

Prof. Charles I. Jones
Econ 100b
Fall 2005

Second Midterm Exam

November 10, 2005

Answer all questions. Use graphs and equations whenever possible to make your answers precise. The exam totals 80 points, one point per minute of class. This is a closed-book exam. No notes, calculators, or other aids are allowed.

1. *Short Answer Questions* (20 points total; 5 points each).
 - (a) Here are some statistics for an economy: Population=300, Labor Force=200, Employment=150.
 - i. What is the unemployment rate in this economy?
 - ii. If the natural rate of unemployment is 10 percent, what would the output gap be in this economy according to Okun's Law?
 - (b) Suppose money growth is 10% per year, inflation is 5% per year, and real GDP growth is 2% per year. According to the Quantity Theory of Money, what must be happening to velocity?
 - (c) State the Fisher equation and explain the economic intuition that leads the equation to hold.
 - (d) Suppose you discover today that a long lost relative left you a trust fund. You cannot access the money today, but in five years you will receive a check for \$1 million. Assuming you live forever and the interest rate is 7%, explain how your consumption changes today and in the future if you obey the permanent income hypothesis. (Note: you can keep your answer as a formula; there is no need to solve for exact numbers.)

2. *The IS Curve* (30 points). Consider the following setup for an economy:

$$\begin{aligned}
 Y_t &= C_t + I_t + G_t \\
 C_t &= \bar{a}_c \bar{Y}_t \\
 \frac{I_t}{\bar{Y}_t} &= \bar{a}_i - \bar{b}(R_t - \bar{r}) \\
 \frac{G_t}{\bar{Y}_t} &= \bar{a}_g - \bar{d} \text{Gap}_t \\
 \text{Gap}_t &\equiv \frac{Y_t - \bar{Y}_t}{\bar{Y}_t}.
 \end{aligned} \tag{1}$$

All of the notation should be familiar from class. You may assume that R_t is taken as given for this problem.

- (a) (5 points) The one equation that is different from class is equation (1). Explain how this equation is different and provide an economic interpretation for the difference.
 - (b) (15 points) Derive the IS curve in this economy.
 - (c) (10 points) Graph the IS curve and show how it is different from the standard IS curve considered in class. What is the economic interpretation of the difference?
3. *Hurricane Katrina in the AS/AD Framework* (30 points). What are the macroeconomic consequences of Hurricane Katrina? Use the AS/AD framework to answer this question. Please make sure your answer incorporates the following points:
- A not-insignificant fraction of the nation’s oil rigs and refineries were damaged by the hurricane.
 - How should we think about the rebuilding-boom that follows the hurricane, along with the increased government and private aid to the region?
 - Be sure to include a plot of the output gap and inflation over time in your answer.