Econ 1905 Classroom questions and answers.

Here are questions I have asked you to answer in class, together with my answers. If I have missed a question or if one of my answers is for a question I did not ask you, please let me know. If you have further questions about your own answers, see me before or after class or in my office.

Notice that usually a correct answer does not need a lot of words, if they are the right ones.

1. 9/4 Suppose I have a part-time consulting business which makes zero profit. Should I close it down? Why or why not?

The question is based on the difference between economic profit (revenues minus opportunity cost) and accounting profit (revenue minus costs paid to non-owners. For a business owner the opportunity cost would include the opportunity cost of his own time, a return for his capital, and any compensation he would require for taking the risk of investing in a business rather than a safe security.

So a full answer might say "I assume you mean economic profit. Then no, don't close it, because with no profit you are still being compensated for your opportunity cost." A more complete answer (defining opportunity cost or listing its components) isn't necessary.

Another correct answer could be "if you mean accounting profit, close it because you are not covering the opportunity cost for what you are contributing to the firm."

2. 9/6 In what sense are prices efficient if they are both genuine and correct?

Some of you defined what “genuine” and “correct” mean instead of answering the question: What does it mean to say that a price is efficient when it is both genuine and correct? Answer: If a price is both genuine and correct, it tells the consumer the value of resources needed to produce the good, so that decisions consumers make about how to spend their money reflect the true costs to society of producing the alternative goods.

3. 9/13 Why is Marginal revenue (MR) = Price (P) for a competitive firm and MR below P for a firm with monopoly power?

A competitive firm can sell as much as it wants to at the going price. Marginal revenue is the amount it can get from selling one extra unit of output, and that is the price.

A monopoly faces a downward-sloping demand curve. To sell more (for a given level of quality and advertising) it must lower the price. And the price goes down not just for the extra unit of output but for all of the other units too. So extra revenue from the extra customer is offset by a fall in revenue for "old" customers.
The lecture notes include a diagram that illustrates the above paragraph.

4. **9/18 Robinson Crusoe becomes a businessman, selling souvenirs to passengers on cruise ships.**
   - It takes 5 minutes to gather a coconut. He sells a coconut for $2.50
   - It takes 5 minutes to gather a wild orchid. He sells an orchid for $5.

1. Explain why the prices are not correct.
2. Explain what he could do to be better off without making his customers worse off.

1. The prices are not correct because marginal costs are equal and prices are not equal, so prices cannot both be equal to marginal cost.
2. He could put more time into gathering orchids and less into gathering coconuts, as long as he can continue to sell orchids at a price so that marginal revenue for orchids is above marginal revenue for coconuts.

5. **9/20 Suppose we have a cooperation game where Row contributes x (either 1 or 0) and Column contributes y (either 1 or 0). a is a positive number (otherwise unrestricted).**

   Row’s payoff \( = a (x + y) - x \)
   Column’s payoff \( = a (x + y) - y \),

1. Write down the payoff matrix, showing payoff to Row, payoff to Column in each cell.
2. By filling in the 3 answers below, show for what values of \( a \) this is a prisoners’ dilemma game, and for what values it is something else. (Write answer below)

Hint: Remember that the essence of a prisoner’s dilemma is that a dominant strategy for each player leads to the worst outcome for both, even though if both could agree on an alternative strategy they would both be better off.

Hint: The 3 categories listed below are exhaustive. That is, for any positive value of \( a \), the game will be in one of the three. Your answers below should give ranges that together include all possible values of \( a > 0 \), except possibly for 2 points where the answer is ambiguous.

Hint: On a piece of scratch paper, calculate the payoff matrix for \( a = 1.1, 1.0, \) and 0.9.

Hint: You need to think about the smallest value of \( a \) as well as the largest. What happens if \( a \) is 0.5? 0.4?

Your answer:

“For \( a \) in the range 1 < \( a \)

- each player will play the cooperative strategy in this cooperation game.

“For \( a \) in the range 0.5 < \( a < 1 \)

- each player will play the non-cooperative strategy and the game is a prisoners’ dilemma.

“For \( a \) in the range \( a \leq 0.5 \)

- each player will play the non-cooperative strategy but the game is not a prisoners’ dilemma because the cooperative solution is not better. The project is not worth doing.

6. 9/25 In the following quote, if the fox and the hedgehog represent government and markets, which is which, and why?

"The fox knows many things, but the hedgehog knows one big thing."

(Archilochus (Greek poet, b. 675?, BC, d. 635?, BC)

The government is the fox, with many different objectives. The market is the hedgehog: it knows only how to provide efficient resource allocation; it can’t achieve other goals.

7. 10/2 In the opinion of Anderson and Hill, why are income transfers a negative-sum game?
The discussion referred to involuntary transfers. A transfer would be a zero-sum game if there were no effort required to effect the transfer or to protect against it. But the person receiving the transfer has to go to some effort to receive it, and the person from whom the transfer is made goes to some effort to protect against it; so there is a net loss to society. (Example used was theft).

8. According to Wolf, how do "internalities and organizational goals" lead to "nonmarket failures"?

Wolf argues that where an organization lacks clear goals (e.g., maximizing return on equity or profit for a private firm) in order to manage the organization they instead come up with other goals, related to their specific mission (e.g., Highway department goals would focus on some measure of output of roads, health department on some measure of health). Thus instead of maximizing what the government/public wants to maximize (welfare) they try to maximize something else, leading to inefficiency – a failure of the non-market system or "nonmarket failure." "Internalities" simply means the internally-defined goals and the inefficiencies produced in trying to achieve them.

Note: I am not sure that I have included all questions and answers to part II of the syllabus. If you know of any omissions, please let me know. E.F.

8. (Social security) a. What does it mean to say that policy holders should face independent risks, for the risk to be insurable? b. Why is independence of risks important?

a. Independence of risks means that the chance that I will suffer a loss is independent of the chance that you will suffer a loss.
b. If the risks of loss are not independent, then everyone might face loss at the same time; the insurer cannot use other policy holders’ premiums to help offset your loss.

9. Give 2 reasons why we might want the government to provide retirement pensions through the social security system.

1. Market failure based on adverse selection: Those who buy annuities live longer than average; this drives up the cost of annuities so that those who face a lower than average life expectancy will not be willing to buy the annuity. When the government mandates the insurance the problem of adverse selection is sidestepped.

2. Equity (income distribution): The social insurance gives a vehicle to subsidize low-income participants at expense of high.

3. Efficiency: In US, social security administrative costs are 1% of revenues, while private pension programs have cost of 6% (due mainly to sales commissions).

4. External benefits: Protect those who provide for themselves but would feel obliged to help those who are destitute, by mandating that everyone provide at least a minimum level of retirement income for themselves.

10. What are the 3 general methods available to bring Social Security Trust
Fund into balance?

- Decrease benefits
- Raise taxes
- Invest some of trust fund in stocks