Intro to Economic Analysis: Microeconomics

EC 201 - Day 11 Slides

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1 November 2021

Logistics

- Official homework 4 due this Saturday at 11:59pm, covering last week's material
- Next news assignments posted, due today
- Midterm is a week from today – Wednesday, November 3rd
  - Bring non-graphing, non-algebra calculator
  - Bring #2 Pencil (yes it has to be #2)
  - Bring ID
  - All of these items are required; I will try to bring spares, but I cannot promise anything

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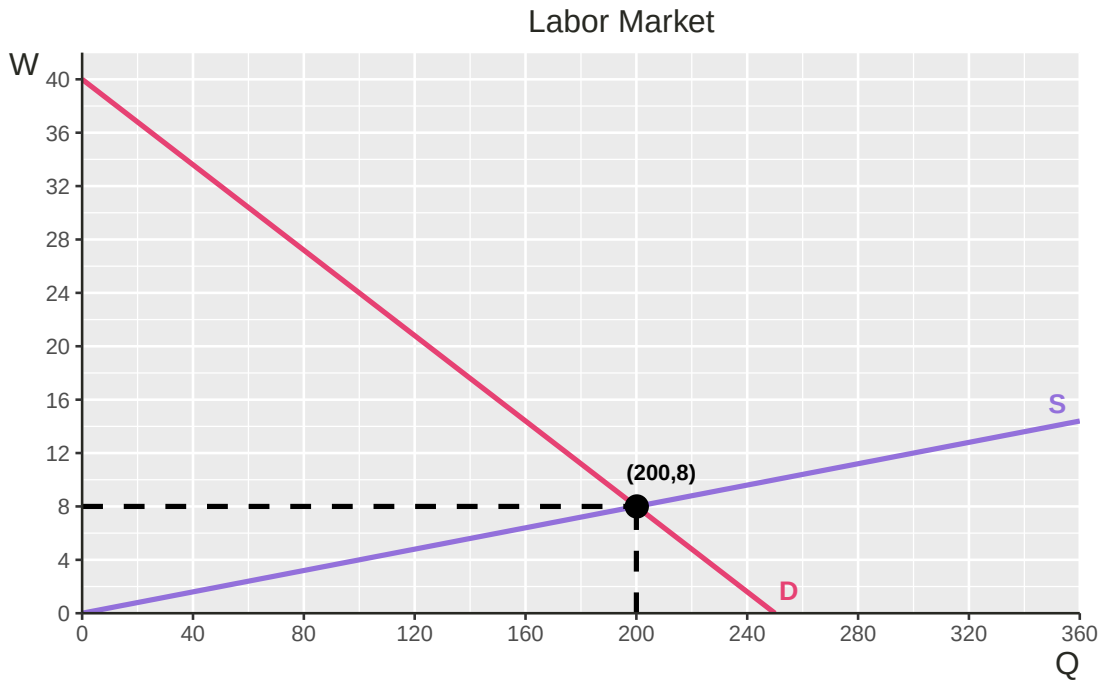
  - The minimum wage is a price floor, on the price of labor
- Is it effective?

The Labor Market

- Let's start by graphing a hypothetical labor market, with the price of labor (a wage) on the y-axis, and the quantity of labor on the x-axis



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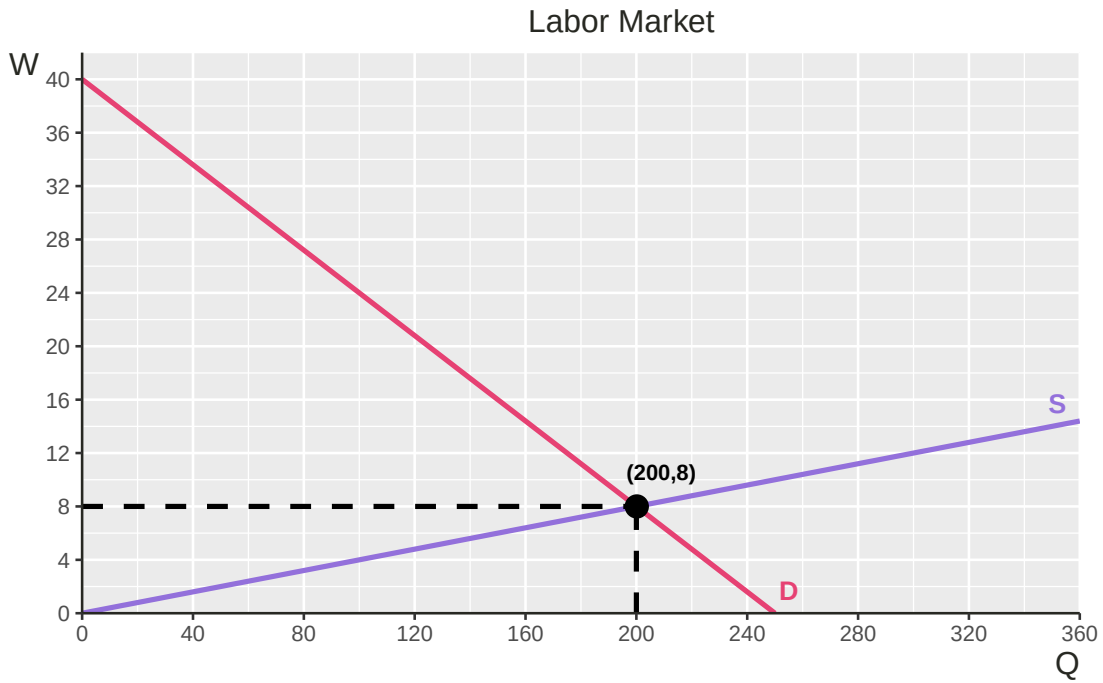

- Different from usual graphs: suppliers are the workers, the individuals in the market, while demanders are firms, the businesses in the market

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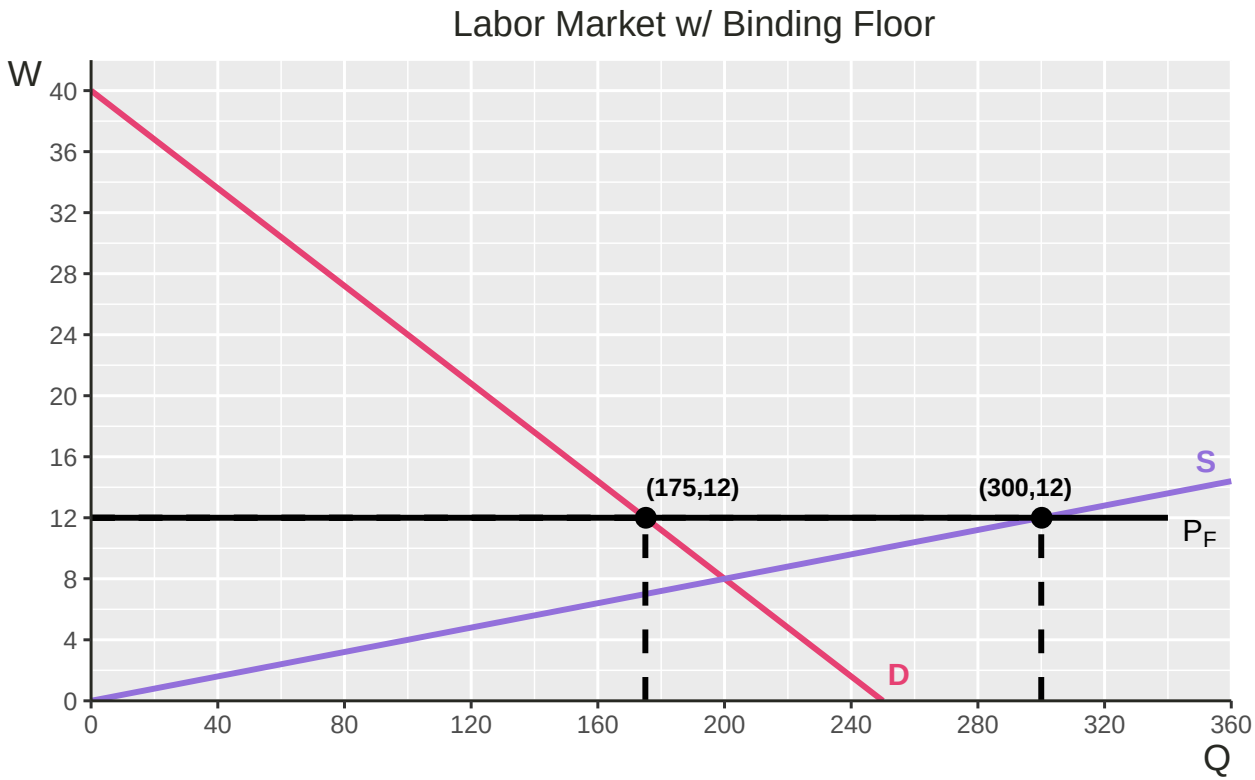
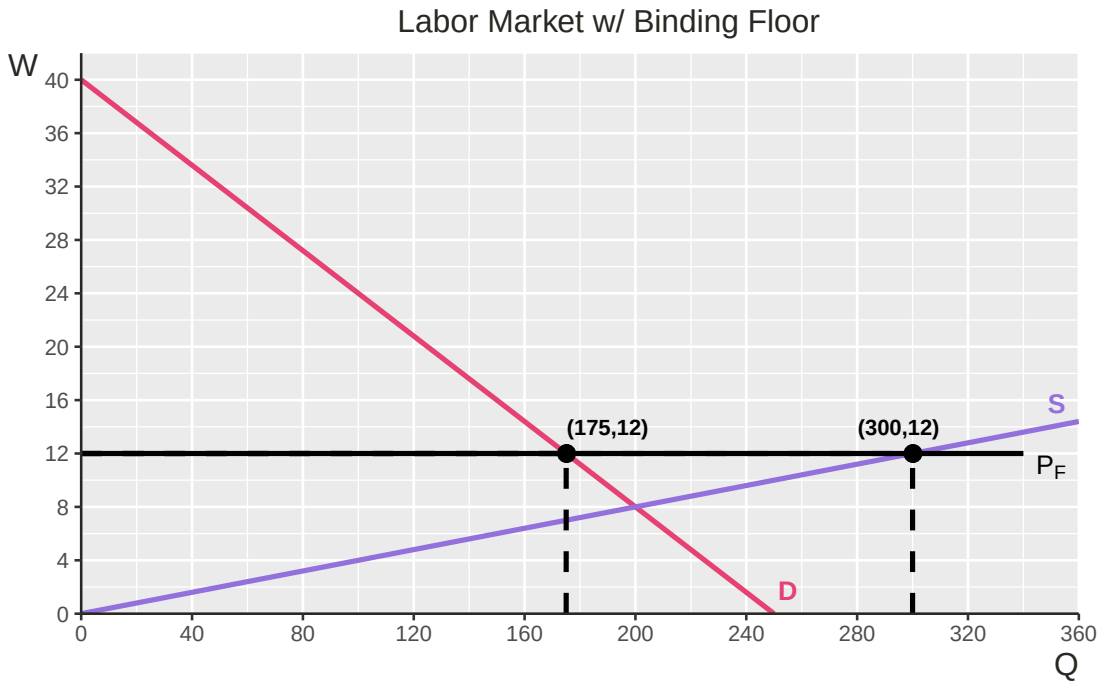
- We can use our previous graph, and let's say we have a \$12/hr minimum wage:



Case 1 (cont.)



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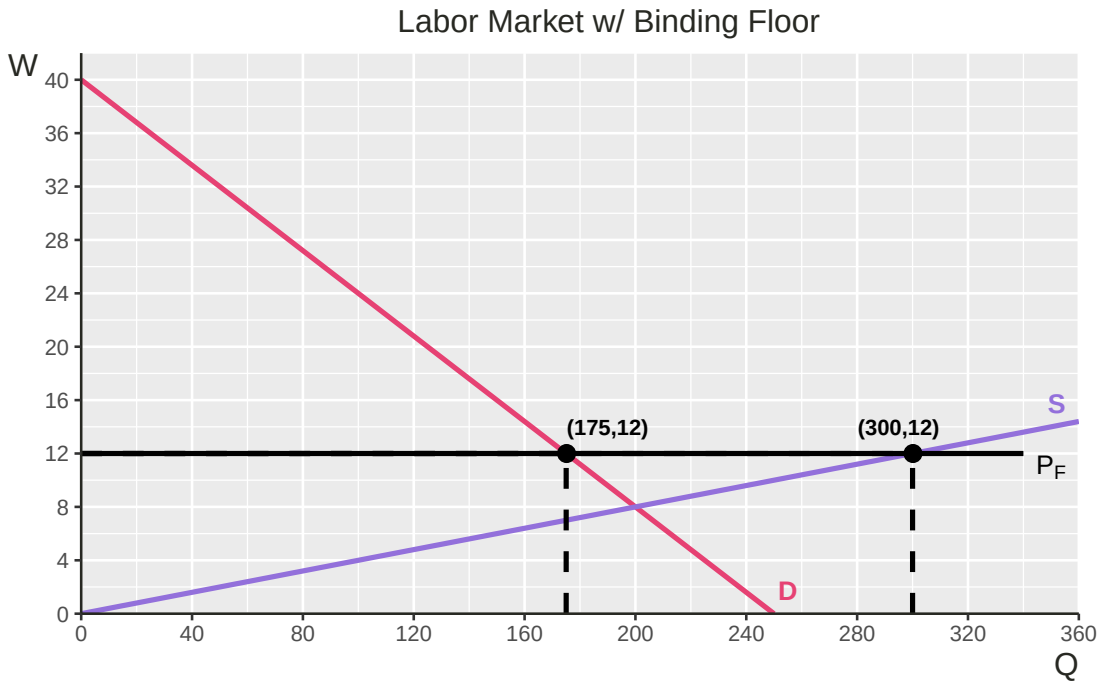

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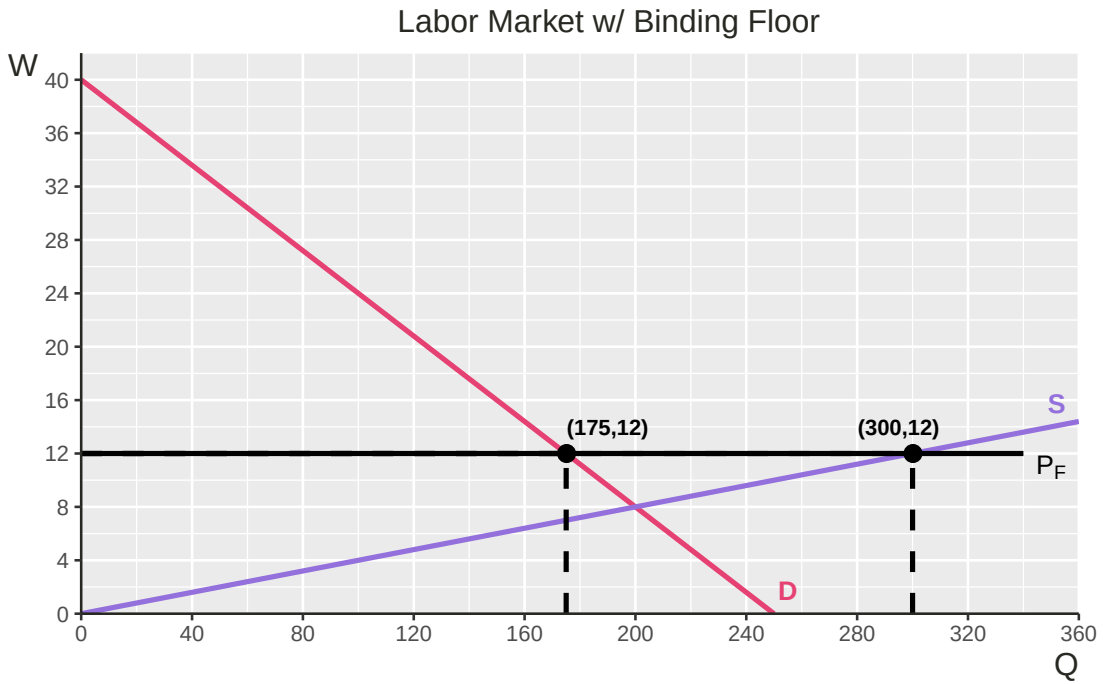

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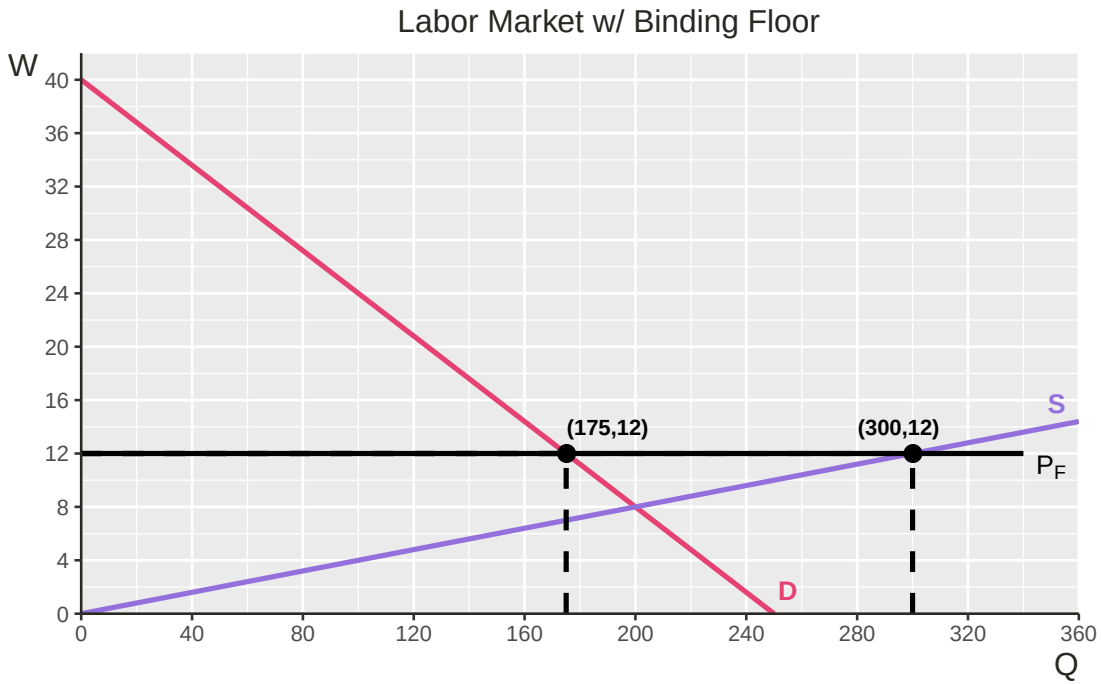

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  - 175. Remember, this is how much total work firms are demanding, at a price of \$12/hr

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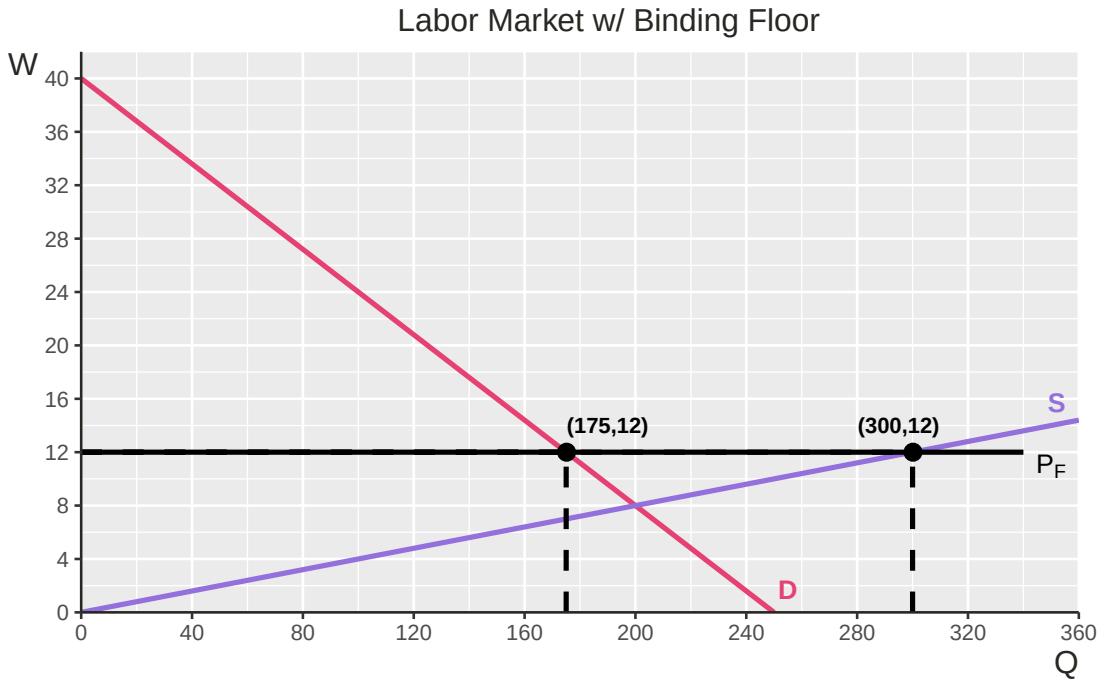

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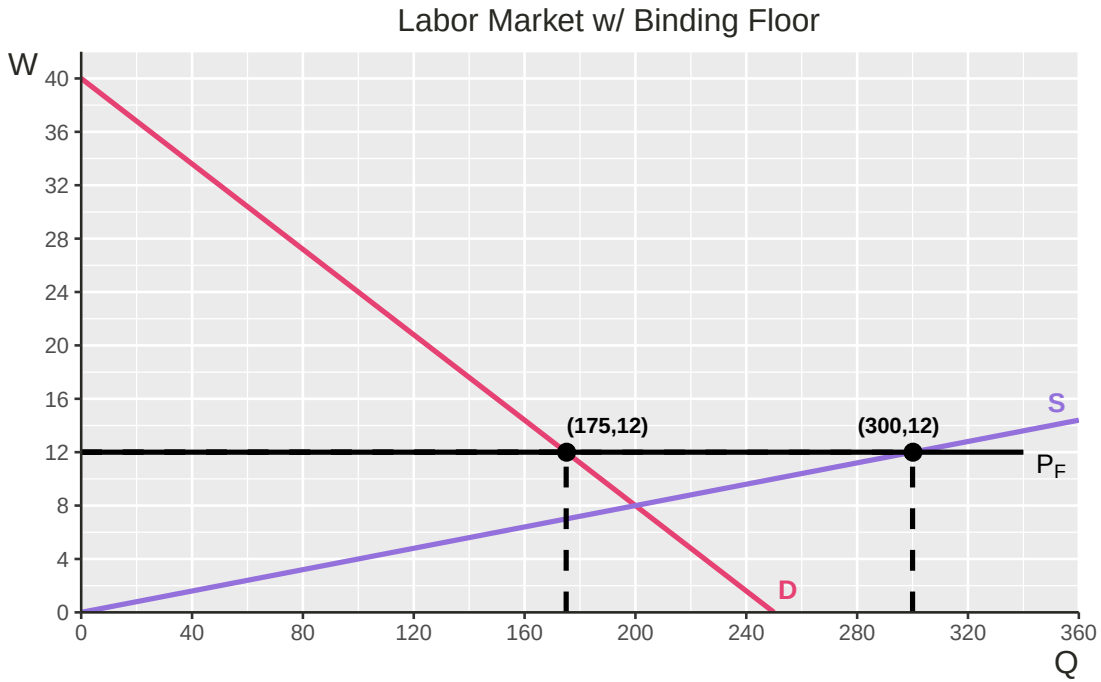

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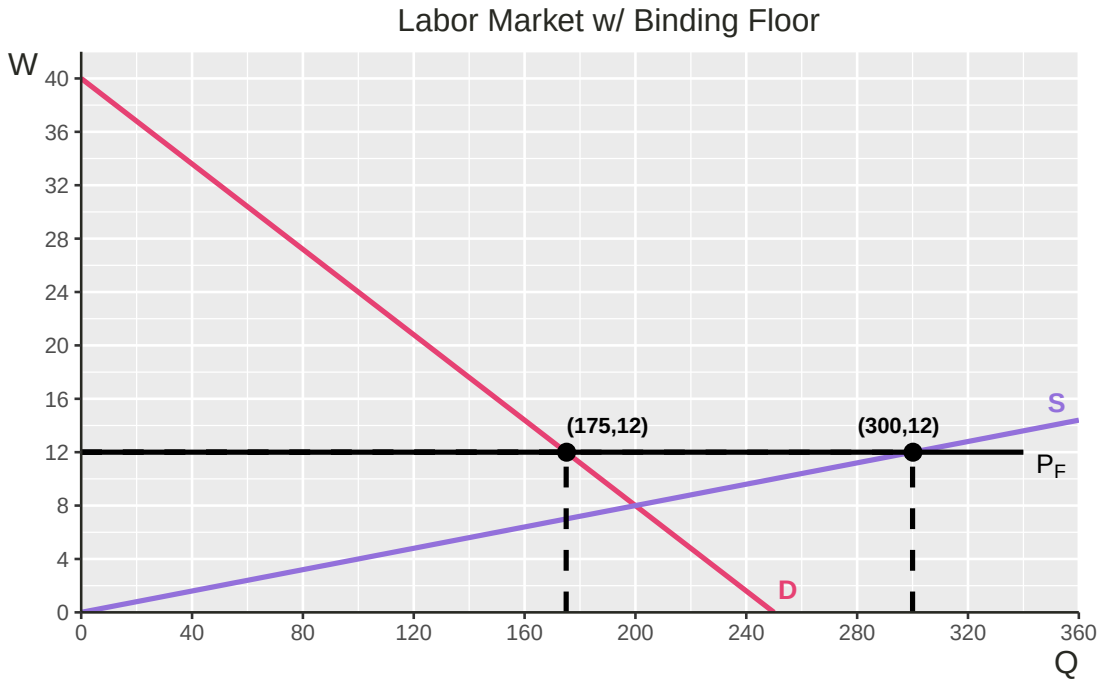

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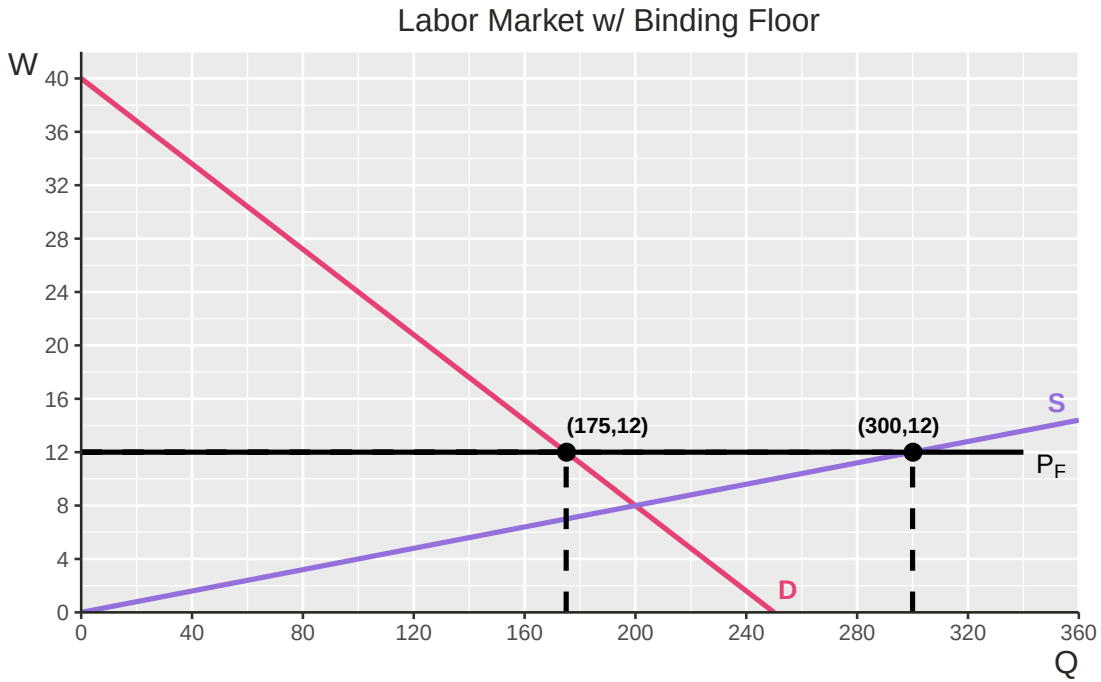

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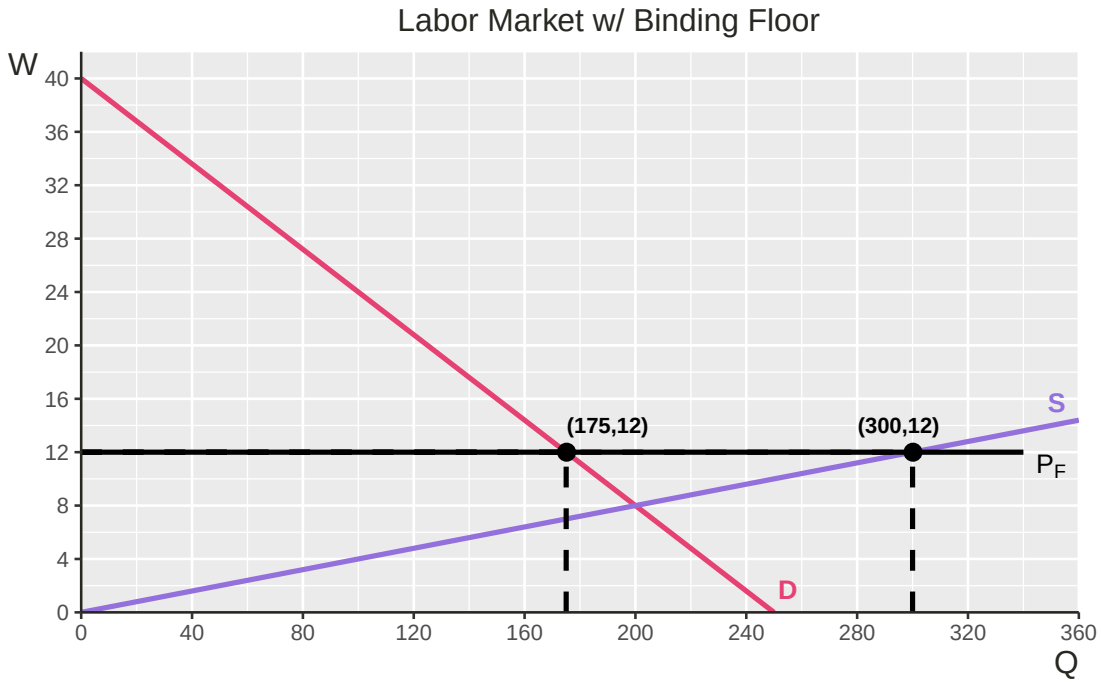

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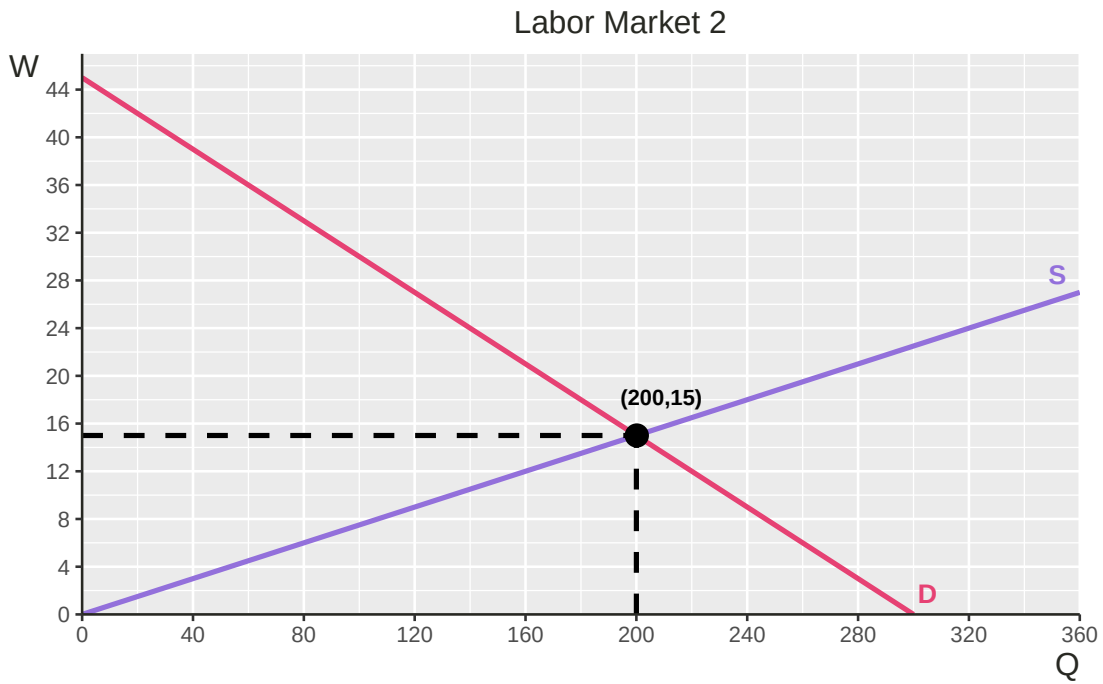

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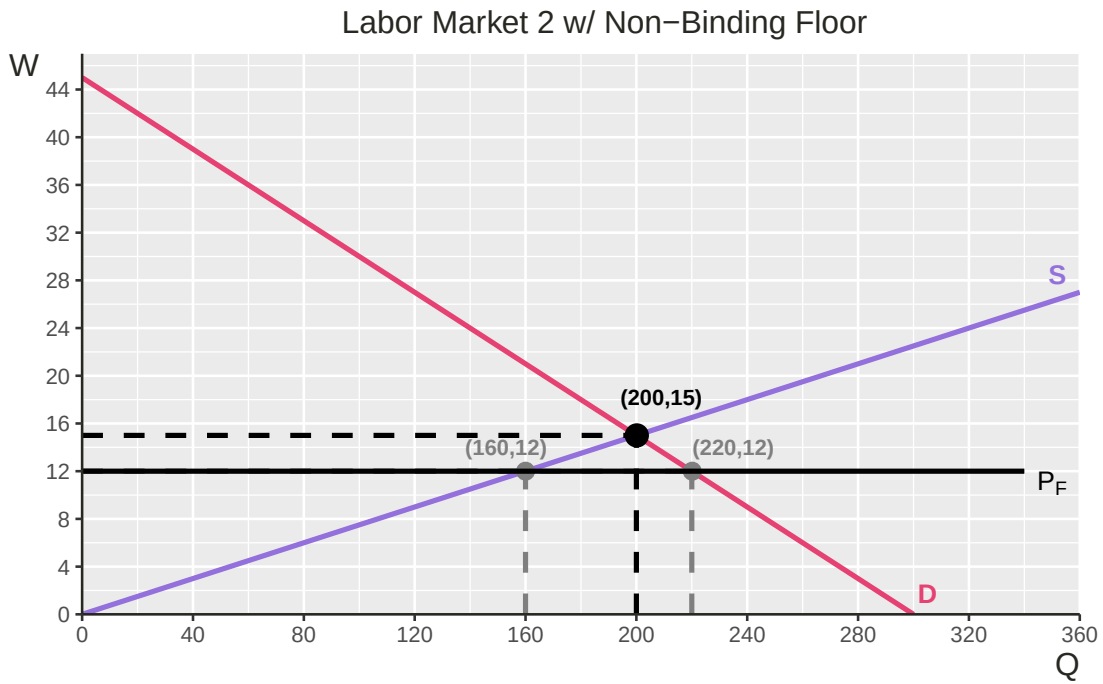

$$Q_S = Q_D = 200$$

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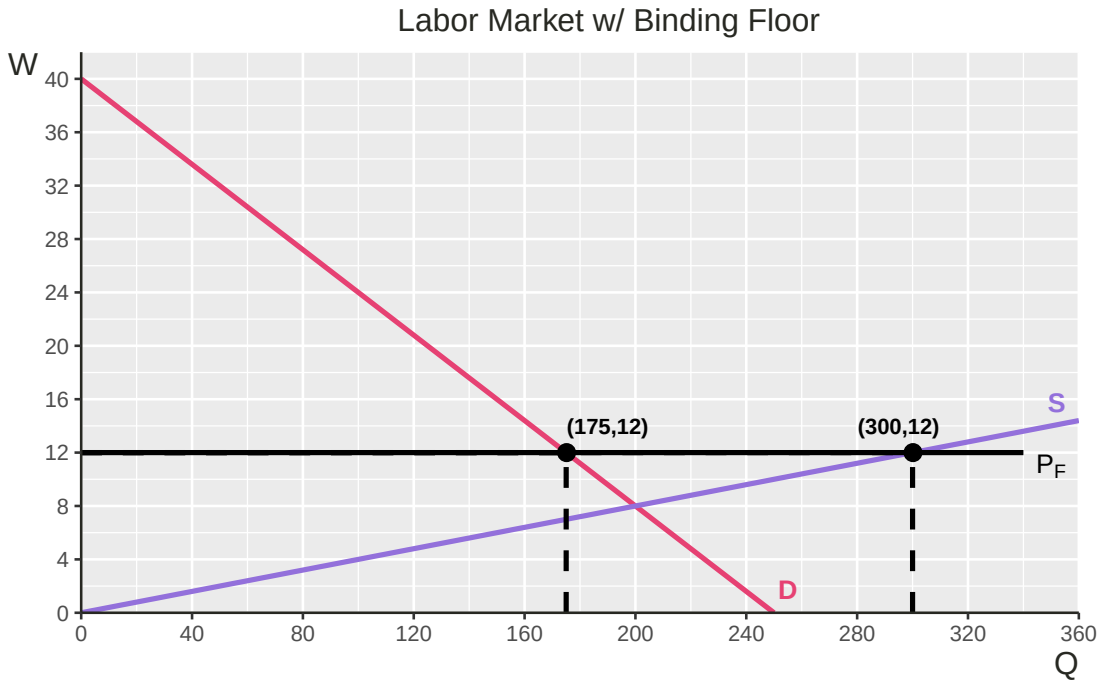

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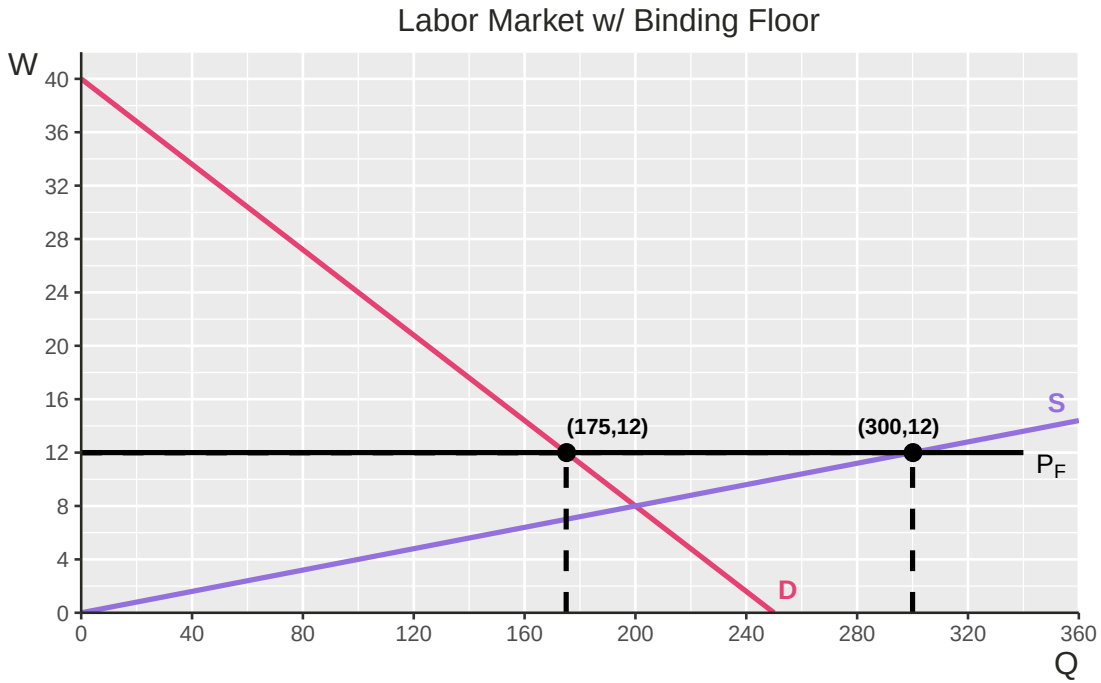

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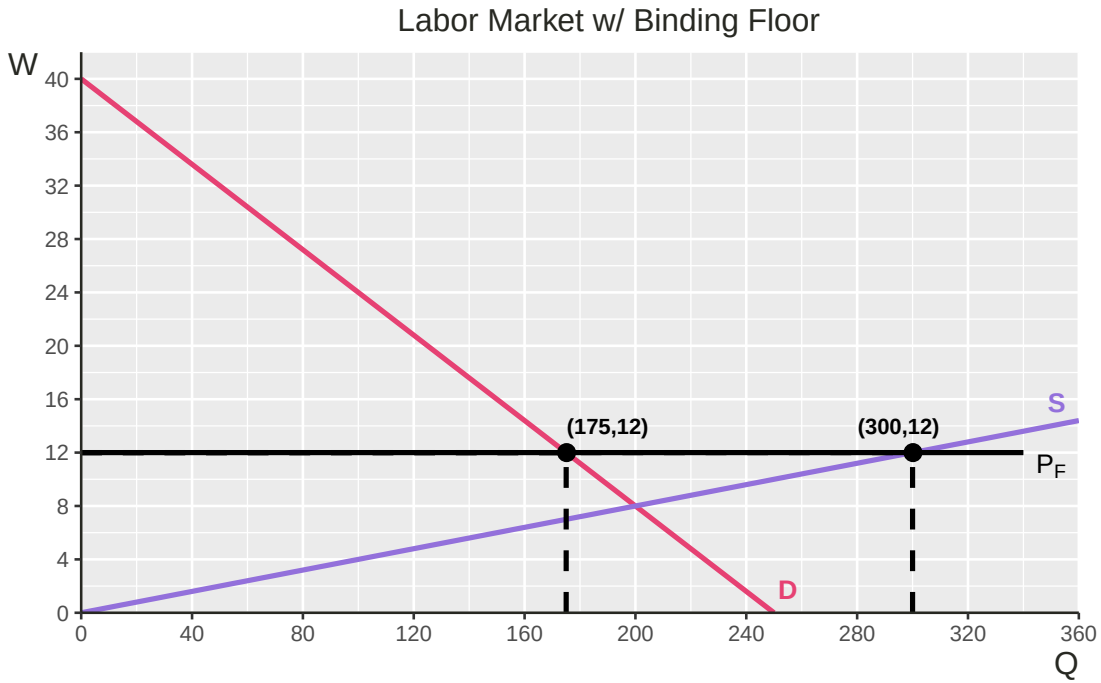

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  - A: Neither
- Thus, regardless of whether or not the minimum wage is binding, we shouldn't see a shortage in labor coming from a minimum wage

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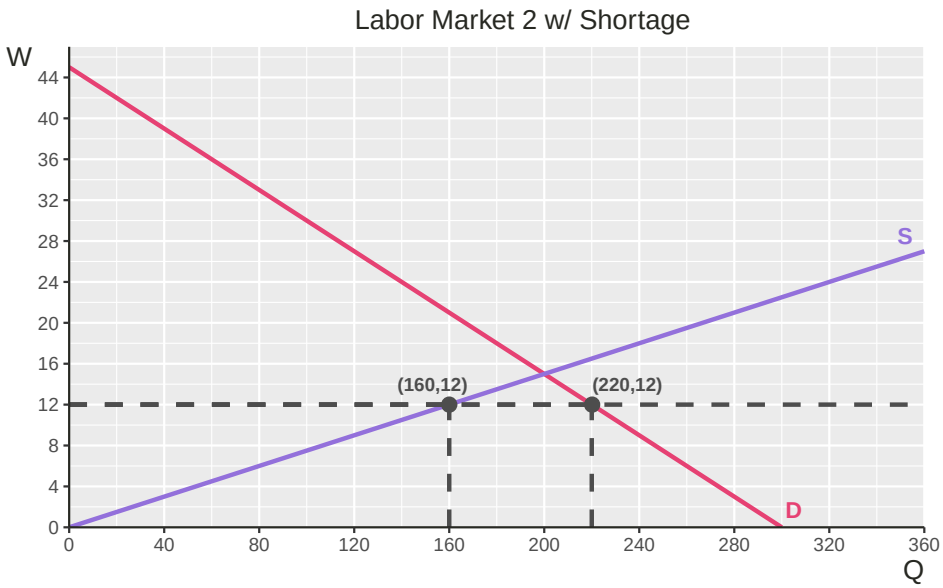

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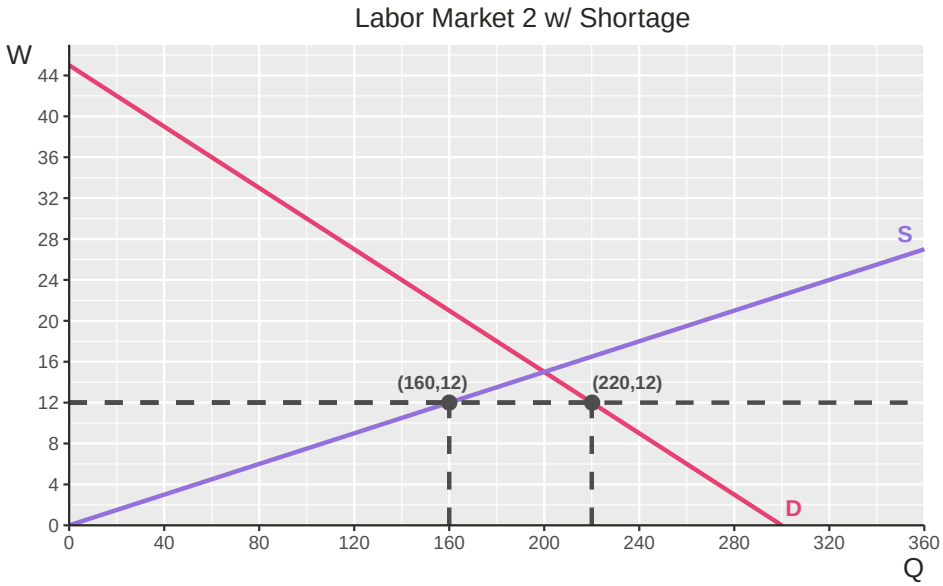

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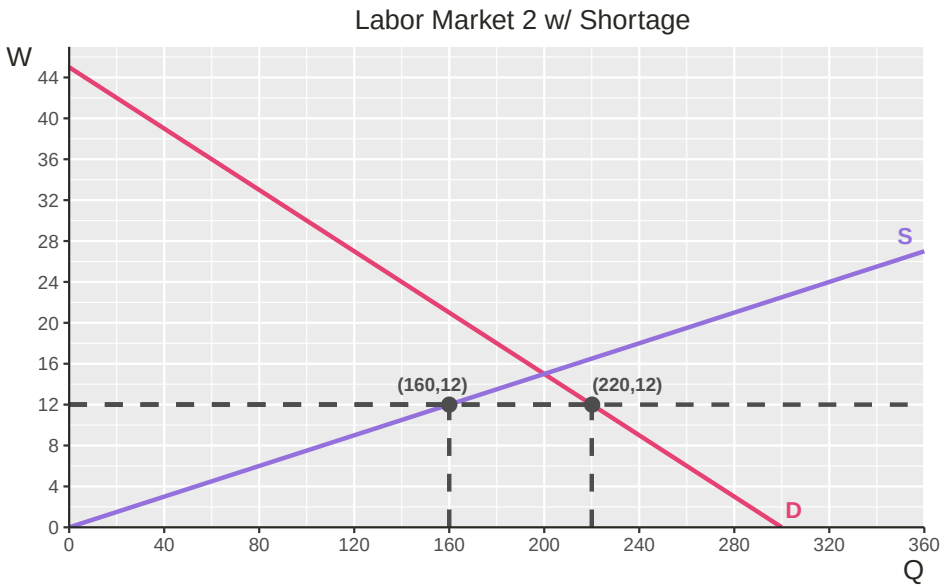

- What should we do?

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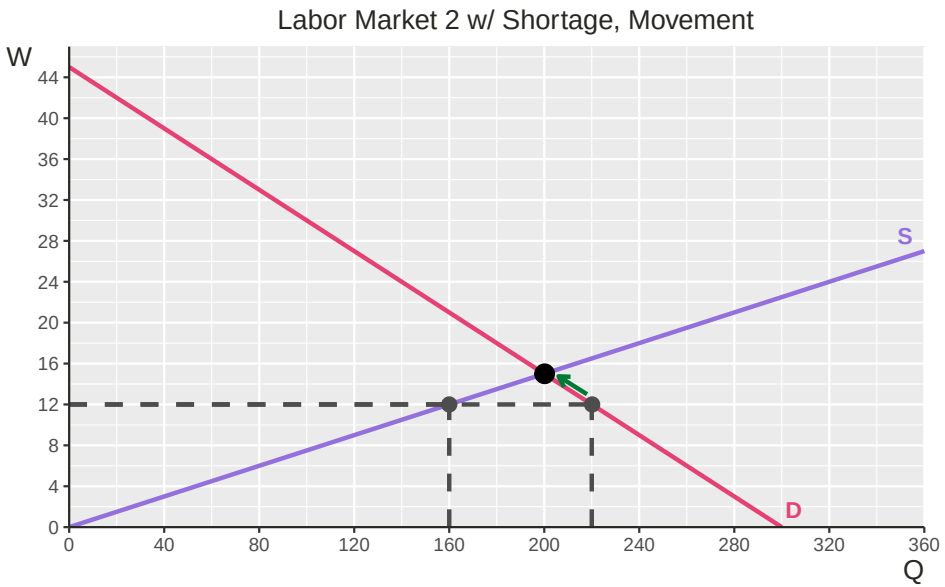

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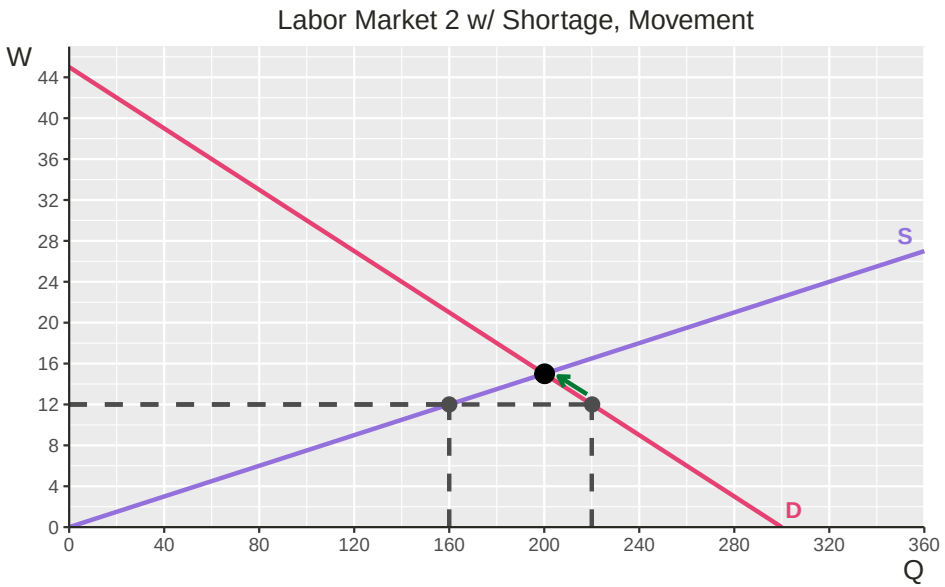

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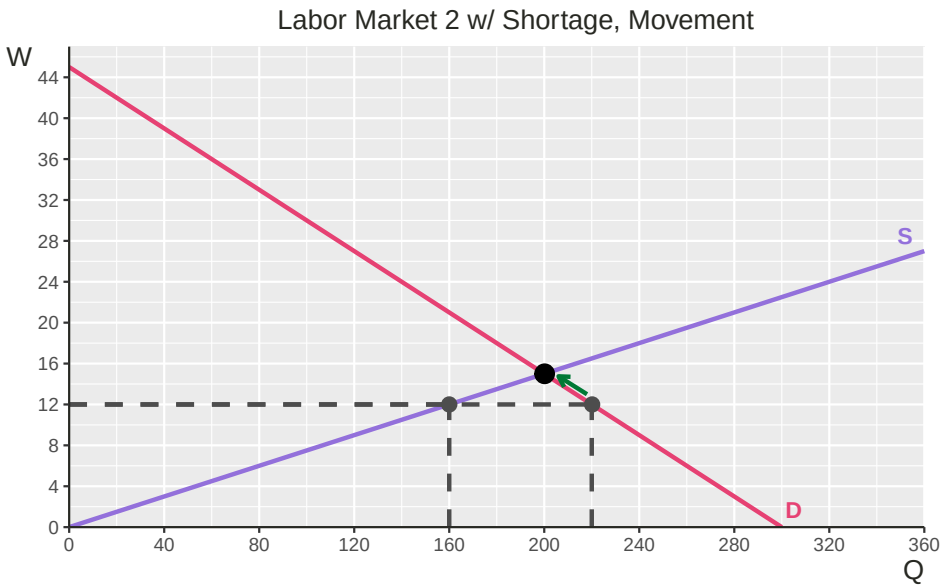

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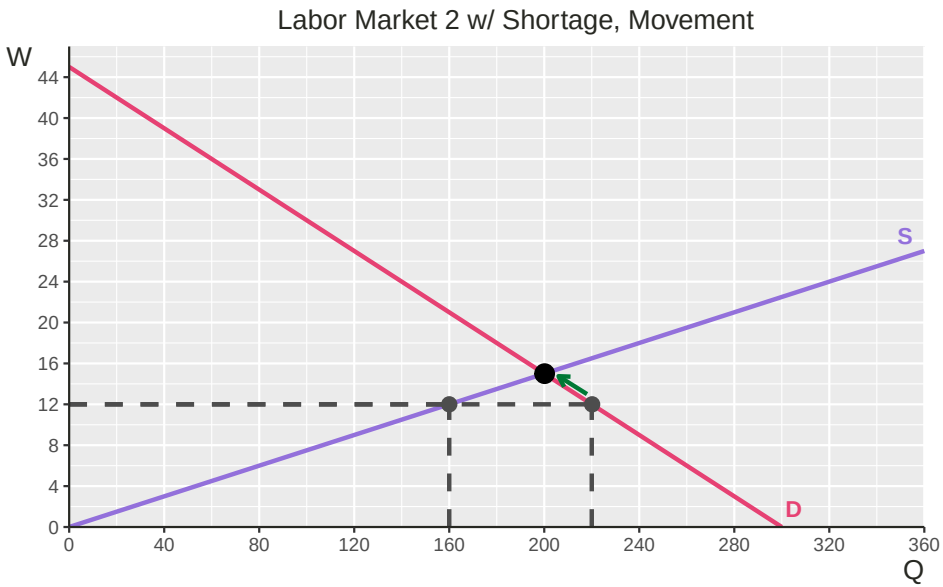
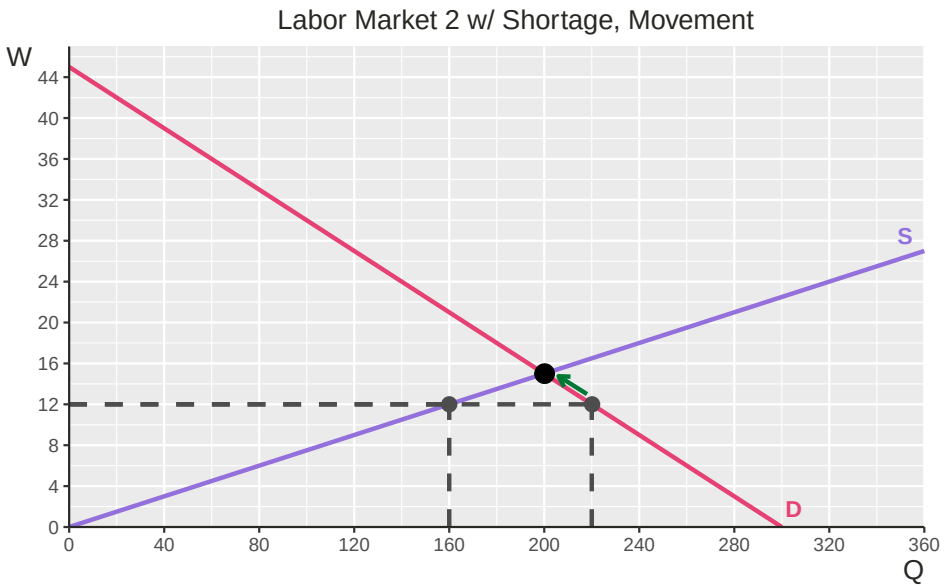


Labor Market with Exogenous Shortage

- What does that mean in this case?
  - Even if we had a labor shortage, the consumers (*firms*, in this case) should be offering higher wages in order to attract producers (workers) and shrink the shortage



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- What do you think?

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- Assuming there is a black market, one could hope to recover some of the deadweight loss induced by the price ceiling, but doing so graphically is not common to teach in this course, and not something I expect of you

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- Graphing quotas can actually be done in a few different ways, an exploring the exact effects which quotas can have on the market is outside the scope of this course

Aside 2 – Quotas

- In addition to price floors/ceilings, which limit the price of a good, we can also discuss quotas, which limit the quantity of a good which we can import
- Generally, quotas are used to "protect" domestic producers, but much like price floors and price ceilings, these regulations can also lead to deadweight loss
  - This comes from the fact that the regulation almost always keeps prices high
- Graphing quotas can actually be done in a few different ways, an exploring the exact effects which quotas can have on the market is outside the scope of this course
- If you are interested in this or other international economics, I encourage you to take a class in international trade or international markets, such as EC 380, or any of EC 480-484

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- How will this affect the market for cigarettes?

The Effect of a Tax on the Demand Curve

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  - Thus, a tax will shift demand down by t units (often dollars)

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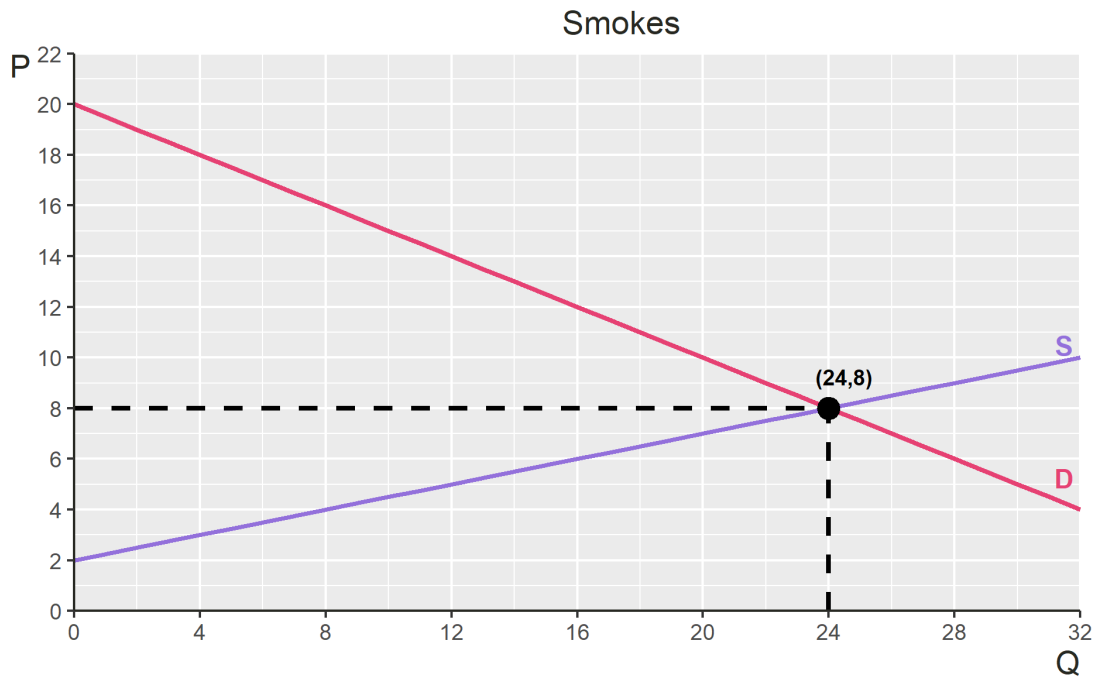

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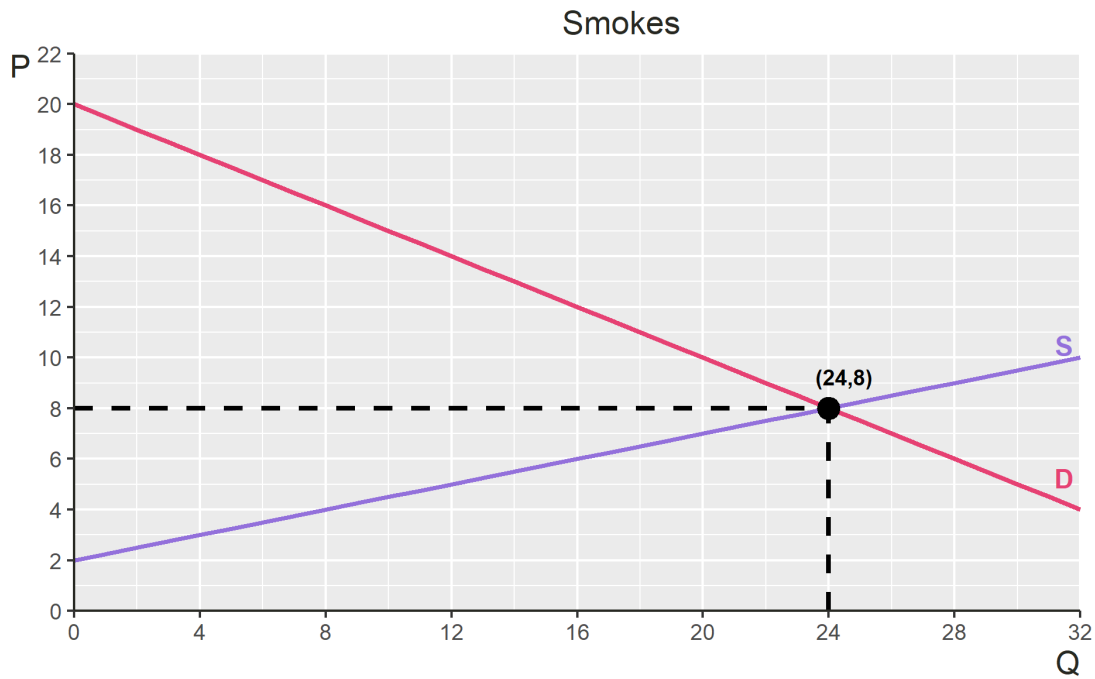

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- In order to discourage cigarette consumption, the government puts in a per-unit tax of \$6 in place. What happens in the market?

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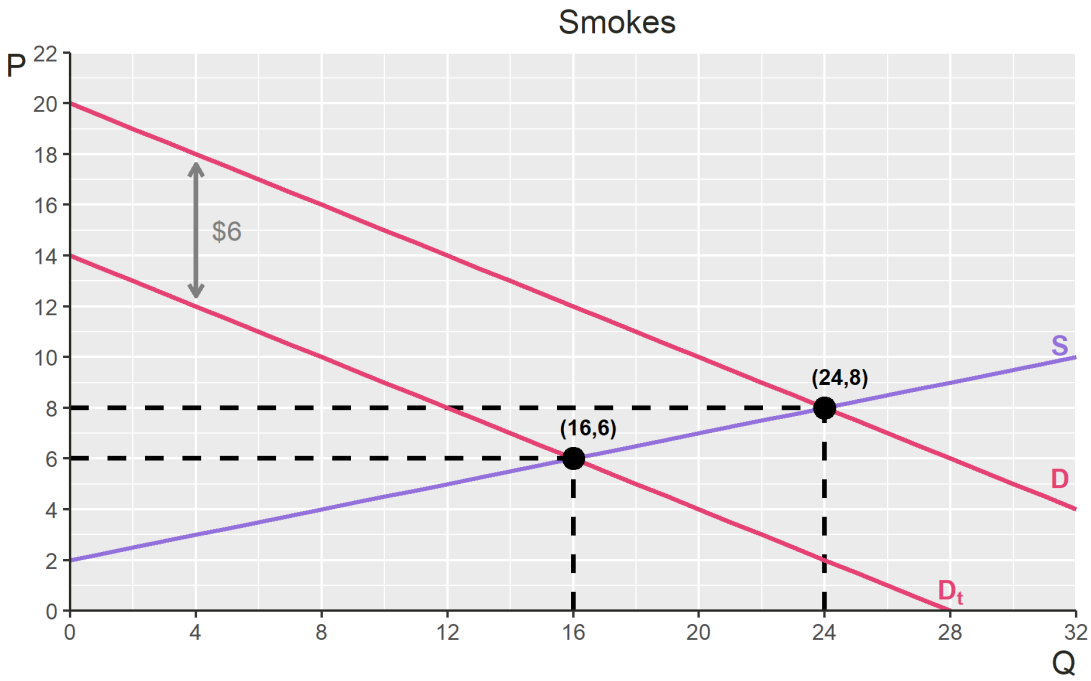

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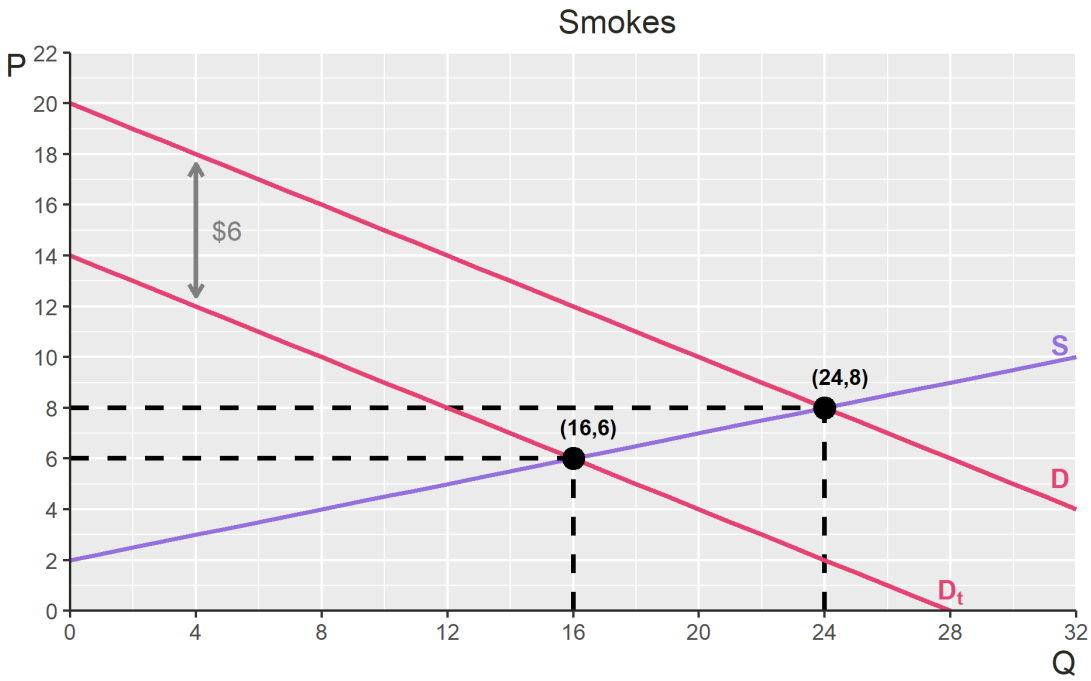

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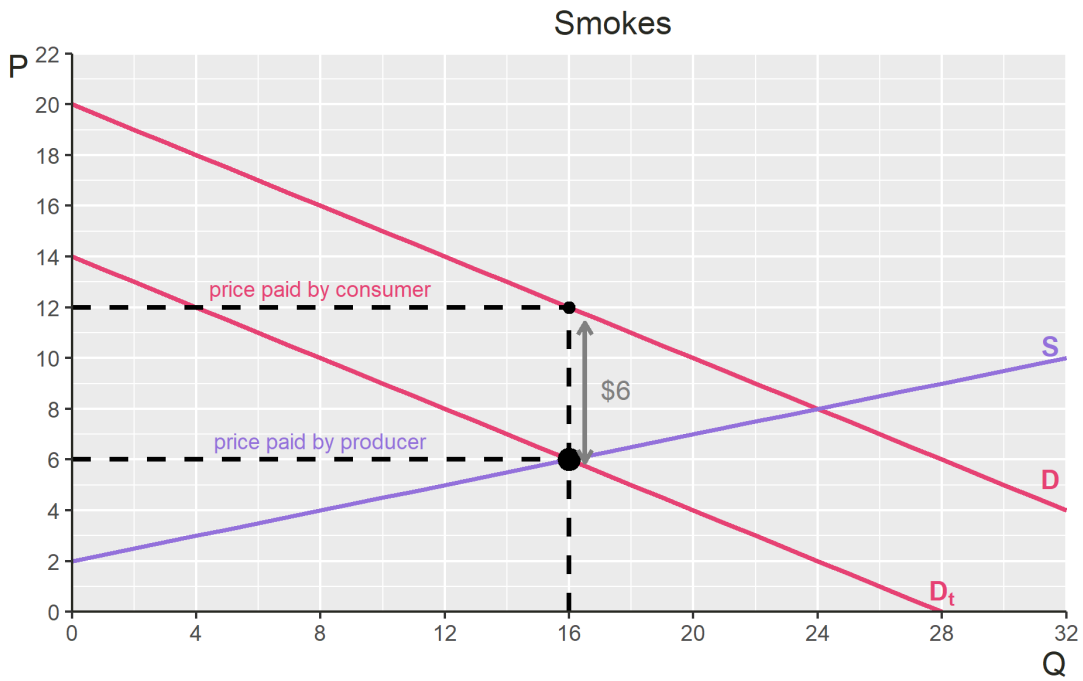
  - Note: Both these stories are equivalent/yield the same price paid/received

Difference in Prices



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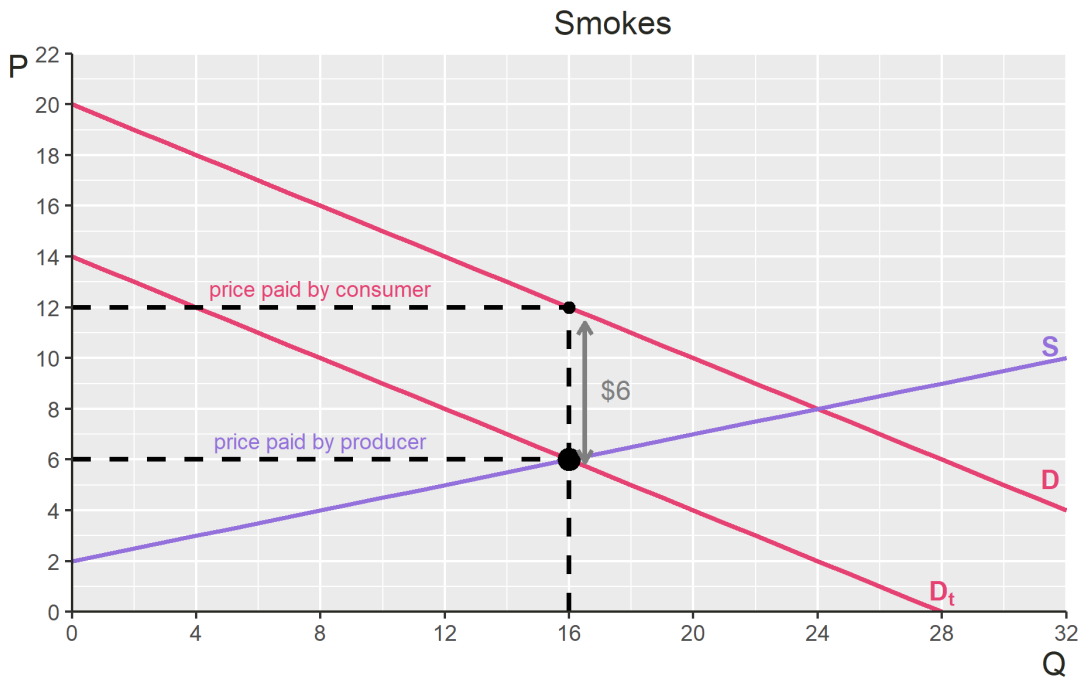

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- Note: $(16, 6)$ is still worth calling the "equilibrium" of the graph, the key difference is that there are now two prices worth talking about[3]

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Government Revenue[4]

- Q: How much did the government collect in taxes?

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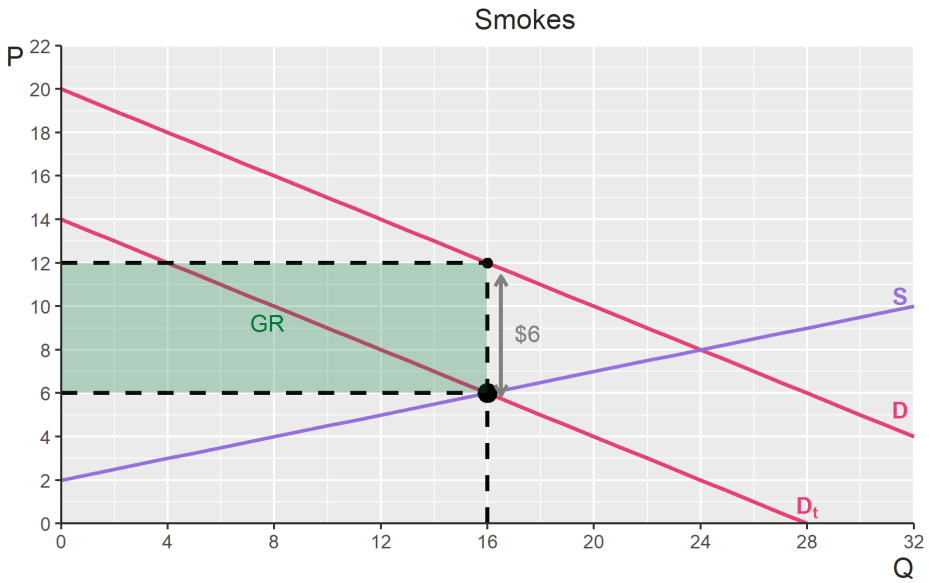

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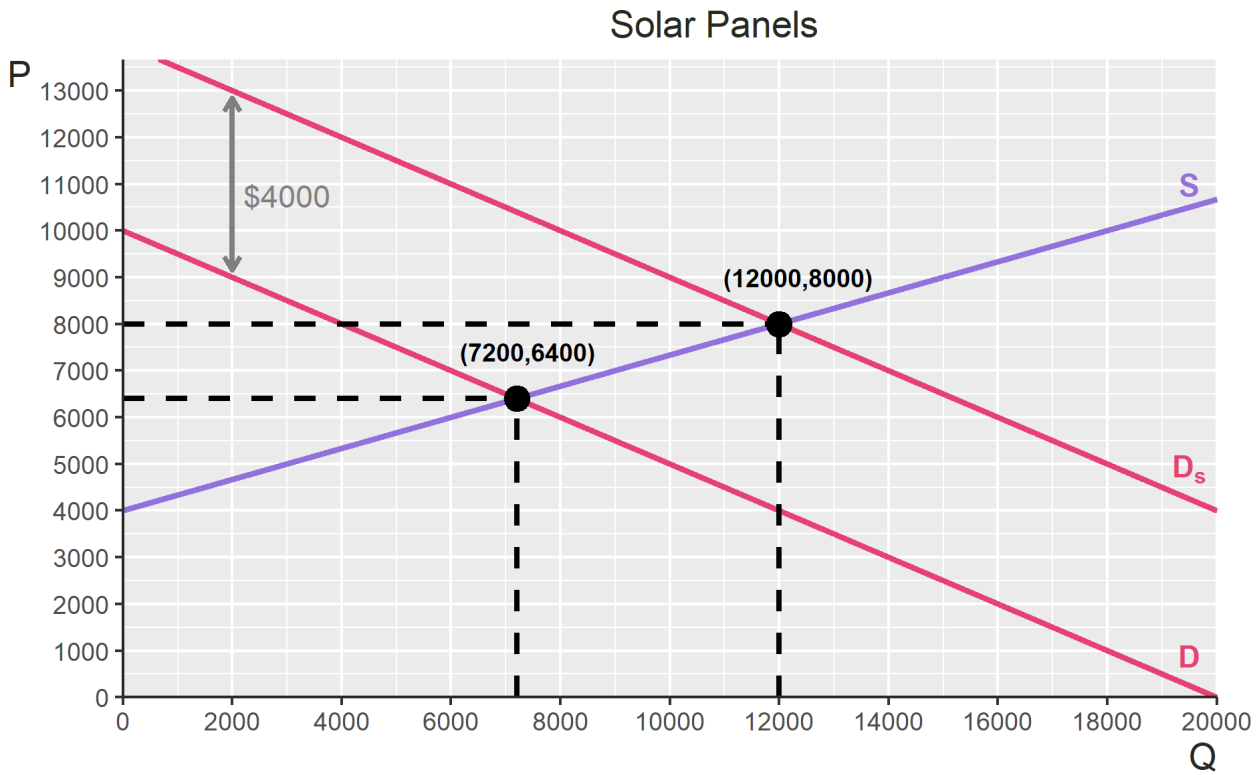
  - Subsidies just shift demand up!

Example – A Subsidy for Consumers

- If the government wanted to encourage consumption of solar panels, they could give a \$4000 per-unit subsidy on them, shown below:



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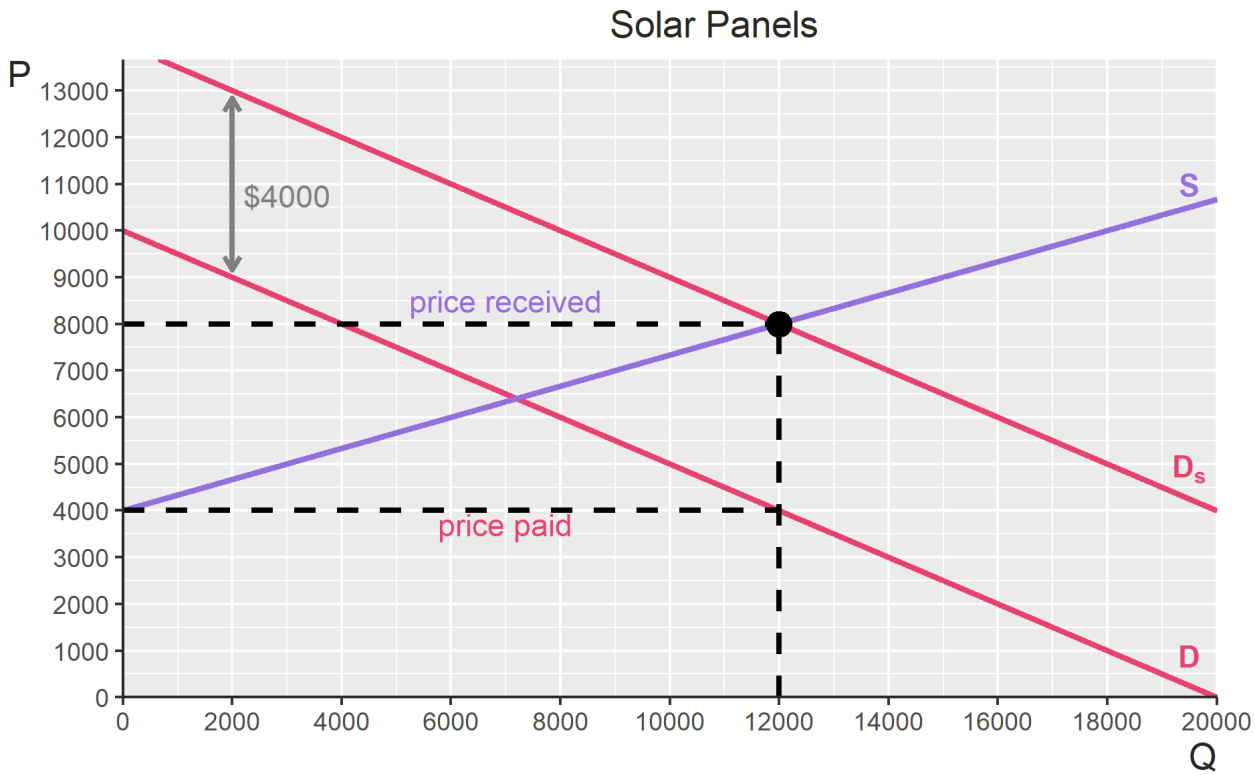
- Therefore, price paid by the consumer is \$4000, and price received by the producer is \$8000



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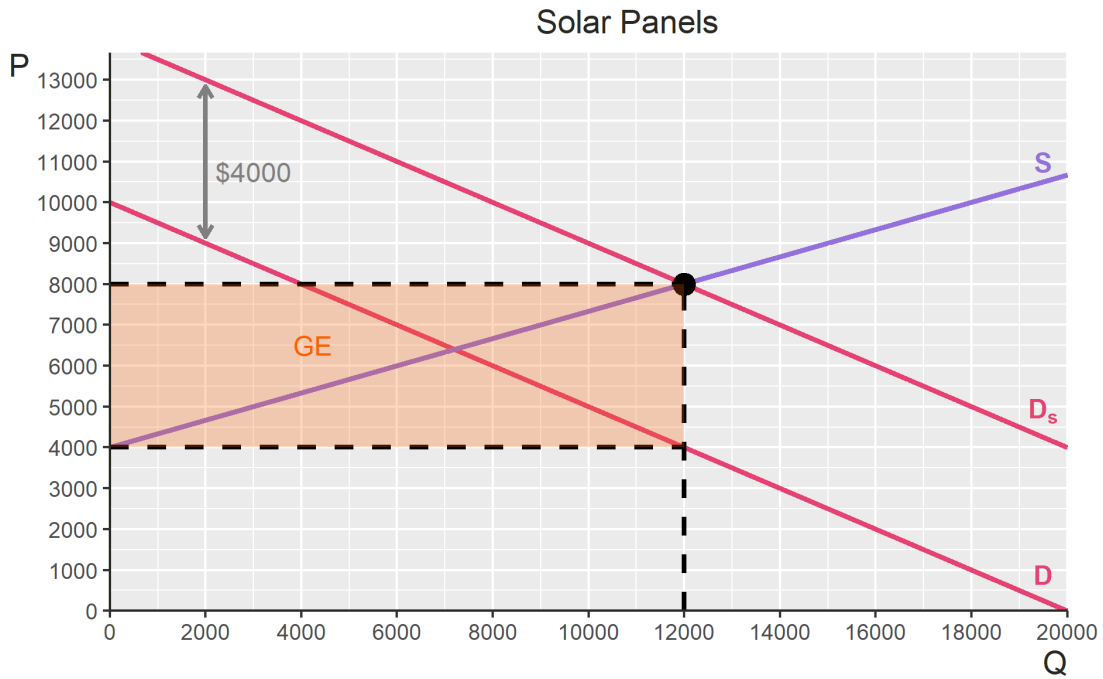
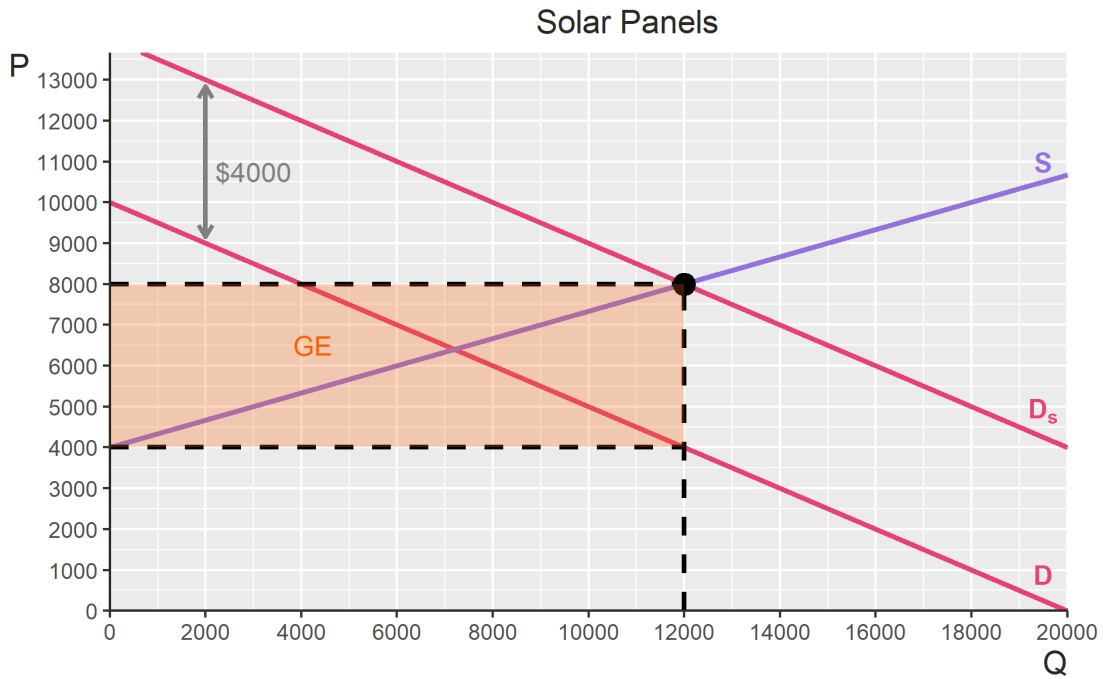


Government Expenditure

- How much did the government spend?
  - \$4000/unit subsidy times 12000 units traded, meaning

$$GE = (4000)\,(12000) = \$48,000,000$$



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- Q: How do taxes and subsidies affect the supply curve?
- A: Taxes/subsides just shift supply down/up as well, but in a slightly different way

The Effect of a Tax on the Supply Curve

- Suppose supply for oil is given by

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  - Shift supply up by t units

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- Thus, if supply is given by $P = mQ + b$, then subsidized supply is given by $P = mQ + b - s$, where s is the positive subsidy
- It's still the case that taxes have a negative, regressive effect on supply/demand, while subsidies have a positive, stimulative effect on supply/demand

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- Suppose we want to discourage the rate at which businesses frack oil, and we do so by putting a \$40/unit tax on production

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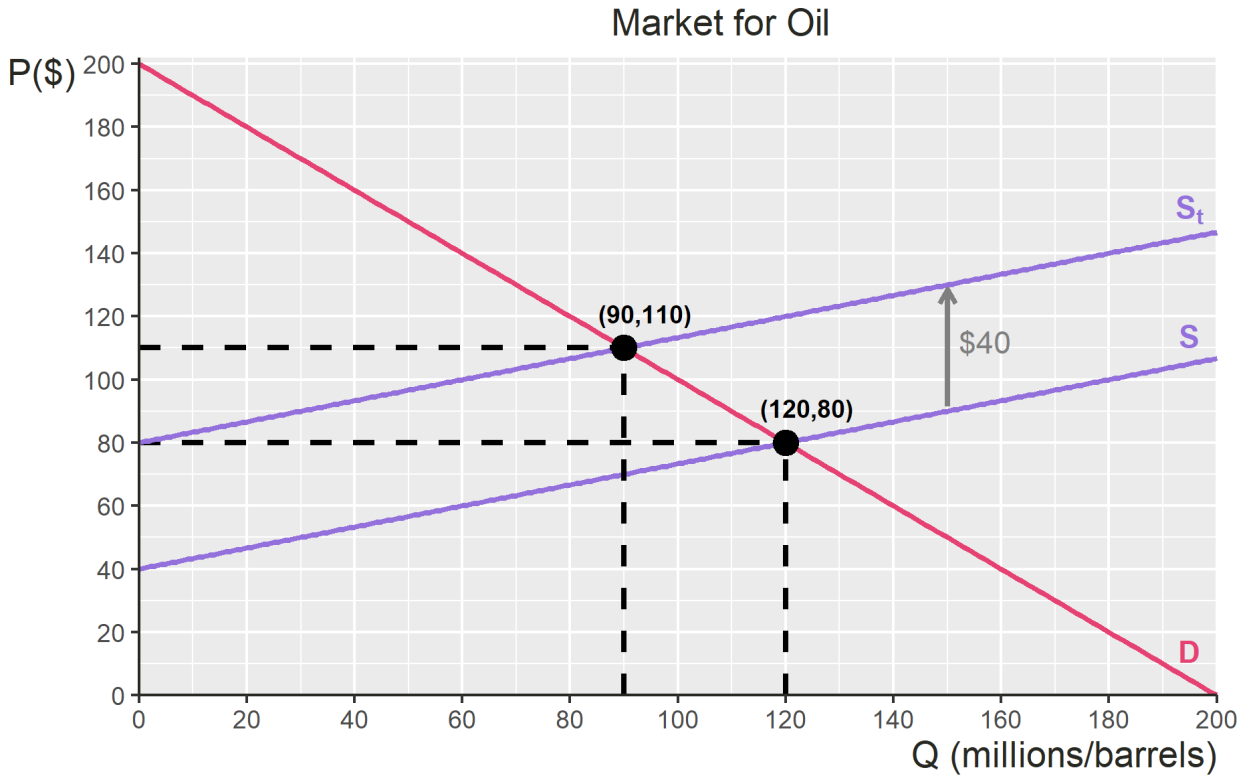
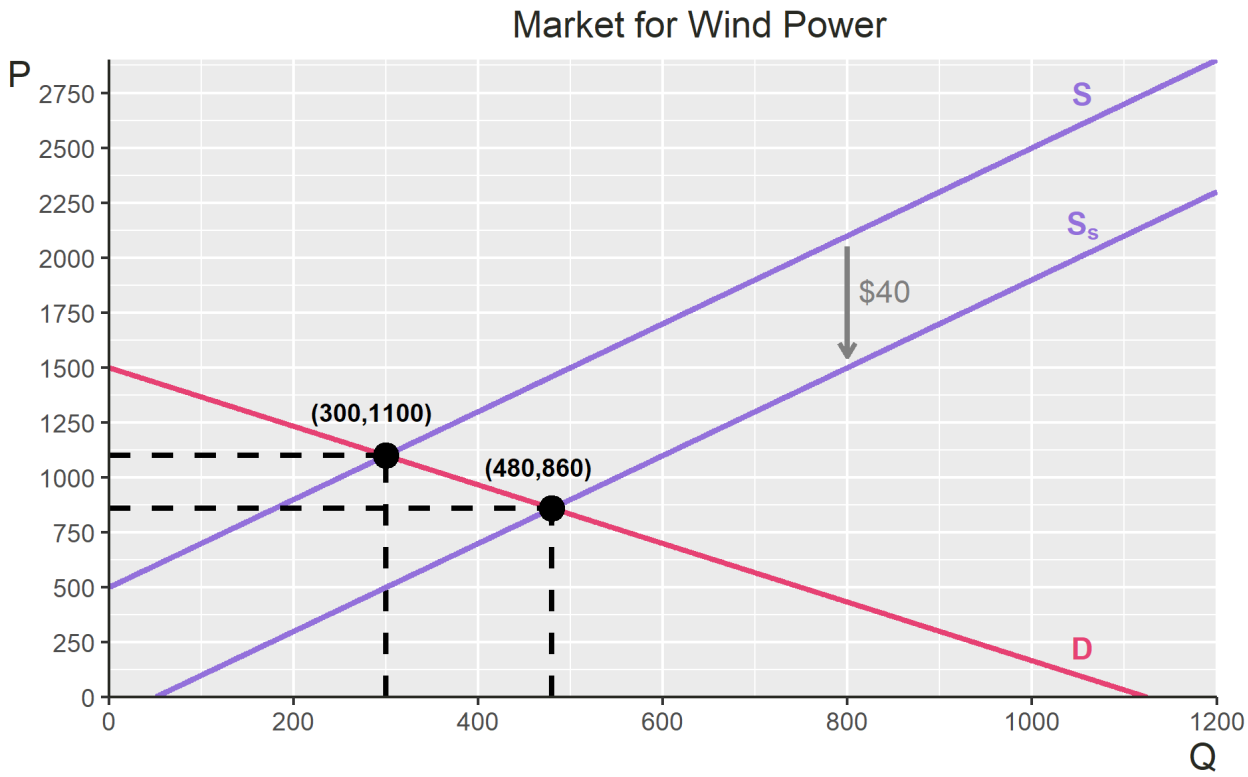


The supply line shifts from S to S_t with the tax

Example – A Subsidy for Producers

- Suppose that, in order to encourage wind power prominence, the government provides a \$600/unit subsidy to producers



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