

## Problem Set 2

On what and how to submit

- For this and all future problem sets, questions are from the “Problems” section of the questions at the end of the chapter.
- Due before Lecture 3 to your Box folder
- Name the file “ps02\_[lastname].[extension]”. For example, my file would be “ps02\_brooks.pdf”.
- You do not need to type your submission. Any **legible** submission is ok. For example, you can write the problem set with hand-drawn graphs, take a picture, and submit the picture.

### 1. GLS Chapter 2, Question 20

For all these answers, the key is to make a logically consistent argument, not to find the “right” answer.

1. The cross price elasticity of shampoo and conditioner should be negative, if you use them together. As the price of shampoo goes up, you also use less conditioner (denominator is positive, numerator is negative).
2. The cross price elasticity of gasoline and ethanol should be positive if the two goods are substitutes. If the prices of gasoline goes up, the gasoline refiner could shift to more ethanol. In other words, the denominator is positive and the numerator is also positive.
3. The cross price elasticity of coffee and shoes should be near zero. Changes in the price of shoes should not impact demand for coffee. In other words, the denominator is positive and the numerator is zero.
4. I'd anticipate that the income elasticity of demand for hot stone massages is positive. As income increases (denominator), consumers probably demand more of them (numerator). For I'd even venture that for sufficiently high incomes, this elasticity is greater than one. In other words, above a certain income, demand for hot stone massages increases more than the underlying increase in income.
5. I anticipate that (above a certain income) the income elasticity of demand for ramen noodles (well, the cheap ones in the package) is negative. As income increases, you shift away from ramen noodles in a package toward other things – perhaps ramen noodles in a restaurant.

6. I would hypothesize that the income elasticity of table salt should be near zero. As income increases, you may change your spending on table salt very little, even in percentage terms. (Alternatively, you could argue that people switch to buying fancy salt, in which case you would argue for a positive income elasticity of demand.)

2. Find one peer-reviewed (this means published in a reputable academic journal) estimate of either the price elasticity of demand or the price elasticity of supply for the good of your choice. I encourage you to use [EconLit](#). You must be logged in to GW's virtual private network to use Econlit. If you don't already have software to use GW's vpn, see [here](#). Cite the source for your estimate, and interpret it. That means, if the estimate is 0.45, this means that [blah blah] increase in price causes a [blah blah] change in supply, where [blah blah] is a specific number.

Here we require one citation, and an interpretation that makes sense of the estimates.