Econ 642, Spring 2007.

Homework 2

Part 1

Solve question 2 and 3 from homework 1.

Part 2

Question 1

Consider the model presented in handout 2. Assume the same utility function as for the model in Homework 1. Take the same parameter values as in Homework 1 for both the home and the foreign economy, but this time let capital's share of income be 0.3. Furthermore, take $\omega_c = 0.5$; set ρ_c so that the price elasticity of demand for imports is 100; set $\psi_k = 0$. Let the standard error for the innovation to labor-augmenting technology be 0.01 in both countries; let the standard error for the innovation to capital-augmenting technology be 0.0001 in both countries.

Following Baxter and Crucini, define true saving for the home country to be

$(I_t + P_{Ft}I_t^*)/(2Y_t)$.

What is the correlation between true savings and investment for the home country?

Let $\psi_k = 15$. What happens to the correlation between true savings and investment? Define saving to be $y_t - c_t$. What is the correlation between saving and investment?

Question 2

Use the same setup as for question 1, but let the price elasticity for imports be 1.5 in both countries and $\psi_k = 0$. Both for the Home and Foreign country, plot the responses of consumption, investment, capital, labor, the production and consumption real exchange rate to a 1 percent increase in labor-augmenting technology.

Explain why the consumption-based real exchange rate remains constant even in the face of the shock.

What happens to the responses of the production- and consumption-based real exchange rate when $\omega_c = 0.2$? What if $\omega_c = 0.8$?

What happens to the correlation between true saving and investment when $\omega = 0.8$?