

Externalities

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Externalities

- **The Economy 2.0:** Free open access text for introductory microeconomics undergraduate courses
 - Microeconomics- Actors, Institutions, and Outcomes
 - Unit 10: Market successes and failures: The societal effects of private decisions
 - 10.1 to 10.5
 - <https://core-econ.org/the-economy/microeconomics/10-market-successes-failures-01-bananas-fish-cancer.html>

What is an externality?

A side effect or consequence of an industrial or commercial activity that affects other parties without this being reflected in the cost of the goods or services involved.

Why we study externalities?

- **Market Failures** – Externalities cause markets to allocate resources inefficiently, leading to overproduction (negative externalities) or underproduction (positive externalities).
- **Real-World Examples** – Pollution, traffic congestion, and research spillovers all involve externalities that impact society beyond individual choices.
- **Policy Implications** – Governments use taxes, subsidies, and regulations to correct externalities and improve overall welfare.

What are some externalities linked to cars?

- Pollution
 - Local
 - Global
- Noise
- Congestion
- Accidents

What about car's weight?

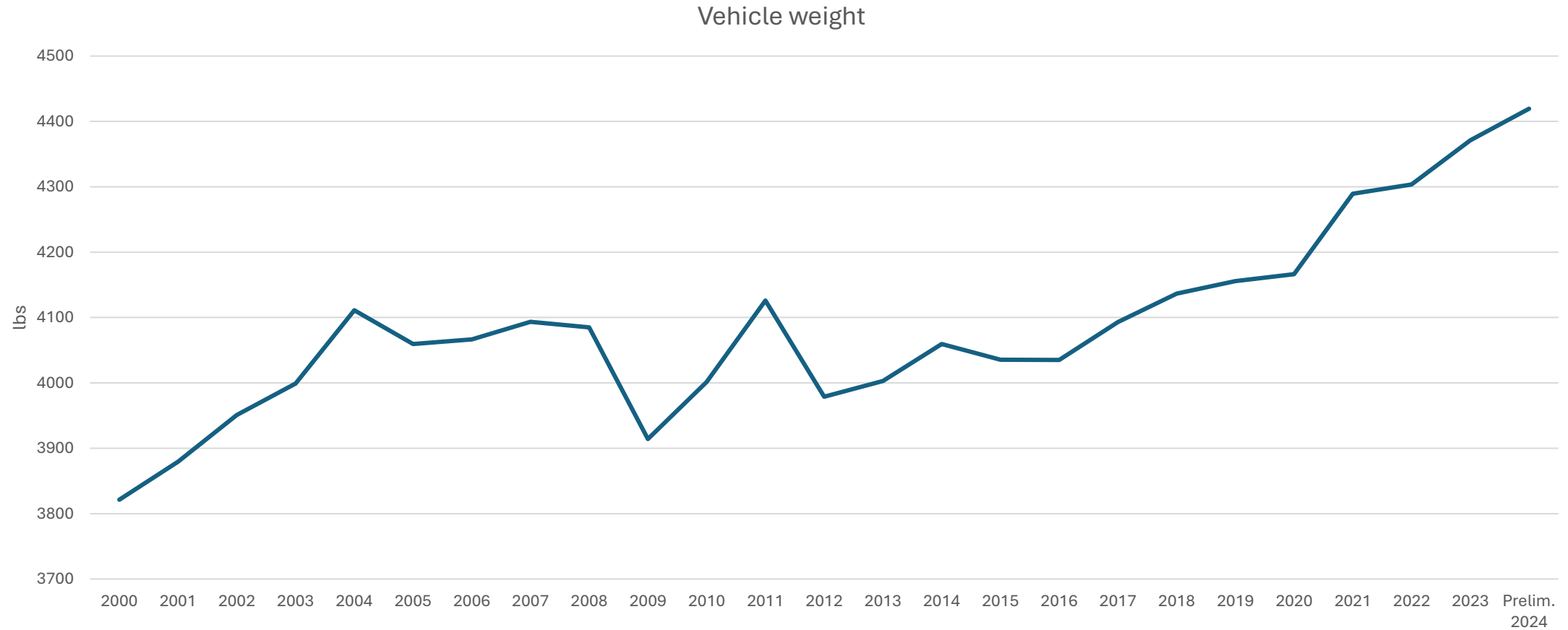
- Are the following externalities?
 - Heavy cars have worst fuel efficiency.
 - Heavy cars erode the pavement faster.
 - Heavy cars wear their tires faster.
 - In a two-car collision, the heavier the striking vehicle, the greater the risk of severe injury or death for occupants of the lighter vehicle.

What about car's weight?

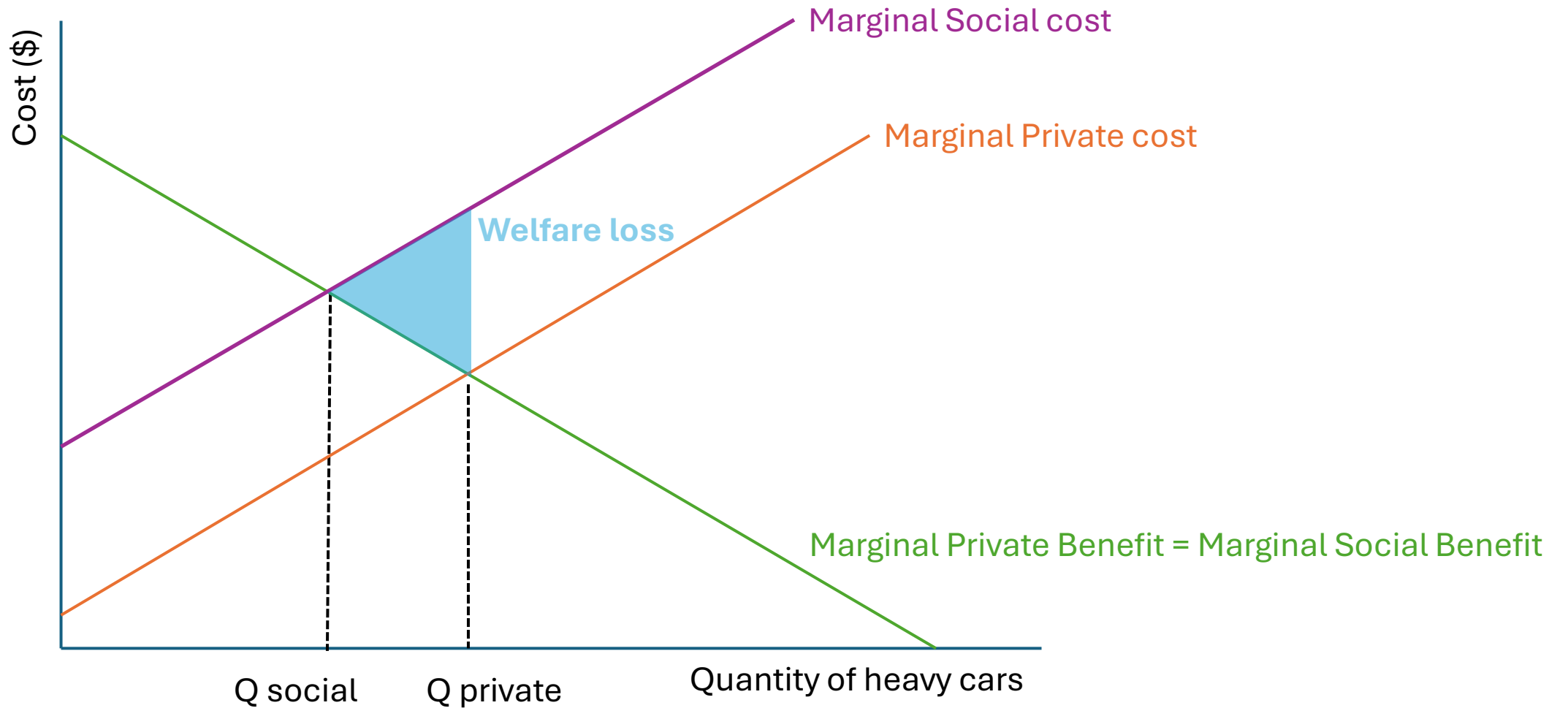
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Cars are getting heavier.



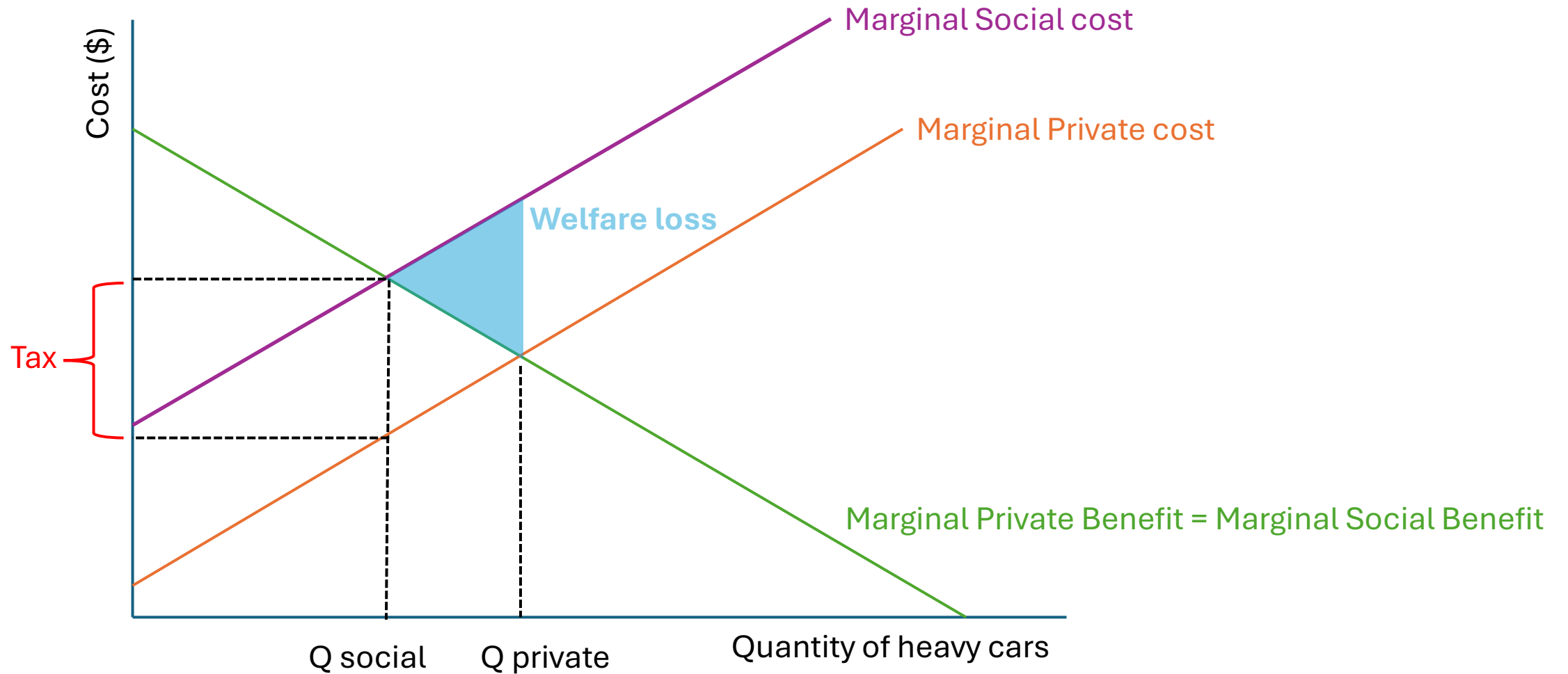
Negative externality: Overconsumption



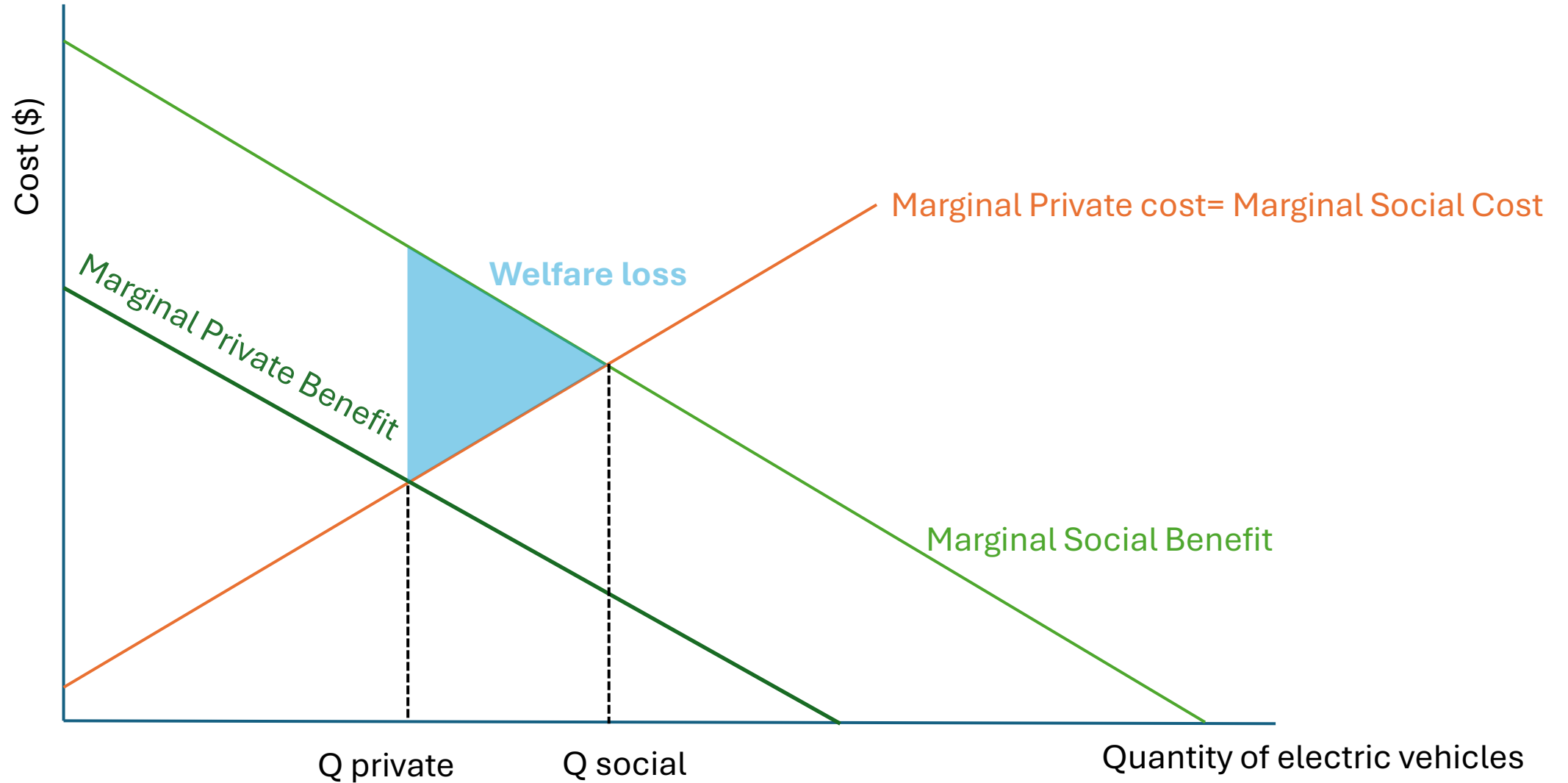
Pigouvian taxation

- A tax levied on activities that generate negative external effects so as to correct an inefficient market outcome.

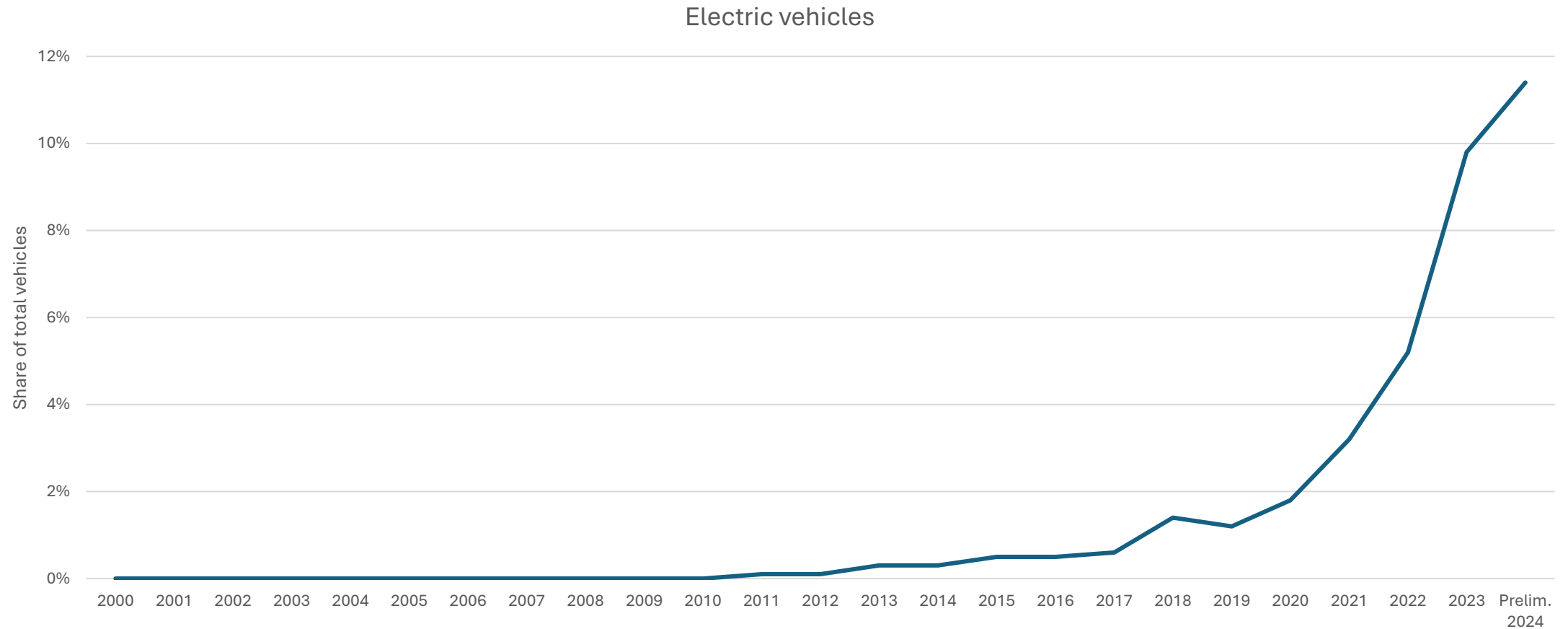
Negative externality



Positive externality: Underconsumption



BEV are becoming more popular.



What are the differences?



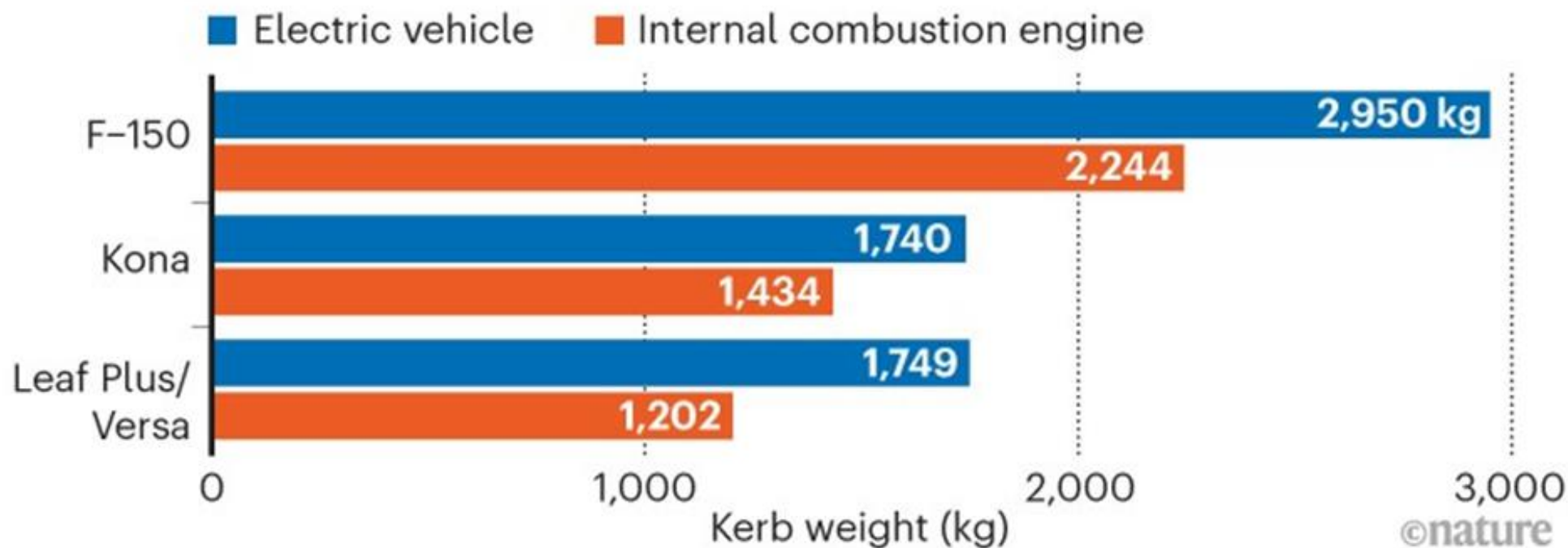
- 2,000 pounds
- Internal combustion engine



- 10,000 pounds
- Electric vehicle

HEAVIER ELECTRIC FLEET

Bulky batteries and their supports mean electric vehicles weigh more than petroleum predecessors.



Some policies in place in CA

- Federal tax credit for EVs:
 - New: \$7,500
 - Used: \$4,000
- PG&E: Up to \$4,000 on the purchase of preowned EV
- Carpool lanes for single use EV
- Weight Fees for Commercial Vehicles: \$24

[Electric Vehicles](#) / [Economy](#)

Who covers the gas tax when the electric revolution hits?

Alberta slipped EV owners a bill for \$200 to account for the wear and tear on roads their cars cause

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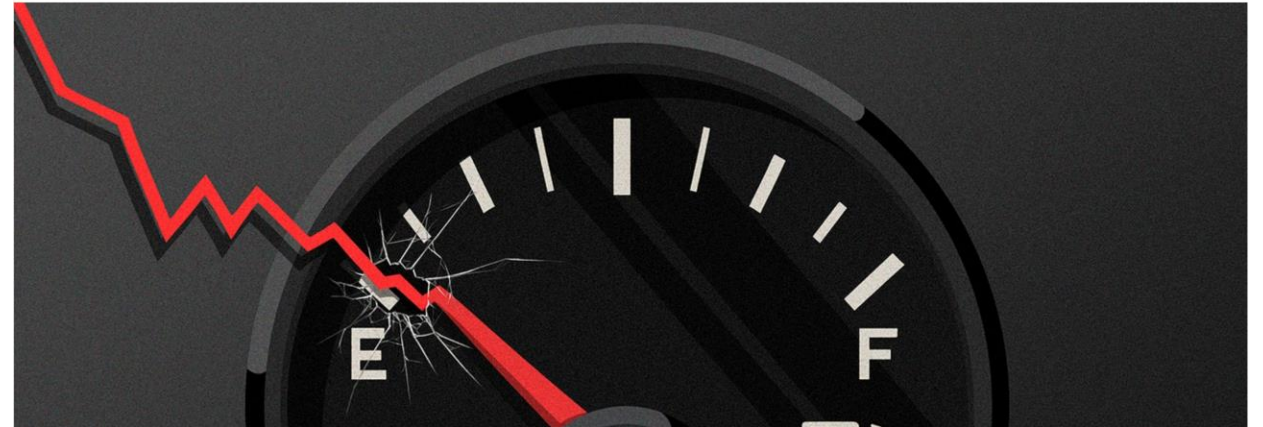
47 Comments



THE FIFTY

The dark side of the EV revolution: Road taxes

Pay-per-mile fees have emerged as the most likely solution to dropping gas revenues linked to electric vehicles.



The New York Times

E.V. Owners Don't Pay Gas Taxes. So, Many States Are Charging Them Fees.

States are using higher registration fees for electric cars to make up for declining fuel taxes, but some are punitive, environmentalists say. A federal tax could be coming.

You are the policy maker:

What will you do?

What we learned

- What are externalities
- Pigouvian taxation
- Externalities linked to cars
- Evolution of the vehicle fleet
- Policies in place in CA related to EV's and heavy cars.
- Policy design is not so simple