Problem Set # 6 Solutions

Chapter 6 #3

a. When Leverett’s exports become less popular, its domestic saving $Y - C - G$ does not change. This is because we assume that $Y$ is determined by the amount of capital and labor, consumption depends only on disposable income, and government spending is a fixed exogenous variable. Investment also does not change, since investment depends on the interest rate, and Leverett is a small open economy that takes the world interest rate as given. Because neither saving nor investment changes, net exports, which equal $S - I$, do not change either. This is shown in Figure 5–6 as the unmoving $S - I$ curve. The decreased popularity of Leverett’s exports leads to a shift inward of the net exports curve, as shown in Figure 5–6. At the new equilibrium, net exports are unchanged but the currency has depreciated. Even though Leverett’s exports are less popular, its trade balance has remained the same. The reason for this is that the depreciated currency provides a stimulus to net exports, which overcomes the unpopularity of its exports by making them cheaper.

b. Leverett’s currency now buys less foreign currency, so traveling abroad is more expensive. This is an example of the fact that imports (including foreign travel) have become more expensive—as required to keep net exports unchanged in the face of decreased demand for exports.

c. If the government reduces taxes, then disposable income and consumption rise. Hence, saving falls so that net exports also fall. This fall in net exports puts upward pressure on the exchange rate that offsets the decreased world demand. Investment and the interest rate would be unaffected by this policy since Leverett takes the world interest rate as given.
Chapter 6 #4

The increase in government spending decreases government saving and, thus, decreases national saving; this shifts the saving schedule to the left, as in Figure 5–7. Given the world interest rate $r^*$, the decrease in domestic saving causes the trade balance to fall.

Figure 5–8 shows the impact of this increase in government purchases on the real exchange rate. The decrease in national saving causes the $(S - I)$ schedule to shift to the left, lowering the supply of dollars to be invested abroad. The lower supply of dollars causes the equilibrium real exchange rate to rise. As a result, domestic goods become more expensive relative to foreign goods, which causes exports to fall and imports to rise. In other words, as we determined in Figure 5–7, the trade balance falls.

The answer to this question does depend on whether this is a local war or a world war. A world war causes many governments to increase expenditures; this increases the world interest rate $r^*$. The effect on a country’s external accounts depends on the size of the change in the world interest rate relative to the size of the decrease in saving. For example, an increase in the world interest rate could cause a country to have a trade deficit, as in Figure 5–9, or a trade surplus, as in Figure 5–10.
The president’s policy would not affect net exports because it does not affect national saving (because it would not affect Y, C, or G) or investment. It would, however, shift the $NX$ curve by decreasing U.S. demand for Japanese auto imports. This shift of the curve, shown in Figure 5–11, would raise the exchange rate. Although net exports would not change, the volume of both imports and exports would fall by the same amount.

There are also important compositional effects of this policy. On the production side, the higher exchange rate increases imports and puts pressure on the sales of American companies with the exception of American luxury car production, which is shielded by the tariff. Also American exporters will be hurt by the higher exchange rate, which makes their goods more expensive to foreign countries. Consumers of Japanese luxury cars will be hurt by the tariffs while all other consumers will benefit from the appreciated dollar, which allows them to purchase goods more cheaply. In sum, the policy would shift demand to American luxury car producers at the expense of the rest of American production and also shift consumption from Japanese luxury cars to all other imports.

(Note: the arrow on the y-axis in the top-right diagram, Figure 5-8, should point up, not down)