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Applications of Demand-Supply to Major Economic Issues

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IMPACT OF A TAX ON PRICE AND QUANTITY

- Governments tax a wide variety of commodities— cigarettes, alcohol, imported goods, telephone services
- Who actually bears the burden of the tax, and here is where supply and demand are essential



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What is the division of Petrol Price in India?



How much does a litre of **PETROL** cost?



\$36.50 / barrel*
₹16.81 / litre



₹14.55 / litre
REFINERY & OMC COST



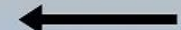
₹31.63 / litre
PRICE TO DEALERS



₹19.98 / litre
EXCISE DUTY



₹3.55 / litre
DEALER MARGIN



₹15.25 / litre
DELHI VAT @ 27%



₹ 70.14

RETAIL PRICE AT THE PUMP



Source: Indian Oil Corporation – Prices as on March 12, 2020 for New Delhi | *Barrel = 159 litres | \$1 = ₹73.27



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Case Study 1

- Why petrol, diesel prices are not falling despite crude oil prices crashing below zero



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- Many economists and environmentalists advocate much higher gasoline taxes
- They point out that higher taxes would curb consumption, and thereby reduce global warming as well as lower our dependence on insecure foreign sources of oil
- Who bears this tax?



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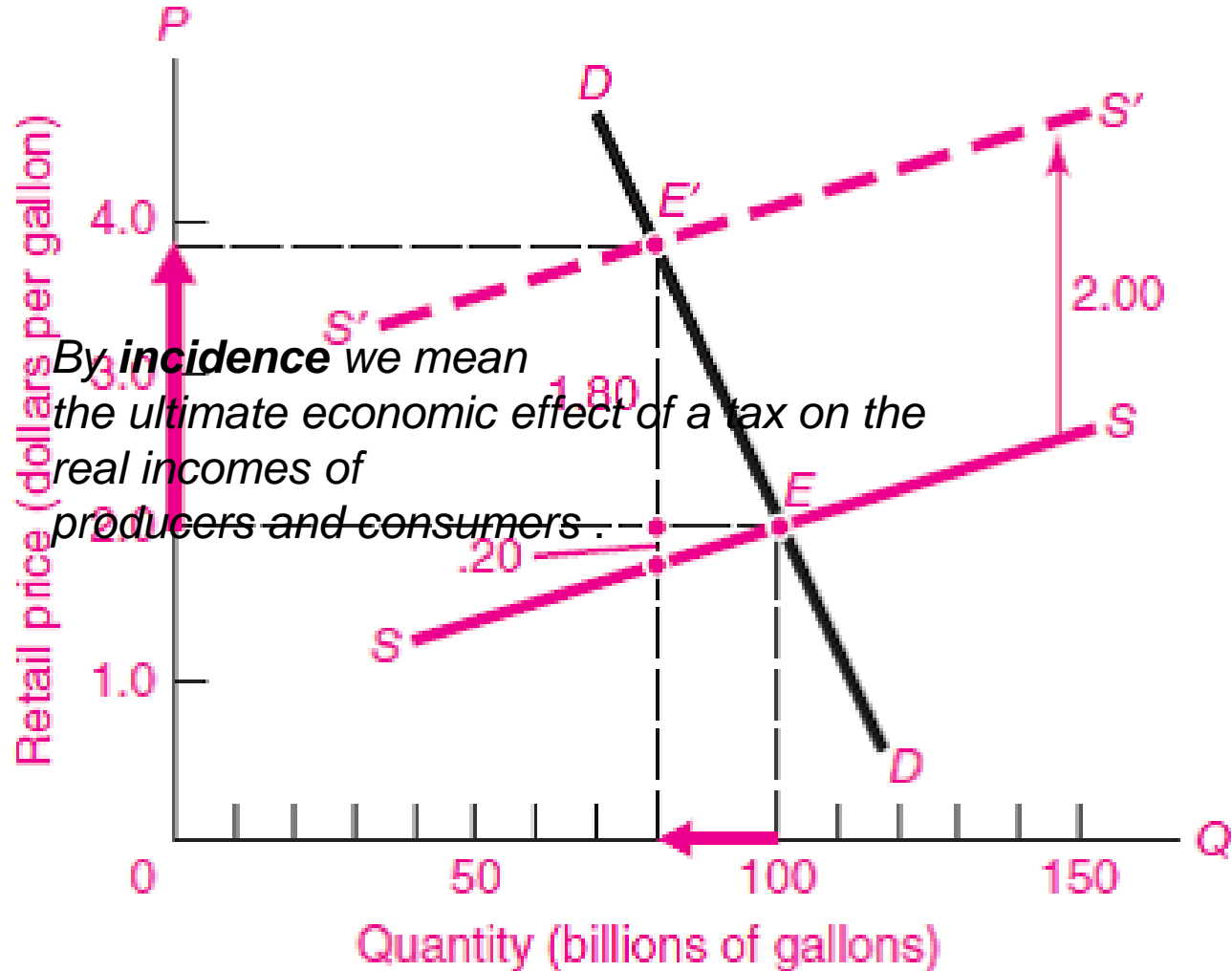
- To know who bears the tax, we need to know the incidence of taxation
- By **incidence** we mean the ultimate economic effect of a tax on the real incomes of producers and consumers .



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Graphical Illustration





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- The original pretax equilibrium at E , the intersection of the original SS and DD curves, at a gasoline price of \$2 a gallon and total consumption of 100 billion gallons per year
- Suppose \$2 tax is imposed in the retail market for gasoline
- Supply curves shifts upward, with the demand curve remaining unchanged
- The demand curve does not shift and supply curve shifts-WHY?



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- The demand curve does not shift because the quantity demanded at each retail price is unchanged by the gasoline-tax increase
- The demand curve for gasoline is relatively inelastic
- Producers are willing to sell a given quantity only if they receive the same *net* price as before
- That is, at each quantity supplied, the market price must rise by exactly the amount of the tax.



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Who ultimately pays the tax?

- Clearly the oil industry pays a small fraction, for it receives only \$1.80 (\$3.80 less the \$2 tax) rather than \$2
- But the consumer bears most of the burden, with the retail price rising \$1.80, because **supply is relatively price-elastic whereas demand is relatively price-inelastic.**



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Taxes and Subsidies

- If taxes are used to discourage consumption of a commodity, subsidies are used to encourage consumption
- In general, the incidence depends upon the relative elasticities of demand and supply
 - (1) A tax is shifted *forward* to consumers if the *demand is inelastic* relative to supply
 - (2) A tax is shifted *backward* to producers if *supply is inelastic* relative to demand.



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Minimum Floors And Maximum Ceilings

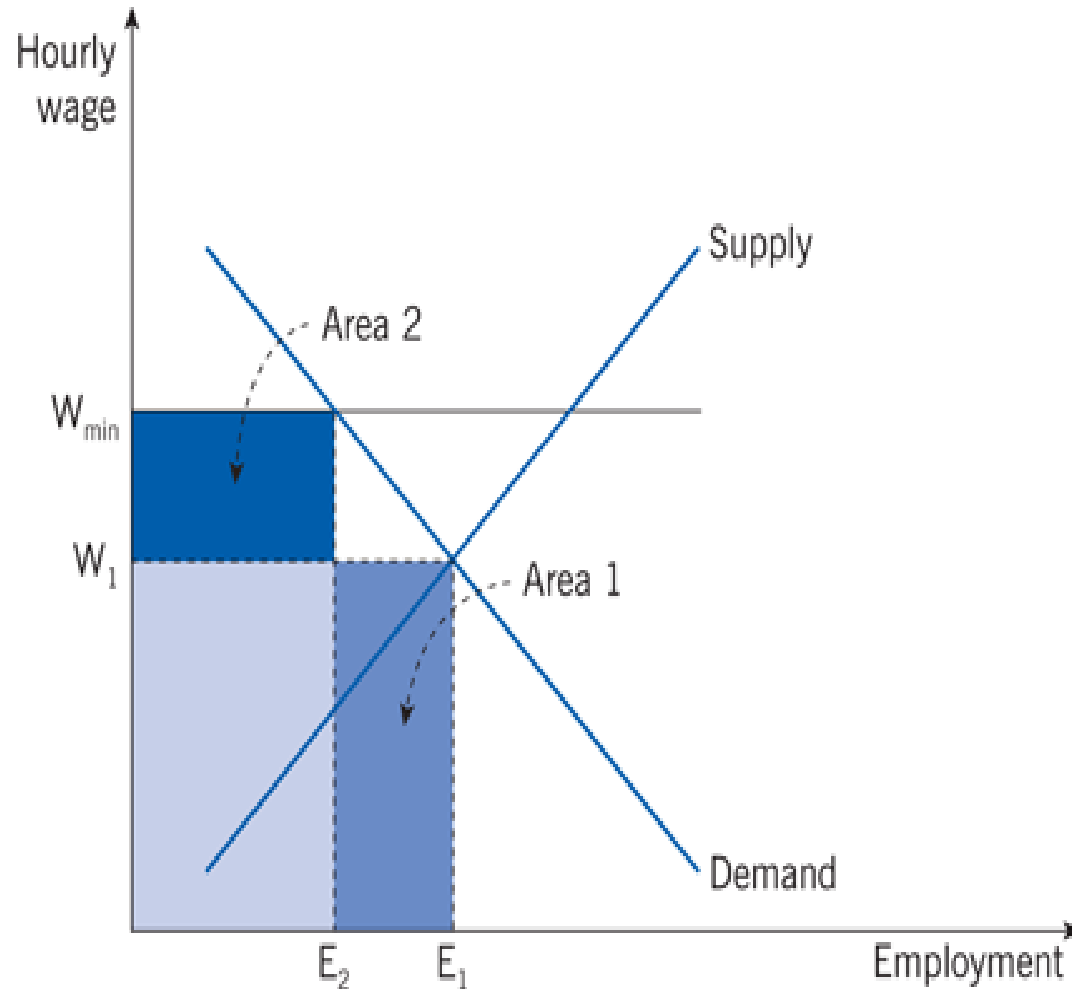
- Sometimes, rather than taxing or subsidizing a commodity, the government legislates maximum or minimum prices
- The minimum wage sets a minimum hourly rate that employers are allowed to pay workers.



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Minimum Wages-Minimum Floors



Note: If area 2 is greater than area 1, then the aggregate earnings will increase as a result of the minimum wage.



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Maximum Price Ceiling

- Another example of government interference comes when the government legislates a maximum price ceiling
- **Energy Price Controls**

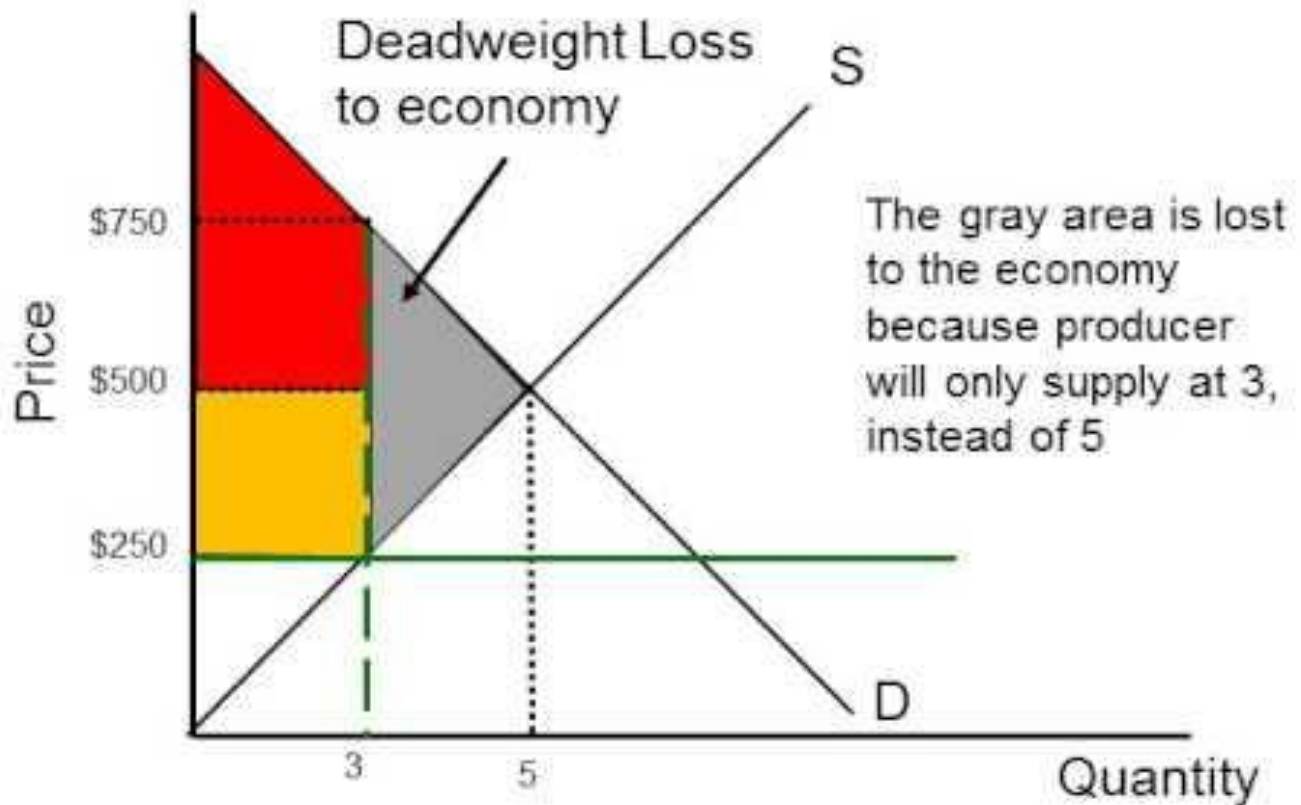


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Price Ceiling

Price Ceiling: Consumer Surplus





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Happy Learning

