SØK 2009 International Macroeconomics
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Question 1: Exchange Rates: Asset Approach and Money Market

The spot exchange rate $E_{\$/€}$ between dollars (\$) and euro (€) is determined according to the asset approach. The equilibrium in the US money market is represented according to the theory of liquidity preference. Focus exclusively on the short-run, assuming fixed price levels and fixed expectations.

(**1.a**) Write the condition for Uncovered Interest Parity.

(**1.b**) Describe in a diagram the simultaneous equilibrium of the foreign exchange and the US money market. Consider an exogenous shock: all else equal, there is a sudden increase in US real income. Describe the effects of the shock in the diagram and verbally explain how market forces drive the US interest rate and the exchange rate from the initial equilibrium to the new respective levels.

Question 2: Fisher Effect and PPP

Denote by $E_{\$/€}$ the exchange rate (dollars per euro), by P_{US} the price level in US, by P_E the price level in the Euro zone, and by π_{US} and π_E the respective inflation rates. Suppose that Absolute Purchasing Power Parity (PPP) holds at each point in time, and that the equilibrium spot exchange rate $E_{\$/€}$ is determined by Uncovered Interest Parity.

Derive the equilibrium condition of the foreign exchange market as an equation that links the expected real interest rates of US and Euro zone. Is the assumption of Absolute PPP strictly necessary to obtain this equation?

Question 3: Open Market Operations

Suppose that the European Central Bank performs an open market operation by trading US Treasury Bills (dollar-denominated bonds issued by the US government). The objective of the ECB is to obtain a devaluation of the euro against the dollar by means of a one-time permanent change in the level money supply. Assume fixed real output levels, and zero inflation in both the Euro Area and the US.

(**3.a**) Is the ECB selling or puchasing US Treasury Bills?

(**3.b**) Assuming full price flexibility and absolute PPP in each instant, consider the monetary approach to exchange-rate determination: briefly explain in words what is the mechanism through which the ECB obtains the devaluation.

Question 4: The Trilemma and International Monetary Systems

(**4.a**) Briefly discuss the Trilemma of open economies. Explain why, in each possible subcase, only two options over three are feasible.

(**4.b**) Consider the Gold Standard system of the 1870-1914 period and the Bretton Woods system of the 1944-1971 period. Where would you place these two systems in the trilemma? Briefly explain your answers.

(**4.c**) Explain the mechanism of imported inflation which favored the collapse of the Bretton Woods system.

Question 5: Aggregate Demand and Exchange Rates in the short run

Consider an open economy. The simultaneous equilibrium in the goods' market and in the asset market is represented by the $DD - AA$ curves. In equilibrium, real output equals $Y = Y_1$ and the exchange rate is $E = E_1$. Focus exclusively on the short-run, assuming fixed price levels and fixed expectations. Answer all of the following questions.

(**5.a**) What is the short-run effect of a temporary increase in public spending (all else equal) on real output and on the exchange rate?

(**5.b**) Suppose that, observing the increased public expenditure, the Central Bank wishes to keep the exchange rate at its initial level E_1. What kind of open-market operation should the Central Bank undertake on the foreign exchange market? If this open-market operation is implemented, what happens to official reserves and to real output in the new short-run equilibrium?