

balance to experience an initial deterioration in response to a positive technology shock.”

9. How would your answers to questions 5 and 7 change if the period utility function was separable in consumption, c_t , and hours, h_t ?

Exercise 4.10 [Calibrating the EDEIR Model Using Canadian Data Over the Period 1960-2011] In section 4.5, we calibrated the EDEIR model using second moments computed using Canadian data over the period 1946-1985. The middle panel of table 4.2 updates the empirical second moments to the period 1960 to 2011. The present exercise uses these empirical regularities to calibrate and evaluate the SOE-RBC model.

1. Calibrate the EDEIR model as follows: Set $\beta = 1/1.04$, $\sigma = 2$, $\omega = 1.455$, $\alpha = 0.32$, $\delta = 0.10$, and $\bar{d} = 0.7442$. Set the remaining four parameters, ρ , η , ϕ , and ψ_1 to match the observed **standard deviations and serial correlations of output** and the **standard deviations of investment** and the trade-balance-to-output ratio in Canada over the period 1960-2011. Approximate the equilibrium dynamics up to first order and use a distance minimization procedure similar to the one used in exercise 4.8. Compare the resulting values for ρ , η , ϕ , and ψ_1 with those reported in table 4.1.
2. Compute theoretical second moments and present your findings as in the third panel of table 4.2.
3. Comment on the ability of the model to explain observed business cycles in Canada over the period 1960-2011.
4. Compute the unconditional standard deviation of the productivity shock, $\ln A_t$ under the present calibration. Compare this number to the one corresponding to the 1946-1985 calibration presented in section 4.5. Now do the same with the standard deviation of output. Discuss and interpret your findings.