Government Policies (I): No Market Failures

Summer 2023
Econ S10-A, Harvard University
Prof. Josh Abel

Textbook chapters 6 and 8

The Government

- Have discussed consumers and producers
- Government is the 3rd critical player in markets and economies
- Governments:
  - Make laws that affect the behavior of “private sector” participants
  - Impose taxes and subsidies that affect the incentives of the private sector
  - Actively participate in markets (e.g. market for fighter jets)
- All of these impact economic outcomes

Active Government vs. “Laissez Faire”

- So far, we have stressed the positives of markets
  - Efficiency!
- Since our markets do great, today’s lecture will make government intervention seem mostly bad
  - But not entirely!
- Next lecture will introduce some “market failures,” and then government can really help
- Main takeaway for today:
  - ***NOT*** that government intervention is bad
  - Government intervention has complex and sometimes-hidden impacts, and it is important to be aware of them when crafting sound policy
    - (And yes, sometimes the best policy is no policy.)

Types of Government Intervention

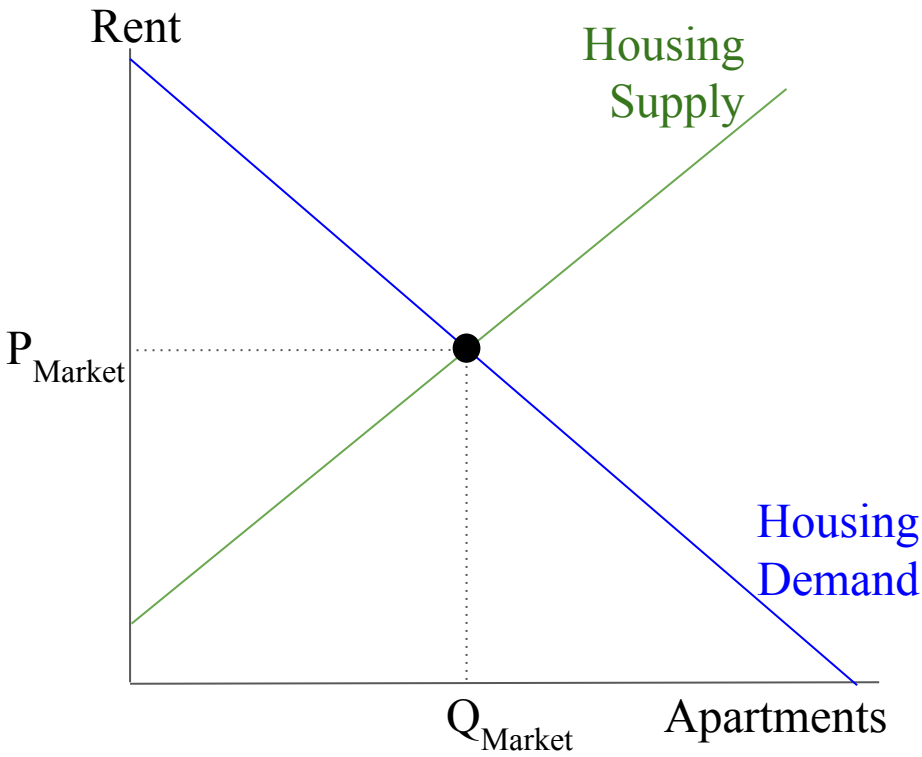
- Today, we study two main types of policies:
  1. Price controls
     - Price ceiling, price floor
     - Often used to aid certain market participants
  2. Taxes
     - Used to raise revenue to fund government programs
     - Next lecture, will discuss other uses

Price Ceiling

- There has long been concern that housing is too expensive
- In various places and times, governments have imposed “Rent Control”
  - A Price Ceiling, preventing landlords from charging rent above P_{ceil}
  - In fact, Cambridge MA had rent control for many years
- Seems reasonable:
  - The price is too high, so let’s just force the price to be lower, right?
  - But there can be many unintended consequences
    - Remember, prices play a very important role in a market; tricky to mess with them

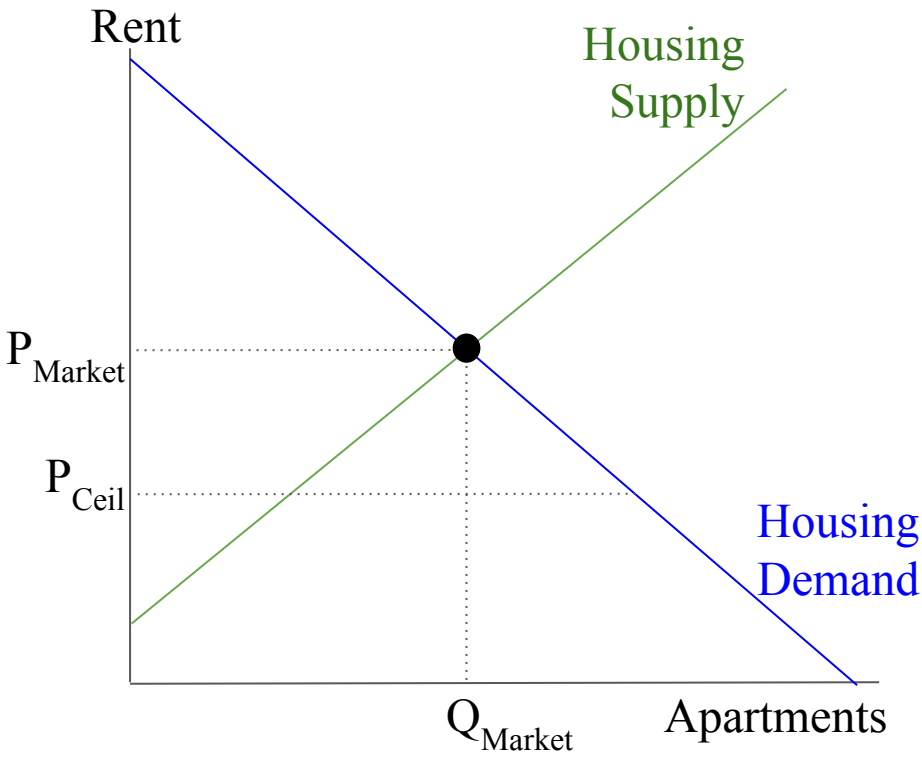
Rent Control

- Suppose you feel the rent here is too high



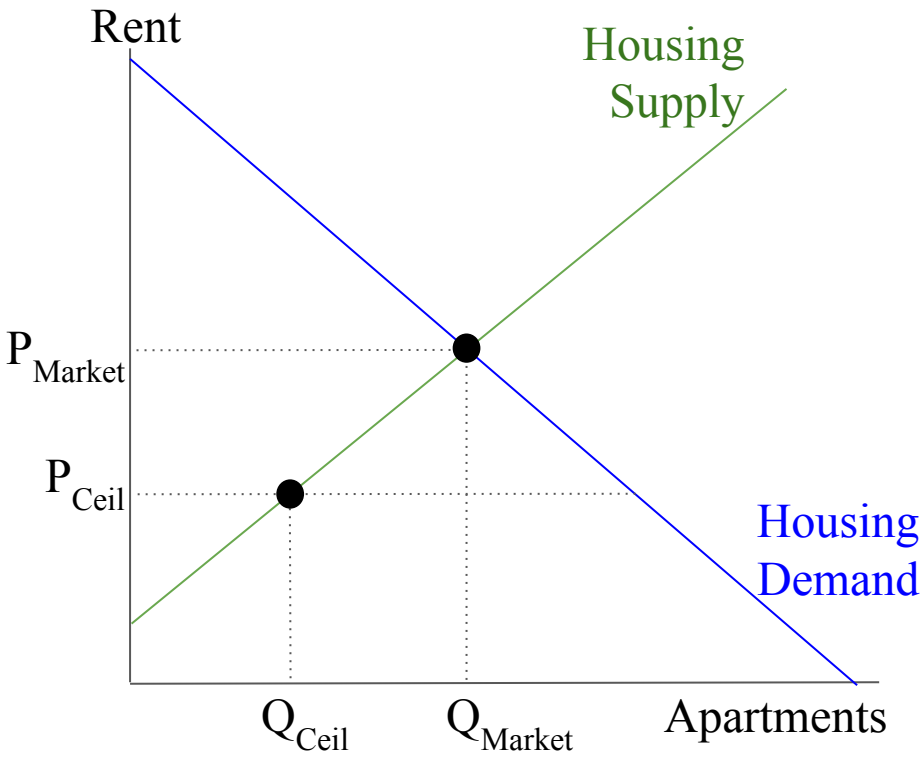
Rent Control

- Suppose you feel the rent here is too high
- What impact would a price ceiling have?



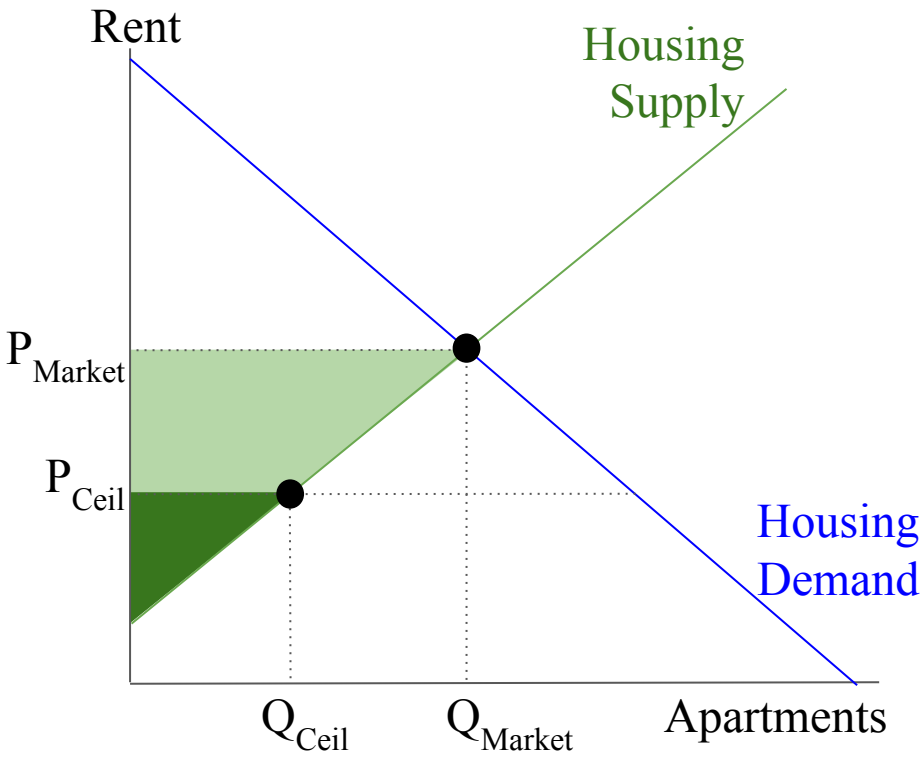
Rent Control

- Suppose you feel the rent here is too high
- What impact would a price ceiling have?
  - Price falls, as planned…
  - But so does quantity!
- Landlords will find other uses for their properties, or let them fall into disrepair
- It will cause a housing shortage!
  - Apartments are cheaper…if you can find one



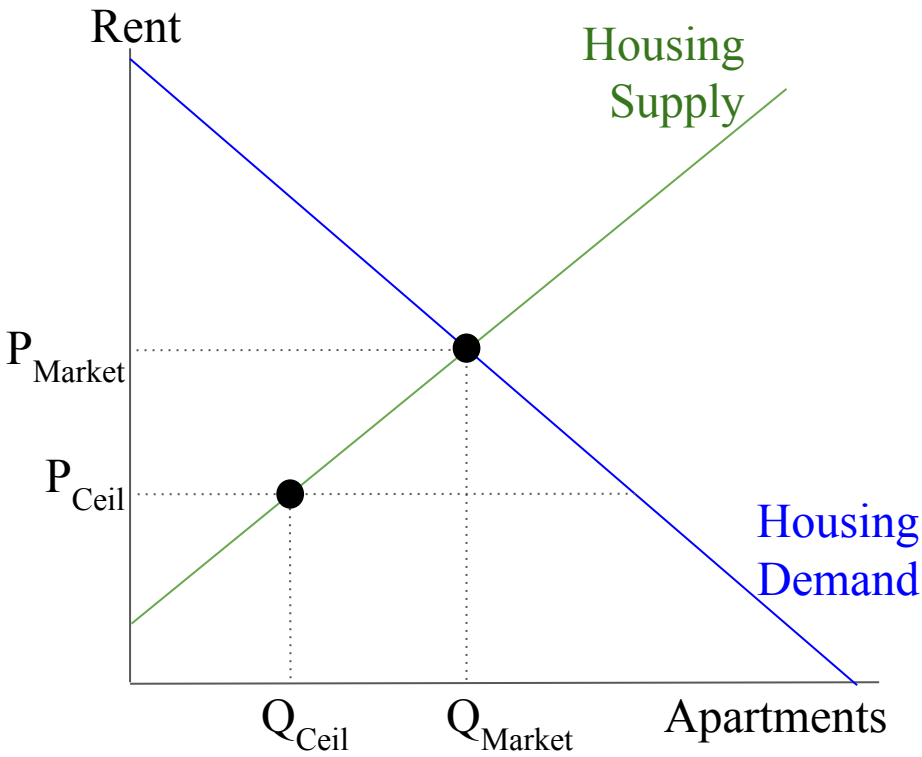
Landlords Hate Rent Control

- Rent Control's impact on landlords is unambiguously bad
  - Many can no longer profitably rent out their apartments
  - And those that do get paid less
- This is straightforward to see through PS



Impact of Rent Control on Renters

- Impact on households is more subtle
  - Fewer people have homes
  - But those who get them pay less
- So we may expect some households to love Rent Control and others to hate it



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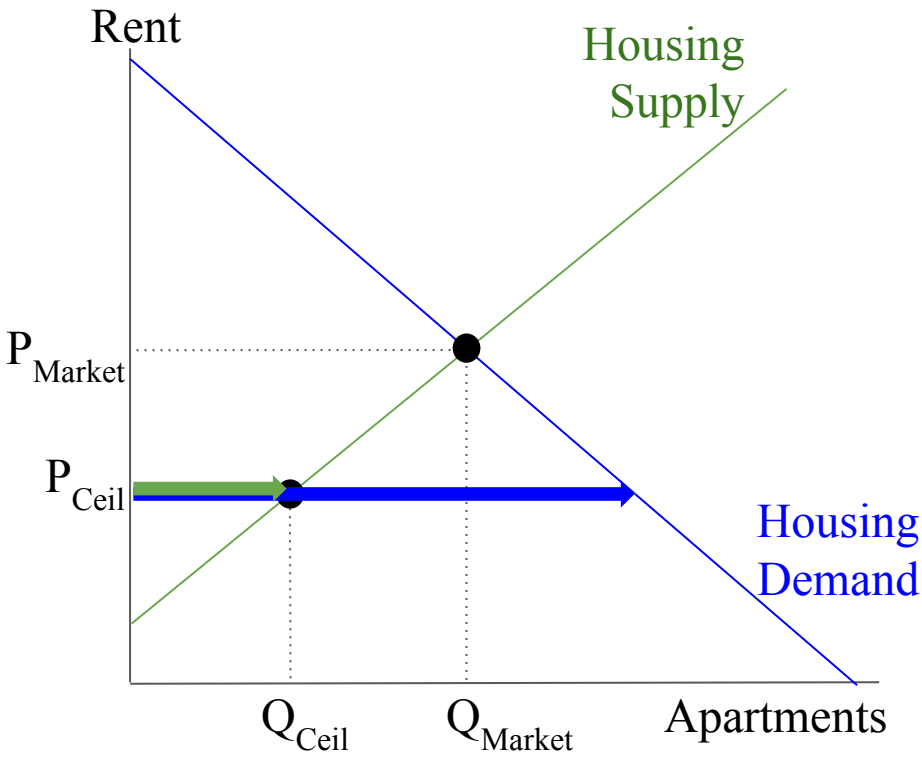
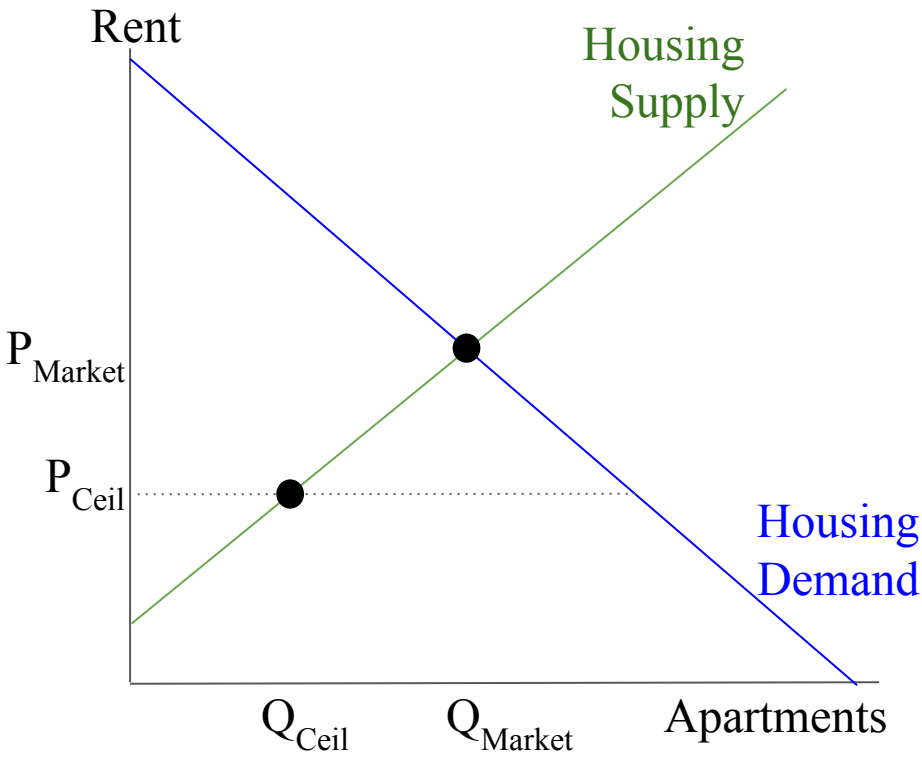
  - Fewer people have homes
  - But those who get them pay less
- So we may expect some households to love Rent Control and others to hate it
- Because housing Demand exceeds Supply, it's not clear who will get the apartments
  - People with connections?
  - Arduous paperwork and applications?
    - That's essentially wasted cost
    - So perhaps no one benefits!
- Price no longer serves its allocational role



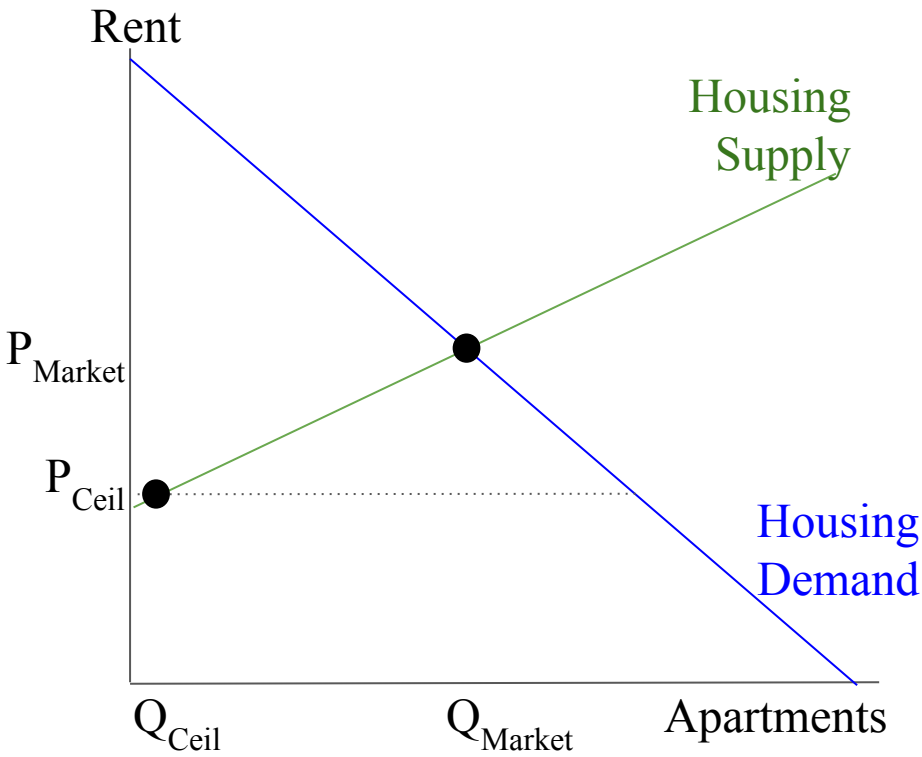
Rent Control and Housing Supply Elasticity

- Impact depends on elasticity of Supply



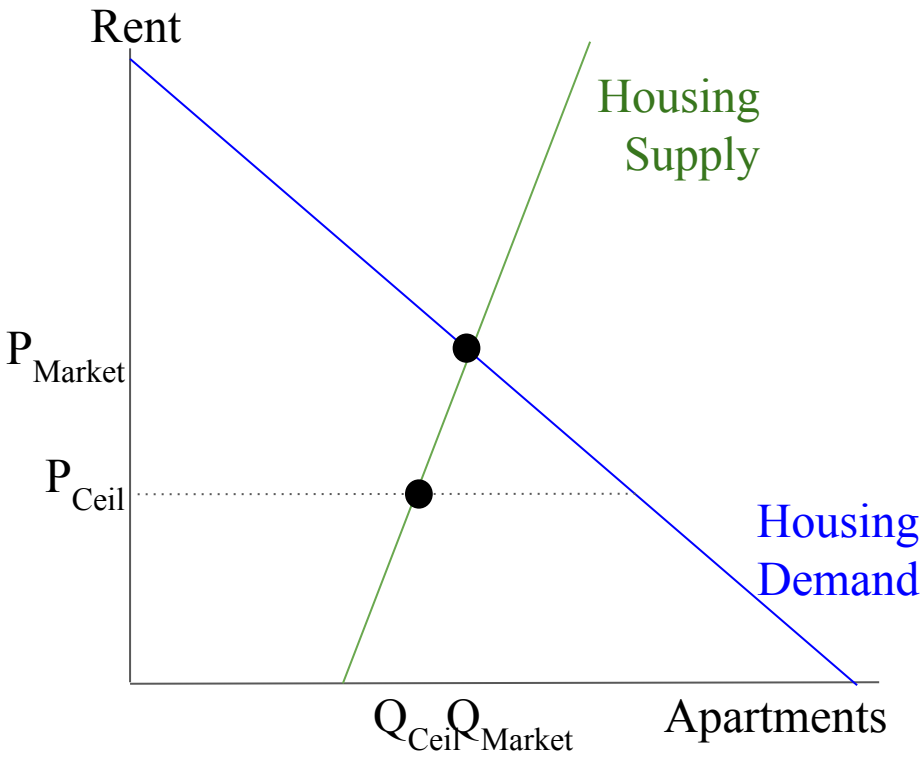
Rent Control and Housing Supply Elasticity

- Impact depends on elasticity of Supply
- High elasticity
  - Large decrease in units…bad policy!



Rent Control and Housing Supply Elasticity

- Impact depends on elasticity of Supply
- High elasticity
  - Large decrease in units…bad policy
- Low elasticity
  - Small decrease in units
  - Basically a transfer from landlords to renters…arguably a good policy
- Recall: Supply elasticity tends to rise over time
  - Rent Control might start off pretty well, but as landlords convert their units or let them fall into disrepair, it often gets worse with time.

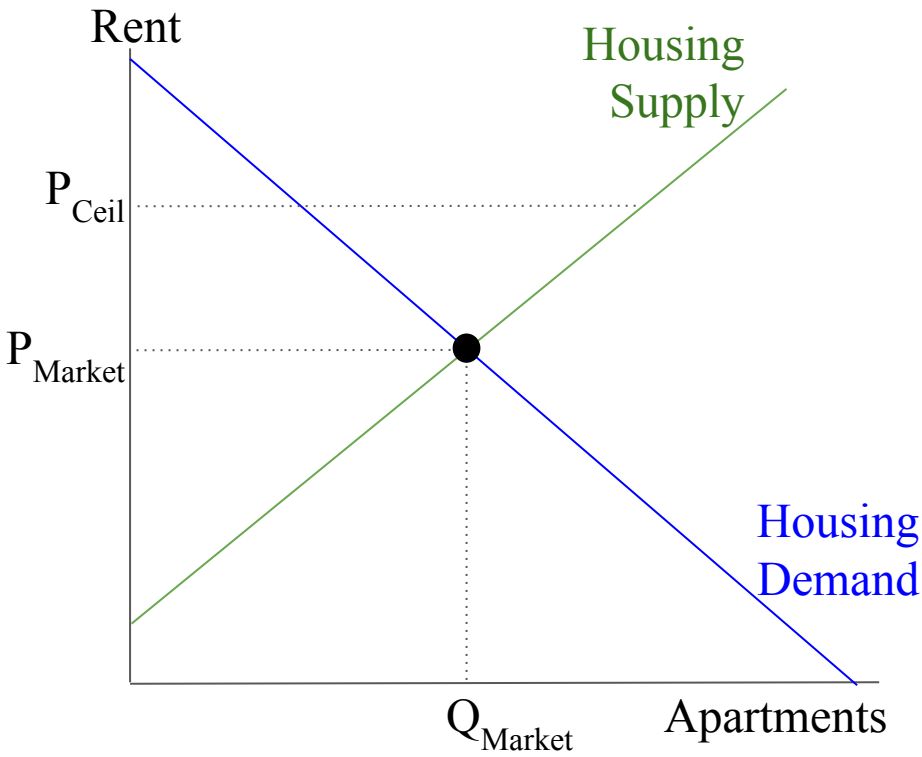


Black Market

- A Price Ceiling might cause a Black Market to spring up
  - The product is sold illegally and covertly, at a price above the ceiling
  - E.g. Ticket scalping
- This is one way that markets deal with shortages and the allocation issue
- In some cases (e.g. tickets) economists largely approve
- In others, it can be dangerous
  - If you rent an apartment illegally to avoid Rent Control, it may not meet important safety codes
  - Would you trust an organ you purchased on the Black Market?

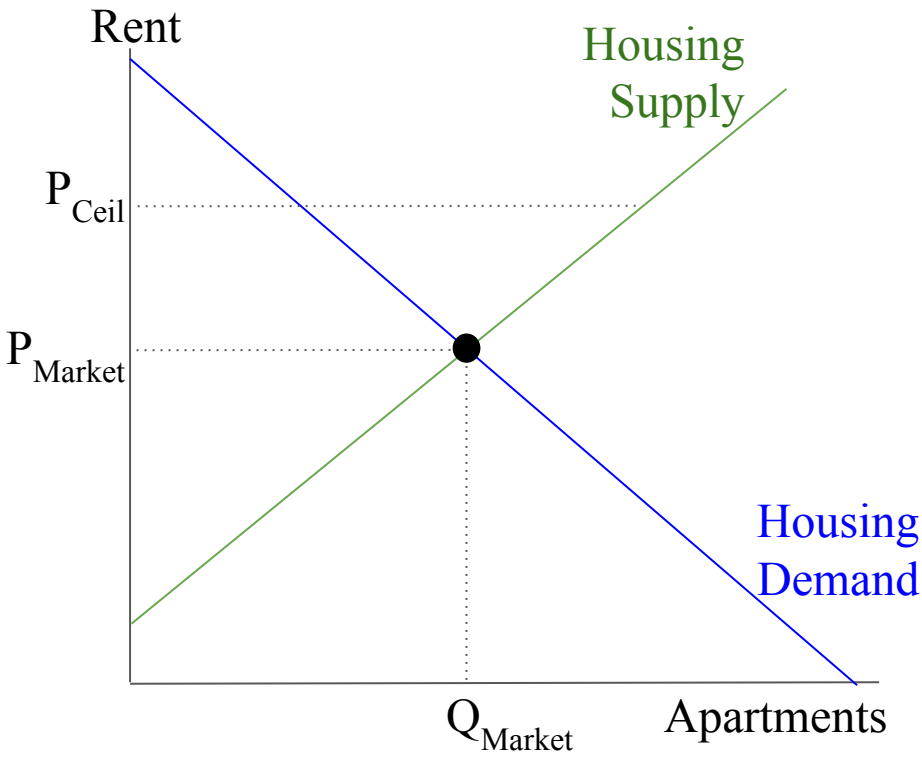
High Price Ceiling

- What happens if you set the Price Ceiling above the market price?



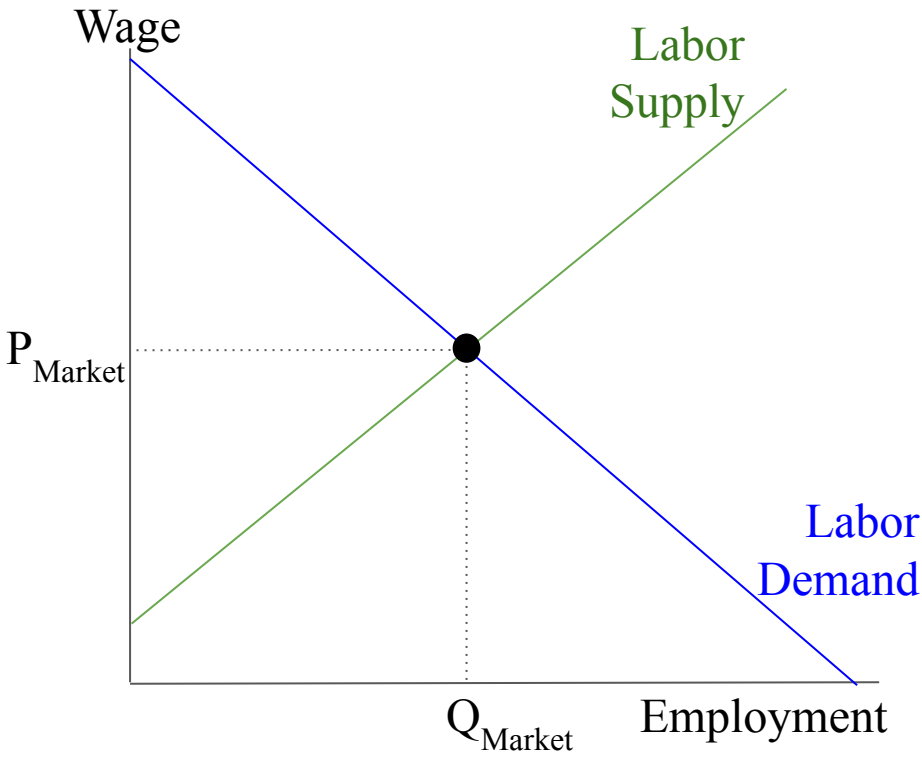
High Price Ceiling

- What happens if you set the Price Ceiling above the market price?
- Nothing
  - At least, not until there's a market shock



Minimum Wage

- Suppose you feel people aren't paid enough



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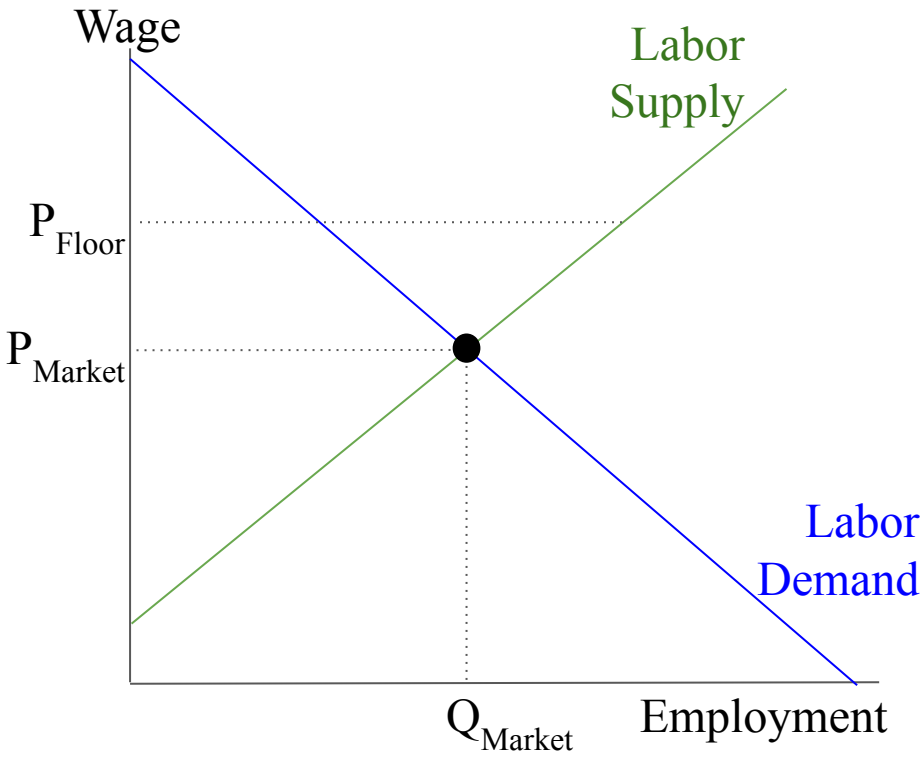
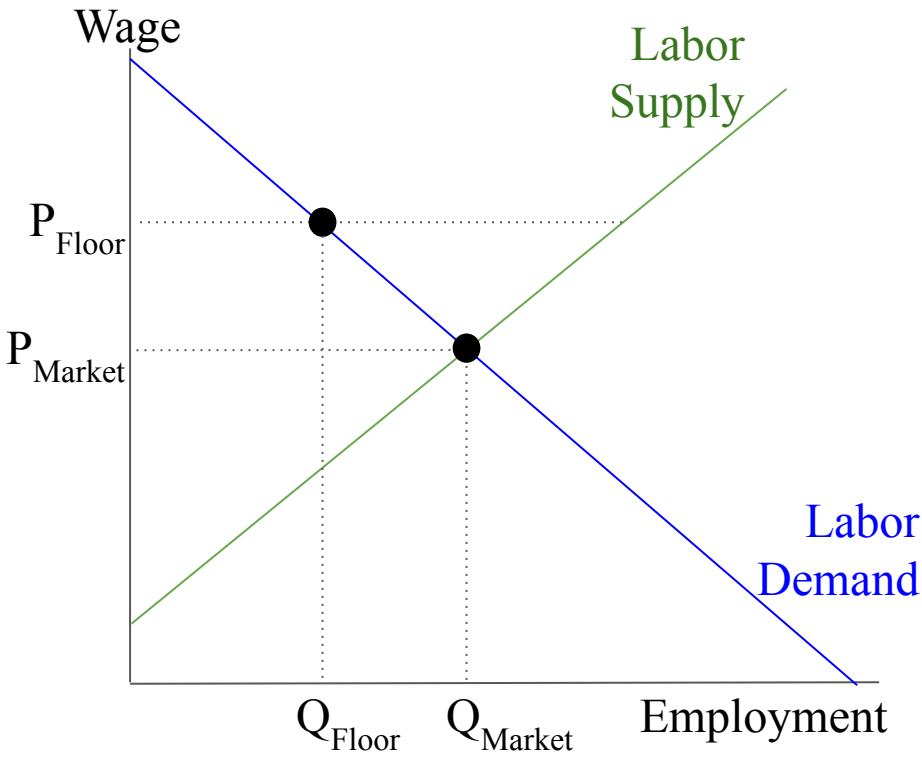


Minimum Wage

- Suppose you feel people aren't paid enough
- What impact would a price ceiling have?
  - Wage will increase…
  - But employment will fall!
- Companies hire less, causing unemployment
  - The job pays better, if you can find one



Impacts of Minimum Wage

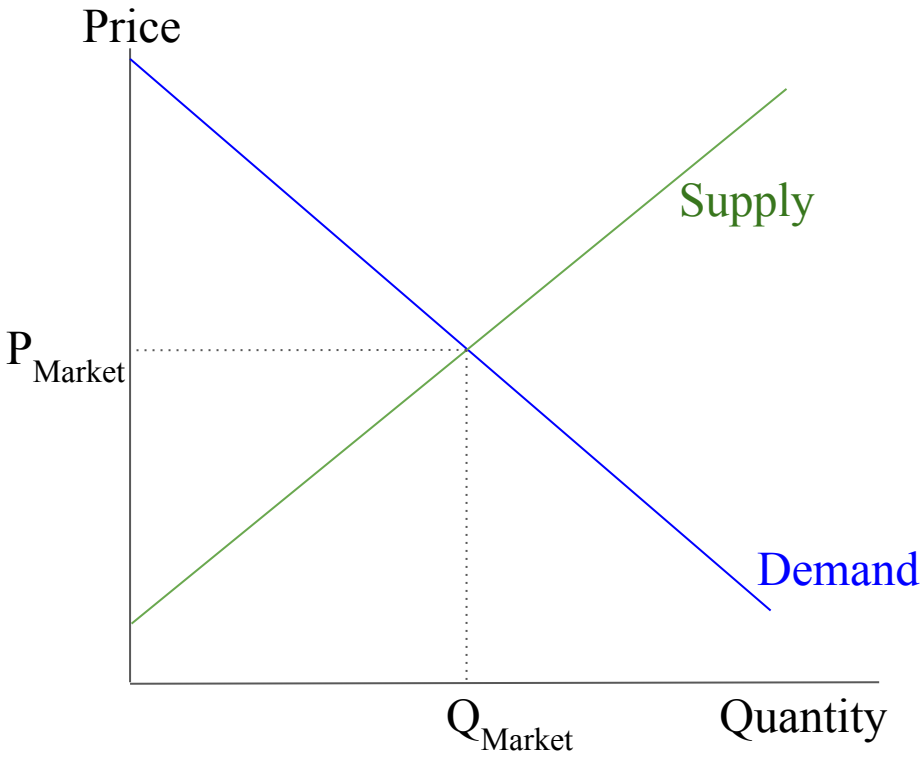
- Close analogy to Price Ceiling (e.g. Rent Control)
- Employers hate it: hire fewer workers and pay more
- Some workers may like it (still get a job, paid more) but others will not (can't find work)
- Unclear who will get the jobs
  - Those with connections? Those most willing to accept poor working conditions?
- Black Market can develop, with people hired off the books
  - May be fine, but often associated with hazardous conditions
    - If you complain, the company can just go hire someone else
- Empirically, studies often find that minimum wage laws don't reduce employment much
  - Could be because of low elasticities
  - Will explore another potential explanation later in the semester

Types of Government Intervention

- Today, we study two main types of policies:
  1. Price controls
     - Price ceiling, price floor
     - Often used to aid certain market participants
     - Economists have largely won the war against price controls
       - But it's nuanced! There are some benefits, even without market failures.
       - Later, we'll study "Monopoly" and "Monopsony," where price controls can be very helpful.
       - Still, if you have distributional concerns, probably better to redistribute directly
  2. Taxes
     - Used to raise revenue to fund government programs
     - Next lecture, will discuss other uses

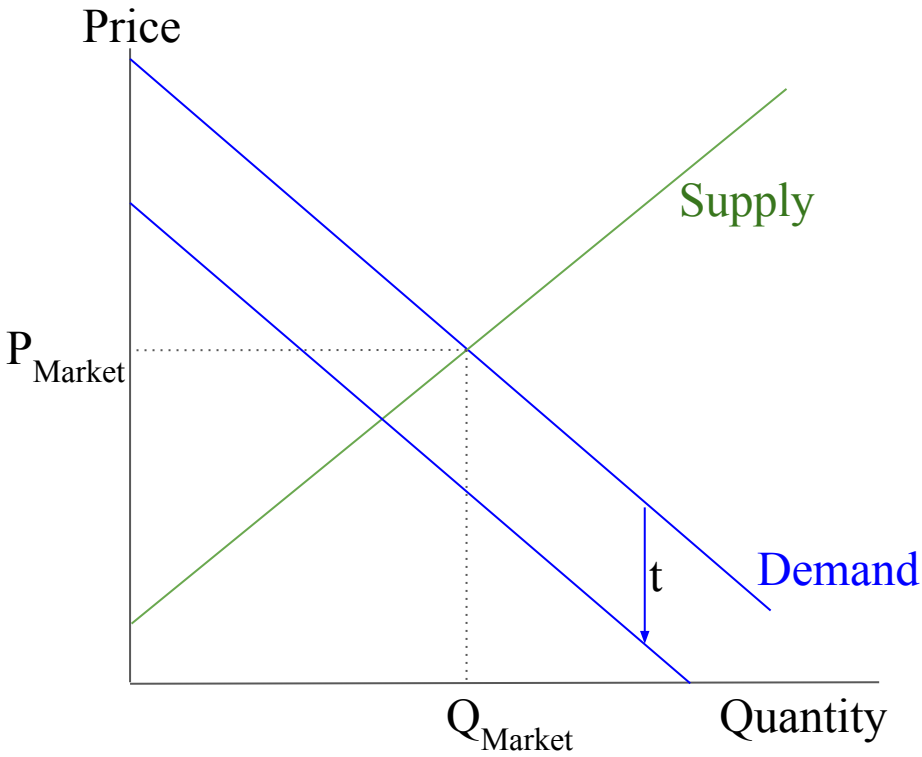
Tax on Consumers

- Impose a tax of $t/unit, paid by consumers



Tax on Consumers

- Impose a tax of $t/unit, paid by consumers
- Decreases Willingness-to-Pay
  - Demand shifts down/left



Tax on Consumers

- Impose a tax of $t/unit, paid by consumers
- Decreases Willingness-to-Pay
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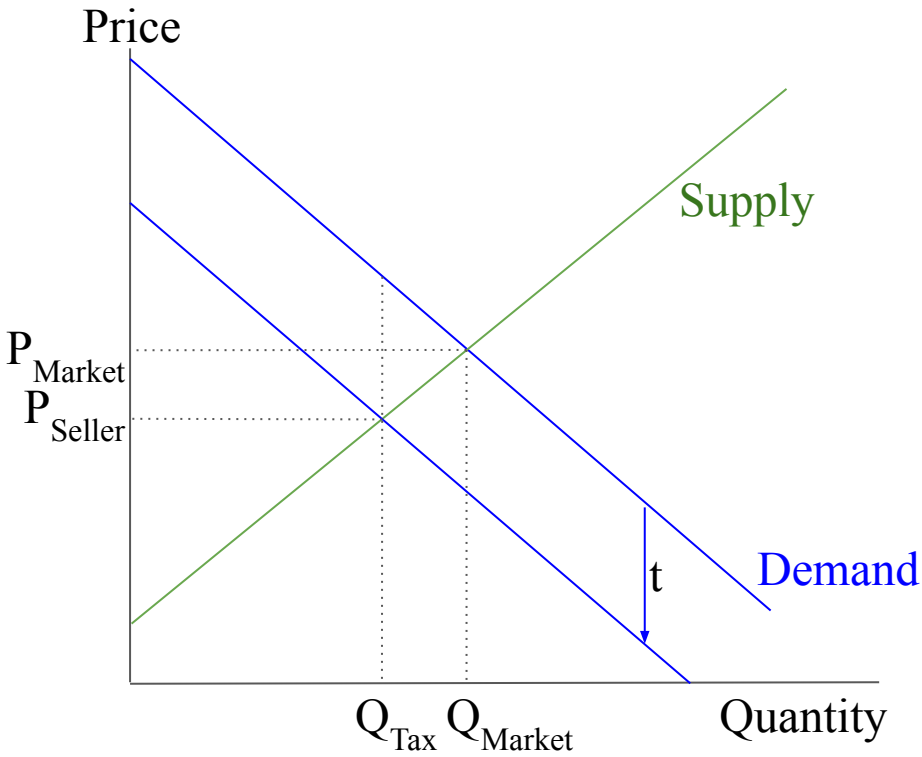
- Price falls, quantity falls
  - Some producers are willing to supply at the lower price, others aren't



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- Decreases Willingness-to-Pay
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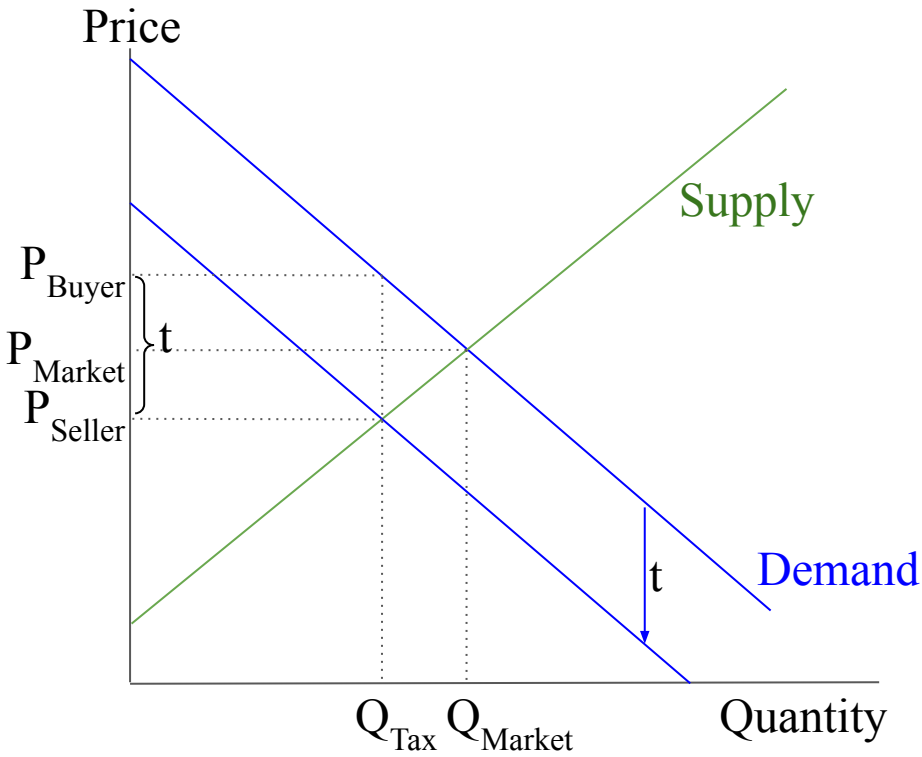
- Price falls, quantity falls
  - Some producers are willing to supply at the lower price, others aren't
- Afterwards, consumers pay t to gov't
- Wedge of t between prices



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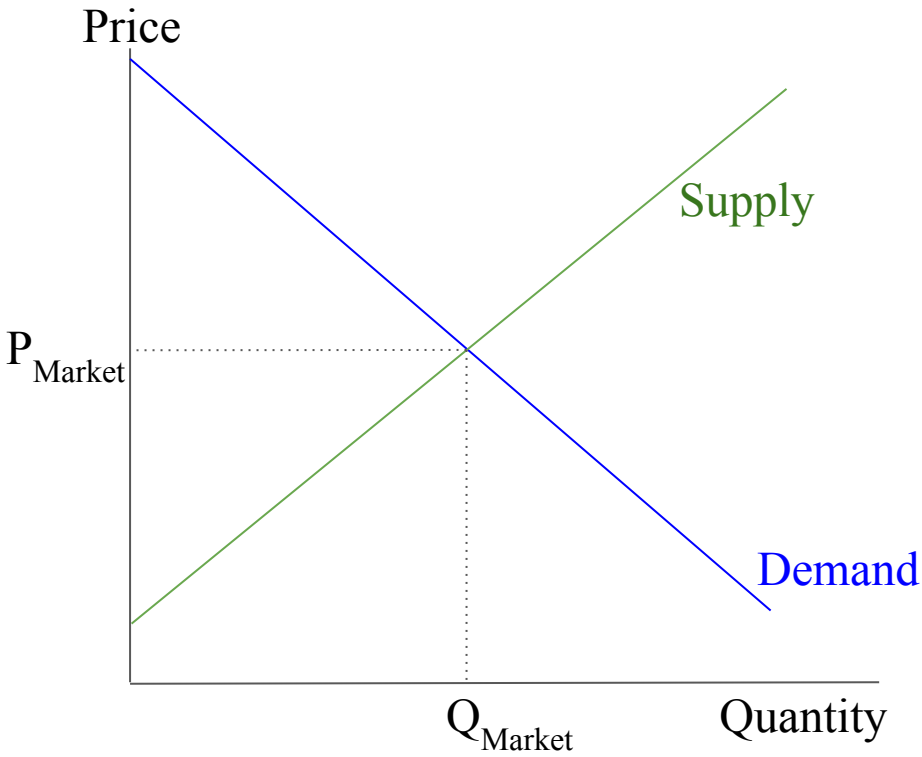
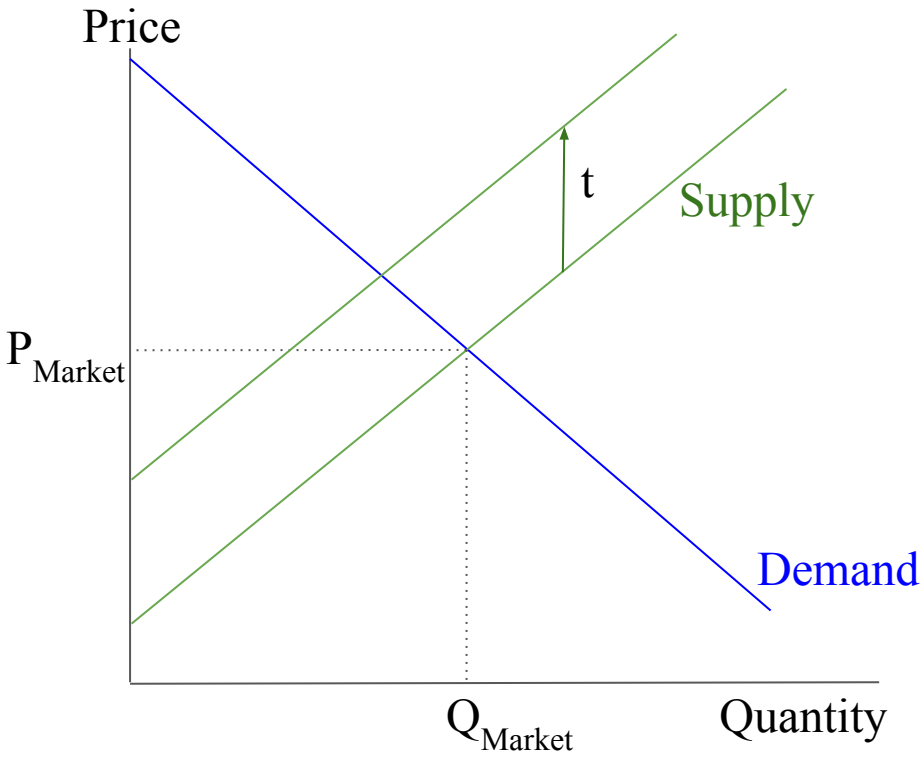


Tax on Producers

- Impose a tax of $t/unit, paid by producers
- Like an increase in cost
  - Supply shifts up/left



Tax on Producers

- Impose a tax of $t/unit, paid by producers
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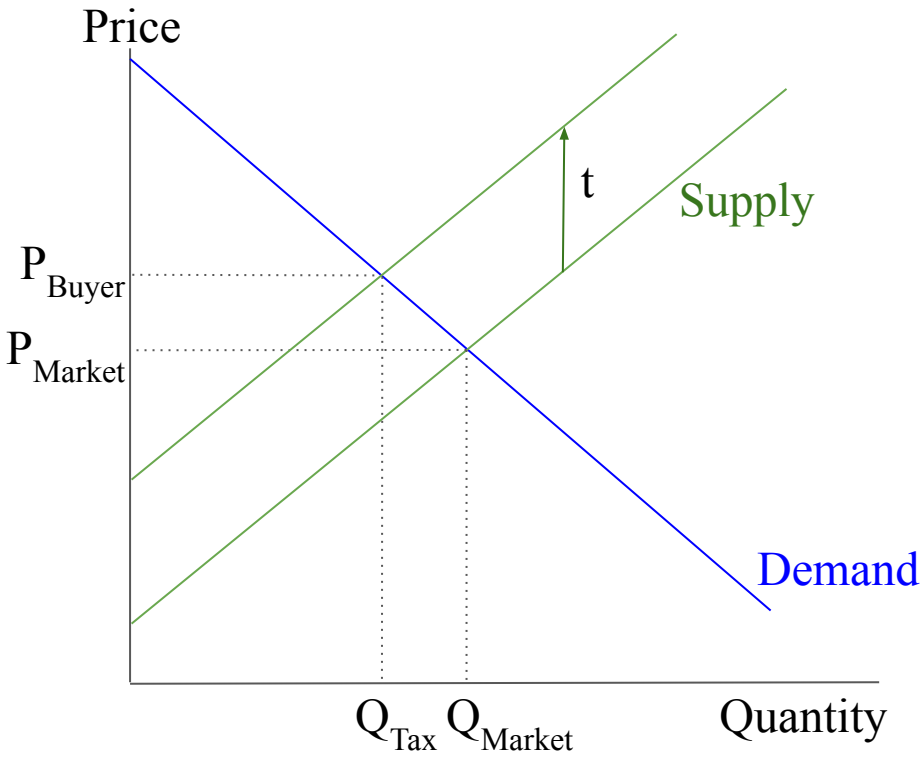
  - Supply shifts up/left
- Price rises, quantity falls
  - Some customers are willing to pay the higher price, others aren't



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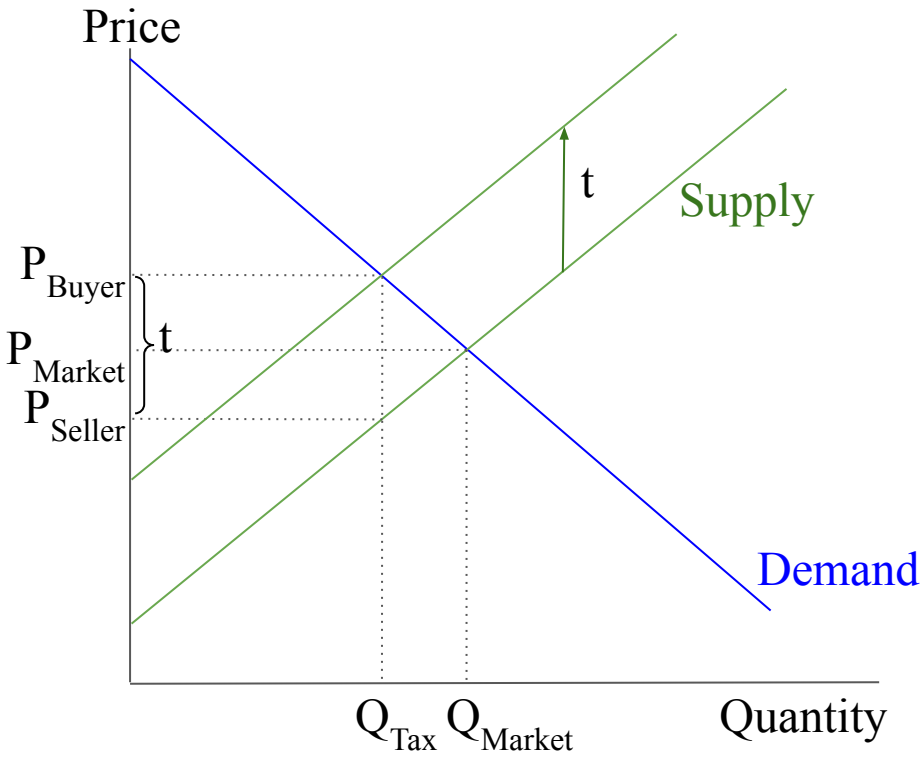
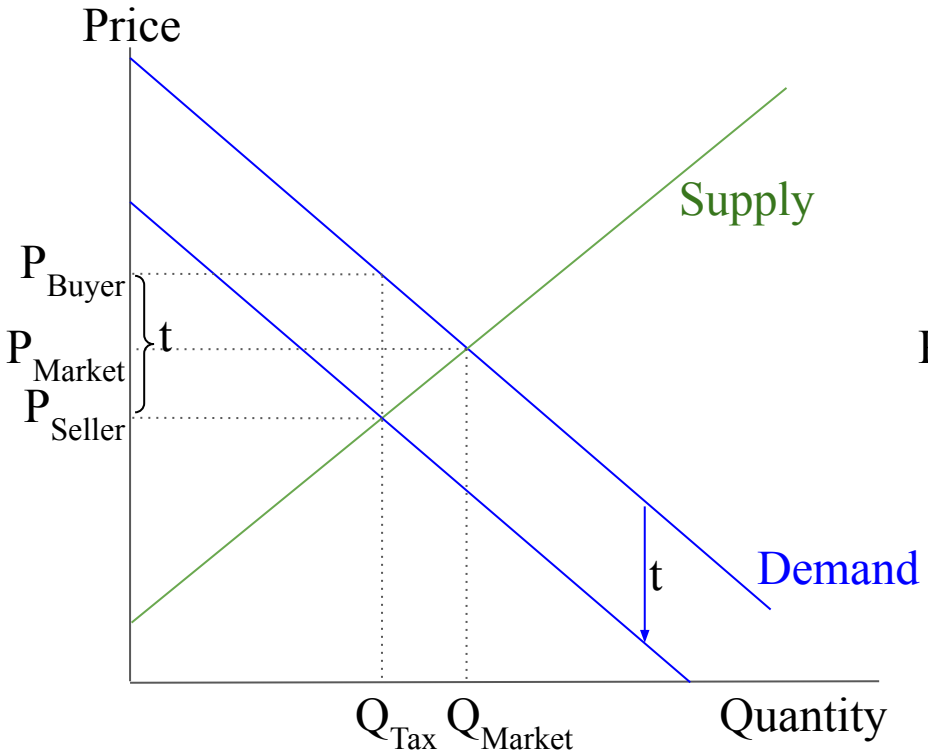
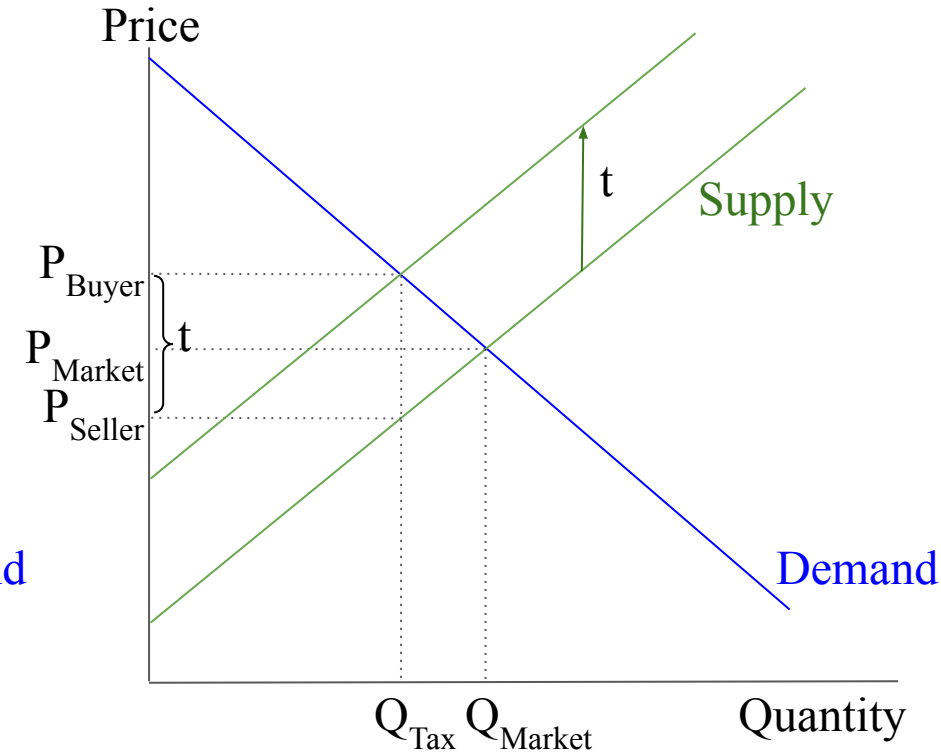
- From the price, producers pay t to gov't
  - Wedge of t between prices



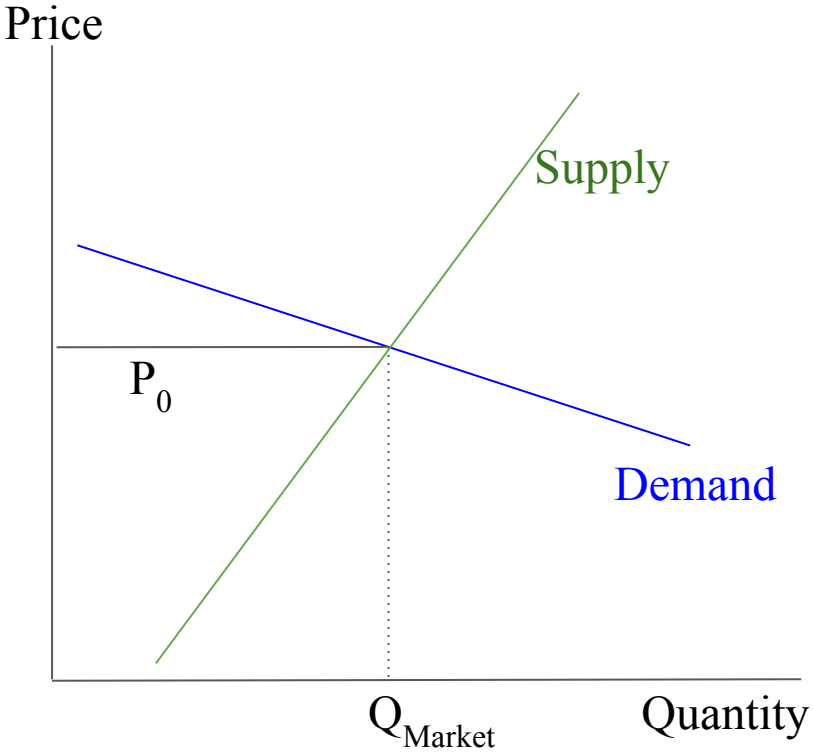
Legal Incidence of Tax Is Irrelevant

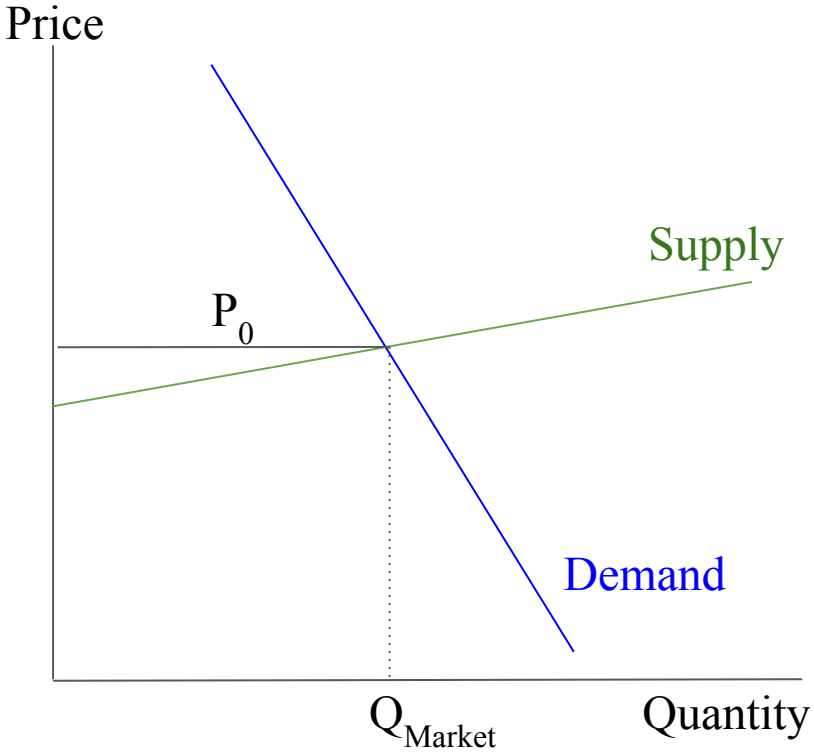




Economic Incidence and Elasticities

- The tax gets shared by consumers and producers
  - Does not matter who it is technically levied on
  - But it ***does*** matter who is more elastic





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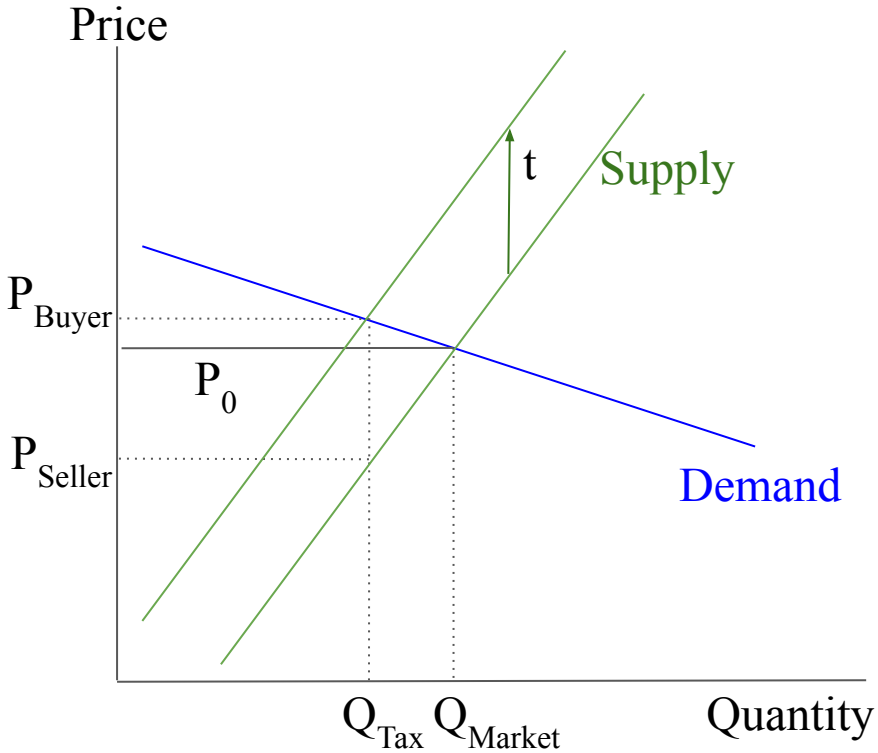
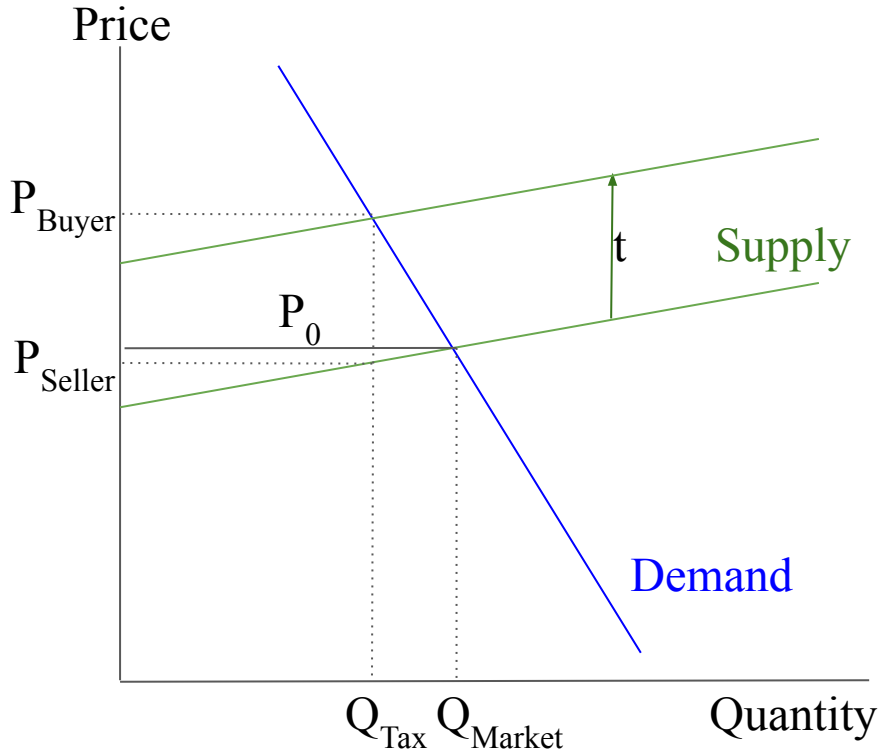


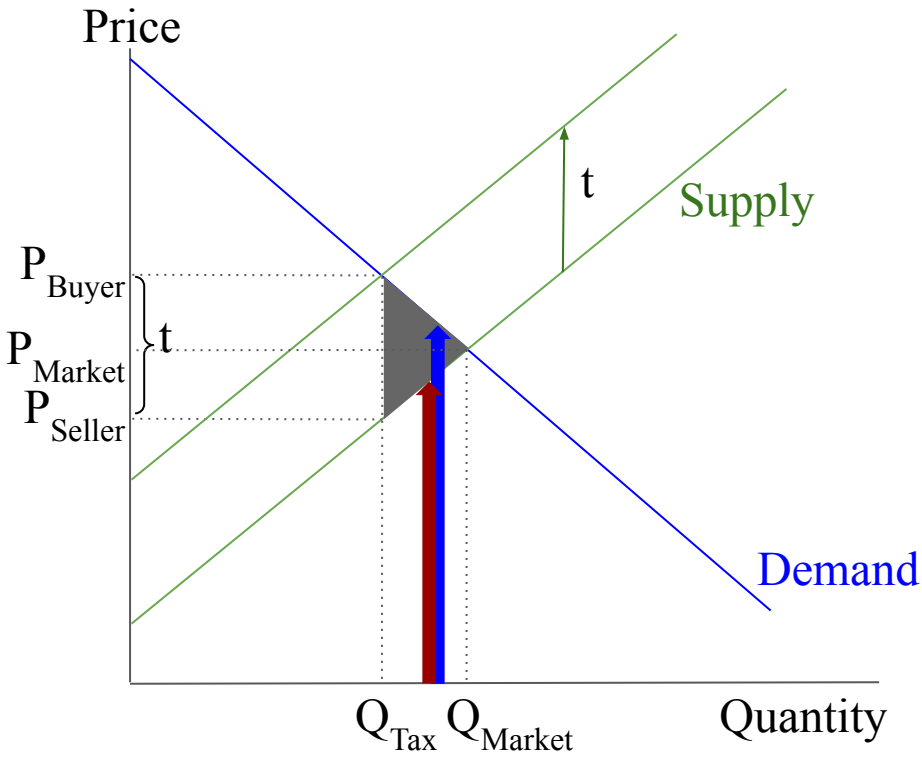


Economic Incidence and Elasticities (2)

- The ***less elastic*** side of the market bears the incidence of the tax
- Inelastic Demand
  - "I simply must have my medicine and I'll pay whatever it costs you to produce it. So if a new tax increases your cost, I'll pay it."
- Elastic Demand
  - "I can easily switch to paper cups, so if a new tax has increased your cost of producing plastic cups, then too bad – I'm not paying a higher price, you have to eat it."
- Inelastic Supply
  - "I already manufactured these cars so I have to sell them. I'll take any price I can get, so I can't force a consumer to pay part of some new tax."
- Elastic Supply
  - "In the long-run, I can convert this building from apartments to retail space. So if there's a new tax on rental properties, I'll convert to retail space, unless renters are willing to pay the tax."

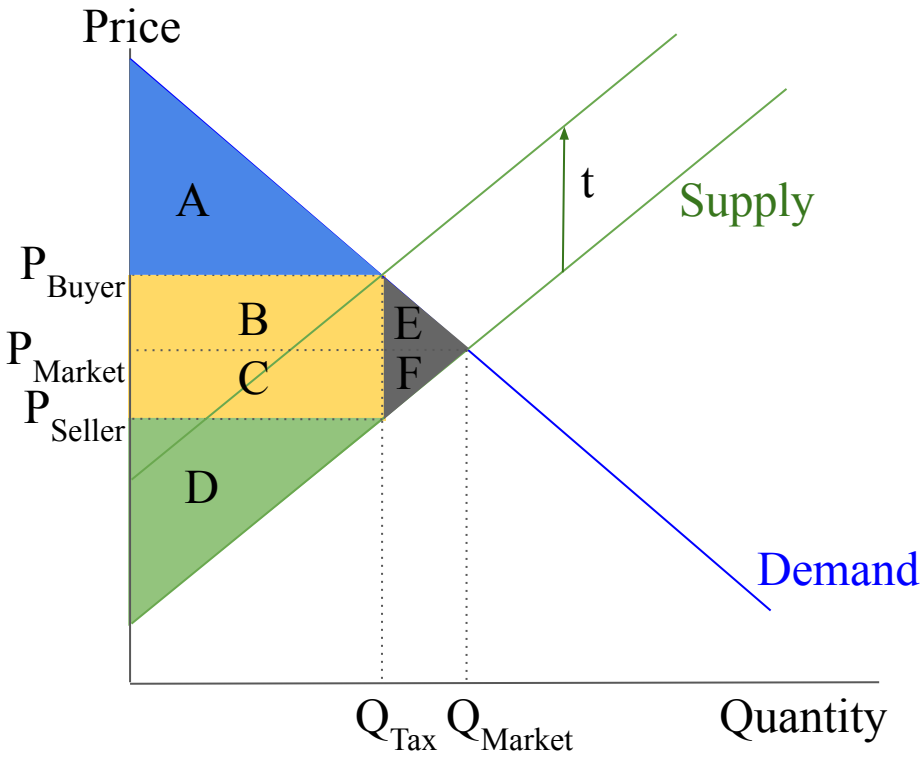
Deadweight Loss

- Reduced quantity causes Deadweight Loss
  - Inefficiency/waste
- Units valued above cost are foregone
- Wedge "distorts" the price's signal
  - Some consumers stay away because the price feels high
  - Some producers stay away because the price feels low



Excess Burden of Taxation

- Higher P, lower Q reduces CS
  - From A+B+E to A
- Lower P, lower Q reduces PS
  - From D+C+F to D
- Some of this is captured by government
  - B+C
- But DWL is lost to society
  - Hidden cost!
  - “Excess Burden”



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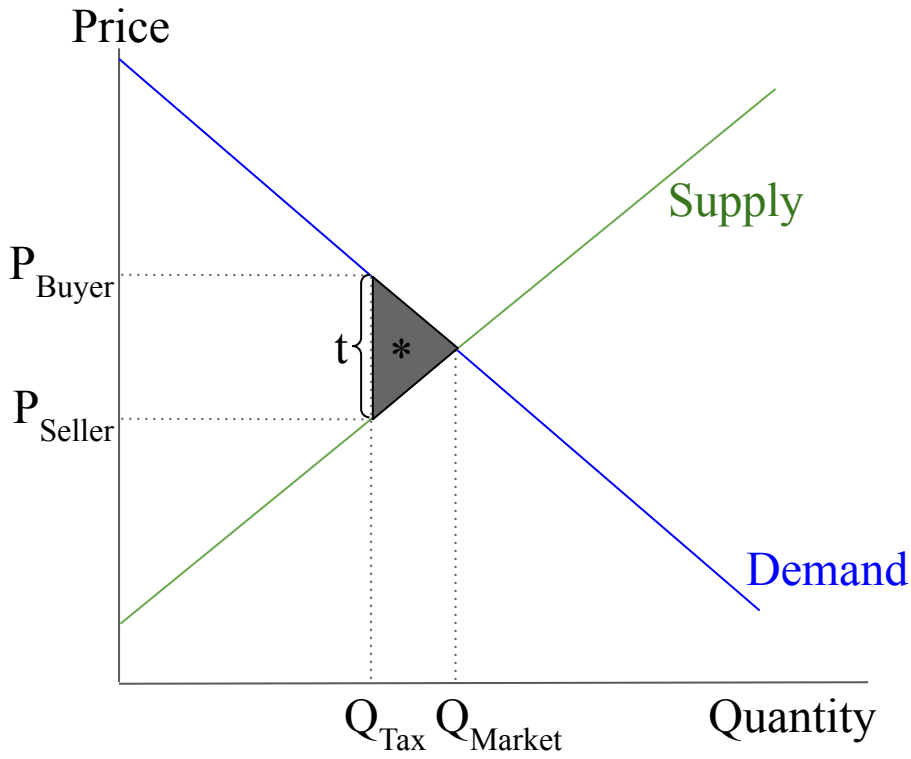
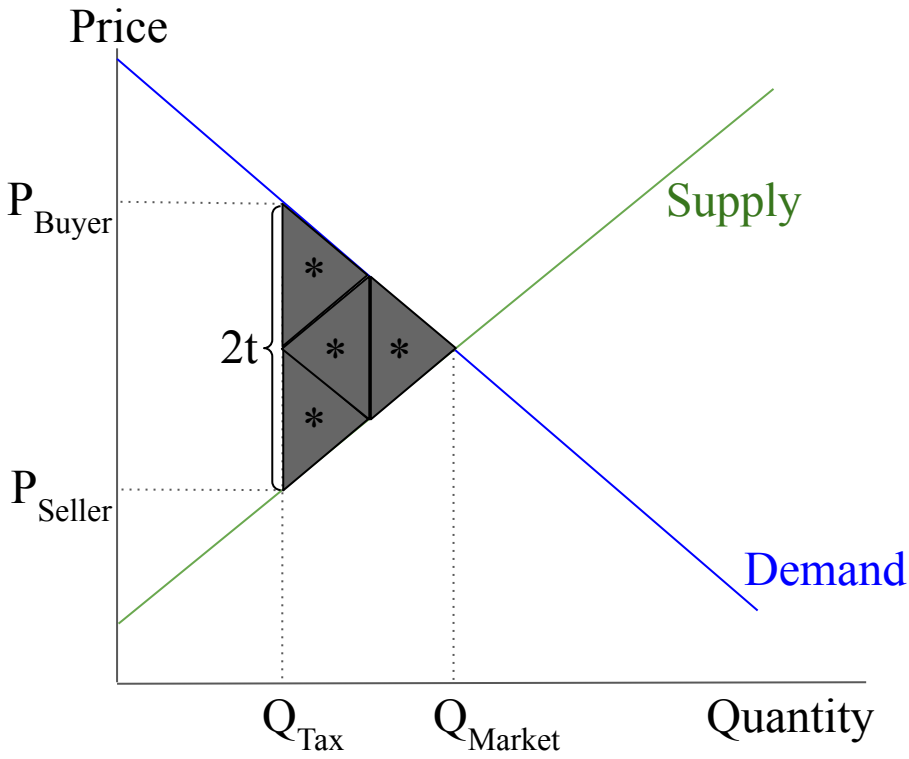


Excess Burden of Taxation

- Introducing a tax causes some DWL
  - Call it "*"
- If you then double the tax…
  - You quadruple the DWL!
- Excess Burden rises more than proportionally
  - Increasing tax destroys more units
    - (Horizontal)
  - And destroys more "valuable" units
    - (Vertical)
- Better to tax many goods a little than one good a lot



Incidence vs. Deadweight Loss

- Incidence is about prices (vertical)
  - Who really pays the tax?
- DWL is about quantity (horizontal)
  - What is lost in aggregate?

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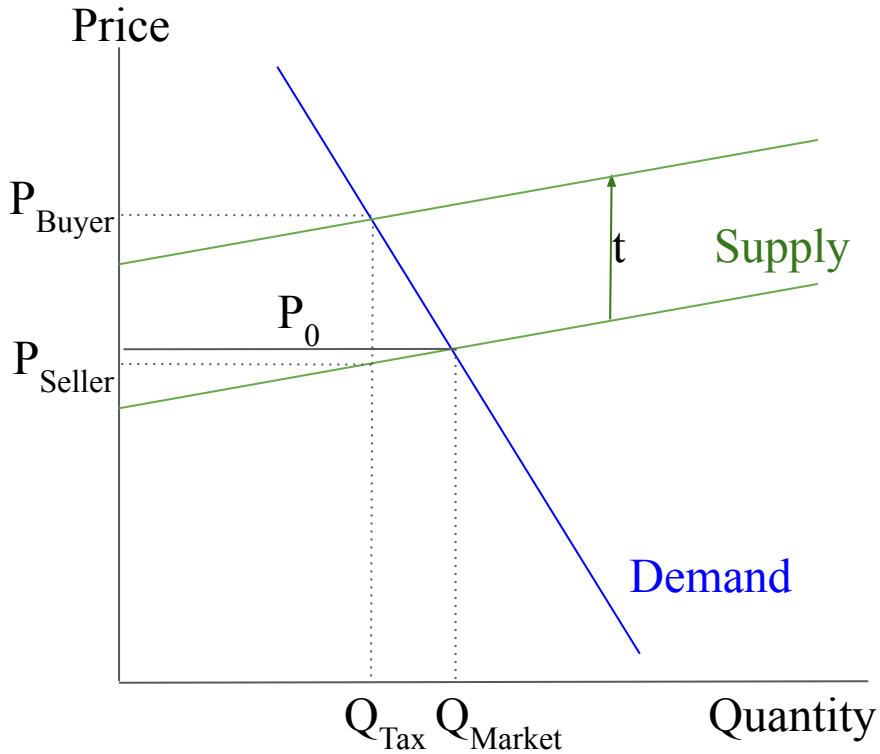

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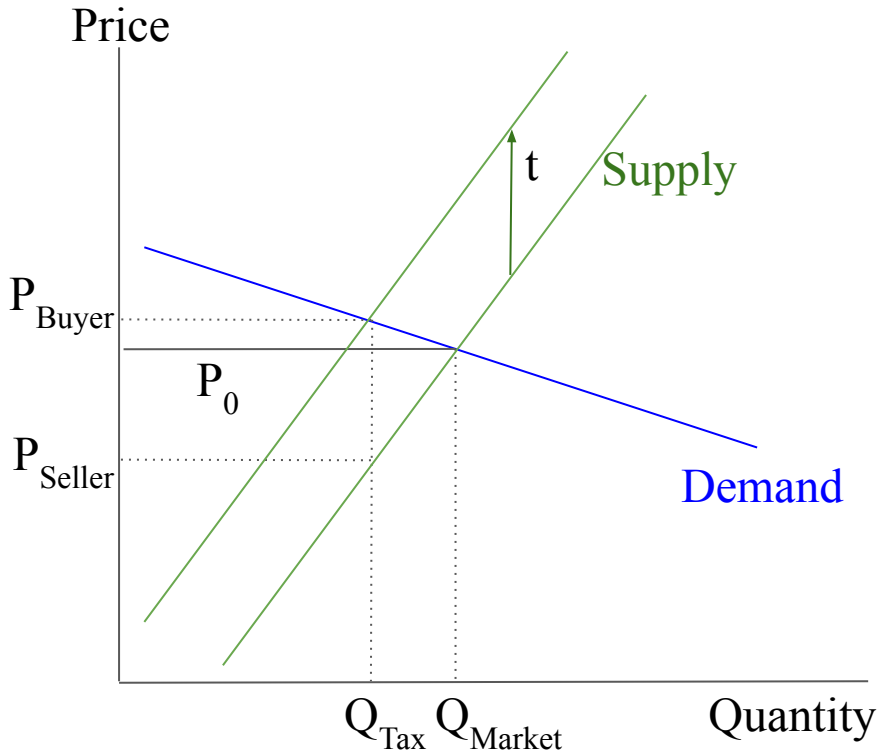

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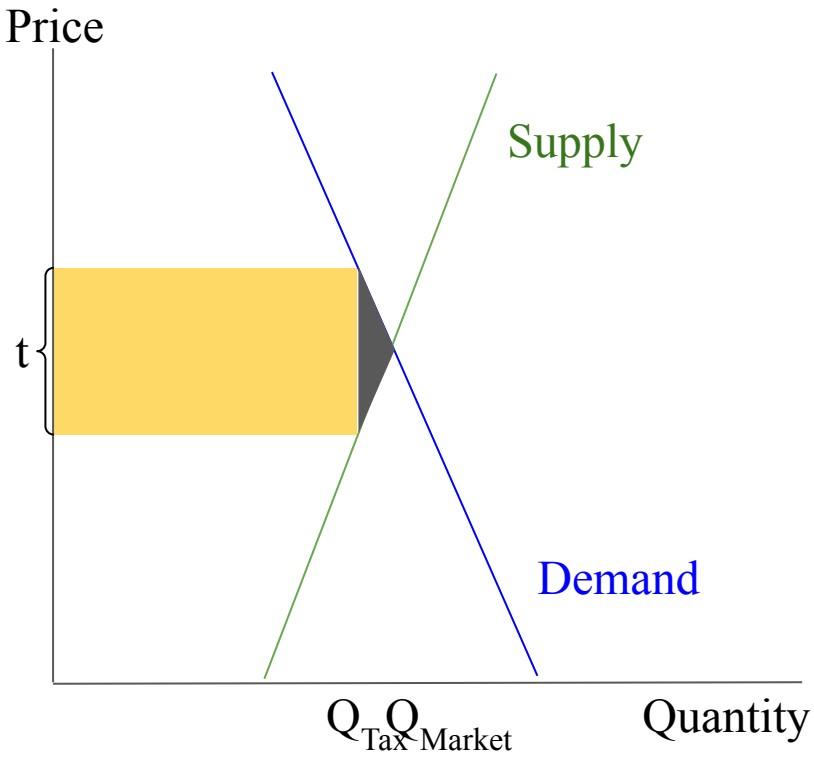
- Incidence falls on less elastic side
- DWL increases with overall elasticities
  - Inelastic: behavior hardly changes
  - Elastic: large change in behavior



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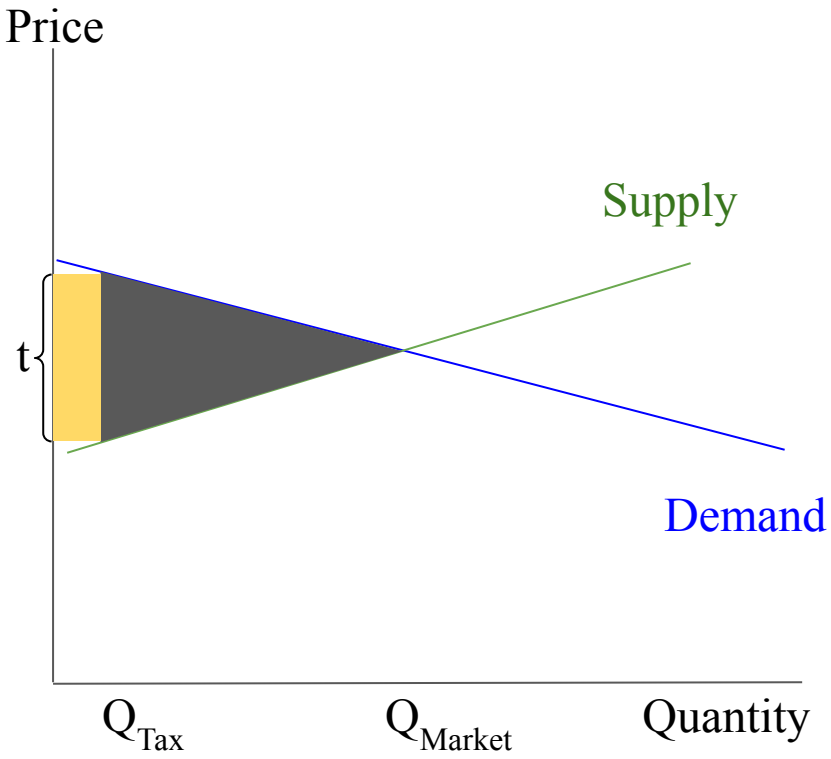
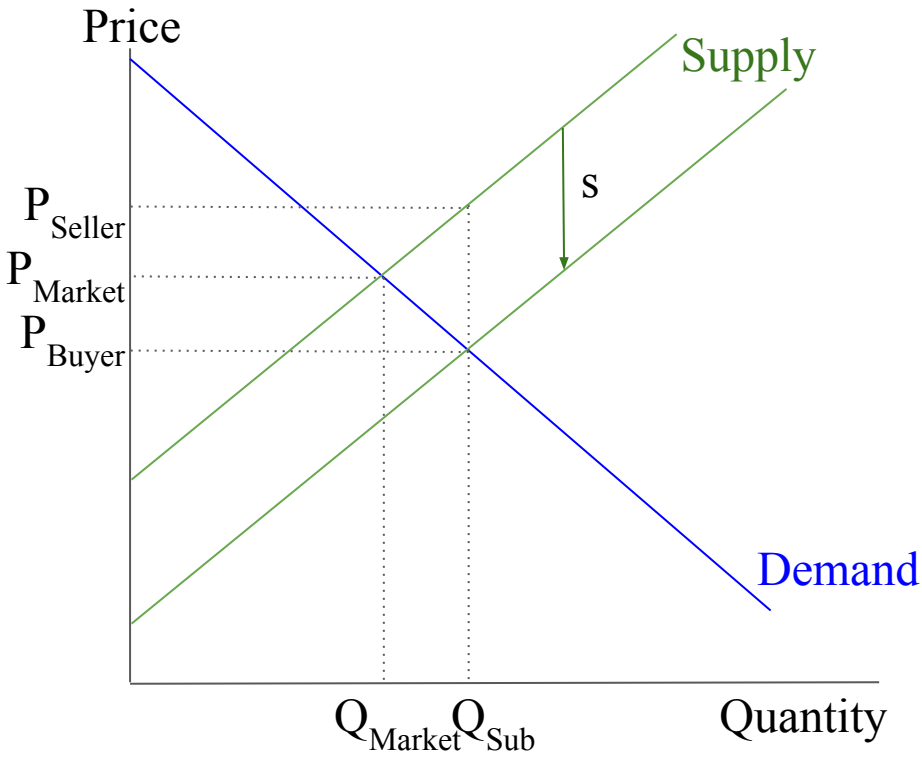


Subsidy

- Give a subsidy of $s/unit
- Supply shifts down/right (or Demand down/left)
  - Quantity increases
  - Price paid by consumers decreases
  - Price received by producers increases



Subsidy

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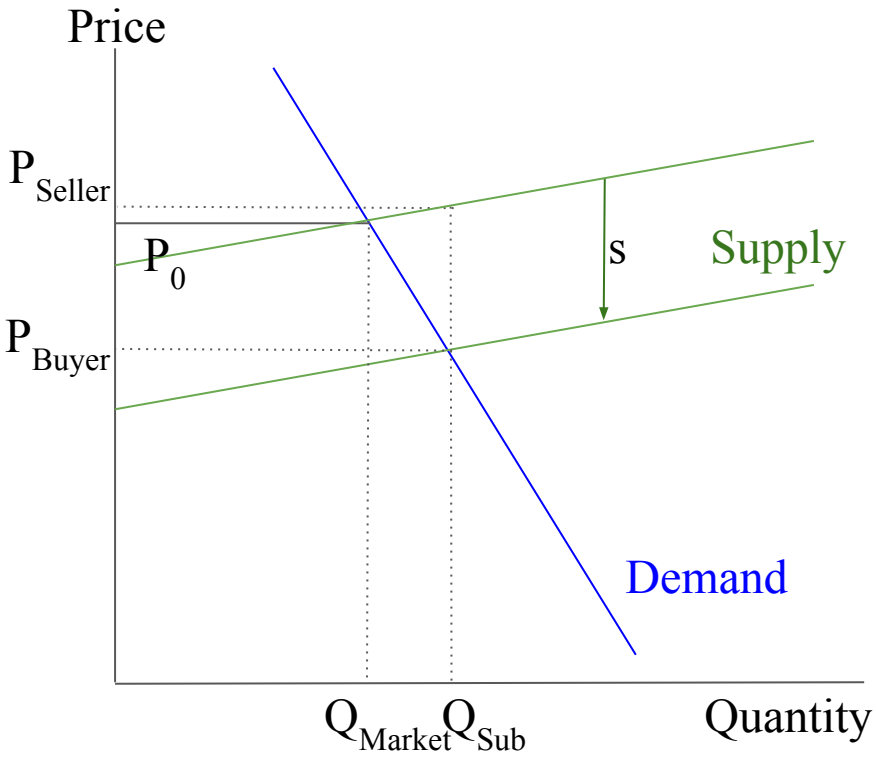
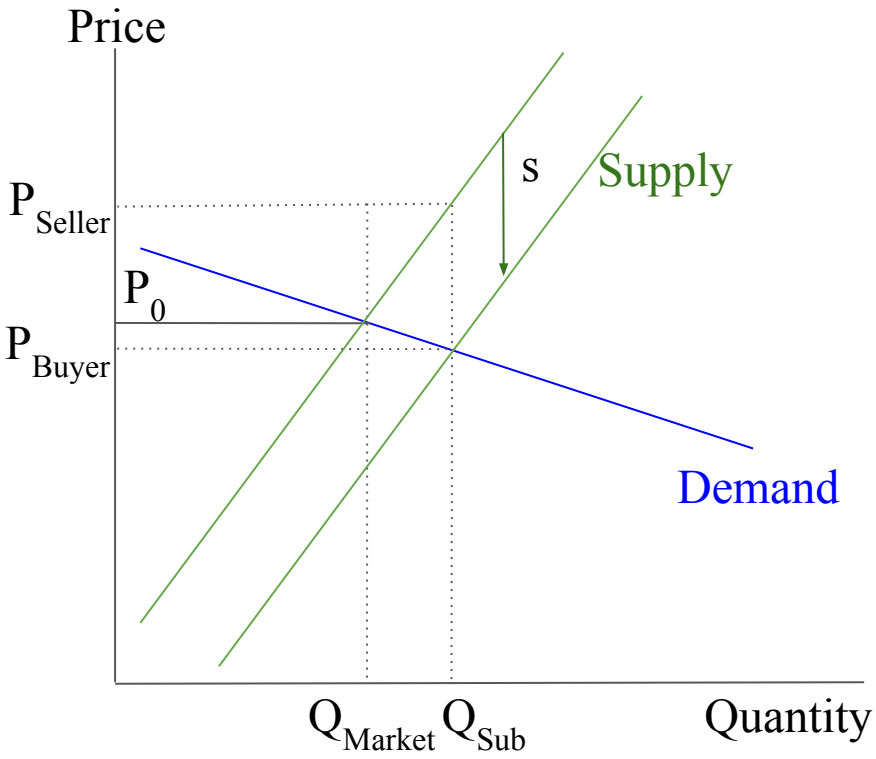
  - Quantity increases
  - Price paid by consumers decreases
  - Price received by producers increases
- Incidence goes to less elastic side



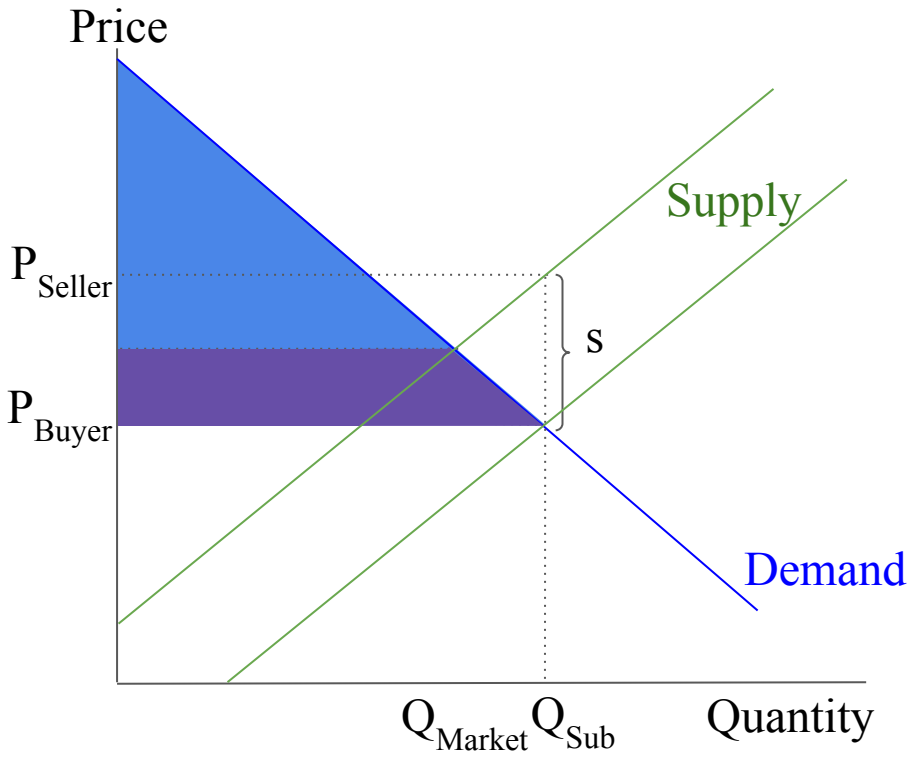
Subsidy

- Give a subsidy of $s/unit
- Supply shifts down/right (or Demand down/left)
  - Quantity increases
  - Price paid by consumers decreases
  - Price received by producers increases
- Incidence goes to less elastic side



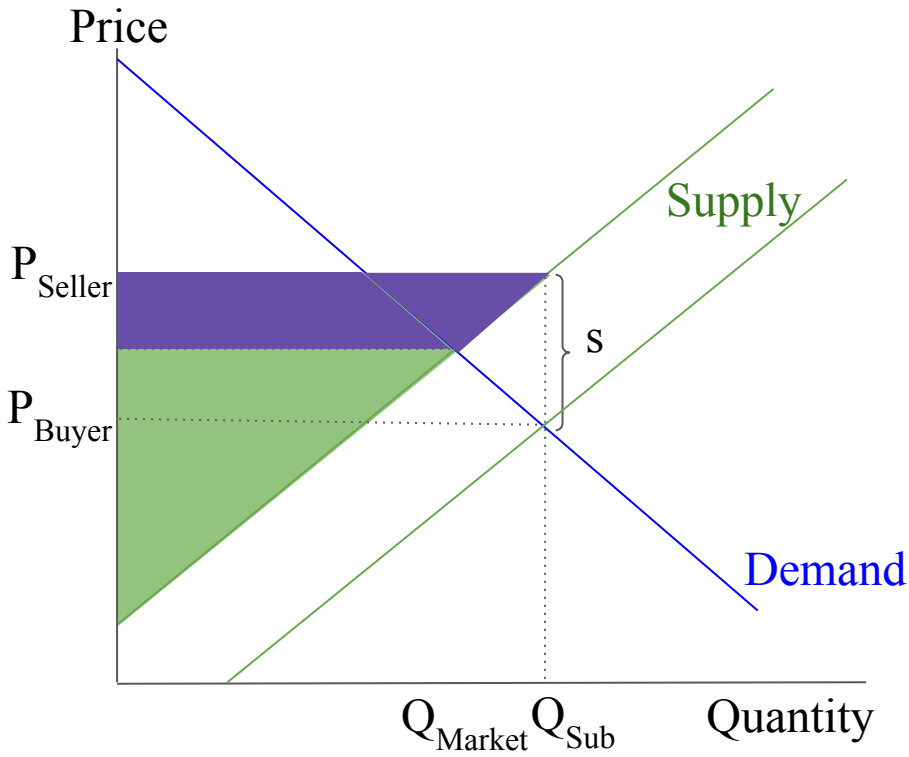
Deadweight Loss of a Subsidy

- Lower P, higher Q raises CS



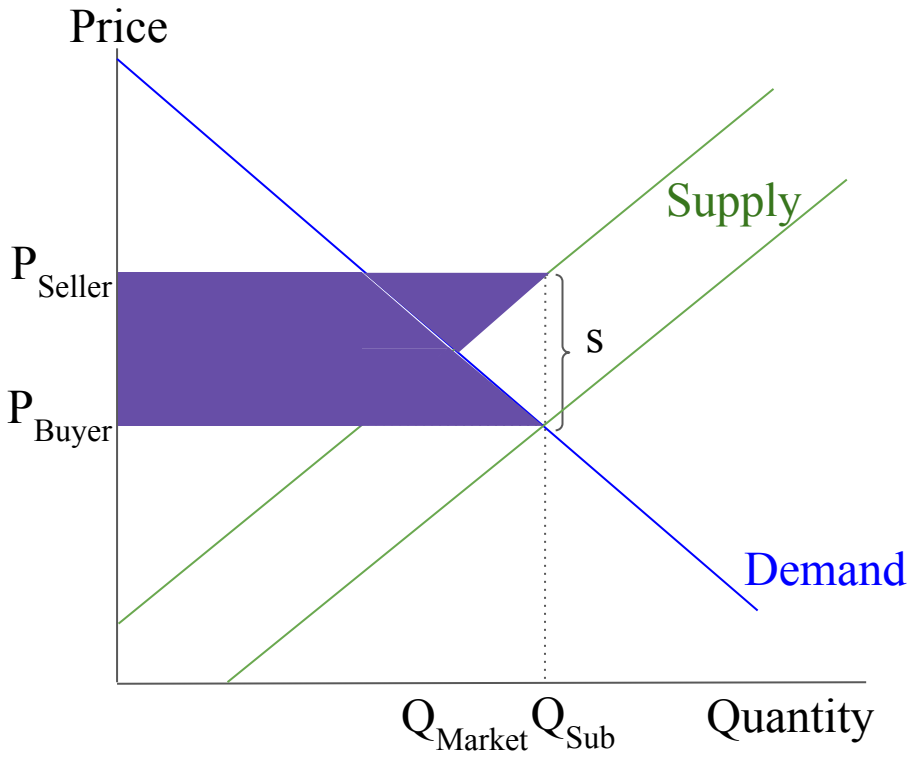
Deadweight Loss of a Subsidy

- Lower P, higher Q raises CS
- Higher P, higher Q reduces PS



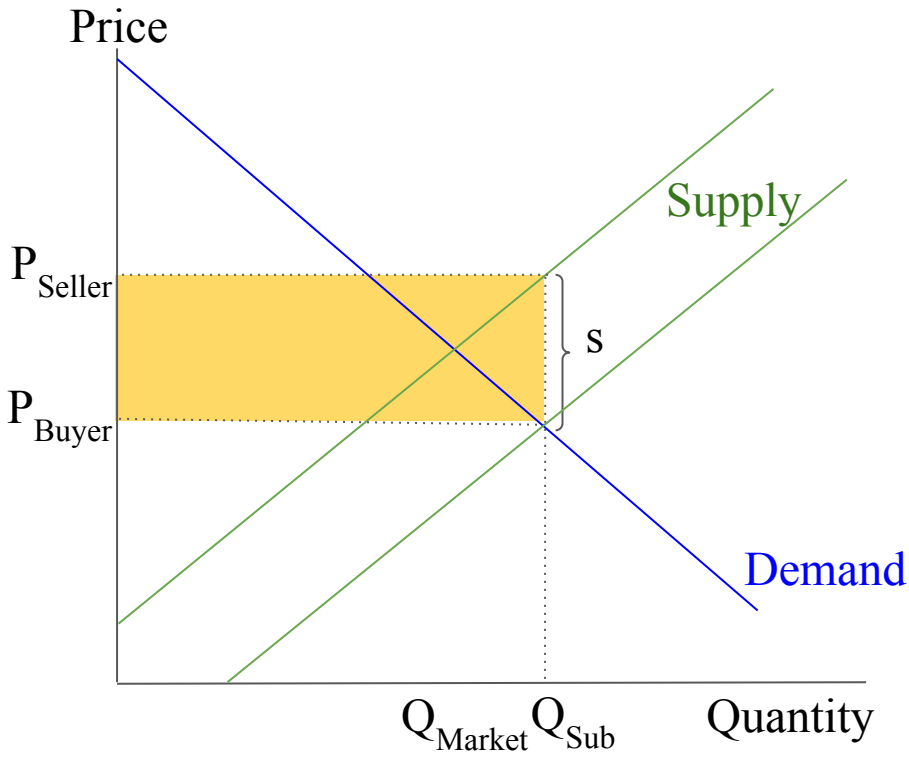
Deadweight Loss of a Subsidy

- Lower P, higher Q raises CS
- Higher P, higher Q reduces PS



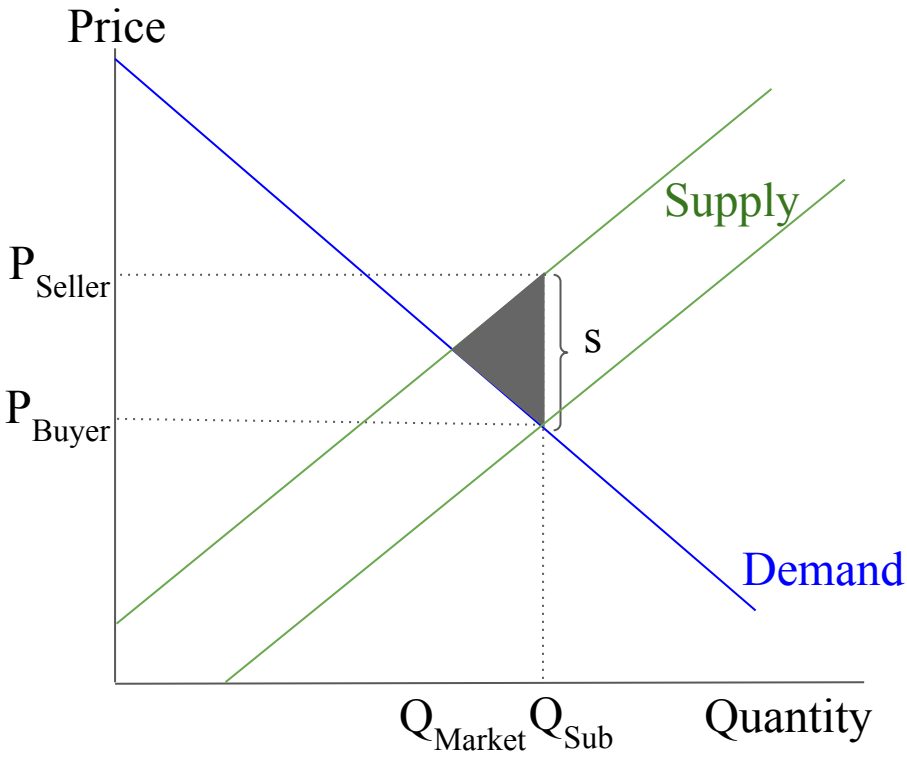
Deadweight Loss of a Subsidy

- Lower P, higher Q raises CS
- Higher P, higher Q reduces PS
- But government's spending outweighs these



Deadweight Loss of a Subsidy

- Lower P, higher Q raises CS
- Higher P, higher Q reduces PS
- But government's spending outweighs these
- Subsidy creates DWL
  - Units are produced with Cost > Value
  - Brings low-value consumers in
  - Brings high-cost producers in
- Once again, price's signal is distorted



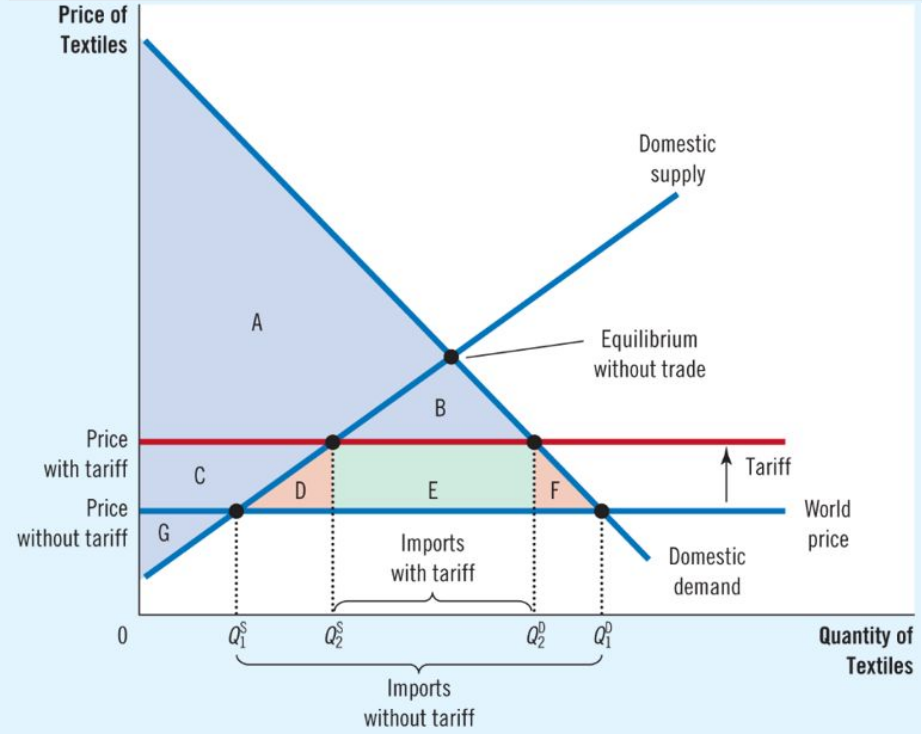
Optimal Taxation

- Only non-distortionay tax is Lump-Sum Tax
  - All people pay a fixed amount. Creates no wedges and so no DWL.
  - But will be grossly inequitable.
- If raising revenue by taxing goods:
  - Spread taxes across many goods
  - Target goods with low elasticities
  - Look for goods where incidence will not fall on poor
    - Caution: not as simple as taxing yachts (see textbook)
- Future lessons
  - Can use taxes to limit undesirable behavior
  - Income taxation is an ideal way to address distributional objective

Tariffs

	Before Tariff	After Tariff	Change
Consumer Surplus	A + B + C + D + E + F	A + B	–(C + D + E + F)
Producer Surplus	G	C + G	+ C
Government Revenue	None	E	+ E
Total Surplus	A + B + C + D + E + F + G	A + B + C + E + G	–(D + F)

The area D + F shows the fall in total surplus and represents the deadweight loss of the tariff.



- A <u>Tariff</u> is a tax on imports.
- Tariffs have re-emerged in policy discussions. What are the consequences?
- Increased price mitigates some of the impacts of international trade
- Government raises money (E)
- Social Surplus falls (D+F)