

## Answers to Questions from Chapter 15

(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% in Russia and 5% 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%, while that in Britain had risen by 20%, relative PPP would call for a pound/dollar exchange rate 10% higher than before the war—a 10% 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) A permanent shift in the real money demand function will alter the long-run equilibrium nominal exchange rate, but not the long-run equilibrium real exchange rate. Since the real exchange rate does not change, we can use the monetary approach equation,  $E = (M/M^*) \times \{L(R^*, Y^*)/L(R, Y)\}$ . A permanent increase in money demand at any nominal interest rate leads to a proportional depreciation of the long-run nominal exchange rate. Intuitively, the level of prices for any level of nominal balances must be lower in the long run for money market equilibrium. The reverse holds for a permanent decrease in money demand. The real exchange rate, however, depends upon relative prices and productivity terms which are not affected by general price-level changes.

(9) Since the tariff shifts demand away from foreign exports and toward domestic goods, there is a long-run real appreciation of the home currency. Absent changes in monetary conditions, there is a long-run nominal appreciation as well.

(16) If long term rates are higher than short term rates, it suggests that investors expect interest rates to be higher in the future, that is why they demand a higher rate of return on a longer bond. If they expect interest rates to be higher in the future, they are either predicting higher inflation in the future or a higher real interest rate. We cannot tell which by simply looking at short and long rates.

(19) PPP for non-tradables would arise if technologies were similar across countries, and thus similar prices for goods in the long run would be consistent with competitive markets and similar labor costs. If the labor costs are similar, then (again assuming similar technologies) the costs of non-tradables should be similar also. Of course, as the chapter notes, differences in productivity that vary across sector could result in Balassa Samuelson style effects where despite tradables PPP holding, non-tradables are still priced differently across countries.