

**PROBLEM SET #2 (2 % of grade; 10 points possible)**

**DUE: At Mon or Tues section, week of October 15**

*Problem sets lose 5 points if they are 0 minutes - 24 hours late after the start of section. No problem sets accepted more than 24 hours after section begins. Your submitted work must be your own: Problem sets that are identical (in whole or in part) to another student's problem set will receive a zero. Essay must be submitted twice: hard copy attached to this problem set and electronically via bCourses.*

**IMPORTANT:** Place your answers in the area indicated. Problem set answers (other than essay) must be on this sheet to be graded.

**1. Monopolistic Competition (2 points; ½ point per part)**

Let's look back at the midterm question about the effect of a tariff on the U.S. market for Chinese-manufactured plastic toys. Instead of assuming the market is perfectly competitive, let's instead assume the market is characterized by monopolistic competition.

- a. Suppose the U.S. market for Chinese-manufactured plastic toys is initially (before the tariff is imposed) in long run equilibrium. Draw a graph at the right that illustrates this long run equilibrium for the typical U.S. seller. Use subscripts "a" on curves and points.
- b. The U.S. government now institutes a tariff. Assume the tariff is a constant dollar amount per toy and is remitted to the government by the U.S. seller. On your graph at the right, show the short-run effect of the tariff on the typical U.S. seller. Use subscripts "b." Below, summarize your findings.

SR Effect on quantity sold by the typical seller

SR Effect on profit of the typical seller

SR Effect on price of a Chinese-manufactured plastic toy

- c. Assume the seller depicted in your graph remains in the industry. In the long run, what will be the effect on each of the following? Give a brief defense of each answer.

LR Effect on the number of U.S. sellers remaining	LR Effect on demand for each remaining seller's toys
LR Effect on price charged by each remaining seller	LR Effect on quantity sold by each remaining seller
LR Effect on profit of each remaining seller	

- d. Compare your answers here with the correct answers for the MT question. Any differences between the two sets of answers? What is different in the analysis when you compare this question (monopolistic competition) with the midterm (perfect competition)?

**2. Externality, Optimal Subsidy (3 points)**

Economic analysis relies on assumptions about human behavior. When all economists have the same background, their assumptions will likely reflect their shared background rather than the multitude of life experiences present in society. And when our assumptions are wrong, so too are our models.

In many fields, including economics, evidence indicates that there are role model effects. Who chooses to become an economics major, for instance, is affected in part by who students see as economics professors and professional economists. If students never see a woman economist, fewer women will decide to major in economics. The effect is often subtle, perhaps unconscious. Yet studies have shown role model effects by both race and gender on grades, on likelihood of continuing to the next course, and on completing the major. (Citations will go out by email for those who want to read further.)

So let's consider the market for economics faculty who are women or people of color (briefly, "diverse faculty"). Demand side: Departments hire diverse faculty who will provide a variety of marginal benefits to the department (teaching, research grants, committee service). Supply side: Diverse people with Ph.D.'s seek faculty positions as their career path. Assume (unreasonably, but without much loss of explanatory power) that the market for diverse faculty is perfectly competitive.

- a. Explain why the role model effect noted above is a positive externality from hiring diverse faculty. Be sure your answer uses the relevant economics language.



- b. Using the two axes at the right, show (in the top) the short run effect of the positive externality in the market for diverse faculty and (in the bottom) the effect of implementing a subsidy of the optimal size. What determines the optimal size of the subsidy?



- c. Based on your analysis, what recommendation would you make to economics departments (and their deans and provosts) about a strategy that could move the number of diverse faculty in economics toward the social optimum?

**3. Asymmetric Information (2 points)**

When an employer reads a stack of resumes of potential employees, asymmetric information problems are present. The employer doesn't know if an applicant will work hard, contribute, be a good team player, or stick with the company. Therefore employers will try to gather information from resumes that might be a signal as to the applicant's future productivity.

For example, drawing on the not-so-distant past: It was once standard to include your marital status and the number of children on your resume: "Married, 2 sons (twins, age 6) and 1 daughter (4)." Employers interpreted this signal differently for men than for women. For men, it was often seen as an indicator that he had family obligations and therefore he would be a reliable worker (on-time, few absences, committed to staying with the company). But for a woman, the same information could be seen as an indicator that she would face childcare issues and would therefore be an unreliable worker, often late and prone to absences. So marital status & children was a signal, but the problems with some signals are that they may not be accurate, and are often subject to stereotyping or what is more formally called "statistical discrimination."

- a. (½ point) Give an example of information on a resume that you believe an employer currently uses as a signal about the applicant and whether the applicant will work hard, contribute, be a good team player, and stick with the company. To what extent do you think that information is a reliable and accurate predictor of the applicant's ability to work hard, contribute, be a good team player, and stick with the company?
  
  - b. (½ point) Propose and defend one strategy that employers could use to decrease the information asymmetry and therefore do a better job of more consistently hiring people who will work hard, contribute, be a good team player, and stick with the company.
  
  - c. (1 point) Signaling, as in parts a & b, addresses issues of adverse selection. Monitoring addresses issues of moral hazard. Given an example of behavior in the workplace that illustrates the problem of moral hazard. What is a monitoring mechanism in the workplace that effectively mitigates that moral hazard problem? Explain how that monitoring mechanism reduces moral hazard.
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#### 4. (3 points total) Distribution of income

Based on the reader articles (and, if you like, additional work of Berkeley economists Emmanuel Saez (<https://eml.berkeley.edu/~saez/>), Gabriel Zucman (<http://gabriel-zucman.eu/>), the Center for Equitable Growth ( <http://ceg.berkeley.edu/index.html> ) and the Washington Center for Equitable Growth ( <https://equitablegrowth.org/> )), address these two prompts in an essay.

- What are the current facts about the distribution of income in the United States? What has changed (and in what way) or not changed with regard to U.S. income distribution over the last 50 - 100 years?
- (This prompt takes you beyond the reader articles and asks you to think independently.) Think about any topic (that is, any model) we have covered so far this term. Now think about the broad outlines of the distribution of income today compared with, say, the 1970s. In your essay, discuss one way in which the application of that model to a real-world question, or the model itself, might be different if we had also considered the distribution of income.

Remember that in economics (as in life), the conclusions you come to will depend in part on the assumptions you make. So be sure you make any relevant assumptions explicit. Don't invoke wildly unrealistic assumptions; the assumptions you make should be reasonable.

Your essay must be your own work and must be unique to this class. To present anyone else's work as your own is theft of intellectual property: plagiarism. That means you must use quote marks " " around any words you quote exactly from any source (and then provide the source for the quote). It also means that if you get ideas from anyone else, or if you paraphrase someone else, you must again give them credit for their ideas. To do otherwise is plagiarism: the theft of intellectual property, a violation of the Code of Student Conduct and one of the worst offenses in academe. If you have questions about whether or not you've properly cited your sources, please talk with your GSI, the Head GSI, or Prof. Olney.

"Your own work" also means that essays crafted jointly on Piazza or otherwise are not acceptable. That too is plagiarism.

**Specifications:** 400 words maximum, one page maximum. If you feel compelled to include data figures, put those on a 2<sup>nd</sup> page. No need to include data figures but no ban on doing so either. "Works Cited" list should be at the bottom of page 1 or on page 2 and does not count against the 400 word maximum.) Double space. 10-11-12 pt font. 1" margins on all sides. Your name, date, and the word count in the top right corner. Attach your paper directly behind the problem set sheets.

**Submission:** Essay must be submitted twice. [1] Attach a hard copy of your essay to your problem set sheets. [2] Submit the essay electronically via bCourses, assignments tab. Electronic submission must be completed by 6 pm on the day your problem set is due. Acceptable formats: doc, docx, pdf. bCourses will check your paper using TurnItIn to ensure you have not plagiarized from published sources or previously submitted papers. For more information on TurnItIn, see <http://eml.berkeley.edu/~olney/fall18/econ1/turnitin.pdf>

**Grading:** 0 - 1 - 2 - 3 points, taking into account content, following specifications, and writing quality. No submission on bCourses results in a 0 on the essay.