MACROECONOMICS
Section II
Planning Time—10 minutes
Writing Time—50 minutes

Directions: You have 50 minutes to answer all three of the following questions. It is suggested that you spend approximately half your time on the first question and divide the remaining time equally between the next two questions. In answering the questions, you should emphasize the line of reasoning that generated your results; it is not enough to list the results of your analysis. Include correctly labeled diagrams, if useful or required, in explaining your answers. A correctly labeled diagram must have all axes and curves clearly labeled and must show directional changes. Use a pen with black or dark blue ink.

1. Assume that the economy of Meekland is in a long-run equilibrium with a balanced government budget.
   (a) Using a correctly labeled graph of aggregate supply and aggregate demand, show each of the following.
      (i) Long-run aggregate supply
      (ii) The output level, labeled $Y_E$, and the price level, labeled $PL_E$
   (b) Assume consumer confidence falls. Show on your graph in part (a) the short-run impact of the change in consumer confidence and label the new equilibrium price level and output $Y_1$ and $PL_1$, respectively.
   (c) Using a correctly labeled graph of the short-run and long-run Phillips curves, show the effect of the fall in consumer confidence on inflation. Label the initial long-run equilibrium point A and the new short-run equilibrium point B.
   (d) If the government and the central bank do not pursue any discretionary policy change, how does the fall in consumer confidence affect government transfer payments in Meekland? Explain.
   (e) Draw a correctly labeled graph of the loanable funds market in Meekland and show the effect of the change in government transfer payments you identified in part (d) on the real interest rate.
   (f) In the absence of any changes in fiscal and monetary policies, in the long run will the short-run aggregate supply curve shift to the left, shift to the right, or remain unchanged as a result of the fall in consumer confidence? Explain.

2. Assume that yesterday the exchange rate between the euro and the Singaporean dollar was 1 euro = 0.58 Singaporean dollars. Assume that today the euro is trading at 1 euro = 0.60 Singaporean dollars.
   (a) How will the change in the exchange rate affect each of the following in Singapore in the short run?
      (i) Aggregate demand. Explain.
      (ii) The level of employment. Explain.
   (b) Suppose that Singapore wants to return the exchange rate to 1 euro = 0.58 Singaporean dollars.
      (i) Should the Singaporean central bank buy or sell euros in the foreign exchange market?
      (ii) Instead of buying or selling euros, what domestic open-market operation can the Singaporean central bank use to achieve the same result? Explain.
3. (a) The outputs and prices of goods and services in Country X are shown in the table above. Assuming that 2009 is the base year, calculate each of the following.

   (i) The nominal gross domestic product (GDP) in 2010

   (ii) The real GDP in 2010

(b) If in one year the price index is 50 and in the next year the price index is 55, what is the rate of inflation from one year to the next?

(c) Assume that next year’s wage rate will be 3 percent higher than this year’s because of inflationary expectations. The actual inflation rate is 4 percent. At the beginning of next year, will the real wage be higher, lower, or the same as today?

(d) Assume that Sara gets a fixed-rate loan from a bank when the expected inflation rate is 3 percent. If the actual inflation rate turns out to be 4 percent, who benefits from the unexpected inflation: Sara, the bank, neither, or both? Explain.

<table>
<thead>
<tr>
<th></th>
<th>2009 Quantity</th>
<th>2009 Price (base year)</th>
<th>2010 Quantity</th>
<th>2010 Price</th>
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<td>Food</td>
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<td>$2.5</td>
<td>8</td>
<td>$2.5</td>
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<td>$5</td>
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</tbody>
</table>

STOP

END OF EXAM
Question 1

10 points \(2 + 1 + 3 + 1 + 2 + 1\)

(a) 2 points:
- One point is earned for drawing a correctly labeled graph of AD and SRAS and showing PL_E.
- One point is earned for showing a vertical long-run aggregate supply curve (LRAS) at \(Y_E\).

(b) 1 point:
- One point is earned for showing a leftward shift of the AD curve and showing the new equilibrium price level, PL_1, and output, \(Y_1\).

(c) 3 points:
- One point is earned for a correctly labeled graph of a downward-sloping short-run Phillips curve.
- One point is earned for drawing a vertical long-run Phillips curve and showing point A at the intersection of LRPC and SRPC.
- One point is earned for showing point B to the right of point A on the SRPC.

(d) 1 point:
- One point is earned for stating that transfer payments will increase because more people will apply for government benefits.
(e) 2 points:
- One point is earned for drawing a correctly labeled graph of the loanable funds market.
- One point is earned for showing a rightward shift of the demand curve and/or a leftward shift of the supply curve and for showing an increase in the real interest rate.

(f) 1 point:
- One point is earned for stating that the short-run aggregate supply curve will shift to the right because wages and other input costs will fall.
Question 2

5 points (2 + 3)

(a) 2 points:

- One point is earned for stating that aggregate demand in Singapore will increase and for explaining that the depreciating Singaporean dollar increases Singapore’s exports to European Union countries because the price of those exports — in terms of euros — decreases.
- One point is earned for stating that employment in Singapore will increase because Singapore’s real GDP increases and it takes more labor to produce more goods and services.

(b) 3 points:

- One point is earned for stating that the Singaporean central bank should sell euros.
- One point is earned for stating that the Singaporean central bank should sell government bonds.
- One point is earned for explaining that the sale of government bonds raises the interest rate in Singapore and increases the demand for Singaporean dollars for financial investment purposes.
Question 3

5 points \((2 + 1 + 1 + 1)\)

(a) 2 points:
- One point is earned for calculating the nominal GDP for 2010 as $145 (= 20 + 100 + 25).
- One point is earned for calculating the real GDP in 2010 as $100 (= 20 + 60 + 20).

(b) 1 point:
- One point is earned for calculating the inflation rate as 10 percent \((= 5/50)\).

(c) 1 point:
- One point is earned for stating that the real wage will be lower.

(d) 1 point:
- One point is earned for stating that Sara will benefit from the unexpected inflation because her fixed loan payments have less value.