University of Connecticut
College of Arts and Sciences
Department of Economics
Christian Zimmermann

Spring 2004, Intermediate Macroeconomics, section 1

ECON 219 Final Exam

General recommendations:

- Read questions thoroughly.
- Please respond on this copy.
- You have two hours.
- Work individually.
- There are six pages.
- Good luck!

Your name:

1. **[25 points]** Circle the appropriate answer on each of the following items. Circle multiple items if necessary:

   (a) According to the model of endogenous growth with human capital, countries with more efficient schools:
   a) are richer; b) have higher output growth; c) have higher consumption growth; d) have lower consumption growth.

   (b) In the intertemporal model with money, the demand for money is equal to:
   a) the real demand for current cash goods; b) the nominal demand for current cash goods; c) the real demand for future cash goods; d) the nominal demand for future cash goods.

   (c) In the intertemporal model with money, firms charge the same price for cash and credit goods because:
   a) the consumption of both goods is perfectly substitutable; b) the firms can costlessly switch production from one good to the other; c) the firms produce the good that has the highest price; d) we ran out of letters to differentiate these prices.

   (d) Commodity money is not a good currency because:
   a) its quality may not be uniform; b) it is costly to produce; c) the issuing bank may be insolvent; d) it could be used for other productive purposes.

   (e) Credit cards are not a form of money because:
   a) money needs to be tangible (not virtual); b) credit cards just extend a loan; c) credit cards just relate to an account; d) credit cards balances are in fact counted as money.

   (f) With money supply shocks in the intertemporal model with money, the price level is:
   a) procyclical; b) acyclical; c) countercyclical; d) anticyclical.

(g) Without the CIA constraint, money would not be held by households in the intertemporal model with money because:
a) it is not in their utility function; b) its return is too high; c) its return is too low; d) we cannot tell.

(h) Let k^*_{GR} be the per capita capital under the Golden Rule, and k^*_{MGR} the per capita capital under the Modified Golden Rule. Then:
a) $k^*_{GR} < k^*_{MGR}$; b) $k^*_{GR} = k^*_{MGR}$; c) $k^*_{GR} > k^*_{MGR}$; d) we cannot tell.

(i) When the Federal Reserve buys Treasury bonds, this is called:
a) a swap; b) an open market operation; c) a bond roll-over; d) bonding.

(j) At the steady state of the exogenous growth model with positive growth in population and total factor productivity:
a) per capita capital is constant; b) per capita capital grows; c) per capita capital decreases; d) anything can happen.

2. **[10 points]** What is the Friedman Rule? Why is it optimal?

3. **[10 points]** What is the Golden Rule? Explain in words only.

4. **[10 points]** Explain why the Solow growth model is called a model of exogenous growth. Again, explain only in words. What is the rate of growth of output?

5. **[10 points]** Cigarettes have sometimes been used as currency in prison camps. What properties do cigarettes have to make them accepted as money?

6. **[35 points]**

   (a) Take the intertemporal model with money. What could current capital shocks represent in "real life?"

(b) Show graphically the impact of a negative shock to current capital on the real interest rate, the price level, output, employment, and the real wage.

(c) Discuss the cyclical behavior of consumption, investment, prices, real wages, and employment if the economy were hit only by current capital shocks in the intertemporal model with money.

(d) Are current capital shocks a good explanation of business cycles, assuming there would be only only this type of shocks.

(e) What has the addition of the money market to the original intertemporal model given us in additional insights? Or: Comparing your results to those from a model without money, what did we gain?

(f) What could the monetary authority do to counteract these shocks? Precisely, what policy should it follow to stabilise output? What can it do to stabilise prices?

7. **Bonus question [10 points]** Make two arguments why sound monetary policy would still be needed despite the result of money neutrality in the intertemporal model with money: one argument while still keeping all assumptions of the model, one while relaxing some assumption. Define what you mean by sound policy.