

Economics 724b. Problem Set 1

Due Monday, 1/24, 3pm. in Galina's mailbox.

1. OR chapter 1. Exercise 6.

2. Use the setup of the previous problem. If A and A^* increase proportionally, what will be the effect on the world's investment $I + I^*$? How does your answer depend on intertemporal substitution elasticity?

Hint: it does get pretty messy. Try to solve the general isoelastic case as far as you can stand it, but then you can assume that in the initial equilibrium $\beta(1+r) = 1$, which would allow you not to worry about C_2 and r for small changes. If you like to play with Maple or Mathematica — go ahead and solve for general case.

3. Show that

$$u(c) = \frac{c^{1-1/\sigma}}{1-1/\sigma} \longrightarrow \ln c$$

as $\sigma \rightarrow 1$.

Hint: it will help to subtract 1 from the numerator.