

In our model with a continuum of consumption goods and imperfect competition, household utility is given by

$$U = \left(\int_{i=0}^1 C_i^{\frac{\eta-1}{\eta}} di \right)^{\frac{\eta}{\eta-1}} - \frac{1}{\gamma} L^\gamma$$

and total nominal spending is $S = \int_{i=0}^1 P_i C_i di$.

1. Can we ignore the last term of the utility function in finding the household's optimal consumption choices? Why or why not?
2. Write the Lagrangian expression that we can use for constrained utility maximization, choosing the optimal amounts of each C_i taking as given the total amount of nominal spending S .
3. Set up (but do not solve) the first-order conditions for utility maximization.