

Chapter 15 – Krugman and Obstfeld

1. Relative PPP predicts that inflation differentials are matched by changes in the exchange rate. Under relative PPP, the franc/ruble exchange rate would fall by 95 percent with inflation rates of 100 percent in Russia and 5 percent in Switzerland.
4. Relative PPP implies that the pound/dollar exchange rate should be adjusted to offset the inflation difference between the United States and Britain during the war. Thus, a central banker might compare the consumer price indices in the United States and the U.K. before and after the war. If America's price level had risen by 10 percent while that in Britain had risen by 20 percent, relative PPP would call for a pound/dollar exchange rate 10 percent higher than before the war—a 10 percent depreciation of the pound against the dollar.

A comparison based only on PPP would fall short of the task at hand, however, if it ignored possible changes in productivity, productive capacity or in relative demands for goods produced in different countries in wake of the war. In general, one would expect large structural upheavals as a consequence of the war. For example, Britain's productivity might have fallen dramatically as a result of converting factories to wartime uses (and as a result of bombing). This would call for a real depreciation of the pound, that is, a postwar pound/dollar exchange rate more than 10% higher than the prewar rate.

6. The announcement puzzle is that interest rates rise when the market learns money supply growth has been higher than expected (and fall in the opposite case), in contrast to what a simple money-market equilibrium analysis might seem to suggest. Were this phenomenon due to higher expected inflation, we would expect to see the dollar depreciate against foreign currencies, since the expectation of future currency depreciation is one result of higher expected inflation. As demonstrated in the previous chapter, a depreciation of the expected future exchange rate causes the spot rate today to depreciate. If, however, nominal rates are higher because the market expects the Fed to adjust for excessive money growth by tightening, then the higher nominal interest rates reflect a decrease in money supply as banks adjust for expected lower high-powered money in the future. In this case, we would expect to see an appreciation of the currency. Thus, the foreign exchange market can help us distinguish between the two competing explanations for the phenomenon. In fact, Engel and Frankel found that in the early 1980s, the dollar tended to appreciate after unexpectedly high monetary growth was announced and depreciate in the opposite case. This implies expectations regarding Fed action are the likely cause of the increase in nominal interest rates.
19. If markets are fairly segmented, then temporary moves in exchange rates may lead to wide deviations from PPP even for tradable goods. In the short run, firms may not be able to respond by opening up new trading relationships or distribution channels. On the other hand, if there are persistent deviations from PPP of tradable goods, we would expect firms to try to increase their presence in the high-price market. If they do this, it should reduce prices there and bring prices back towards PPP.

Chapter 16 – Krugman and Obstfeld

1. A decline in investment demand decreases the level of aggregate demand for any level of the exchange rate. Thus, a decline in investment demand causes the DD curve to shift to the left.

2. A tariff is a tax on the consumption of imports. The demand for domestic goods, and thus the level of aggregate demand, will be higher for any level of the exchange rate. This is depicted in figure 16.1 as a rightward shift in the output market schedule from DD to D'D'. If the tariff is temporary, this is the only effect and output will rise even though the exchange rate appreciates as the economy moves from point 0 to point 1. If the tariff is permanent, however, the long-run expected exchange rate appreciates, so the asset market schedule shifts to A'A'. The appreciation of the currency is sharper in this case. If output is initially at full employment then there is no change in output due to a permanent tariff.

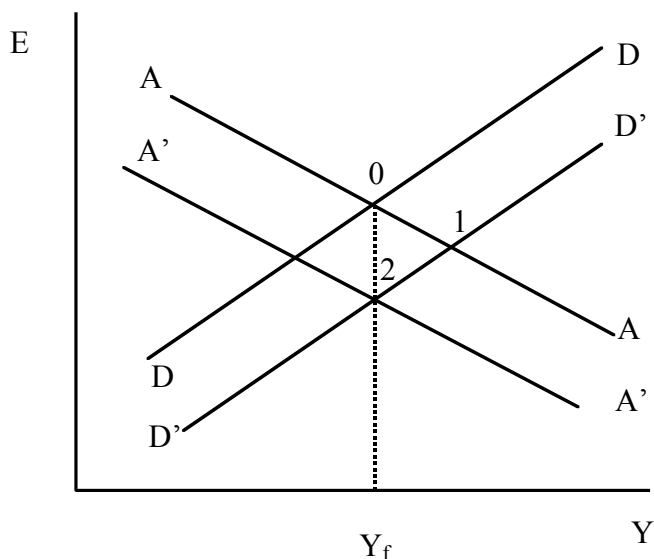
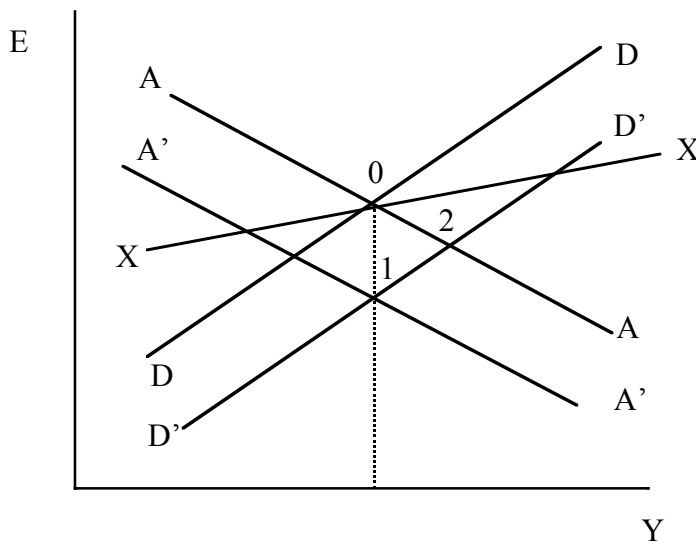


Figure 16.1

4. A permanent fall in private aggregate demand causes the DD curve to shift inward and to the left and, because the expected future exchange rate depreciates, the AA curve shifts outward and to the right. These two shifts result in no effect on output, however, for the same reason that a permanent fiscal expansion has no effect on output. The net effect is a depreciation in the nominal exchange rate and, because prices will not change, a corresponding real exchange rate depreciation. A macroeconomic policy response to this event would not be warranted.



7. A currency depreciation accompanied by a deterioration in the current account balance could be caused by factors other than a J-curve. For example, a fall in foreign demand for domestic products worsens the current account and also lowers aggregate demand, depreciating the currency. In terms of figure 16.4, DD and XX undergo equal vertical shifts, to D'D' and X'X', respectively, resulting in a current account deficit as the equilibrium moves from point 0 to point 1. To detect a J-curve, one might check whether the prices of imports in terms of domestic goods rise when the currency is depreciating, offsetting a decline in import volume and a rise in export volume.

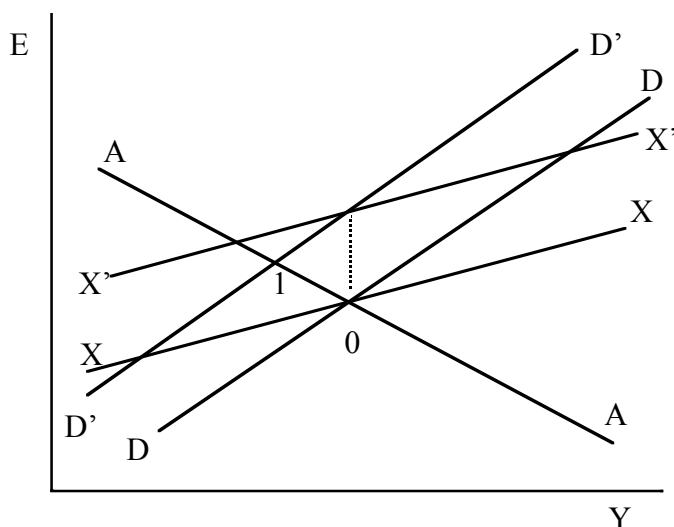


Figure 16.4

8. The expansionary money supply announcement causes a depreciation in the expected long-run exchange rate and shifts the AA curve to the right. This leads to an immediate increase in output and a currency depreciation. The effects of the anticipated policy action thus precede the policy's actual implementation.
11. If imports constitute part of the CPI then a fall in import prices due to an appreciation of the currency will cause the overall price level to decline. The fall in the price level raises real balances. As shown in diagram 16.6, the shift in the output market curve from DD to D'D' is matched by an inward shift of the asset market equilibrium curve. If import prices are not in the CPI and the currency appreciation does not affect the price level, the asset market curve shifts to A''A'' and there is no effect on output, even in the short run. If, however, the overall price level falls due to the appreciation, the shift in the asset market curve is smaller, to A'A', and the initial equilibrium point, point 1, has higher output than the original equilibrium at point 0. Over time, prices rise when output exceeds its long-run level, causing a shift in the asset market equilibrium curve from A'A' to A''A'', which returns output to its long-run level.

12. An increase in the risk premium shifts the asset market curve out and to the right, all else equal. A permanent increase in government spending shifts the asset market curve in and to the right since it causes the expected future exchange rate to appreciate. A permanent rise in government spending also causes the goods market curve to shift down and to the right since it raises aggregate demand. In the case where there is no risk premium, the new intersection of the DD and AA curve after a permanent increase in government spending is at the full-employment level of output since this is the only level consistent with no change in the long-run price level. In the case discussed in this question, however, the nominal interest rate rises with the increase in the risk premium. Therefore, output must also be higher than the original level of full-employment output; as compared to the case in the text, the AA curve does not shift by as much so output rises.

Chapter 17 – Krugman and Obstfeld

1. An expansion of the central bank's domestic assets leads to an equal fall in its foreign assets, with no change in the bank's liabilities (or the money supply). The effect on the balance-of-payments accounts is most easily understood by recalling how the fall in foreign reserves comes about. After the central bank buys domestic assets with money there is initially an excess supply of money. The central bank must intervene in the foreign exchange market to hold the exchange rate fixed in the face of this excess supply: the bank sells foreign assets and buys money until the excess supply of money has been eliminated. Since private residents acquire the reserves the central bank loses, there is a non-central bank capital outflow (a financial-account debit) equal to the increase in foreign assets held by the private sector. The offsetting credit is the reduction in central bank holdings of foreign assets, an official financial inflow.
2. An increase in government spending raises income and also money demand. The central bank prevents the initial excess money demand from appreciating the domestic currency by purchasing foreign assets from the domestic public. Central bank foreign assets rise, as do the central bank's liabilities and with them, the money supply. The central bank's additional reserve holdings show up as an official capital outflow, a capital-account debit. Offsetting this debit is the capital inflow (a credit) associated with the public's equal reduction in its own foreign assets.
4. As shown in figure 17.1, a devaluation causes the AA curve to shift to $A'A'$ which reflects an expansion in both output and the money supply in the economy. Diagram 17.1 also contains an XX curve along which the current account is in balance. The initial equilibrium, at point 0, was on the XX curve, reflecting the fact that the current account was in balance there. After the devaluation, the new equilibrium point is above and to the left of the XX curve, in the region where the current account is in surplus. With fixed prices, a devaluation improves an economy's competitiveness, increasing its exports, decreasing its imports and raising the level of output.

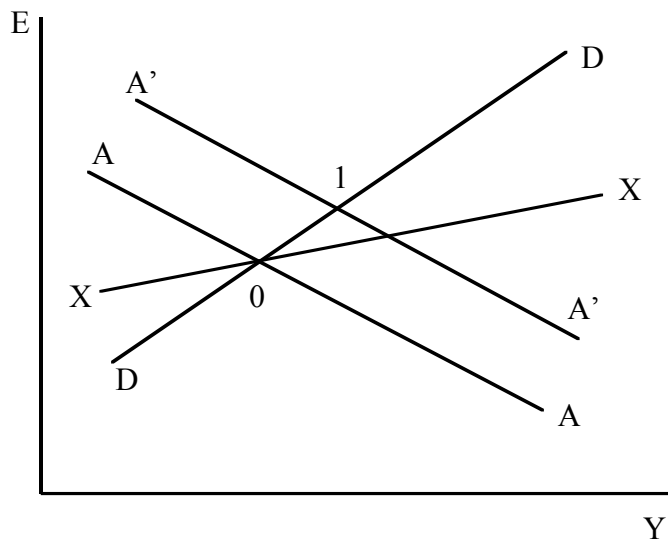


Figure 17.1

5. (a) Germany clearly had the ability to change the dollar/DM exchange simply by altering its money supply. The fact that “billions of dollars worth of currencies are traded each day” is irrelevant because exchange rates equilibrate markets for stocks of assets, and the trade volumes mentioned are flows.
- (b) One must distinguish between sterilized and nonsterilized intervention. The evidence regarding sterilized intervention suggests that its effects are limited to the signaling aspect. This aspect may well be most important when markets are “unusually erratic,” and the signals communicated may be most credible when the central bank is not attempting to resist clear-cut market trends (which depend on the complete range of government macroeconomic policies, among other factors). Nonsterilized intervention, however, is a powerful instrument in affecting exchange rates.
- (c) The “psychological effect” of a “stated intention” to intervene may be more precisely stated as an effect on the expected future level of the exchange rate.
- (d) A rewrite might go as follows:

To keep the dollar from falling against the West German mark, the European central banks would have to sell marks and buy dollars, a procedure known as intervention.

Because the available stocks of dollar and mark bonds are so large, it is unlikely that sterilized intervention in the dollar/mark market, even if carried out by the two most economically influential members of the European Community—Britain and West Germany—would have much effect. The reason is that sterilized intervention changes only relative bond supplies and leaves national money supplies unchanged. Intervention by the United States and Germany that was not sterilized, however, would affect those countries’ money supplies and have a significant impact on the dollar/mark rate.

Economists believe that the direct influence of sterilized intervention on exchange rates is small compared with that of nonsterilized intervention. Even sterilized intervention can affect exchange rates, however, through its indirect influence on market expectations about future policies. Such psychological effects, which can result from just the stated intention of the Community's central banks to intervene, can disrupt the market by confusing traders about official plans. The signaling effect of intervention is most likely to benefit the authorities when their other macroeconomic policies are already being adjusted to push the exchange rate in the desired direction.

9. By expanding output, a devaluation automatically raises private saving, since part of any increase in output is saved. Government tax receipts rise with output, so the budget deficit is likely to decline, implying an increase in public saving. We have assumed investment to be constant in the main text. If investment instead depends negatively on the real interest rate (as in the IS-LM model), investment rises because devaluation raises inflationary expectations and thus lowers the real interest rate. (The nominal interest rate remains unchanged at the world level.) The interest-sensitive components of consumption spending also rise, and if these interest-rate effects are strong enough, a current-account deficit could result.
10. An import tariff raises the price of imports to domestic consumers and shifts consumption from imports to domestically produced goods. This causes an outward shift in the DD curve, increasing output and appreciating the currency. Since the central bank cannot allow exchange rates to change, it must increase the money supply, an action depicted in the diagram as an outward shift in the AA schedule. Corresponding to this monetary expansion is a balance of payments surplus and an equal increase in official foreign reserves.

The fall in imports for one country implies a fall in exports for another country, and a corresponding inward shift of that country's DD curve necessitating a monetary contraction by the central bank to preserve its fixed exchange rate. If all countries impose import tariffs, then no country succeeds in turning world demand in its favor or in gaining reserves through an improvement in its balance of payments. Trade volumes shrink, however, and all countries lose some of the gains from trade.

15. The monetary authorities can combine a change in the money supply with a purchase or sale of its foreign assets to keep the exchange rate fixed while altering the domestic interest rate. For example, the monetary authorities lower domestic interest rates by increasing the money supply. To maintain a fixed value of the exchange rate, the monetary authority would also sell foreign assets and purchase domestic assets. In the figure below, the increase in the money supply lowers the interest rate from R_0 to R' . The purchase of domestic assets and sale of foreign assets, while having no further effect on the money supply, lowers the risk premium, shifts the interest parity schedule from II to II' and maintains the exchange rate at E_0 .

EC 271
Answers to Problem Set #5

