Name:
Section No.:
SSN:
GSI:

Economics 102
Introduction to Macroeconomics
Prof. Alan Deardorff

Final Exam - Answers

Form 1

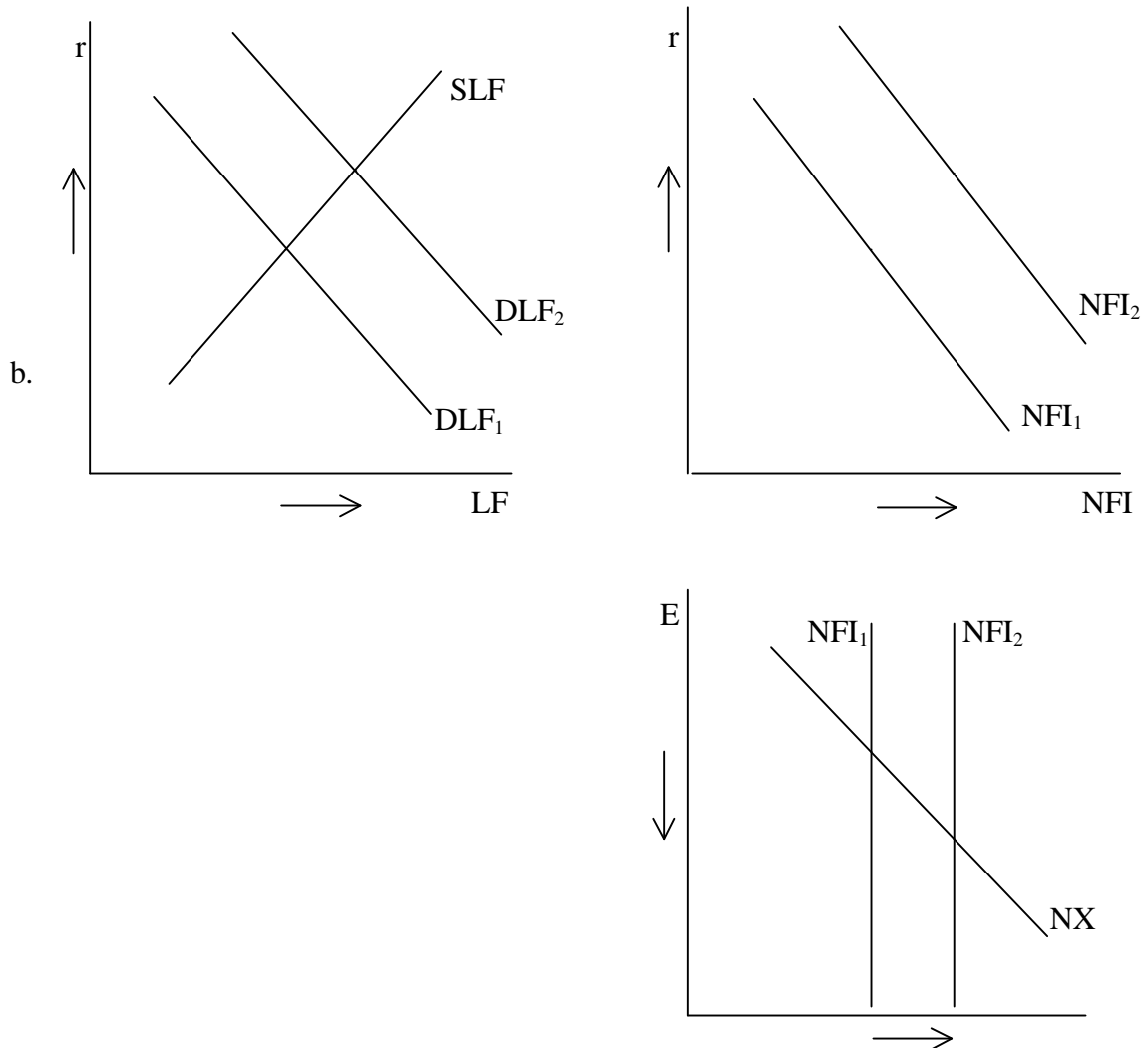April 27, 1998

Part 1: Multiple Choice (60 points, 2 each)

1. c	16. e
2. d	17. d
3. b	18. c
4. d	19. e
5. d	20. c
6. d	21. d
7. d	22. a
8. d	23. b
9. a	24. b
10. a	25. e
11. e	26. b
12. b	27. d
13. e	28. c
14. e	29. b
15. b	30. d

Part II: Short Answer (38 points)

1. (14 points) In this question you will analyze the long run effects of a change in international capital flows, assuming that there is no net effect on real output.

➡ There is a decrease in foreign demand for U.S. financial assets at any real interest rate.

a. (6 points) In the space provided below illustrate the effects of this event using the diagrams of Mankiw's Open Economy Model (including determination of the real interest rate and the real exchange rate). Make sure that you clearly label all axes, all curves, and the direction of change for all variables.
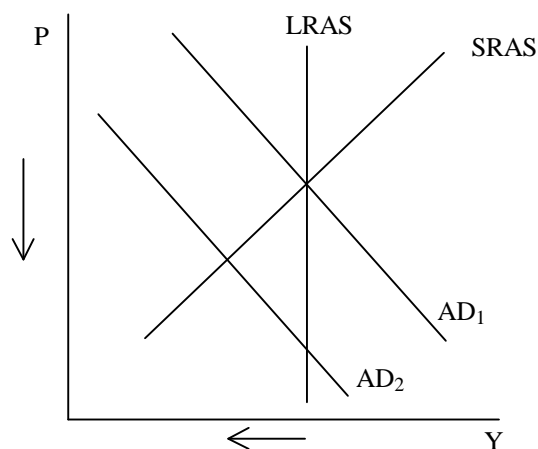
(8 points) Give the direction of change for each of the following variables:

i.   real interest rate <u>increa</u>se

ii. real exchange rate <u>decrea</u>se (depreciate)

iii. national savings <u>increa</u>se

iv. private savings <u>increa</u>se

v.   domestic investment <u>decrea</u>se

vi. net foreign investment <u>increa</u>se

vii. net exports <u>increa</u>se

viii. consumption <u>decrea</u>se

2.   (14 points) For this question you will analyze the effects of a macroeconomic policy
     change using the AS/AD diagram in the short and long run, and also the short run
     MS/MD diagram. Assume for the sake of this question that the change in macro
     policy does not lead to any changes in the factors of productivity in the long run.
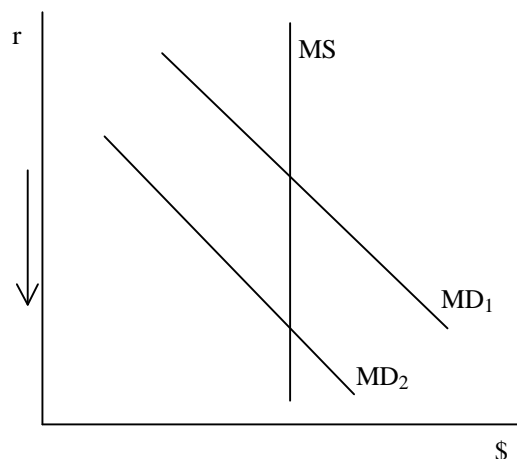   Also, assume that the economy starts in long run equilibrium.

➡The government reduces purchases of goods.

   a.   (3 points) Illustrate the short run effects of this policy in an AS/AD diagram.
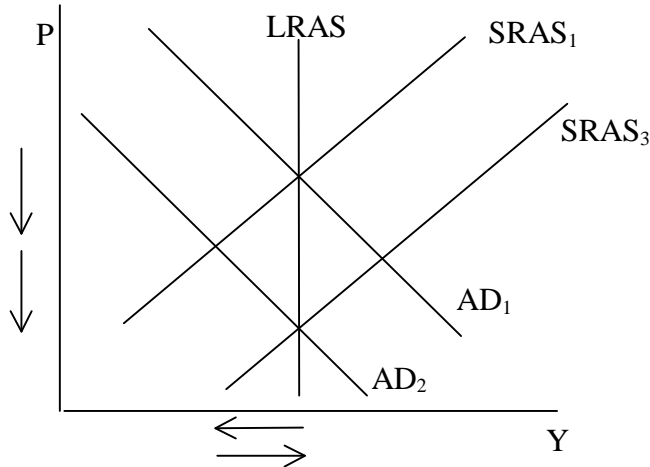   Briefly (one sentence or less) explain why you shifted the curve(s) that you did.

Fall in government purchases reduces
aggregate demand for any price level
and shifts the AD curve to the left.

   b.   (4 points) Based on the changes you found in part (a), show the effects of this
        policy in the short run diagram of money supply and demand. Again explain
        briefly why you shifted the curve(s) that you did. How does this policy effect the
        real interest rate in the short run?

Fall in price (P) and fall in income (Y)
above both cause less money to be
demanded at any interest rate, shifting
the money demand curve to the left.

c. (3 points) Redraw your diagram from part (a) in the space below. Then illustrate
    the long run change(s) that will occur. Briefly explain.

Expected (perceived) prices and wages fall, shifting the SRAS curve down. P therefore falls further, while Y moves back up (the broken arrows).

d. (4 points) Comparing the old long run equilibrium (before the change in
    government purchases) to the new long run equilibrium, how have the following
    variables changed:

    i.   The Real interest rate decrease

    ii.   Domestic Investment increase

    iii.   Net Exports   increase

    iv. Consumption   increase

3. In this question you will analyze the effects of certain policy changes using the Phillips curve diagram on the next page. The economy starts in long run equilibrium prior to these changes, at the point labeled S on the short-run Phillips curve PhC_0 with expected rate of inflation $E\pi_0$ and unemployment equal to the natural rate, u_N. Assume that expected inflation is fixed in the short run, that it adjusts toward actual inflation over time, and that it equals actual inflation in the long run.

➡The Congress enacts a tax cut, in the hope of pleasing voters prior to a Congressional election.

a. (4 points) Illustrate the effects of this tax cut in the diagram, assuming that the Fed does not initially respond with any change in monetary policy. First, in the diagram on the next page, label as PhC_A the short-run Phillips curve appropriate to this new situation, and label as A a point on it where the economy might be after the tax cut. Then indicate, by circling the answers below, what happens to the unemployment rate and the rate of inflation.
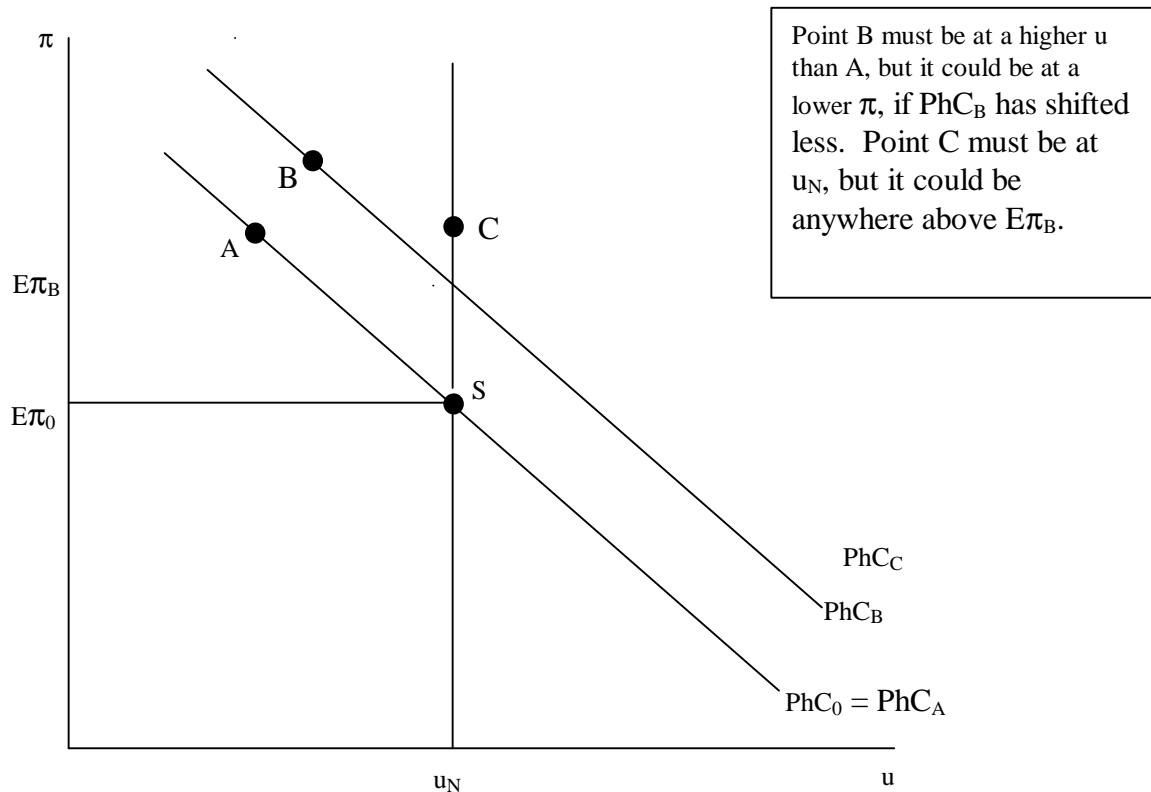
The unemployment rate: rises   (falls)   stays the same   **[circle one]**

The rate of inflation: (rises)   falls   stays the same   **[circle one]**

b. (2 points) Now show what happens next, as expected inflation adjusts toward the new actual rate of inflation that you found in part (a). Continue to assume no change in monetary policy. Again, identify the new short-run Phillips curve as PhC_B and mark a point B on it where the economy could be.

c. (2 points) Finally, show what will happen to the economy in the long run, if the Fed now does the best it can to fight inflation while not allowing the unemployment rate to move above its natural rate. Identify as PhC_C a short-run Phillips curve that might prevail in the long run, and a point C that represents the long-run combination of unemployment and inflation that will be approached.

d. (2 points) Based on your analysis, comparing now to the rates that prevailed before these policies were begun, what effects has the tax cut (and accompanying monetary policies) had on unemployment and inflation in the long run?

The unemployment rate: rises   falls   (stays the same)   **[circle one]**

The rate of inflation: (rises)   falls   stays the same   **[circle one]**

Point B must be at a higher u than A, but it could be at a lower π, if PhC_B has shifted less. Point C must be at u_N, but it could be anywhere above $E\pi_B$.

π

B

A

C

$E\pi_B$

$E\pi_0$

S

PhC_C

PhC_B

$PhC_0 = PhC_A$

u_N

u

This answer is based on my own interpretation of this question, which is different, it turns out, from what many of you were told by the GSIs. I apologize for my ambiguous wording. Grading will be flexible.

I had intended that part (c) follow part (b), not substitute for it (that is, the Fed goes into action only after expectations of inflation have begun to increase). Part (b) was meant to refer to a second short-run equilibrium, after expectations have adjusted somewhat, but not a new long-run equilibrium. And in part (c), the Fed was meant to act to prevent unemployment from *ever* going above u_N, not just from going above it in the long run (which it wouldn't do anyway).