Midterm 2 - Economics 101 (Fall 2003)

You will have 75 minutes to complete this exam. There are 104 points.

Please write your name on bluebook and scantron. Write and code your id number on your scantron.

**Multiple Choice:** (30 points total, 3 points each) Choose the best answer; mark in your scantron.

**MC#1:** In the AS-AD model of chapter 9, a permanent rise in money supply will _____ output in the short run and will _____ price in the long run.

a) raise, raise  
b) raise, lower  
c) lower, raise  
d) lower, lower

**MC#2:** In the AS-AD model of chapter 9, which of the following could explain high inflation at the same time as a recession?

a) Rise in money supply  
b) Fall in velocity  
c) Rise in oil prices  
d) Fall in money supply

**MC#3:** What is seigniorage?

a) A type of unemployment insurance.  
b) Old age pensions in Mexico.  
c) Government revenue from printing money.  
d) The tendency for the Phillips curve to fall over time

**MC#4:** The IS curve is steeper when:

a) money demand is more responsive to the interest rate.  
b) money demand is less responsive to the interest rate.  
c) investment is more responsive to the interest rate.  
d) investment is less responsive to the interest rate.

**MC#5:** Which of the following helps explain why the aggregate demand curve slopes down:

a) Prices are sticky in the short run.  
b) People buy more of a good when it is less expensive.  
c) A rise in price level raises real money supply.  
d) A fall in the real money supply requires a rise in the interest rate.

**MC#6:** Fiscal policy is more effective in raising output when:

a) the marginal propensity to consume is small.  
b) investment is very responsive to changes in the interest rate.  
c) money demand is very responsive to changes in the interest rate.  
d) money demand is very responsive to changes in income.

**MC#7:** The “sticky wage” model of aggregate supply implies all of the following in the short run except:

a) Short run output can rise above the long-run full employment level of output.  
b) The real wage is pro-cyclical.  
c) Supply may not equal demand in labor market.  
d) A rise in price level lowers the real wage.

**MC#8:** The “imperfect information” model of aggregate supply implies all of the following in the short run except:

a) short run output can rise above the long-run full employment level of output.  
b) The real wage is pro-cyclical.  
c) Supply equals demand in labor market.  
d) A rise in price level lowers the real wage.

**MC#9:** According to the Phillips curve, inflation can be caused by:

a) a rise in costs of production.  
b) a rise in expectations for inflation.  
c) a rise in demand for goods.  
d) all of the above.

**MC#10:** If you observe a recession when interest rates are high, which of the following shocks most likely is the cause?

a) a fall in autonomous investment due to pessimism  
b) a cut in government spending  
c) a cut in money supply  
d) an exogenous fall in money demand
Problem 1: Keynesian Cross  (18 points total, 6 points each part)

Suppose consumption in the economy can be described by the consumption function:
\[ C = 10 + 0.9(Y-T), \]
where \( Y \) is total national income and \( T \) is taxes. Assume that investment is exogenous, so it is not a function of the interest rate.

a) Use the Keynesian Cross analysis to compute the effect of a 100 unit tax cut. How much will total national income change? Explain your result in a couple sentences.

b) Use the Keynesian Cross analysis to compute the effect of a 100 unit increase in government spending in this economy. How much will total national income change? Compare your answer to that above and explain the reason for the difference in a couple sentences.

c) Suppose you want to use fiscal policy to raise total national income by 200 units without worsening the government budget deficit. By how much would you change government spending and taxes then?

Problem 2: IS-LM Short run  (24 points total 8 points each part)

Suppose the Federal Reserve were to increase the money supply. Use IS-LM to analyze the short run implications of this policy.

(Make the usual IS/LM assumptions here: that investment is a function of the interest rate alone, consumption is a function of disposable income alone, money demand is a function of both the interest rate and income.)

a) Graphically illustrate the short-run effect of this policy in an IS-LM graph. Be sure to label the axes, the curves, and use arrows showing the direction the curves shift. Also mark the initial equilibrium as point ‘1’, and the short-run equilibrium as point ‘2’. Explain briefly the reason for any curve shift.

b) What will happen to the levels of the following variables in the short run? (Mark on your scantron.)

<table>
<thead>
<tr>
<th>MC#11: output</th>
<th>a) rise</th>
<th>b) fall</th>
<th>c) no change</th>
<th>d) ambiguous</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC#12: interest rate</td>
<td>a) rise</td>
<td>b) fall</td>
<td>c) no change</td>
<td>d) ambiguous</td>
</tr>
<tr>
<td>MC#13: investment</td>
<td>a) rise</td>
<td>b) fall</td>
<td>c) no change</td>
<td>d) ambiguous</td>
</tr>
<tr>
<td>MC#14: consumption</td>
<td>a) rise</td>
<td>b) fall</td>
<td>c) no change</td>
<td>d) ambiguous</td>
</tr>
</tbody>
</table>

c) Suppose that investment is less responsive to changes in the interest rate than assumed above. How would this change your answers to part (b)? In particular, for each of the variables listed in part (b) above, state if it changes more, less, the same, or if it is impossible to tell (ambiguous). (Mark on your scantron.)

<table>
<thead>
<tr>
<th>MC#15: output</th>
<th>a) more</th>
<th>b) less</th>
<th>c) same</th>
<th>d) ambiguous</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC#16: interest rate</td>
<td>a) more</td>
<td>b) less</td>
<td>c) same</td>
<td>d) ambiguous</td>
</tr>
<tr>
<td>MC#17: investment</td>
<td>a) more</td>
<td>b) less</td>
<td>c) same</td>
<td>d) ambiguous</td>
</tr>
<tr>
<td>MC#18: consumption</td>
<td>a) more</td>
<td>b) less</td>
<td>c) same</td>
<td>d) ambiguous</td>
</tr>
</tbody>
</table>
Problem 3: IS-LM AS-AD (32 points total)

Suppose that due to the need to balance the government budget, there is a permanent rise in taxes. (Make the usual IS/LM assumptions here: that investment is a function of the interest rate alone, consumption is a function of disposable income alone, money demand is a function of both the interest rate and income.)

a) (10 points) Use the IS-LM and AS-AD graphs to show the short run and long run equilibria following this policy. Assume that prices are completely fixed in the short run. Be sure to label the axes, curves, use arrows to show shifts in curves, and mark the equilibrium points: 1 for the initial equilibrium, 2 for the short run equilibrium, and 3 for the long-run equilibrium. Explain briefly the reason for each curve shift. Could balancing the budget here lead to a recession?

b) (10 points) What happens to the following variables in the short run: (Mark on your scantron.)
   - MC#19: output: a) rise b) fall c) no change d) ambiguous
   - MC#20: interest rate: a) rise b) fall c) no change d) ambiguous
   - MC#21: investment: a) rise b) fall c) no change d) ambiguous
   - MC#22: consumption: a) rise b) fall c) no change d) ambiguous
   - MC#23: price level: a) rise b) fall c) no change d) ambiguous

MC#24: output: a) initial equilibrium value b) higher c) lower
MC#25: interest rate: a) initial equilibrium value b) higher c) lower
MC#26: investment: a) initial equilibrium value b) higher c) lower
MC#27: consumption: a) initial equilibrium value b) higher c) lower
MC#28: price level: a) initial equilibrium value b) higher c) lower

Explain briefly in your bluebook the economic reasoning for your answers in part (c), and how it compares to the conclusions of the Neoclassical model regarding a permanent tax increase.

(11/10/03)