Econ 642, Spring 2007.

Homework 4

Question 1

Consider the model with traded and nontraded goods described in handout 4 and the dynare model file associated with it (*nontraded.mod*).

To ensure that all relative prices are equal to 1 in steady state, we can impose the restriction that the parameters ω_{CT}, and ω_{IT} in the consumption and investment bundles be the same across countries. If all technology levels are set to 1, what further restriction on the parameters do we need to impose?

Question 2

Using the model file (*nontraded.mod*) explain the effects of a 1% increase in labor-augmenting technology for the production of nontraded goods.

Compare the responses when the traded and nontraded goods are complements (with the elasticity = 0.5) and when they are substitutes (with the elasticity = 2). What happens when traded and nontraded goods are nearly perfect substitutes?

Question 3

Modify the model file (*nontraded.mod*) so as to nearly eliminate the nontraded sector by setting $\omega_{NI} = \omega_{NC} = 0.01$. Set ω_{TI} and ω_{TC} so that the import to GDP ratio is 12% in steady state. Compare the response of the economy when consumption and investment have the same import intensity and when consumption accounts for 1/3 of imports (but the overall import share of GDP is kept unvaried).

Question 4

How does your answer to question 3 change when nontraded goods accout for 50% of both consumption and investment inputs?