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Fall 2007, Intermediate Macroeconomics, section 2

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. **[20 points]** Circle the appropriate answer on each of the following items. Circle multiple items or none if necessary:

   (a) If a central bank follows a Taylor Rule and inflation is increasing by 1%, then the target nominal interest rate should

   i. increase by more than 1%,
   ii. increase by 1%,
   iii. decrease by 1%,
   iv. decrease by more than 1%.

   (b) What is the impact of an increase in future taxes on permanent income?

   i. An increase.
   ii. No change.
   iii. A decrease.
   iv. It depends.

   (c) Investment demand increases if

   i. current total factor productivity increases,
   ii. current taxes decrease,
   iii. future government expenses increase,
   iv. current money supply increases.

   (d) In the intertemporal model with money,

   i. the price level is exogenous,
   ii. the nominal wage is exogenous,
   iii. the price level is rigid,
   iv. the real wage is rigid.

(e) When the real interest rate increases, it is always true that

i. the current consumption of borrowers decreases,
ii. the future consumption of lenders increases,
iii. the future consumption of borrowers increases,
iv. the current consumption of lenders decreases.

(f) M1 contains

i. bank notes,
ii. saving accounts,
iii. credit cards,
iv. checking accounts.

(g) If P is the price level, the inflation rate is defined as

i. $\frac{\frac{1}{P'}-\frac{1}{P}}{\frac{1}{P}}$,
ii. $P' - P$,
iii. $\frac{P'-P}{P}$,
iv. $\frac{1}{P'} - \frac{1}{P}$.

(h) At the endowment point,

i. current consumption equals future consumption,
ii. the indifference curve is horizontal,
iii. savings are zero,
iv. the cash-in-advance constraint is binding.

2. **[15 points]** Government.

(a) State the Ricardian equivalence.

(b) In the budget constraints of the government, what is endogenous with respect to the intertemporal model with investment?

(c) Why do Treasury bonds not appear in the intertemporal budget constraint of the government?

3. **[20 points]** Intertemporal choice.

(a) Explain why investment demand is negatively related to the real interest rate. Do not derive this result, just explain the logic of it ("if the interest rate is higher, then ..., because ..., etc.").

(b) Why is the real interest rate relevant, and not the nominal interest rate?

4. **[45 points]** Take the intertemporal model with money. Assume the economy is at equilibrium. Then increase current government expenses.

   (a) There is no change to the money supply or future government expenses. What does this imply for the other aggregates under government control?

   (b) Show graphically what the full consequences (taking into account your answer above) are for all endogenous variables of the model.

(c) Is this kind of shock a good explanation of the business cycle? Give details.

(d) Given such shocks, how should the central bank behave in order to stabilize prices, i. e., what monetary policy rule should it apply if there where only such shocks?

(e) What impact does such a monetary policy have on other variables?

5. **Bonus question [10 points]** Let us return to the growth models and let us use what we learned from the business cycle models.

   (a) What role would money have in growth models?

   (b) Assume prices are rigid. What changes to your answer?

   (c) Explain how inflation could have an impact on growth rates.