1. Let us analyze the effects of hurricane Dean in Jamaica. This natural event can be understood as a temporary negative shock. Suppose Jamaica uses the international financial market to smooth consumption subject to its intertemporal budget constraint.

Without computing any exact numbers, what would be the effects of the hurricane on the following variables, relative to the value if there had been no hurricane?

(a) consumption in the year of the hurricane
   i. lower due to the hurricane
   ii. higher due to the hurricane
   iii. no change due to the hurricane

(b) current account surplus in the year of the hurricane
   i. lower due to the hurricane
   ii. higher due to the hurricane
   iii. no change due to the hurricane

(c) net foreign income from abroad in the year after the hurricane
   i. lower due to the hurricane
   ii. higher due to the hurricane
   iii. no change due to the hurricane

Compare the situation in Jamaica with that in Cuba, a closed economy, suffering the same hurricane. What would happen to consumption, current account and output volatility in this economy?

2. (Related to Question 4, chapter 17 in book) Assume it is year 0. Argentina thinks it can find $84 of domestic investment projects with a MPK of 10% (each $1 invested pays off $0.1 in every later year). Argentina invests $84 in year 0 by borrowing $84 from the rest of the world at a world real interest rate \( r^* \) of 5%. There is no further borrowing or investment after this.

Use the standard assumptions: assume initial external wealth \( W \) (\( W \) in year -1) is zero. Assume \( G=0 \) always; and assume \( I=0 \) except in year 0. Also, assume \( NUT=KA=0 \) so and that there is no net labor income so that \( NFIA=r^*W \). The projects start to pay off in year 1 and all years thereafter. Interest is paid in perpetuity in year 1 and every year thereafter. In addition, assume that if the projects are not done then GDP=Q=C=$200 in all years, so that \( PV(Q)=PV(C)=4200 \).

(a) Should Argentina fund these projects?
(b) From this point forward, assume the $84 in projects are funded and completed in year 0. If the MPK is 10%, what is the present value of the payoffs from projects in future years?
(c) What is Argentina’s Q=GDP in year 0 in $, if the project is not undertaken? At year 0, if Argentina undertakes the project, what is the new PV(Q) in $?
(d) At year 0, what is the new PV(I) in $? What is the new PV(C) in $?
(e) Assume that Argentina is consumption smoothing. What is the percent change in PV(C)? What is the new level of C in all years? Is Argentina better off?
3. Consider the case of Belgium following World War II. It is beginning a temporary period of expansionary government spending as it rebuilds its damaged infrastructure. And it is considering whether to join the system of fixed exchange rates being set up at that time, called the Bretton Woods System.

(a) Suppose first that Belgium undertakes its temporary fiscal policy while maintaining a flexible exchange rate. State the short-run effects of the fiscal policy Belgium’s output, interest rate, and exchange rate, using the IS-LM and Forex Market graphs to show this.

(b) Suppose instead that Belgium fixes its exchange rate and then undertakes the temporary expansionary fiscal policy. State the short-run effects on Belgium’s output, interest rate and exchange rate, using the IS-LM and Forex Market graphs to show this. Explain each curve shift. Compare the result to your answer in part (a).

4. Suppose India is experiencing an expansion driven mainly for the increase in investment optimism. First, consider India is a closed economy. Using the IS-LM model analyze the effects of this exogenous rise in investment on the Indian nominal interest rate and output. Let us assume now that India is a small open economy. Using the IS-LM-FX model, analyze graphically the effects on output, nominal interest rate, nominal and real exchange rates, trade balance in India under

   (a) flexible exchange rates
   (b) fixed exchange rates

5. Recently, the U.S. has boosted the use of ethanol (corn fuel) as fuel for cars. This has generated an increase in the demand for corn, with some serious effects for countries consuming corn, for example, Mexico. Using the IS-LM-FX model and assuming Mexico is a small open economy, analyze the effects of this rise in corn demand on the Mexican economy

   (a) if the exchange rate (peso/$) is flexible
   (b) if the exchange rate (peso/$) is fixed to the U.S. dollar.

After the increase in foreign demand, Mexican consumers associations urged their government to violate the NAFTA treaty by imposing some limits to the corn exports to the U.S. in order to prevent its price to rise more, and reduce fluctuations in production. According to your analysis above, does the Mexican government need to intervene to protect its consumers? Does your answer depend on the exchange rate regime considered for the Mexican peso? If so, how? Explain briefly.