

Low k_1 experiments

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Abstract

1 Standard calibration

This document contains transition results for an experiment with low initial k .

The model is calibrated to U.S. data as usual. See table 1 of the "paper" for the parameters.

All forcing variables are set to steady state. k_0 is set to $0.1k_{ss}$.

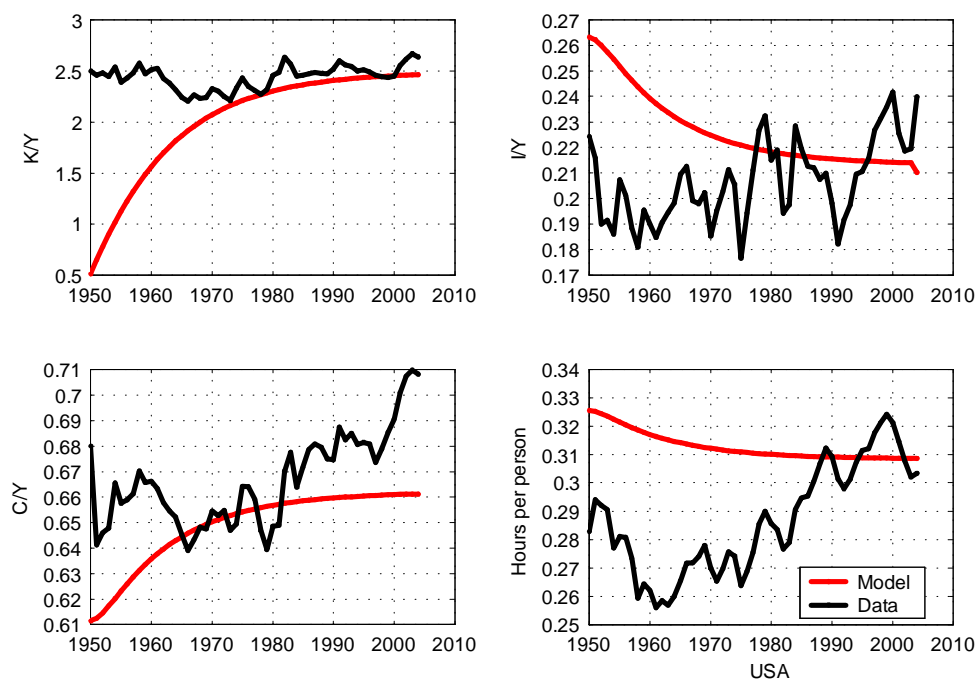


Figure 1: Standard calibration

2 Lower labor supply elasticity

Figure 2. Fix $\varphi = 0.1$. Recall that preferences are $U(C/N, 1 - n/\lambda) = \frac{(C/N)^{1-\sigma} (1-n/\lambda)^{\varphi(1-\sigma)}}{1-\sigma}$.

Interesting: Not much happens to I/Y. In fact, the entire transition path is almost the same as with the standard labor supply elasticity.

This looks a bit suspicious, but I cannot find anything wrong with the solution. I checked the transition path against the first-order conditions. Perhaps Cara can confirm this.

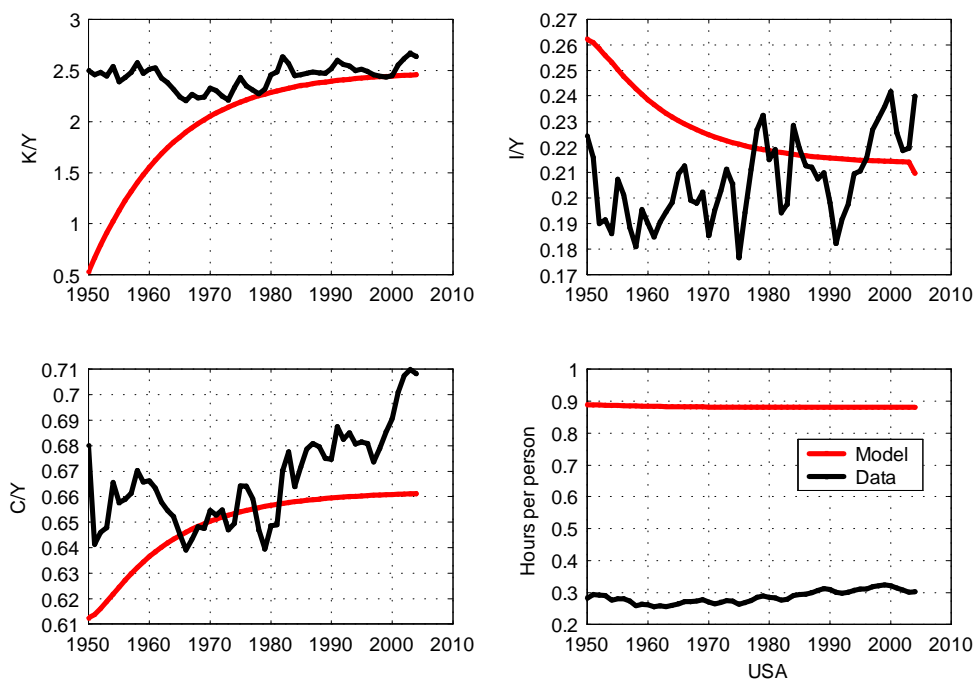


Figure 2: Inelastic labor supply

Visually, the cases of elastic and inelastic labor supply seem identical. But they are not. In figures 3 and 4 I compare the two paths. They differ as expected. Deviations are in percent.

3 Log-log utility

Figure 5. Now change utility to $u(c_t, 1 - n_t/\lambda_t) = \ln(c_t) + \varphi \ln(1 - n_t)$. Calibrate φ to match the fraction of time spent working.

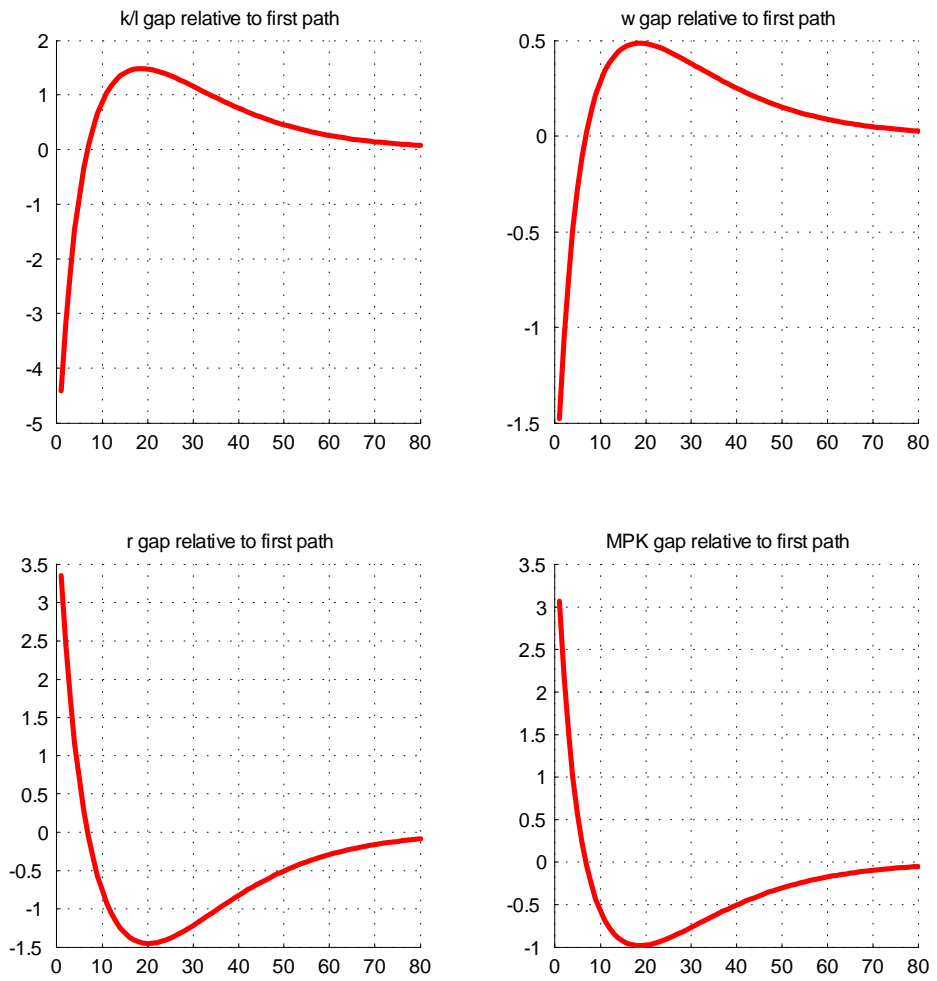


Figure 3: Comparison: elastic/inelastic labor supply

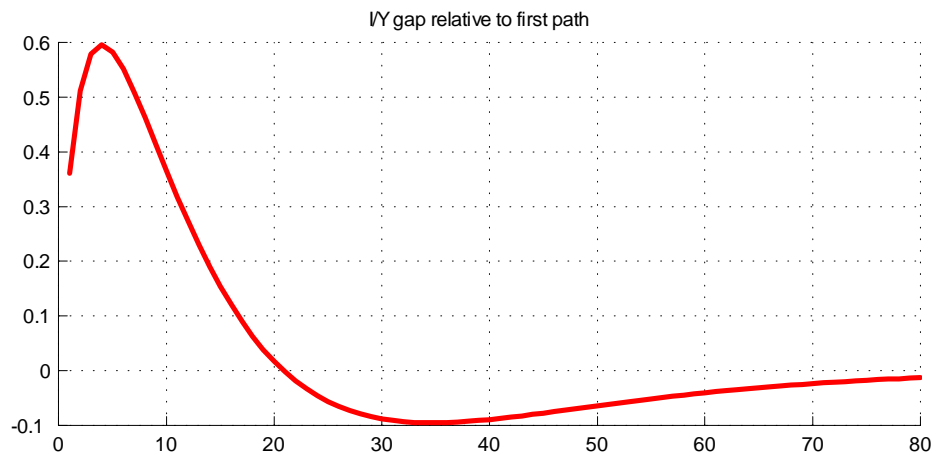
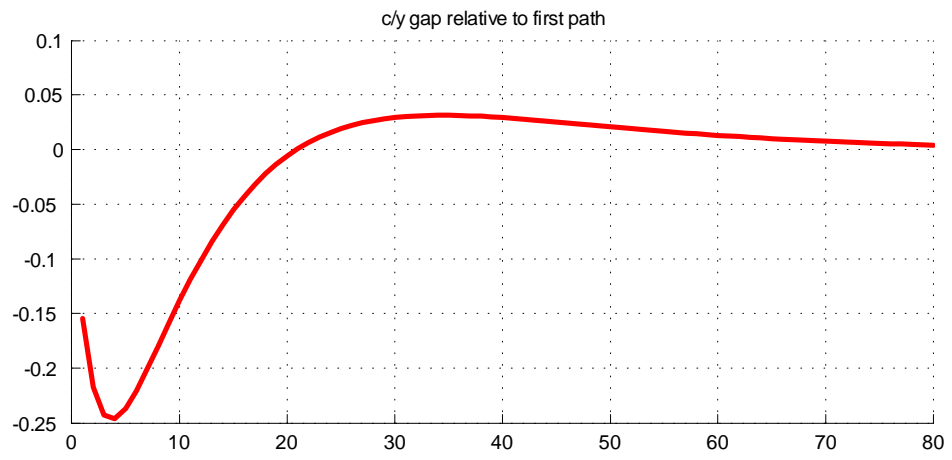


Figure 4: Comparison: elastic/inelastic labor supply

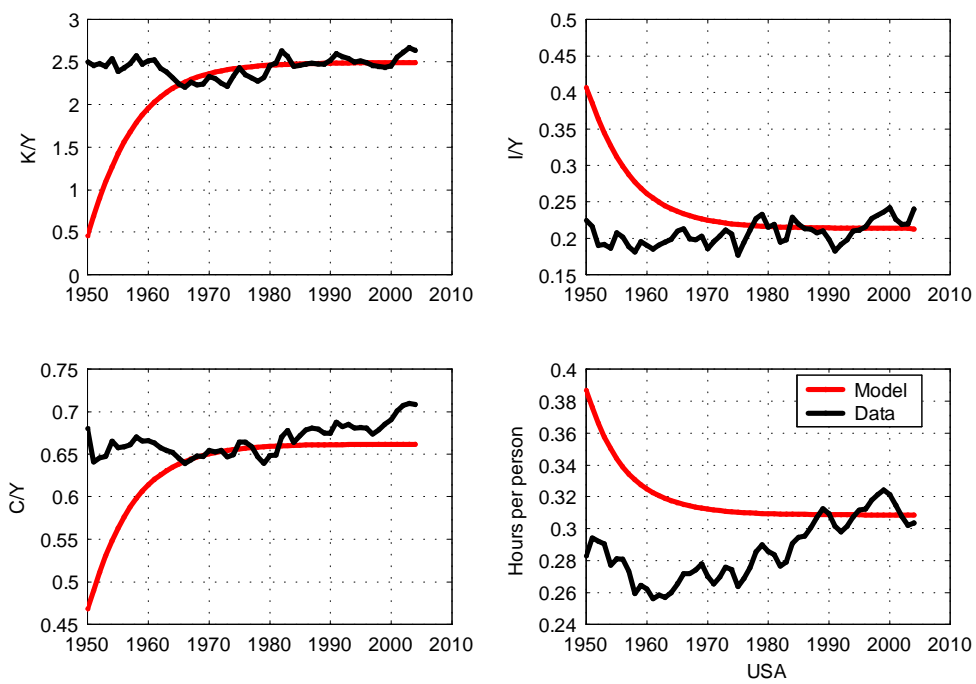


Figure 5: Log utility.