Week 3 - Elasticity and Market Efficiency

Plan for today

- Elasticity
- Welfare analysis: market efficiency

Announcement(s)

- Midterm Exam: Thursday, March 12. 6.30-8.30p.m, at LT34 (Faculty of Science, near the bus stop), e-Exam
- Friday February 14: ExamSoft demo with IT staff

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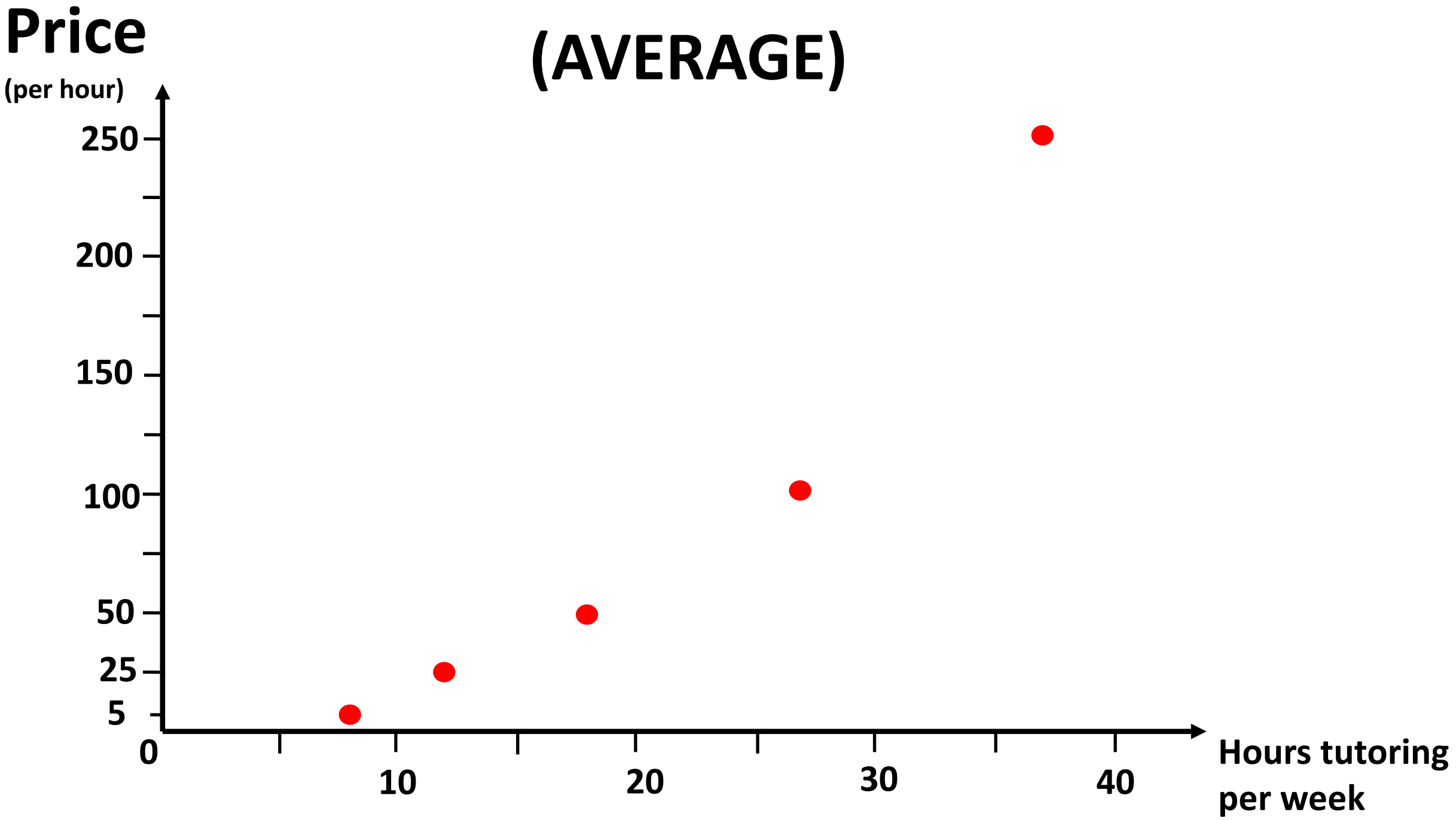
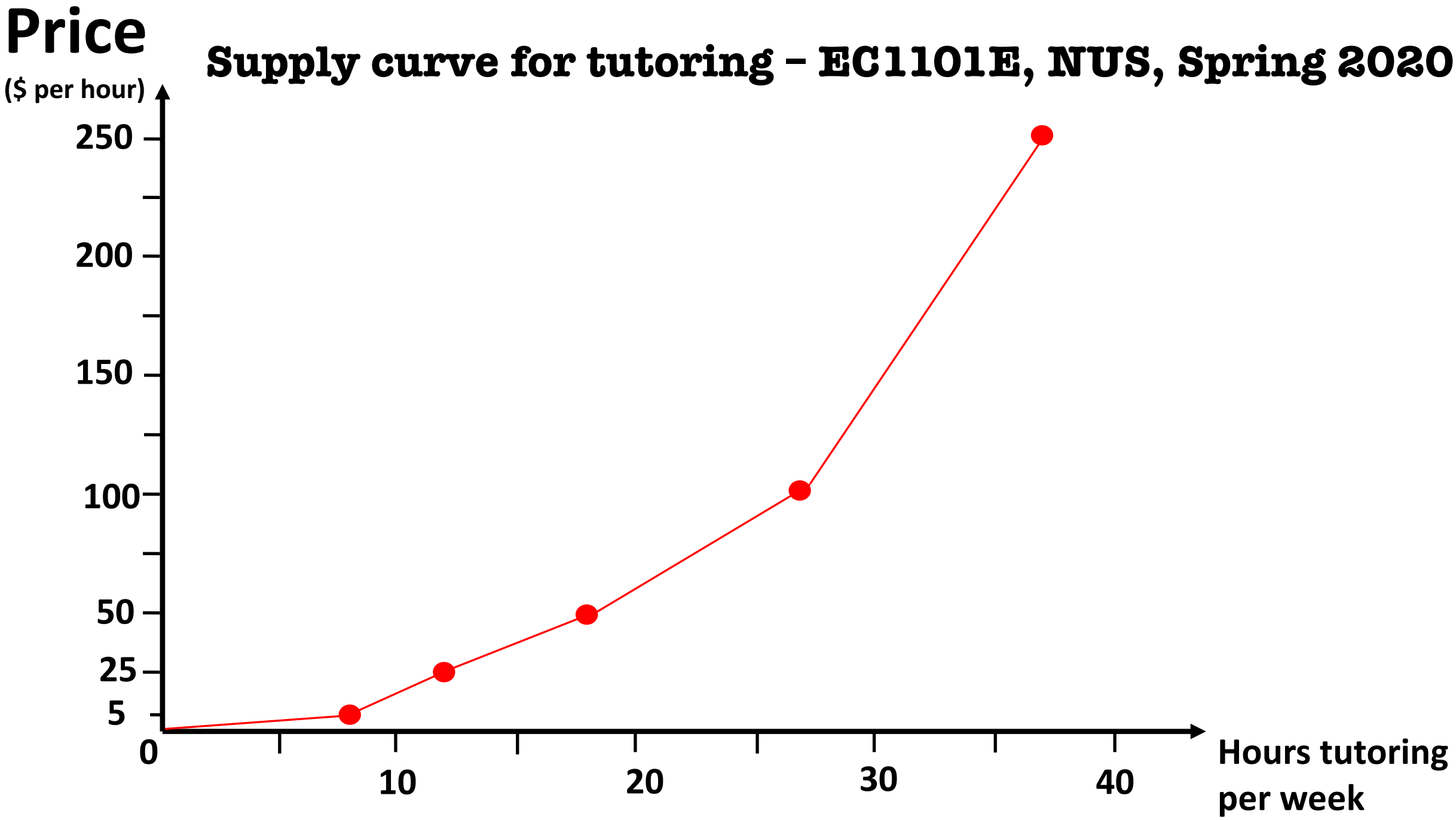
How about your supply for tutoring?

- If tutoring PSLE students were $5 per hour, how many hours would you like to tutor each week?
- If tutoring PSLE students were $25 per hour, how many hours would you like to tutor each week?
- If tutoring PSLE students were $50 per hour, how many hours would you like to tutor each week?
- If tutoring PSLE students were $100 per hour, how many hours would you like to tutor each week?
- If tutoring PSLE students were $250 per hour, how many hours would you like to tutor each week?


Price
(per hour)
(AVERAGE)
250
200
150
100
50
25
5
0
10
20
30
40
Hours tutoring per week

Supply curve for tutoring – EC1101E, NUS, Spring 2020



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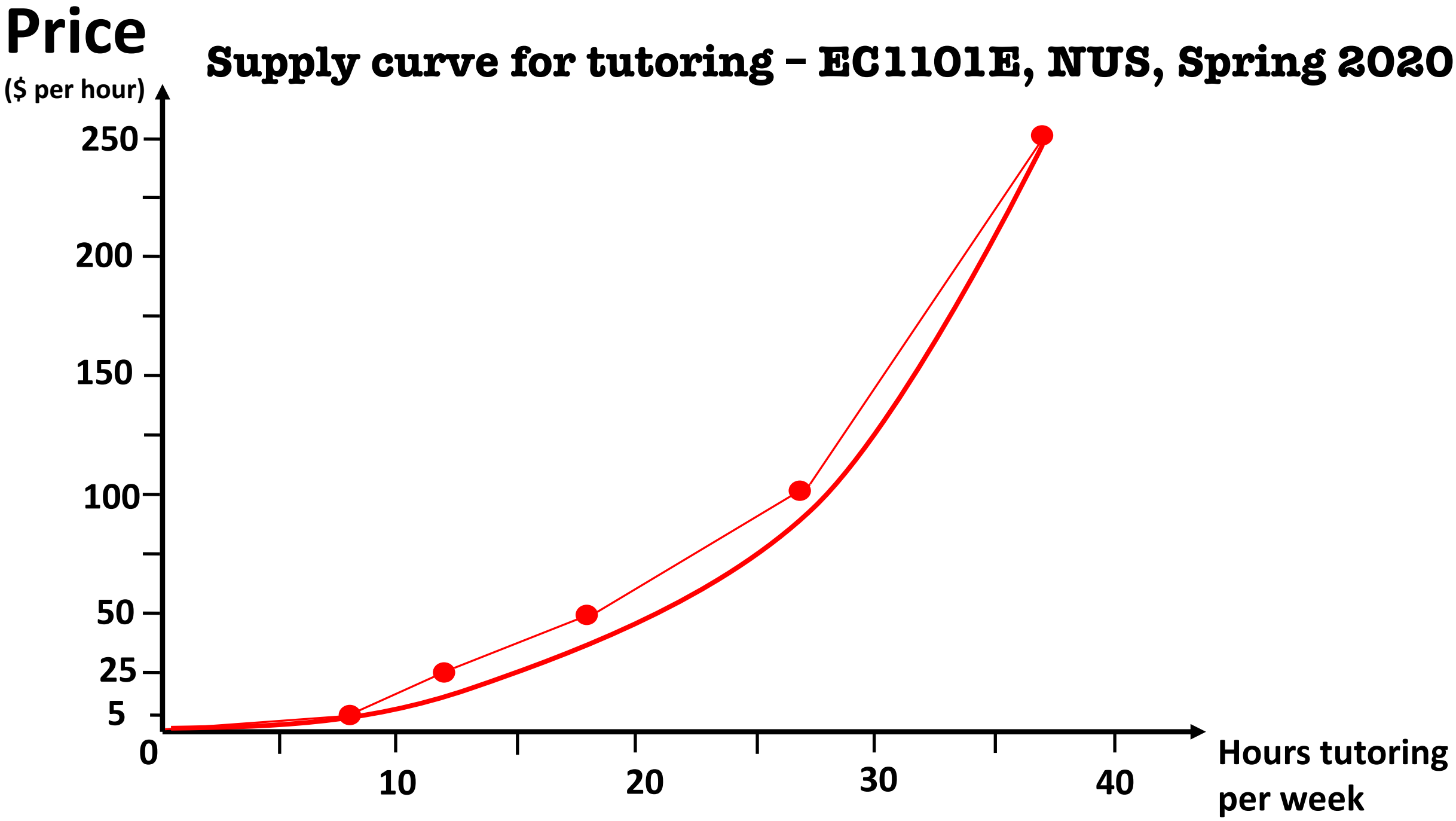

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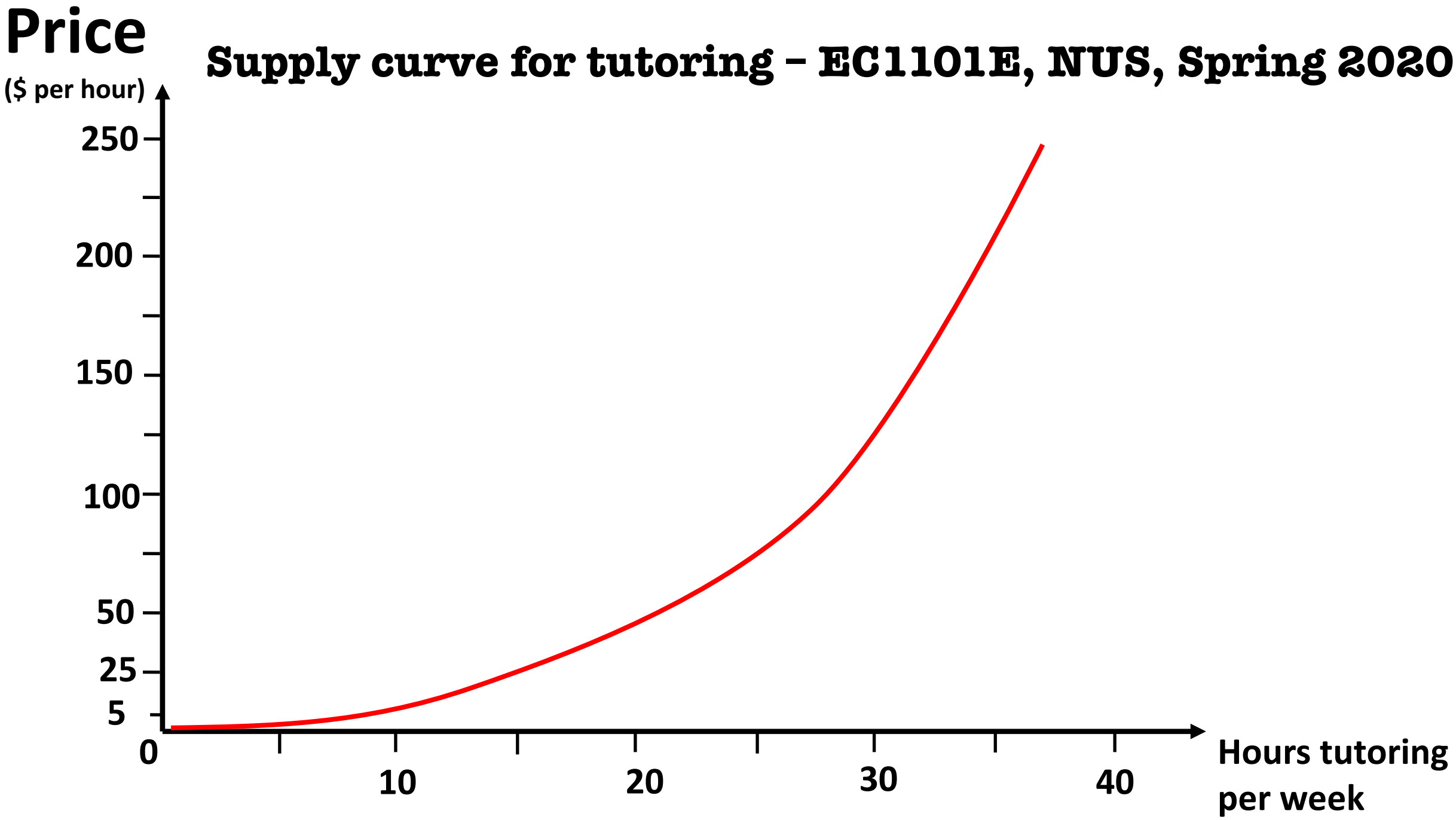

Remarks on the observed Supply Curve for hours tutoring

- Resembles very well any textbook Supply Curve
- Clearly follows the Law of Supply:
  - The higher the price, the more hours you are willing to supply

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- Why is that the case?
  - The higher the rate, the more profitable it is

Remarks on the observed Supply Curve for hours tutoring

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  - The higher the price, the more hours you are willing to supply
- Why is that the case?
  - The higher the rate, the more profitable it is
  - Inverse reasoning: opportunity cost.
    - The more hours parents want you to tutor, the fewer free hours you will have → The value of your free time increases → For each additional hour, you demand more money

How to stop animal hunting?

-

US President Theodore Roosevelt, 1909-10

Theodore Roosevelt poses near a dead elephant he killed during an African safari between 1909 and 1910.
(Image: © Everett Historical)

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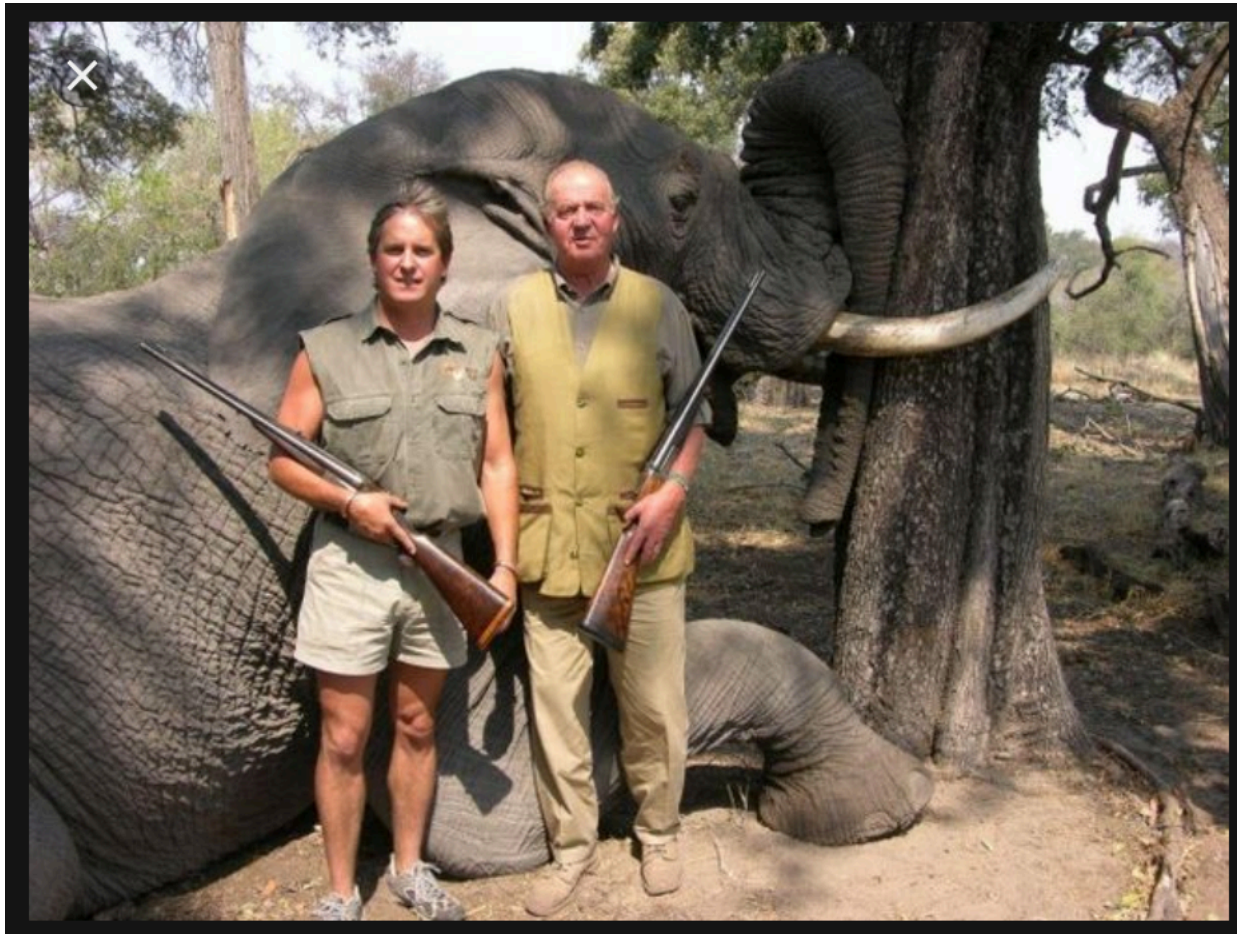
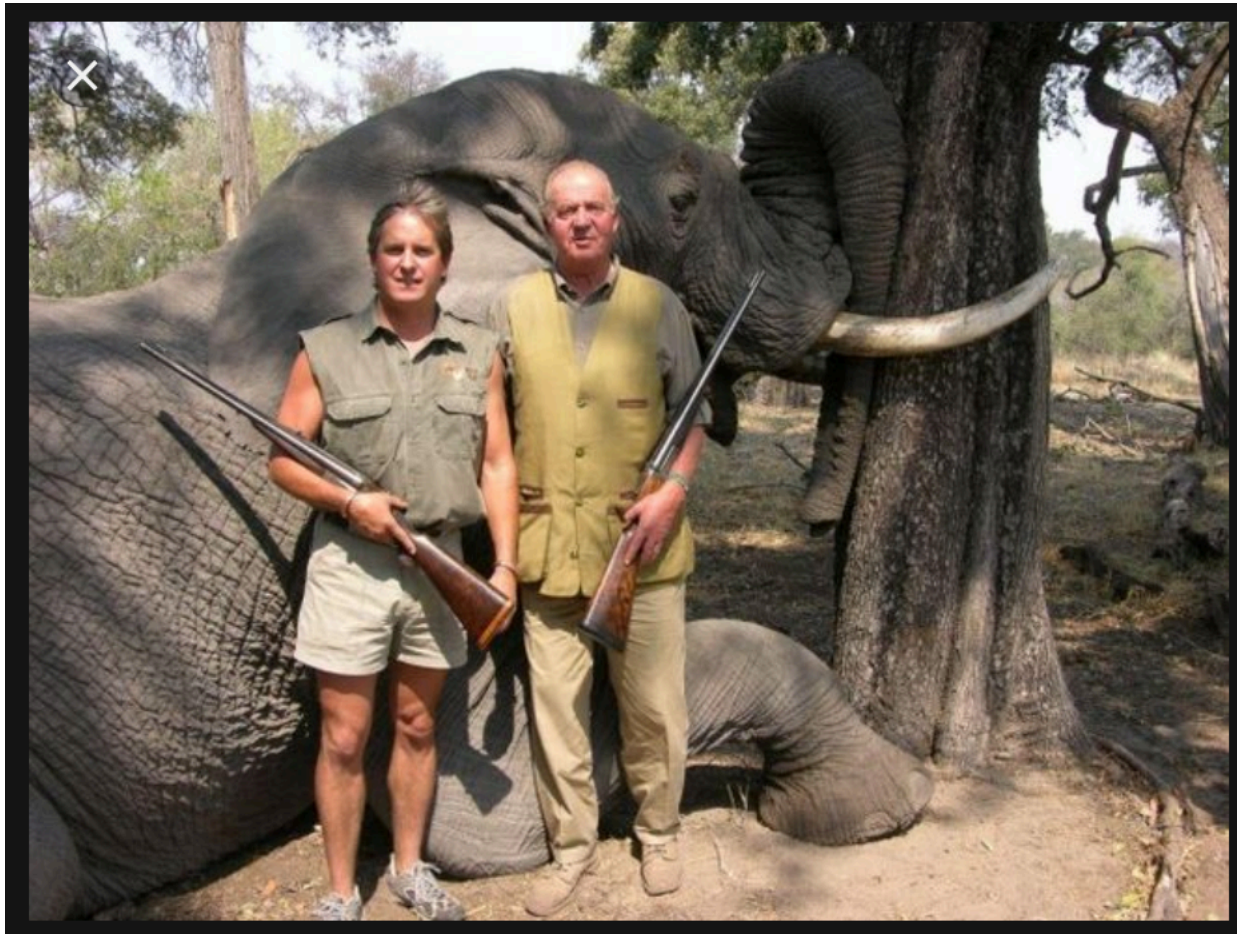
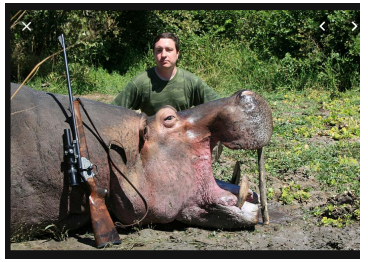


King of Spain, 2012



A black rhino (*Dicer*



Today: Why do some people claim that promoting the hunting industry is the *best* way to protect wildlife?

We will learn about elasticity of demand and supply when trying to answer this question.

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Protecting endangered species? offer hunter tours to kill them legally!

- Goal: protect endangered species
- One possible solution? Offer Crazy Rich Tourists the chance to kill them for a fee, legally.

- Disclaimer: Not claiming this is the solution we would advocate, for obvious reasons.
- However, this is a reason that has been argued by many in the past and even in the present. Next, we will see why.

The market for hunting

- Demand: Pay $ to kill one animal
- Supply: Stock of animals (agencies get fee for the tour)

Suppose first hunting is illegal

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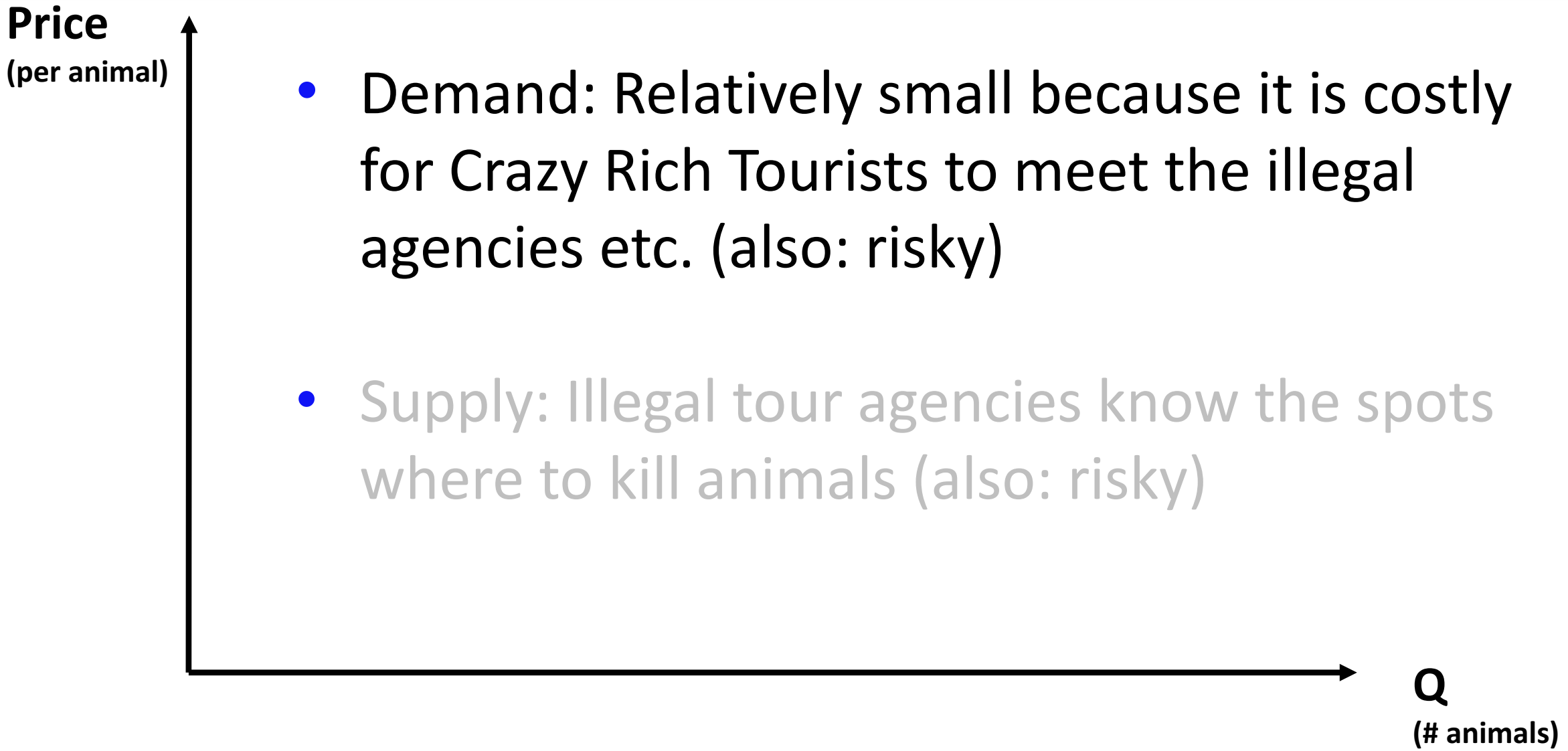

- Demand: Relatively small because it is costly for Crazy Rich Tourists to meet the illegal agencies etc. (also: risky)
- Supply: Illegal tour agencies know the spots where to kill animals (also: risky)

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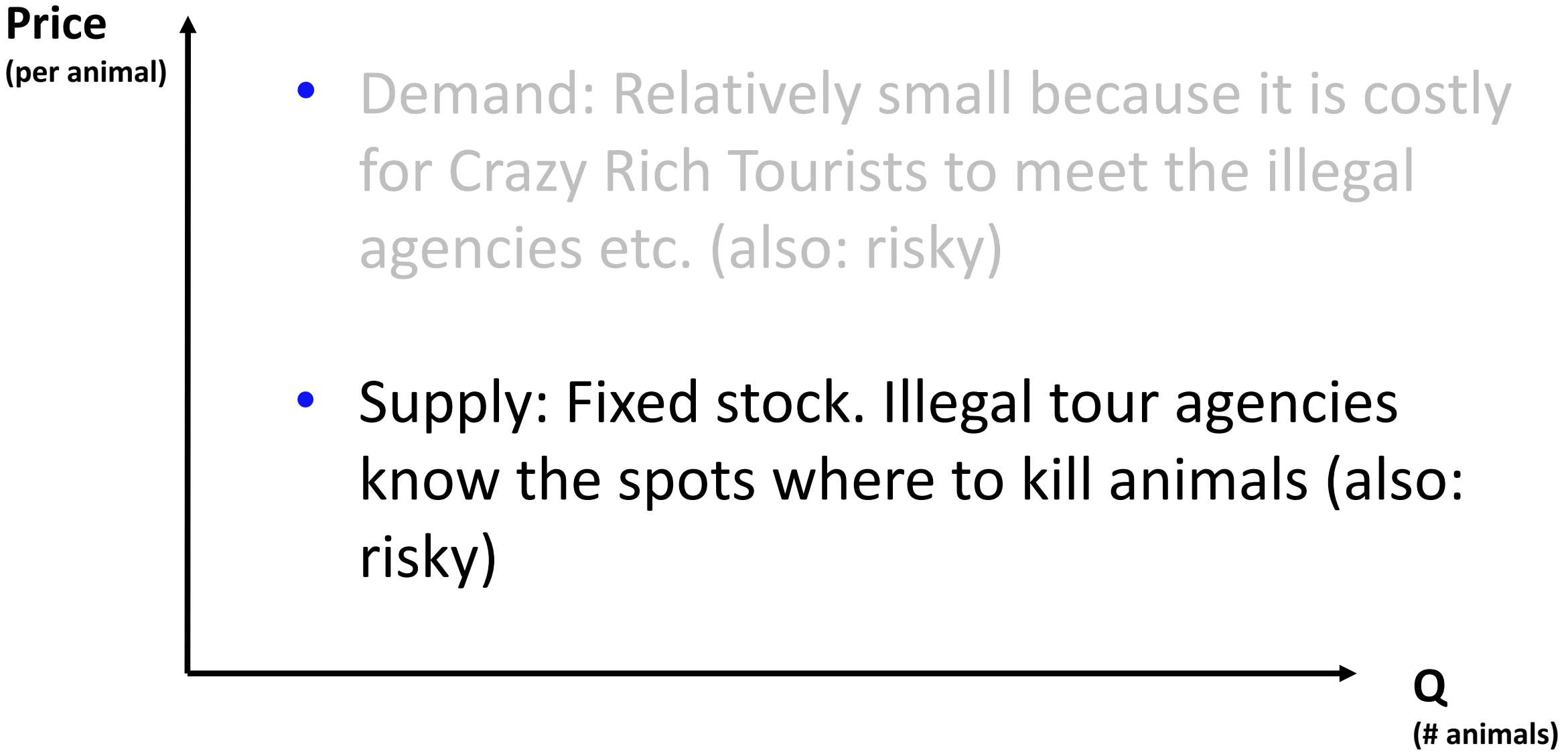

- Demand: Relatively small because it is costly for Crazy Rich Tourists to meet the illegal agencies etc. (also: risky)

- Supply: Fixed stock. Illegal tour agencies know the spots where to kill animals (also: risky)

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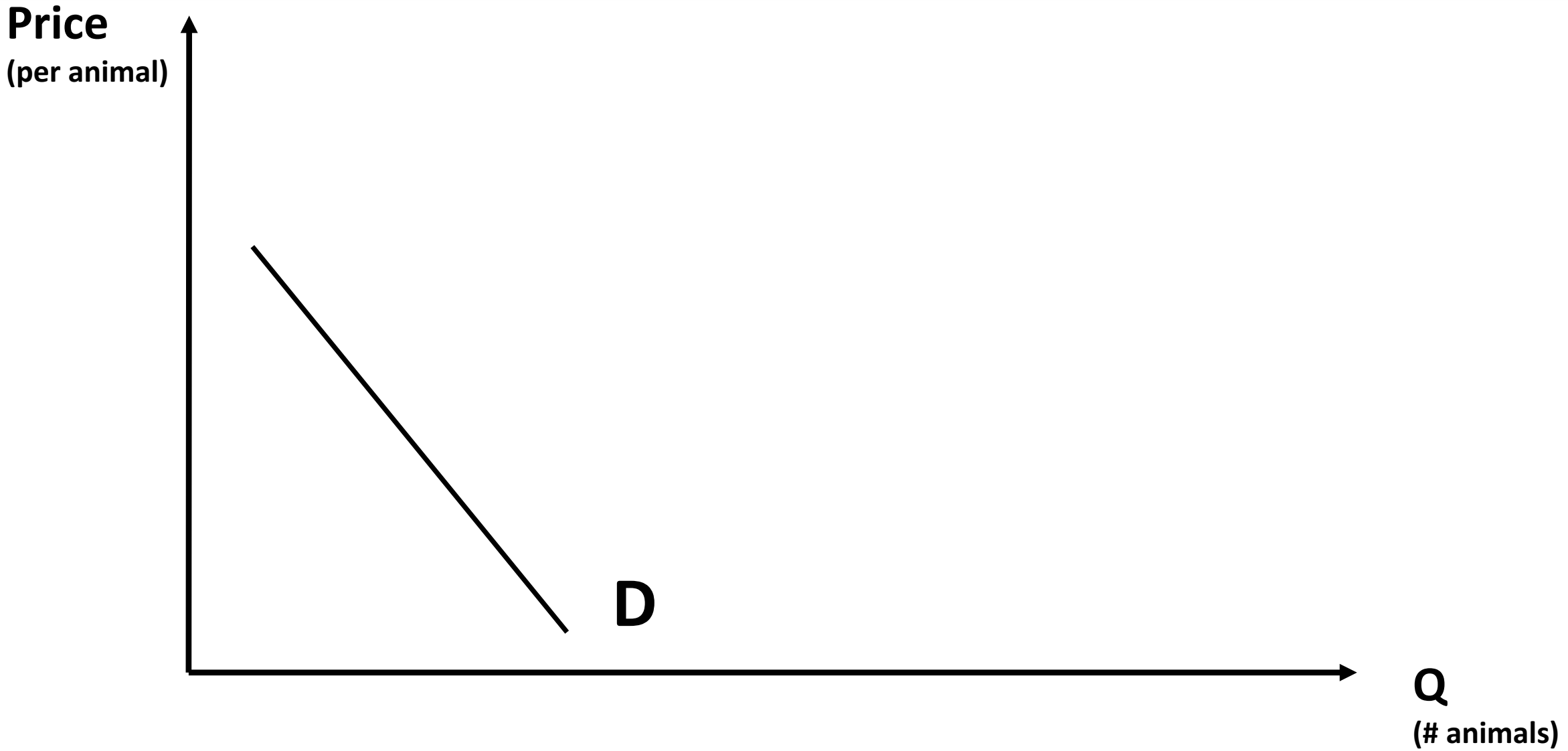

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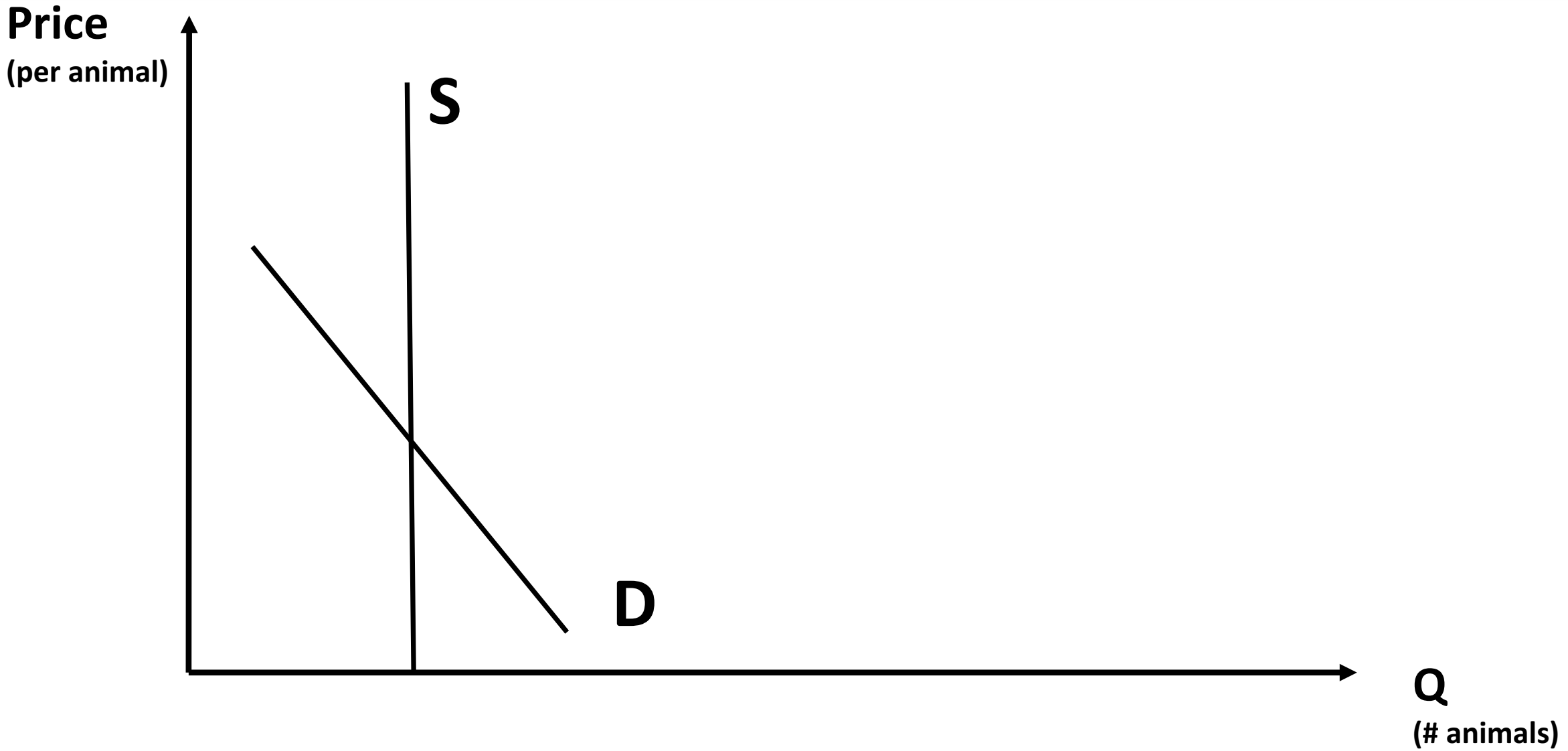

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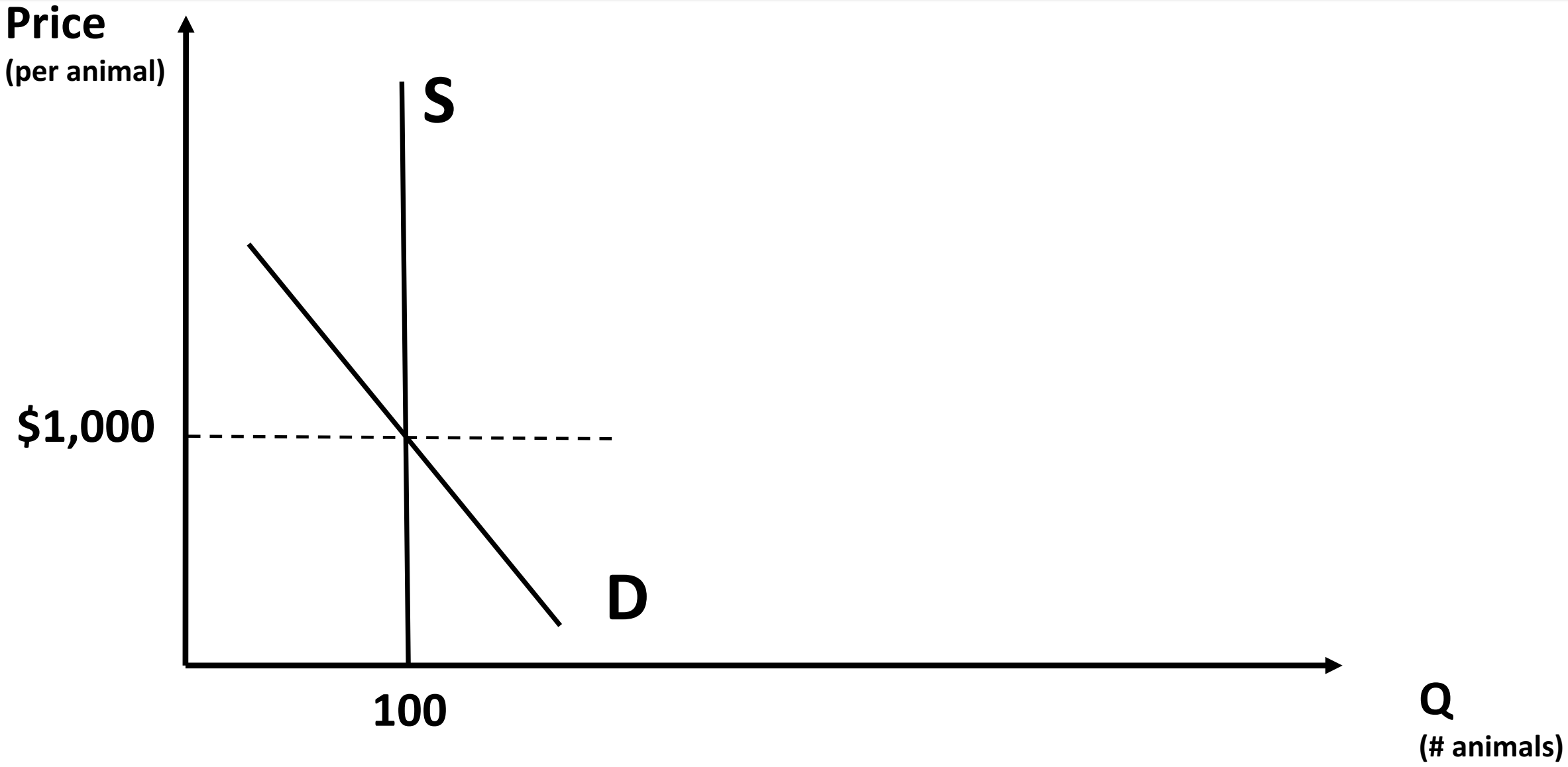

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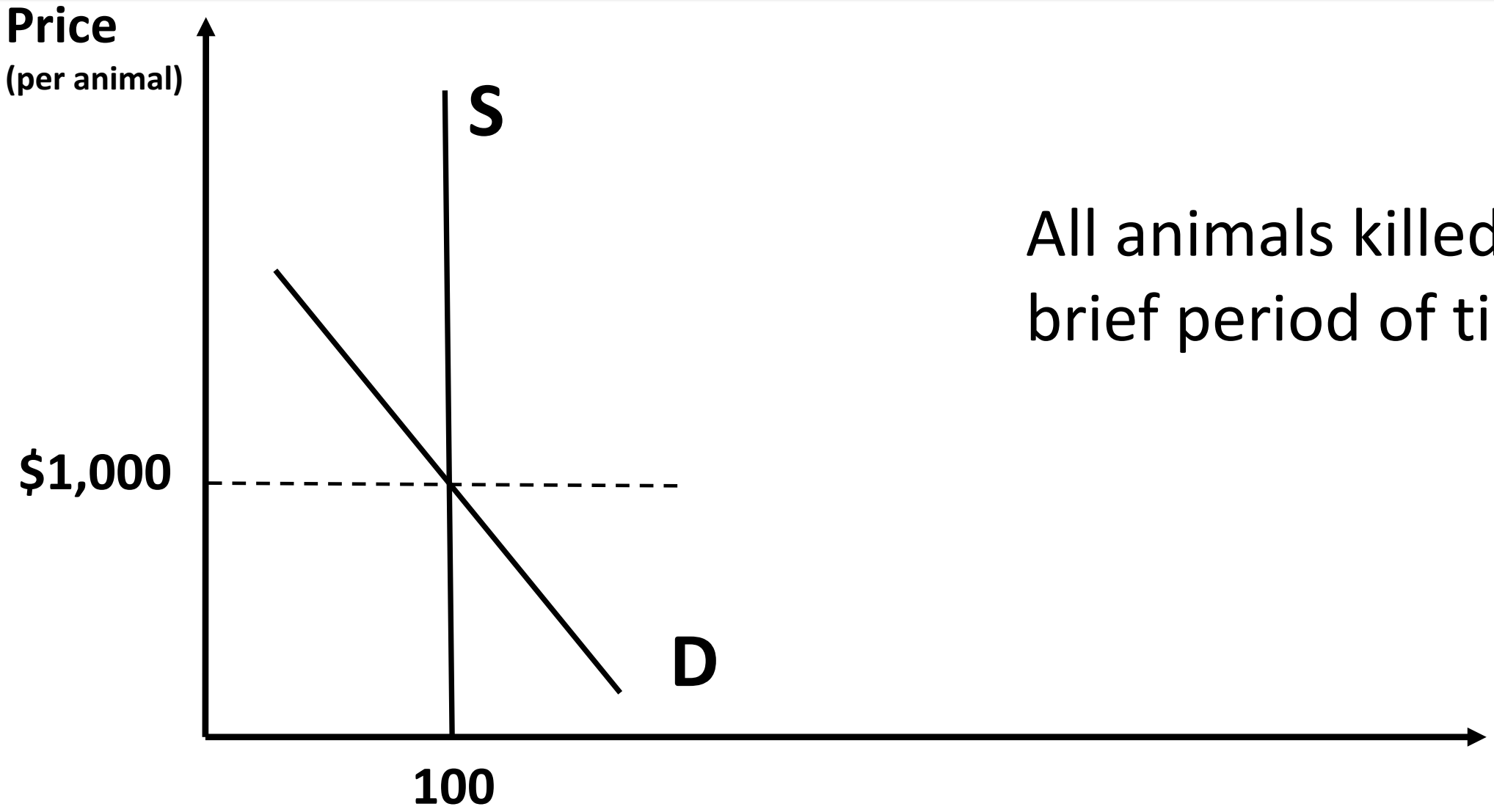

All animals killed in a brief period of time

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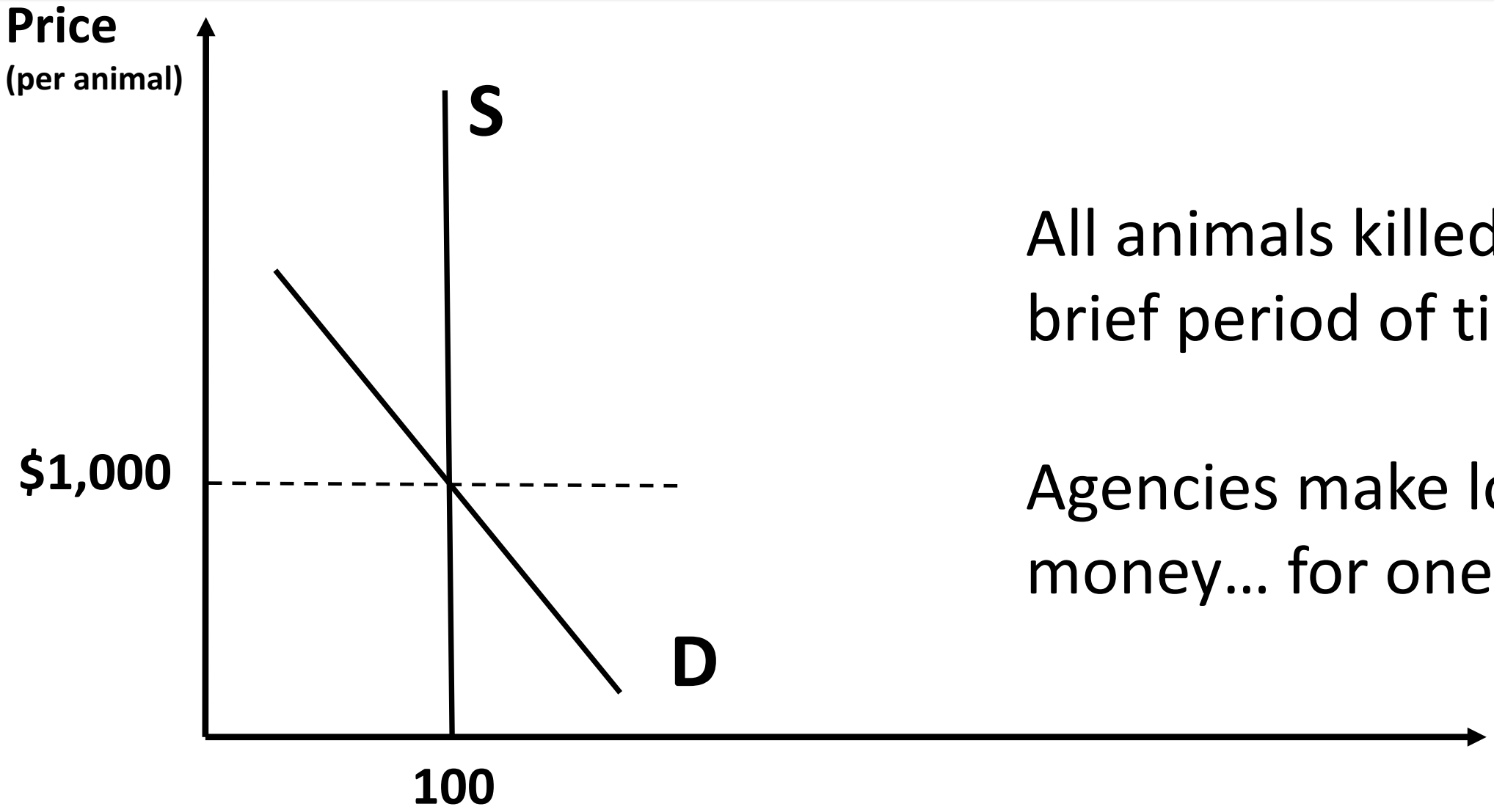

All animals killed in a brief period of time

Agencies make loads of money… for one year.

Now suppose that hunting becomes legal

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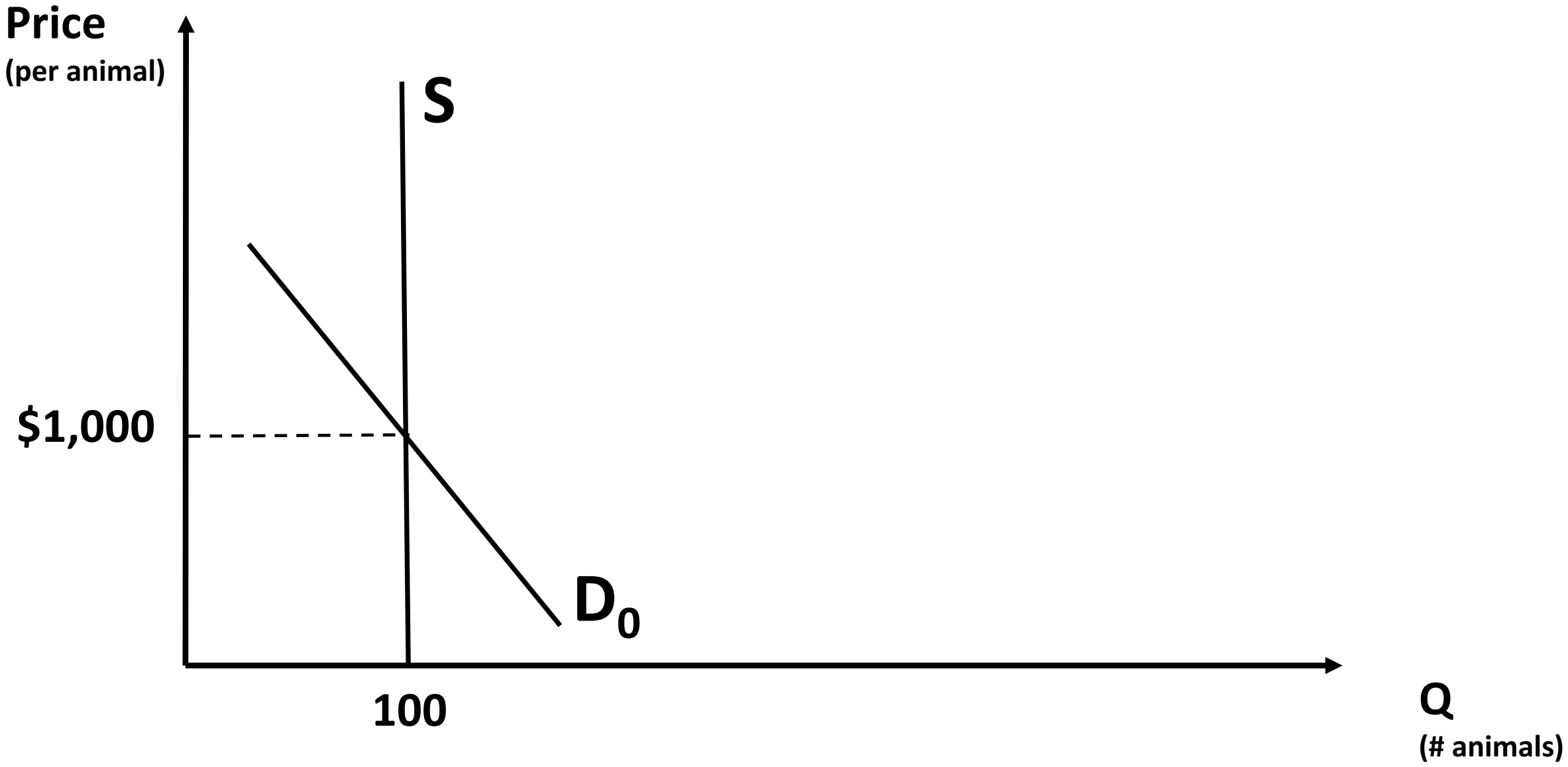

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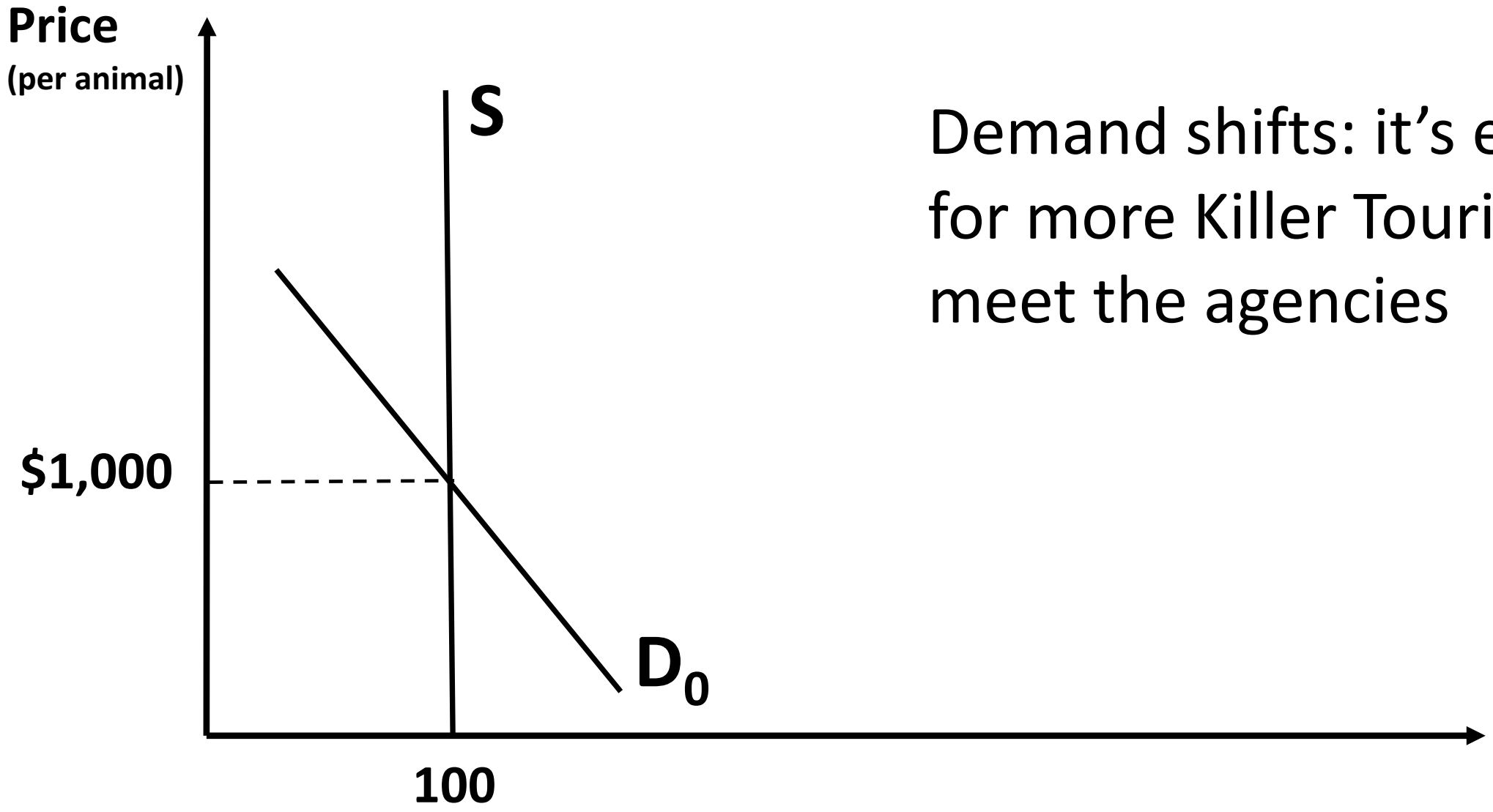

Demand shifts: it's easier for more Killer Tourists to meet the agencies

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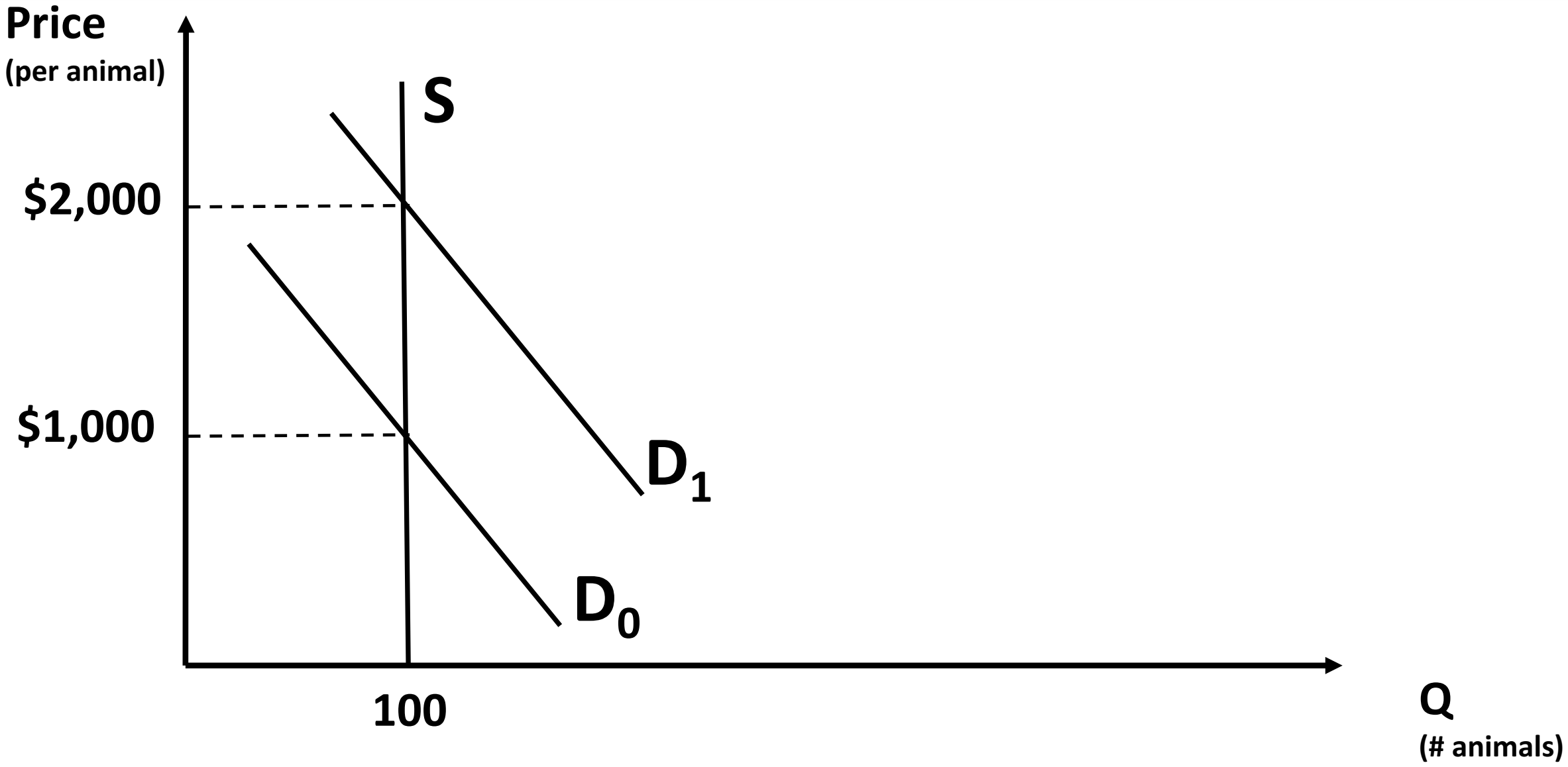

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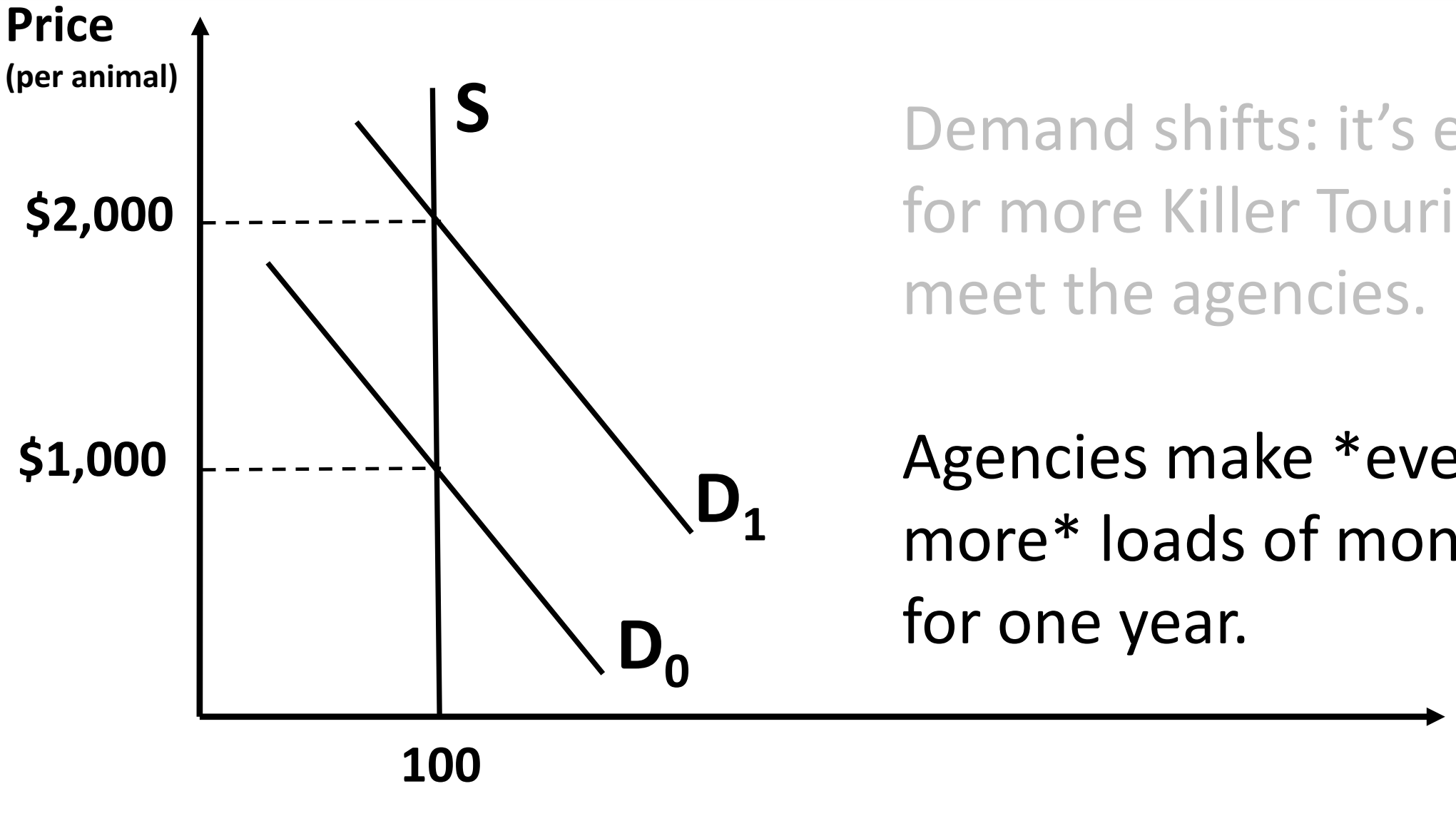
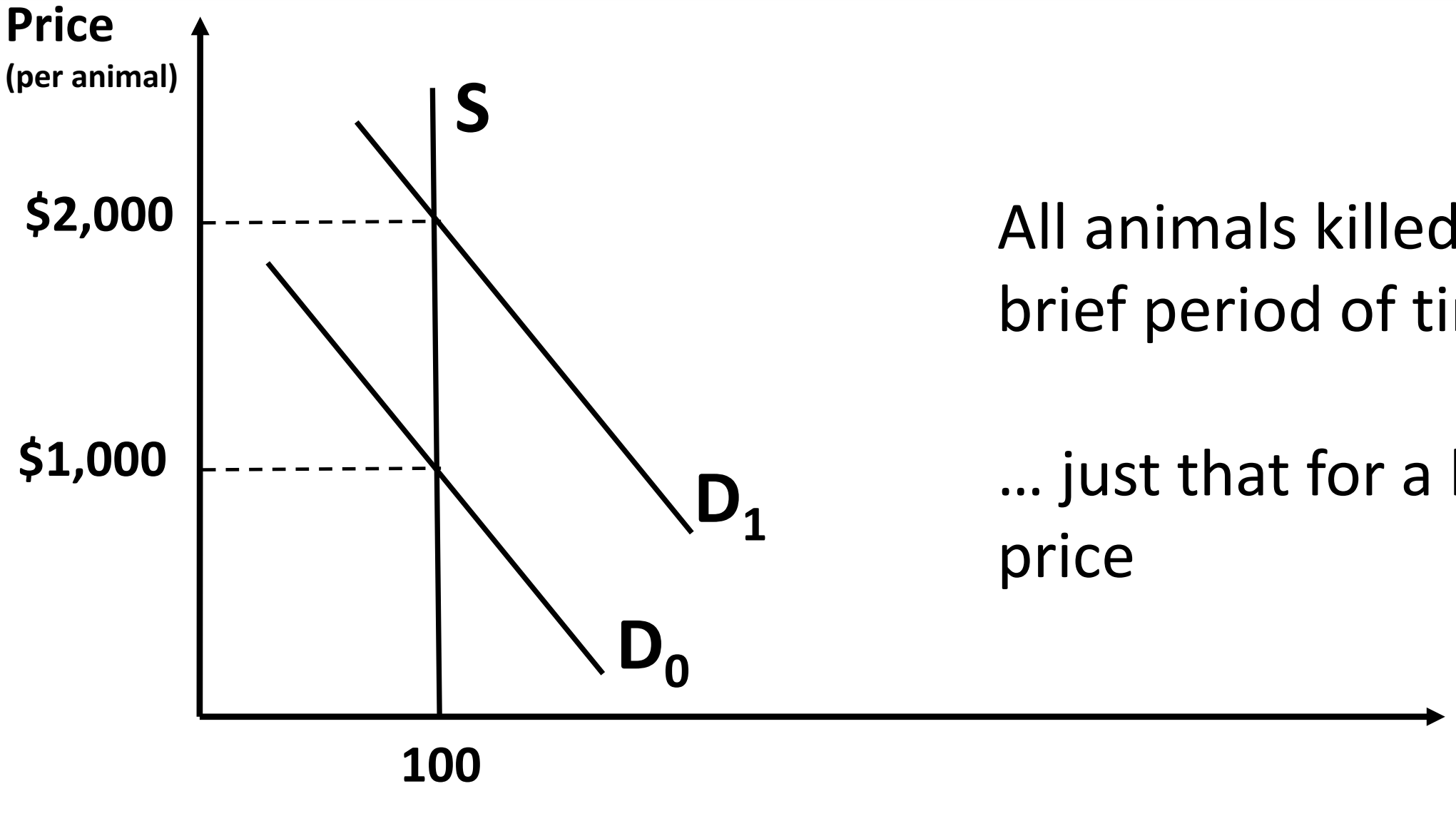


Demand shifts: it's easier for more Killer Tourists to meet the agencies.

Agencies make *even more* loads of money… for one year.

Now suppose that hunting becomes legal



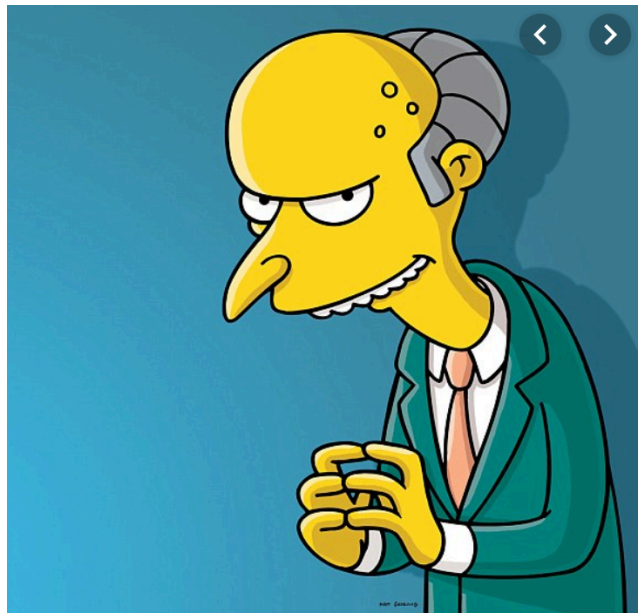
All animals killed in a brief period of time…

… just that for a higher price

Now suppose that hunting becomes legal

Price
(per animal)

Owner of Hunting Agency



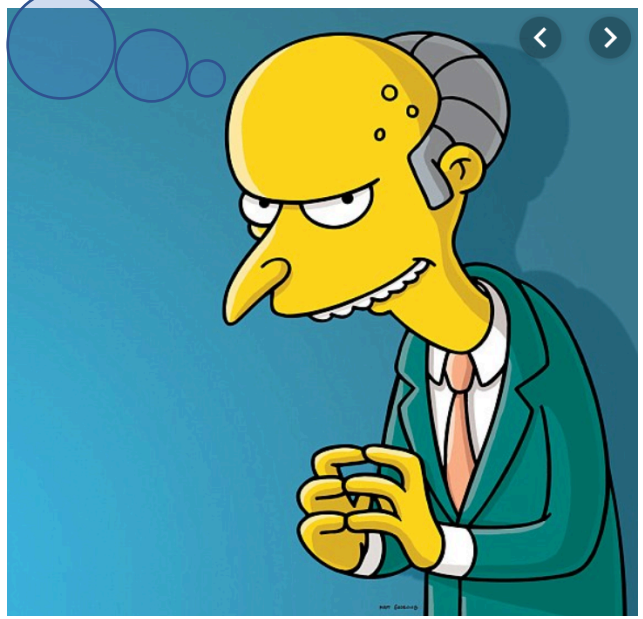
Q
(# animals)

Now suppose that hunting becomes legal

Price
(per animal)

Those Crazy Rich Tourists will want to come year after year!

Owner of Hunting Agency



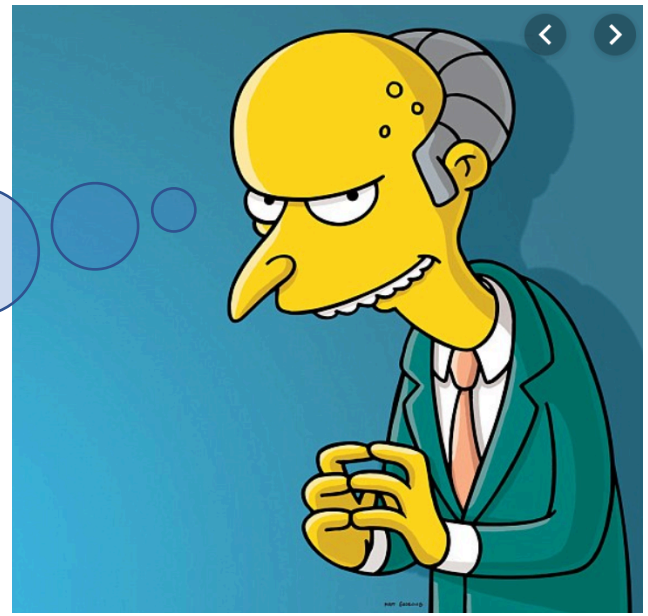
Q
(# animals)

More realistic setting: animals can and do reproduce

Price
(per animal)

Then I should make sure next year we still have animals around!

Owner of Hunting Agency



Q
(# animals)

More realistic setting: animals can and do reproduce

Price
(per animal)

Especially, since farming wild animals is legal now! So I won't go to jail for that

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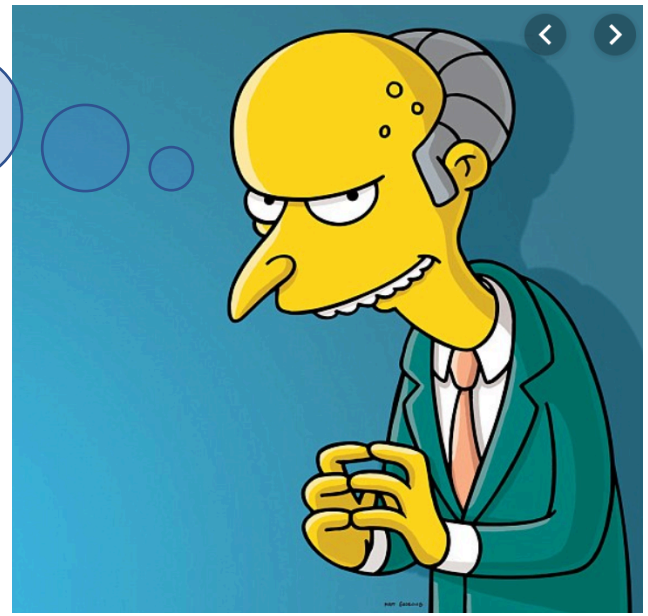

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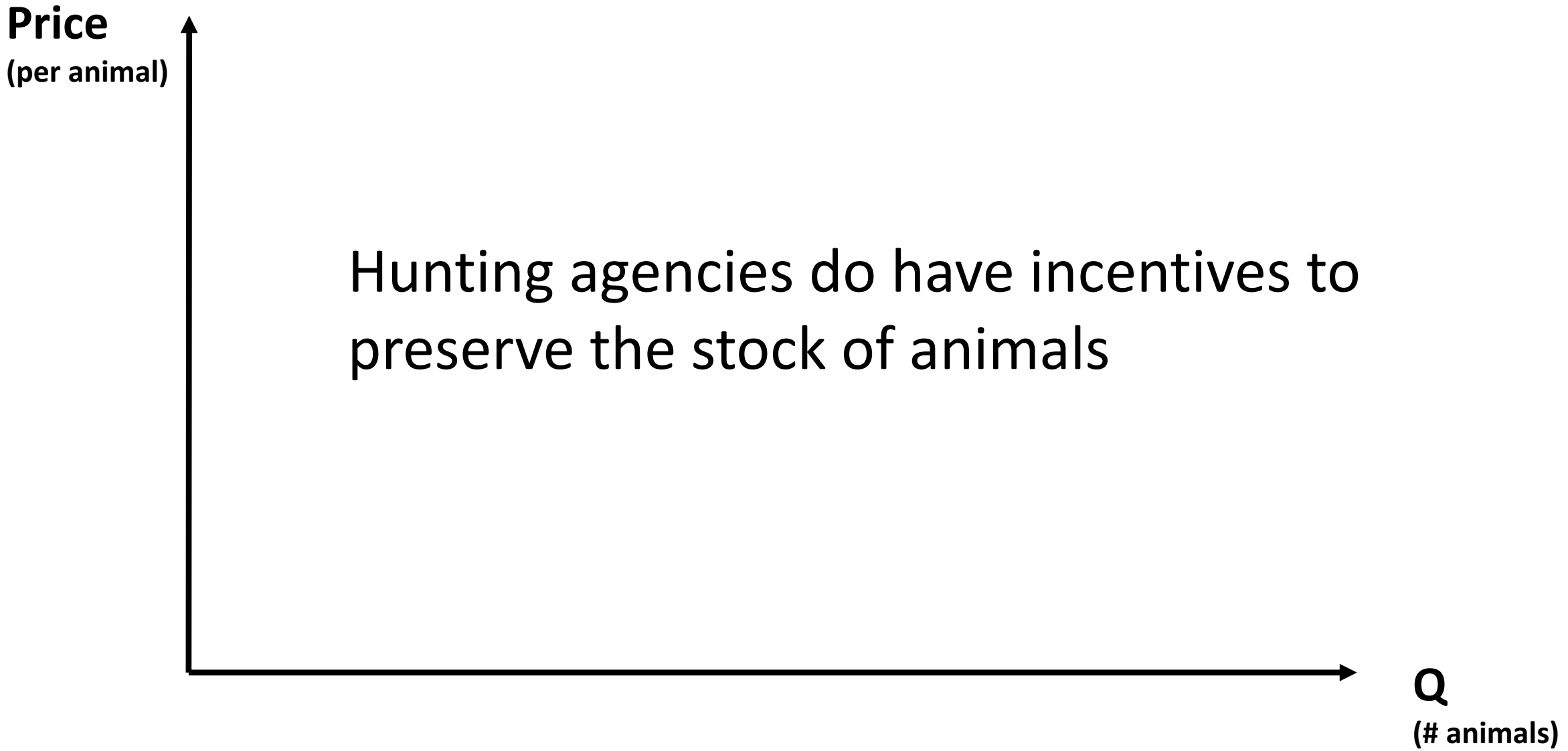

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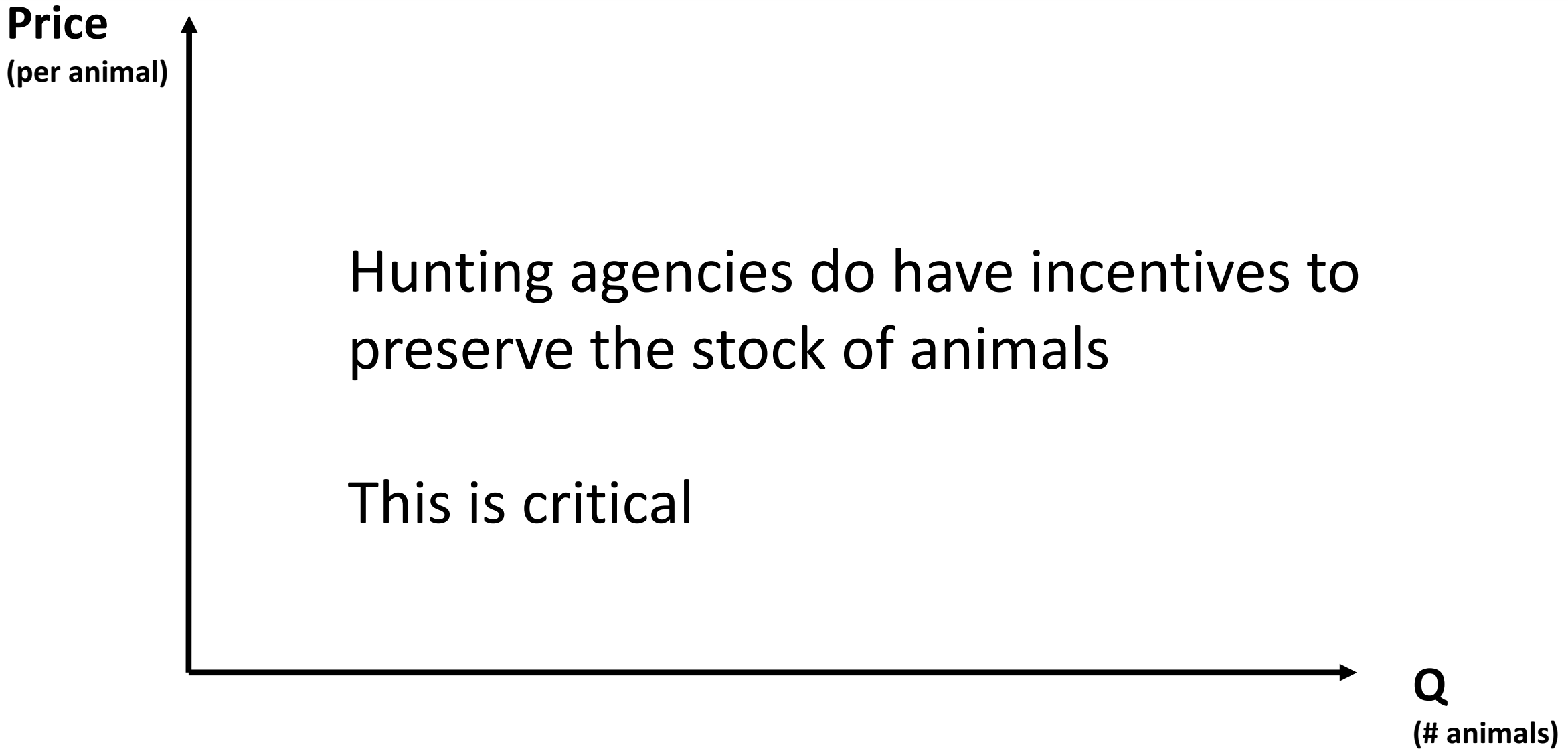

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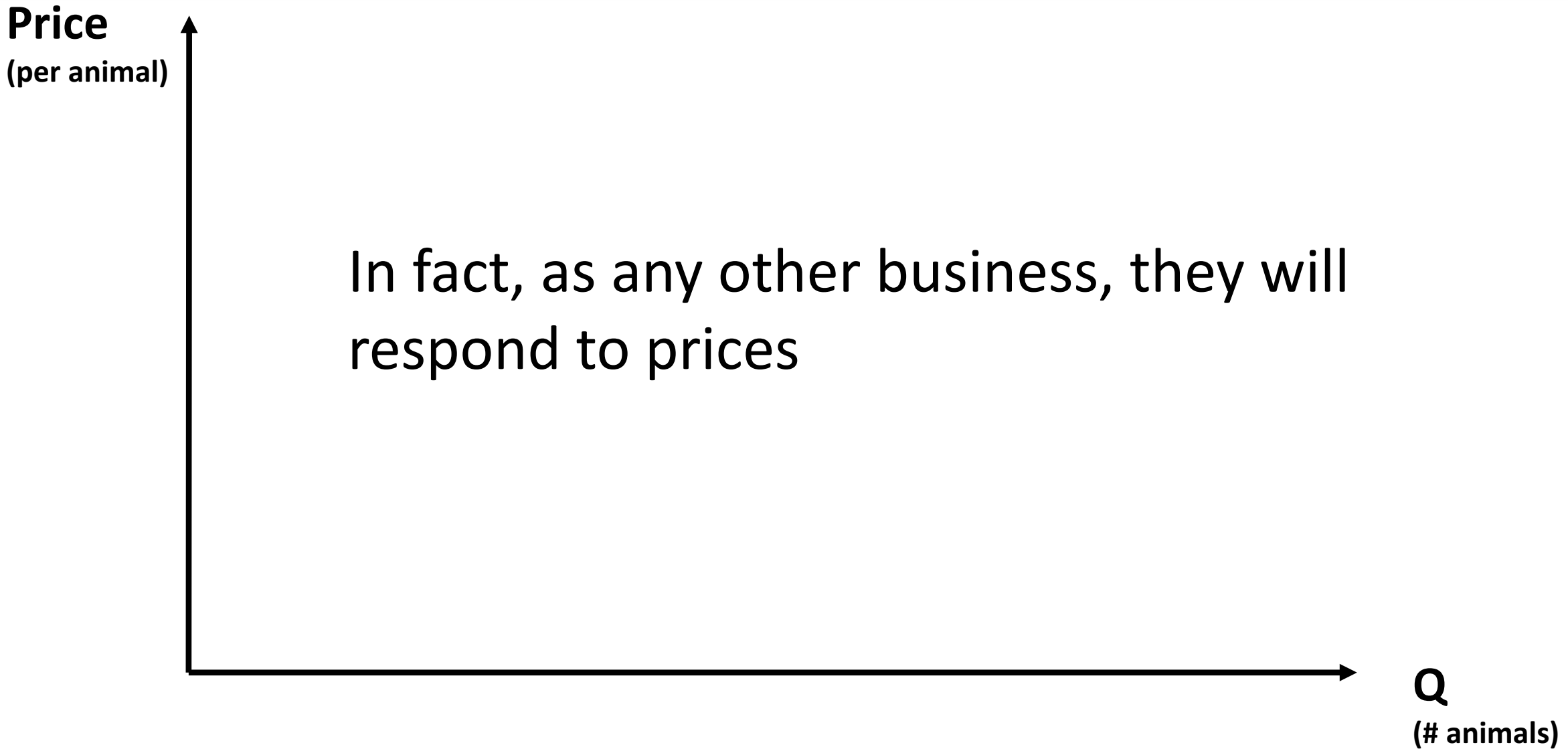

Hunting agencies supply curve

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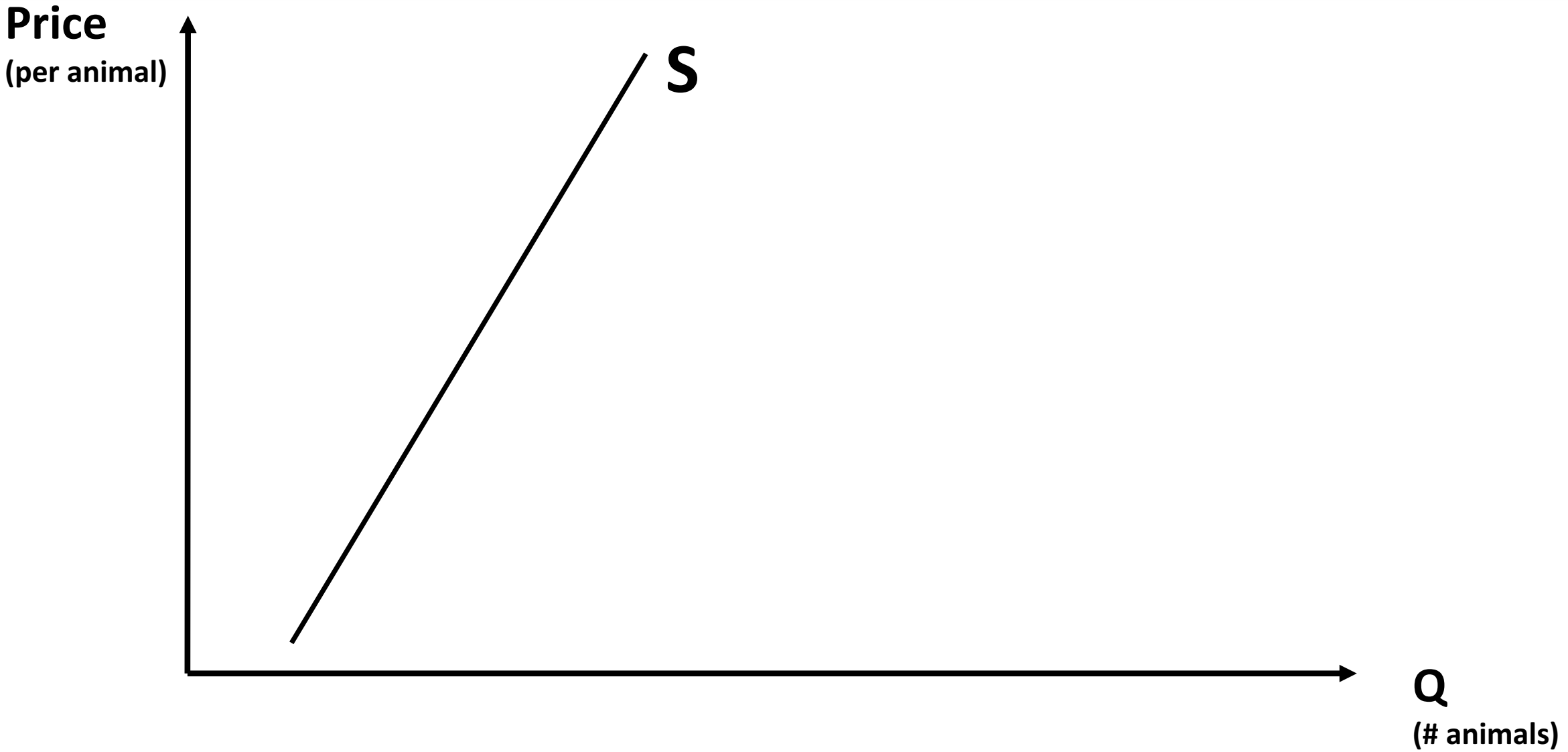
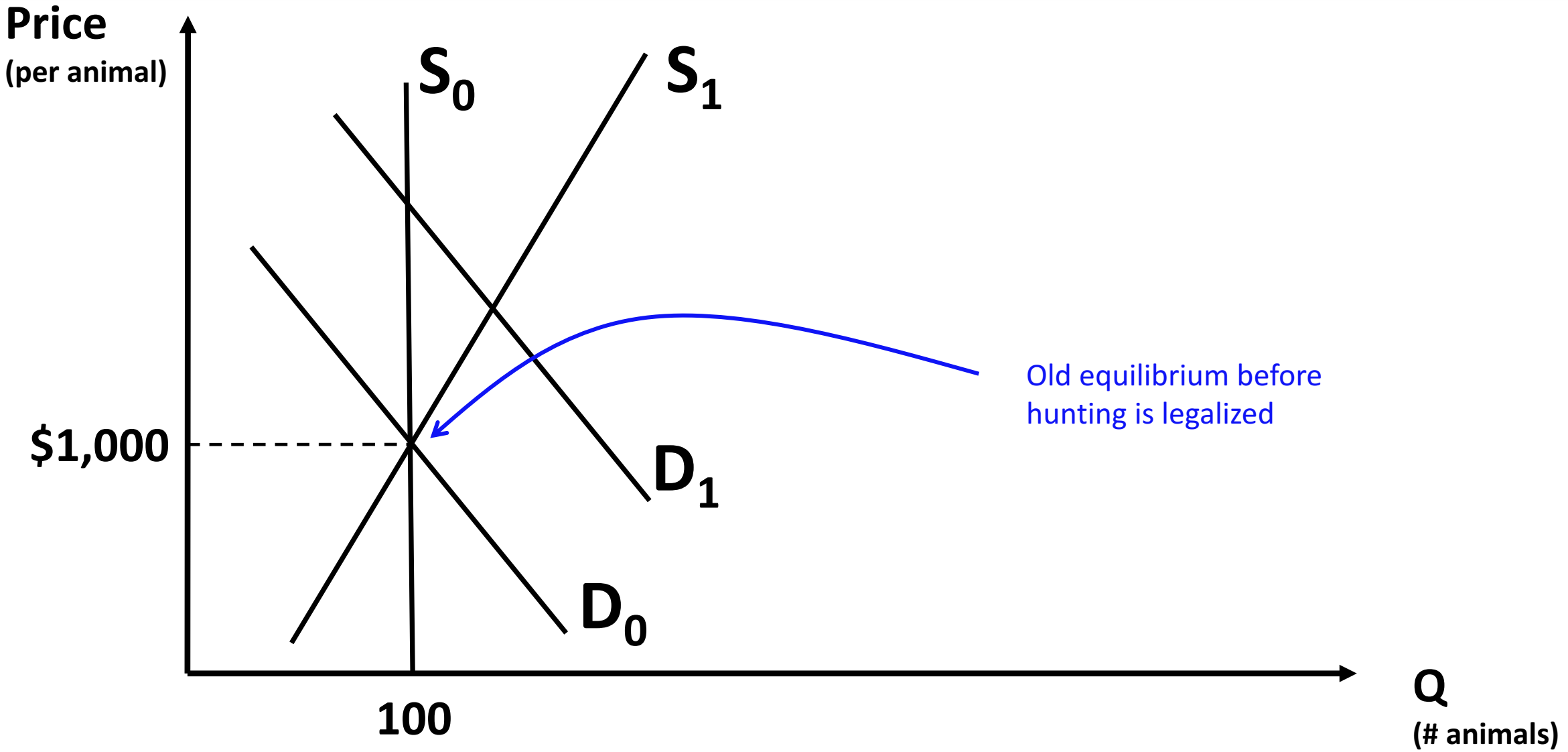


Market after hunting becomes legal



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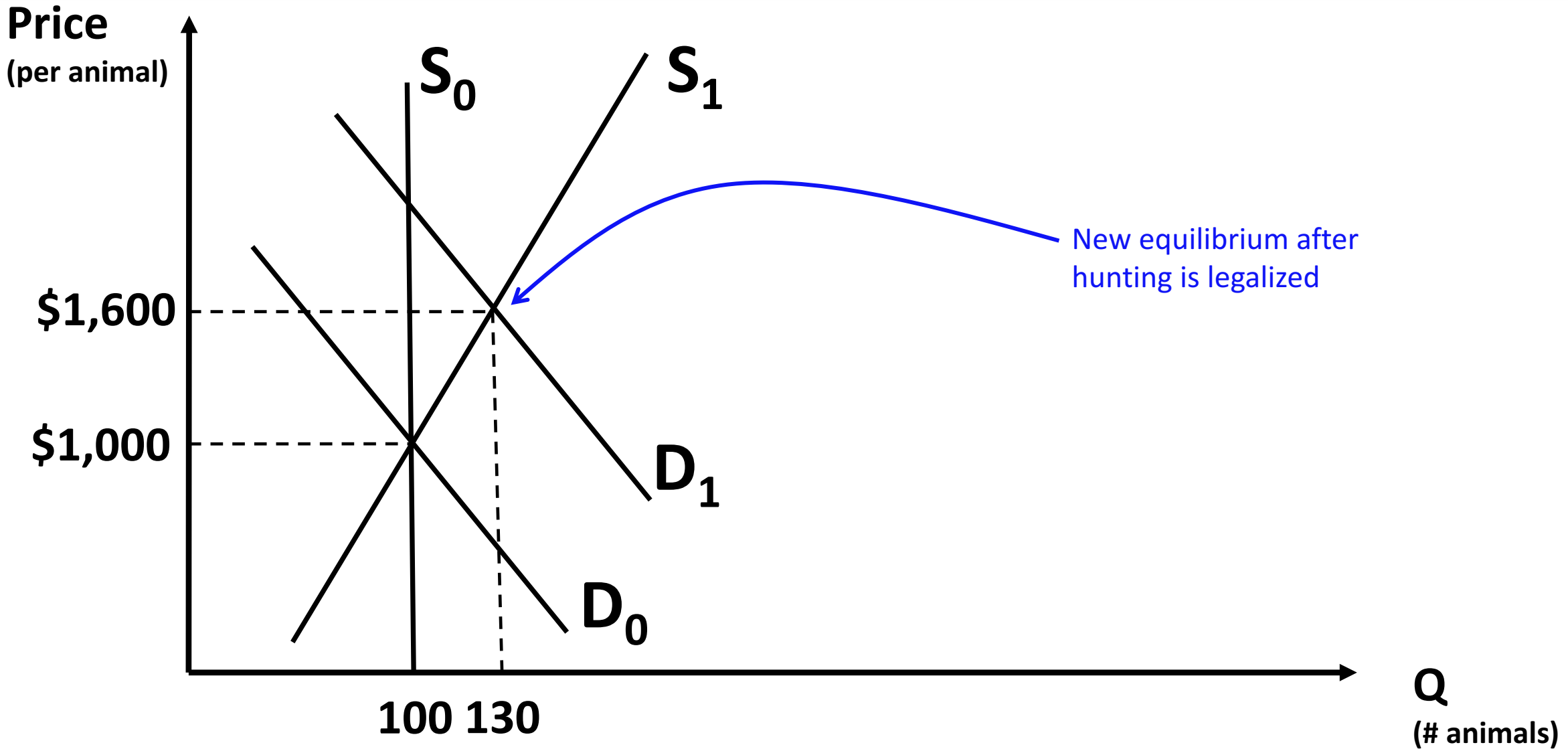

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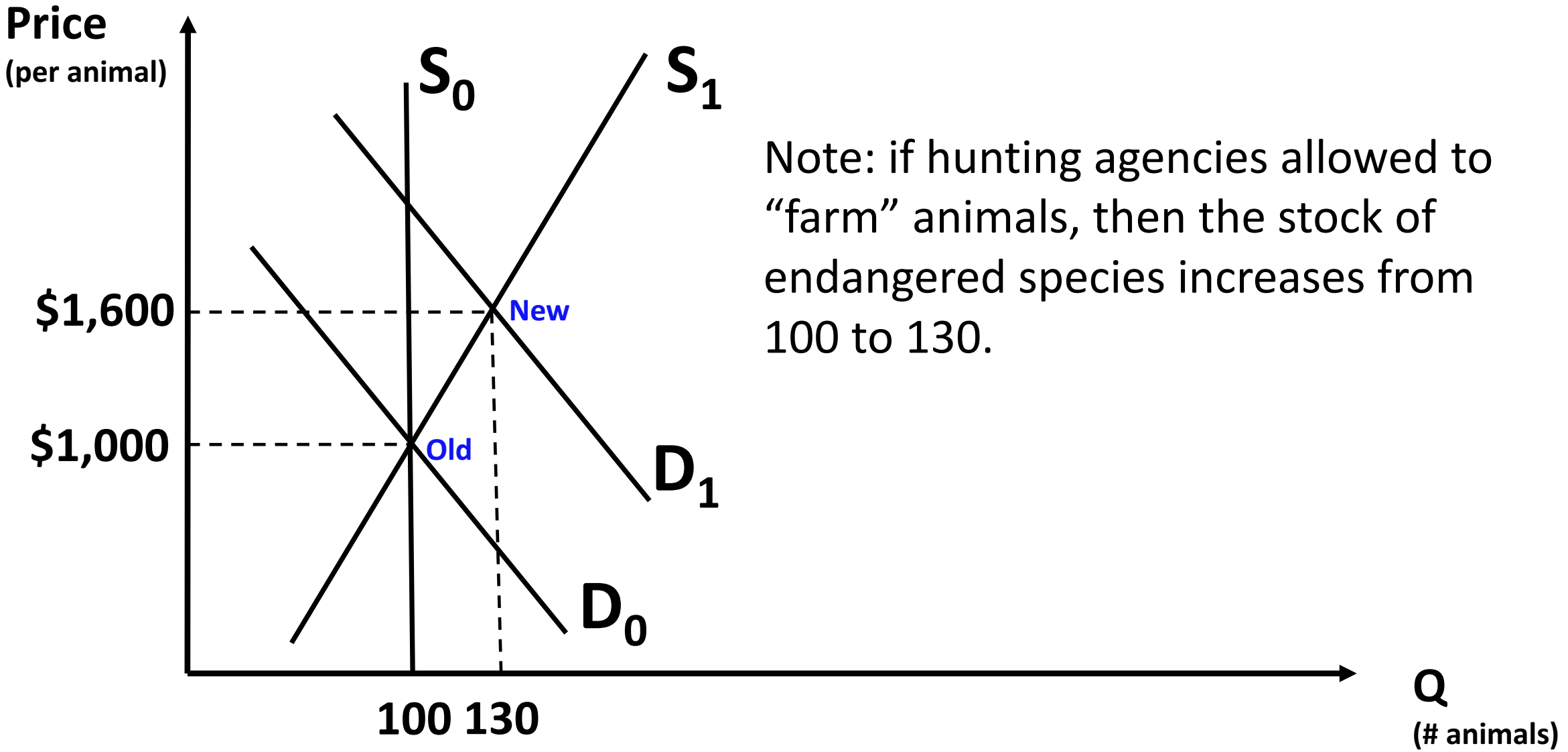
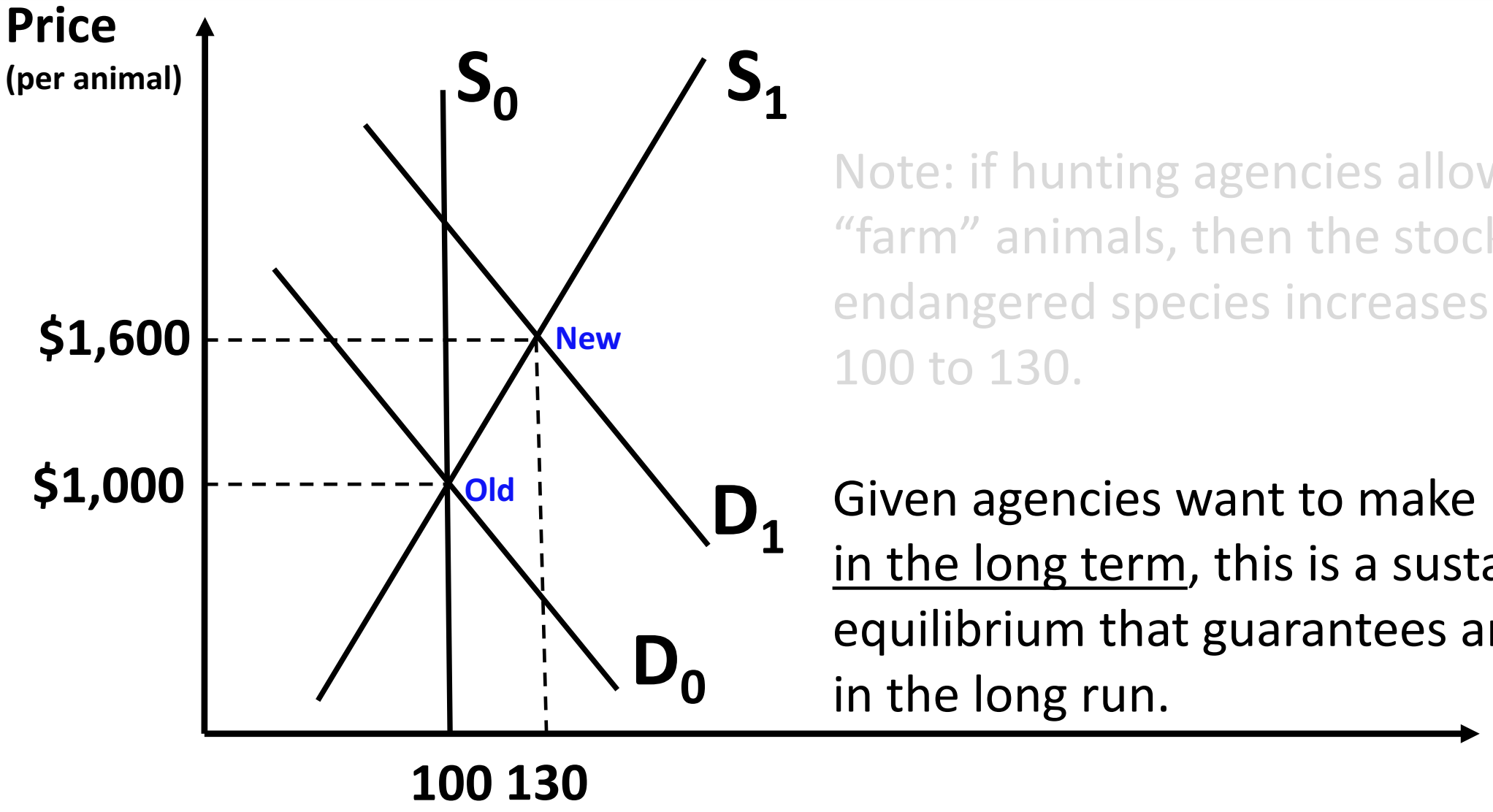


Note: if hunting agencies allowed to "farm" animals, then the stock of endangered species increases from 100 to 130.

Market after hunting becomes legal



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Given agencies want to make profits in the long term, this is a sustainable equilibrium that guarantees animals in the long run.

What if there is a demand shock?

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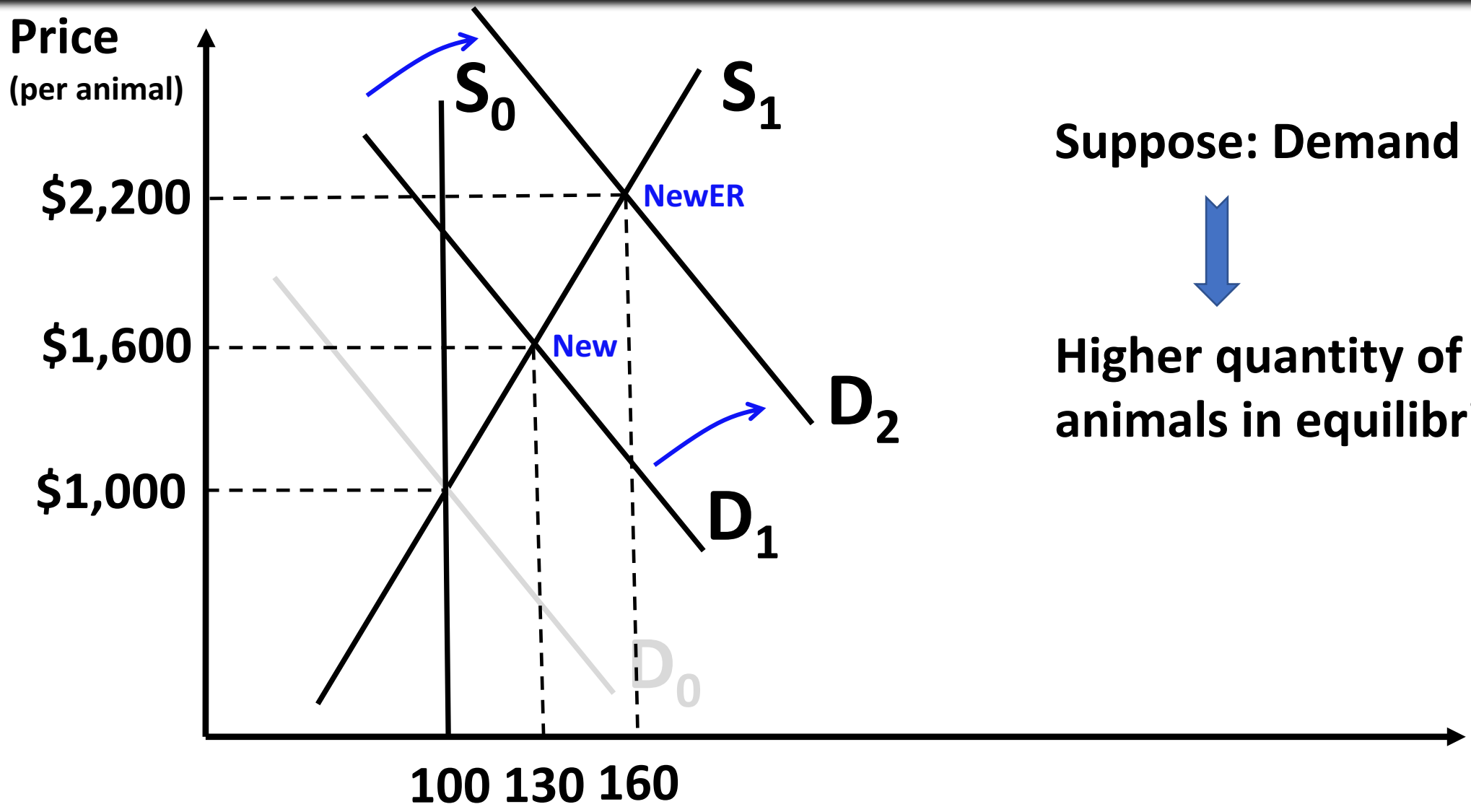
- Paradoxically, the more people want to go hunting…
- …the more animals will be present
- (details of a **demand shock: next slide**)

Market after hunting becomes legal



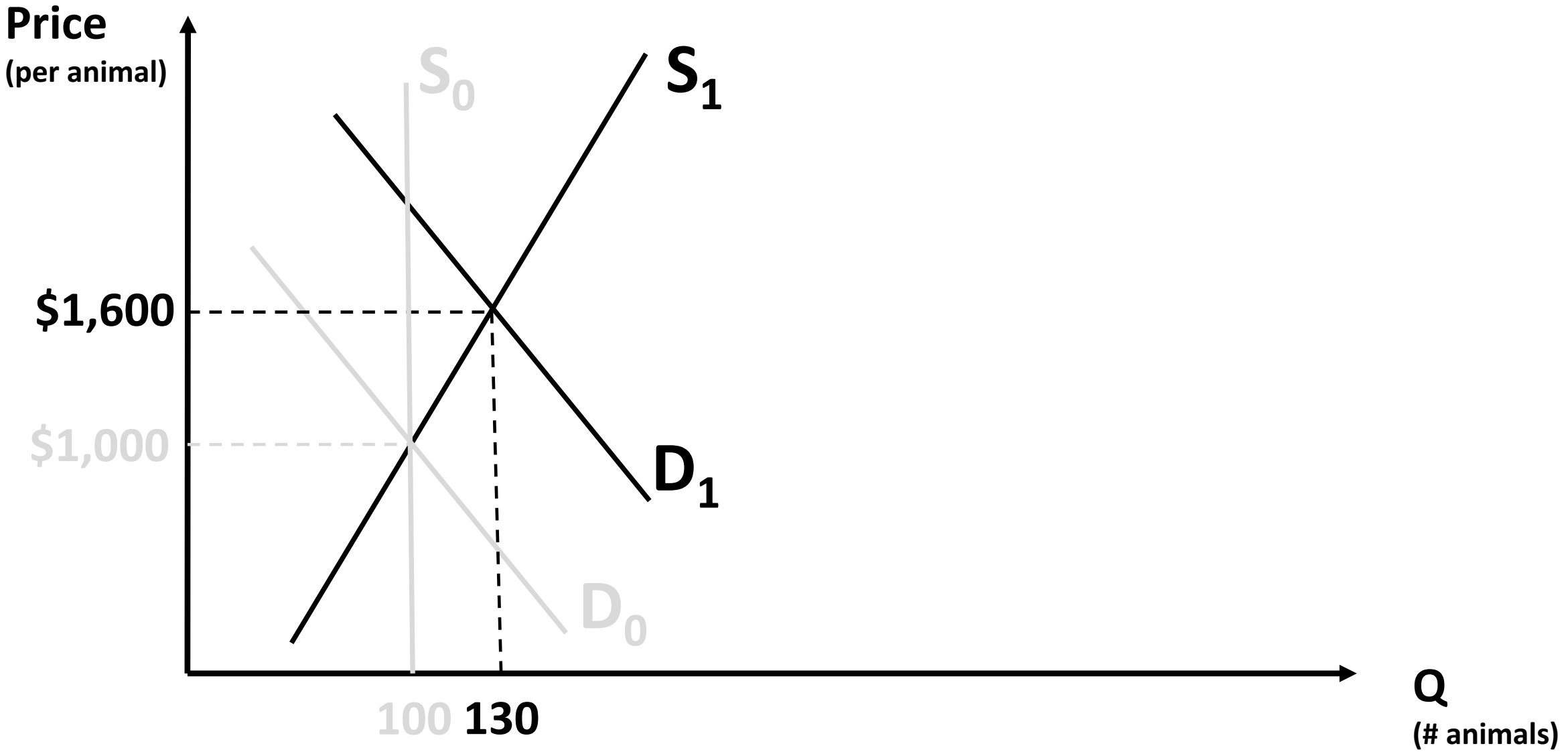
Suppose: Demand shock

Higher quantity of animals in equilibrium

Market after hunting becomes legal

- Suppose farming can respond faster to price changes
- …then even more animals will be present

Farming becomes more efficient/dynamic



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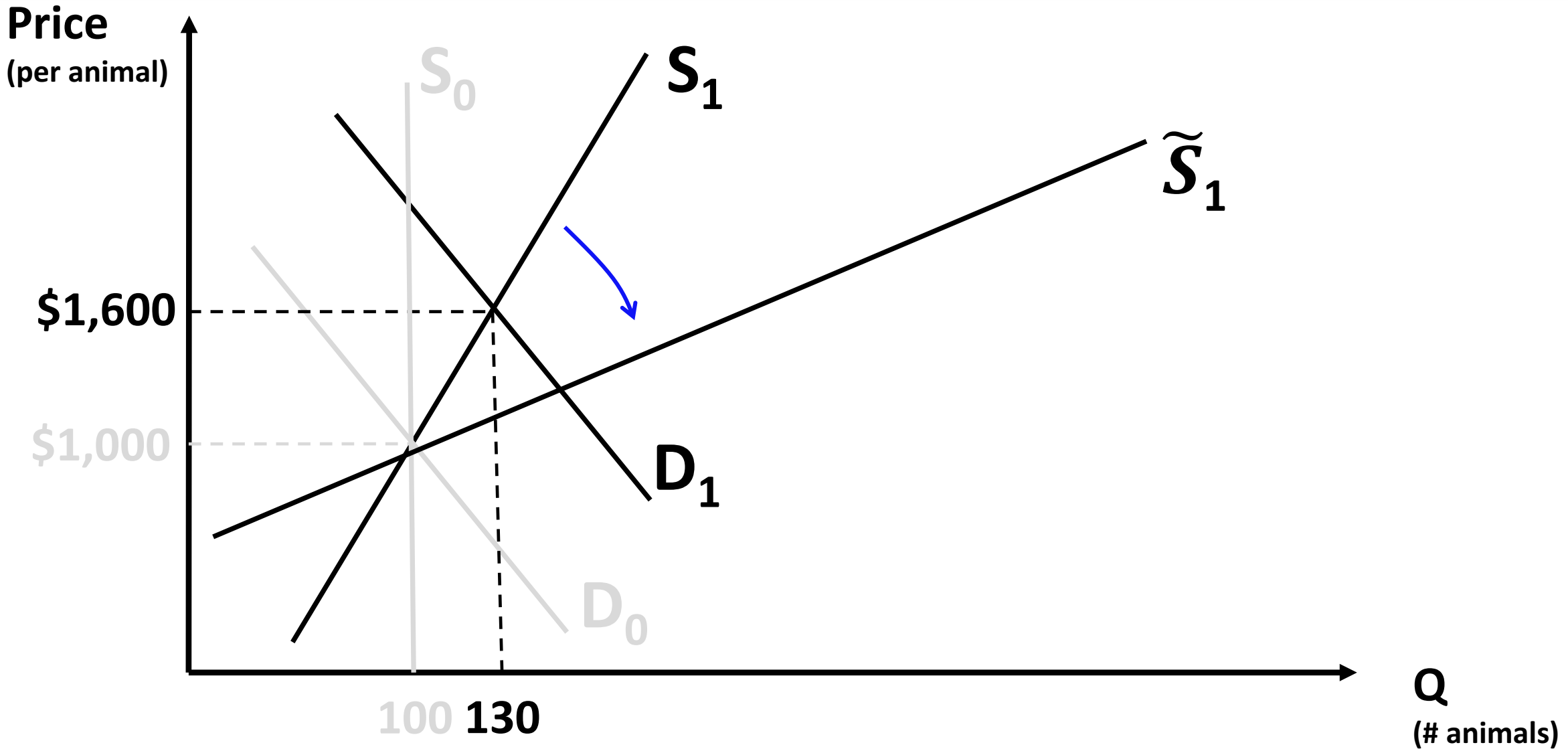

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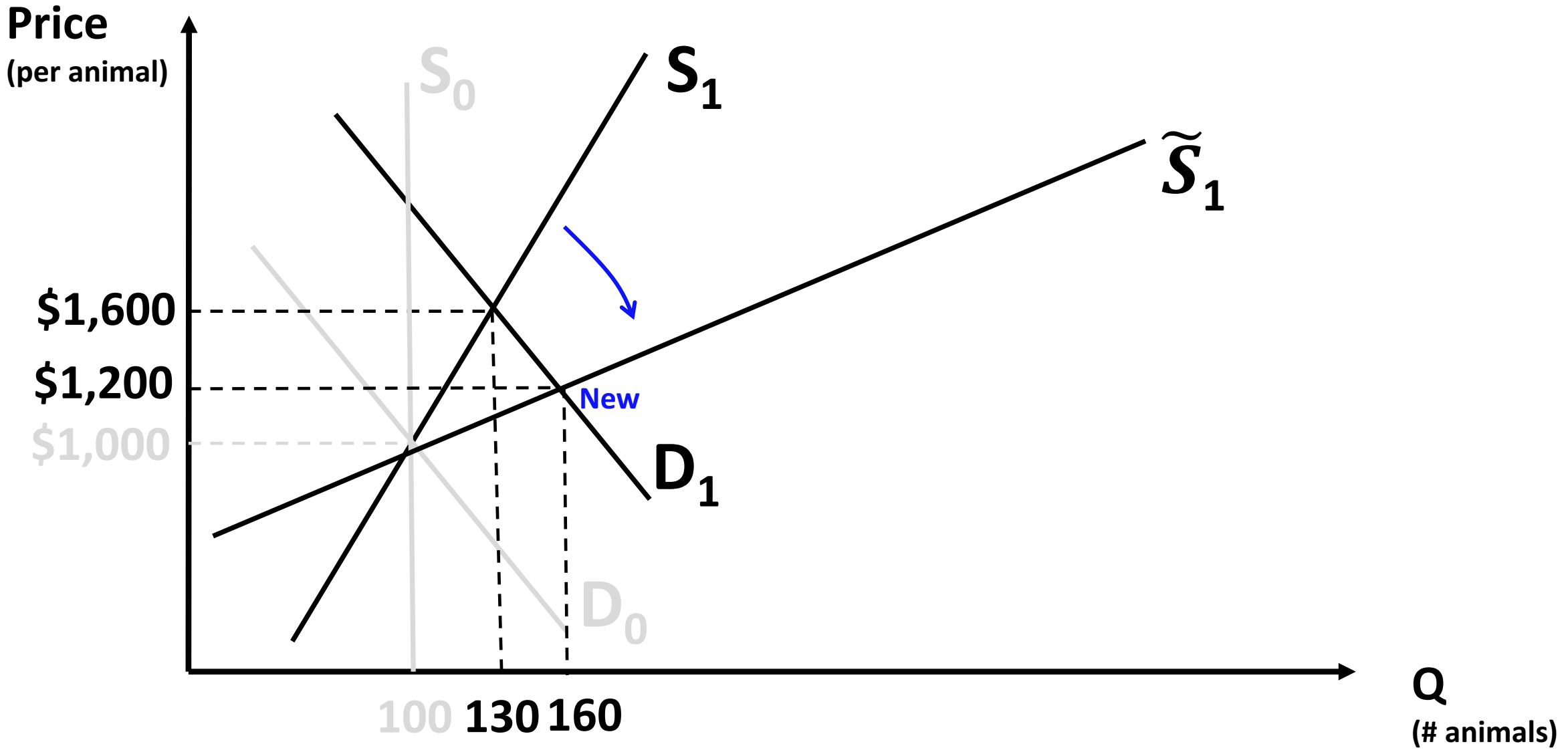

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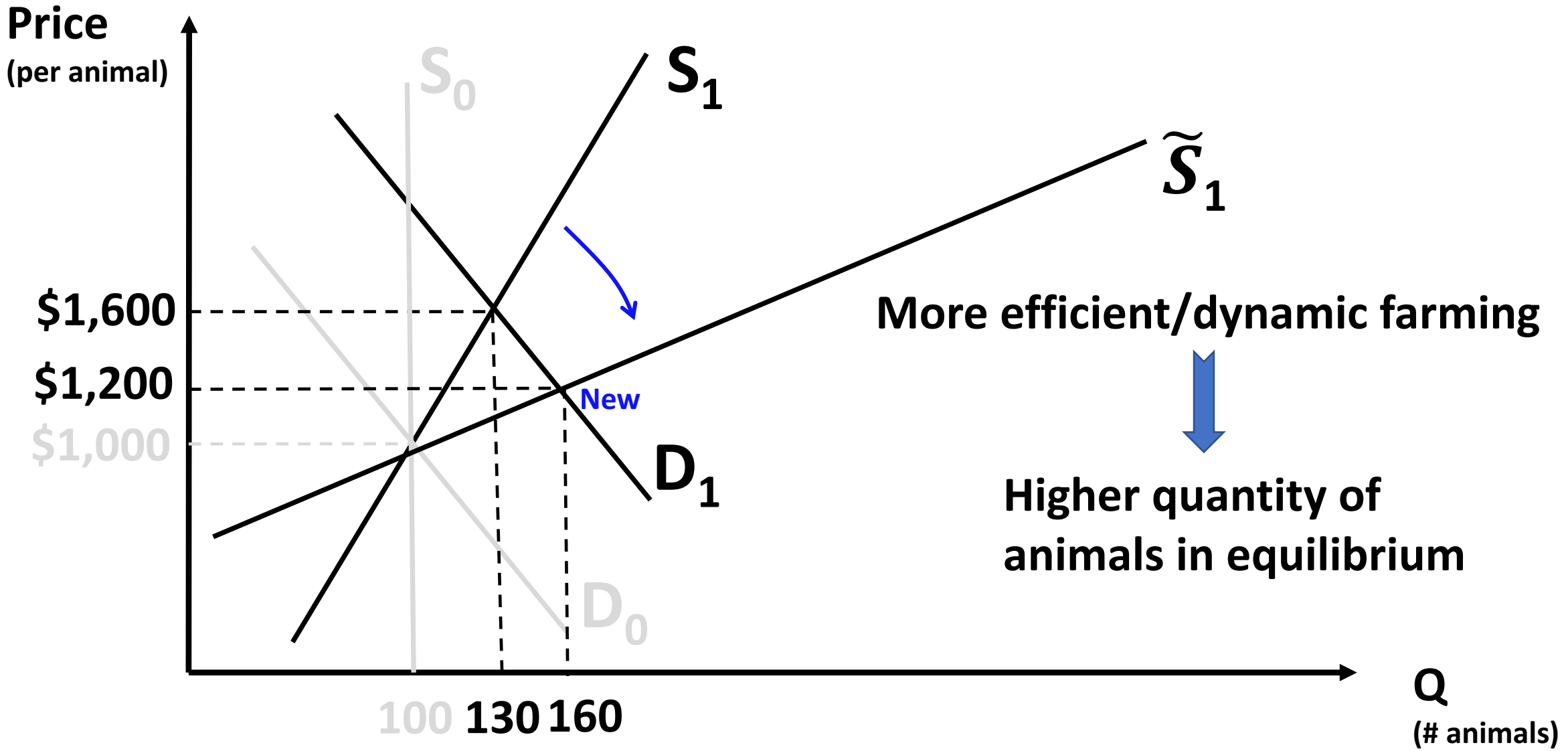

Protecting endangered species

1. Legalize hunting
2. Allow agencies to farm endangered species
3. Profit maximization will do the rest

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1. Legalize hunting
2. Allow agencies to farm endangered species
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- RE-RE-RE policy: Ethically reprobable, reprehensible, revolting.
- But it does work! ⟹ Some advocate it as the best solution

What can we learn, more generally?

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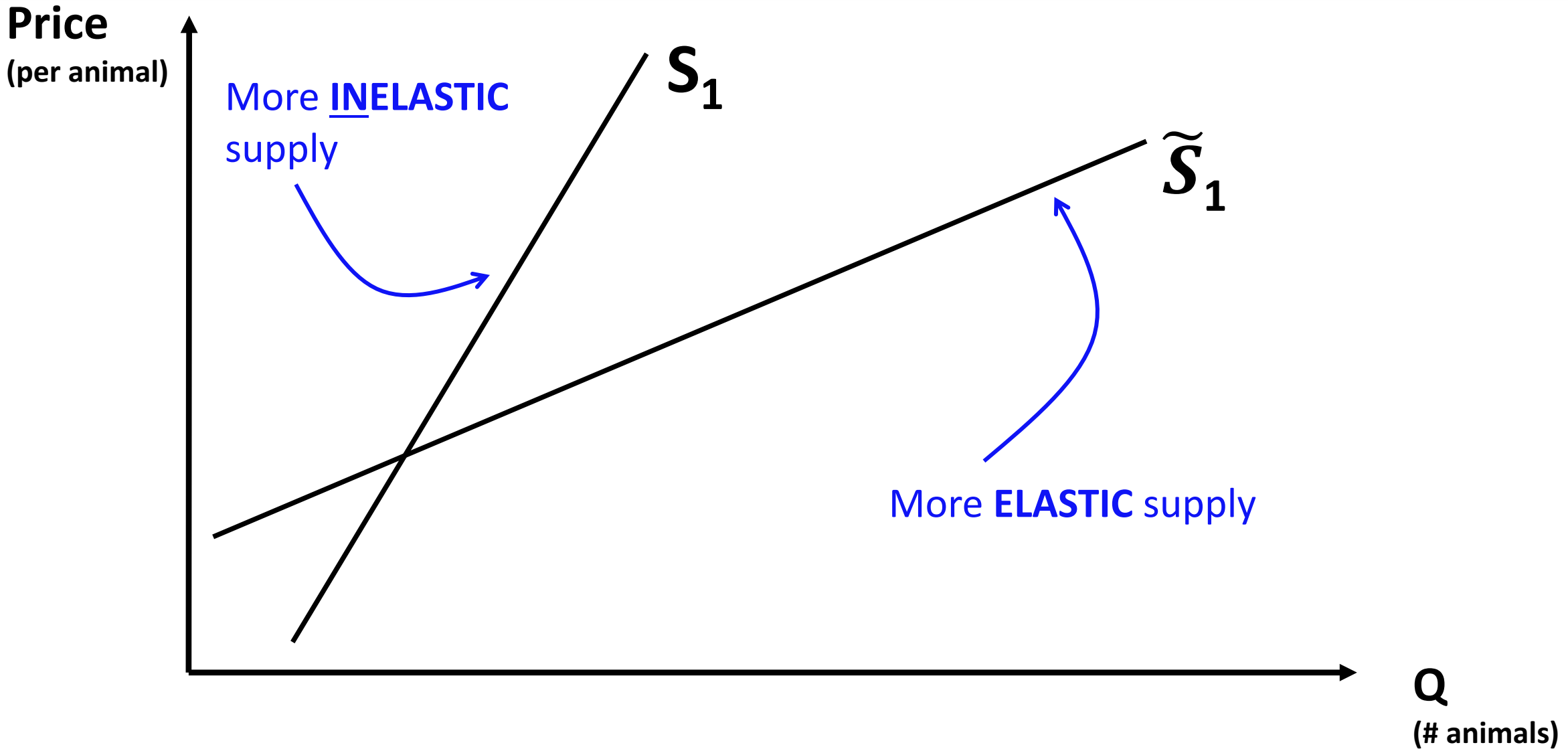
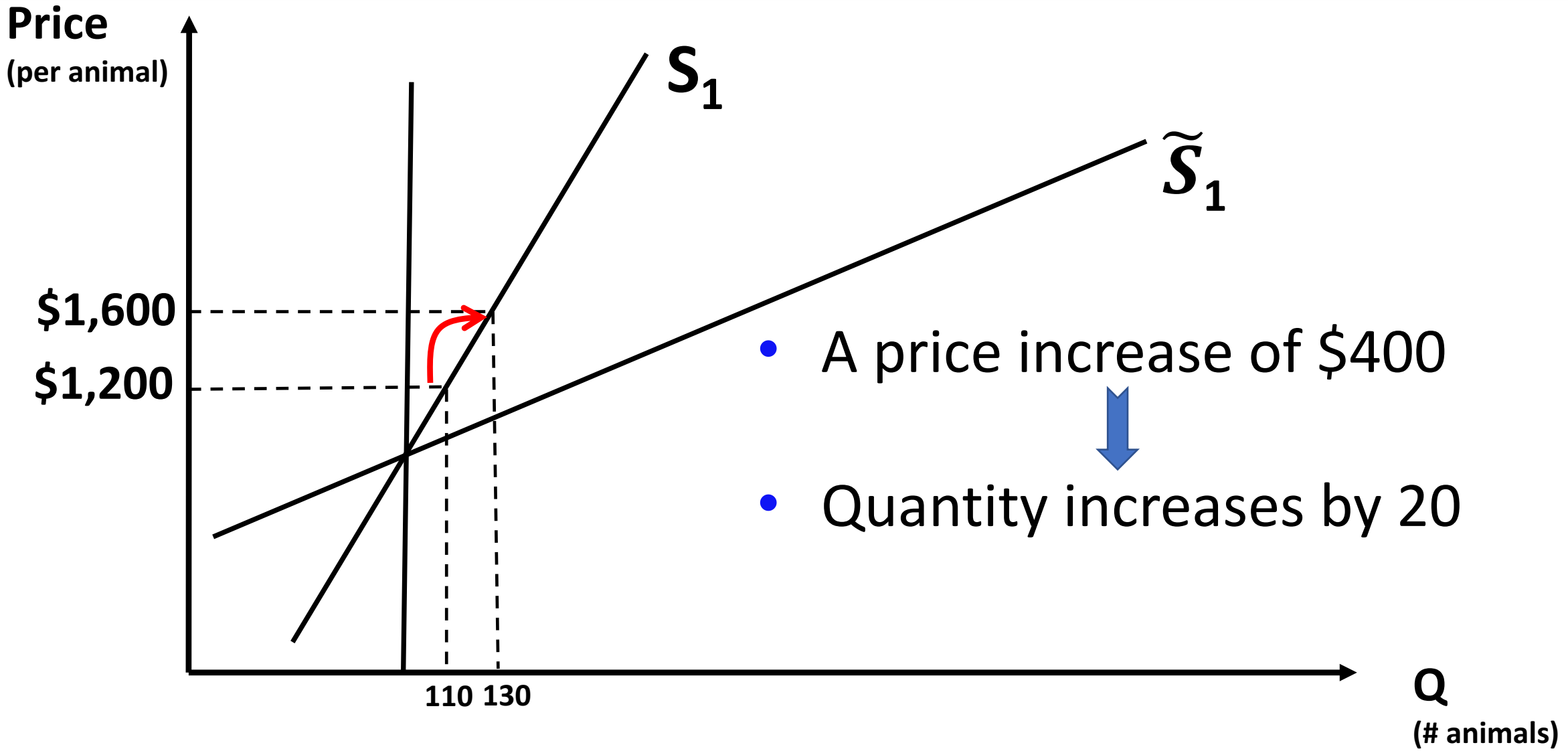
- Why does a more dynamic/efficient farming lead to higher number of animals?
- Because agencies can respond faster to changes in prices
- This refers to the **elasticity**

Farming becomes more efficient/dynamic

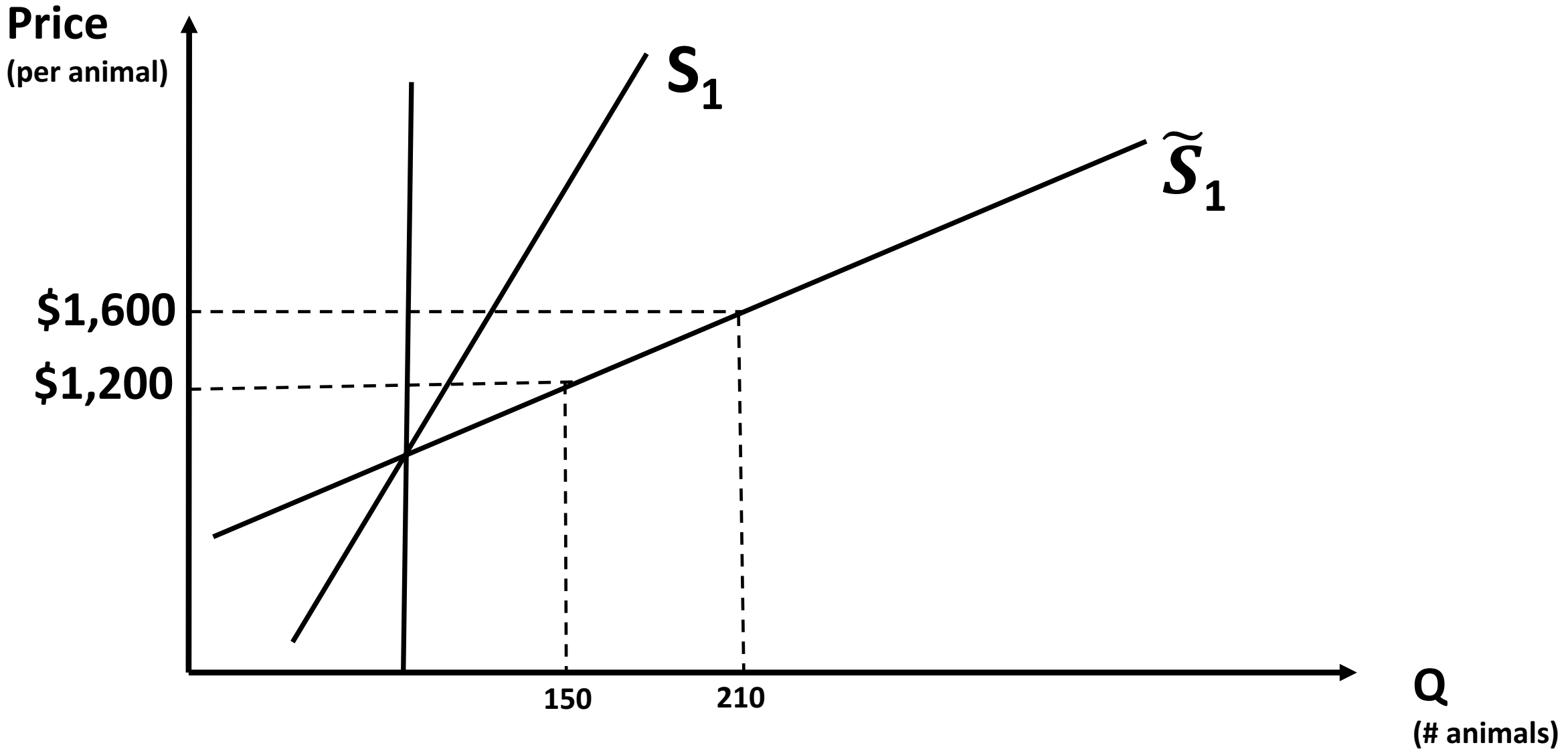


Initially

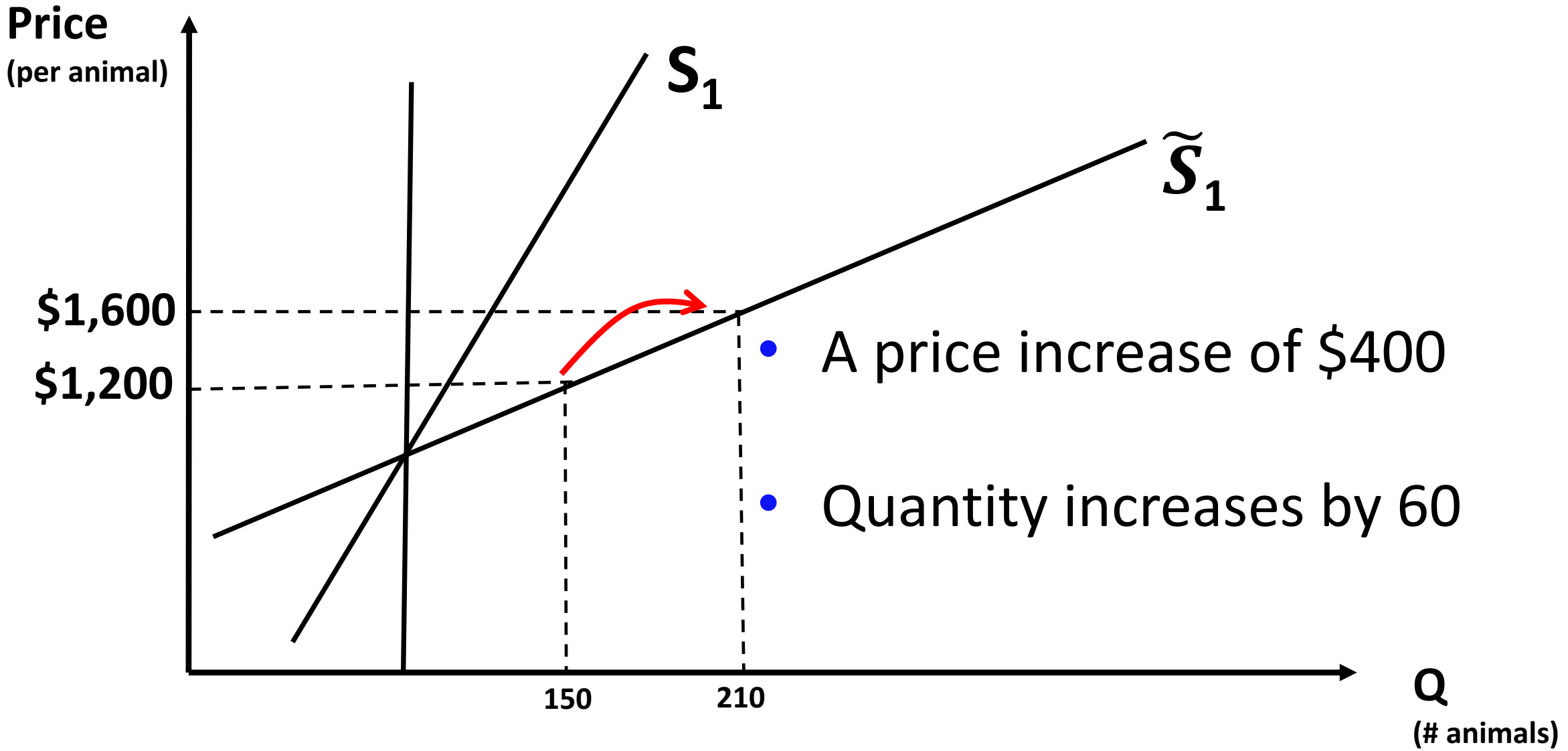


- A price increase of $400
- Quantity increases by 20

As farming becomes more efficient/dynamic



Farming becomes more efficient/dynamic



- A price increase of $400
- Quantity increases by 60

Elasticity of Supply

- The more elastic the supply, the better for the protection of endangered species

- We want a precise measure: $e_s = \frac{\%\Delta Q^s}{\%\Delta P}$

- How responsive is quantity supplied to a price increase

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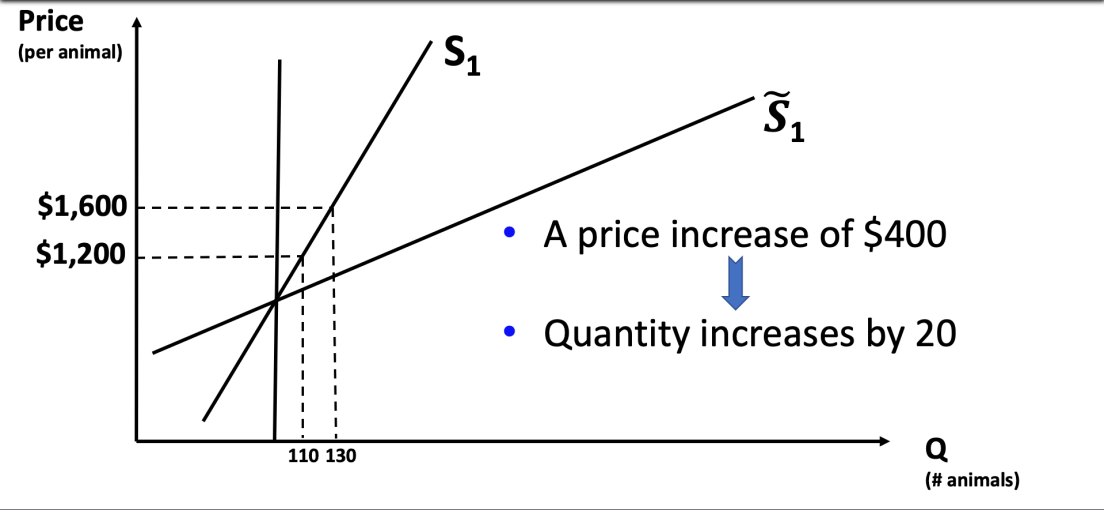
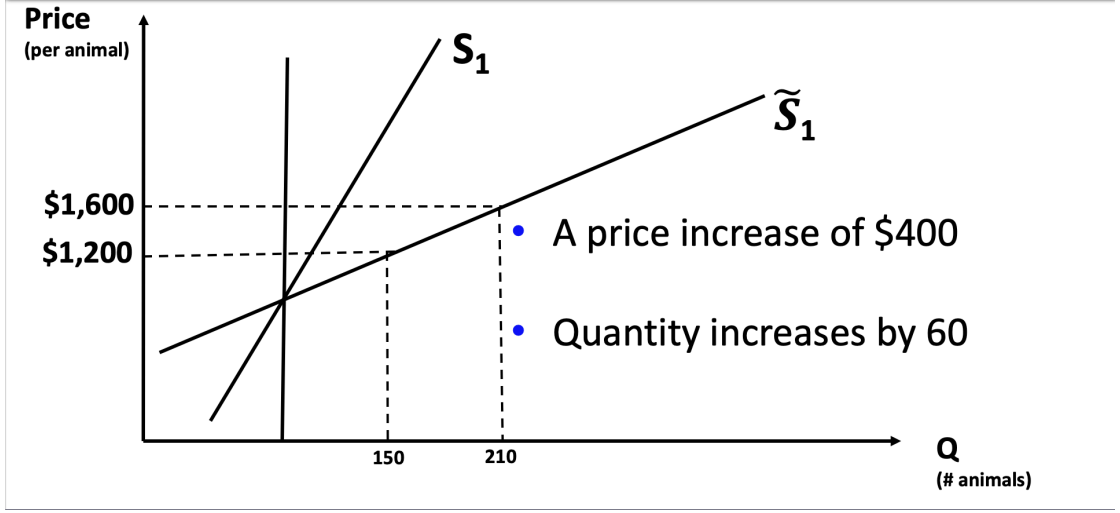
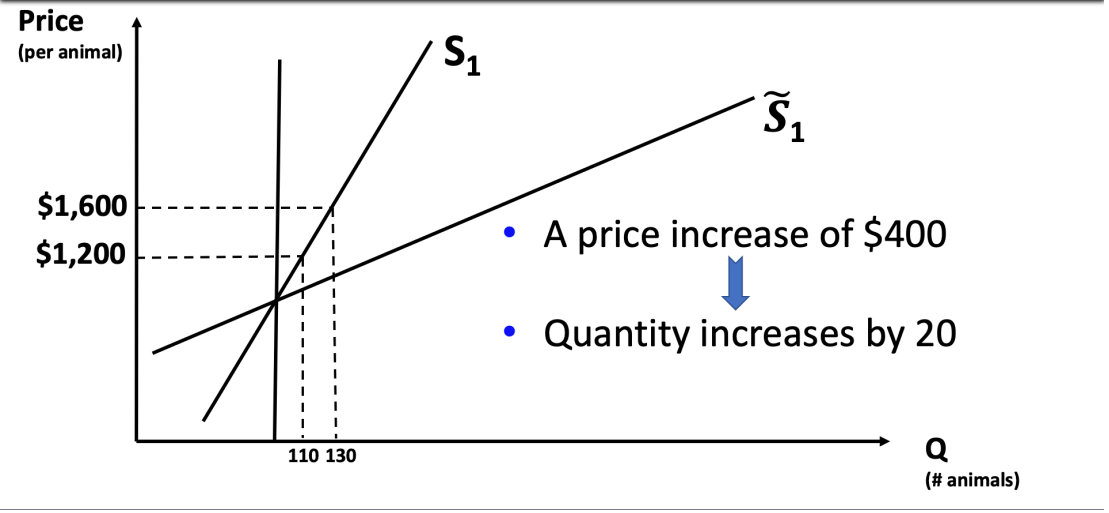
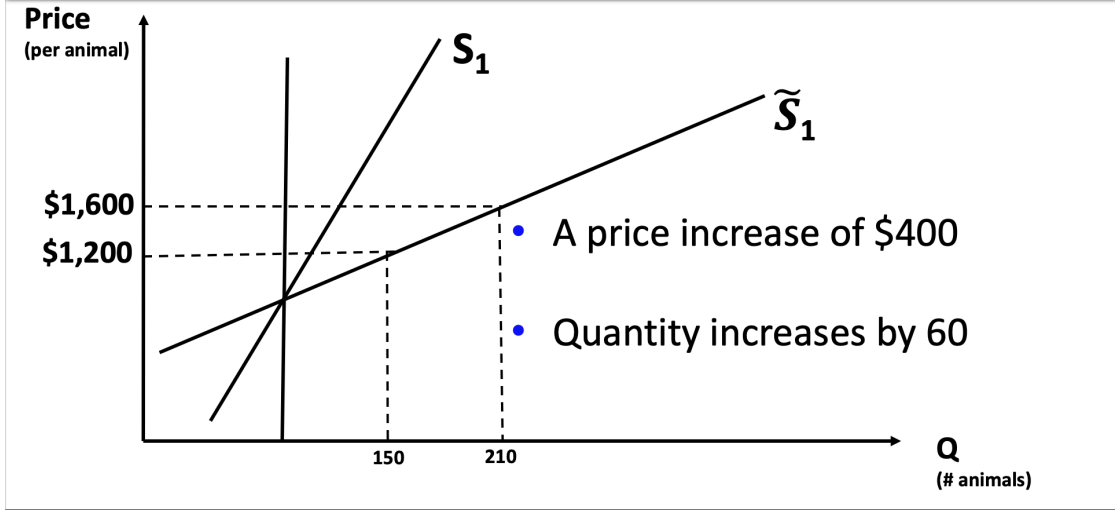
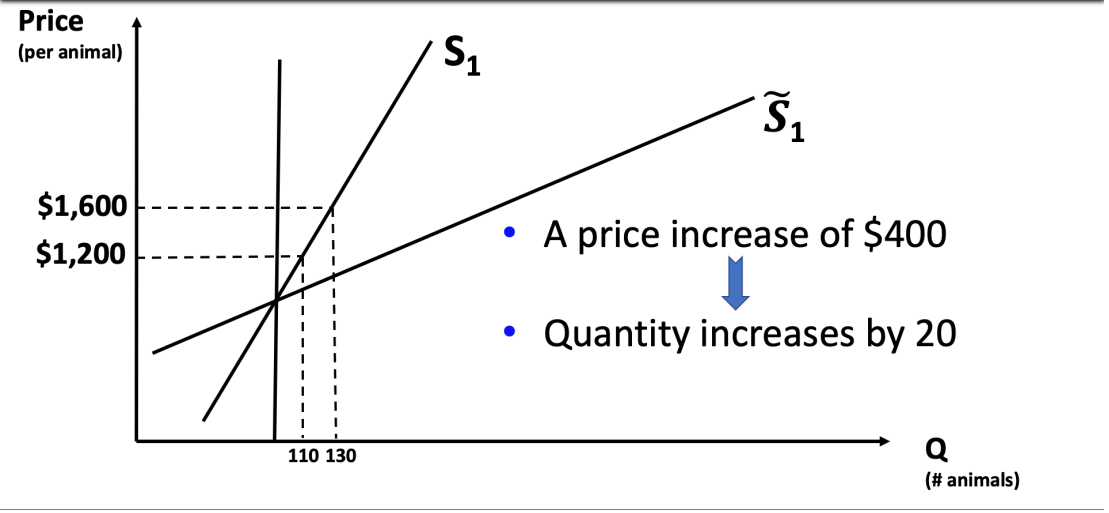

Price
(per animal)
S_1
$\widetilde{S}_1$
$1,600
$1,200
110 130
Q
(# animals)
• A price increase of $400
• Quantity increases by 20

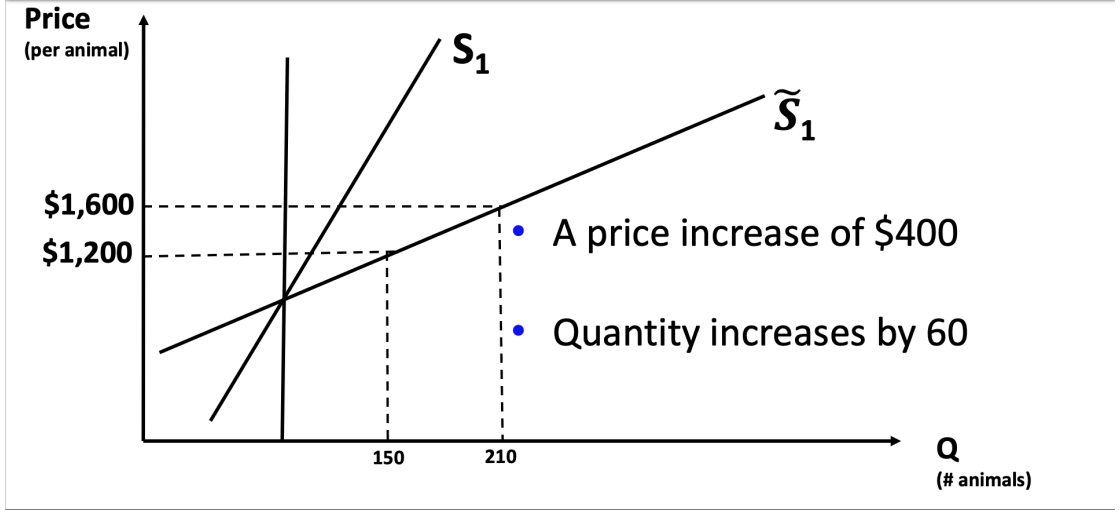

Price
(per animal)
S_1
$\widetilde{S}_1$
$1,600
$1,200
150
210
Q
(# animals)
• A price increase of $400
• Quantity increases by 60





- $\%\Delta Q^S = 100 \times \frac{Q^S_{new} - Q^S_{old}}{Q^S_{old}} = 100 \times \frac{130-110}{110} = 18.18\%$





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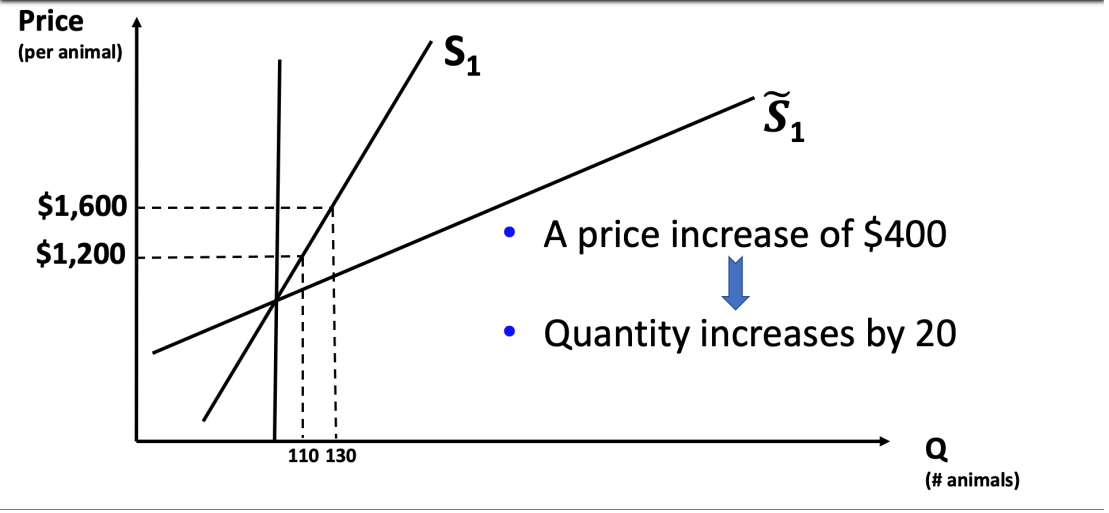

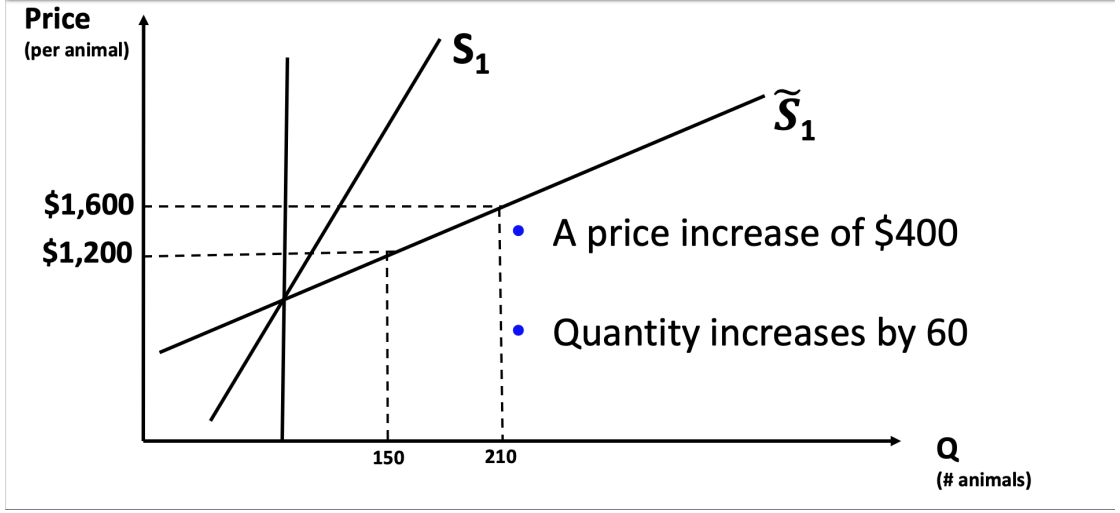

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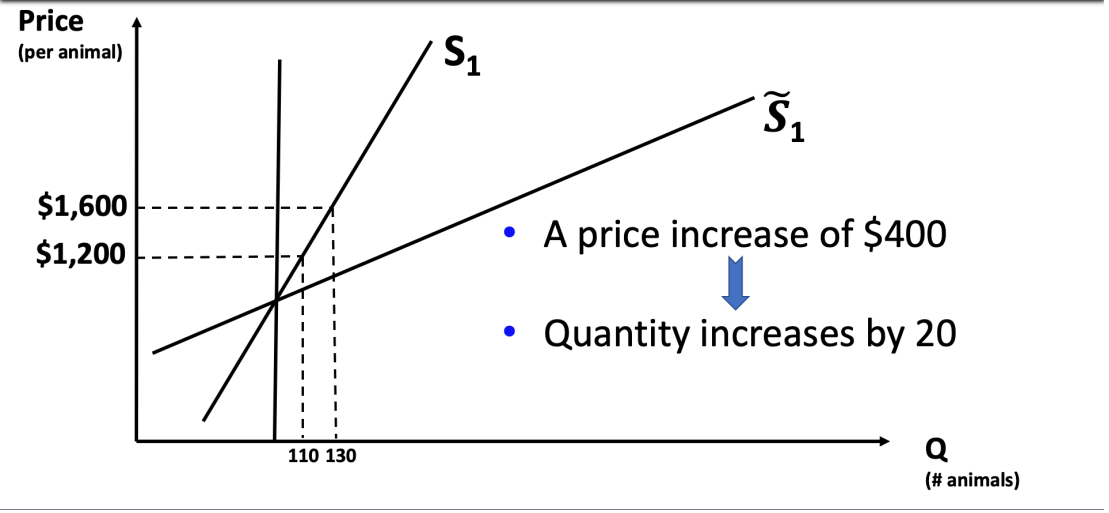
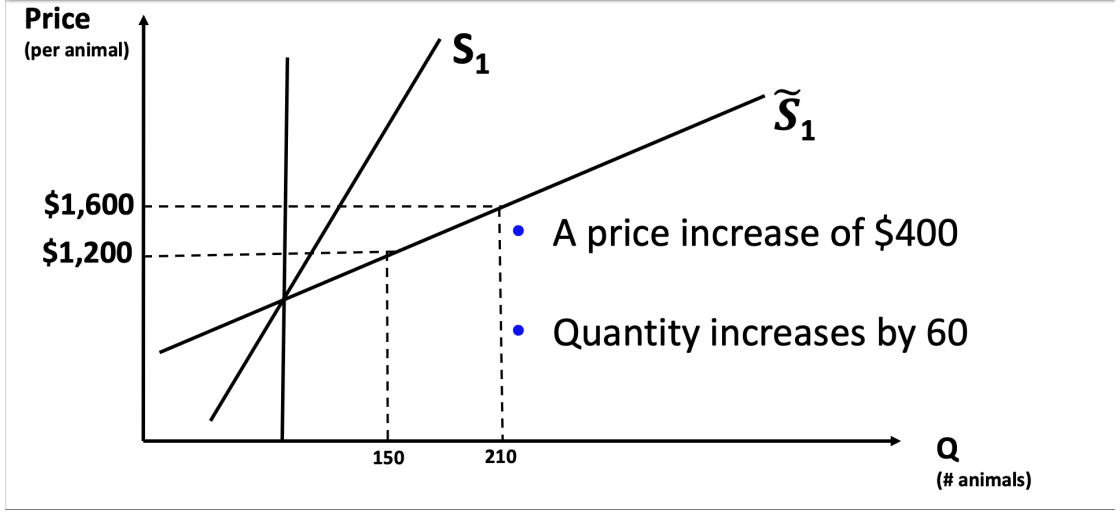
- $e_s = \left|\frac{\%\Delta Q^s}{\%\Delta P}\right| = \left|\frac{18.18}{33.33}\right| = 0.5454$





- $\%\Delta Q^s = 100 \times \frac{Q^s_{new} - Q^s_{old}}{Q^s_{old}} = 100 \times \frac{130-110}{110} = 18.18\%$
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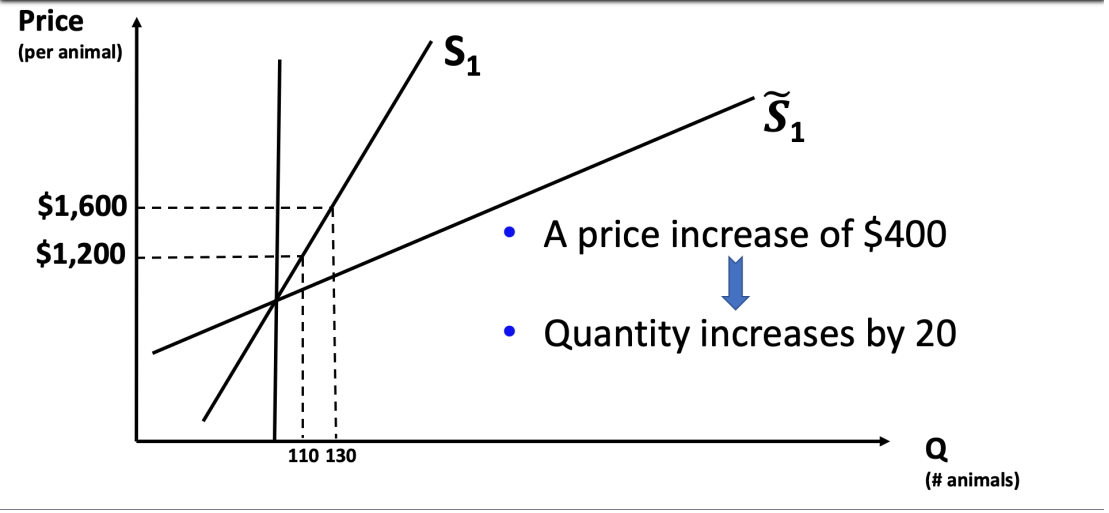
- $e_s = \left|\frac{\%\Delta Q^s}{\%\Delta P}\right| = \left|\frac{18.18}{33.33}\right| = 0.5454$
- Every 1% increase in price results in a 0.54% increase in quantity supplied



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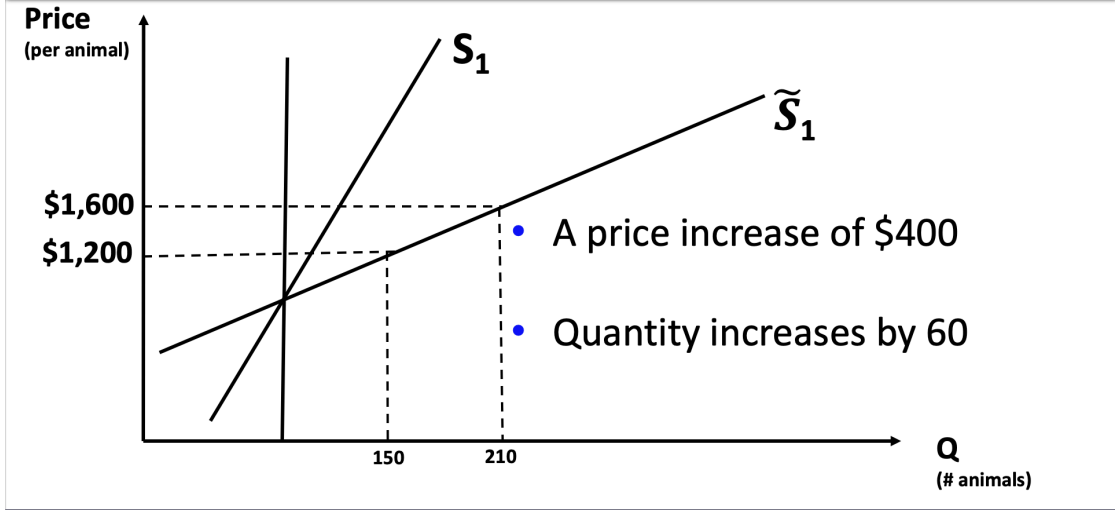

- $\%\Delta Q^s = 100 \times \frac{Q^s_{new} - Q^s_{old}}{Q^s_{old}} = 100 \times \frac{210-150}{150} = 40\%$
- $\%\Delta P = 100 \times \frac{P_{new} - P_{old}}{P_{old}} = 100 \times \frac{1600-1200}{1200} = 33.33\%$
- $e_s = \left|\frac{\%\Delta Q^s}{\%\Delta P}\right| = \left|\frac{40}{33.33}\right| = 1.20$
- Every 1% increase in price results in a 1.20% increase in quantity supplied

Elasticity of Supply

- $e_s \longrightarrow 0$: Perfectly inelastic supply
  - Large changes in prices barely change quantity supplied
  - Vertical Supply curve
-
  -
  -

Elasticity of Supply

- $e_s \longrightarrow 0$: Perfectly inelastic supply
  - Large changes in prices barely change quantity supplied
  - Vertical Supply curve

- $e_s \longrightarrow \infty$: Perfectly elastic supply
  - Small changes in prices induce huge changes in quantity supplied
  - Horizontal Supply curve

Elasticity of Demand

Elasticity of Demand

- $e_d = \left|\frac{\%\Delta Q^d}{\%\Delta P}\right|$

- How responsive is quantity demanded to a price increase

- Inelastic demand: not price sensitive
- Elastic demand: very price sensitive

Elasticity of Demand

- $e_d = \left|\frac{\%\Delta Q^d}{\%\Delta P}\right|$

- How responsive is quantity demanded to a price increase

- Which good has a very inelastic demand?
- Which good has a very elastic demand?

Elasticity of Demand

- $e_d = \left|\frac{\%\Delta Q^d}{\%\Delta P}\right|$

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Elasticity of Demand

- $e_d = \frac{\%\Delta Q^d}{\%\Delta P}$

- How responsive is quantity demanded to a price increase

- Which good has a very inelastic demand? Insulin
- Which good has a very elastic demand? Mee Goreng

Elasticity of Demand

- Which good has a very inelastic demand? Insulin
  - People with diabetes *really* need it
  - They will pay whichever price for the daily quantity prescribed

- Which good has a very elastic demand? Mee Goreng

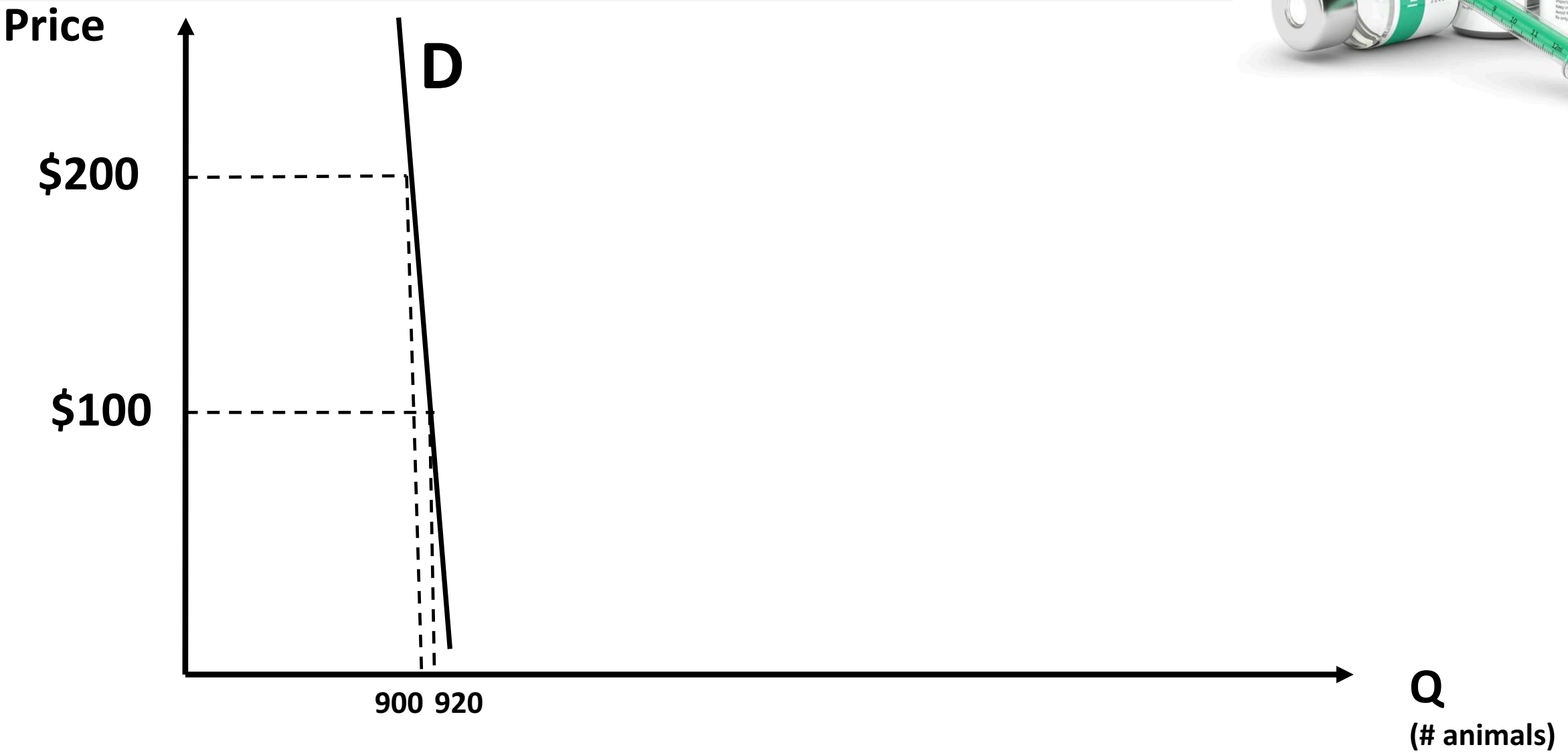
Elasticity of Demand

- Which good has a very inelastic demand? Insulin
  - People with diabetes *really* need it
  - They will pay whichever price for the daily quantity prescribed

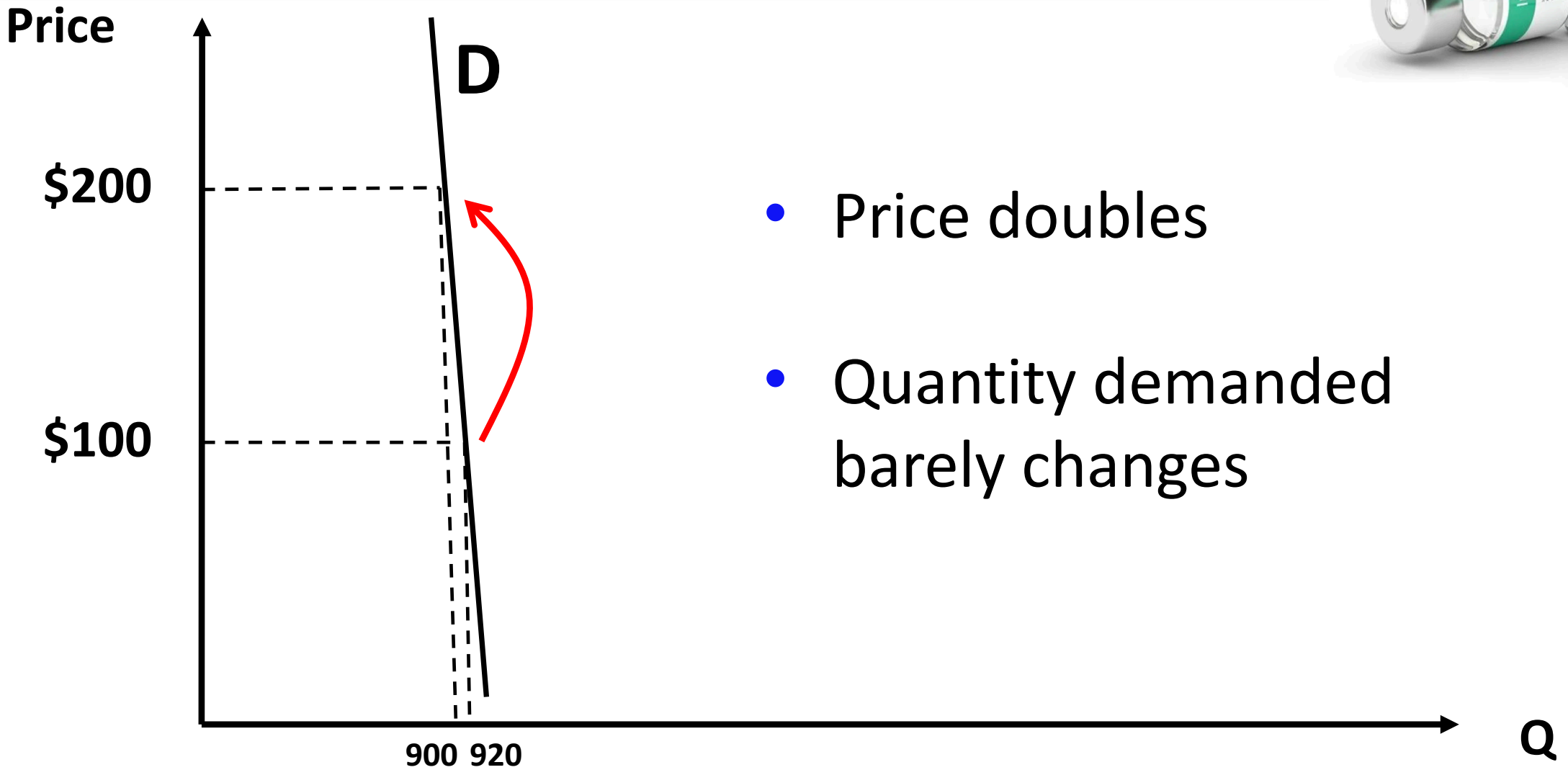
- Which good has a very elastic demand? Mee Goreng
  - Has many close substitutes: Mee Rebus, Hokkien Mee, etc.
  - If price increases “too much”, consumers switch to other mee types

Elasticity of Demand - graphically

Elasticity of Demand - graphically

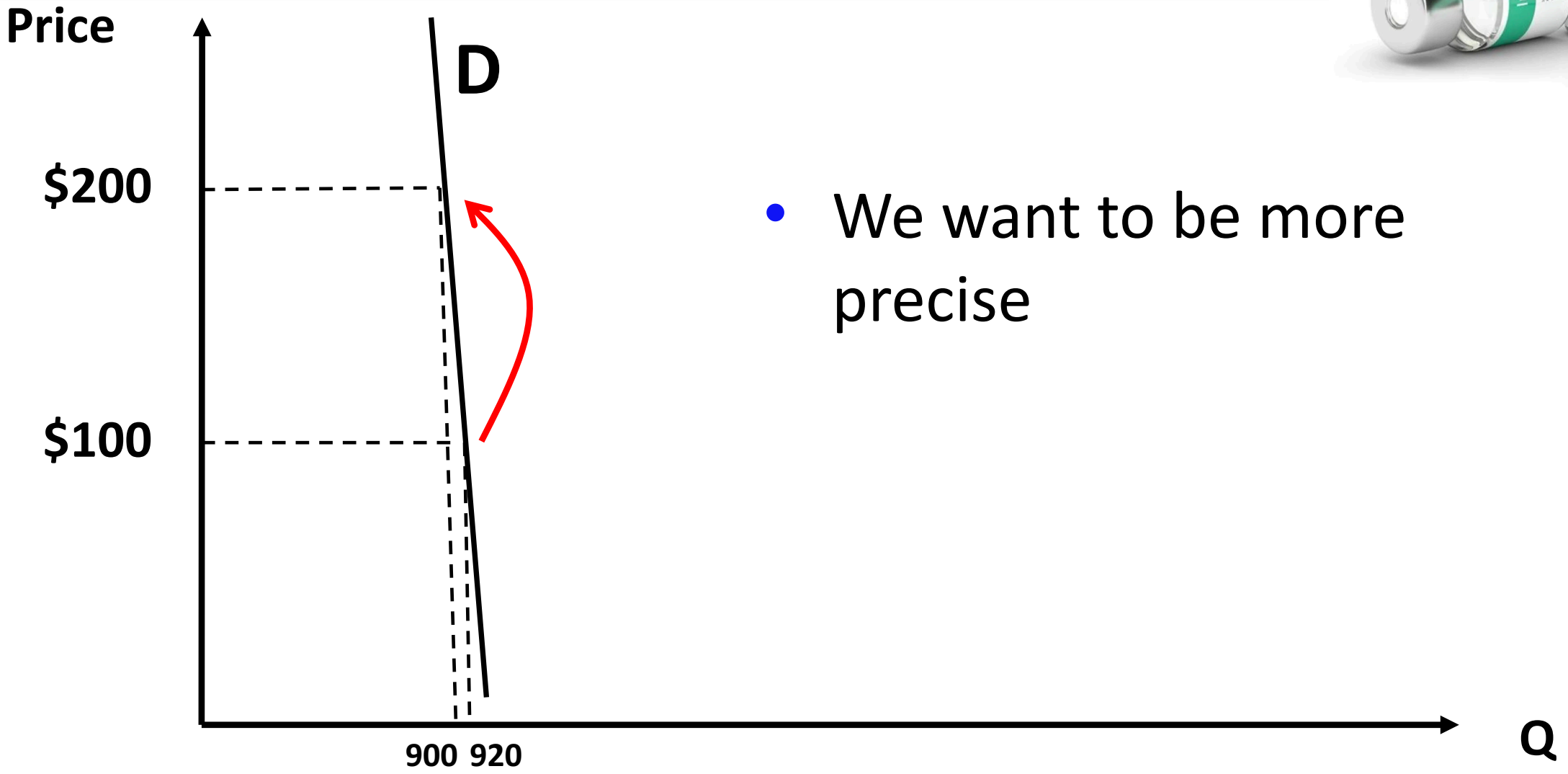


Elasticity of Demand - graphically



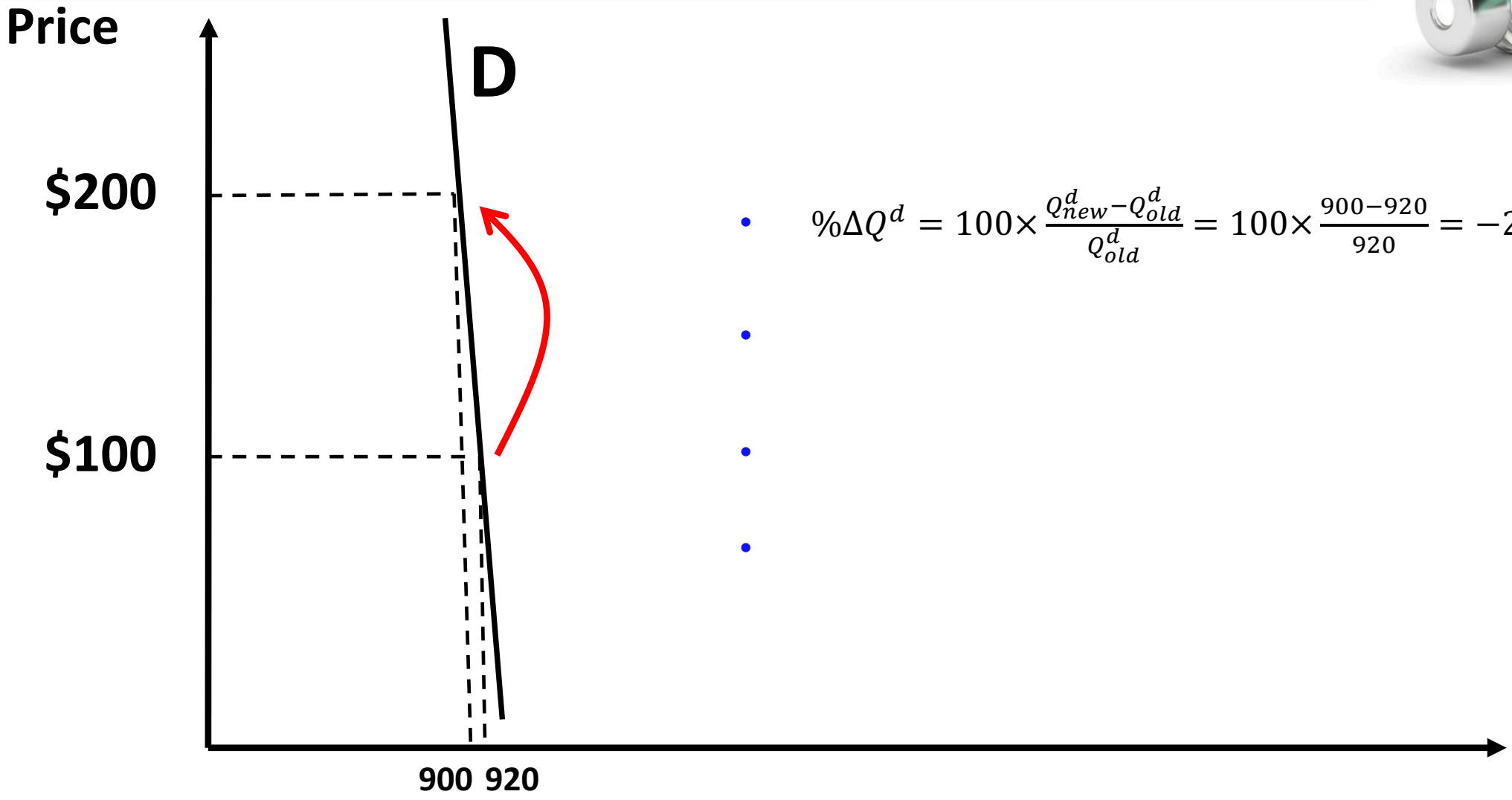
- Price doubles
- Quantity demanded barely changes

Elasticity of Demand - graphically



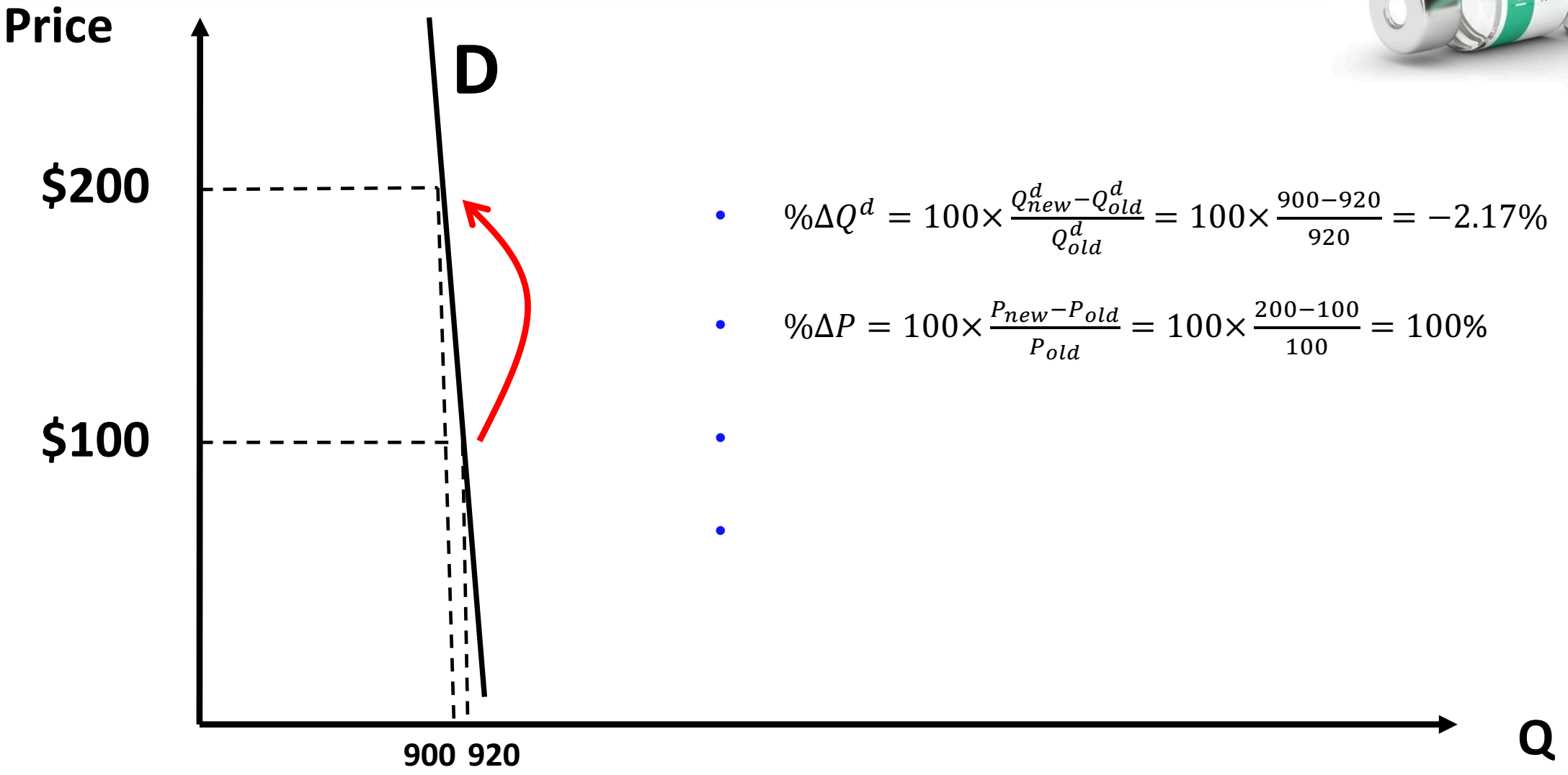
- We want to be more precise

Elasticity of Demand - graphically



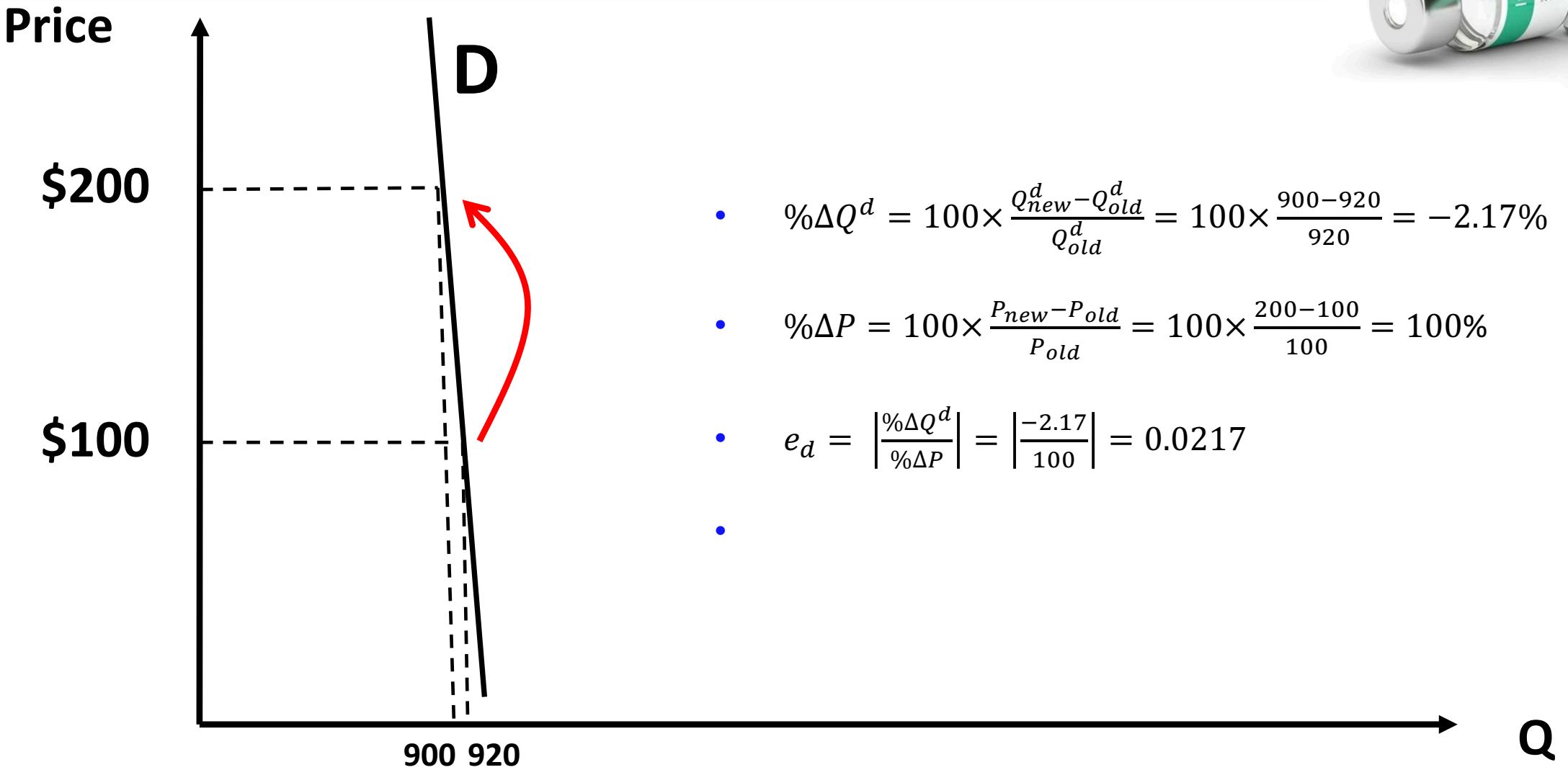
$$\%\Delta Q^d = 100 \times \frac{Q^d_{new} - Q^d_{old}}{Q^d_{old}} = 100 \times \frac{900 - 920}{920} = -2.17\%$$

Elasticity of Demand - graphically



- $\%\Delta Q^d = 100 \times \frac{Q^d_{new} - Q^d_{old}}{Q^d_{old}} = 100 \times \frac{900-920}{920} = -2.17\%$
- $\%\Delta P = 100 \times \frac{P_{new} - P_{old}}{P_{old}} = 100 \times \frac{200-100}{100} = 100\%$
-
-

Elasticity of Demand - graphically



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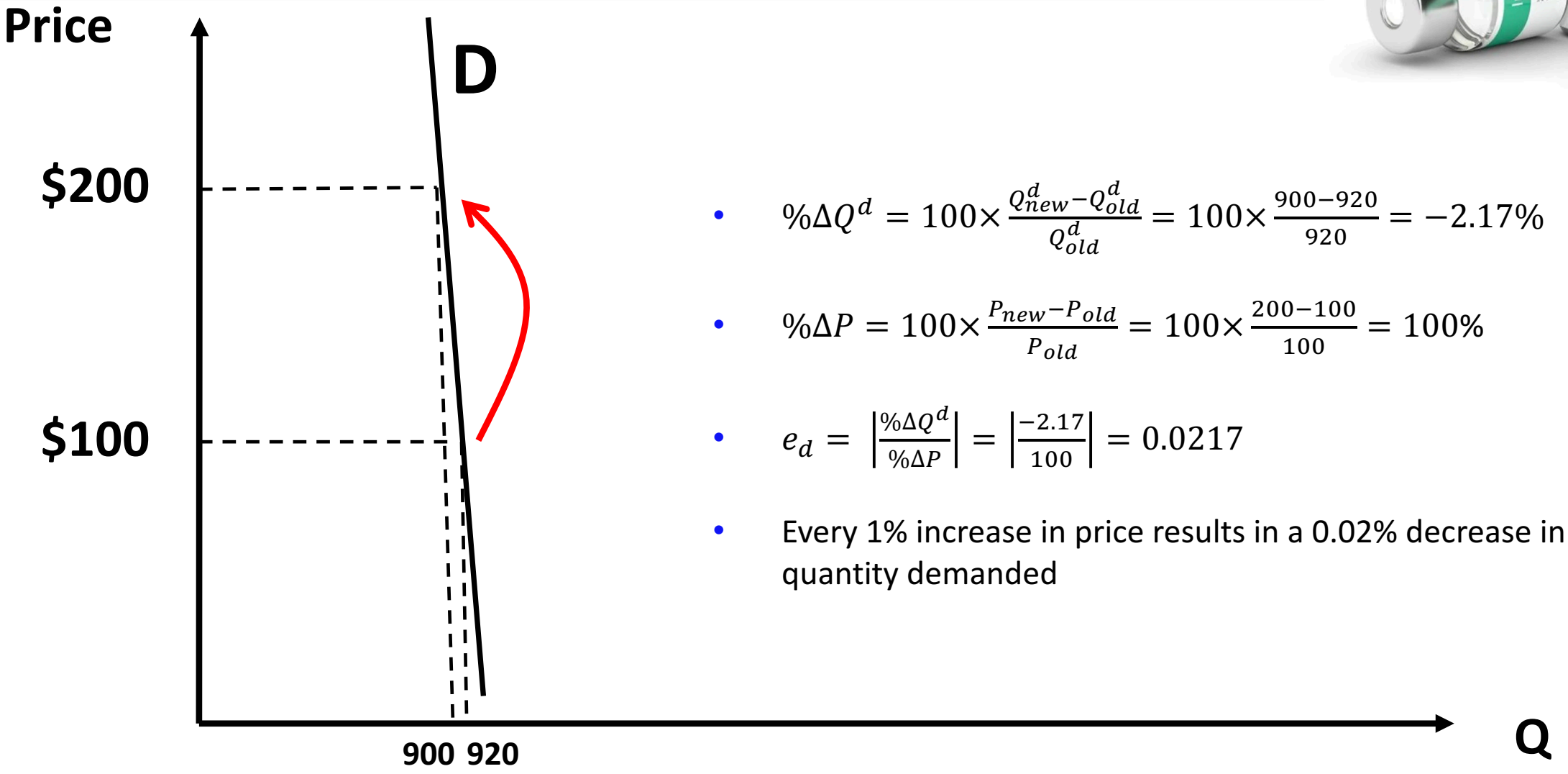
- $e_d = \left|\frac{\%\Delta Q^d}{\%\Delta P}\right| = \left|\frac{-2.17}{100}\right| = 0.0217$
-

Elasticity of Demand - graphically



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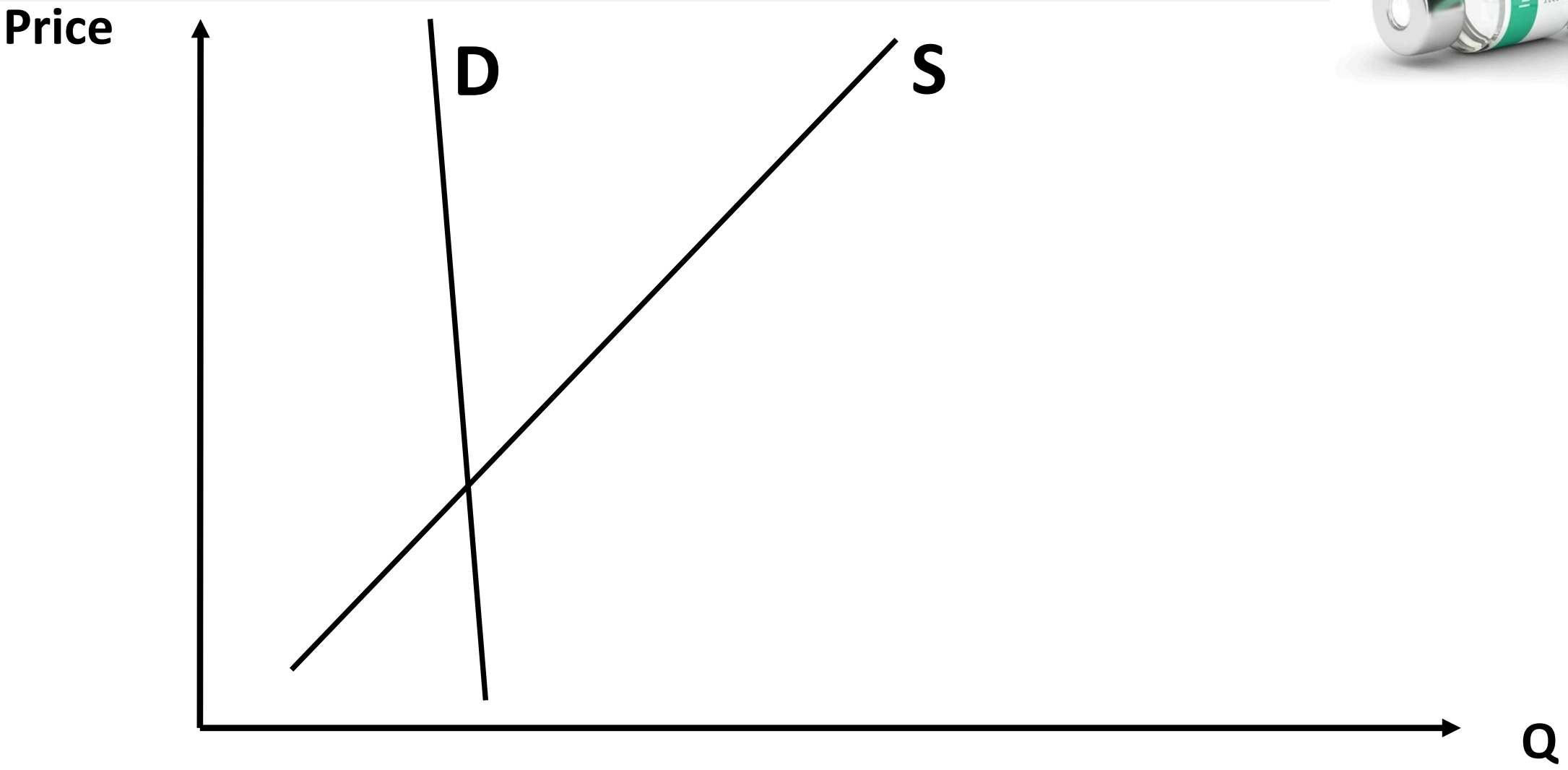
- $e_d = \left|\frac{\%\Delta Q^d}{\%\Delta P}\right| = \left|\frac{-2.17}{100}\right| = 0.0217$
- Every 1% increase in price results in a 0.02% decrease in quantity demanded

When demand is very inelastic…



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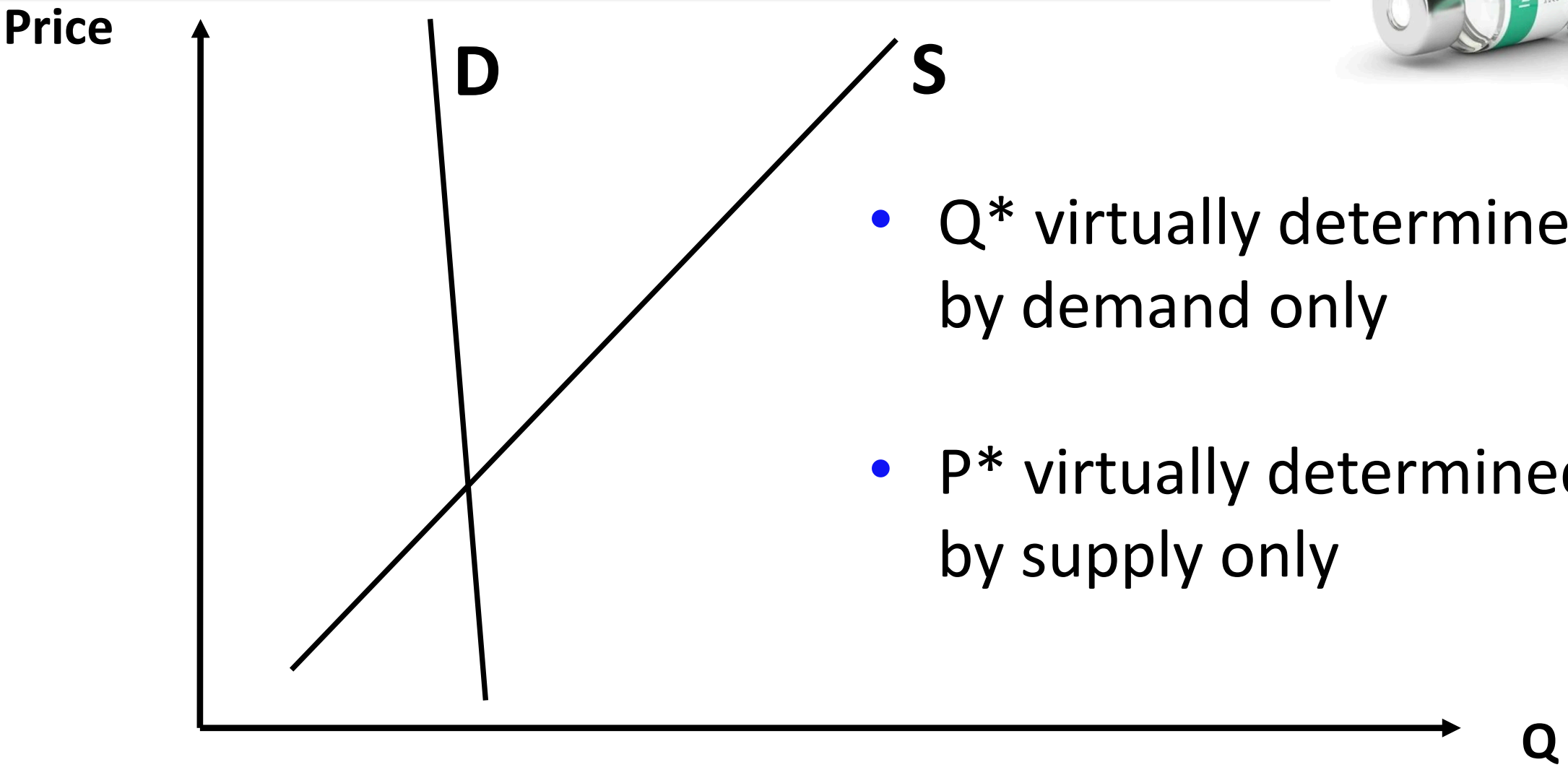
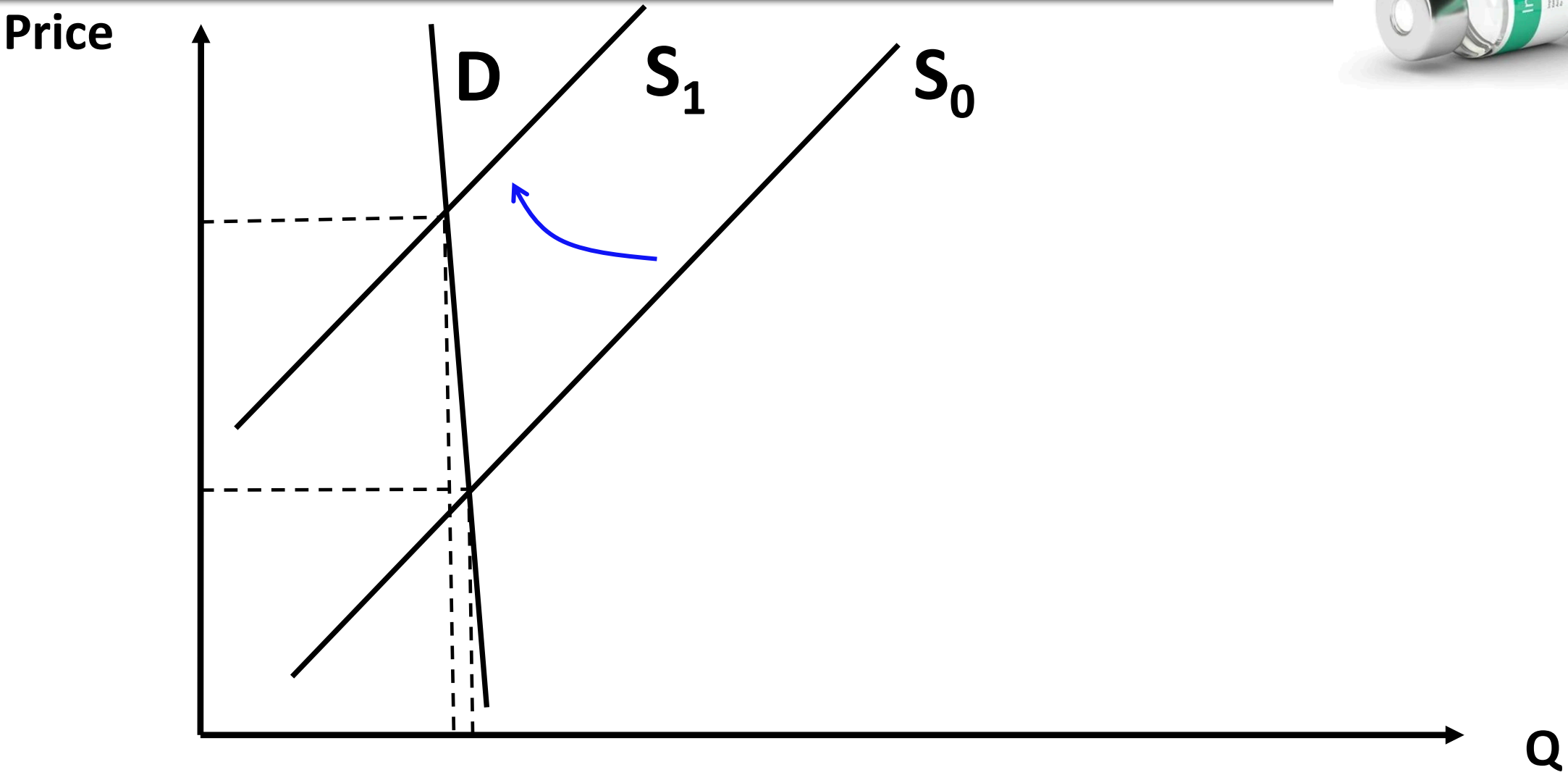


- Q* virtually determined by demand only
- P* virtually determined by supply only

When demand is very inelastic…



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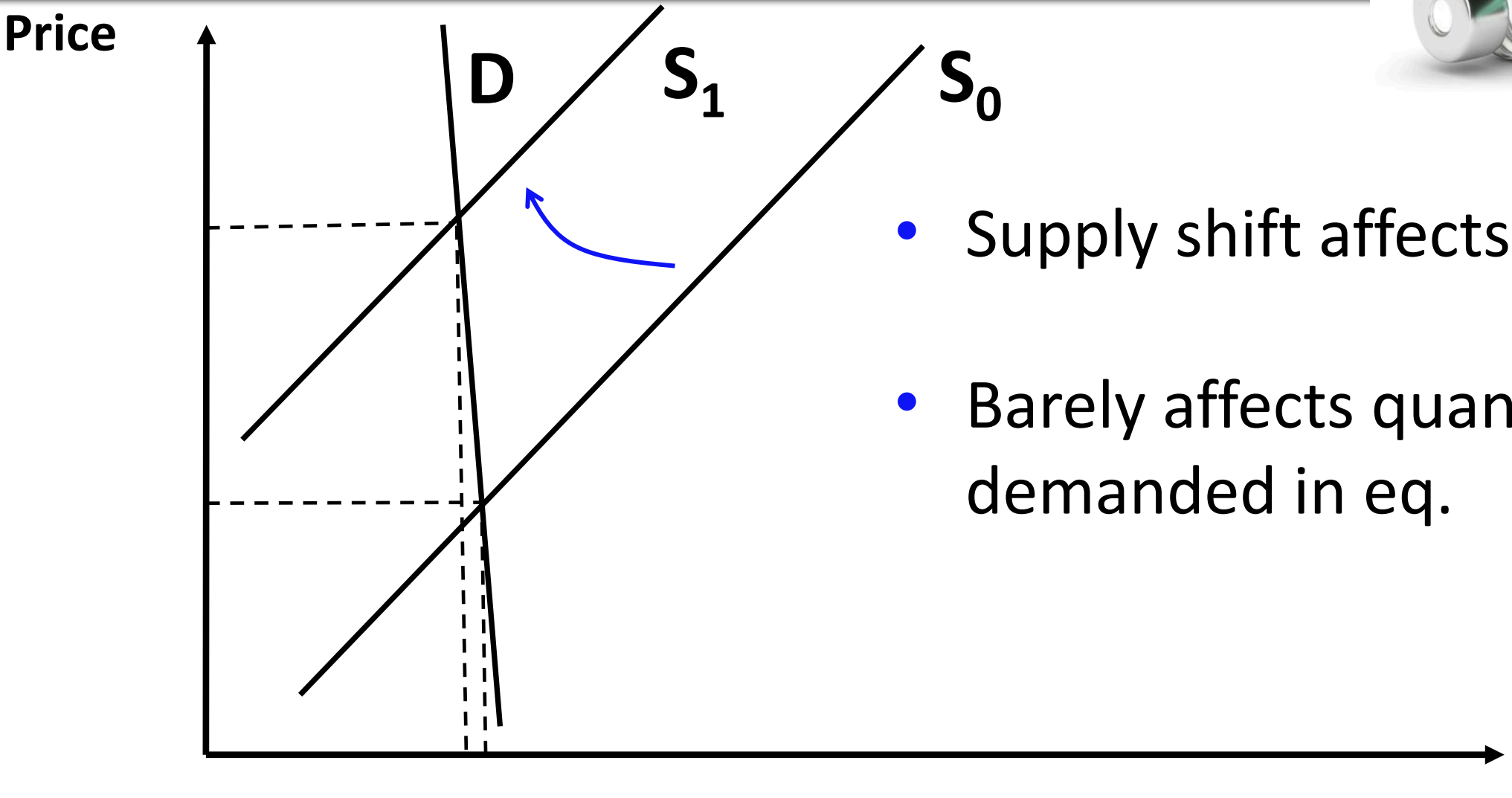
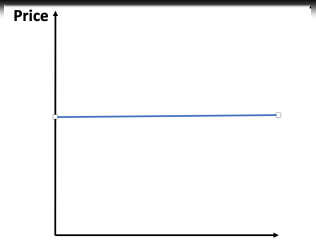


- Supply shift affects price p*
- Barely affects quantity demanded in eq.

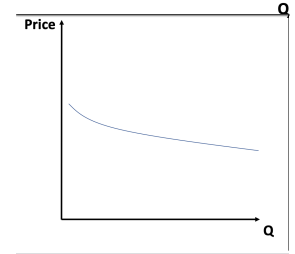
Elasticity - summary

Elasticity of demand - summary

- $e_d = \infty$ Perfectly elastic demand



- $e_d > 1$ Elastic demand



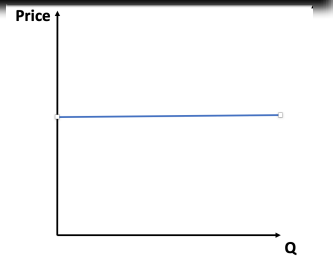
- $e_d = 1$ Unit-Elastic demand

- $e_d < 1$ Inelastic demand

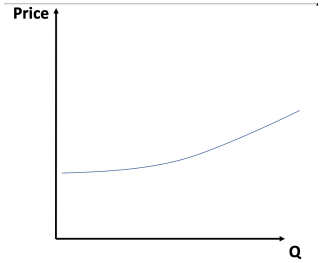
- $e_d = 0$ Perfectly inelastic demand

Elasticity of supply - summary

- $e_s = \infty$ Perfectly elastic supply



- $e_s > 1$ Elastic supply



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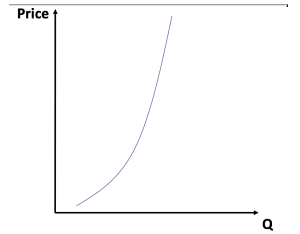
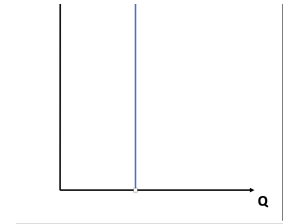


- $e_s = 0$ Perfectly inelastic supply

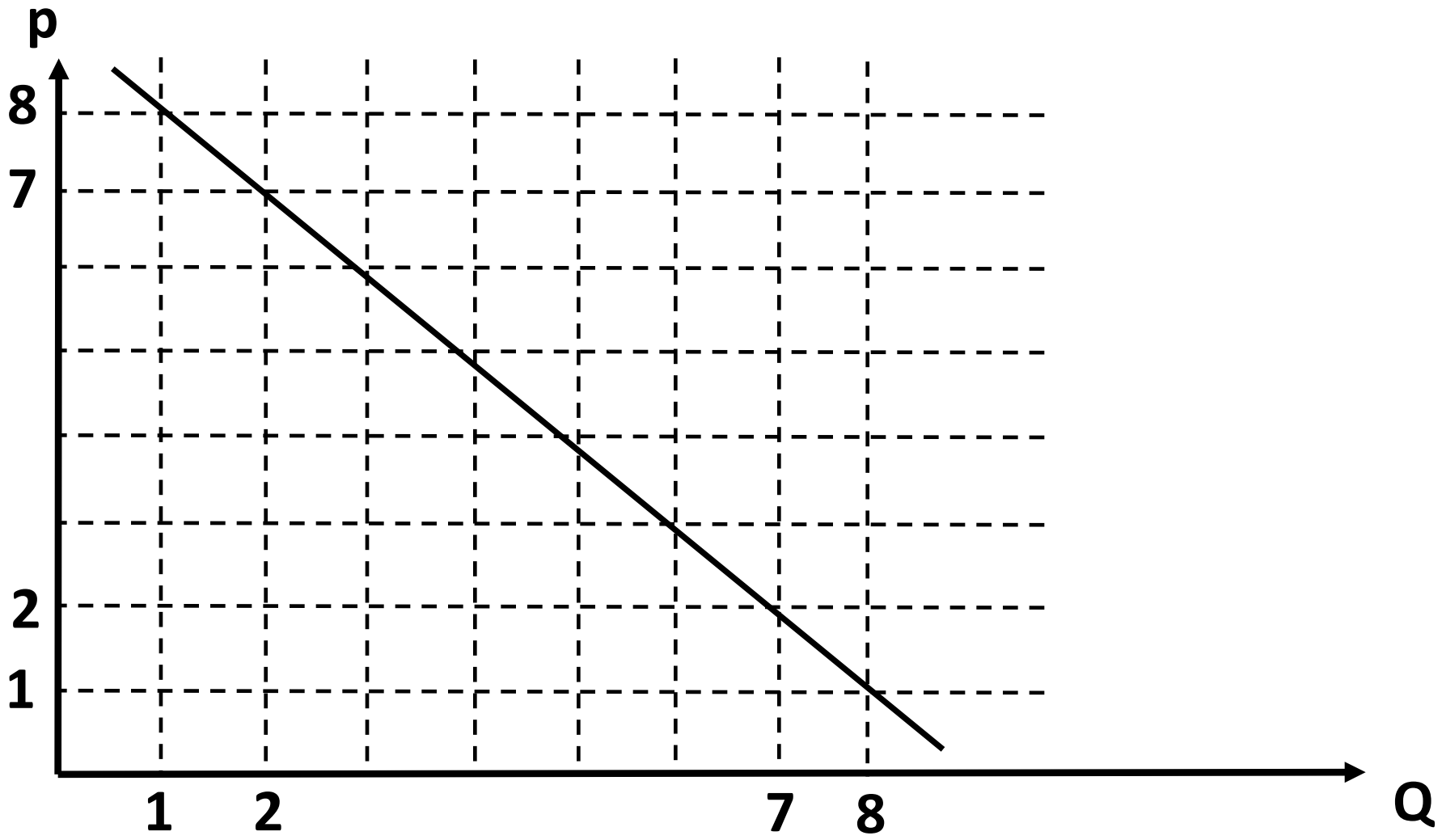


Elasticity - comments

- Direction matters!

- Why is it useful?
    - If there are taxes or shifts, we know who is affected.
    - It also allows us to anticipate consequences of policies

Elasticity – comments (1)



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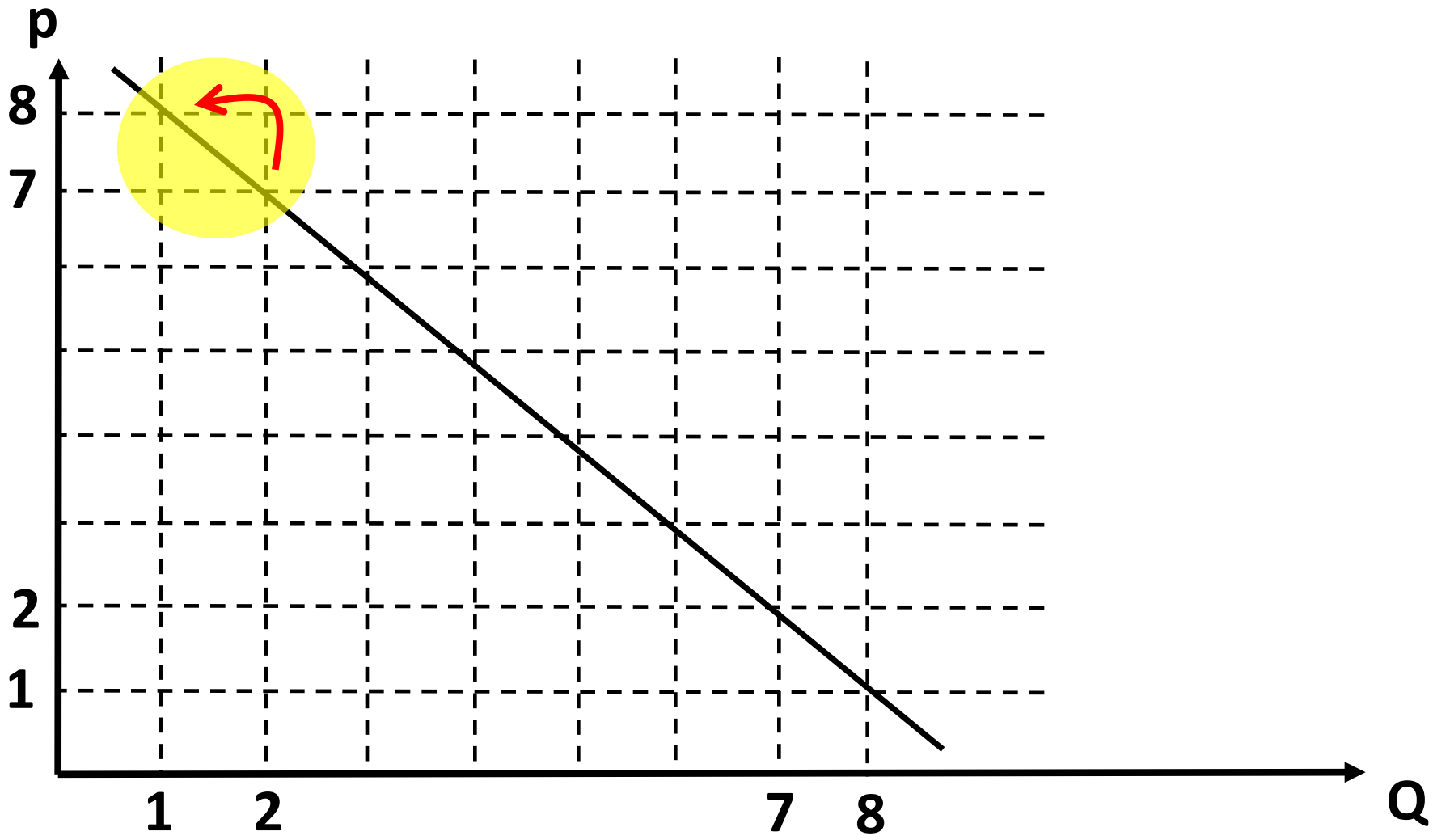

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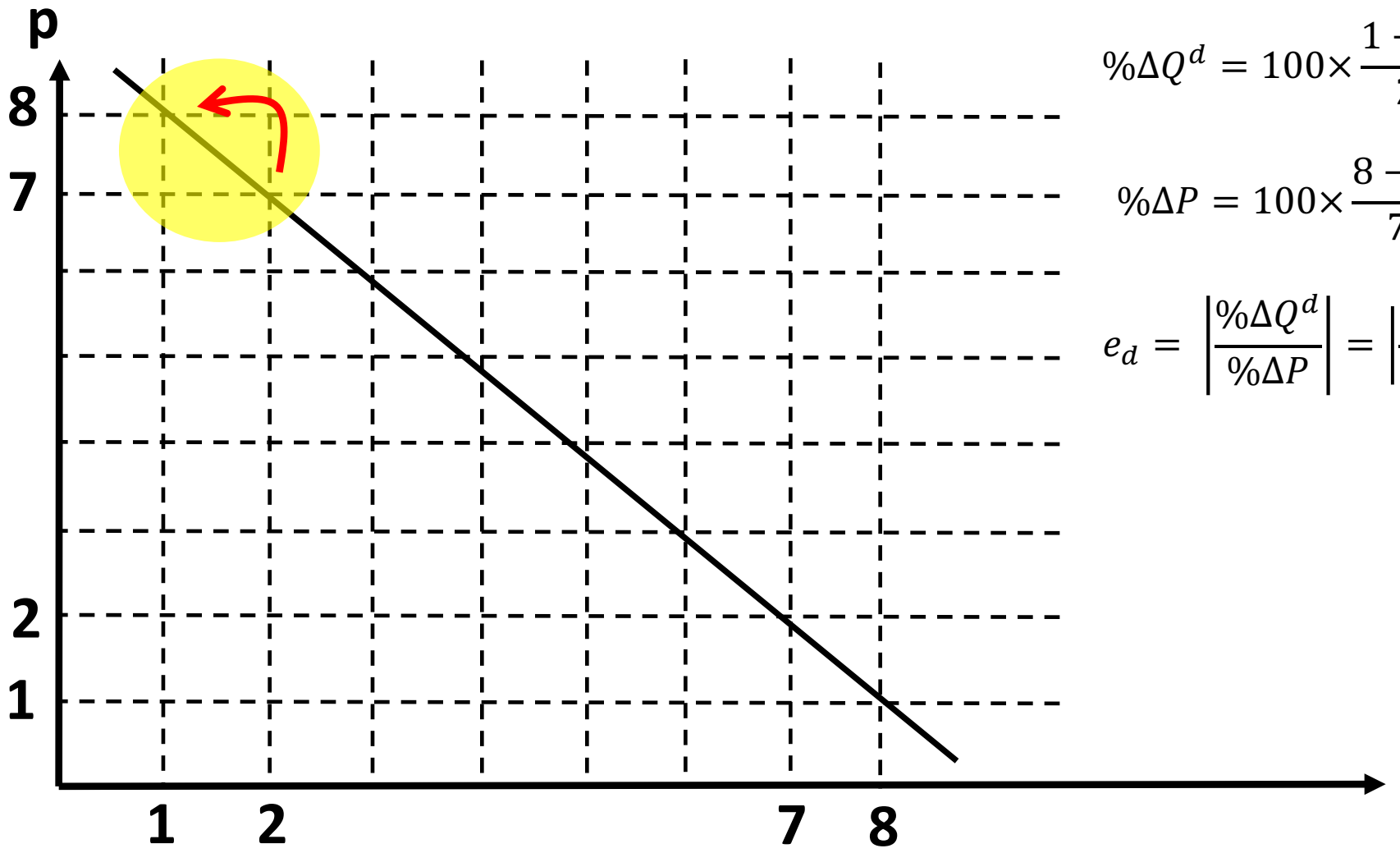
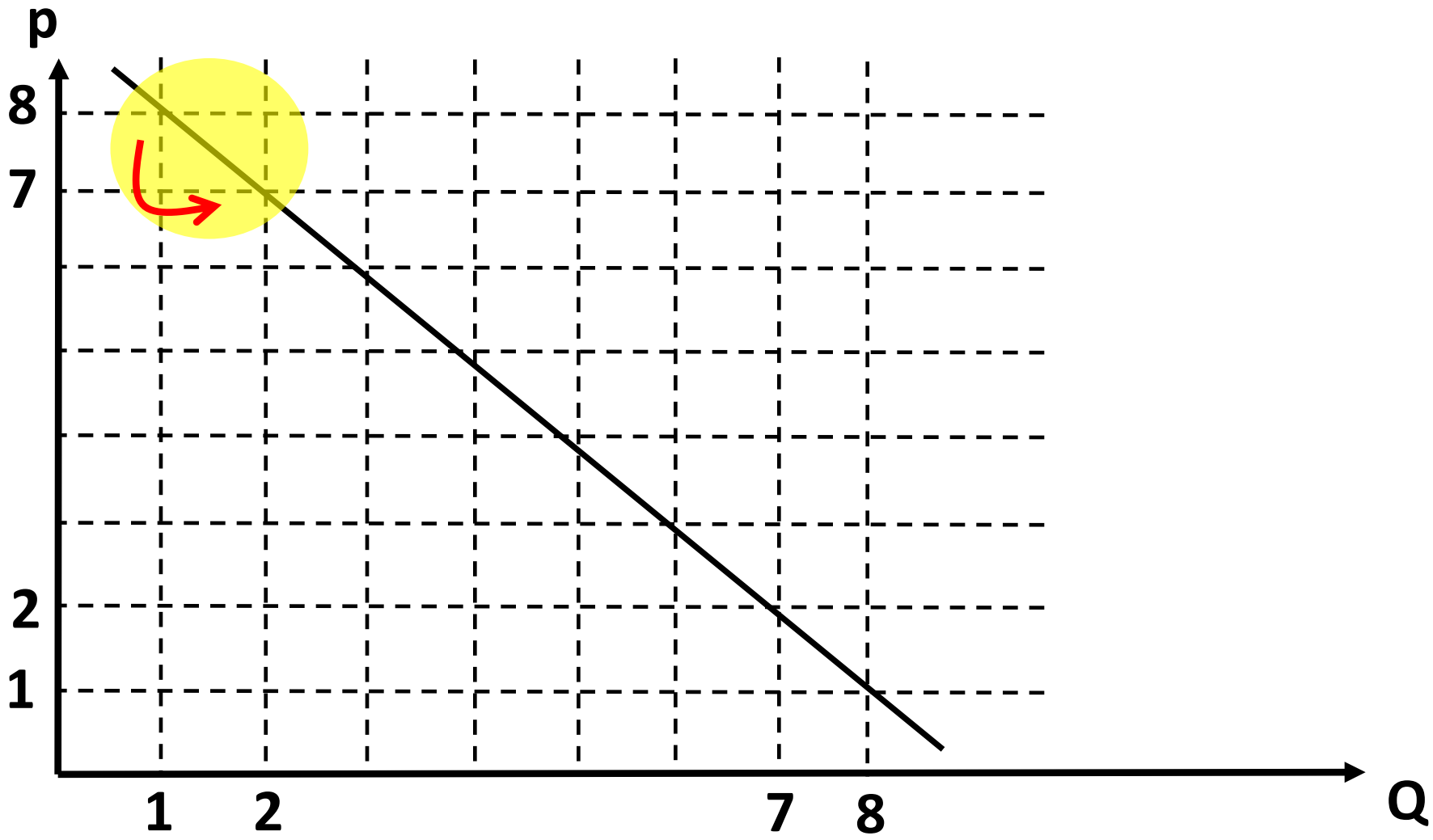


$$\%\Delta Q^d = 100 \times \frac{1-2}{2} = -50\%$$

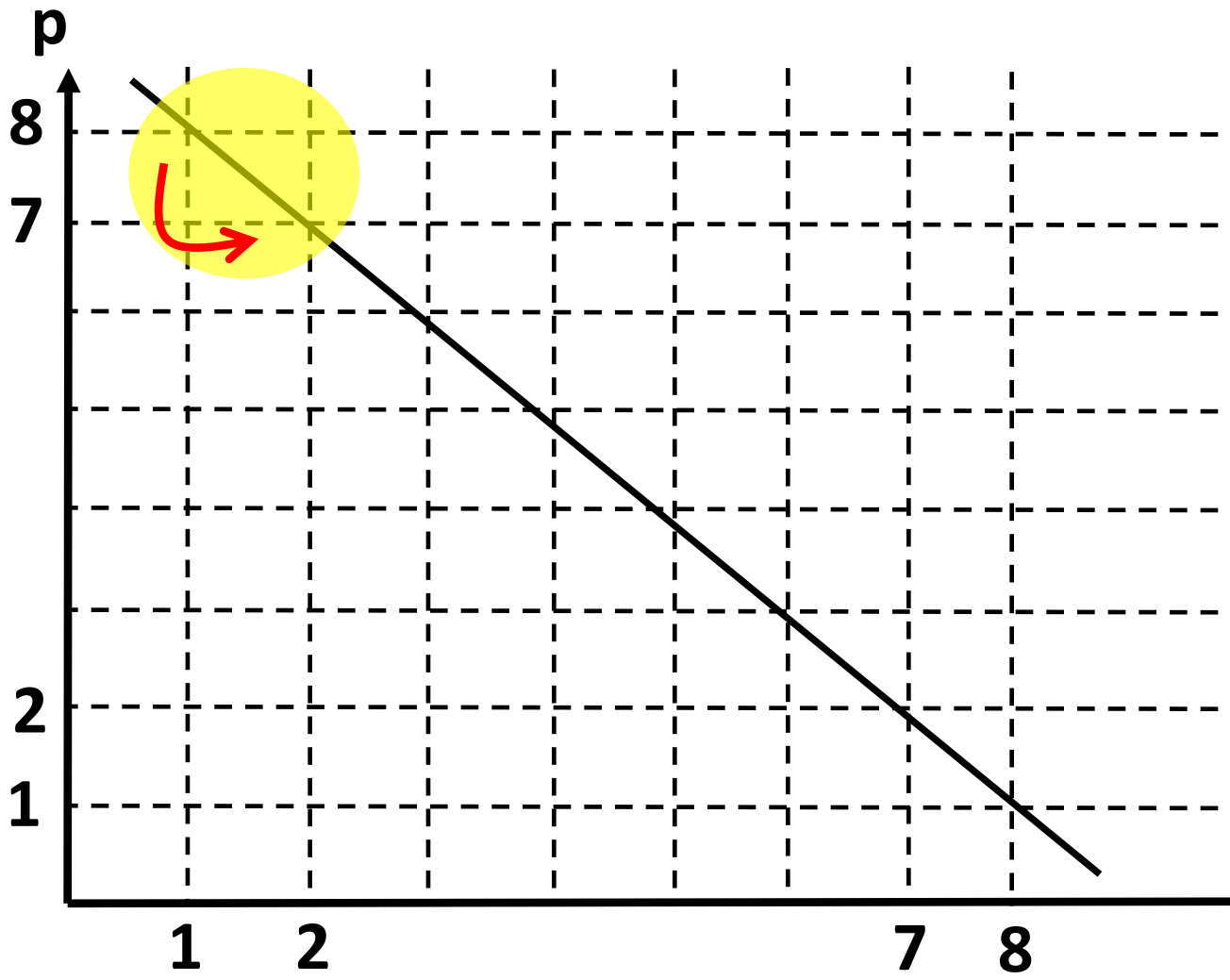
$$\%\Delta P = 100 \times \frac{8-7}{7} = 14.3\%$$

$$e_d = \left|\frac{\%\Delta Q^d}{\%\Delta P}\right| = \left|\frac{-50}{14.3}\right| = 3.49$$

Elasticity – comments (1)



Elasticity – comments (1)

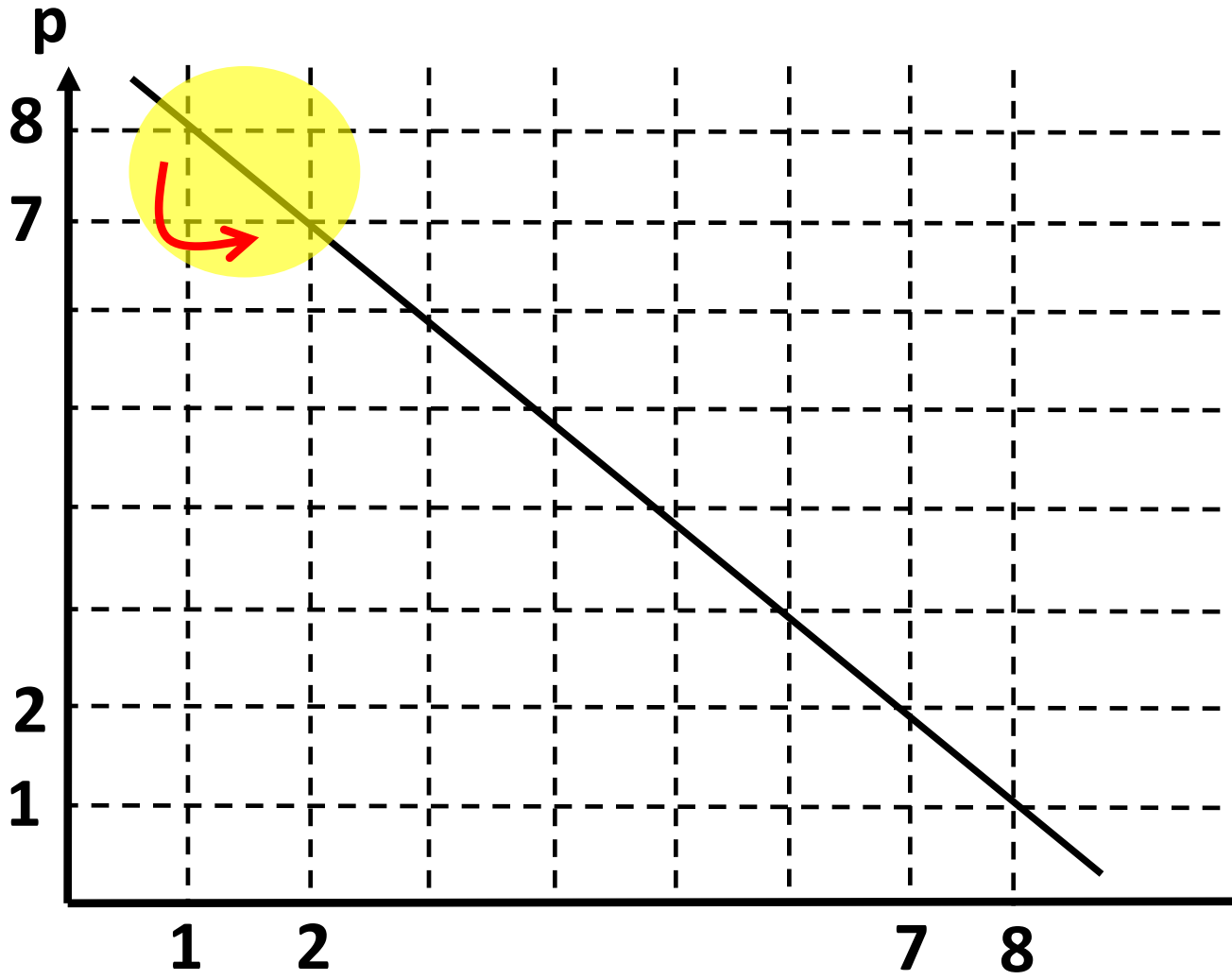


$$\%\Delta Q^d = 100 \times \frac{2-1}{1} = 100\%$$

$$\%\Delta P = 100 \times \frac{7-8}{8} = -12.5\%$$

$$e_d = \left|\frac{\%\Delta Q^d}{\%\Delta P}\right| = \left|\frac{100}{12.5}\right| = 8$$

Elasticity – comments (1)



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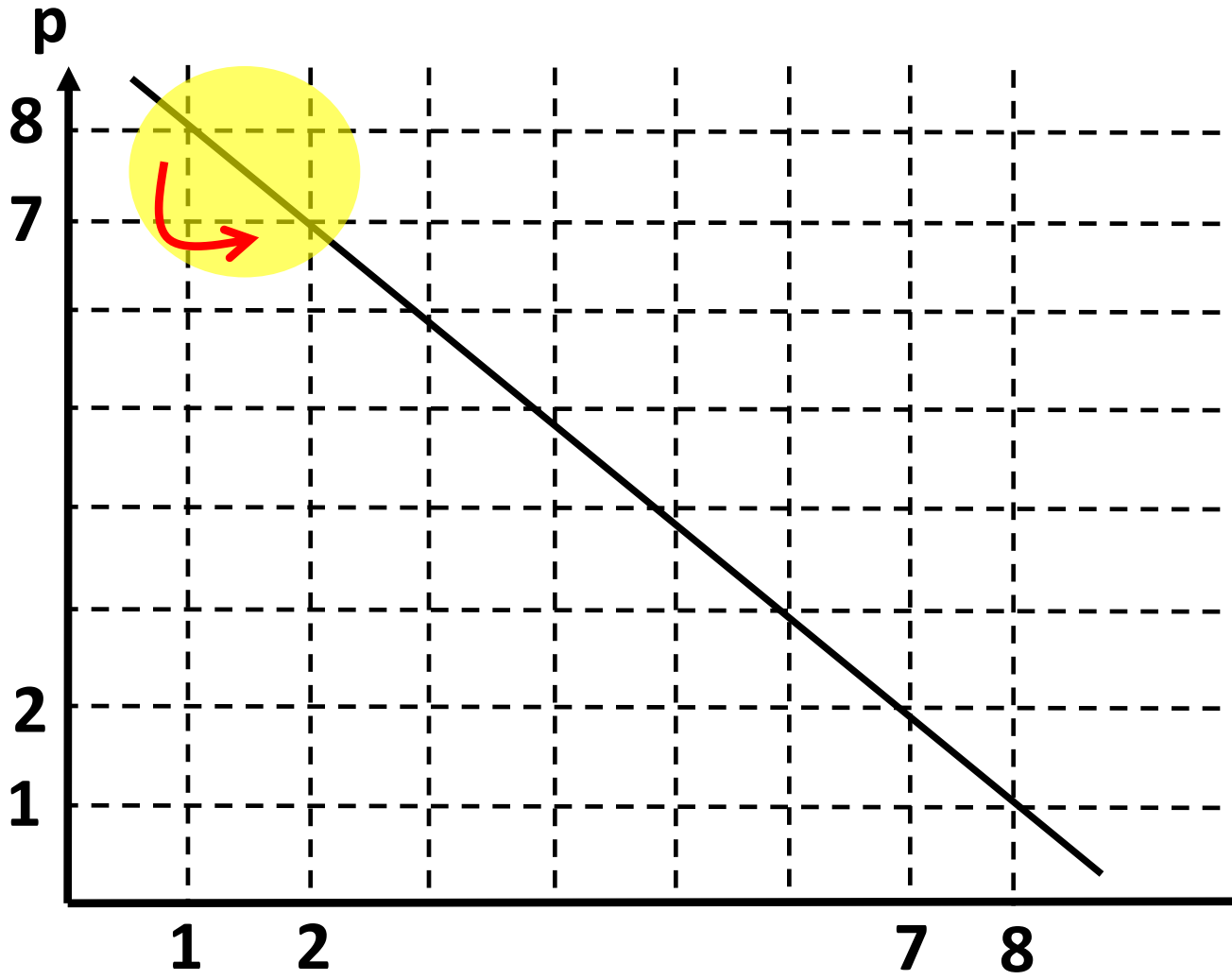

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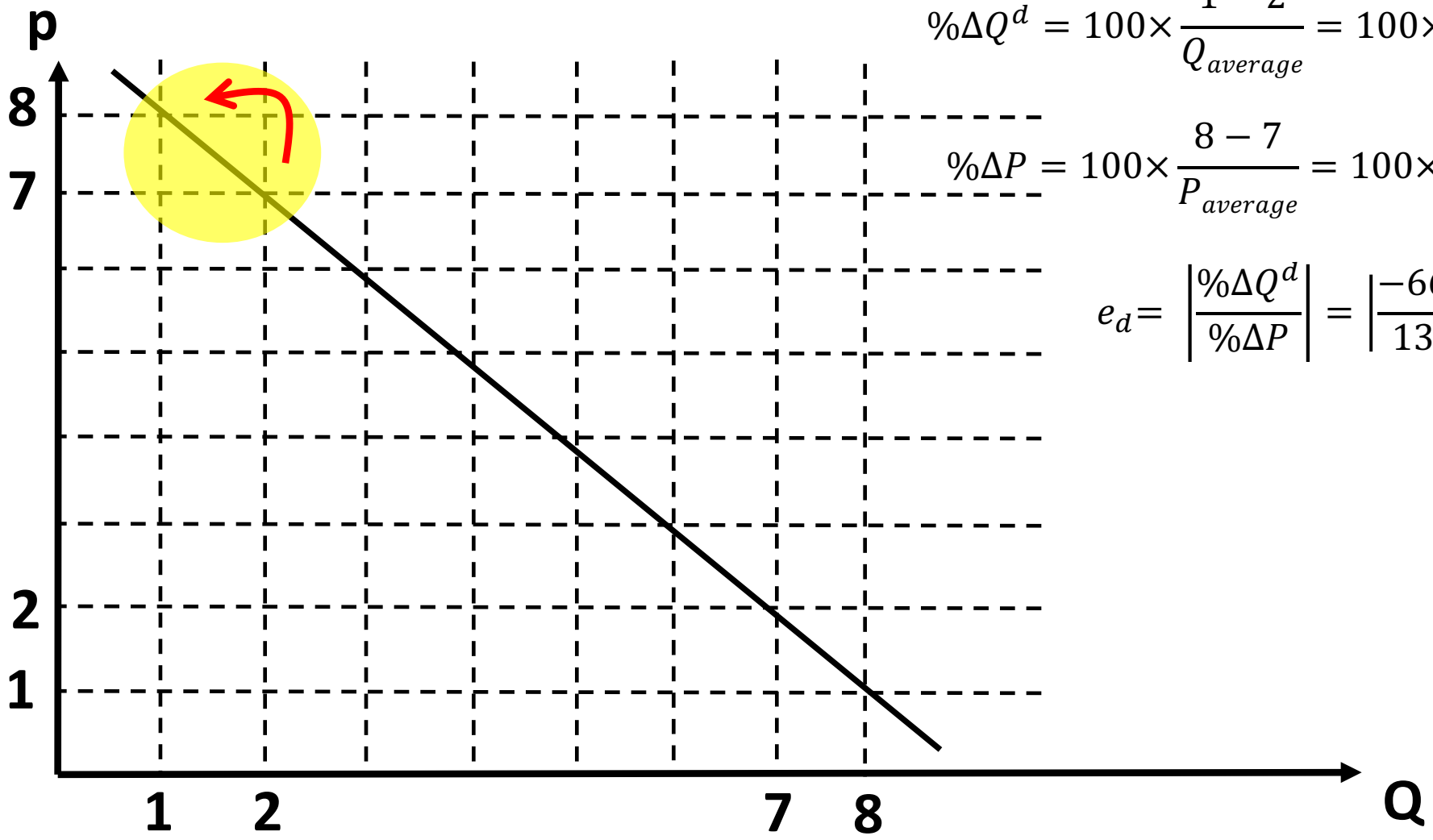
Elasticity – midpoint formula

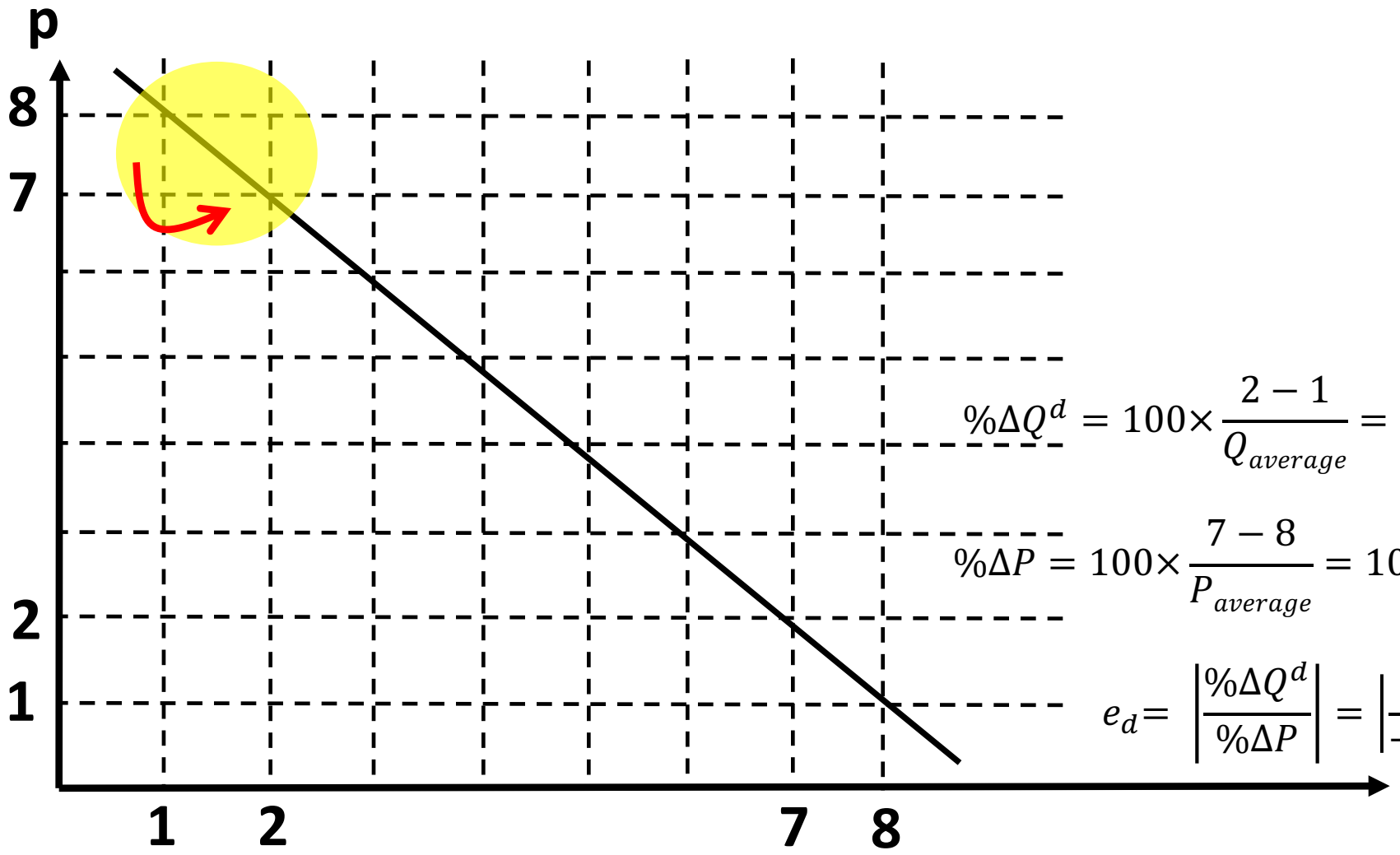


$$\%\Delta Q^d = 100 \times \frac{1-2}{Q_{average}} = 100 \times \frac{1-2}{1.5} = -66.6\%$$

$$\%\Delta P = 100 \times \frac{8-7}{P_{average}} = 100 \times \frac{8-7}{7.5} = 13.33\%$$

$$e_d = \left|\frac{\%\Delta Q^d}{\%\Delta P}\right| = \left|\frac{-66.66}{13.33}\right| = 5$$

Elasticity – midpoint formula



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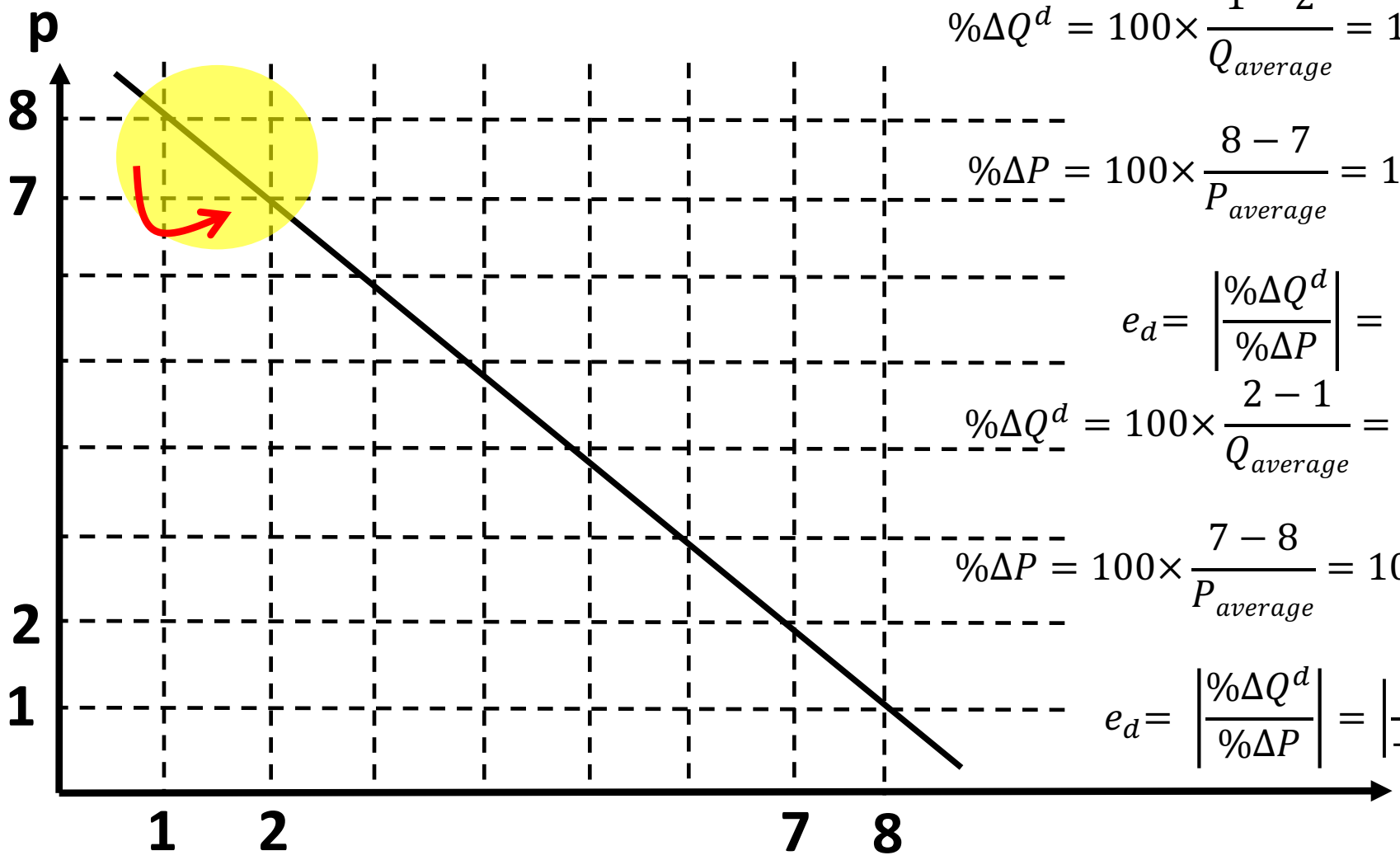
$$e_d = \left|\frac{\%\Delta Q^d}{\%\Delta P}\right| = \left|\frac{66.66}{-13.33}\right| = 5$$

Elasticity – midpoint formula



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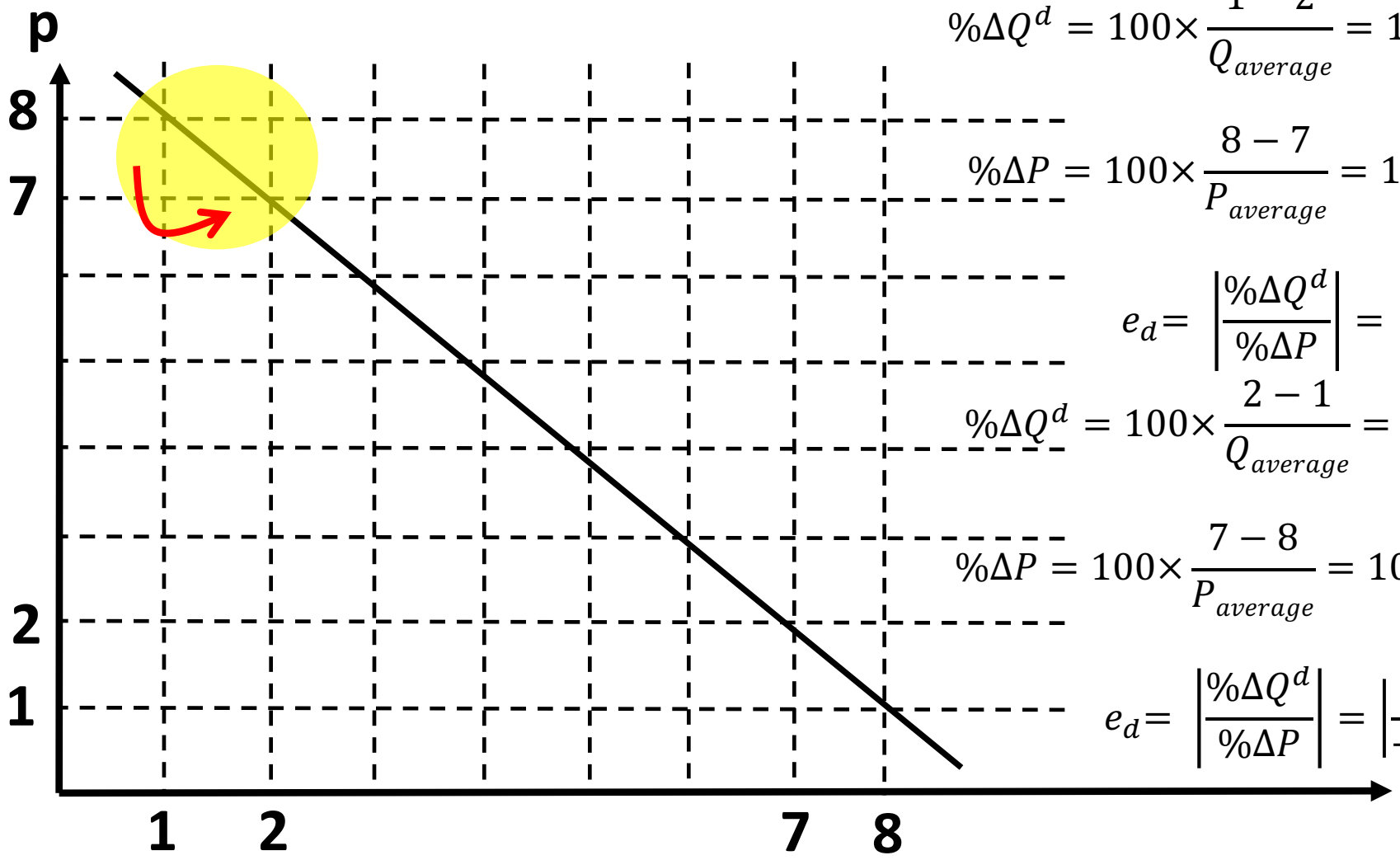

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$$\%\Delta P = 100 \times \frac{8-7}{P_{average}} = 100 \times \frac{8-7}{7.5} = 13.33\%$$

$$e_d = \left|\frac{\%\Delta Q^d}{\%\Delta P}\right| = \left|\frac{-66.66}{13.33}\right| = 5$$

$$\%\Delta Q^d = 100 \times \frac{2-1}{Q_{average}} = 100 \times \frac{-1}{1.5} = 66.6\%$$

$$\%\Delta P = 100 \times \frac{7-8}{P_{average}} = 100 \times \frac{-1}{7.5} = -13.33\%$$

$$e_d = \left|\frac{\%\Delta Q^d}{\%\Delta P}\right| = \left|\frac{66.66}{-13.33}\right| = 5$$

Elasticity - comments

- Direction matters!

- **Why is it useful?**

Elasticity - comments

- Direction matters!

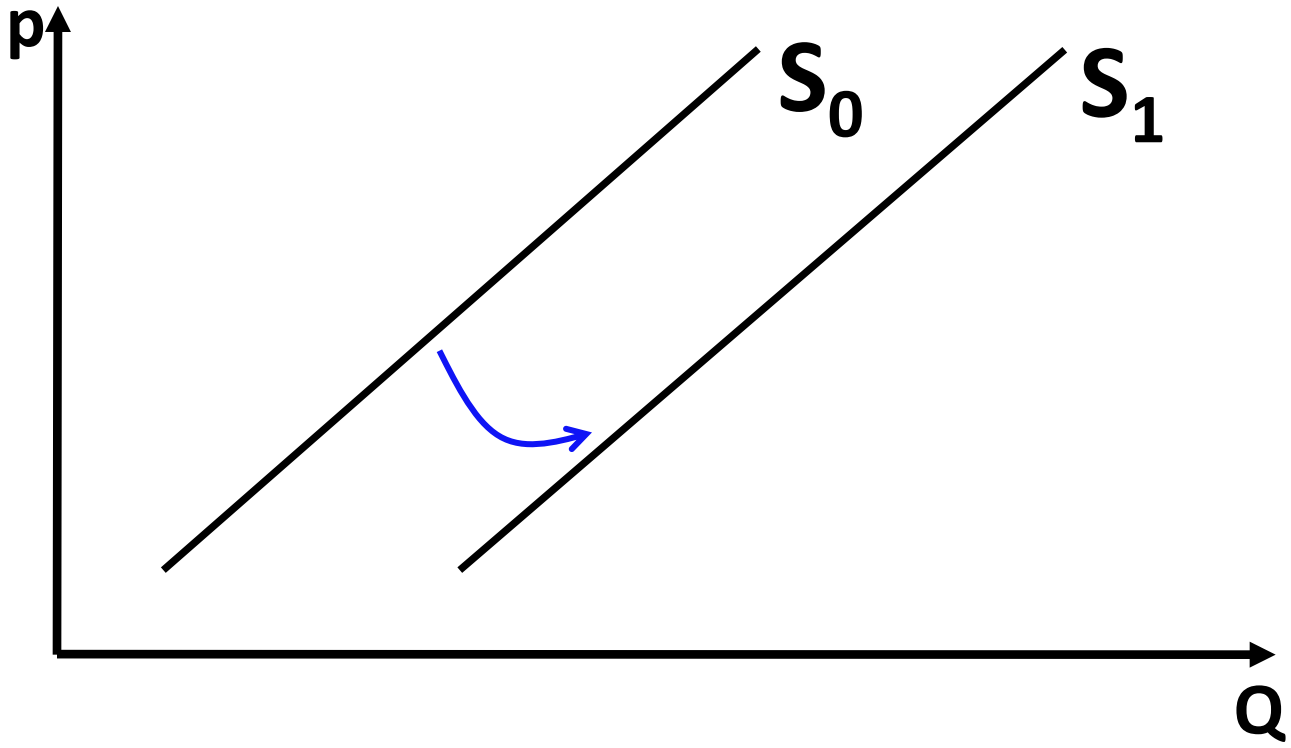
- **Why is it useful?**
  - If there are taxes or shifts, we know who is affected.
  - It also allows us to anticipate consequences of policies

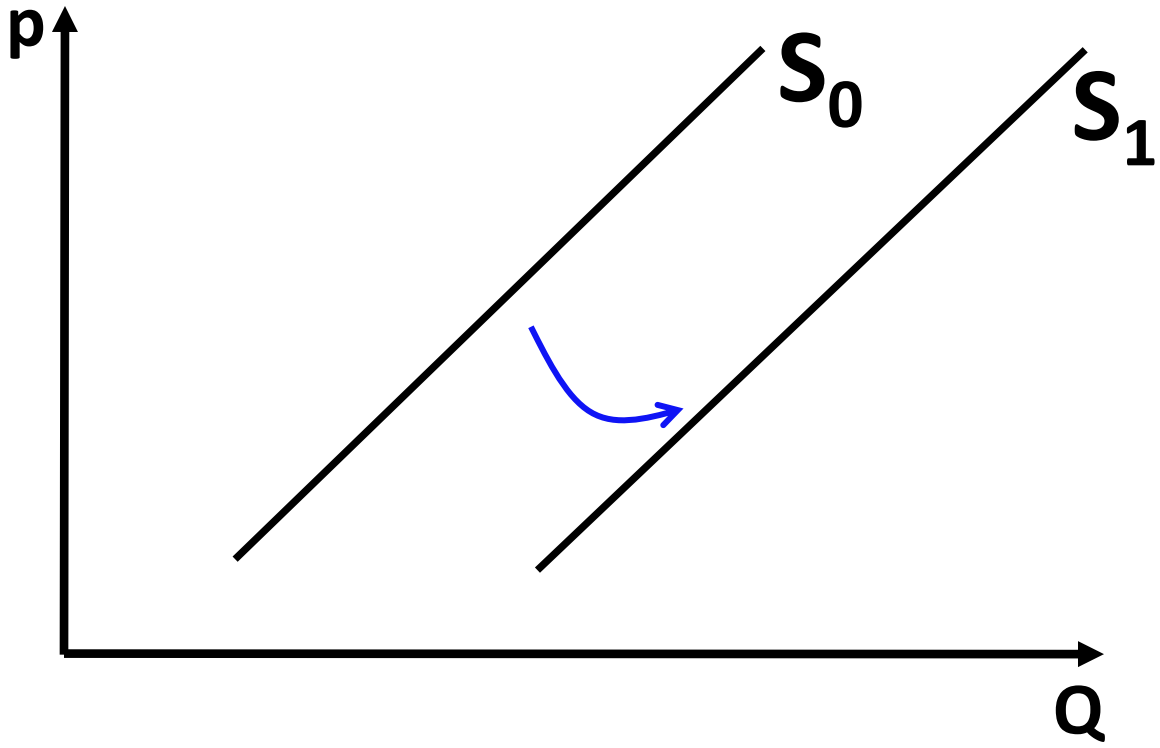
Elasticity - example

- Suppose the roads are very congested
- You want people to use public transport instead of private vehicles
- You double up supply of public transport
- Will this solve your problem?
- You can anticipate it if you know how demand looks like!

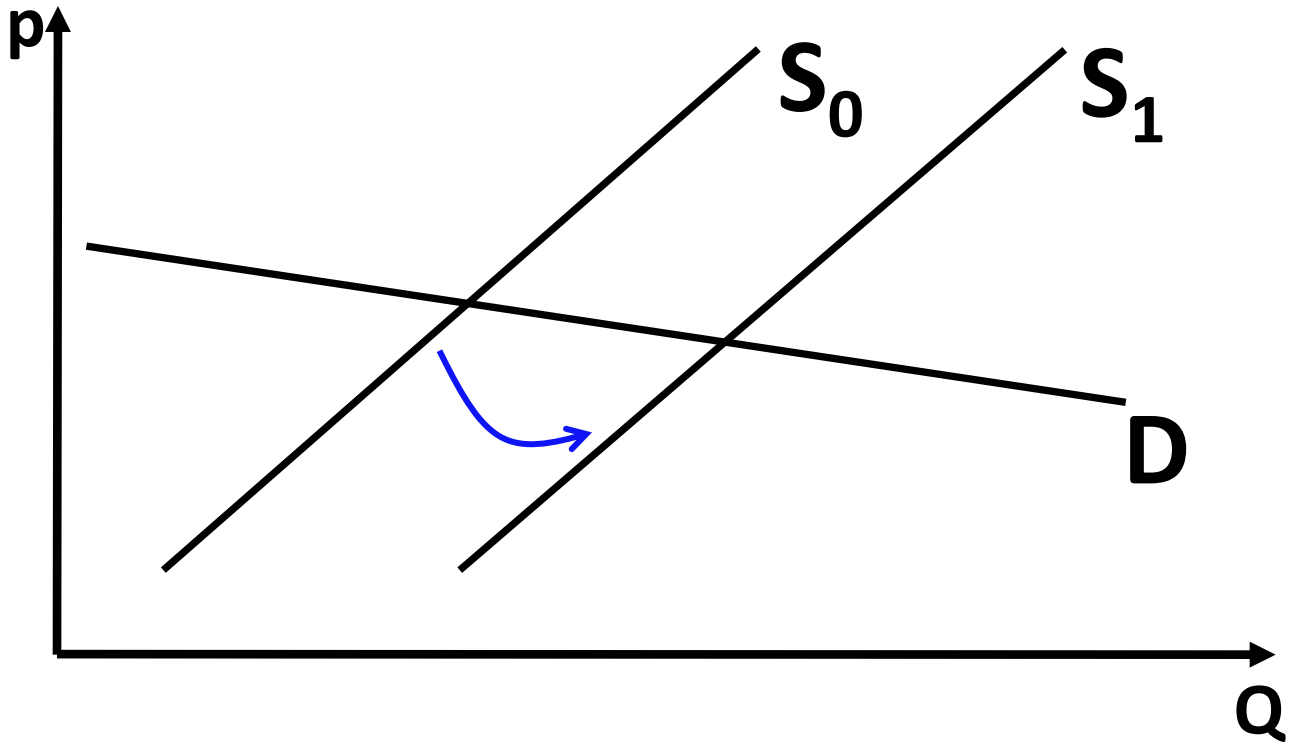
Elasticity - example

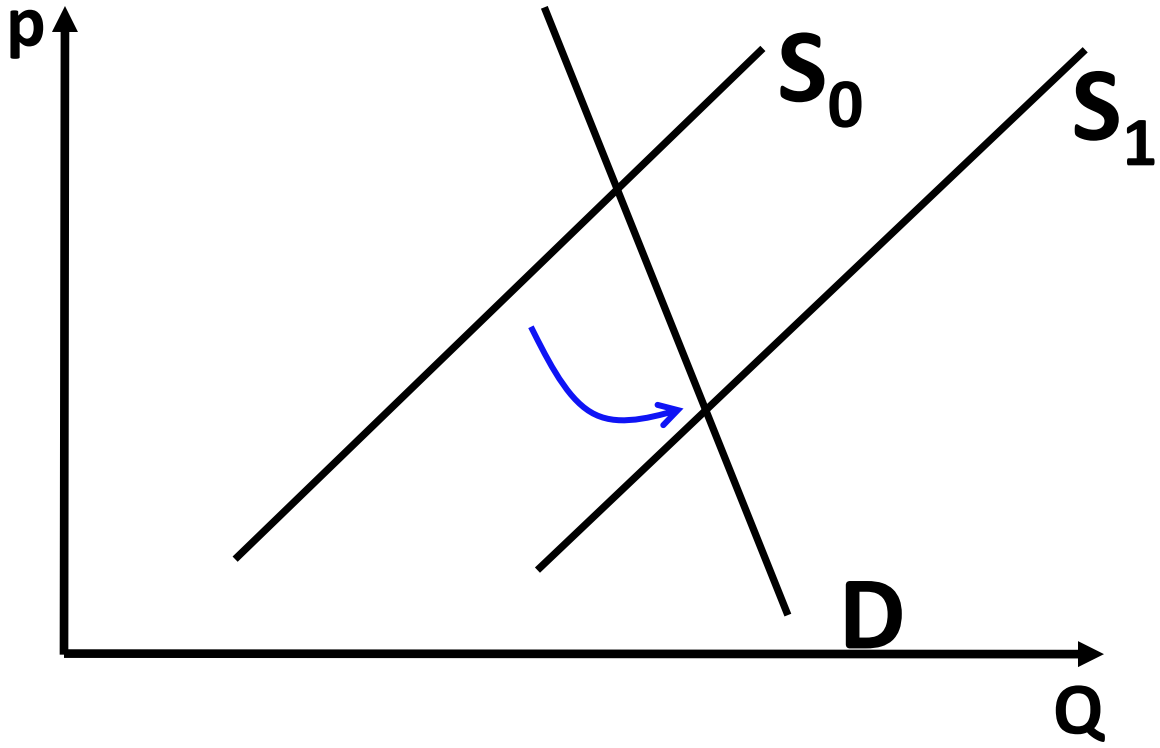
Elasticity – Public transport market



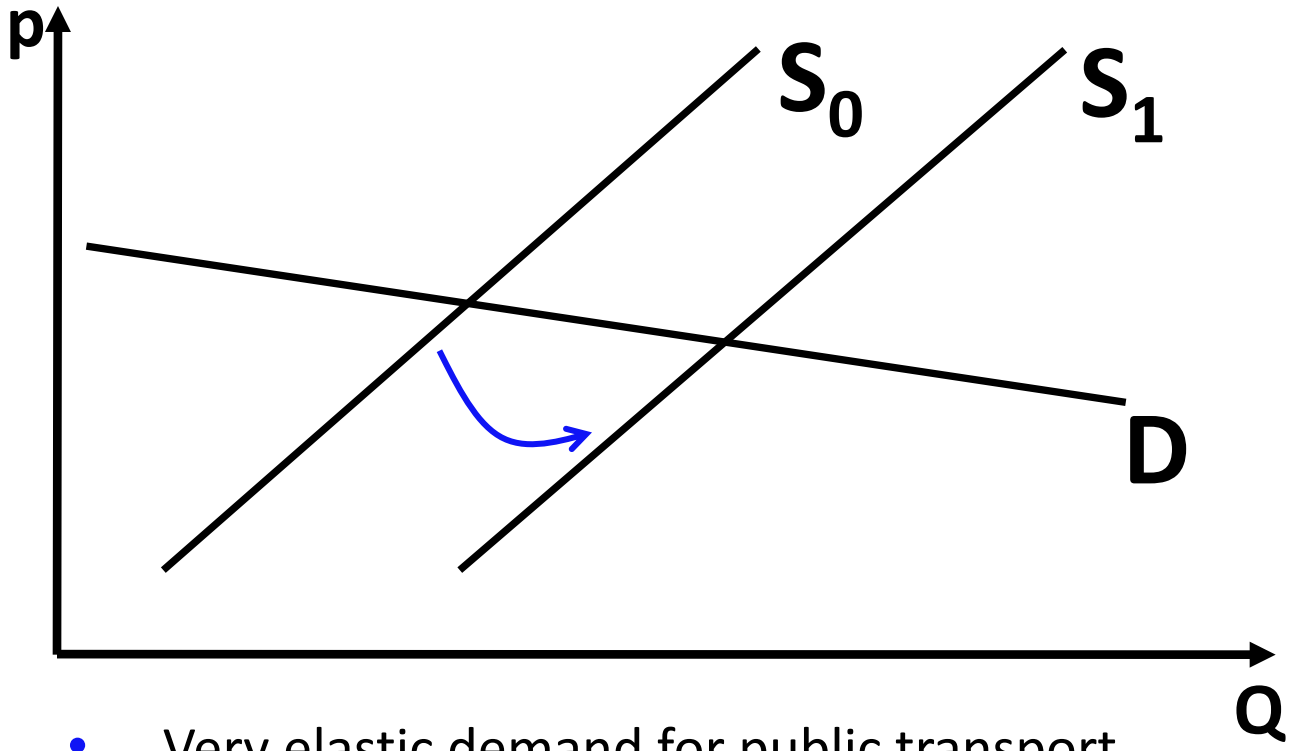


Elasticity – Public transport market

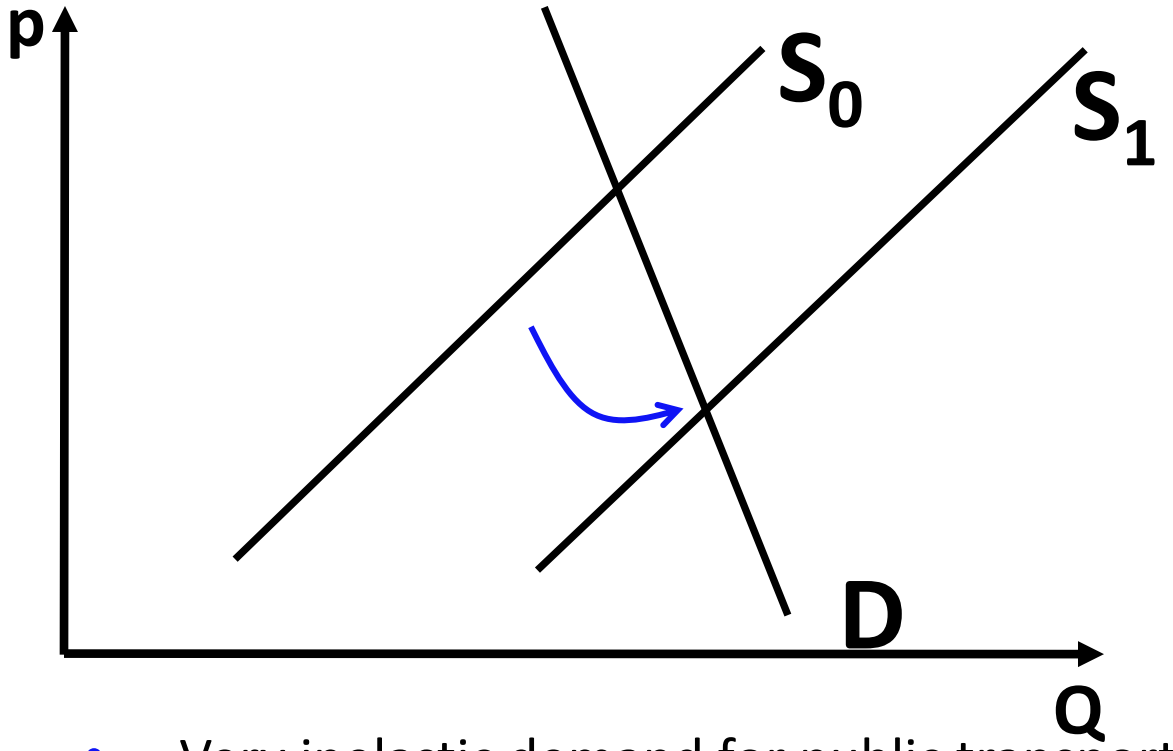




Elasticity – Public transport market

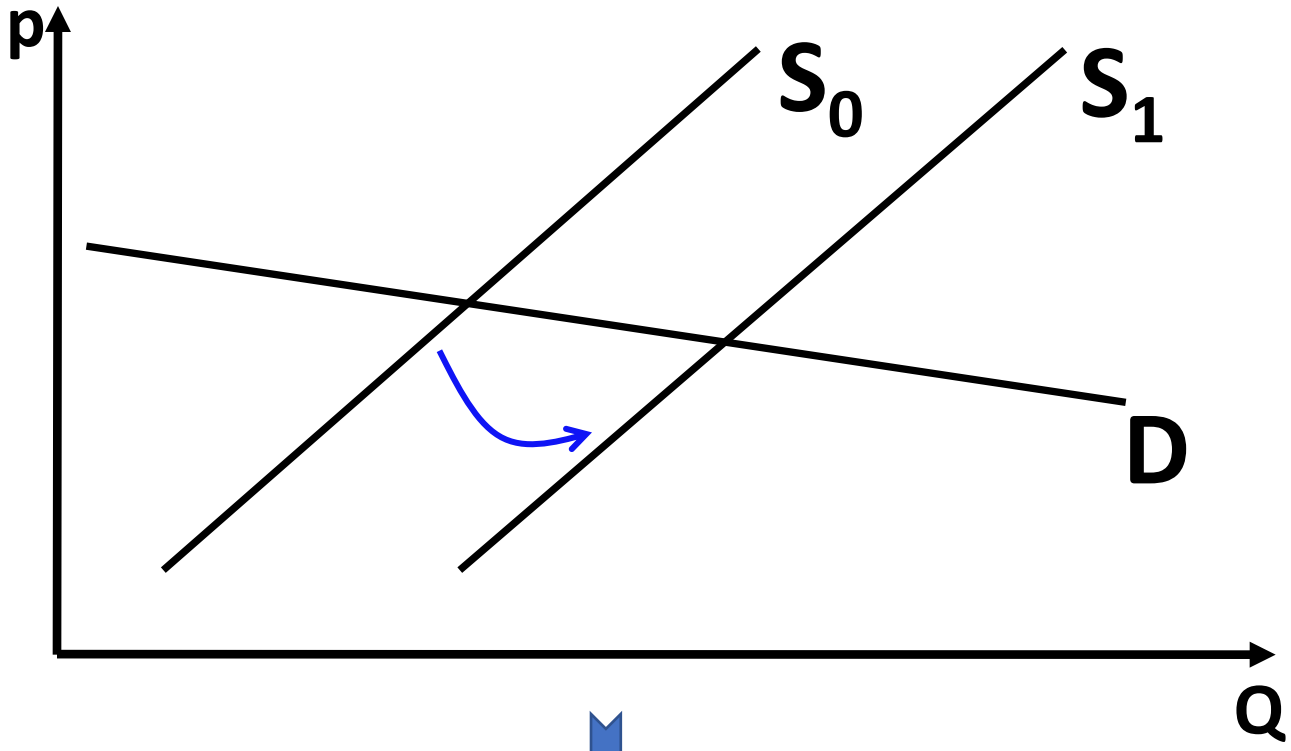


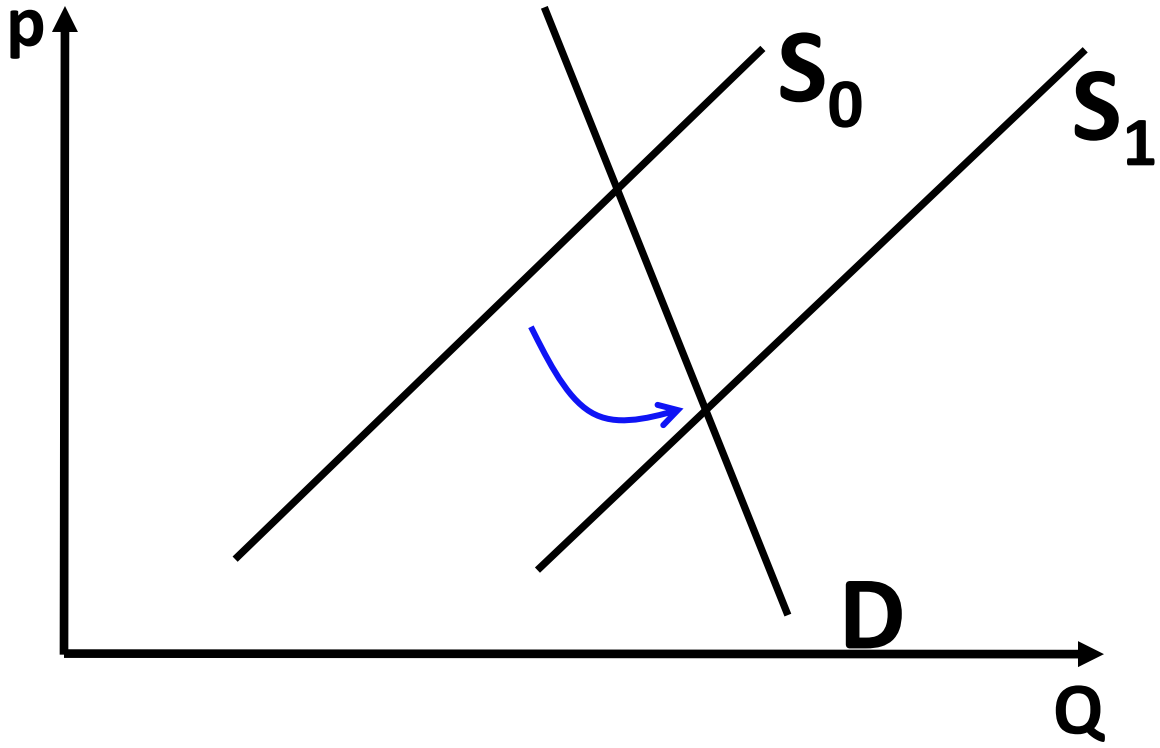
- Very elastic demand for public transport
- Doubling supply
  - Quantity nearly doubles
  - Price diminishes marginally



- Very inelastic demand for public transport
- Doubling supply
  - Quantity barely changes
  - Price diminishes dramatically

Elasticity – Public transport market





Correct scenario if your goal is to vacate the roads from cars

Welfare Economics

Are markets really useful in allocating goods?

Can we measure market benefits?

Both prefer <u>more</u> muffins to <u>fewer</u> muffins

Both prefer more muffins to fewer muffins

Is this a Pareto efficient allocation?

Now suppose we know <u>exactly</u> how much they value each muffin

	$5	$5
	$4	$4
	$3	$3
	$2	$2

	$5	**$5**
	**$4**	**$4**
	$3	**$3**
	**$2**	**$2**

Is this allocation a (market) efficient allocation?

	$5	$5
	$4	$4
	$3	$3
	$2	$2

Is this allocation a (market) efficient allocation?

	$5	$5
	$4	$4
	$3	$3
	$2	$2

Hi Prof! This muffins look so good ah!

Is this allocation a (market) efficient allocation?

	$5	$5
	$4	$4
	$3	$3
	$2	$2

Shut up Weasley!

Is this allocation a (market) efficient allocation?

	$5	$5
	$4	$4
	$3	$3
	$2	$2

I bet they're damn shiok. I pay you $5 for one. Come on prof!

Is this allocation a (market) efficient allocation?

	$5	$5
	$4	$4
	$3	$3
	$2	$2

Hmmmm …. Those Weasleys stink, but maybe I could do that….

Is this allocation a (market) efficient allocation?

	$5	$5
	$4	$4
	$3	$3
	$2	$2

Is this allocation a (market) efficient allocation?

	$5	$5
	$4	$4
	$3	$3
	$2	$2

Thanks prof!

Is this allocation a (market) efficient allocation?

	$5	$5
	$4	$4
	$3	$3
	$2	$2

Actually,… I'll pay you $4 for another one. Can?

Is this allocation a (market) efficient allocation?

	$5	$5
	$4	$4
	$3	$3
	$2	$2

You're so greedy Weasley!

Is this allocation a (market) efficient allocation?

	$5	$5
	$4	$4
	$3	$3
	$2	$2

But… ok!

Is this allocation a (market) efficient allocation?

	$5	$5
	$4	$4
	$3	$3
	$2	$2

But… ok!

Is this allocation a (market) efficient allocation?

	$5	$5
	$4	$4
	$3	$3
	$2	$2

So shiok prof!

Is this allocation a (market) efficient allocation?

	$5	$5
	$4	$4
	$3	$3
	$2	$2

Can I get one more? I pay you $3

Is this allocation a (market) efficient allocation?

	$5	$5
	$4	$4
	$3	$3
	$2	$2

What? Get off now, will ya? Pay me $4 or no deal, Weasley!

Is this allocation a (market) efficient allocation?

	$5	$5
	$4	$4
	$3	3
	$2	$2

Ok Prof, no worries. No deal. Thank you!

Is this allocation a (market) efficient allocation?

	$5	$5
	$4	$4
	$3	$3
	$2	$2

Note: $ allows us to achieve Pareto improvements

Is this allocation a (market) efficient allocation?

	$5	$5
	$4	$4
	$3	$3
	$2	$2

Note: $ allows us to achieve Pareto improvements.

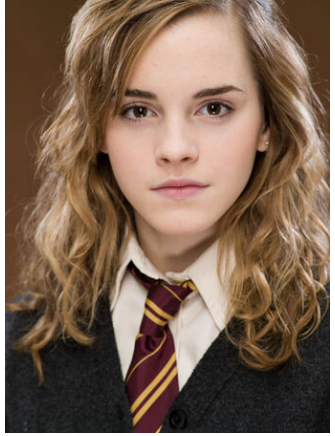
All transactions make them both better off.

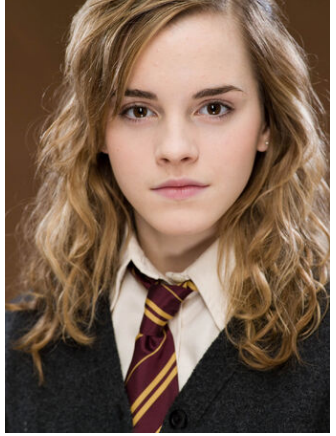
Is this allocation a (market) efficient allocation?

	$5	$5
	$4	$4
	$3	$3
	$2	$2

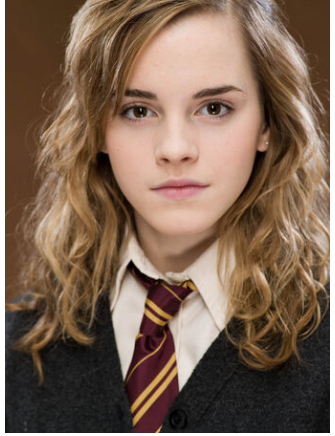
When no further transactions are made → market efficiency

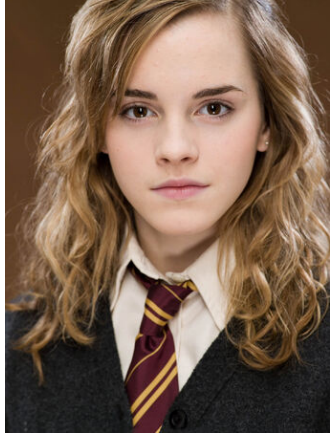
Let’s see a (slightly) more general example next

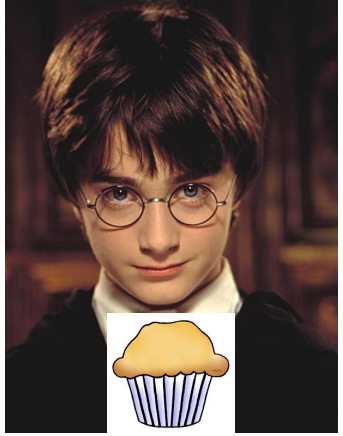
				
	$4	$6	$5	$8
	$3	$5	$4	$6
	$2	$4	$3	$4
	$1	$1	$2	$2

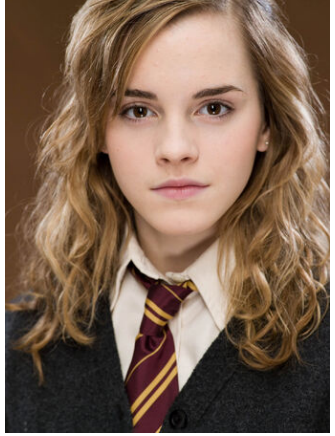


If we let them trade freely, what is going to happen?

				
	$4	$6	$5	$8
	$3	$5	$4	$6
	$2	$4	$3	$4
	$1	$1	$2	$2

				
	$4	$6	$5	$8
	$3	$5	$4	$6
	$2	$4	$3	$4
	$1	$1	$2	$2

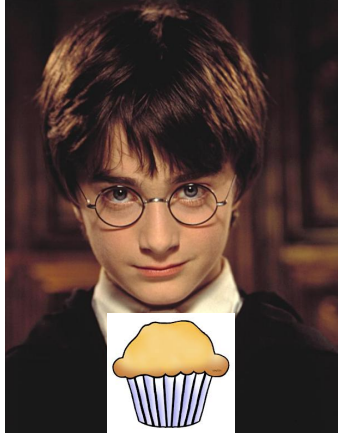


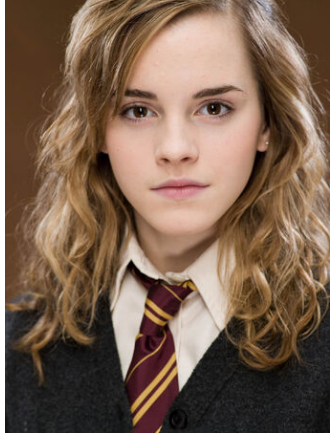


	$4	**$6**	**$5**	**$8**
	$3	**$5**	**$4**	**$6**
	$2	**$4**	**$3**	**$4**
	$1	**$1**	**$2**	**$2**

Market allocates goods efficiently:

Those who value them <u>most</u> get them





$4	$6	$5	$8
$3	$5	$4	$6
$2	$4	$3	$4
$1	$1	$2	$2

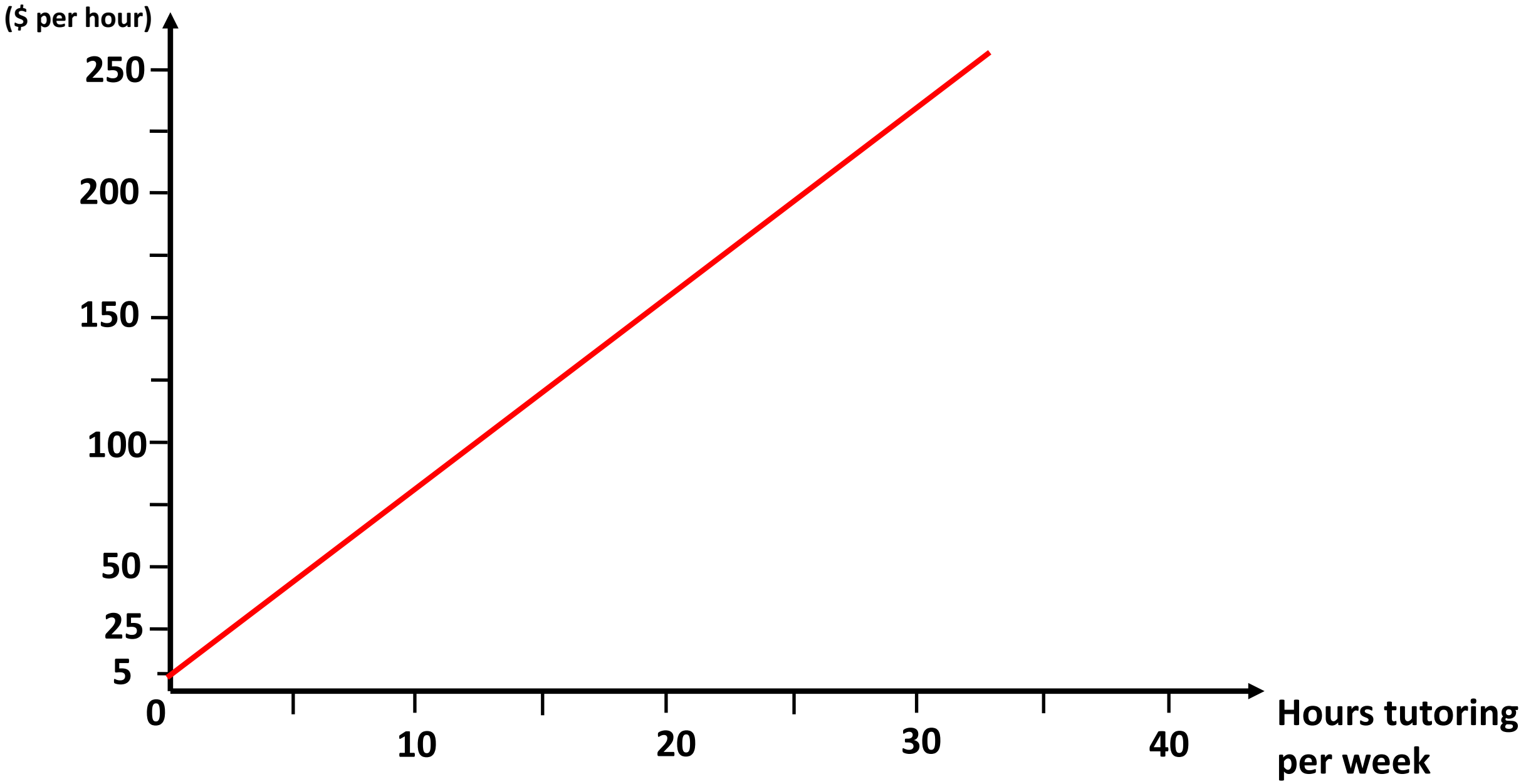
- **If we did the experiment in class, we would see that, eventually, those willing to pay most for the muffins would get them.**

- **In the real markets, of course, people don't go around asking who is willing to pay how much for each muffin: this happens through the "invisible hand"**

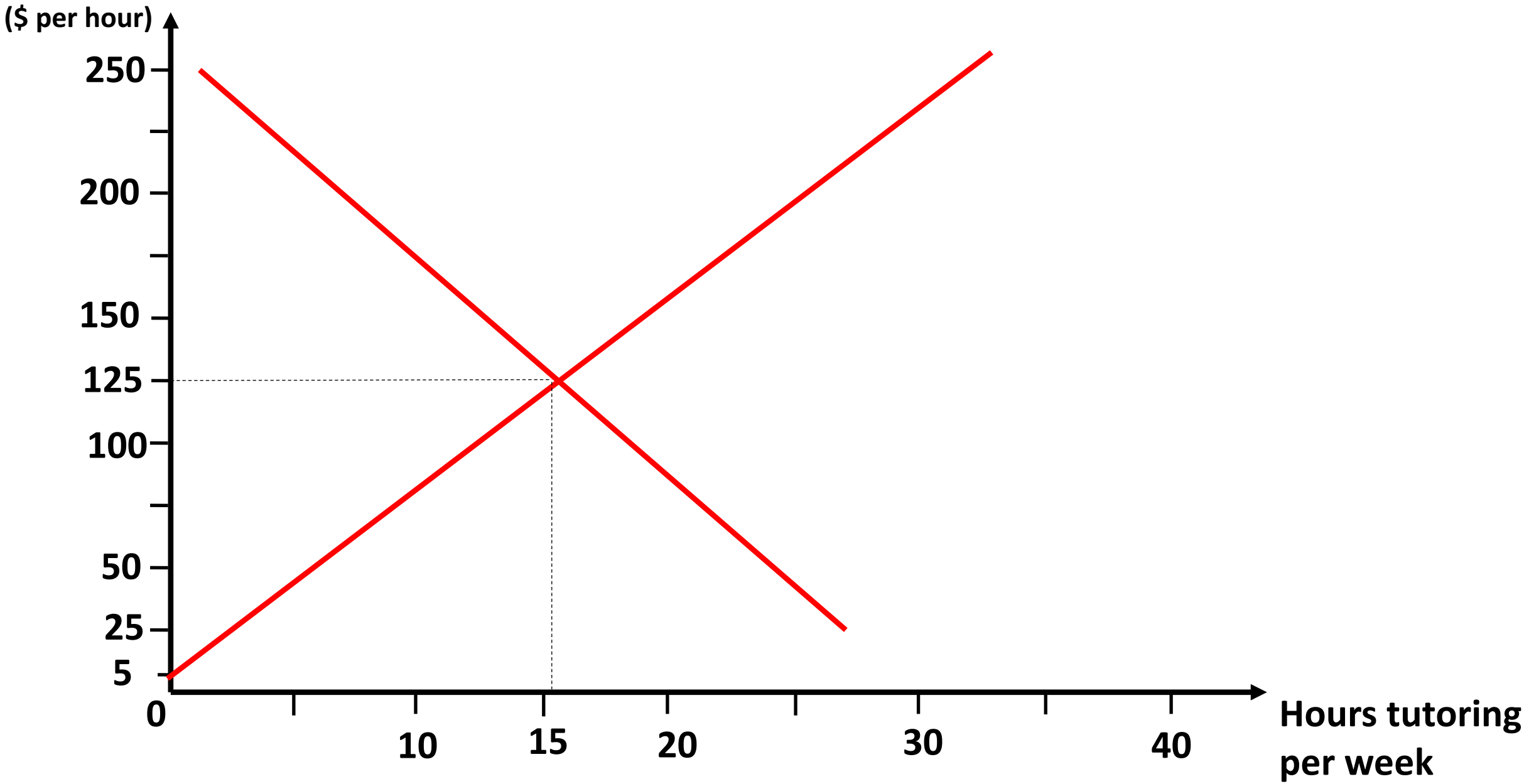
- **Perfectly competitive market ⟹ Efficient allocation**
- **A good is *allocated efficiently* when units are consumed by those who value them the most.**
- **Recall: efficiency ≠ fairness**

- **Perfectly competitive market ⟹ Efficient allocation**
- **Equilibrium quantity maximizes total benefits (for sellers and for consumers)**
- **We are going to see this next**

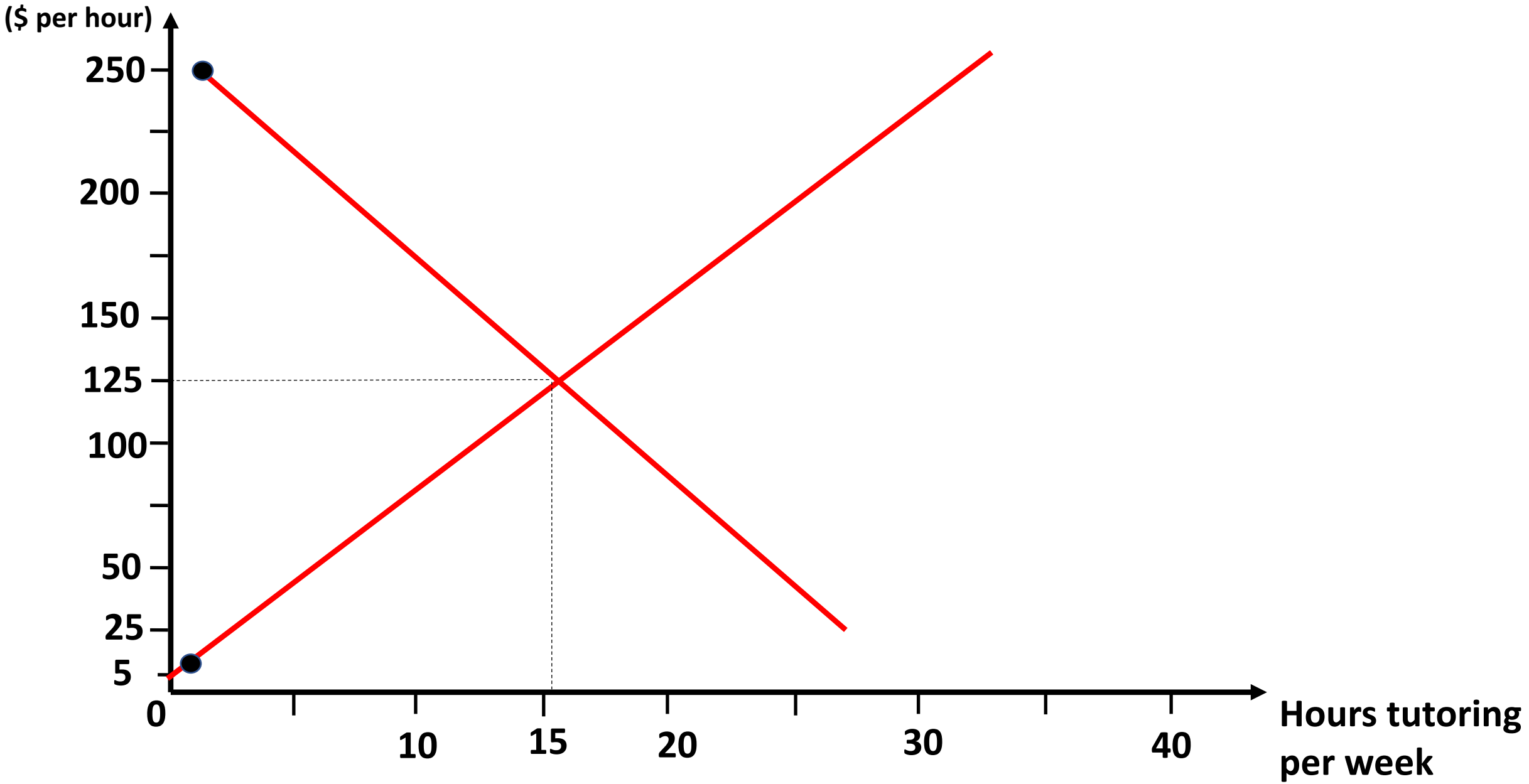
Market for tutoring – Spring 2020



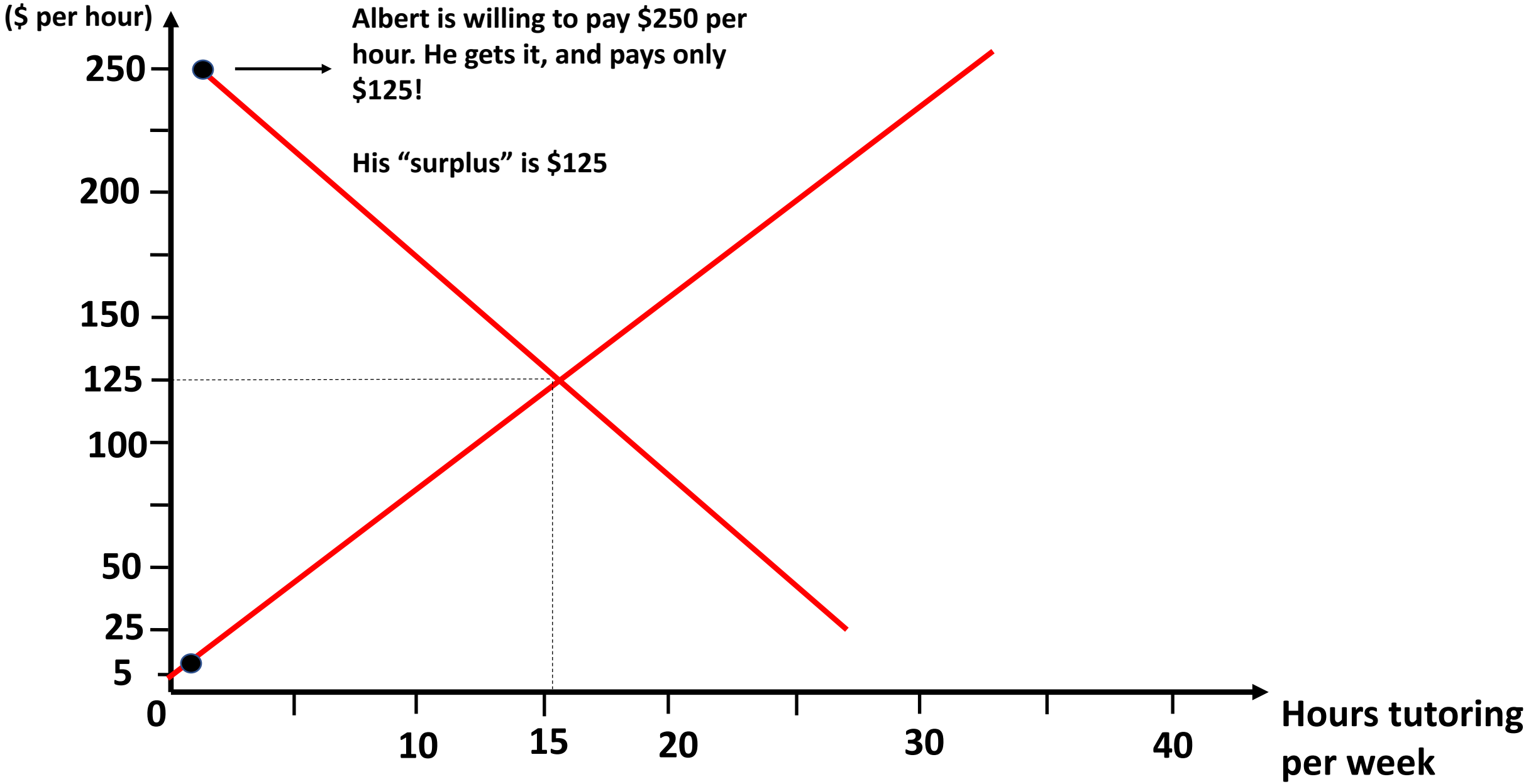
Market for tutoring – Spring 2020



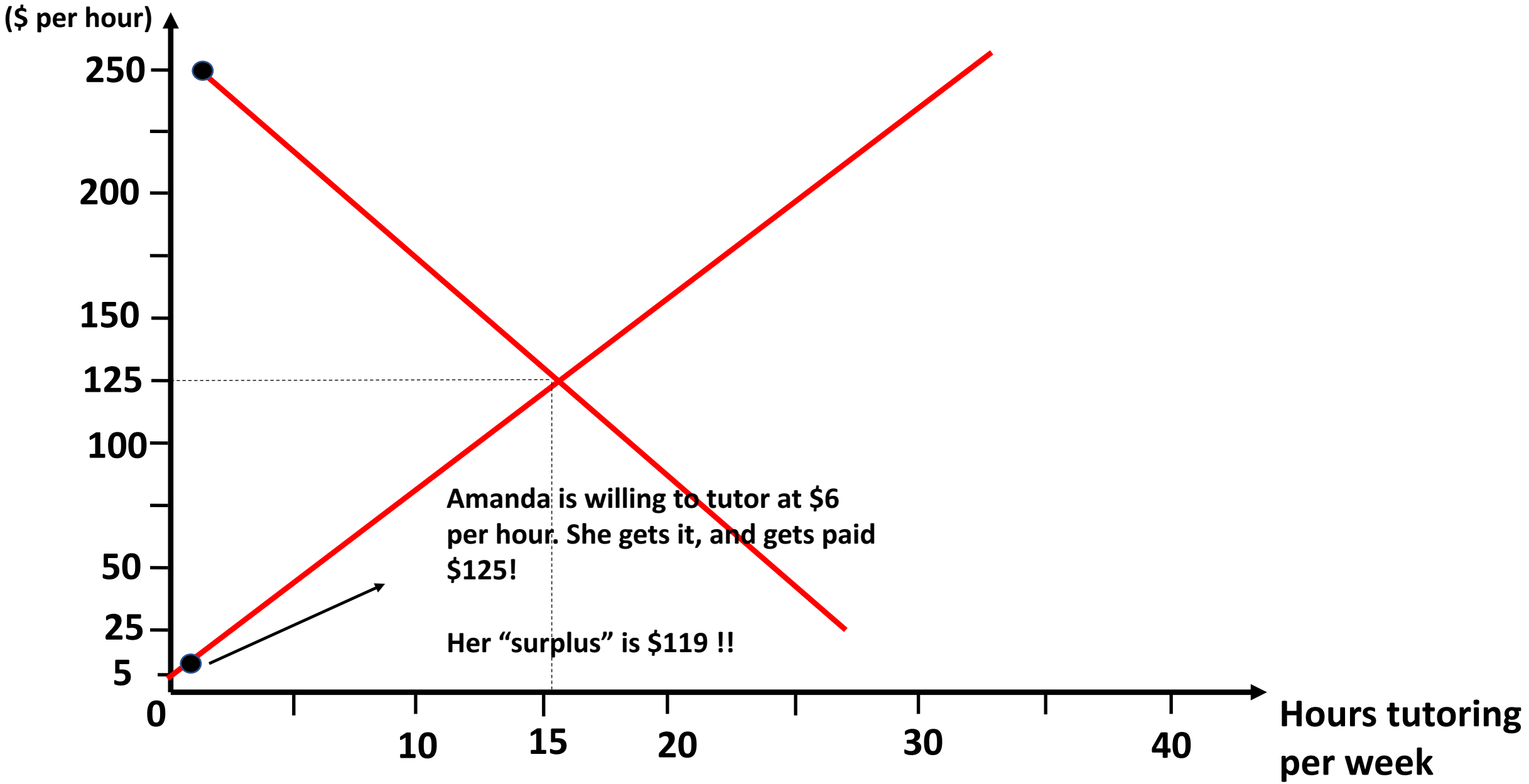
Market for tutoring – Spring 2020



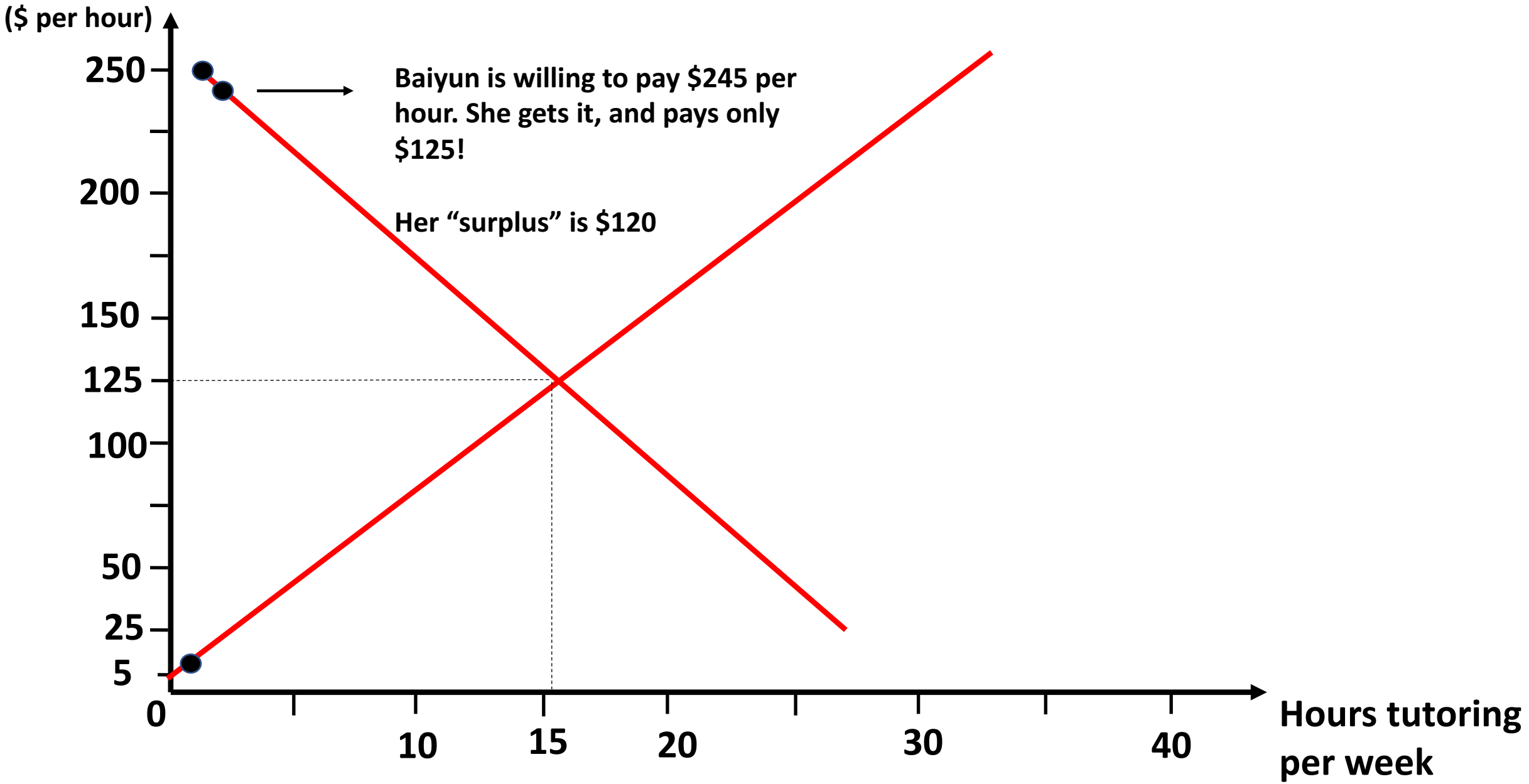
Price Market for tutoring – Spring 2020



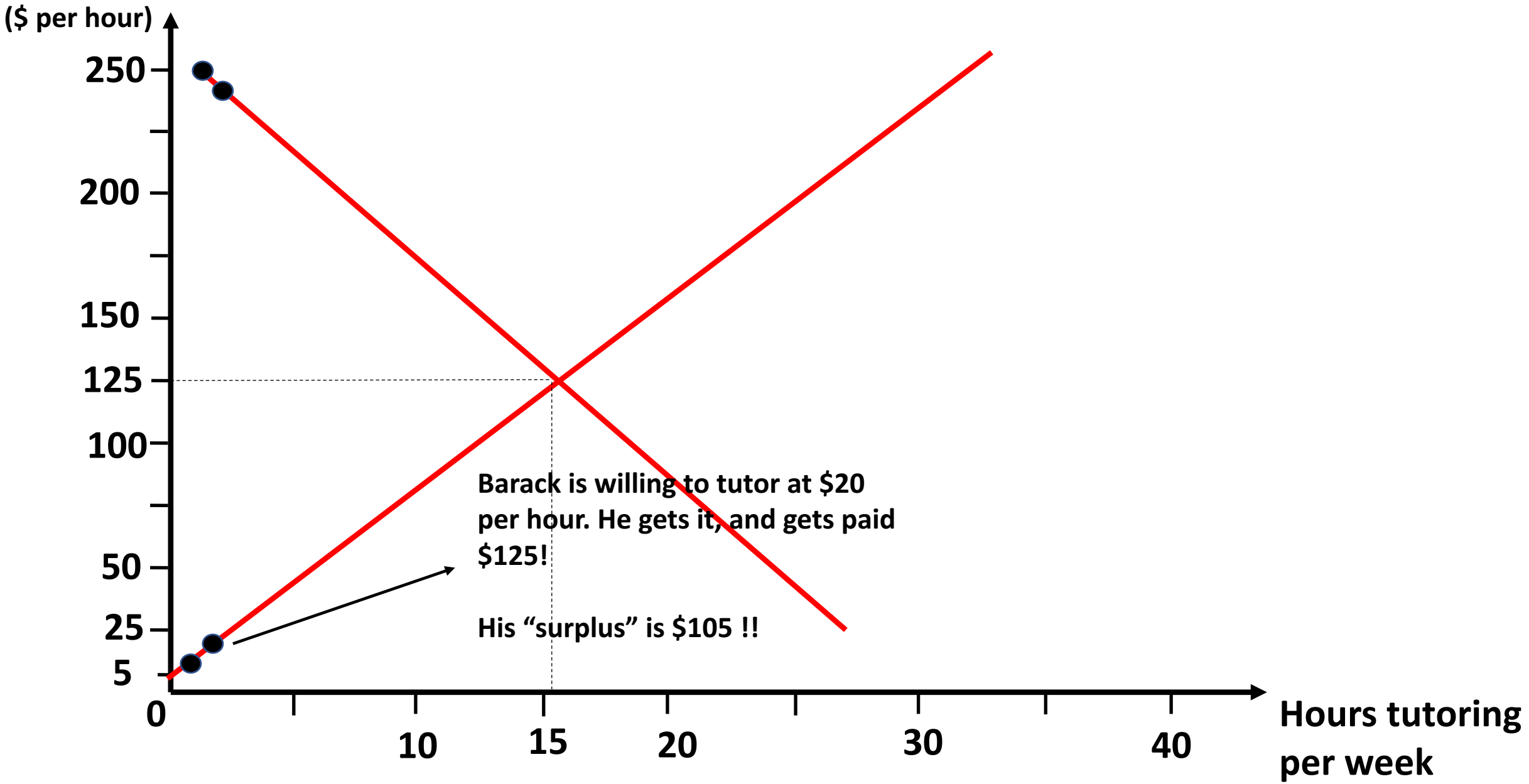
Market for tutoring – Spring 2020



Market for tutoring – Spring 2020



Market for tutoring – Spring 2020



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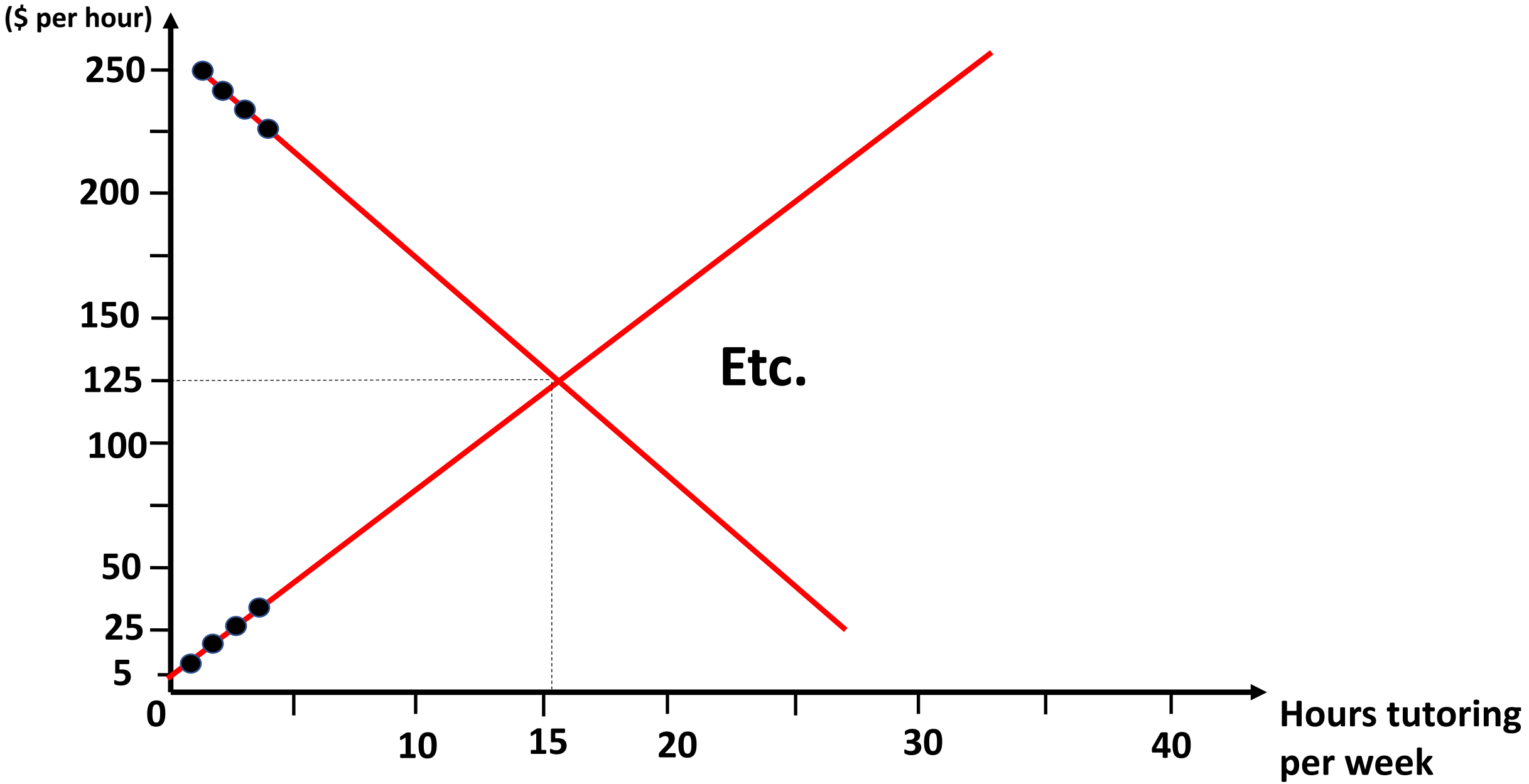

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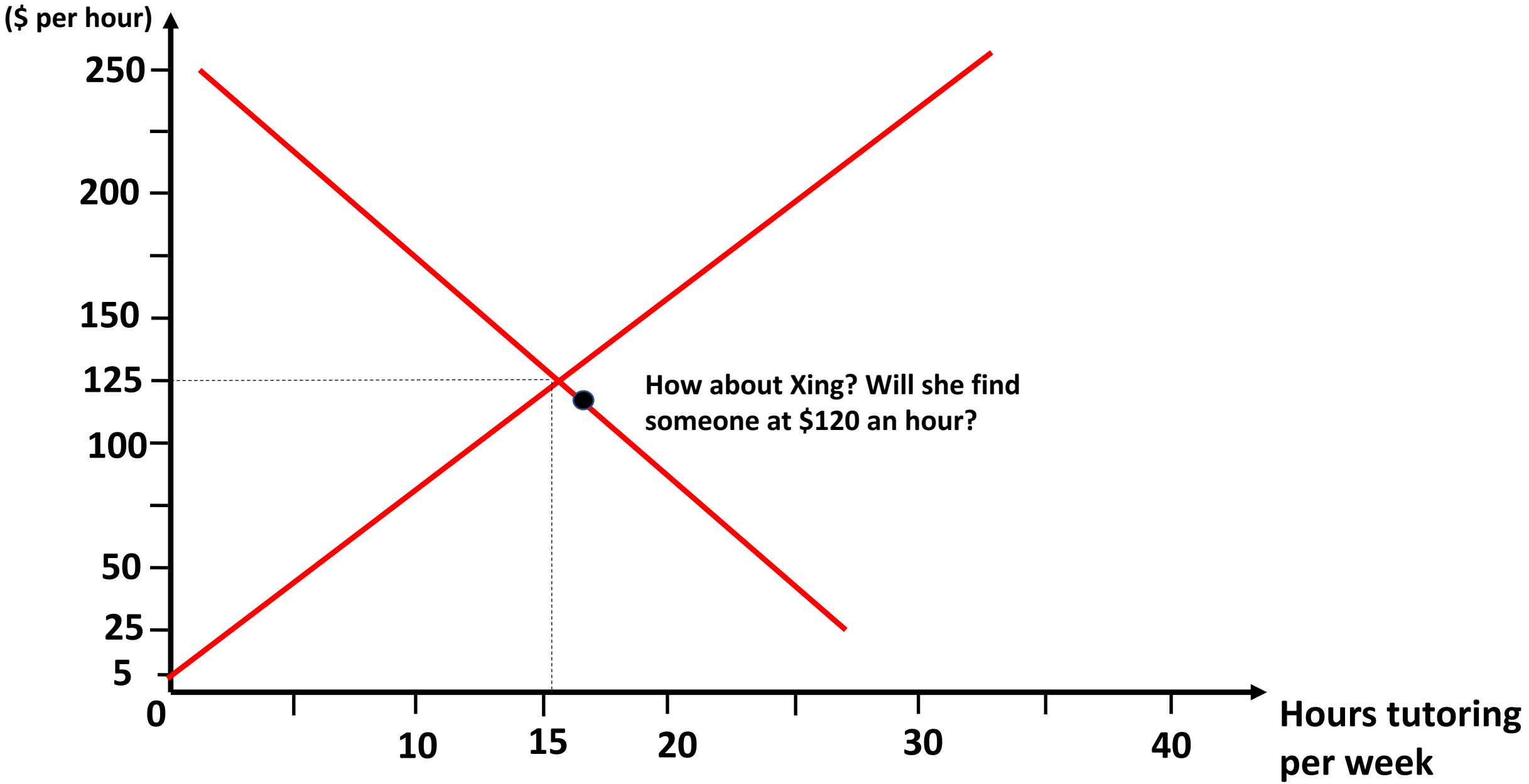
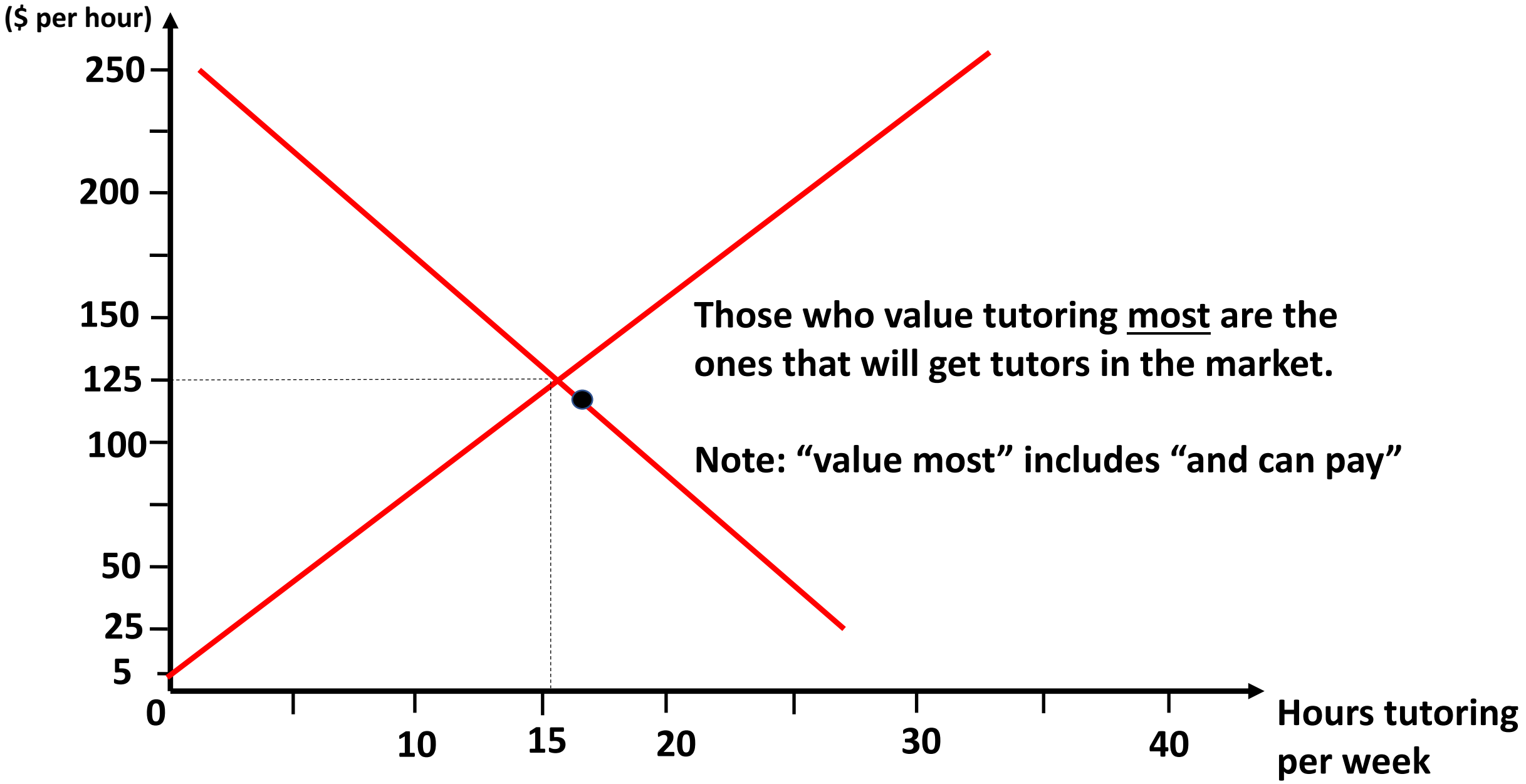


Market for tutoring – Spring 2020



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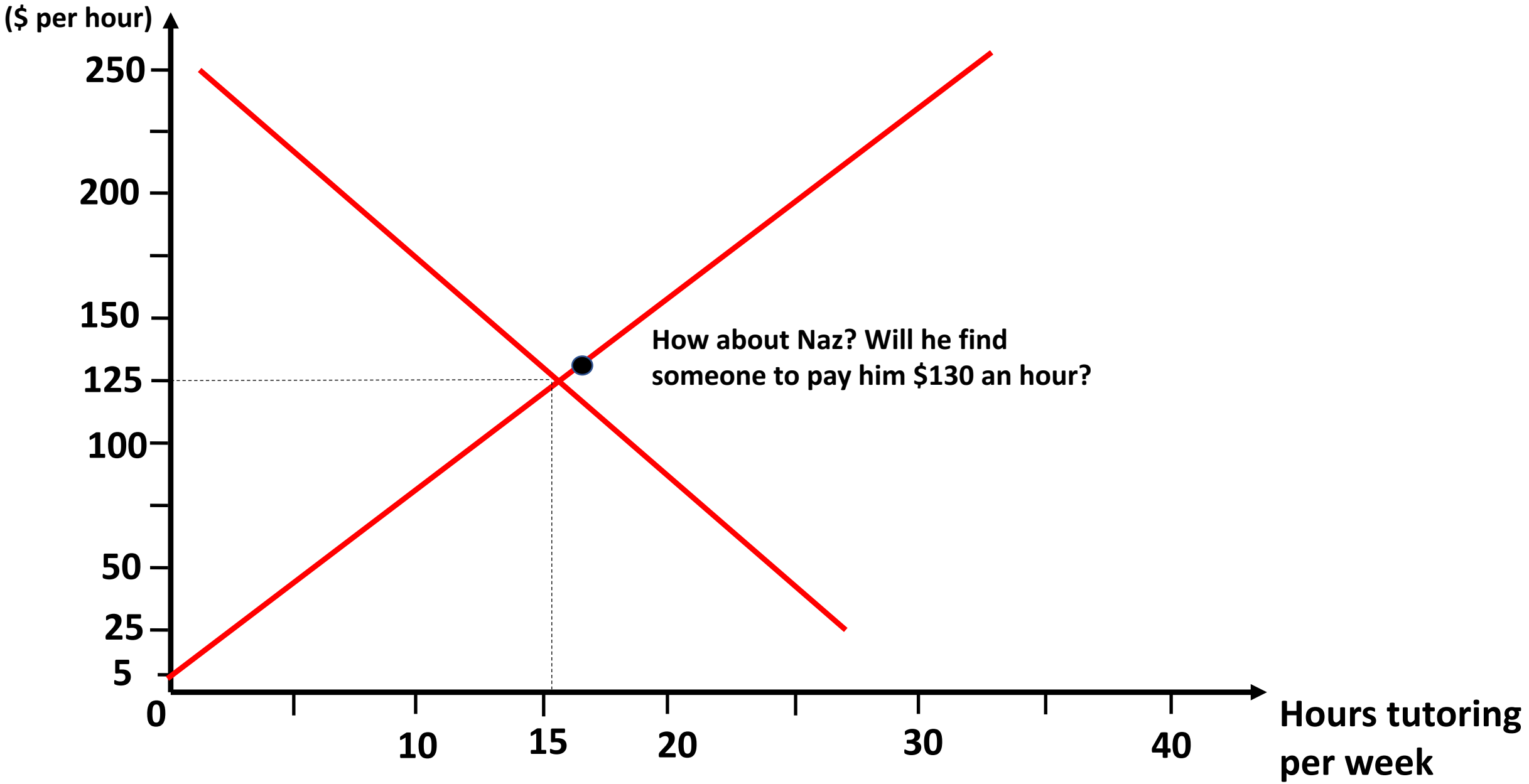
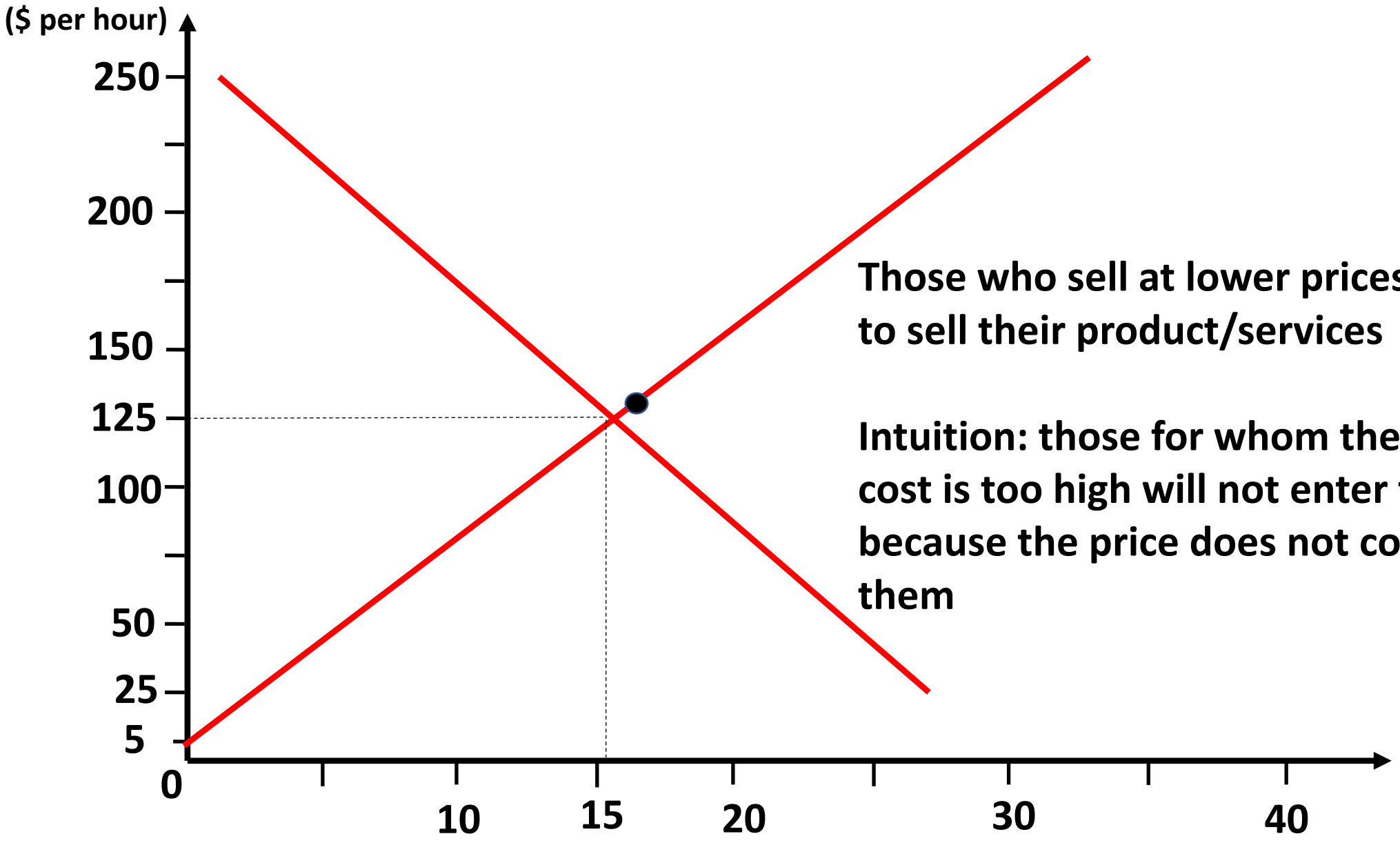


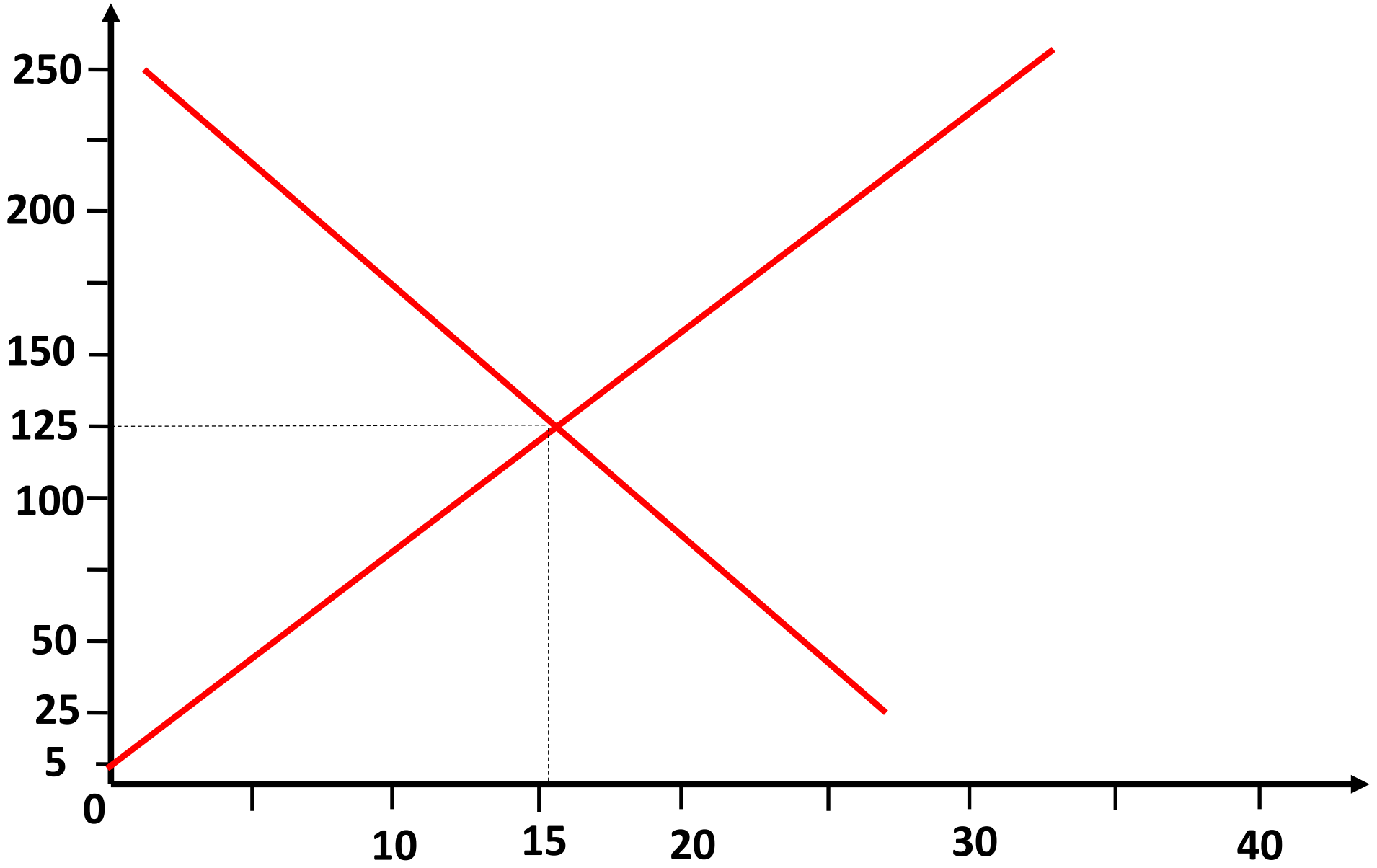
Market for tutoring – Spring 2020



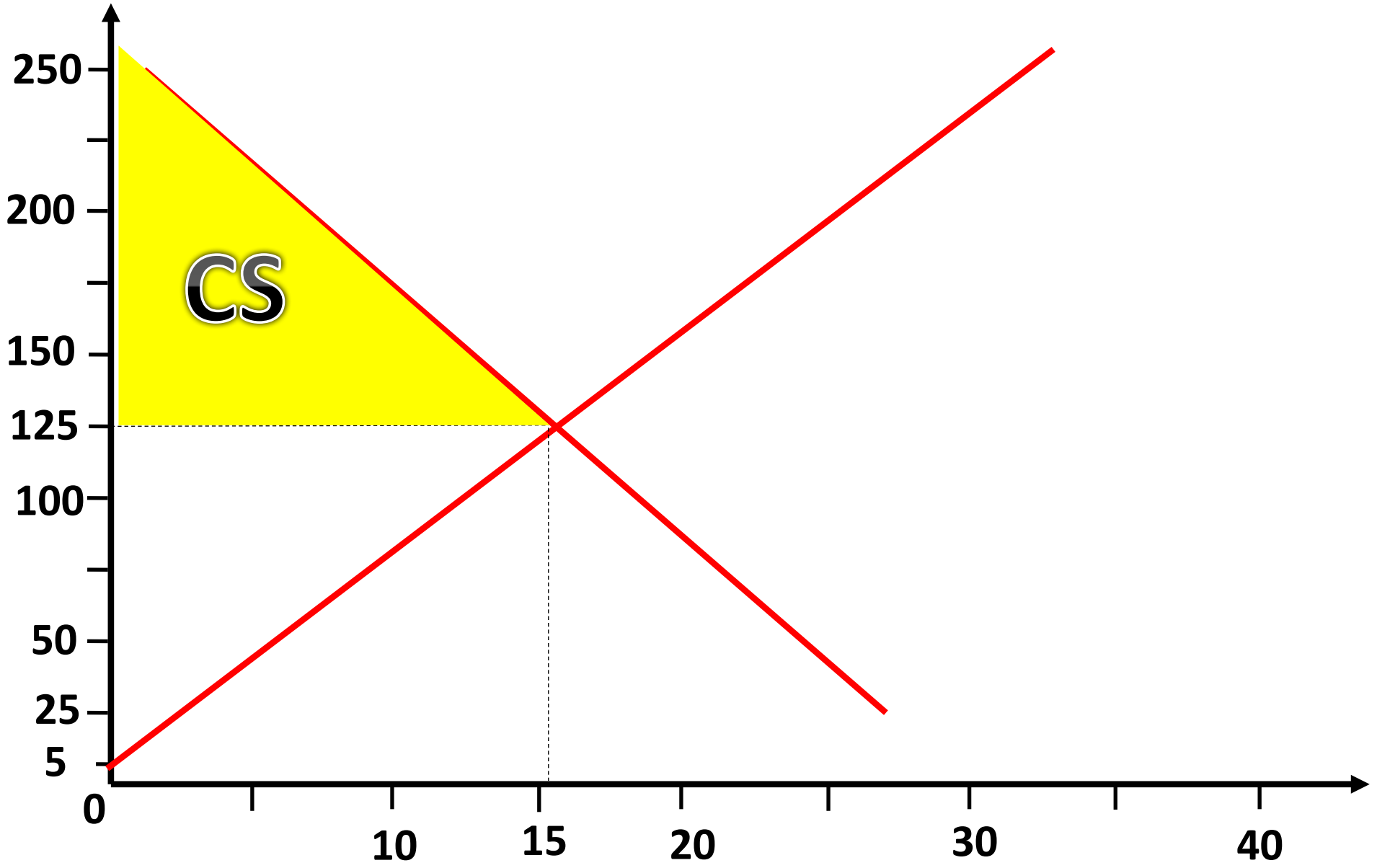
Those who sell at lower prices will manage to sell their product/services

Intuition: those for whom the opportunity cost is too high will not enter the market because the price does not compensate them

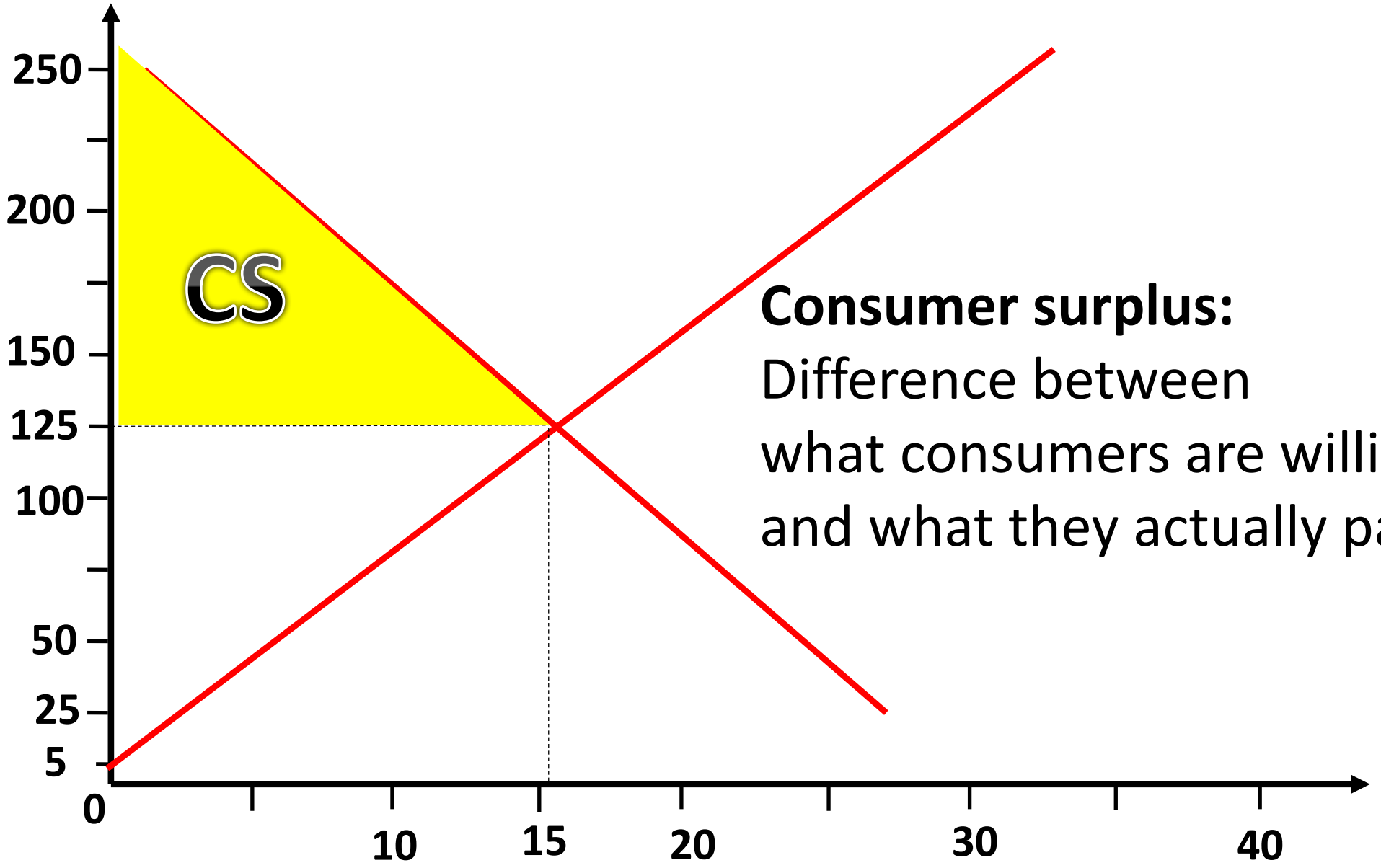
Generally (next slides)



Price

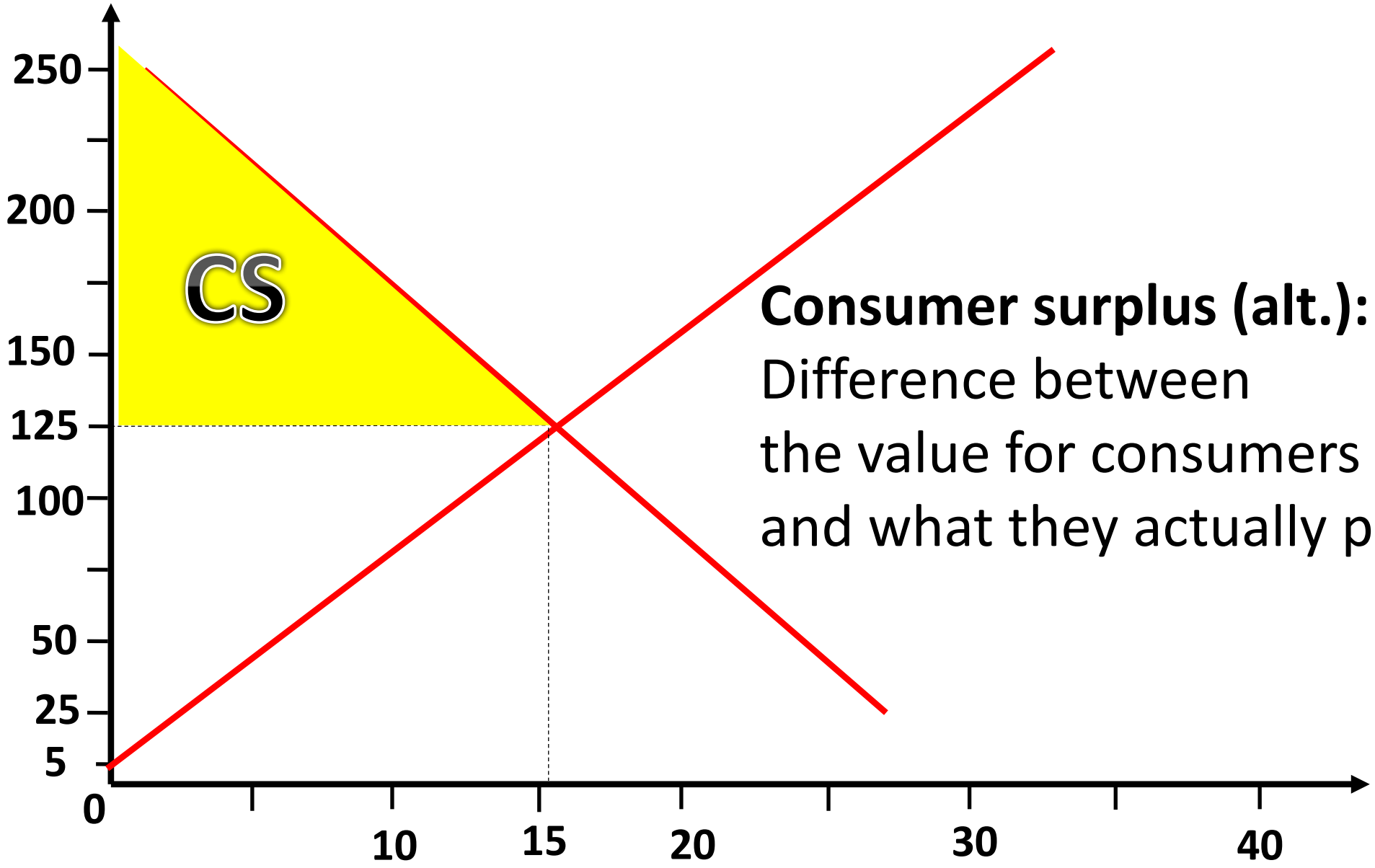


Price



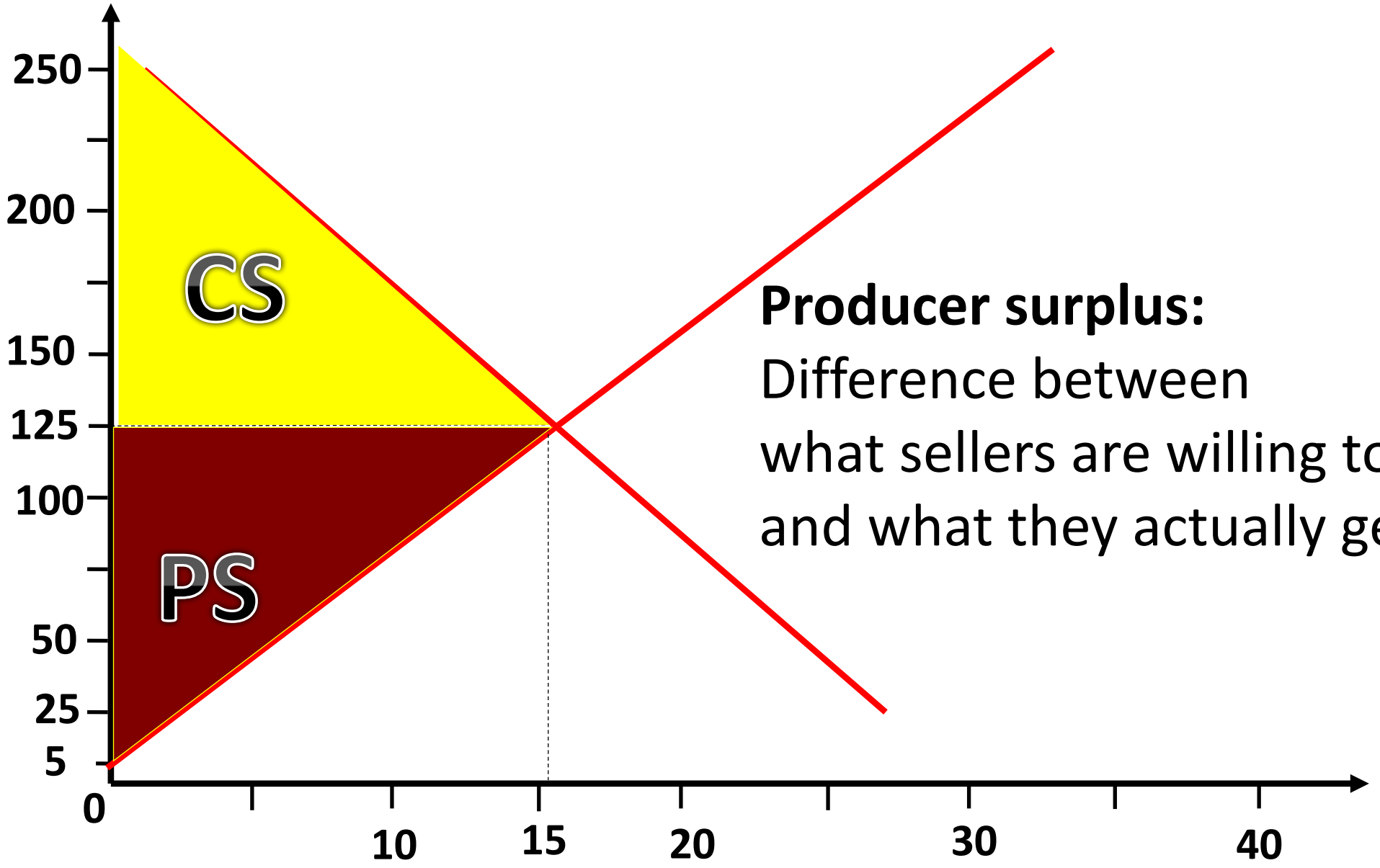
Consumer surplus:
Difference between
what consumers are willing to pay
and what they actually pay

Price

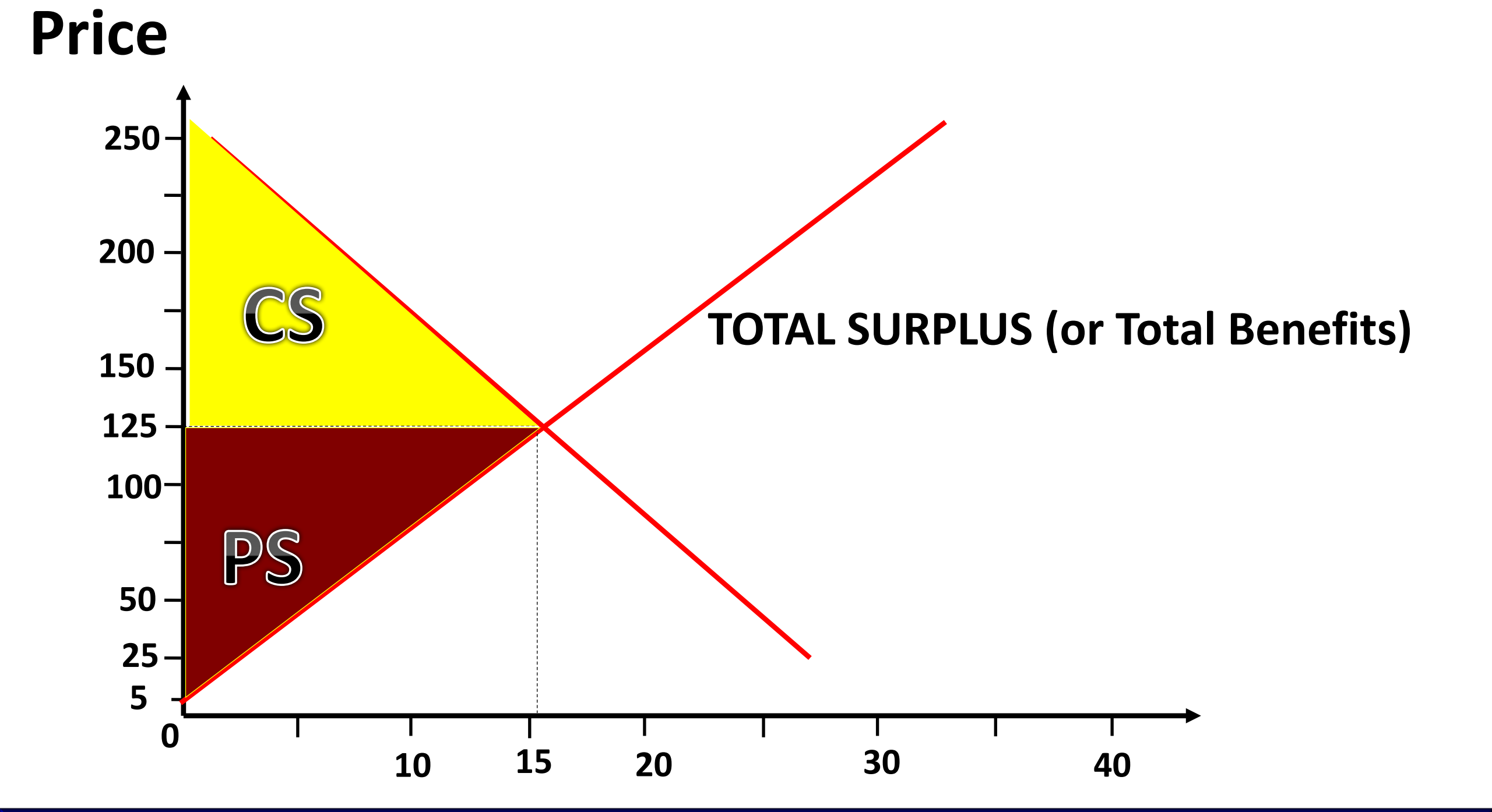


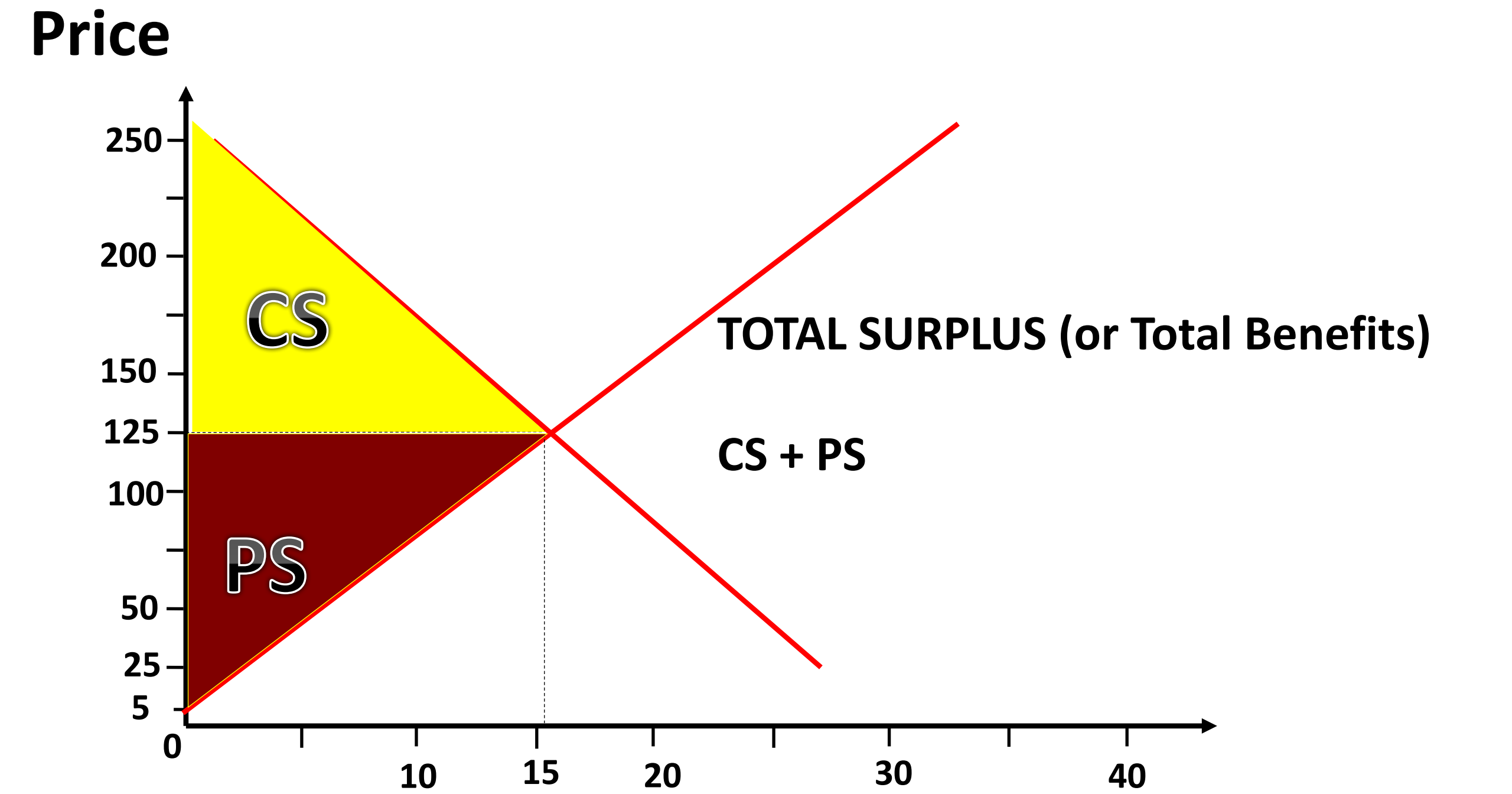
Consumer surplus (alt.):
Difference between
the value for consumers
and what they actually pay

Price



Producer surplus:
Difference between
what sellers are willing to accept
and what they actually get paid


Price
250
200
150
125
100
50
25
5
0
10
15
20
30
40
CS
PS
TOTAL SURPLUS (or Total Benefits)

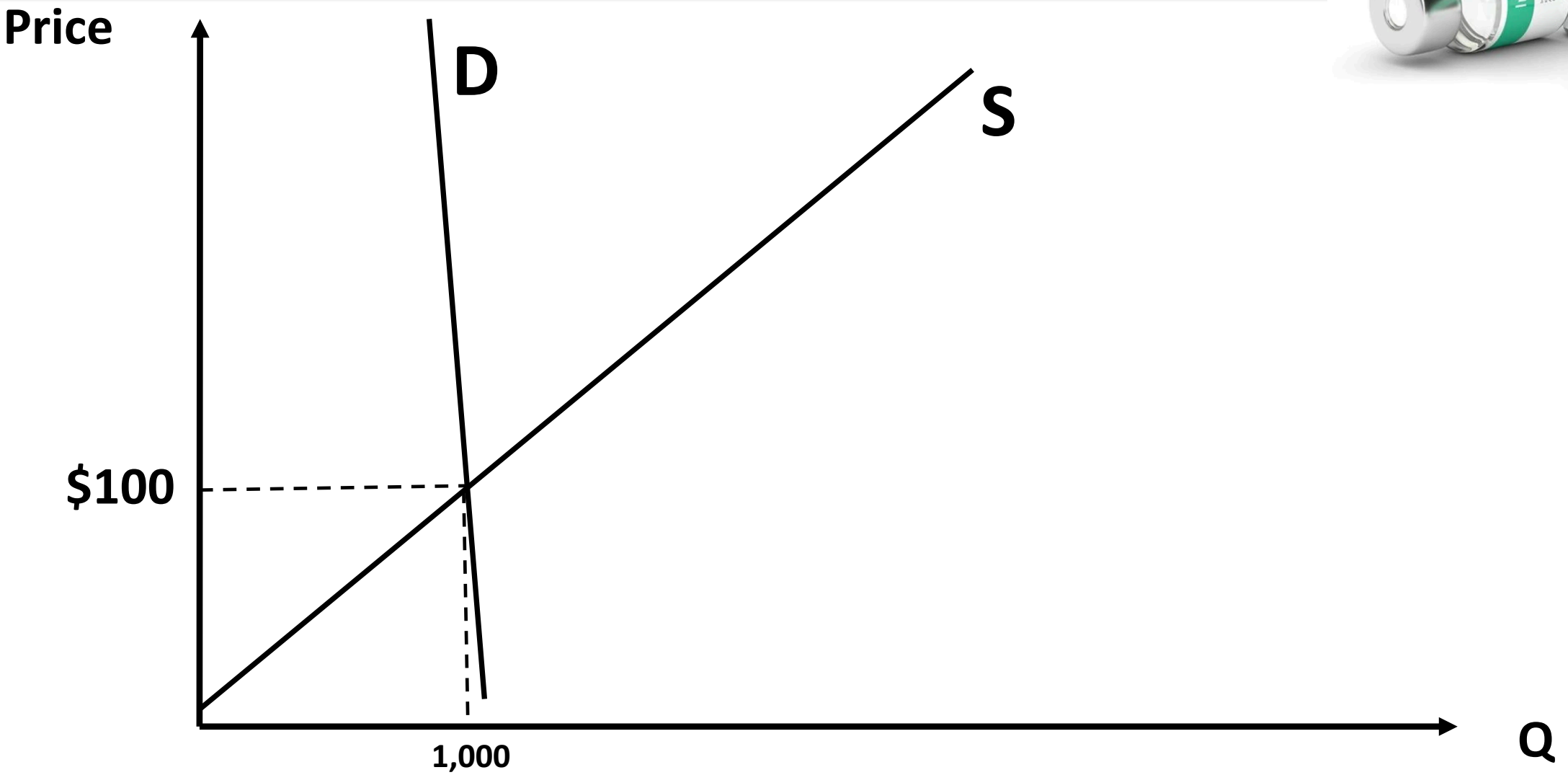

Price
250
200
150
125
100
50
25
5
0
10
15
20
30
40
CS
PS
TOTAL SURPLUS (or Total Benefits)
CS + PS

Two afterthoughts

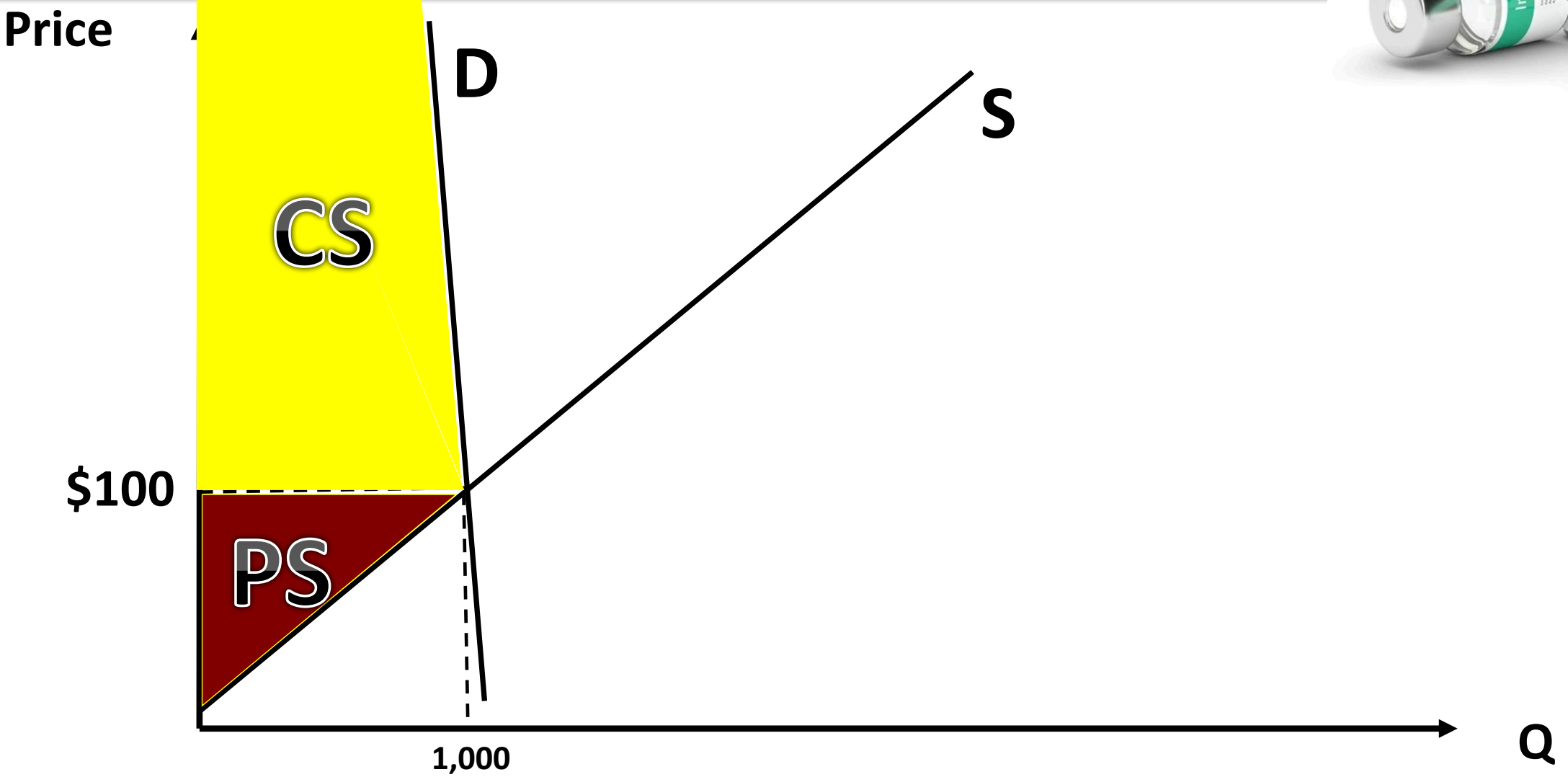
What if demand is very inelastic?

What if there is a positive demand shock?

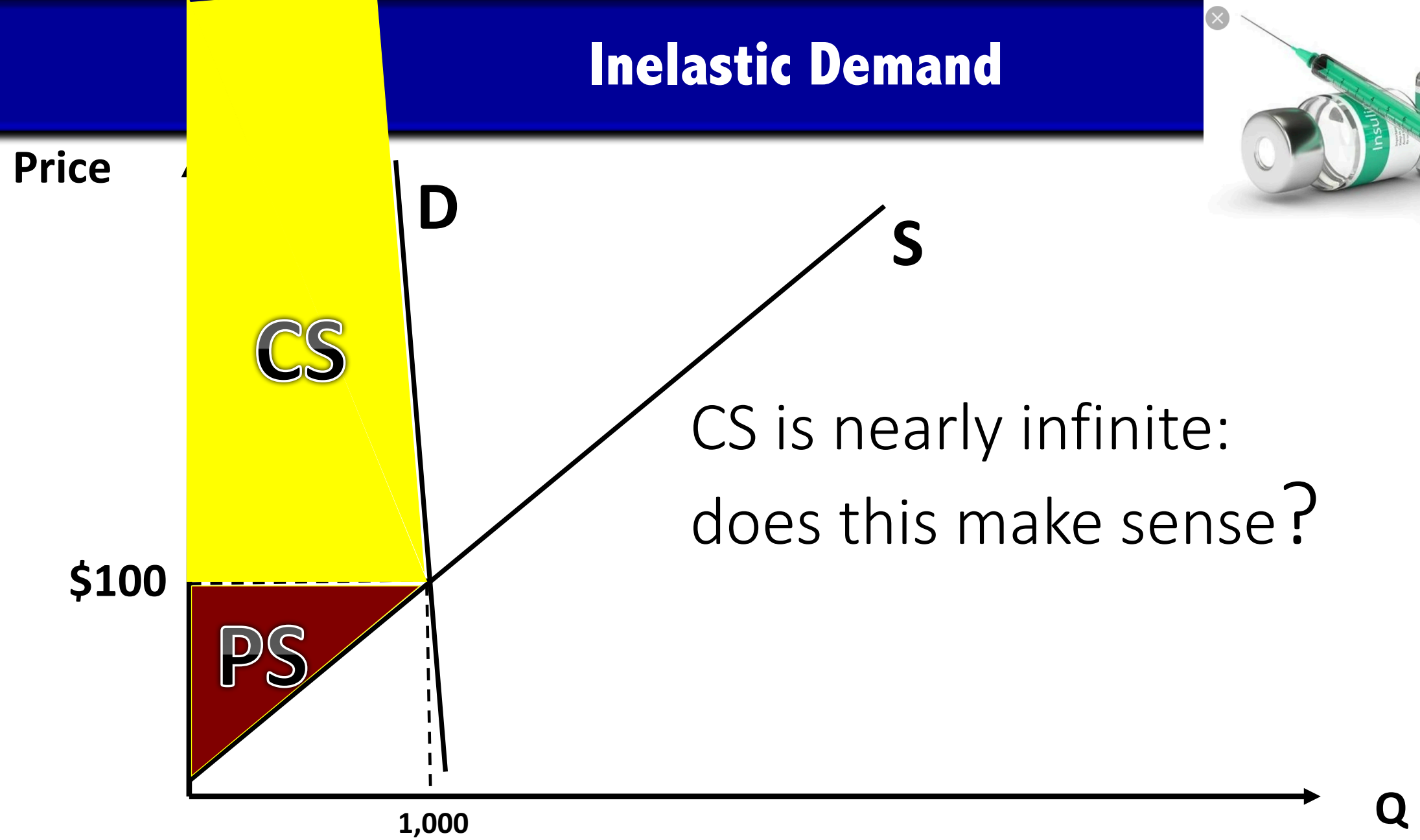
Inelastic Demand



Inelastic Demand

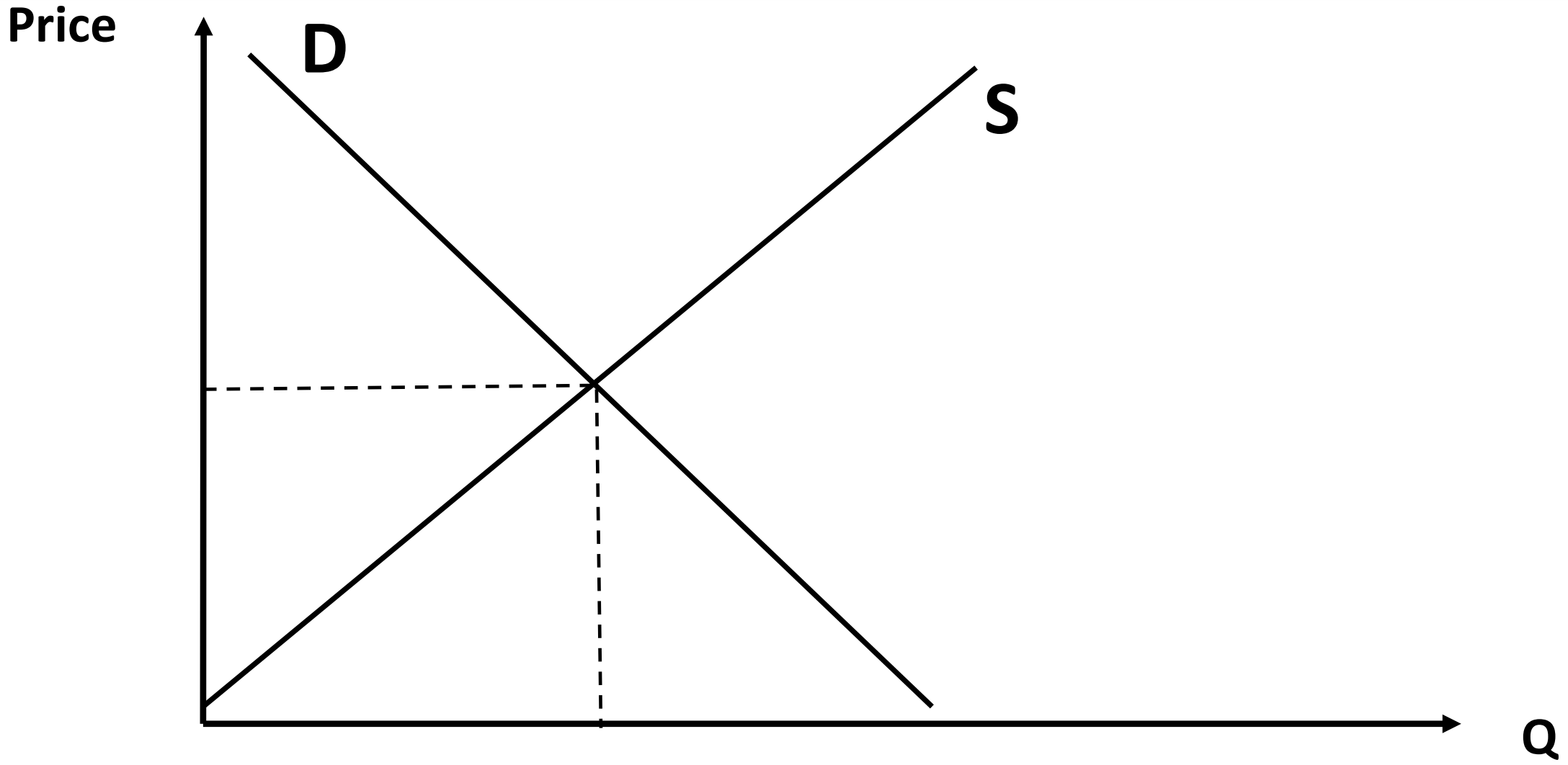


Inelastic Demand

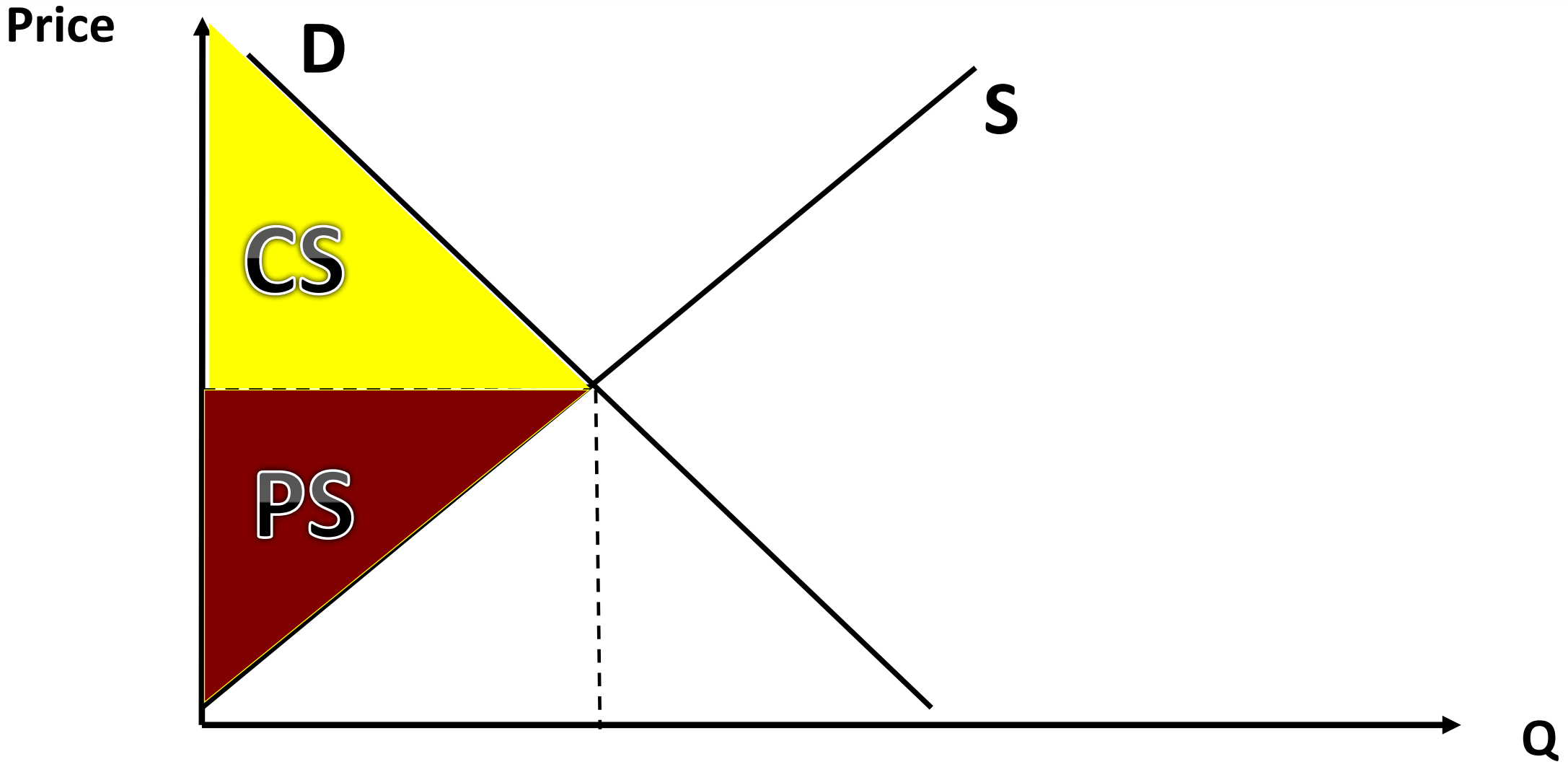


CS is nearly infinite:
does this make sense?

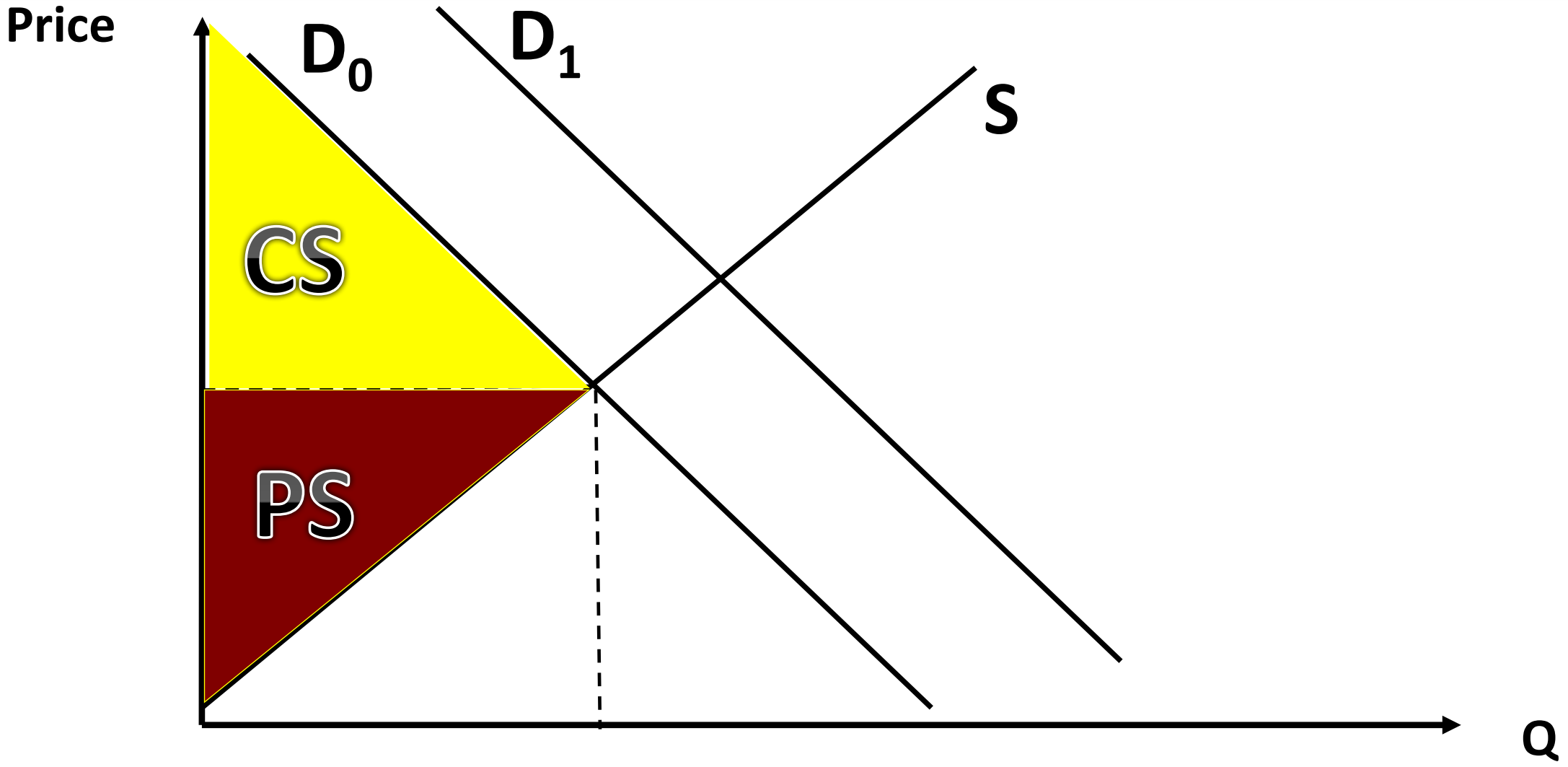
What if there is a positive demand shock?



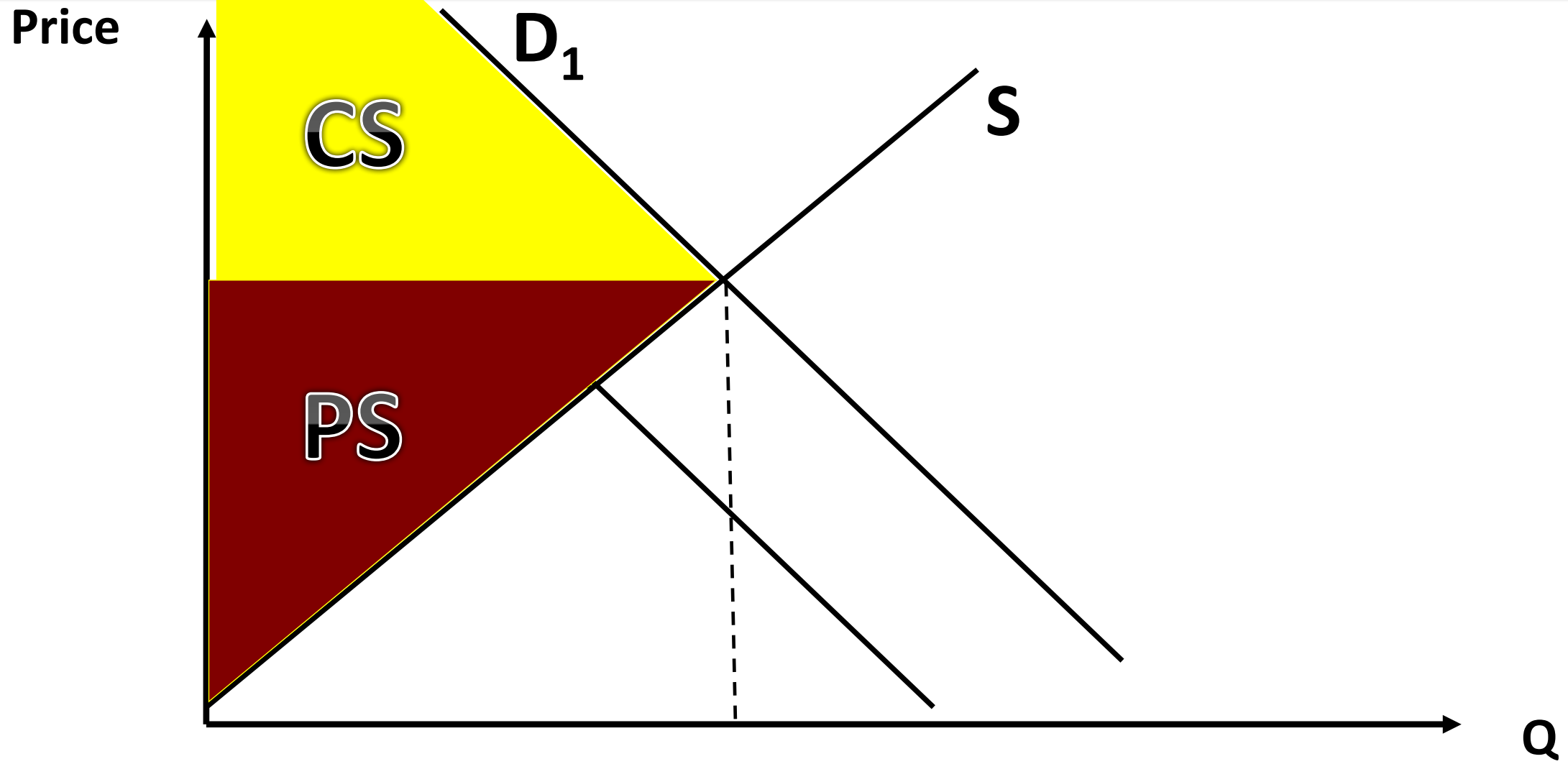
What if there is a positive demand shock?



What if there is a positive demand shock?



What if there is a positive demand shock?

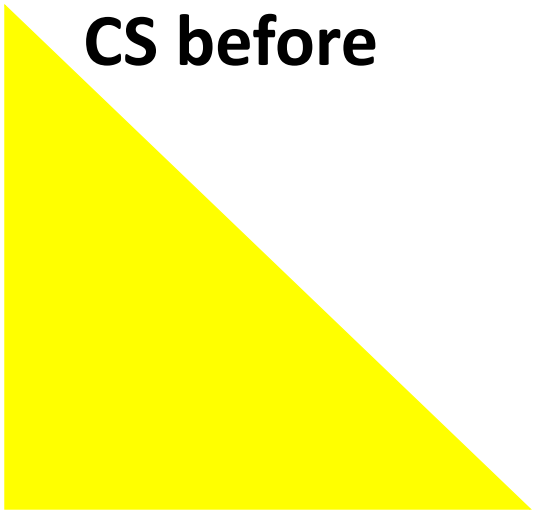


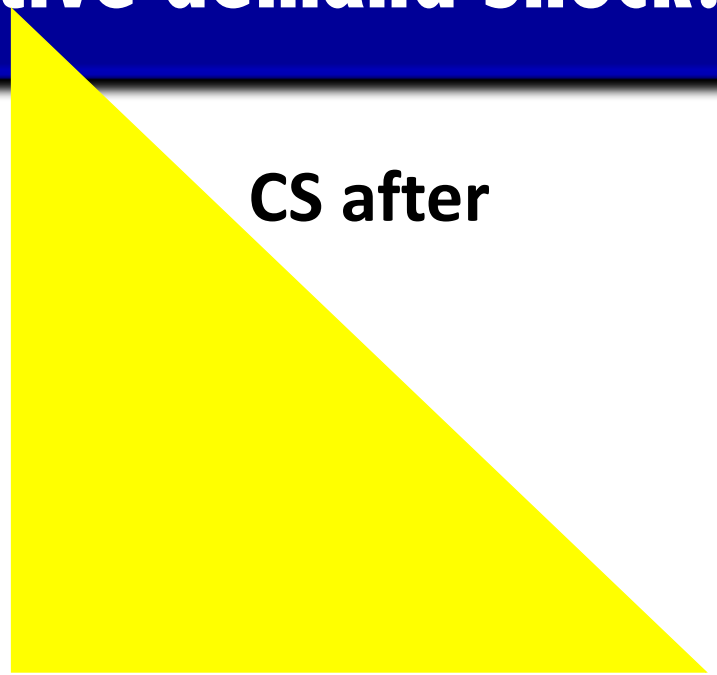
What if there is a positive demand shock?

What happens to Consumer Surplus?

What happens to Producer Surplus?

What if there is a positive demand shock?





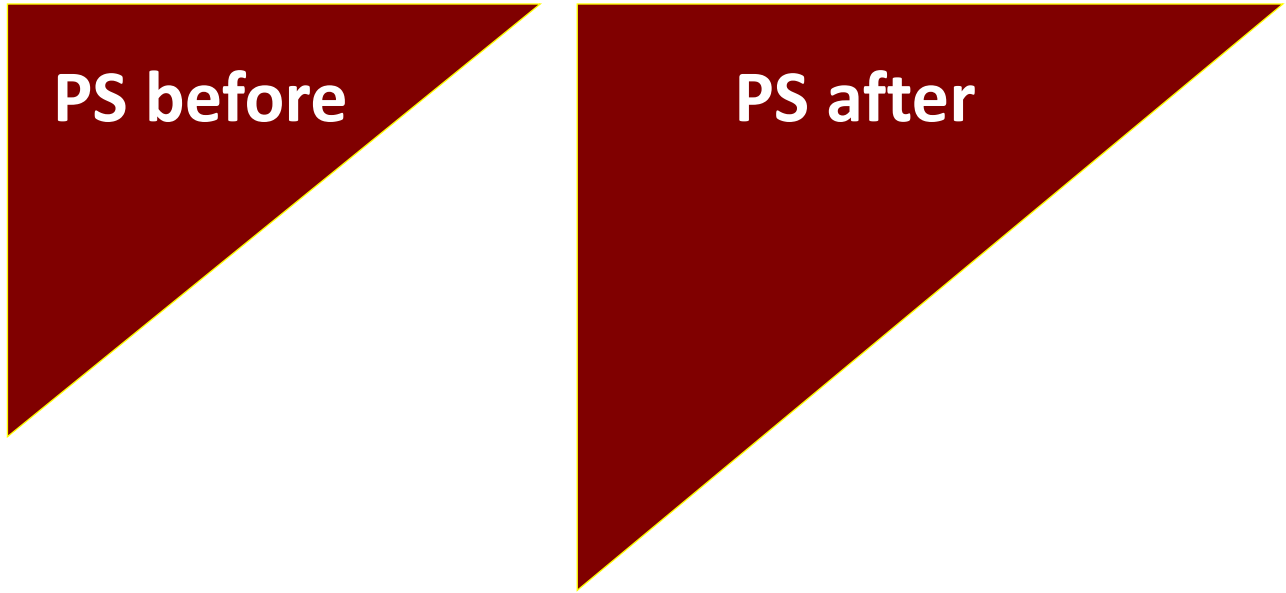
How can CS increase if they price has increased?

What if there is a positive demand shock?

How can CS increase if they price has increased?

1) **They are willing to pay more now**
2) **They are buying a lot more units**

What if there is a positive demand shock?



Next Week

Government Intervention in Markets (Price Controls, Taxes, Subsidies)

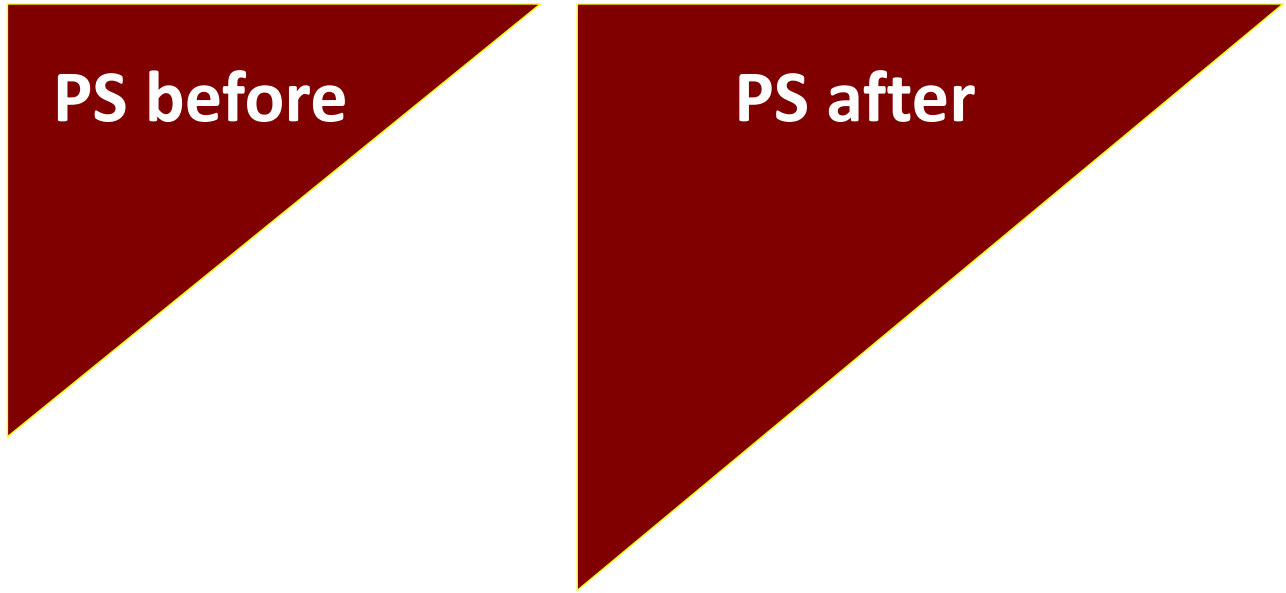
Sometimes government wants to intervene

E.g. Controlling rents

E.g. Taxing goods to reduce consumption

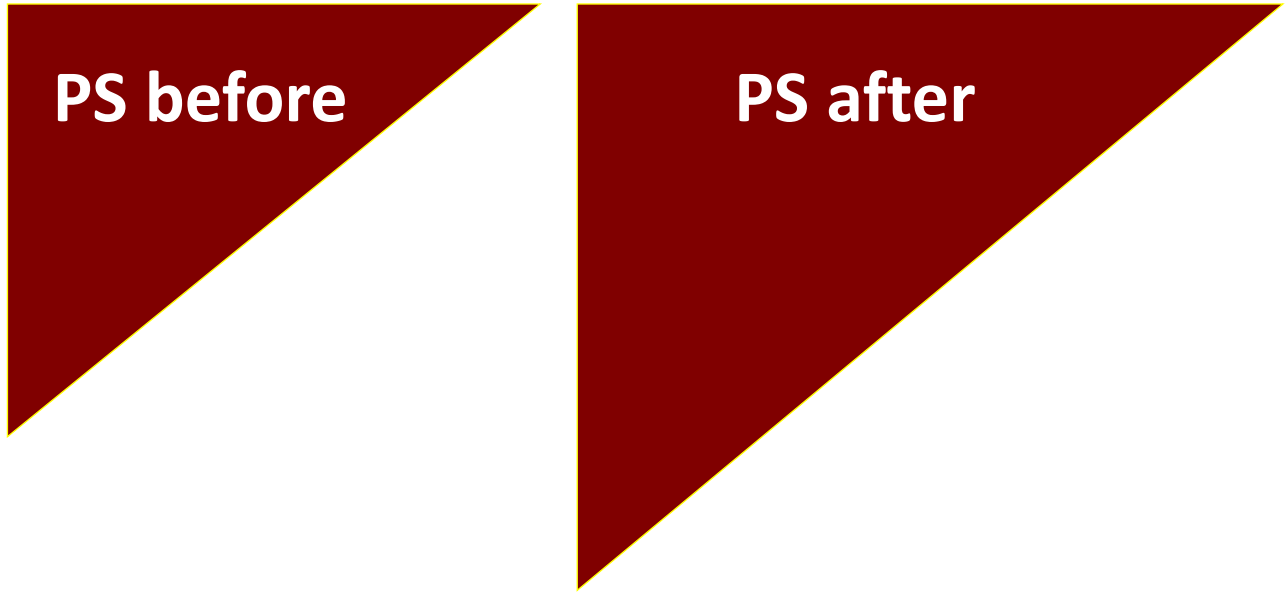
How does that affect consumers and producers? Who suffers more? Who benefits?

What if there is a positive demand shock?



Why does PS increase?

What if there is a positive demand shock?



Why does PS increase?

Prices willing to accept have not changed

But they sell more units, and at a higher price

What if there is a positive demand shock?

Total surplus increases

Everyone in that market is “happier”

Takeaways

Takeaways

Elasticity

- What it means
- How to measure it
- Why it is useful

Welfare analysis

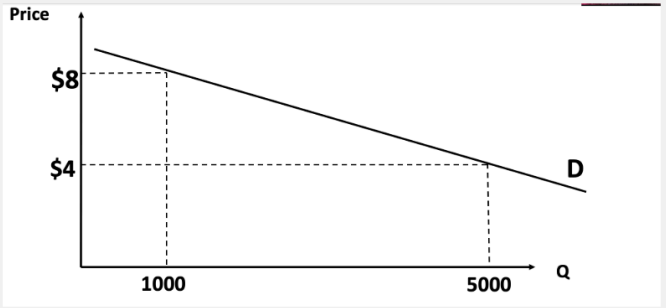
- Perfectly competitive markets → efficient allocations
- Those who value goods the most get them
- Next week: why Surplus is relevant

Kahoot!

What is the price elasticity of demand? (midpoint formula)

Skip

50



0
Answers

▲ 0.5

◆ 1

● 2

■ 4

%Increase in Qdemanded= 133.33%; %Increase in price=66.66%; Elasticity=2

Kahoot!

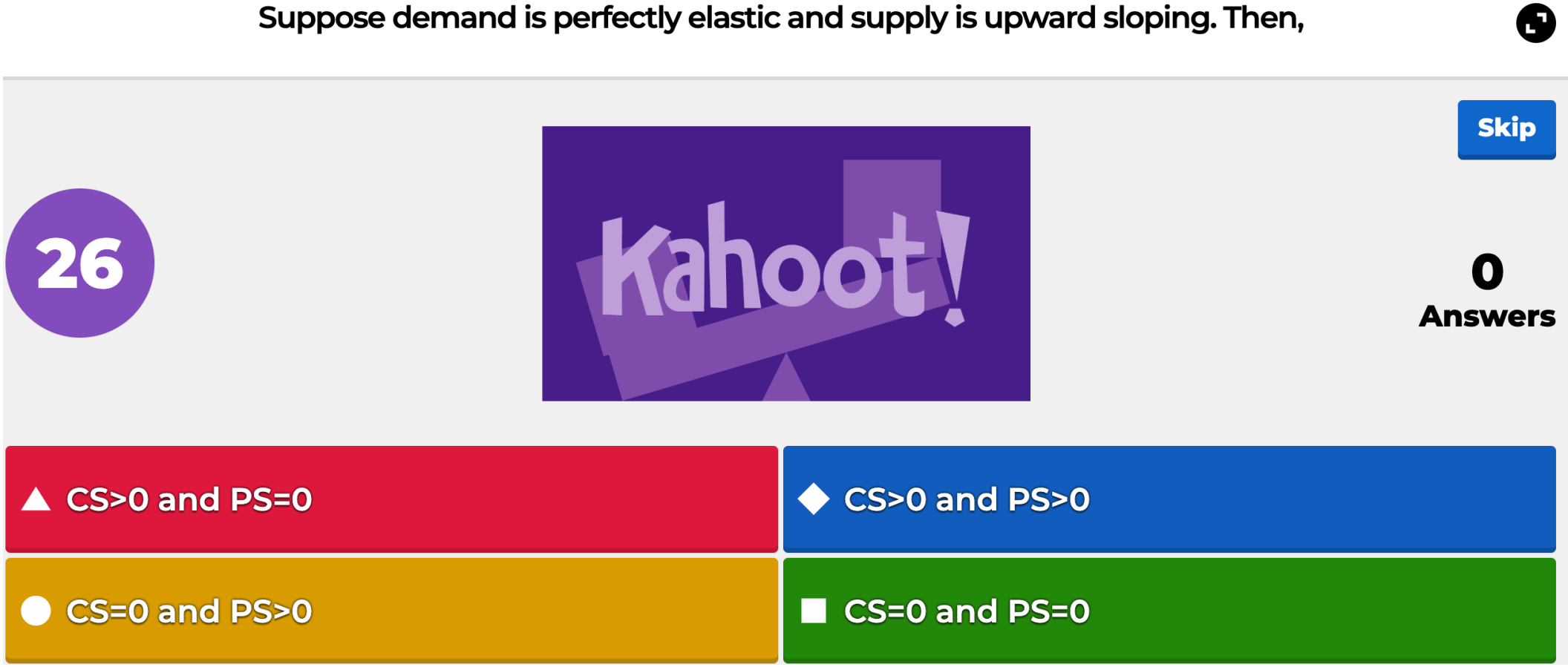
Bread as it is more broadly defined

Kahoot!

Real estate: you cannot produce condos/HDB blocks so fast as you can produce masks or increase the supply of cab rides

Kahoot!

Suppose demand is perfectly elastic and supply is upward sloping. Then,



CS=0; PS>0. Just draw it to convince yourselves.