

Economics of Regulation

Week 1 - Introduction

Queen's University - Lecturer: Lei Xu

Introduction

- Government regulation of firms
 - M&A
 - Public utilities
 - Pollution
 - Broadband auction
- Government regulation of individuals
 - Direct: smoking, seat belt
 - Indirect: product safety (e.g., child walker)

Typical Day

- Check phone: phone plan
- Breakfast: milk
- YouTube: net neutrality
- Go to school by car: safety, environment friendly
- By bus/subway: fare
- Uber/Lyft: strike, employee/contractor
- Restaurant: food safety
- Pay by credit card: no favoritism, interchange fees
- Texting: iMessage on Android

Rationales for Regulation

- Ideal: perfect competition with no externalities
- Reality: monopoly/oligopoly/collusion, externalities
- Two mechanism to regulate firms
 - Pricing incentives: tax: alcohol, cigarette, car emission, environment fees, gas tax
 - Control behavior: Antitrust (block merger), utilities price
- Regulate individuals: recycling, mask policy



LG 43" 4K UHD HDR LED webOS Smart TV (43UP7560AUD)
- 2021

SAVE \$50
\$549.99

SALE ends: September 9, 2021

✓ Available to ship

⊘ Sold out in nearby stores

 **Remove**

 **1** 



Geek Squad Protection

K1L

Update

Order Summary

Product Subtotal \$599.99

Order Discounts **-\$50.00**

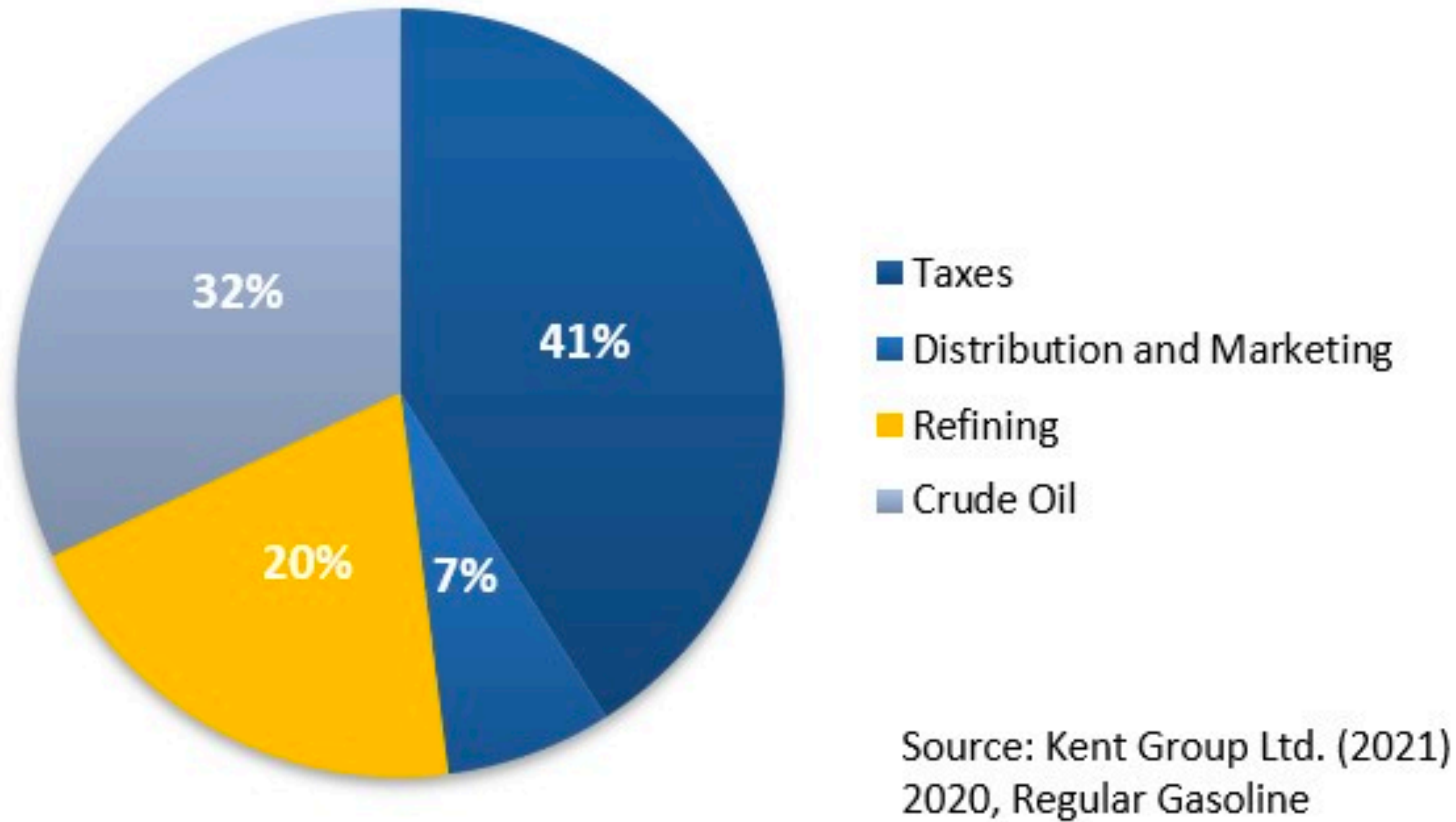
Estimated Shipping Free

Environmental Handling
Fees \$8.00

Estimated Taxes \$75.14

Estimated Total \$633.13

Canada - Pump Price Components



Regulation

- Changing environment
 - Market definition: Amazon, Air Canada
 - New economies: platform with network effects
 - Economic tools: argument, OLS, structural models
- Law vs. Econ Regulation: how to apply vs. rationales behind the law
- Economic consulting

Antitrust Regulation

- Antimonopoly
- Concern of the danger of monopoly
- Changing history:
 - IBM, AT&T, GM, Microsoft
 - Global competition and technological innovation
- Reasons/concerns of monopoly
 - Economic efficiency loss
 - Product quality & variety
- Economic research
 - What matters is not monopoly size but barriers to entry: Tesla
 - Monopolies have more incentives/resources to innovate: Intel, Amazon

Economic Regulation

- Natural monopoly: good for economic efficiency
 - e.g., utilities, railway, airport
 - But they need to be tamed
- Rate regulation
 - If too low: good for consumers, but bad for long-term innovation
- Fixed vs marginal cost
 - Electric company: huge FC (plants, equipments)
 - How to allocate FC among users?

Social Regulation

- Health, safety, environment
- Externalities: cost or benefit for a third party who did not agree to it
 - Ideally, markets exist to fix that
 - e.g., smoking next to a non-smoker

Criteria for Assessment

- Cost-benefit analysis
- Never perfect and can cause harm
 - Higher price
 - Fewer product variety (baby walker)
- Capture theory: regulatory agency highly influenced by interest groups
- Government vs. market failure
 - 2008 financial crisis



Making of Regulation

- Stylized: national regulatory agency establishes government policy to maximize national interests, then specific agency foster those interests
- Complication
 - Local vs. national: often starts at the local level
 - National interest: capture theory
 - Multiple government agencies & judiciary
 - Politics
- Economic regulatory body: supposed to be independent agencies

The Federalism Debate

- Many regulations are local: utility prices, insurance (e.g., QC)
 - Others start with local regulation and later adopted to the federal level, e.g. indoor smoking
- Federalism: transfer some regulatory control to states
 - Local conditions: different preferences
 - Variety: relocation
 - Heterogeneity of cost and benefit: e.g., less regulation as a test ground for innovation

The Federalism Debate

- National Regulation
 - Information advantage: FDA / CFIA & Health Canada (product testing, vaccine): too costly to replicate
 - More efficient for nationally marketed consumer product: QC vs. rest of Canada.
 - Local problems with national ramification
 - Pollution: national or even global
 - Mask mandate: Texas lifted mask mandate in March 2021
 - Some policy is viewed so important that should apply to the entire nation
 - Discrimination based on race/sex

There's something for everyone with Prime!

Check out what's included with your Prime membership.

TRY PRIME

After your free trial, Amazon Prime is just CDN\$ 7.99/month (plus any applicable taxes). Cancel anytime. **Quebec** residents receive an initial 2-month membership for CDN\$ 7.99, instead of a free trial.

[Are you a student?](#)

[See more plans](#) ►

Federalism - Product Labeling Example

- California Prop 65
- Quebec business names

 WARNING 

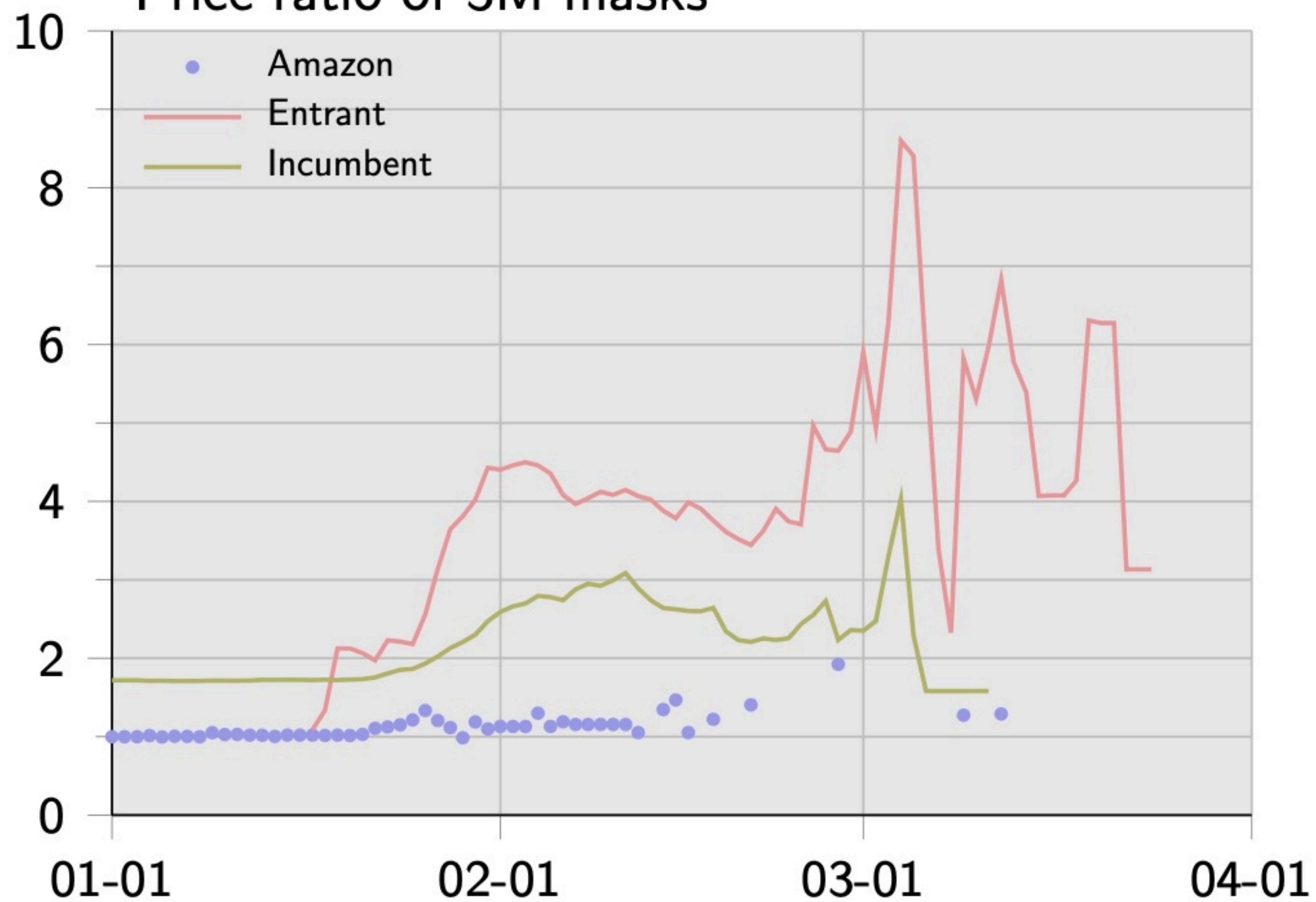
This Product Is
Known To The
State of California
To Cause Cancer



Federalism - Price Gouging

- No federal laws but mostly at the state level
- Natural disaster: hotel room rate, gas price
- COVID-19: mask & hand sanitizers
- Highly debatable topic
 - Economists: efficient with supply & demand working
 - Rest: accuse sellers of price gouging
- Reputation makes sellers self-regulate

Price ratio of 3M masks



Cost-Benefit Analysis

- Criteria: $\text{benefit} > \text{cost}$
- Maximize $\text{benefit} - \text{cost}$

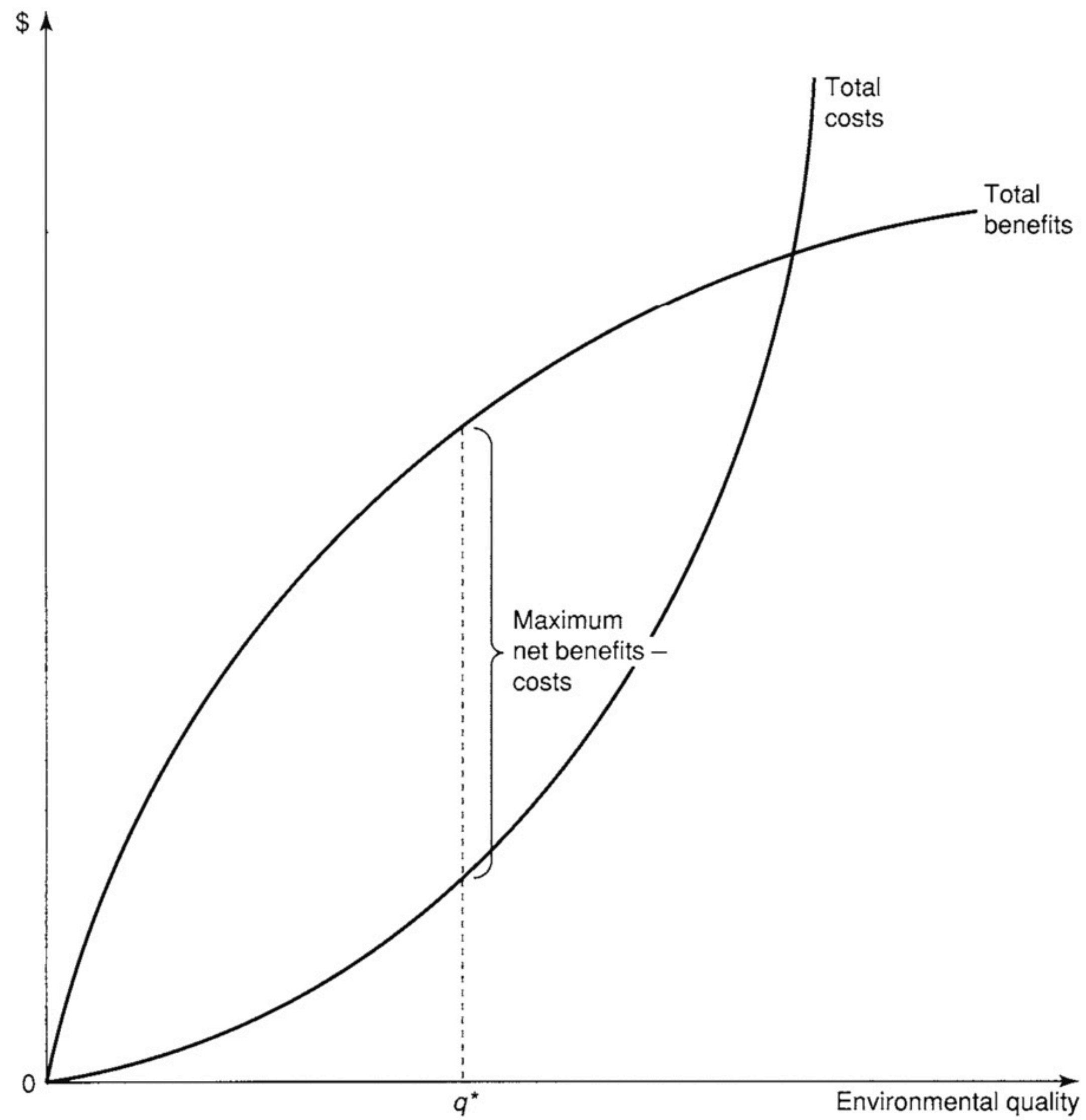


Figure 2.2
Benefit-Cost Analysis of Environmental Quality Control

Marginal benefits = Marginal costs.

(2.1)

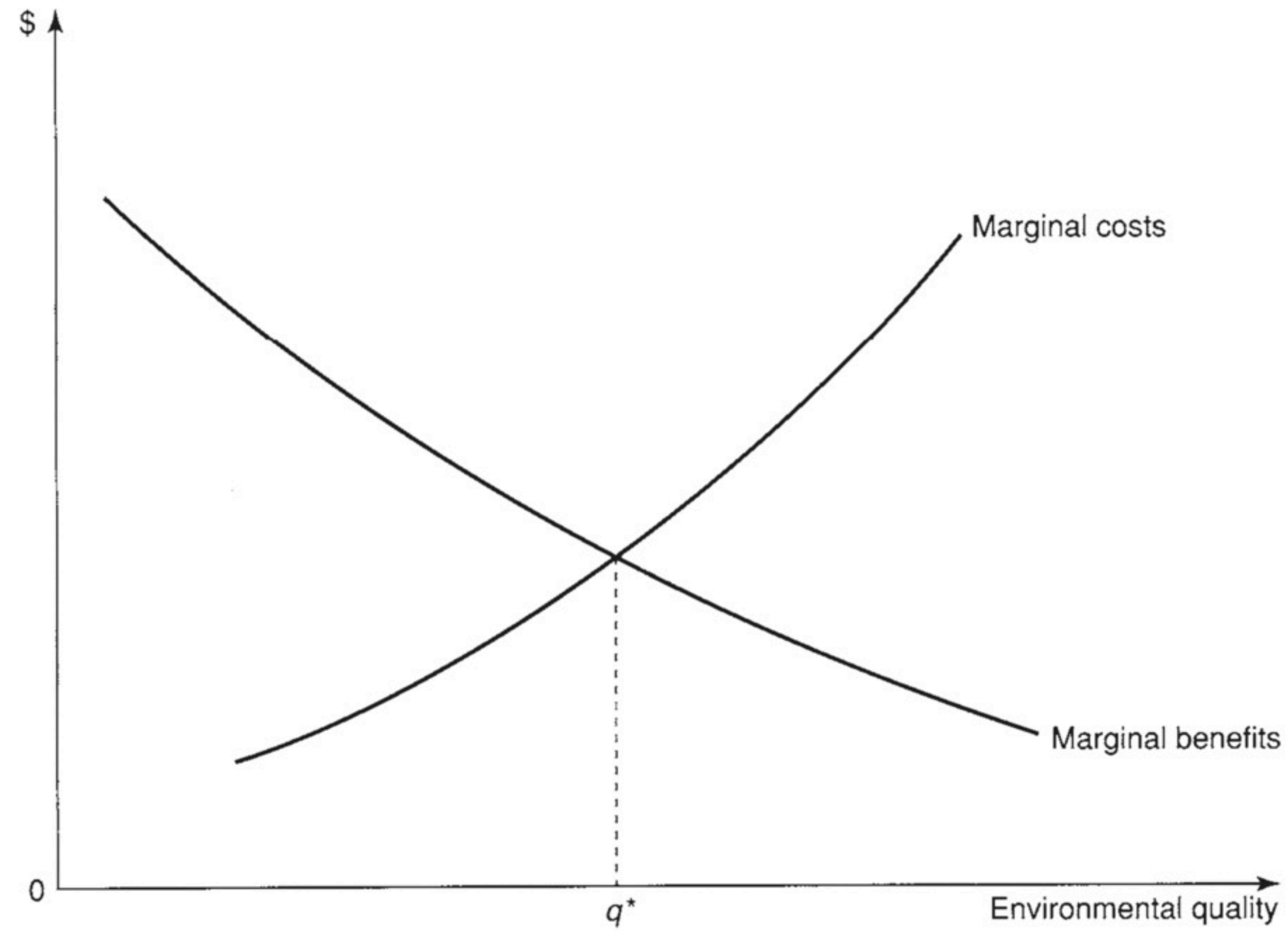


Figure 2.3
Marginal Analysis of Environmental Policies

Cost-Benefit Analysis

- Long term value of regulation: Present value of future benefits minus costs

$$\text{Present value} = \sum_{i=0}^n \frac{b_i - c_i}{(1 + r)^i}.$$

- Netflix vs gym (\$2000/year)
 - Huge benefit of \$1million when you are 70

Table 2.1
Discounting Example

| | Year 0 | Year 1 | Total |
|--------------------|--------|--------|-------|
| No discounting | | | |
| Benefits | 1.00 | 2.15 | 3.15 |
| Costs | 3.00 | 0.00 | 3.00 |
| Benefits – costs | –2.00 | 2.15 | 0.15 |
| Discounting at 5% | | | |
| Benefits | 1.00 | 2.05 | 3.05 |
| Costs | 3.00 | 0.00 | 3.00 |
| Benefits – costs | –2.00 | 2.05 | 0.05 |
| Discounting at 10% | | | |
| Benefits | 1.00 | 1.95 | 2.95 |
| Costs | 3.00 | 0.00 | 3.00 |
| Benefits – costs | –2.00 | 1.95 | –0.05 |

Cost-Benefit Analysis

- Estimates are hard but very important
 - Gym: \$10 million
 - Lazy-self: \$10k
- Impossible to have an accurate estimates. Capture theory
- Stay at home order at the beginning of COVID
 - Bad economy, but good for controlling the virus
 - Nobody expected this to last so long
 - Need to strike a balance
 - Externalities from other countries or provinces

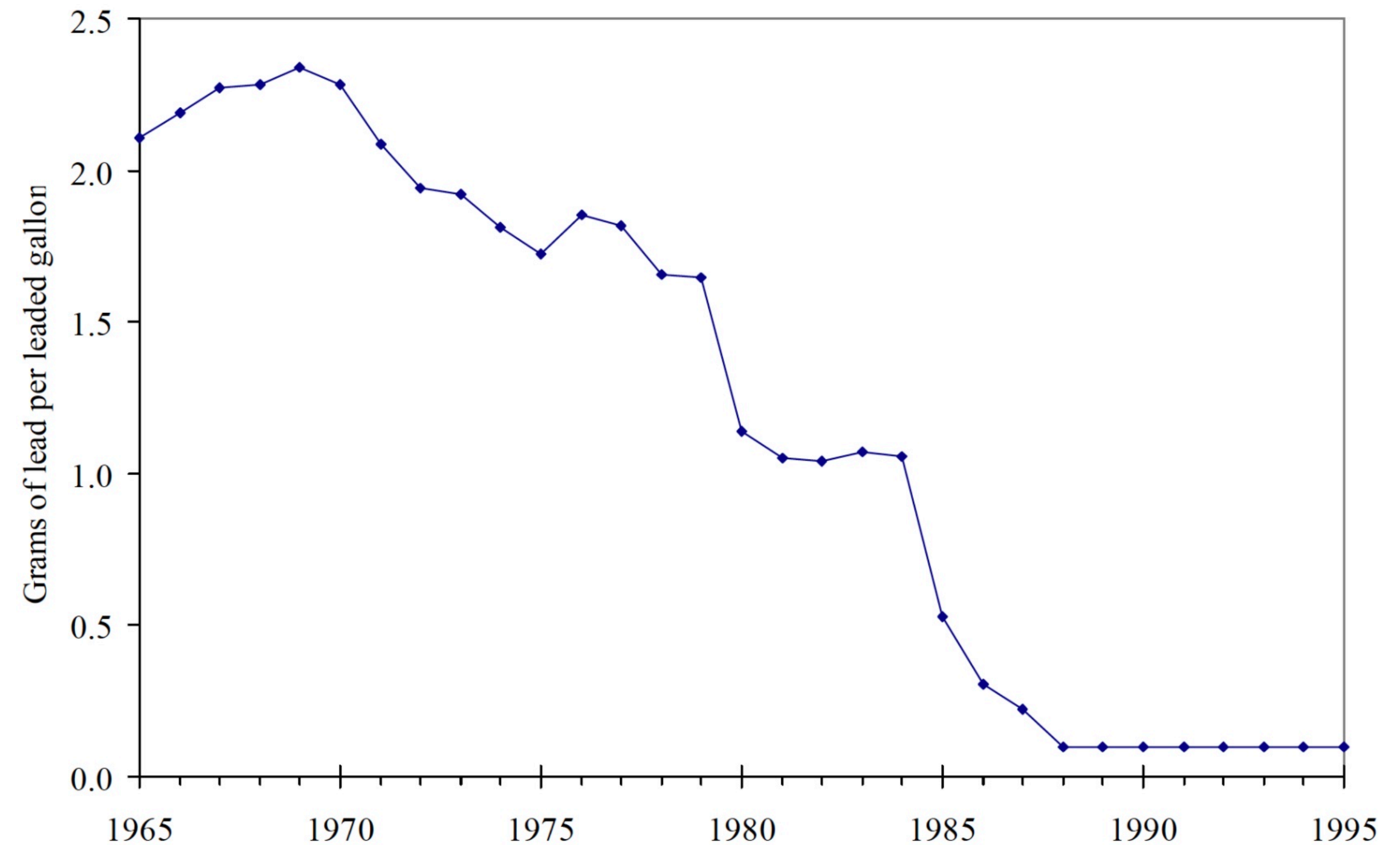
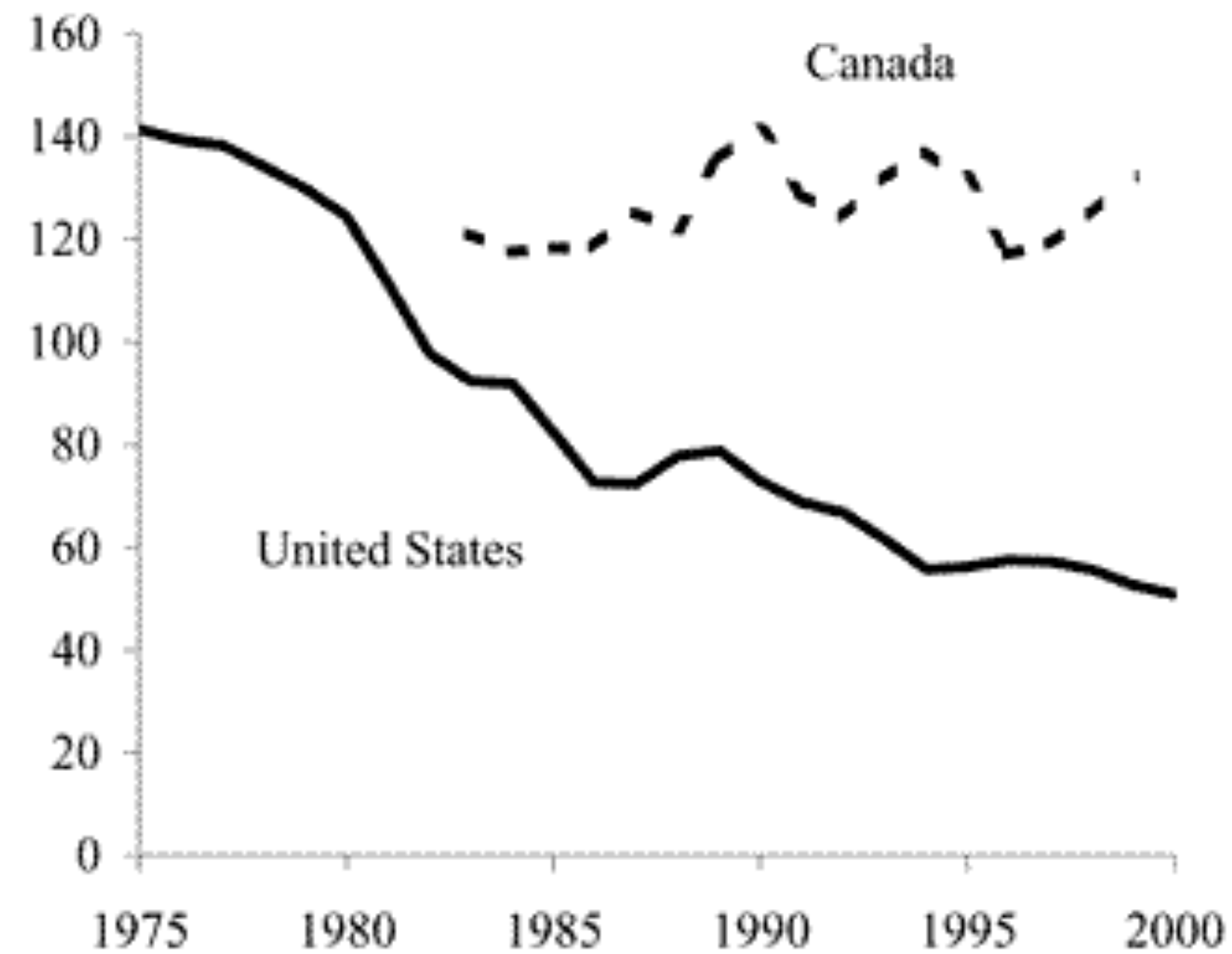
Regulatory Success

- Car: brake light at the back of a car
- Lead in gas
- Airline



Figure 2. Average domestic airfare

U.S., Canadian
1983 dollars



Cost-Benefit Analysis

Table 2.2
Benefits and Costs of Major Rules, 2005–2014

| Fiscal Year | Number of Rules | Benefits | Costs |
|-------------|-----------------|----------|-------|
| 2005 | 12 | 134.9 | 6.5 |
| 2006 | 6 | 4.9 | 1.7 |
| 2007 | 12 | 139.4 | 13.2 |
| 2008 | 12 | 31.5 | 11.2 |
| 2009 | 15 | 24.6 | 8.7 |
| 2010 | 17 | 68.5 | 12.3 |
| 2011 | 12 | 81.1 | 9.9 |
| 2012 | 14 | 110.0 | 22.5 |
| 2013 | 7 | 60.9 | 2.9 |
| 2014 | 13 | 17.7 | 4.0 |
| Total | 120 | 673.5 | 92.9 |

What do regulators maximize?

- Maximize national interest subject to legislative mandates
- Maximize benefits - costs
- Capture theory
 - Regulatory agency is captured by the economic interests
 - George Stigler
 - e.g. airline fare floor => more profit for firms; minimize quality standard => only large firms can do it
- Reality: multiple forces exist, hard to quality, probably depends on the industry
 - Government, politics, judiciary, trade association, person in charge

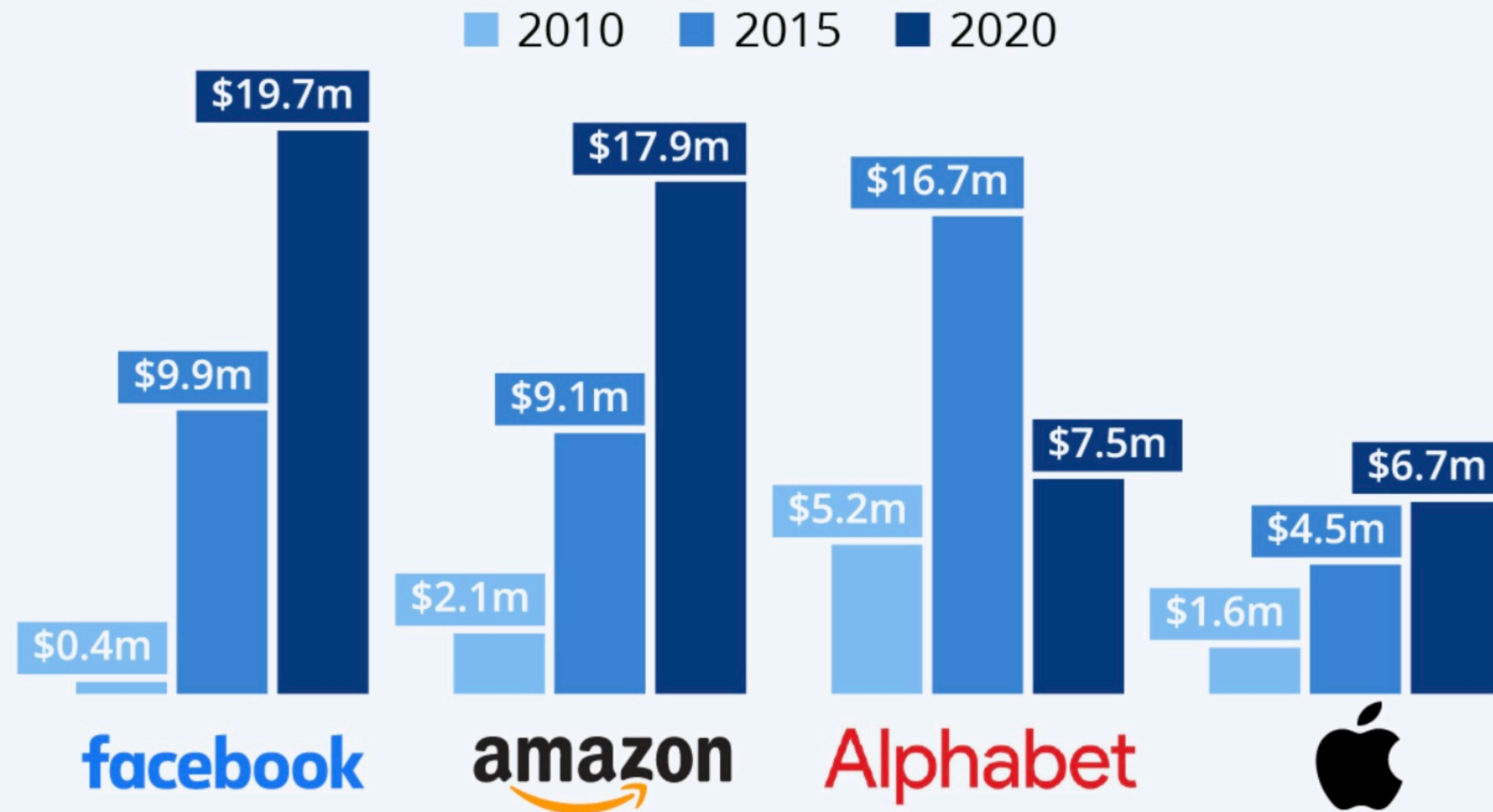
What do regulators maximize?

- Lina Khan: chair of FTC since June 2021
 - Amazon, FB filed petition to remove her from office



Tech Giants Ramp Up Lobbying In Face of Antitrust Scrutiny

Annual lobbying expenditure of selected tech companies in the U.S.



* excl. some subsidiaries

Source: Senate Office of Public Records

