

Economics 314
Daily Question #7

Spring 2014
February 10

Suppose that a household lives for two periods and that its lifetime utility is given by

$$U = \frac{C_1^{1-\theta}}{1-\theta} + \frac{1}{1+\rho} \frac{C_2^{1-\theta}}{1-\theta}, \quad \rho > 0, \theta > 0,$$

where C_1 and C_2 are the household's consumption in periods one and two. Using total differentials, we know that infinitesimal changes in C_1 and C_2 equal to dC_1 and dC_2 will lead to a change in utility equal to

$$dU = \frac{\partial U}{\partial C_1} dC_1 + \frac{\partial U}{\partial C_2} dC_2.$$

Moving along an indifference curve, $dU = 0$. Use the above equation to find the slope $\frac{dC_2}{dC_1}$ of the

indifference curve, i.e., the value of $\frac{dC_2}{dC_1}$ that makes $dU = 0$. Your answer should be in terms of C_1 ,

C_2 , ρ , and θ .