



Sustainable Development



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Chapter 6

Structural change

Study questions

1. Consider the model of structural change with only substitution effects, and assume R is energy. Assume that we change the production function for y_2 to $y_2 = \gamma_r k_r \min(\beta l, r)$ and parameterize such that the share of R in y_2 is 20 percent.
 - (a) How will this model behave?
 - (b) What will happen to the energy share in y_2 over time, as the economy grows?
 - (c) Do you think the model will be able to explain the data?
2. What happens if we raise α in the model with income effects? Link to rebound. What is the effect of taxing energy use?
3. Assume that you want to reduce damages from CO_2 emissions from air travel in an economically efficient way. However, a tax on emissions (or equivalently a tax on fuel use) is not an option. Discuss the option of subsidising research into engine efficiency. How about a 'per seat' flight tax? What would the social planner do?