Problem Set 6
Due at the start of class, Monday, November 1, 2004

1. Consider a country that due to stunning incompetence has lost half of its’ vaccine for a deadly virus. Prior to this screw up the economy was at steady-state. The virus kills people but does not affect capital. As a result of the virus (which eventually goes away), the population is reduced but its stock of physical capital is unchanged. The growth rate of the population and the saving rate are unaffected.

   (a) What is the immediate impact of the virus on the country’s total output and on output-per-person?

   (b) What will the effect of the virus be on the steady-state growth rate of capital, the steady-state growth rate of output, and the steady-state growth rate of productivity?

   (c) What will the effect of the virus be on the growth rate of the capital-to-labor ratio, the growth rate of output-per-person, and the growth rate of total factor productivity on the way to the post-virus steady-state? On a graph, show the time path of $k$ from the pre-virus attack steady-state to the post-virus steady-state.

2. All other things being equal, how would each of the following affect the demand of M1? Explain briefly.

   (a) An increase in GDP.

   (b) An increase in the price level.

   (c) A crack-down reduces the underground drug trade.

   (d) Home equity lines of credit that allow homeowners to write checks against the value of their homes are introduced.


5. Consider the prisoner of war camp described in R.A. Radford’s article in the course packet.

   (a) Which characteristics of cigarettes made them useful as money?

   (b) Describe the costs associated with using cigarettes as money.

   (c) Why were machine-made cigarettes not used for trade?

   (d) Using the quantity theory of money (or supply and demand) describe how each of the following affected the price level (the price of goods in terms of cigarettes) in the camp:

      i. Cigarette shipments.

      ii. Rumors of future cigarette shipments.
iii. Heavy air raids in the vicinity of the camp.
iv. The halving of supplies of parcels and cigarettes that occurred in August 1944.

(e) A question just for thought – you don’t have to write down an answer. Some heavy smokers in the camp developed malnutrition and became a burden on the communal resources of the camp hospital. If you were a senior officer (i.e. a policymaker) in the camp, what if anything would you have done in response?