1. The aggregate quantity of bonds in an isolated economy without government must equal:

(a) a positive number if there are more savers than borrowers in the economy.
(b) a negative number if there are more borrowers than savers in the economy.
(c) both (a) and (b).
(d) zero.

2. Review the factors that determine an individual’s choice of consumption over two periods, \(c_1\) and \(c_2\), and show this choice graphically. Why is the individual best off when the budget line is tangent to an indifference curve?

3. Mandy Marguerita lives two periods. Her initial real wealth in period 1 (bequests inherited) is $20, and her real income in period 1 is $90. Her real income in period 2 is $110. Mandy does not leave bequests to her children when she dies at the end of period 2. The real interest rate is 10% per period. Mandy would like to smooth consumption completely. That is, she wants to have the same level of consumption in both period 1 and period 2.

(a) Compute Mandy’s total sources of funds in terms of their value in period 1.
(b) Write the equation for Mandy’s lifetime budget constraint, and graph the budget line.
(c) How much will Mandy save and consume in period 1?
(d) How will Mandy’s saving and period 1 consumption be affected by an increase of period 1 real income by $11?
(e) How will Mandy’s saving and period 1 consumption be affected by an increase of period 2 real income by $11?
(f) How will Mandy’s saving and period 1 consumption be affected by an increase of initial real wealth in period 1 by $11?

4. Rudy Restless also lives two periods. He has period 1 real income of $12,000, has initial real wealth in period 1 (bequests inherited) of $2,000, and expects period 2 real income of $12,000. Rudy does not leave bequests to his children when he dies at the end of period 2. The real interest rate is 20% per period.

(a) Draw Rudy’s budget line, and give numerical values for the budget line’s horizontal intercept and its slope.
(b) The real interest rate rises to 50%. Repeat part (a).
(c) Initially, Rudy’s period 1 consumption is $12,000. Show diagrammatically the substitution and wealth effects of the increase in the real interest rate on Rudy’s saving. Do you have enough information to know whether his saving will increase or decrease? Explain.
(d) Suppose that initially Rudy’s period 1 consumption is $16,000 rather than $12,000. Repeat part (c).