Topic: Externalities and Market Efficiency

What is economic efficiency and how do externalities relate to economic efficiency?

From Bernanke and Frank, P. 174:
“The term, efficient, as economists use it, has a narrow technical meaning. When we say that market equilibrium is efficient, we mean simply this: *If price and quantity take anything other than their equilibrium values, a transaction that will make at least some people better off without harming others can be found.*”

An allocation of resources is (Pareto) efficient if we cannot make any agent in the economy better off without making another agent worse off. An allocation of resources is *not* (Pareto) efficient if we could make an agent in the economy better off without making another agent worse off.

A classic example of inefficient pricing pertains to rent controls in New York apartments. Consider the following diagram. In the image below, the government has imposed a rent ceiling on apartments of $250. At this price, only 30 apartments will be supplied, while 60 will be demanded. Hence, there is a housing shortage of 30 units. What is important to consider here is: Can we make somebody better off without making anybody worse off? Yes! There are suppliers who would be happy to rent an apartment at $350, and several of those 30 who are without housing in this economy would be glad to pay $350 for said apartment. Both the supplier and the demander could be made better off without affecting any other agent in the economy. Because rent control prevents this from happening, the allocation of apartments produced by it is inefficient.
Externalities are another very important example of a case where an unregulated market economy can lead to a (Pareto) inefficient outcome. Often times we stipulate that a transaction only affects the buyer and the seller of the item. However, this is not always the case.

Suppose the student living next to you in the dorms decides to go out and buy a new sound system. Best Buy is better off, your floor mate gains from the transaction as well. Assuming you don’t enjoy bass at 3:00 A.M., you are most definitely worse off. Now, let’s go back to before your floor mate purchased his stereo. The market outcome did make two agents better off, but it left you worse off. Is there some way we could make all three agents better off?

The stereo may annoy you, but there certainly is some price at which you’d say “If I could receive some benefit from my floor mate purchasing the stereo, I might prefer to have my benefit and deal with the stereo than not have my benefit and enjoy the silence”. The idea behind taxing stereos is that we take a little bit of the gain from the buyer/seller of the stereo and give it to the agents who were not directly involved in the transaction. Suppose policymakers implement a small tax on stereos, and suppose this tax goes towards something that will ultimately benefit you. If your floor mate and Best Buy do not agree to transact at the new (taxed) price, no agent is worse off than it was before the transaction. If they do agree to transact, both the buyer and the seller are better off (if this were not the case they would not have made the transaction). They pay a tax on the stereo, which makes you better off, even accounting for the annoyance of the stereo. The key here is that it is possible to make all three agents better off without making any of them worse off!

**Topic: International Economics**

**How can a country use international trade to increase its production potential?**

Let’s refer to the old example of the Costa Rican economy, wherein they can produce some combination of coffee and computers. The world price of computers is given as $500, and the world price of coffee is given as $10. These prices are fixed with regards to Costa Rica: Whatever Costa Rica decides to produce, they will not affect world prices.
Remember: The production possibilities curve shows the combination of coffee and computers Costa Rica can produce by themselves. That is, they can produce the combination at any of A, C, G, D, or B. So, where should they produce if they can sell and buy coffee and computers on the international market at prices of $10 and $500? Let’s suppose they decide to choose point A, and produce 120,000 pounds of coffee. The value of this coffee is $1,200,000 on the open market, so they can now trade and consume any combination of coffee and computers satisfying $10Coff + 500Comp = 1,200,000$, graphed as a straight line from point A to point B:

$$Coff = 120,000 - 50Comp.$$

Certainly, we can do better! What about point C? At this point, we produce 100,000 pounds of coffee and 1,000 computers, which are worth a total of $100,000 \times 10 + 1,000 \times 500 = 1,500,000$ on the open market. Now, their consumption possibilities line moves from the line connecting A to B to the line connecting E and F. Note that every point on the line from E to F gives Costa Rica a better bundle. For example, on line AB if they choose to consume all 120,000 pounds of coffee they are stuck consuming no computers. However, if they choose the bundle earlier (100,000 coffee, 1,000 computers), they could consume 150,000 pounds of coffee should they choose to consume no computers. Or, they could consume 120,000 pounds of coffee and use the remaining $300,000 to consume 600 computers. Either way, they’re better off here than they were on the line from AB. For reference, this new line is graphed as $10Coff + 500Comp = 1,500,000$ or $Coff = 150,000 - 50Comp$.

Still though, Costa Rica can do better! Consider point G, where they produce 80,000 pounds of coffee and 1,600 computers. The value of these commodities on the open market is the highest value they can reach on their production possibilities curve, $1,600,000$. By trading on the open market, they can now consume any bundle on the line LM. For example, they could keep all of their coffee (80,000 pounds) but sell 100 computers for $50,000, which could be used to buy another 5,000 pounds of coffee. This new bundle, (85,000, 1,500) is outside of line EF, because $10(85,000) + 500(1,500) = 1,600,000 > 1,500,000$. By moving to point G, Costa Rica has the best set of possible consumption bundles, hence, this is the point they ought to choose for production.
**Topic: Market Power**

What are some specific examples of companies that have market power in the U.S. today, and how can they influence prices? Could there be a situation where firms are actually harmed by having market power, and would be more profitable under competition?

The most common example of a firm with market power offered by students today is probably Apple (it’s somewhat ironic that ten years ago Microsoft was a classic example). The way that Apple ultimately influences prices is that they have the ability to set prices without losing all of their customers to competitors. If there were five companies that made products identical (we’re talking name, looks, operating system, etc.) to the iPad, you would probably buy the cheapest one. Hence, if any of these five companies raised the price, they wouldn’t sell anything! Apple does not face this dilemma. If they raised the price of an iPad by $5, would they lose all of their customers? Of course not! Their ability to do that is an effect of their market power.

An interesting question brought up was this: Could firms actually be harmed by having market power, and be more profitable under competition? In the model you’re learning, firms will be better off with market power than under perfect competition, and I can’t think of a case where a firm is clearly better off facing competition than holding market power. The fact that firms like Apple fight so hard for patent rights should tell you that they greatly enjoy their market power!

**What is meant by economies of scale?**

The book offers a good example of economies of scale on P. 199. The research that goes into producing good microprocessors is extraordinarily costly. Once the research is done, the raw material and labor cost of producing a $200 i7 processor might only be a few pennies. However, firms like HP need to consider the fixed cost of designing a new processor (~$2,000,000,000 potentially) when making their decisions. The cost of making just one processor might be $2,000,000,000.15, but the cost of making 1,000,000 processors might be just an additional $200,000. Hence, their average cost of producing these processors will fall as they produce more processors.

**What is economic rent?**

Bernanke and Frank define economic rent as “that part of the payment for a factor of production that exceeds the owner’s reservation price, the price below which the owner would not supply the factor (P. 168)”. In some sense, it could be thought of as the difference between the raw cost of producing a good and the price of the good. Bernanke and Frank offer a couple of examples of this on P. 168 that I think are pretty good.