Lecture 11: Consumption, Savings, and Investment

See Barro Ch. 7

Trevor Gallen

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Household Budget Constraint

$$\underbrace{PC}_{\text{Nominal Expenditure}} + \underbrace{\Delta B + P\Delta K}_{\text{Nominal Savings}} = \underbrace{\Pi + wL + i(B + PK)}_{\text{Nominal Income}}$$

- Given real income, tradeoff between consumption and expenditure

Household Budget Constraint

Put Figure 7.1 here

Changing the problem

- We talk about "real savings" and "real consumption"
- But this is silly: people don't care about "real savings." They care about *consumption*.
- Consumption today vs. consumption tomorrow.
- Let's think about two periods, and two period budget constraints

Two periods-I

$$\underbrace{C}_{\text{Real Expenditure}} + \underbrace{\frac{\Delta B}{P} + \Delta K}_{\text{Real Savings}} = \underbrace{\frac{\Pi}{P} + \frac{w}{P}L + i(\frac{B}{P} + K)}_{\text{Real Income}}$$

- Things with subscript 0 are preset
- Things with subscript 1 are decided in the first period
- Things with subscript 2 are decided in the second period

$$C_1 + \left(\frac{B_1}{P} + K_1\right) - \left(\frac{B_0}{P} + K_0\right) = \left(\frac{w_1}{P}\right) L + i_0 \left(\frac{B_0}{P} + K_0\right)$$

$$C_2 + \left(\frac{B_2}{P} + K_2\right) - \left(\frac{B_1}{P} + K_1\right) = \left(\frac{w_2}{P}\right) L + i_1 \left(\frac{B_1}{P} + K_1\right)$$

Two periods-I

$$\underbrace{C}_{\text{Real Expenditure}} + \underbrace{\frac{\Delta B}{P} + \Delta K}_{\text{Real Savings}} = \underbrace{\frac{\Pi}{P} + \frac{w}{P}L + i\left(\frac{B}{P} + K\right)}_{\text{Real Income}}$$

- Things with subscript 0 are preset
- Things with subscript 1 are decided in the first period
- Things with subscript 2 are decided in the second period

$$C_1 + \left(\frac{B_1}{P} + K_1\right) - \left(\frac{B_0}{P} + K_0\right) = \left(\frac{w_1}{P}\right)L + i_0\left(\frac{B_0}{P} + K_0\right)$$

$$C_2 + \left(\frac{B_2}{P} + K_2\right) - \left(\frac{B_1}{P} + K_1\right) = \left(\frac{w_2}{P}\right)L + i_1\left(\frac{B_1}{P} + K_1\right)$$

Two periods-II

$$\left(\frac{B_1}{P}+K_1\right)=\left(\frac{B_0}{P}+K_0\right)+\left(\frac{w_1}{P}\right)L+i_0\left(\frac{B_0}{P}+K_0\right)-C_1$$

$$C_2+\left(\frac{B_2}{P}+K_2\right)-\left(\frac{B_1}{P}+K_1\right)=\left(\frac{w_2}{P}\right)L+i_1\left(\frac{B_1}{P}+K_1\right)$$

Becomes:

$$C_2+\left(\frac{B_2}{P}+K_2\right)-\left(\frac{B_1}{P}+K_1\right)=\left(\frac{w_2}{P}\right)L+i_1\left(\frac{B_1}{P}+K_1\right)$$