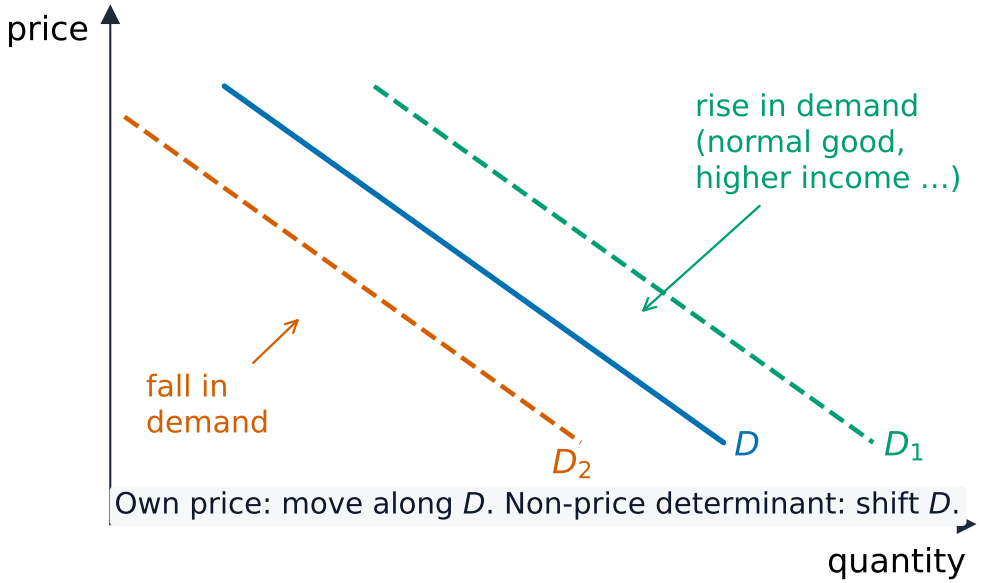
Exercise walk-through

2.2
Elasticities of demand and supply

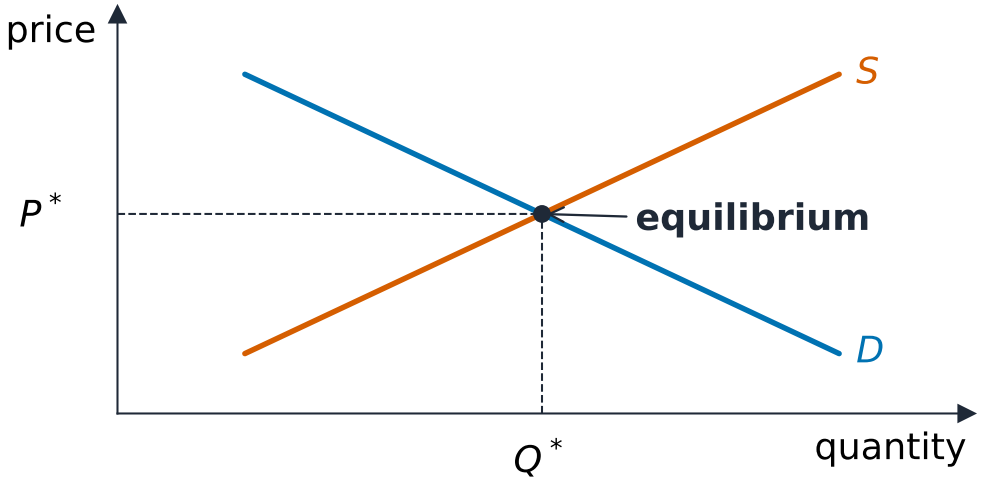
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Figure: Demand and supply



- A price change moves along D; a non-price determinant shifts the whole curve.
- Price on the vertical axis, quantity on the horizontal.

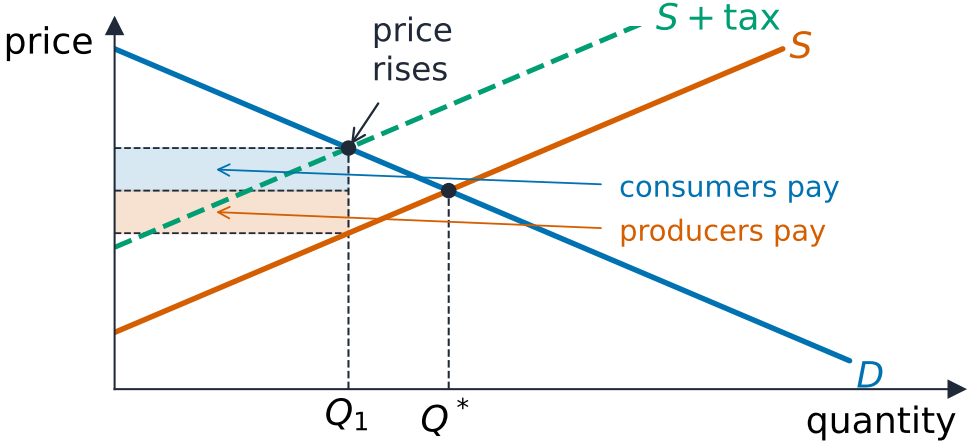
Figure: Competitive market equilibrium



equilibrium: $Q_d = Q_s$ at (P^*, Q^*) (market clears)

- Equilibrium is where quantity demanded equals quantity supplied.
- Price on the vertical axis, quantity on the horizontal.

Figure: The role of government in microeconomics

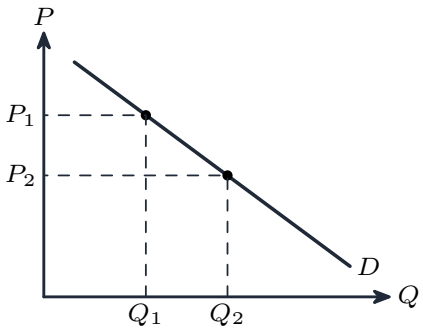


tax: S shifts left · incidence split consumers/producers

- An **indirect tax** shifts supply up; consumers and producers share the burden.
- Price on the vertical axis, quantity on the horizontal.

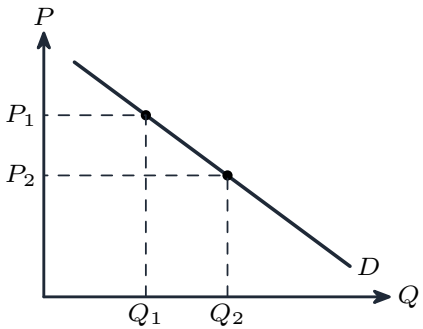
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2.1 Define **price elasticity of demand**. [2]



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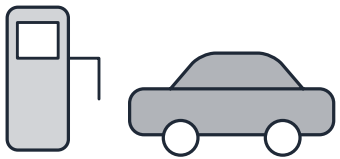


2.1

a measure of how responsive the quantity demanded of a good is; to a change in its own price

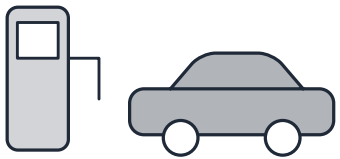
Exercise 2.2

2.2 Explain **two** reasons why demand for petrol is price inelastic. [2]



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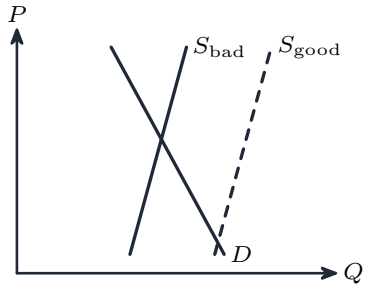


2.2

any two: few close substitutes in the short run; a necessity for many drivers / workers who commute; habit; costs of switching to electric cars or public transport are high

Exercise 2.3

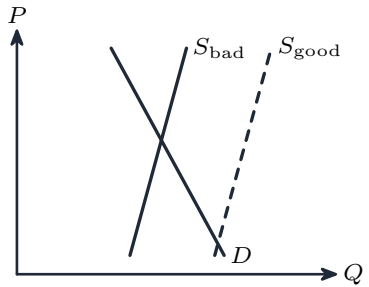
2.3 Explain why the prices of agricultural products tend to change a lot from year to year. [4]



[[drawlines:4]]

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[[drawlines:4]]

2.3

demand for food is price inelastic: necessity, few substitutes; supply is price inelastic in the short run because crops take time to grow; supply shifts a lot because of weather and disease; with steep (inelastic) curves, a shift in supply causes a large change in price

Exercises 2.4·2.5

2.4 When a cinema raises its ticket price from \$10 to \$12, weekly sales fall from 2000 to 1800. Calculate the PED and the change in total revenue, and state whether the price rise was a good idea for revenue. [3]

price	\$10	\$12
sales	2000	1800

2.5 Household incomes rise by 5%. Demand for bus journeys falls by 2% and demand for restaurant meals rises by 8%. Calculate the YED for each and classify the goods. [3]





Exercises 2.4·2.5

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2.4

$\%\Delta Q = -10\%$, $\%\Delta P = +20\%$, PED = $\mathbf{-0.5}$ (inelastic); TR rises from \$20,000 to \$21,600, a rise of \$**1600**; yes: demand is inelastic, so the price rise increased revenue

2.5 Household incomes rise by 5%. Demand for bus journeys falls by 2% and demand for restaurant meals rises by 8%. Calculate the YED for each and classify the goods. [3]



2.5

bus: $-2 \div 5 = \mathbf{-0.4}$: inferior good; meals: $8 \div 5 = \mathbf{1.6}$; a normal good and a luxury (income elastic)

Exercise 3.1 (a)

3.1 A government wants to raise tax revenue and reduce smoking.

(a) Explain why cigarettes have a low PED. [2]

Exercise 3.1 (a)

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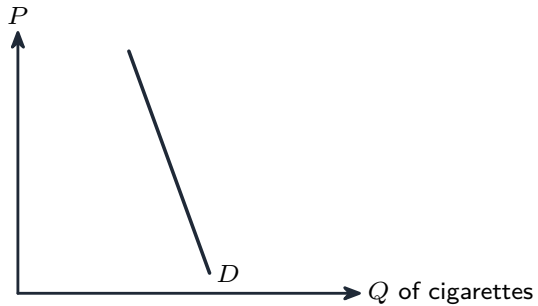
(a) Explain why cigarettes have a low PED. [2]

(a) addictive / habit-forming; few close substitutes

Exercise 3.1 (b)

3.1 A government wants to raise tax revenue and reduce smoking.

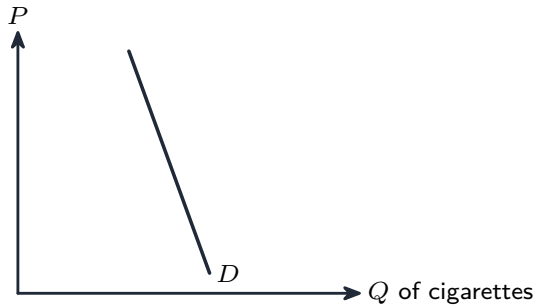
(b) Discuss whether taxing cigarettes will meet **both** of the government's aims. [6]



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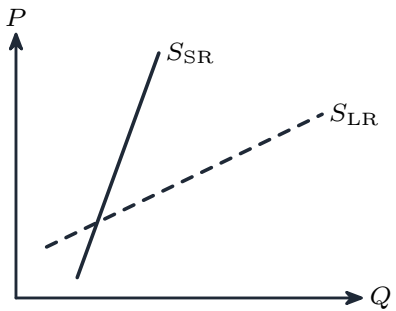


(b) a tax raises the price; because demand is inelastic, quantity falls only a little; so the tax raises a lot of revenue: aim 1 met; but smoking falls only a little: aim 2 only partly met; in the long run demand becomes more elastic (people quit, fewer start), so smoking falls more; risks: smuggling, a regressive burden on low-income smokers; judgement: good for revenue; for health it works better with bans, education and support to quit

Exercise 3.2 (a)

3.2 A car maker's price rises from \$20,000 to \$22,000 and it supplies 55 000 cars a year instead of 50 000.

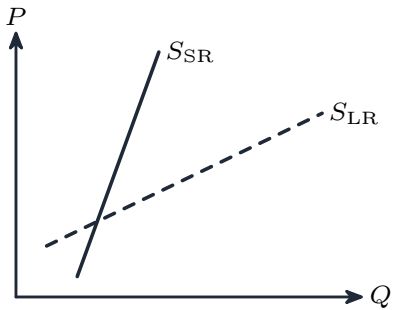
(a) Calculate the PES. [2]



Exercise 3.2 (a)

3.2 A car maker's price rises from \$20,000 to \$22,000 and it supplies 55 000 cars a year instead of 50 000.

(a) Calculate the PES. [2]



(a) $\%\Delta Q_s = 10\%$, $\%\Delta P = 10\%$; PES = **1** (unit elastic)

Exercise 3.2 (b)

3.2 A car maker's price rises from \$20,000 to \$22,000 and it supplies 55 000 cars a year instead of 50 000.

(b) Explain why PES is likely to be higher in the long run. [2]

Exercise 3.2 (b)

3.2 A car maker's price rises from \$20,000 to \$22,000 and it supplies 55 000 cars a year instead of 50 000.

(b) Explain why PES is likely to be higher in the long run. [2]

(b) in the long run firms can build new factories, hire and train workers, and new firms can enter; so quantity supplied can respond more to a price change