Recall:
- Marginal Cost (MC)
  o Include implicit and explicit costs
  o Exclude fixed and sunk costs
- Marginal Benefit (MB)
  o Can be avoided cost, convenience, etc.

Example: Identifying marginal benefit; implicit, explicit, fixed, sunk, and marginal costs.

Modjtahedi operates a juice bar on the weekends. He is thinking of keeping it open on the weeknights (except on Mondays and Wednesdays, when he is teaching), in which case he will make an additional $1500 per month. This will increase his operating costs by $500 per month. He will also lose $800 per month he currently makes as a consulting economist on weeknights. He is renting the space for $2,500 per month. Five years ago he spent $10,000 on a state-of-the-art juicer. Assume that these are the only costs and benefits to consider.

1. What is the fixed cost?
   $2,500. He will pay $2,500 in rent each month whether he operates on weeknights or not. This amount could increase or decrease over time, but it will not affect Modjtahedi’s decision.

2. What is the explicit marginal cost?
   $500: the additional dollar valued cost that Modjtahedi will incur if he decides to keep his juice bar open on weeknights.

3. What is the implicit marginal cost?
   $800: the forgone income from being an economic consultant that he will give up if he decides to operate his juice bar on weeknights.

4. What is the marginal cost?
   Marginal cost = explicit + implicit costs = $500 + $800 = $1300.

5. What is the marginal benefit?
   Modjtahedi will sell a service (running a juice bar on weeknights) and receive an additional $1500. This $1500 received will be his marginal benefit.

6. What should Modjtahedi do?
   Keep the juice bar open on weeknights because $1500 > $1300 (MB > MC).
Explicit cost = $8.

1. What is the implicit cost of seeing the 6\textsuperscript{th} movie?
   MC = explicit cost + implicit costs  \Rightarrow  implicit cost = MC – explicit costs
   Implicit cost of 6\textsuperscript{th} movie = $15 - $8 = $7.

2. What is the total cost (TC) of seeing 4 movies?
   TC of 4 movies = MC of 1\textsuperscript{st} movie + MC of 2\textsuperscript{nd} movie + MC of 3\textsuperscript{rd} movie + MC of 4\textsuperscript{th} movie
   TC of 4 movies = $10 + $11 + $12 + $13 = $46

3. How many movies should you see if the explicit cost rises to $12?
   MC = explicit cost + implicit costs
   New MC = (old explicit cost + $4) + implicit costs  \Rightarrow  shifts the MC curve upward by 4 units
   New MC = MB at 3 movies.
1. If the entry fee is $50, how many slices of pizza should a rational consumer eat? Once you have paid the entrance fee, then the cost of one more slice of pizza is zero (MC = $0). A rational consumer will eat until MB = MC = $0, here that is 8 slices of pizza.

2. If a pizza place charges a $5 entry fee and then $8 per slice, how many slices of pizza should a rational consumer eat? Once you have paid the entrance fee, then the cost of one more slice of pizza is $8 (MC = $8). A rational consumer will eat until MB = MC = $8, here that is 4 slices of pizza.

3. If a pizza place has a $1 entry fee and then charges $16 per slice, how many slices of pizza should a rational consumer eat? Once you have paid the entrance fee, then the cost of one more slice of pizza is $16 (MC = $16). A rational consumer will eat until MB = MC = $16, here that is 0 slices of pizza.

Some comments on chapter 3:

“What is the difference between the marginal cost and marginal benefit of chapter 2 and the marginal social cost and marginal social benefit of chapter 3?”

The MC and MB of chapter 2 capture the costs and benefits to an individual from doing some action (one more time). We may refer to these as private MC and MB.

The MSC and MSB of chapter 3 are the costs and benefits incurred/enjoyed by society as a whole. They exclude transfers among members of society (if my cost is your benefit, then society as a whole is unchanged). MSB may include problems avoided by society (extra lanes on a freeway may reduce traffic). MSC may include externalities (residents near the freeway would have to put up with more noise and pollution).
“What are the different types of efficiency again?”

First, recall that “inefficient” implies some kind of waste while “efficient” implies a lack of waste.

Definitions:
1. Productive Efficiency: all resources are fully employed and are producing the most they can. Note: on the PPF curve, not inside (outside PPF is unattainable).

2. Economic or Allocative Efficiency: allocate scarce resources to different economic activities in such a way as to produce the kinds and quantities of goods and services that result in maximum satisfaction for society. In other words, produce every good and service at the point where MSC = MSB. Note: must also be productively efficient.

3. Pareto Efficiency: cannot improve one person without harming another. Note: this is also allocatively efficient and therefore productively efficient.

Productive efficiency is a statement about the use of our resources. It is possible to use your resources efficiently (without waste) but not produce the “right” mix of goods and services for society. Therefore, we need an additional concept of efficiency from society’s point of view.

Economic/Allocative efficiency and Pareto efficiency are basically two ways of thinking about the same thing: getting the “right” mix of goods and services for society. Both will lead to MSC = MSB.

Looking ahead to Chapter 4: Consumers and The Demand Curve

Terminology:
Perfect information, market power, marginal willingness to pay, total willingness to pay, consumer surplus, normal good, inferior good, income effect, substitution effect, total effect.