Review Exercise 2

1. It has sometimes been argued that the main effect of NAFTA, the North American Free Trade Agreement, was to make U.S. investors much more confident that investments in Mexico would not be expropriated or arbitrarily taxed. It has also been argued that the later Mexican financial crisis was a consequence of a sudden decrease in confidence by U.S. investors that their Mexican investments would not be interfered with politically. (In the months just preceding the crisis, there were widely publicized incidents of leftist political militia activity and dramatic allegations of graft and corruption at high levels of the government.) Suppose that before NAFTA, the U.S. and Mexico were in the position of a rich and poor country with no international capital flows, NAFTA then freed capital flows, and the unsettling political news then made foreign investors withdraw again from Mexico. Using our OG modeling framework, what would we have expected the sequence of events to do to wages, the rate of return on capital, the welfare of the young, and the welfare of the old, in Mexico and in the U.S. Consider both the case where the difference between the two countries initially is all due to differences in a , preferences for saving, and the case where initial differences are all due to differences in A, the level of technology. Discuss both the short-run consequences (all within one generation) of the movement of foreign capital in and out, and what would be the long run consequences of the freeing of capital flows, in both of the two cases (a differences and A differences).

2. Suppose in our OG exhaustible resource model the government decides to try to reduce the rate of resource exhaustion, so welfare is spread more evenly across generations. Consider the following three possibilities, and compare them for their effectiveness in redistributing welfare across generations while minimizing efficiency losses. With each policy, we assume the government budget is balanced each period.

i) Lump sum taxes and transfers for young and old.

ii) A proportional tax on resource use in production (Z), proceeds returned as a lump sum transfer to the old.

iii) A proportional tax on resource use in production (Z), proceeds returned as a lump sum transfer to the young.

In all cases, taxes are allowed to be negative (so they become transfers or subsidies) if that would produce a better outcome.

Recall that in this model the young save by buying stocks of the resource, which they sell to the firm in the second period of life. The firm maximizes

$$Q(t)S^*(t) + AL(t)^b Z(t)^{1-b} - W(t)L(t) - Q(t)S(t) \tag{1}$$

subject to

$$Z(t) = S(t) - S^*(t) \ . \tag{2}$$

Of course when there are taxes on resource use, (1) has to be modified accordingly.