EC1010: Solutions: Tutorial Questions 5

February 26, 2010

1. See Figure 1. When there are capital inflows, the savings curve shifts from S to S'. At the moment of the change, savings exceeds investment, leading to downward pressure on the real interest rate. As the real interest rate falls, two things happen. First, saving falls as saving now becomes less attractive to domestic residents. Second, investment demand rises, as the lower interest rate makes borrowing and investment projects more attractive. For these reasons, capital inflows can explain why the savings rate of domestic residents fell, while residential investment rose.

2. See Figures 2 and 3. Because A has a higher level of savings the initial equilibrium interest rate will be lower at r^{**}. Initial savings and investment are S^{**} and I^{**}. In economy B, the initial equilibrium interest rate will be higher at point r^*. If capital flows freely across the world, savers in economy A will avail of the higher rates of return in B. As a result, there will be capital outflows from A—causing its saving curve to shift inwards—and capital inflows to B—causing its saving curve to shift outwards. In a globalized economy, interests rates should be approximately equal across the world.

3. See Figure 4. Because the level of income rises over time, the level of savings also rises over time (think, for instance, of saving being a constant fraction of income, $S = sY$.) Cet par., this would lead to falling real interest rates over time. To maintain relatively constant interest rates over time, the level of investment demand must also be rising over time.

4. See Figure 5. If investment rises, and we are initially above r', then savings and investment will rise more. Namely, in this case, as the interest rate rises, people respond more and increase their savings a lot. In the new equilibrium, this greater savings response leads to more savings and investment.

5. Higher nominal rates tell us nothing about what matters—i.e., *real* returns. Thus based on nominal returns alone, we can't say in which environment saving is more attractive.

6. The return rises because the saver is now paying a lower amount for a given payoff next year. The return might have risen because, say, the risk of default or expectations of inflation have risen. Any excess returns must compensate for *something.*

7. Because there is greater risk associated with it, the bond paying off in ten years time must pay a higher return. To generate this higher return, the price of the bond must be cheaper.

8. If everyone expects inflation over the next year, nominal interest rates must rise so as savers can preserve their real return. As a result, the price of bonds must fall. (Keep in mind the inverse relationship between interest rates and bond prices.)

9. Stock returns are made up of two components: dividends and capital gains. If dividends rise, but the price of the stock falls, the stock return is indeterminate.

10. No, because the higher returns associated with stocks are only there to compensate investors for higher risk associated with stocks. Because the stock market can underperform and yield negative returns for a number of years, investing tax revenues in the stock market is potentially quite risky. Namely, the government needs tax revenues to finance current expenditure.

11. Since future profits will likely rise, dividends will also rise. Because they offer the prospect of higher returns, these stocks are now more valuable. According to the *efficient markets hypothesis*, their price will *immediately* rise today in response. What causes the price rise is a sudden increase in demand: because the number of stocks is fixed at any point in time, the increase in demand leads to a higher price.

12. i. The rise in bond yields is due to greater risk premium, arising from default risk. Because of the inverse relationship between the interest rate/return on bonds and bond prices, the price of Greek bonds would have fallen.

    ii. Because of expected inflation, we would add on an *inflation premium*, so bond yields would rise. This way, savers are assured their desired *real* return.

    iii. A higher ratio of old people to young people has two main implications for government finances. First, a large proportion of old people leads to more government expenditure on pensions and healthcare. Second, a smaller proportion of young people means the general public are paying less tax revenue to the government. Noting that the government balance is $T - G$, both developments portend higher government deficits and lower national savings in the future. Cet. par., this would lead to high real interest rates.

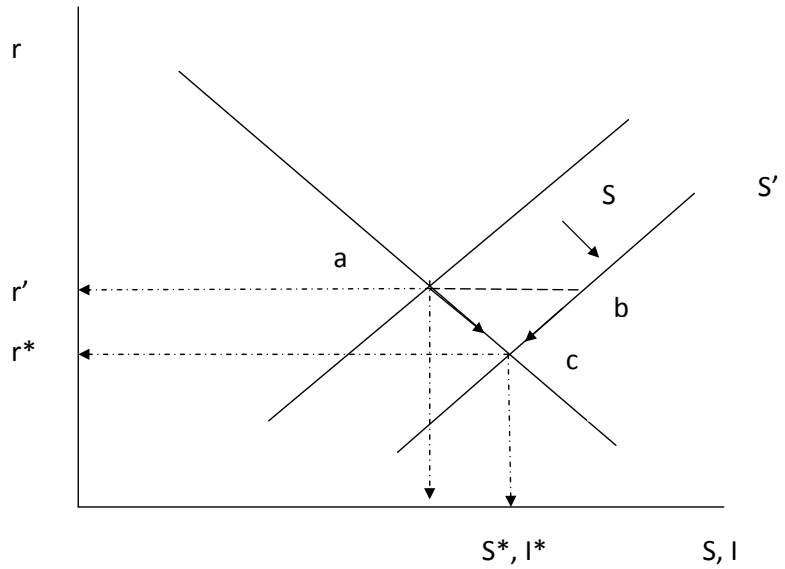

Figure 1: Capital Inflows leading to a Fall in Domestic Savings and a Rise in Investment

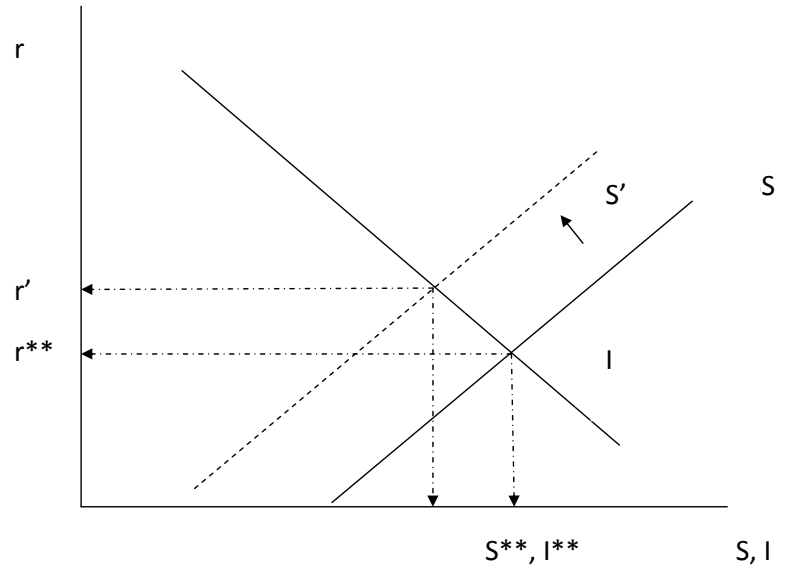

Figure 2: Outflows of Savings from Economy A

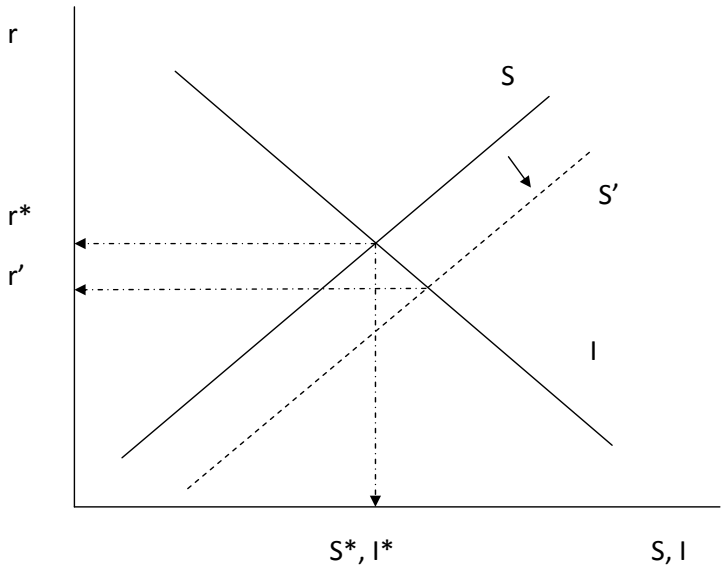

Figure 3: Inflows of Savings to Economy B

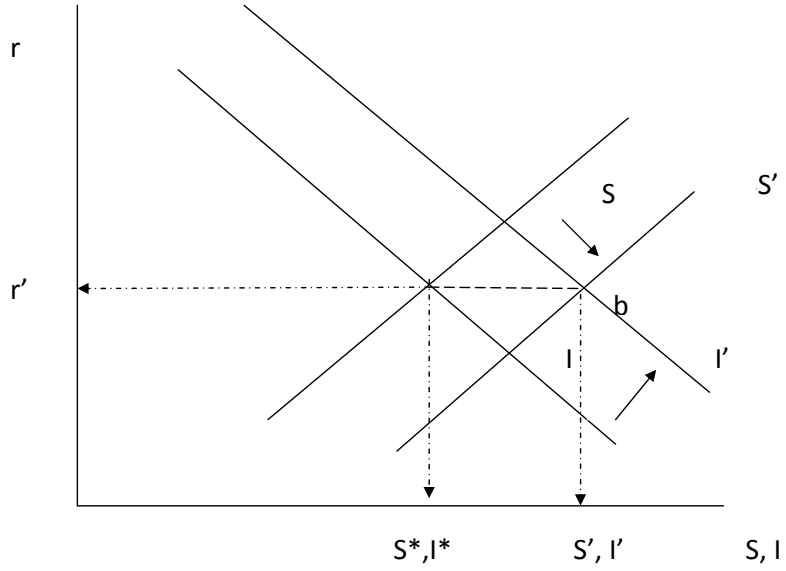

Figure 4: The Real Interest Rate over Time

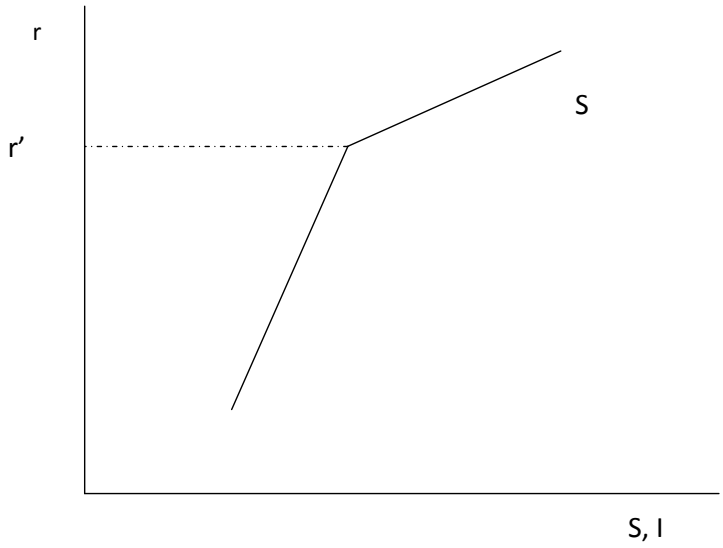

Figure 5: Changing Sensitivities