

Université d'Ottawa · University of Ottawa

Faculté des sciences sociales
Science Économique

Faculty of Social Sciences
Economics

ECO1104B: Introduction to microeconomics

Practical assignment II

Fall 2012

Due in class on Monday, 3 December

- You will be graded for the quality and accuracy of your answers and presentation of your results. Make sure that your assignment is presented consistently from page to page (e.g., same font and font size).
- **USE** the cover page, available from the Web site on the Assignment page.
- Hand in your assignment on 8.5 in. x 11 in. single sided sheets of paper.
- The assignment should be produced as an MS Word document. Copy and paste all tables and charts from your Excel sheet to this document.
- Always keep a back-up copy and photocopy of your document.
- Staple the pages of your assignment together.

1. A price ceiling, consumer surplus, and producer surplus (designed to accommodate chapter 7)

- a. Using the following equations, generate a table in Excel to show the market for apartments in a large city where the local government has imposed rent control. Using quantity values ranging from 0 to 240 (increasing at 5 unit increments), calculate the corresponding price based on the demand for apartments equation: $P = 1200 - 5Q_d$, and the corresponding price based on the supply of apartments equation: $P = 300 + 5Q_s$. Copy and paste this table in your main MS Word document.
- b. Construct a chart showing the demand curve, the supply curve, and a price ceiling of \$ 400. Label them D, S, and Ceiling. Copy and paste this chart in your Word document.
- c. In the absence of rent control, what would be the equilibrium rent? Compute your answer algebraically. Does this answer agree with the equilibrium in the table?
- d. With the rent control ceiling, how many units are being rented? Is there a shortage or surplus of apartments? If yes, by how many? Derive all your answers algebraically.

- e. Considering the number of units actually being rented at the rent control price, what has happened to total consumer surplus and total producer surplus in this market compared to the situation where the equilibrium price prevailed? Compute your answers by providing before and after values for consumer, producer and total surpluses. What is the size (value) of the deadweight loss from rent controls? Derive all your answers algebraically. Note that the deadweight loss is the difference between the total surplus before and total surplus after the ceiling is implemented.

2. Government Spending and Taxation (designed to accommodate chapters 8 and 11)

Public goods are the domain of the public sector. The learning objective for this particular question is to give you an idea of the size of the public sector as well as what its functions are.

a) Visit the website of the finance department of the federal government of Canada. The governmental unit is called “Finance Canada”. The URL is www.fin.gc.ca. This is the central command post for all taxes that are collected by the federal government as well as all of its expenditures. The funds themselves, however, are handled by an agency called The Treasury Board. Look for information on “Budget 2012 – leading the way on jobs and growth”. Read all of chapter 1 of “Introduction and Overview” of the most recent budget. You can find the answers to the specific questions below by browsing through chapter 4. Browse through tables 4.2.3 for the big picture, 4.2.4 for revenues, and 4.2.5 for expenditures (that was a big, generous, time-saving hint).

- i) What is the approximate current annual expenditure level? We are currently in fiscal year 2012-2013.
- ii) What share of GDP does this account for? (GDP means aggregate output, which can be interpreted as the size of the economy) What this figure represents is the weight of the federal government relative to the size of the entire economy.
- iii) How is this divided into program spending and spending on debt servicing?
- iv) What is the current annual revenue level?
- v) What is the level of debt (not the deficit) at the Federal level, which you people (and myself to a lesser extent) are condemned to repay?
- vi) What are the projected deficits in the fiscal years 2012-2013 (which we are in now)? When do they forecast a balanced budget?
- vii) What are the big-ticket items are far as federal government spending is concerned?
- viii) What are the major sources of revenue as far as the federal government is concerned?

b) Visit the website of the finance department of the province of Ontario. The unit is called “the Ontario Ministry of Finance”. You can google it. This is the central command post for all taxes that are collected by the provincial government as well as all of its expenditures. Look for information on “Ontario Budget 2012”, followed by “Ontario Budget 2012, chapter 2, Ontario’s Economic Outlook and Fiscal Plan” Look at Tables 1, 26, 27, and 28, and read the overview. Note that I have been very generous in narrowing the scope of your search. As such these questions are total

“gimme’s”. Even if you are not interested in this material for its intellectual content, I assure you that it affects directly through the channel of your financial and physical well-being (none the least because your use government services such as health care and higher education).

- i) What is the projected level of expenditures for budget year 2012-2013?
- ii) List 6 important expenditure areas – I call them the ‘biggies’. In particular, how much is slated for you and me through the envelope of ‘training, colleges, and universities’?
- iii) What is the projected level of revenues for budget year 2012-2013?
- iv) What are the major sources of revenue for the provincial government, and what is the split between its own tax levies and the transfers that it received from the Federal government?
- v) What was the deficit for fiscal year 2011-2012, which is now over?
- vi) What is the projected level of the deficit for budget year 2012-2013?

Note the intense political undertones that are apparent in both of these websites. While they are both very factual, they read like an infomercial. It is actually a challenge to find the basic statistics that I ask for because the government wants to persuade you that they are doing wonderful things with taxpayer funds, making very important changes for the better, and that you can rest assured that a steady hand manages the treasury.

- c) Explain why were almost all economists opposed to cutting the goods and services tax from 7 % to 6 % and subsequently down to 5 %? See the article that I posted a while ago on the website.

3. Production and costs (designed to accommodate chapter 13)

There is an excel file is posted with this questionnaire. The data consist of the production function for chairs, and there is also cost information. From this information, one can derive all of the cost curves.

- a. Fill in the blanks in table A in the Excel file. Assume that a worker costs \$ 100 a day and that the firm faces fixed costs of \$ 200.
- b. Fill in the blanks in table B in the Excel file. Assume that a worker costs \$ 150 a day, and that the firm faces fixed costs of \$ 200.
- c. Fill in the blanks in table C in the Excel file. Assume that a worker costs \$ 100 a day and that firm faces fixed costs of \$ 300.
- d. In all three tables, what pattern do you see for marginal product? Why?
- e. In all three tables, what pattern do you see for average total cost? Why?
- f. In all three tables, what pattern do you see for marginal costs?
- g. Compare the column for marginal cost and marginal product. Explain the relationship.
- h. Going from case a) to case b), which cost variables are affected and why? In other words, see which ones change, and think about why.

- i. Going from case a) to case c), which cost variables are affected and why? In other words, see which ones change, and think about why.
- j. For the figures in Table A, plot the marginal product curve and the total product curve on the same figure. Total product is the same thing as output. Label the axes and curves. Plot the marginal cost curve and the average total cost curve on another figure. Label the axes and curves. Note that in your graphs, because we are using discrete units for production (and not continuous units), the plots will appear lumpy. It is hard to get the MC curve to intersect the ATC curve at its minimum point, and to get the MP curve to intersect the AP curve at its maximum point. If your intersections are close to being at the right place, that is acceptable.