Problem Set #3

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Discussed and/or compared answers with Sarah Bass, Emily Case, Katherine Kwok, Michael Nattinger, and Alex Von Hafften

For all of the problems below, all computational work is performed in `edgel_ps3.m`, which is attached. This code is heavily commented so as to mostly stand on its own. As a result, I will provide little explicit information about the code in this document, leaving it only for answering justifications, deriving relationships, etc.

Questions 1 and 2

See first two sections of the attached code.

Question 3

Since both capital and investment have moving steady states, it is reasonable to pick an arbitrary date to assume a steady state at some period prior to the sample period, then carrying the variables forward. With enough periods, the effect of assuming a steady state in the prior period is minimal-to-nonexistent. By the time the sample period begins, the steady state that k_t is relative to actually comes from the data rather than the earlier assumption.

Question 4

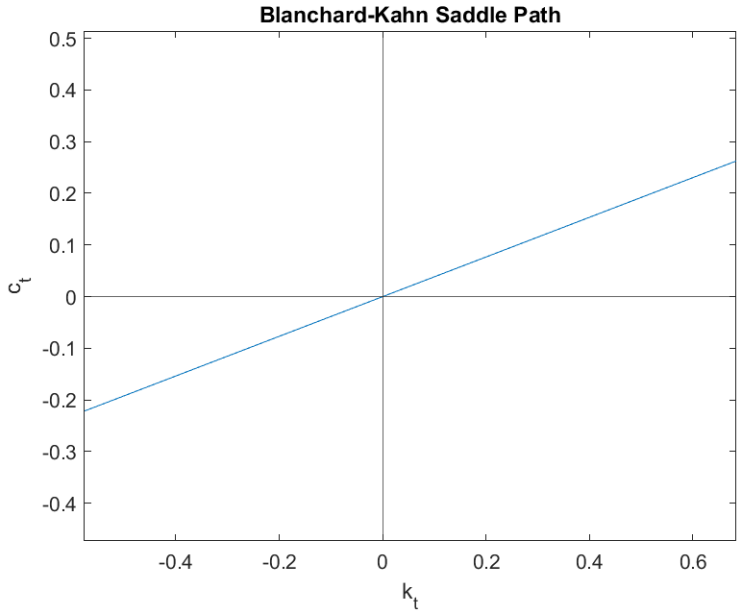
The table below displays the persistence parameters from the three wedges, a_t, g_t, and τ_{Lt}.

ρ_a	0.801
ρ_g	0.954
ρ_{τ_L}	0.911

Question 5

Implementing Blanchard-Kahn to solve this model results in a proportional relationship between c_t and k_t in the saddle path of the model. (show the A and B matrices and the solution)

The saddle path is displayed in the chart below.

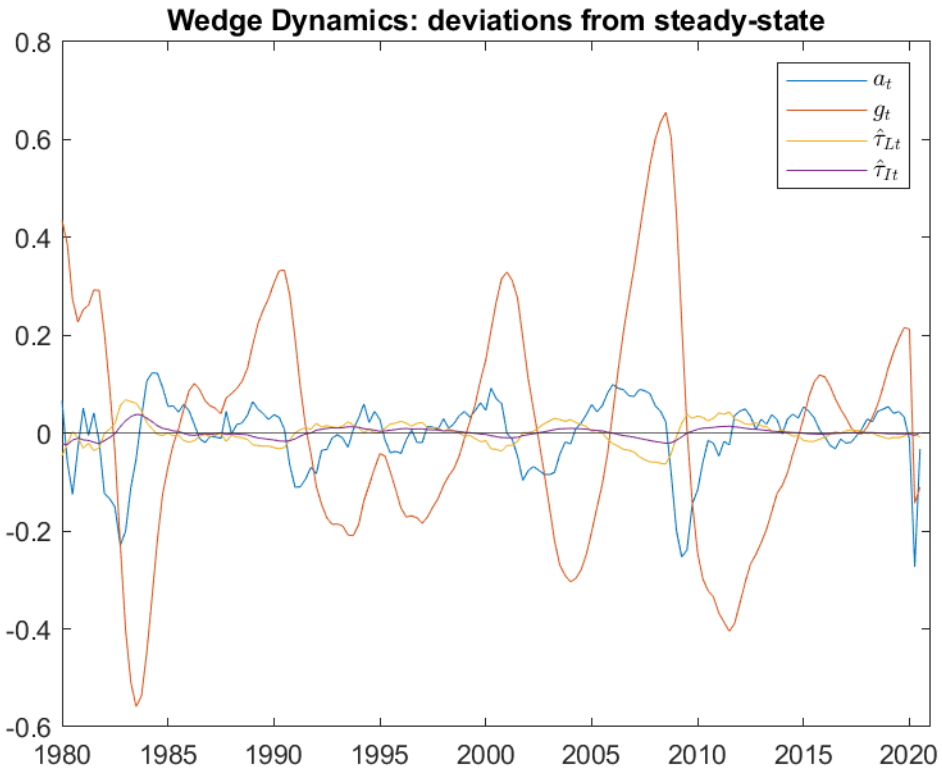


Question 6

include equations used to solve for τ_{It} and its steady state

Solving for the fixed-point estimate of τ_{It} results in a persistence parameter of $\rho_{\tau_I} = 0.946$.

Question 7



Question 8