1 Full-employment Effects of Government Debt

\[ Y = 2K^{.75}L^{.25}. \]

Savings out of disposable income, \( s = .05. \)

Labor force growth, \( n = .01. \)

Depreciation, \( \mu = 0. \)

Calculate:

(1) \( k^\ast, \) the golden-rule capital-labor ratio

(2) \( \tilde{k}, \) the maximum sustainable capital-labor ratio

(3) \( k_0, \) the steady-state capital labor ratio when \( \Delta = 0 \)

(4) \( \Delta_{\text{max}}, \) the maximum sustainable debt per head

(5) \( \Delta_{\text{min}}, \) the maximum sustainable surplus per head

Plot:

(1) steady-state \( k \) on the vertical axis versus steady-state debt \( \Delta \) on the horizontal axis

(2) steady-state consumption \( c \) on the vertical axis versus steady-state debt \( \Delta \) on the horizontal axis

[Plotting hint: \( k \) is not in general a single-valued function of \( \Delta. \) \( c \) is not in general a single-valued function of \( \Delta. \)]