

### Homework for week 5

Suppose you evaluate your today's consumption and tomorrow's consumption as  $u(c_0, c_1) = c_0 * c_1^\beta$  where  $\beta = 0.99$ . You have a fixed income of  $(Y_0, Y_1) = (10, 10)$  and the market interest rate is given as  $r = 0.05$

1. What is the demand for current and future consumption? Show the derivation process as well as the numerical answer
2. Suppose the market interest rate rises to  $r = 0.10$ . How did the demand change? Explain both numerically and in words