Homework 1, Part 2

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Note: I have included the solutions to part 6 here. Problems 2-5 will be in another document.

Problem 6

6.1

The recursive social planner's problem for this set-up is as follows

$$V(k,\tau,i_{-1},z) = \max_{i,c,k',g,\ell} log[c] + 0.2log(g) - \frac{\ell^2}{2} + \beta \sum_{T} \pi(\tau'|\tau) \sum_{Z} \pi(z'|z) V(k',\tau',i,z')$$

$$s.t.$$

$$k' = 0.9k + [1 - 0.05(\frac{i}{i_{-1}} - 1)^2]i$$

$$c + i + g = e^z k^{0.33} l^{0.67}$$