Section Exercise for February 17/18

Local Monopoly: Suppose a small fast-food company faces an upward-sloping supply of workers: that if it offers $7 hour it will get no workers to staff its shifts over a week. And suppose that for each dollar it raises its wage it can attract ten more workers to staff its shifts over a week. It will then sell the products that the workers make at $11/worker-hour.

a) What is the profit-maximizing wage that the fast-food company should set?

This is a monopoly problem in reverse: a monopsony problem, single buyer whose actions control the price rather than a single seller. The marginal cost curve that the fast-food company faces has the same y-axis intercept as the supply curve—$7—and is twice as steep—rises by 20 workers for each $1 it raises the wage. The marginal cost thus reaches the price the company can sell the product for—$11—at 20 workers. It will choose to set its wage at $9

b) How much money do workers earn and how much profits does the company make?

The 20 workers will make $180/week. the company will make $40/week off of their work in profits.

c) Suppose that the state of Euphoria imposes a minimum wage of $10/hour. What will the company do?

With a fixed wage, the marginal cost to the company is the same as the wage it has to pay up to 30 workers. At 30 workers it would have to raise the wage above $10 if it wanted to employe 31. So the marginal cost of employing the 31 worker is the $10.10 it needs to pay that worker—plus the $3 it would have to pay all the other workers if it offered a wage of $10.10 rather than $10. So the marginal cost of attracting the 31st worker is $13.10. Profit maximization is therefore to hire 30 workers. The workers take home $300/week in wages. The company makes $30/week in profits.

d) Which is the most efficient outcome here—the free-market outcome or the $10 minimum-wage outcome?

The free-market outcome produces $220/week in societal surplus; the minimum-wage outcome produces $330/week.

Another way to think about this problem would in terms of surplus. In this situation, the workers are the producers- they are selling labor and the fast food restaurant is the consumer. Consumer surplus is equal to the companies profit. Producer surplus is equal is to the difference between the wage workers are paid and the average reservation wage (lowest wage that could be paid to get a worker to work) multiplied by the number of workers.

Free market producer surplus is 20 workers times (9-8)=$20

Minimum wage producer surplus is 30 workers times (10-8.5)=$45

Total free market surplus=$60

Total minimum wage surplus=$75

e) Can you think of a better way to fix the market failure here than imposing a minimum wage? If so, what and why?

The government could also try setting a quota. It could also try to increase competition by splitting up the fast food monopoly or encouraging other companies to enter the market. The fast food company could also learn to negotiate with its workers and pay them different wages so it could hire more workers without having to pay its original workers more as well.

f) Fast-food jobs are relatively standard, right? Do you think it is reasonable to think that a business's ability to attract and retain workers who will actually show up for their shifts is an increasing function of the wage it offers? Why or why not?

Offering more money generally brings out more producers so you might think its reasonable. On the other hand, you might think there is only a small part of the population that are willing to work at fast food restaurants and show up to work. In this case, you might run out of potential workers even when you raise wages to the highest point where it is still profitable to operate a fast food restuarant.