EC1010 Macro Solutions: Questions 4, 5, 6

May 21, 2012

MCQs

26 A

27 A

28 D

29 B

30 B

31 B

32 B

33 C

34 C

35 D

36 A

37 C

38 D

39 D

40 A

41 A

42 A

43 B

44 A

45 C

46 B

47 C

48 A

49 D

50 B

Question 4

a i)

* According to the Solow model, a low level of TFP, a low savings rate and a high depreciation rate contribute to a low steady state level of GDP per person.
* Because of different savings rates etc across the world, countries have different steady state standards of living.
* Countries that are further from their steady state should grow faster. But because countries have different steady states, there is no reason for a poor country in 1960 to grow fast in subsequent years. The country might simply have a low steady state.
* Taking all of the countries in the world together, there should be no relationship between income level and subsequent growth; while some may be away from their steady state in 1960, others may be at it. Both will exhibit very different subsequent growth.

ii) This is a broad question, open to plenty of answers. It could raise its savings rate (private and government), create better institutions (less regulation, secure property rights), or reduce depreciation rates (maintain machines/structures better.) To answer this, a graph is not necessary.

b i) See Figure 1. The reduction in supply of loanable funds *raises the real interest rate.*

ii) As shown, *the level of investment falls.* The higher interest rate caused by the fall in savings reduces investment demand. A higher cost of funding reduces the prospective profit from investing.

iii) The higher interest rate makes U.S. assets more attractive. As a result, money/capital flows into the U.S. and this raises the demand for dollars. For this reason, *the dollar appreciates in value.*

iv) Because a higher dollar makes imports cheaper and exports more expensive, imports rise and exports fall. As a result, *the current account balance falls.*

v) The fact the foreigners are purchasing U.S. assets *reduces the U.S. net foreign asset position.* (Equivalently, the current account deficits imply the country is becoming indebted to foreigners, leading to a reduction in net foreign U.S. assets.)

Question 5

a i.) Both countries had the same output growth and real interest rates. According to the quantity theory, inflation is given by $\pi = g_m - g_y$. Because inflation was higher in the U.S., while g_y was the same as in Japan, *money growth g_m must have been higher in the U.S.* According to the Fisher effect, the nominal interest rate is $i = r + \pi$. Because r was the same in both countries, while π was higher in the U.S., the *nominal interest rate was higher in the U.S.*

ii.) The U.S. had higher average inflation than Japan over this period. According to PPP, the real exchange rate, $\epsilon = \frac{eP}{P^*}$ is equal to one. As a result, if there is higher inflation in the U.S. (P growing faster than P^*, say), the U.S. *nominal exchange rate* e must be falling. In other words, the dollar was depreciating versus the yen over this period. According to PPP, the *real exchange rate was constant.*

b i.) See Figure 2

ii.) See Figure 3

Question 6

i.) See Figure 4

ii.) According to the permanent income hypothesis, the marginal propensity to consume out of current income is low. In turn, this would lead to a lower multiplier. In this case, there would be a smaller shift inwards of the AD curve.

iii.) The fall in government expenditure causes GDP to fall. But this fall in economic activity would lead to lower tax revenues and greater social welfare payments (through automatic stabilizers.) As a result, the budget balance could deteriorate and negate the initial effect of reduced government expenditure.

iv.) See Figure 5. The recession leads to falling costs, which causes prices to fall. As prices fall, aggregate demand rises—due to a weaker real exchange rate etc—and it continues to rise until the economy returns to potential.

v.) According to the Taylor rule, the central bank should reduce interest rates if the economy is in recession. By purchasing bonds from banks and giving them money in return, the central bank can lower the interest rate on the overnight interbank market. In turn, banks typically reduce the rate they charge their borrowers, but to affect the real economy, banks *must be willing to lend.*

Movements in the TED spread represent changes in the cost of bank borrowing for longer duration—typically 3 months. If the TED spread rises, it means banks find it harder to obtain loans for longer than overnight. More significantly, the rise in the spread indicates banks don't trust each other, which likely reflects precarious levels of bank capital. In situations where i) capital is low and ii) banks find it hard to obtain funding, they will be very reluctant to lend. As a result, the *money multiplier falls.* This makes it harder for the central bank to affect the economy, and therefore reduces the power of monetary policy.

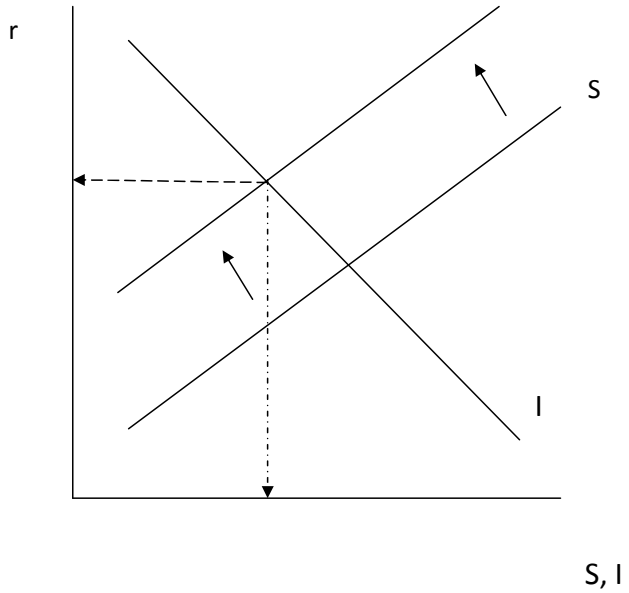

Figure 1: A fall in the savings rate

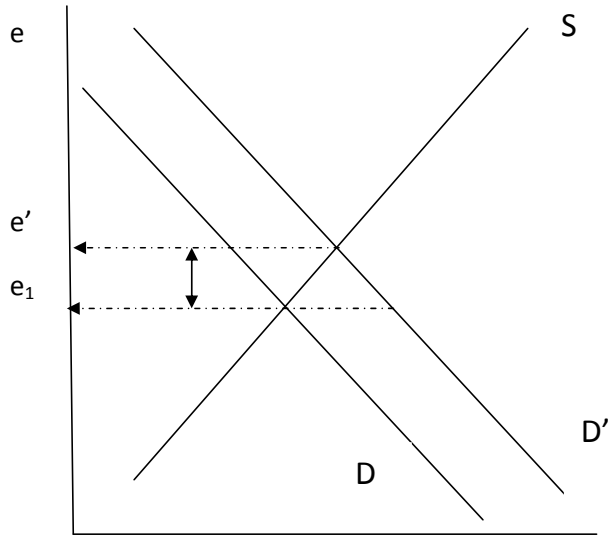

Figure 2: An increase in demand causes the exchange rate to appreciate to e', above the pegged level e_1.

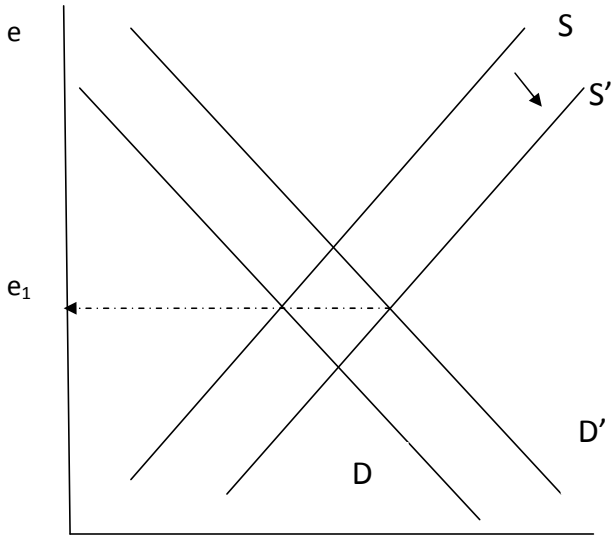

Figure 3: To maintain the peg, the central bank sells domestic currency on the forex market. This increases supply and the exchange rate depreciates from e' towards its pegged level e_1.

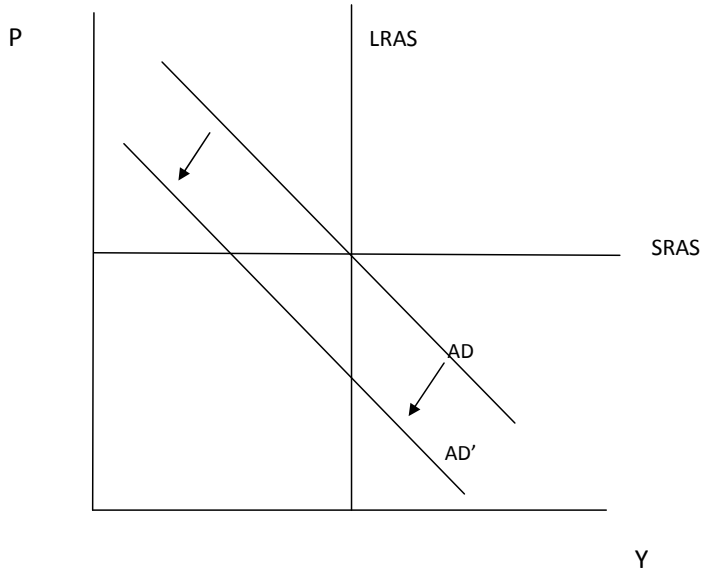

Figure 4: Fall in Government Expenditure

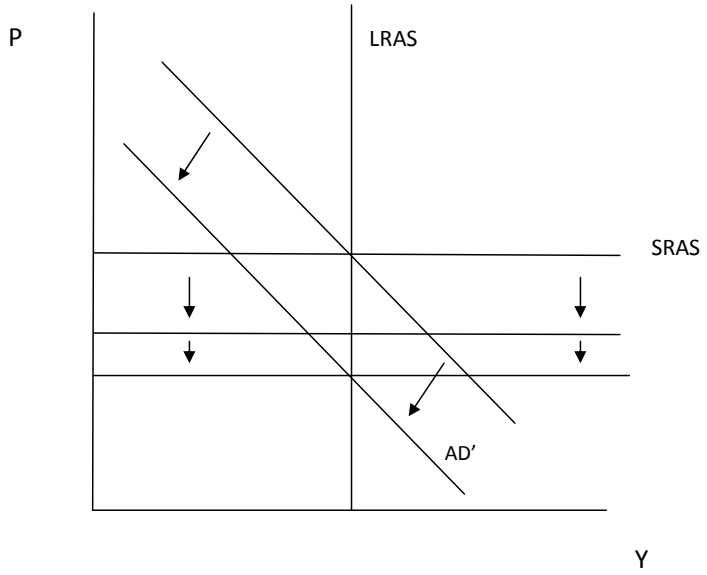

Figure 5: Long-Run Change: Shift down in SRAS Curve