Social Efficiency

Is the competitive equilibrium the first best allocation?

hat - planner problem

start - equilibrium

Socila planner problem

Max utility such that c+g < zf(1-l, kbar)

L(c, l, lambda) = U(c, l) + lambda(zf(1-l, kbar) - c - g)

FOC(c) Uc = lambda

FOC(l) Ul = lambdazf_n(1-lhat, kbar)

MRS_cl = Ul/Uc = zf_n(1-lhat, kbar)

So MRScl = MRTcl in the static equilibrium.

Optimality of the household or firm means wage = MPL and tangency to budget constraint. For social planner, there is only the preferences (U) and feasibility / technology (PPF). So the optimality for the planner is always MRS = MRT. Not always does the competitive equilibrium hold this.

Wedges in the optimality conditions for households and frims cause social inefficiency

2 agent Economy

Given $\sum_i \alpha_i \leq 1$, $\forall i, \alpha_i \in [0,1]$, optimize $\max_{c_i, l_i} \sum_i \alpha_i U(c_i, l_i)$, such that $\sum_i c_i + g \leq f\left(\sum_i (1 - l_i), \overline{k}\right)$ and where $\forall i, c_i \geq 0, l_i \in [0,1]$.