

Microeconomics and Policy Analysis
Comprehensive Exam
Spring 2007

Instructions

Answer two of the following three questions. Each question is worth 50 points, for a total of 100 points. Make sure to answer all parts of the questions.

Your response will be evaluated on the basis of the extent to which you present a coherent, economic argument and the extent to which you draw on relevant concepts and tools of microeconomic analysis. We urge you to use graphs and mathematics to the fullest extent possible for making your arguments, to clearly label graphs, and to explain the notation you use. (Note that graphs may aid you in your answers even in places where we do not explicitly require them).

As it is time consuming to draw graphs on the computer, it is okay if you submit handwritten graphs. These graphs must be clearly labeled and referenced in the text of your exam. We do prefer it if the body of your exam is typed.

Question 1 (Food or Fuel):

A recent article in *The Economist* discussed President Bush's enthusiasm to use corn to make ethanol biofuel, which can then be blended with petrol to reduce U.S. dependence on foreign oil. The President's proposed ethanol energy policy primarily involves price subsidies to corn farmers who raise corn for production of ethanol. Critics of America's ethanol policy, including Fidel Castro of Cuba, warn that the President's subsidy policy is essentially encouraging the conversion of food into fuel.

Ethanol production in the U.S. is growing at a rate of 25 percent a year. This is because the government both subsidizes domestic production and penalizes imports. In answer to President Bush's call for more ethanol for fuel consumption, many new Midwest refineries have opened. In this question, you'll be asked about the impacts of President Bush's subsidy policy.

1. The main economic component of the president's policy is a subsidy for corn produced for the market for corn-based ethanol. This subsidy is a per-unit subsidy, with units of output in this market measured in bushels. Show how this subsidy affects the price and production of corn in the United States. Note that corn can be used as an input for both corn-based ethanol and corn-based agricultural products. Please draw a graph(s), and make all assumptions about market structure clear.
2. What impact will this policy have on markets for other non-corn agricultural products? Include in your discussion factors that may affect the magnitudes of these potential impacts.
3. Please discuss how the potential changes in the prices of various food products will impact the amount of food consumed by an individual consumer. Make all assumptions clear and include a discussion of substitution and income effects.
4. What types of individuals will be most or least affected by these price changes?
5. One important objective of the President's policy is to reduce consumption of foreign fuels, and to reduce gasoline prices for Americans. Will this subsidy policy achieve these objectives? Will its impact be large? Discuss.

Question 2. First the smoking ban, then the trans fat ban...now the congestion tax:

In late April, New York City Mayor Michael Bloomberg made a proposal to charge an \$8.00 congestion fee (or tax) to car drivers and a \$21.00 fee to truck drivers who come into central Manhattan during weekday peak hours. The questions below ask you to analyze the economic justifications for such a policy and the potential impacts of this proposal on commuters. Feel free to include a formula, graphs, etc. in your answer. Make all assumptions clear.

1. Please describe at least two externalities that such a regulation is designed to correct. Why do these externalities exist?
2. What is the anticipated impact of such a tax? Do you expect the tax to result in an efficient outcome? Why or why not?
3. Why is the regulation designed such that automobile and truck drivers face different prices? Discuss.
4. What impact will the tax have on alternative sources of transportation? Why?

Mayor Bloomberg's proposal has already raised concerns among the trucking and shipping industries. Clayton Boyce, a spokesman for the American Trucking Association, a national industry group, told The Associated Press, "It will be a real problem for operations for trucking companies and shippers, including all the retailers in Manhattan, which is substantial."

5. Discuss the potential impact of the congestion tax on firms who produce goods that must be shipped into Manhattan. Will the quantity produced by a representative firm change? Will the price in the market change? Use a diagram to support your argument. Make all assumptions clear.
6. How will consumers of these goods be impacted? Use a diagram to support your argument, and make all assumptions clear.

Question 3. February 2, 2007 Headline: “Senate Adds Tax Breaks to Minimum Wage Bill”

In February, the Senate voted overwhelmingly to increase the federal minimum wage for the first time in nearly a decade. However, to attract Republican support, Senate leaders agreed to extend tax credits and expand deductions for businesses that would be hit hardest by the minimum wage increase. These tax breaks are offset by a proposal to raise taxes by a similar amount on corporations, their chief executives and other highly paid workers. For example, included in this proposal are new restrictions that forbid executives from deferring more than \$1 million in pay every year and placing the money in tax – deferred accounts.

Even in the abbreviated form presented here, this policy proposal would impact many different segments of the population. In this question, you are asked to analyze these potential policy impacts. Use graphs, mathematical formulas, etc. to explain your answers where appropriate.

1. Please discuss the impact of increasing the minimum wage on the markets for low-skilled and high-skilled labor. Make all assumptions clear. Use a well labeled diagram to support your explanation.
2. If the policy was simplified to *only* include an increase in minimum wages, how would this policy affect businesses? Please include in your answer a discussion of the costs, profits, and input and output decisions of the firm. Make all assumptions clear, and use well labeled diagrams to support your answer.
3. Why has the Senate decided to extend existing tax breaks and deductions for small businesses?
4. Now consider the impact of the above policy proposals on the labor market behavior of various groups. How will these proposals affect the number of hours worked by the following groups of individuals? Explain your answers. In each case a diagram may help. Make all assumptions clear.
 - a. Individuals who are currently employed at the minimum wage
 - b. Individuals who are considered to have a ‘middle class’ salary
 - c. CEOs and other high paid workers
5. Now consider the impact of the minimum wage increase on an individual who is currently on welfare. The welfare system works in the following way. If someone is receiving welfare, they are given a cash transfer of \$800. However, if they decide to work, the grant is decreased by one dollar for every dollar that they earn (an effective tax rate of 100%). In a well-labeled diagram, show how the increase in the minimum wage impacts this individual’s decision to work. Explain.