Consumption Example  
Econ 311  
Eschker

Given: Jazzy lives for 2 periods (today and tomorrow). This is her last year of working and her labor income is $y_{\text{today}} = 60,000$ and $y_{\text{future}} = 10,000$. Her financial wealth is $f_{\text{today}} = 40,000$. The real interest rate is 3%, $\beta = 1$, and her lifetime utility function is 

$$U= \log \ c_{\text{today}} + \beta \log \ c_{\text{future}}.$$ 

1. What is Jazzy’s human wealth and total wealth?

$$HW=60000+10000/1.03 = 69709$$

$$TW=40000+69709=109709$$

2. How much does Jazzy consume today and in the future? How much does she save today?

$$C_{\text{today}} = \frac{1}{2}W = 54855$$

$$C_{\text{future}} = \frac{1}{2}W(1.03) = 56500$$

$$\text{Saving} = Y - C_{\text{today}} = 5145$$

3. If current labor income rises by 1000, how much will saving change?

$$\Delta C = mpc*\Delta W = \frac{1}{2} * 1000 = 500$$

$$\Delta S = \Delta Y - \Delta C = 1000 - 500 = 500$$

4. Return to starting given values of all variables. By how much does consumption today rise if future labor income rises by 5000?

$$\Delta C = mpc*\Delta W = \frac{1}{2} * (5000/1.03) = 2427$$

5. Return to the starting given values of all variables. If the real interest rate rises to 10%, by how much do total wealth and today’s consumption change? By how much does saving change?

$$\Delta W = 10000/1.10 - 10000/1.03 = -618$$

$$\Delta C = mpc*\Delta W = \frac{1}{2} * (-618) = -309$$

$$\Delta S = \Delta Y - \Delta C = 0 - (-309) = +309$$

6. Would Jazzy’s consumption and saving change if she could not borrow?

No, since she is a saver and NOT a borrower. The borrowing or liquidity constraint does not affect her.