

## Growth: Endogenous Growth: Problems

1. What is the most important difference between the assumptions of the Solow Model and the Endogenous Growth Model?
2. Suppose that irrefutable empirical evidence exists showing that, all else equal, poor and rich countries grow at the same rate. How would this evidence affect the relative merits of the Solow Model as opposed to the Endogenous Growth model?
3. Without using any math, discuss how a subsidy on research and development might affect growth and efficiency in the Endogenous Growth Model.
4. In class, we assumed that the production of new ideas is increasing in the current stock of ideas. Reflecting this assumption, we imposed:  $\Delta A_{t+1} = \bar{z}L_{at}A_t$ . Now suppose that this is not the case, and the number of new ideas is independent of the existing stock of new ideas:  $\Delta A_{t+1} = \bar{z}L_{at}$ .
  - a. Solve for  $A_t$  as a function of the model's exogenous variables.
  - b. Solve for  $y_t$  as a function of the model's exogenous variables.
  - c. How does your result from *b* compare to that from the baseline version of the model discussed in class?
5. True or False? The lack of empirical evidence that more populous countries grow faster than less populous countries is evidence against the Endogenous Growth Model.
6. Which is a better model, Solow or Endogenous Growth?