Economics 314 Spring 2020
Project #2 Assignment Due: 9am, Wednesday, February 12

Partner assignments

Partners	
Blaise Albis-Burdige	Owen Young
Todd Bieschke	Olek Wojcik
Working solo	Jakob Shimer
Alec Forget	Liam Ryan-O'Flaherty
Emanuel Gordis	Mayou Roffe
Alex Hsu	Bijay Rai
Yessica Ji	Jasmine Peng
Pratik Kafle	Thomas Malthouse
Sarah Kumar	Brian Zilles

Problems

Romer's Problem 1.10.

Romer's Problem 2.6 with the following modifications:

- ***Add to part (b):*** Differentiate both sides of the $\dot{c} = 0$ equation with respect to *g,* solve for an expression for $\frac{\partial k^*}{\partial g}$, and verify that its sign corresponds to your graphical answer. Use the $\dot{k} = 0$ equation and your answer above (remembering that k^* is a function of g) to derive an expression for $\frac{\partial c^*}{\partial g}$ and verify that its sign corresponds to the implication of your graphical answers to parts (a) and (b). (The utility function condition in Romer's equation (2.2) is useful to help determine the sign.)
- ***In part (f),*** it is useful to start by using the $\dot{k} = 0$ equation to write the steady-state saving rate $s^* = \frac{f(k^*) - c^*}{f(k^*)}$ solely as a function of k^*. You can then use the result of the part (b) extension above.
- ***Do not do Romer's part (g).*** It is just algebra and not economically enlightening. Instead substitute the following question:
  - ***New part (g):*** Write a short paragraph describing the economic question posed in this problem and what your answer means.

Romer's Problem 2.7 with the following modification:

- ***In part (a):*** The parameter θ measures how unwilling households are to accept non-smooth consumption over time. Given that $g > 0$, the equilibrium consumption path of C for each consumer must rise over time, deviating from the smooth path of C that would be preferred if $r = \rho$. ***Use the interpretation of θ above to explain the intuition of why a larger θ would affect the r and therefore k* that are consistent with consumer equilibrium for given g > 0.***

- ***In part (b):*** Assume that the downward shift is proportional, not parallel. In other words, both $f(k)$ and $f'(k)$ fall at each level of k.
- ***In part (c):*** Be sure to consider both curves in this question. We discussed in class how the equations of motion would be affected by depreciation.