

## Economics 101b; Fall 2000; Problem Set 4

*Due in class October 5*

1. What, in the full-employment model, determines the level of real GDP?
2. What makes labor demand equal to the labor force in the economy as a whole?
3. Suppose that in the full-employment model of this chapter the government increases taxes and government purchases by equal amounts. The tax increase reduces consumption. What happens--qualitatively: tell the direction of change only--to investment, net exports, the exchange rate, the real interest rate, and potential output?
4. Explain--qualitatively--the direction in which consumption, investment, government purchases, net exports, the exchange rate, the real interest rate, and potential output move in the full-employment model of this chapter if the government raises taxes.
5. Why does the investment demand curve slope down and to the right on the flow-of-funds diagram? Why does the total savings curve slope up and to the right on the flow-of-funds diagram?
6. Suppose that the relevant parameters of the economy are:
  - $t = 0.33$  Tax rate of 1/3.
  - $I_r = 90$  A 1 percentage point fall in the interest rate raises investment spending by \$90 billion a year.
  - $C_y = 0.75$  A marginal propensity to consume of three-quarters.
  - $r = 10$  With an initial value for the real exchange rate set at the traditional indexed value of 100, a 1 percentage point change in the interest rate difference vis-à-vis abroad generates a 10% shift in the exchange rate.
  - $X = 6$  A 10% change in the exchange rate leads to a \$60 billion a year change in exports.

And suppose that an irrational exuberance causes a stock market boom which leads consumers to increase their spending by \$200 billion at a constant level of disposable

income. What would be the increase in interest rates in response to such an exuberance-driven consumption boom?

7. In the same economy as in question 1, suppose that total GDP were \$10 trillion, and suppose the government did not want real interest rates to rise and investment to fall in response to the stock market-generated consumption boom. What kinds of policies could the government undertake? How successful would they be?

8. Since the fall of 1998, the Federal Reserve has raised interest rates more-or-less steadily, and the U.S. economy has remained near full employment. What factors do you think--based on your reading about the economy--produced this rise in equilibrium real interest rates.

9. When President Bill Clinton took office, he spent essentially all of his political capital on his first-year effort to raise taxes and cut spending. What, qualitatively, does the full-employment model say should have been the consequences of these policies?

10. Consider two economies. In one, the relevant parameters are:

$Y^* = \$10,000$	(In billions: potential output equals \$10 trillion)
$t = 0.33$	Tax rate of 1/3.
$I_r = 90$	A 1 percentage point fall in the interest rate raises investment spending by \$90 billion a year.
$C_y = 0.75$	A marginal propensity to consume of three-quarters.
$r = 10$	With an initial value for the real exchange rate set at the traditional indexed value of 100, a 1 percentage point change in the interest rate difference vis-à-vis abroad generates a 10% shift in the exchange rate.
$X = 6$	A 10% change in the exchange rate leads to a \$60 billion a year change in exports.

In the second, the relevant parameters are:

$Y^* = \$10,000$	(In billions: potential output equals \$10 trillion)
$t = 0.33$	Tax rate of 1/3.
$I_r = 90$	A 1 percentage point fall in the interest rate raises investment spending by \$90 billion a year.
$C_y = 0.5$	A marginal propensity to consume of one-half.
$r = 10$	With an initial value for the real exchange rate set at the traditional indexed value of 100, a 1 percentage point change in the interest rate difference vis-à-vis abroad generates a 10% shift in the exchange rate.
$X = 6$	A 10% change in the exchange rate leads to a \$60 billion a year change in exports.

Compare the effects of a \$100 billion increase in government purchases on these two economies. In which economy do interest rates go up by more? In which economy does investment go down by more?

11. Consider two economies. In one, the relevant parameters are:

- $Y^* = \$10,000$  (In billions: potential output equals \$10 trillion)  
 $t = 0.33$  Tax rate of 1/3.  
 $I_r = 90$  A 1 percentage point fall in the interest rate raises investment spending by \$90 billion a year.  
 $C_y = 0.75$  A marginal propensity to consume of three-quarters.  
 $r = 10$  With an initial value for the real exchange rate set at the traditional indexed value of 100, a 1 percentage point change in the interest rate difference vis-à-vis abroad generates a 10% shift in the exchange rate.  
 $X = 6$  A 10% change in the exchange rate leads to a \$60 billion a year change in exports.

In the second, the relevant parameters are:

- $Y^* = \$10,000$  (In billions: potential output equals \$10 trillion)  
 $t = 0.33$  Tax rate of 1/3.  
 $I_r = 90$  A 1 percentage point fall in the interest rate raises investment spending by \$90 billion a year.  
 $C_y = 0.5$  A marginal propensity to consume of one-half.  
 $r = 10$  With an initial value for the real exchange rate set at the traditional indexed value of 100, a 1 percentage point change in the interest rate difference vis-à-vis abroad generates a 10% shift in the exchange rate.  
 $X = 6$  A 10% change in the exchange rate leads to a \$60 billion a year change in exports.

Compare the effects of a \$300 billion reduction in taxes--a lowering of the tax rate  $t$  from 33% to 30%--on these two economies. In which economy do interest rates go up by more? In which economy does investment go down by more? Can you explain the differences in your answers to 11 and 12?

12. During the 2000 presidential campaign, candidate George W. Bush favored using the federal budget surplus to fund tax cuts while candidate Albert Gore favored using the federal budget surplus to retire parts of the national debt. Which candidate's economic policies seem likely to lead to lower interest rates? Which candidate's economic policies seem likely to lead to higher investment? Which candidate's economic policies seem likely to lead to a lower value of the dollar?