effect on spending and the interest rate (eg, 'Ricardian Equivalence'), but they do not need to mention that for full credit.*

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

   TRUE/UNCERTAIN. *It is true if Uncovered Interest Parity holds. If so, then the only reason investors would hold Canadian assets, given their lower interest rate, is if they expect a capital gain in the form of an appreciation of the Canadian dollar. It is uncertain because Uncovered Interest Parity might not hold, e.g., if investors are risk averse.*

3. When domestic interest rates rise, the domestic currency appreciates.

   UNCERTAIN. *It depends on why domestic interest rates rise. If they rise because the real interest rate rises, then the domestic currency would appreciate. However, if they rise due to higher expected inflation, then the currency would depreciate.*

4. Monetary policy is more effective if firms 'price-to-market'.

   FALSE. *Pricing-to-market makes the DD curve steeper, since the nominal exchange rate must change by more to produce a given change in the real exchange rate. If the DD curve is steeper then shifts in the AA curve caused by monetary policy have smaller effects on output.*

   The following questions are short answer. 20 points each.

5. There has been a lot of recent talk about 'border tax adjustments', and other barriers to trade. Suppose the USA increases taxes on imports from China and Mexico. Use the DD-AA model to illustrate the effects on the US economy. Would the US dollar appreciate or depreciate? What about US output?

   Higher taxes on imports switches spending away from foreign goods, and causes the US DD curve to shift right. In the short-run, this will raise US output (ignoring potential foreign retaliation!). Higher output raises money demand and interest rates, which would cause the US dollar to appreciate. This will (partially) crowd out net exports. So part of the intended effect of the tariff is offset by the fact that the domestic currency appreciates!

6. Now suppose that instead of taxing imports of *goods*, the Trump administration decides to tax US investors' returns on foreign *assets*. Again, use the DD-AA model to illustrate the effects on the US economy. Does the dollar appreciate or depreciate? What happens to output now?

   Taxing returns on foreign assets causes the AA curve to shift left. Once again, the US dollar would appreciate, but now the overall effect would be to reduce US output. The AA curve shifts down and to the left because the $R^* + (E^e - E)/E$ curve shifts down in response to the tax, since investors care about after-tax returns. (Think about changing R^* to $(1-\tau)R^*$, where τ is the tax rate. Holding E^e constant, the exchange rate must fall/appreciate so that there is now a higher expected appreciation of the foreign currency to offset the lower after tax return. (Assuming interest and not capital gains are taxed). The fall in E is what makes the AA curve shift down.

7. Use the Balassa-Samuelson model to explain why China might have an appreciating *real* exchange rate. Could this explain why China has an apparently 'undervalued' currency.

   China has been experiencing relatively rapid productivity growth in tradeable/export industries. This has occurred for many reasons (e.g., improved incentives, productivity catch-up, internal restructuring, etc.). As a result, workers try to move to the cities to get higher paying jobs. (Since China more or less takes world prices of the goods they sell as given, higher productivity causes wages to rise in tradeable goods industries). This makes nontradeable industries have to pay higher wages too, unless they want to lose all their workers. Higher wages in nontradeable goods industries (eg., services), gets passed on into higher prices, and causes the over price level in China to rise. That is, the real exchange rate appreciates.

   The previous argument applied to rates of change, but it also applies to levels. China still has relatively low productivity/income compared to the US and Canada, so in terms of levels, the real value of its currency seems low. This reflects lower Chinese wages (due to lower productivity). This makes the RMB appear to be 'undervalued'. (Try telling that to Donald Trump!)