

Suggested Solutions to Assignment 5 (Optional)

Total Marks: 90

Part A True/ False/ Uncertain Questions 70 Marks

Explain why the following statements are True, False, or Uncertain according to economic principles. Use diagrams and / or numerical examples where appropriate. Unsupported answers will receive no marks. It is the explanation that is important.

Each question is worth 10 marks.

A1.

A devaluation must be accompanied by purchases of foreign assets by the central bank. [Diagrams required]

True

See pages 472-473 and Figure 17-4 of Krugman's text (8th ed.) for an explanation.

or,

See pages 459-460 and Figure 17-4 of Krugman's text (7th ed.) for an explanation.

A2.

If the economy, which is under a flexible exchange rate system, starts at long-run equilibrium, a permanent tax cut will cause its currency to appreciate but will have no effect on output in the short-run. [Diagrams required]

True

See pages 444-446 and Figure 16-16 of Krugman's text (8th ed.) for an explanation.

or,

See pages 431-433 and Figure 16-16 of Krugman's text (7th ed.) for an explanation.

A3.

Monetary policy is very effective in terms of changing output under a fixed exchange rate system. [Diagrams required]

False

Monetary policy is ineffective in terms of changing output under a fixed exchange rate system.

See pages 469-470 and Figure 17-2 of Krugman's text (8th ed.) for an explanation.

or,

See pages 456-457 and Figure 17-2 of Krugman's text (7th ed.) for an explanation.

A4.

Given that assets are imperfectly substitutable across countries, a sterilized purchase of foreign assets by Home central bank appreciates the domestic currency. [Diagrams required]

False

Given that assets are imperfectly substitutable across countries, a sterilized purchase of foreign assets by Home central bank depreciates the domestic currency.

See pages 479-481, Appendix 1 to Ch 17, Figure 17-6 and Figure 17A1-1 of Krugman's text (8th ed.) for an explanation.

or,

See pages 465-467, Appendix 1 to Ch 17, Figure 17-6 and Figure 17A1-1 of Krugman's text (7th ed.) for an explanation.

A5.

The central bank's sale of domestic assets raises the risk premium on domestic currency assets.

True

See Appendix 1 to Ch 17 and Figure 17A1-1 of Krugman's text (8th ed.) for an explanation.

or,

See Appendix 1 to Ch 17 and Figure 17A1-1 of Krugman's text (7th ed.) for an explanation.

A6.

A large balance of payments deficit may be the result of excessive domestic credit creation.

True

See Appendix II to Ch 17 of Krugman's text ((6th ed.) for an explanation.

Note: 7th or 8th edition of the textbook does not have this discussion. I distributed the copies of Appendix II to Ch 17 of Krugman's text (6th ed.) in class.

A7.

According to the balance of payments crisis model discussed in the Appendix to Chapter 17, a sharp speculative attack collapses the fixed exchange rate regime at time T, when the shadow floating exchange rate is slightly below the pre-collapse fixed exchange rate. [Diagrams required]

False

According to the balance of payments crisis model discussed in the Appendix to Chapter 17, a sharp speculative attack collapses the fixed exchange rate regime at time T, when the shadow floating exchange rate is **exactly equal** to the pre-collapse fixed exchange rate.

See Appendix 2 to Ch 17 and Figure 17A2-1 of Krugman's text (7th ed. or 8th ed.) for an explanation.

B1. Assume that home and foreign bonds are imperfect substitutes and the risk premium on home bonds depends on the stock of home government debt and the holdings of the home central bank of home bonds. Suppose there is a temporary increase in home government spending financed by increased home government debt issued to the home central bank.

I. Suppose the home central bank is following a policy of buying and selling foreign bonds to maintain a constant money supply. The home central bank is also following a floating exchange rate regime. Determine the effects of the increase in government spending on the nominal exchange rate and output in the short-run. Support your answer with DD-AA diagrams.

II. Suppose instead that the home central bank is allowing changes in the money supply and is pursuing a policy of fixed exchange rates. Determine the effects of the increase in government spending on the nominal exchange rate and output in the short-run. Support your answer with DD-AA diagrams.

III. Compare and contrast the effect on output in (I) and (II) above and provide intuition for any differences in the effects.

The increase in government spending financed by debt issue represents an increase in aggregate demand and is depicted as a rightward shift in the DD curve. The increase in aggregate demand increases output which increases the demand for real balances, increases the home interest rate, and lowers the nominal exchange rate. Since all of the new debt is held by the central bank, the supply of government bonds held by the private sector is unchanged so the risk premium on home assets is unchanged. When the central bank purchases the new government debt it does so with domestic currency and this action increases the home nominal money supply. The increase in the money supply lowers the home interest rate and increases the nominal exchange rate.

I.

If the central bank is following a policy of maintaining a constant money supply, they cannot allow the increase in the money supply described above. Thus, they must sell foreign bonds in exchange for domestic currency to decrease the money supply back to its original level. Thus, the AA curve is unaffected in this question. This contraction in the money supply means that the upward pressure on the exchange rate described in the last sentence of the previous paragraph is not present. Hence, as depicted in Figure B1.I, the increase in government spending lowers the nominal exchange rate and increases output when the central bank is maintaining a constant money supply.

II.

If the central bank is fixing the exchange rate, their actions in response to the increase in government spending and increase in government debt are not clear. If the increase in the exchange rate due to the increase in the money supply resulting from the purchase of the home government bonds by the central bank exactly offsets the decrease in the exchange rate due to the increase in government spending, then the central bank does not have to do anything to maintain the exchange rate. Output rises. This is shown in Figure B1.II.a

If the increase in the exchange rate due to the increase in the money supply resulting from the purchase of the home bonds by the central bank is **lower** than the decrease from increased government spending, then the central bank must further increase the money supply to prevent the exchange rate from falling. If the central bank does this by buying foreign bonds then there is no effect on the risk premium. If the central bank does this by buying home bonds then the supply of home bonds to the private sector falls and the risk premium falls to equilibrate private demand for home bonds to private supply. A fall in the risk premium on home bonds means that investors are no longer willing to hold those bonds at the current exchange rate and the exchange rate must fall so that investors will continue to hold home bonds. This works against the central bank's goal of preventing the exchange rate from falling so they must take this into account when increasing the money supply. Output rises. This case is demonstrated in Figure B1.II.b.

If the increase in the exchange rate due to the increase in the money supply resulting from the purchase of the home bonds by the central bank is **higher** than the decrease from increased government spending, then the central bank must decrease the money supply to prevent the exchange rate from rising. If the central bank does this by selling foreign bonds then there is no effect on the risk premium. If the central bank does this by selling home bonds then the supply of home bonds to the private sector rises and the risk premium rises to equilibrate private demand for home bonds to private supply. A rise in the risk premium on home bonds means that investors are no longer willing to hold foreign bonds at the current exchange rate and the exchange rate must rise so that investors will continue to hold foreign bonds. This works against the central bank's goal of preventing the exchange rate from rising so they must take this into account when decreasing the money supply. Output rises. This case is demonstrated in Figure B1.II.c.

III.

Output increases by more in Part II when the central bank is fixing the exchange rate than it does in part I when the central bank is maintaining a constant money supply. The reason for this is that in Part I, the exchange rate falls which lowers the current account and puts downward pressure on output. Thus, in this case, the rise in government spending crowds out the current account. In Part II when the central bank is fixing the exchange rate, this effect on the current account is not present. The rise in government spending does not crowd out the current account and output increases by more than in Part I.