

Problem Set

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Discrete-time dynamics

One-dimensional discrete-time dynamics is characterized by a function

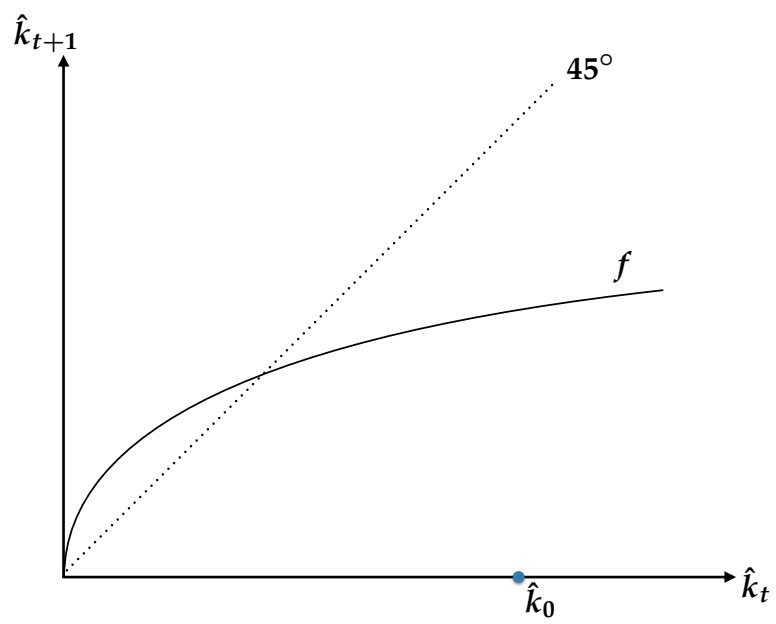
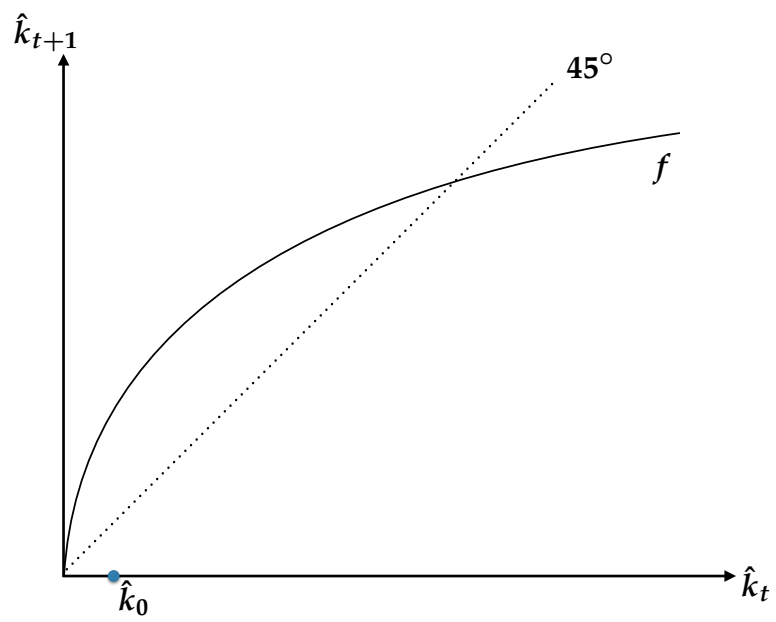
$$\hat{k}_{t+1} = f(\hat{k}_t),$$

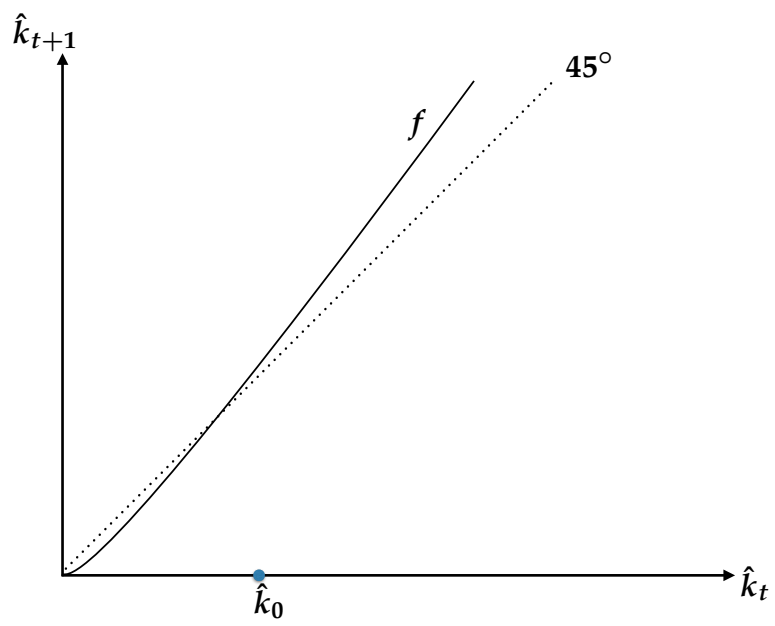
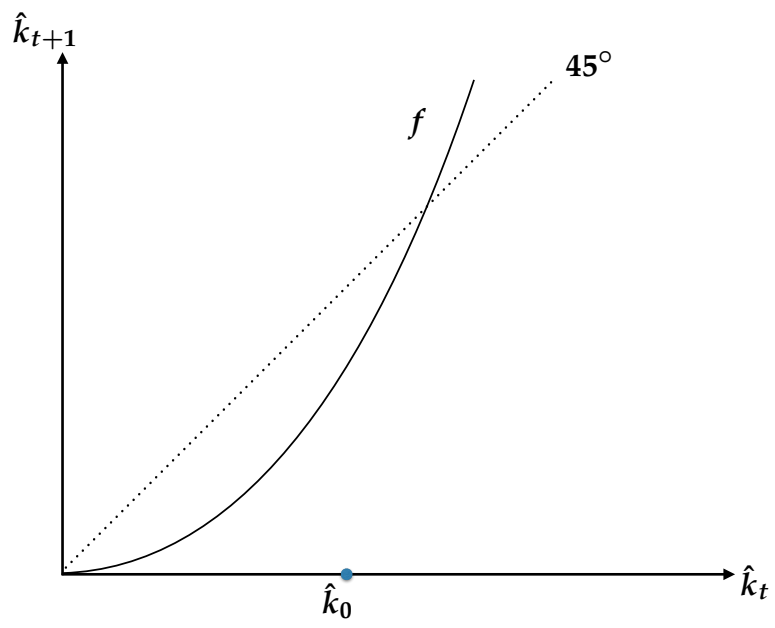
where \hat{k}_0 is given.

- (1) Figures on the answer sheet shows four instances of (f, \hat{k}_0) . For each case, draw the dynamic path that starts from the dots, \hat{k}_0 .
- (2) An intersection of 45 degree line and the graph of f corresponds to a steady state; i.e., $\hat{k}_t = \hat{k}_{t+1}$. Convergence to or divergence from the steady state can be characterized by how f crosses the 45 degree line. Summarize your observations from Exercise (1).

Answer sheet. Please write your name and id number.

(1)





(2)