

Market Failure in the Gasoline Industry

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Market Failure

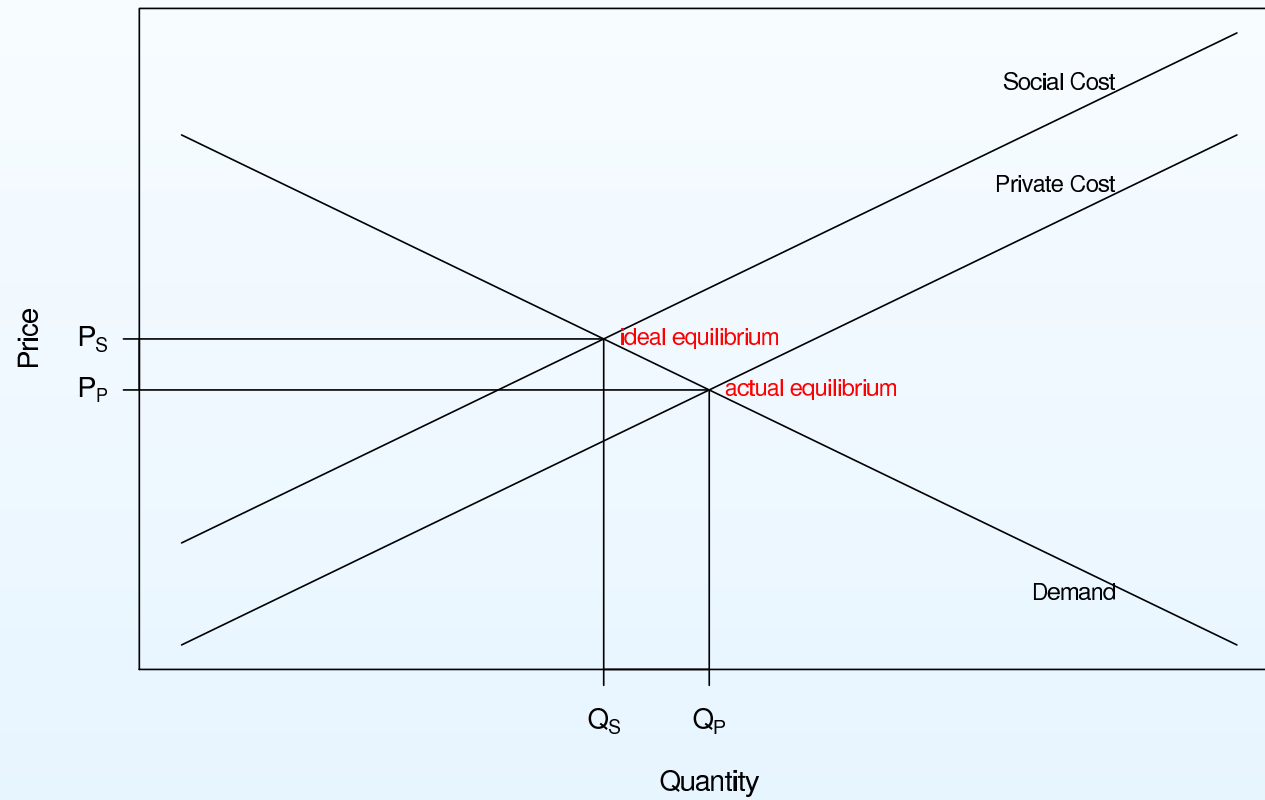
Market Failure occurs when

- Markets don't allocate goods and services efficiently.
- Market forces fail to serve the perceived public interest.

Externalities

- Externality is present whenever some individual's utility or production relationship, include real (not monetary) damages or benefits without particular attention to the effects on another individual's welfare.

Negative Externality



Tragedy of the Commons

- The Tragedy of the Commons is when there is a common resource that can be used freely by society but each individual fails to think about how their actions might harm others : Air (Pollution)

The Rio Earth Summit and The Kyoto Protocol

- A system to develop a treaty that would restrict emissions
- Treaty to cut greenhouse gas emissions world wide

Social Costs

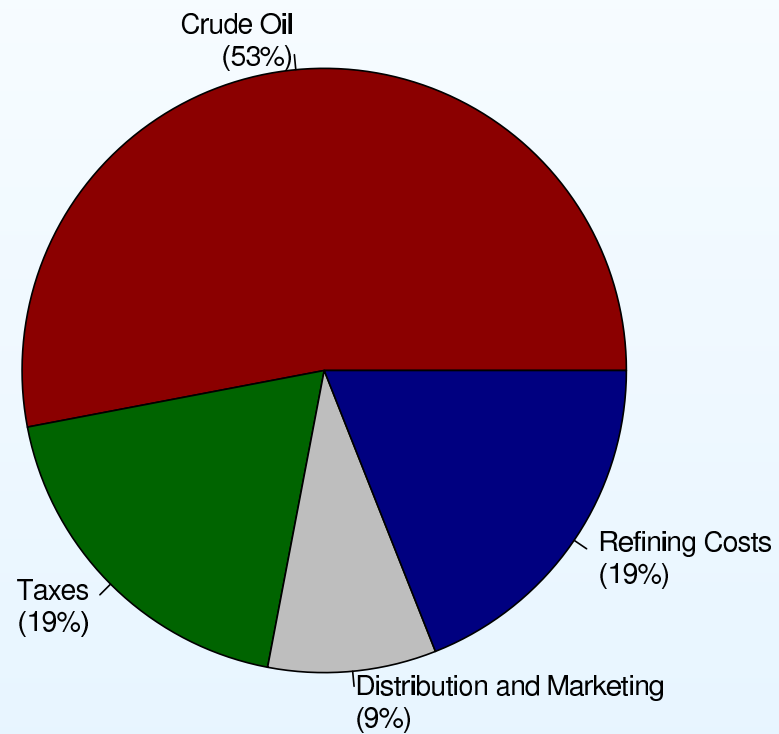
“...there is for public research to be complemented with private, which is why getting the “prices right” -that is, making households and firms pay the social costs of emissions- is so important”

Joseph Stiglitz

Gasoline Price

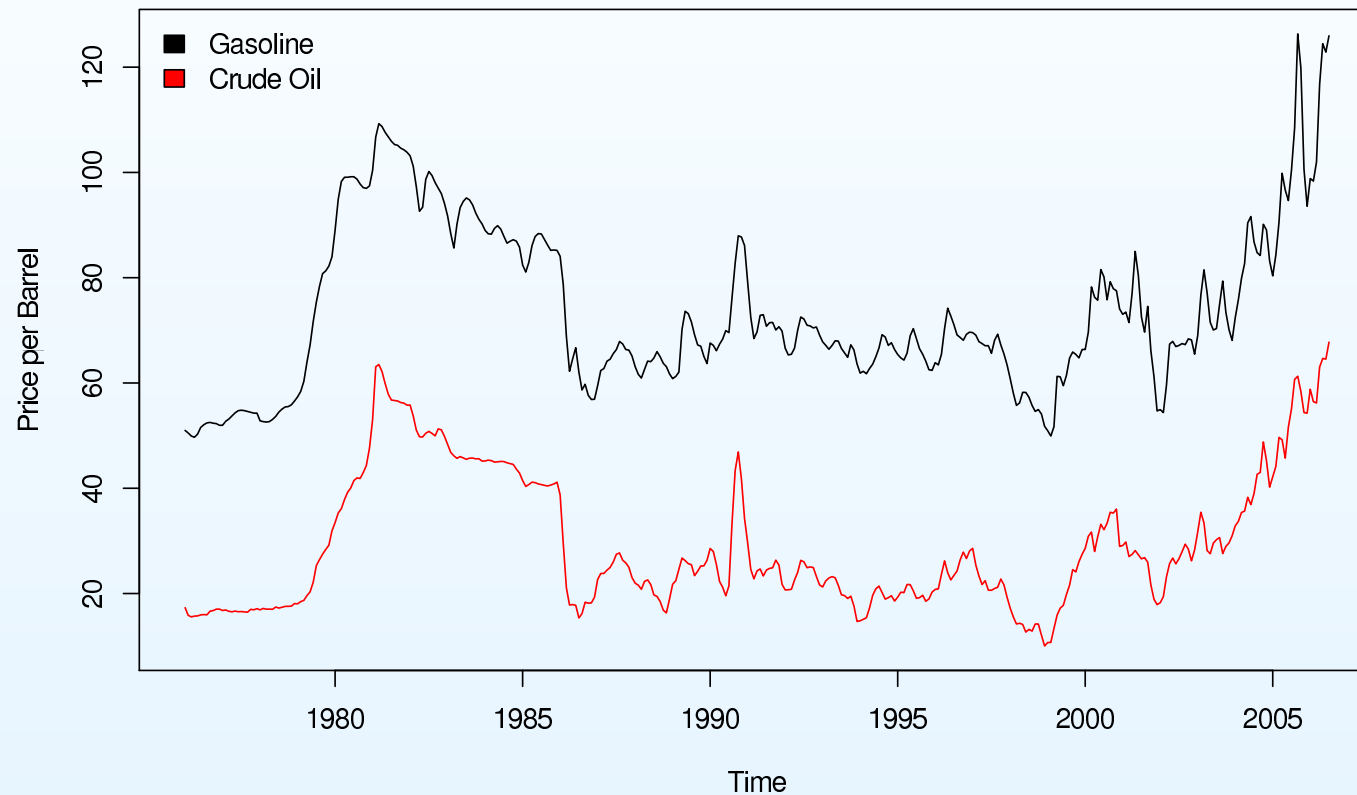
- Crude Oil Price
- Taxes
- Distribution and Marketing
- Refining Costs and Capacity
- Market Structure

What is included in the price of gasoline?



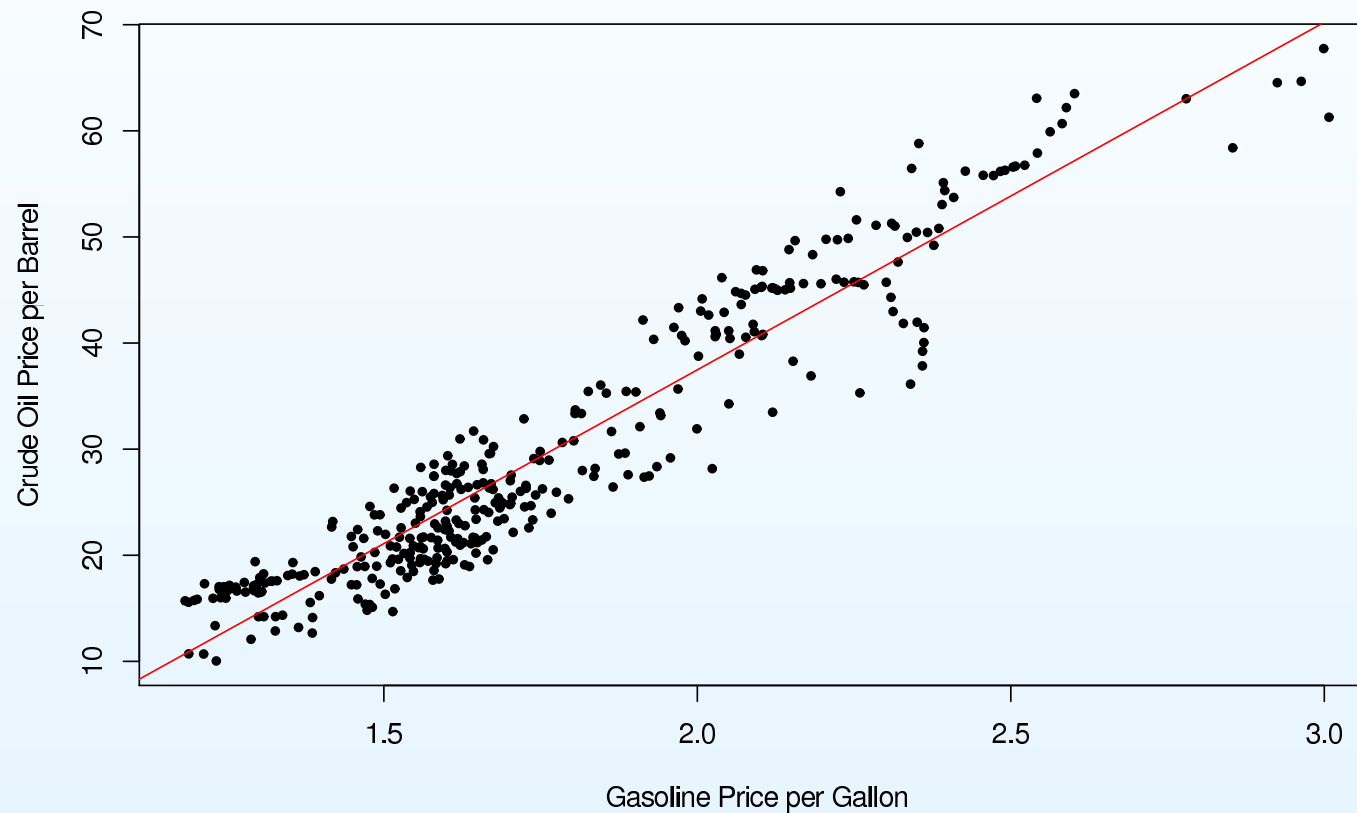
Source: Energy Information Administration, Washington DC

Gasoline price follows the price of crude oil



Source: Energy Information Administration, Washington DC

Gasoline price follows the price of crude oil (pt. 2)

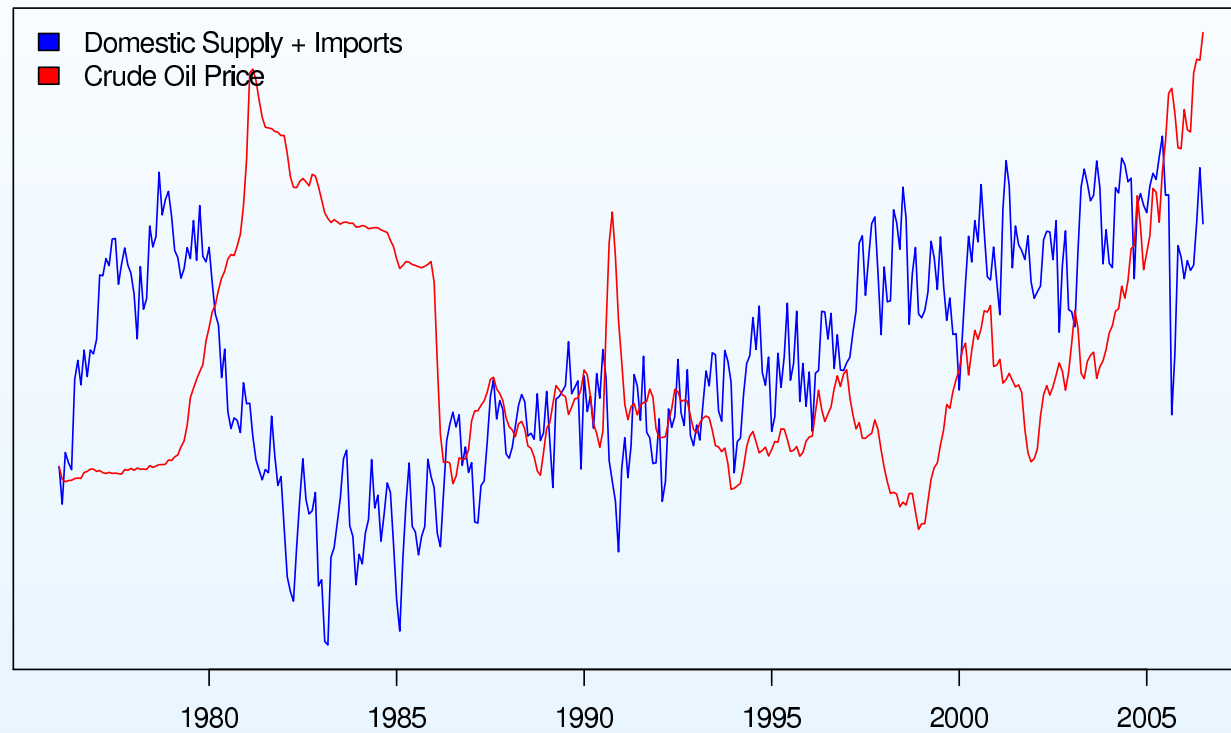


Gasoline Price per Gallon
Source: Energy Information Administration, Washington DC

Crude Oil Price

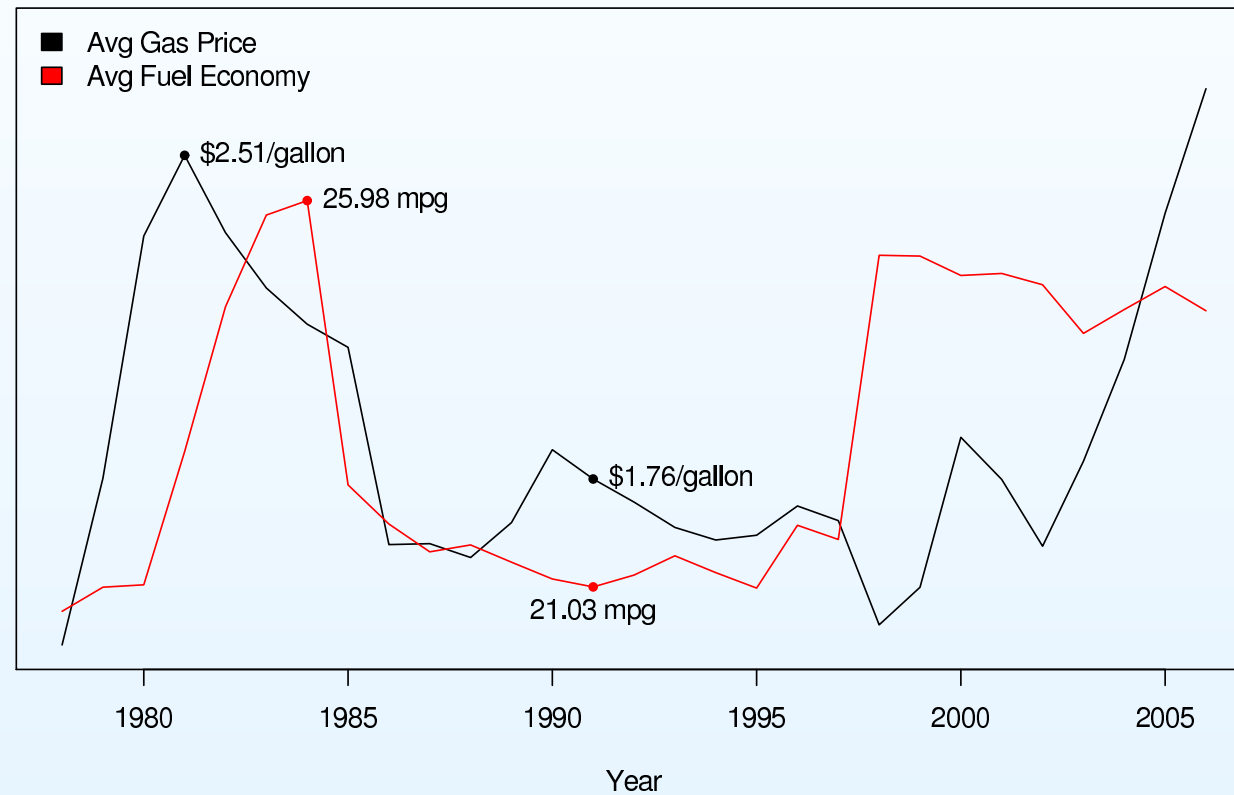
- A gallon of crude oil costs \$6.00 per barrel for non-OPEC producers and \$1.50 per barrel for OPEC producers.
- Price based on
 - Supply & Demand
 - Politics
 - Demand can also be dictated by vehicle fuel efficiency

Supply



Source: Energy Information Administration, Washington DC

Fuel Economy vs. Gas Price



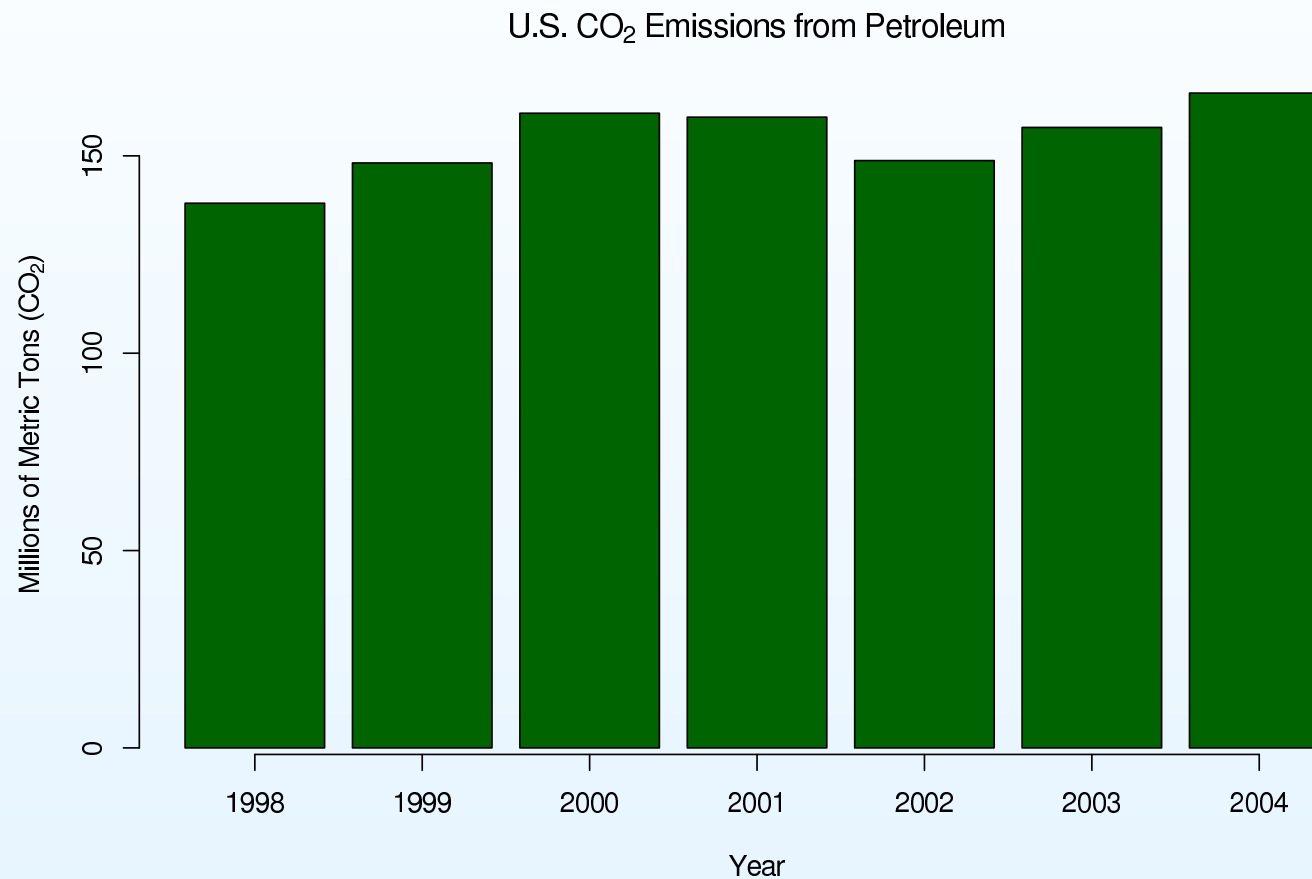
Refining Capacity

- Refining capacity has not increased in the last 25 years.
- Demand is projected to increase by 20% by 2020.
- Natural disasters (such as hurricane Katrina) can adversely affect refining capacity ultimately affecting price.

Market Structure

- According to the GAO oil company mergers in the late 90's increased gasoline prices by one to seven cents per gallon.

Contribution to Global Warming



Source: Energy Information Administration, Washington DC

Note: 2003 Petroleum activities produced 1.20 million metric tons of methane in the U.S.

Environmental Impact

Expected Associated Costs

- Drought induced disruption to food supply
- Considerable decrease in fresh water supply as glaciers melt
- Hundreds of millions displaced from homes due to sea level rise
- Potentially large increase in rate and ferocity of hurricanes

Former Chief Economist at the World Bank, Sir Nicholas Stern, conducted year-long investigation and predicted a 5-20% drop in total world wealth. Economic cost of inaction: \$4 trillion by end of century.

U.N. Secretary General, Kofi Annan: “It is increasingly clear it will cost far less to cut emissions now than later”

Other Acquisition Costs

Middle East involvement may partially be attributed to assuring unfettered supply of oil to the U.S.

1991 Persian Gulf Conflict

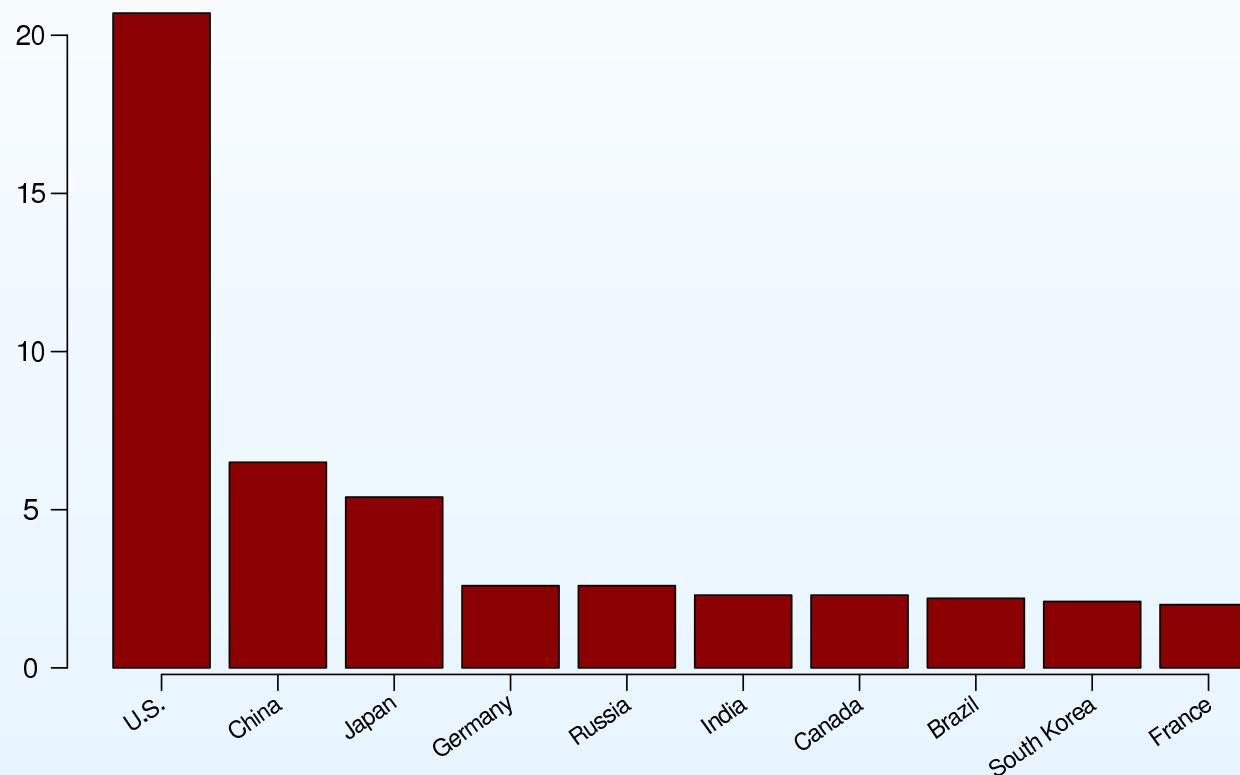
U.S. Department of Defense estimated cost at \$61 billion.
30,000+ Iraqi Civilians killed as a result of collateral damage

2003-Current Iraqi Conflict

Cost cited at \$200 million/day U.S. military deaths recently surpassed 2,800

Long-term Stability and Economic Well-being

2004 World Oil Consumption (Millions of Barells per Day)



Source: Energy Information Administration, Washington DC

Notes: U.S. Consumption, 20.7 MMBD, equals 25.1% of world total

2004 U.S. Production equaled 8.6 million barells/day (10.5% of total)

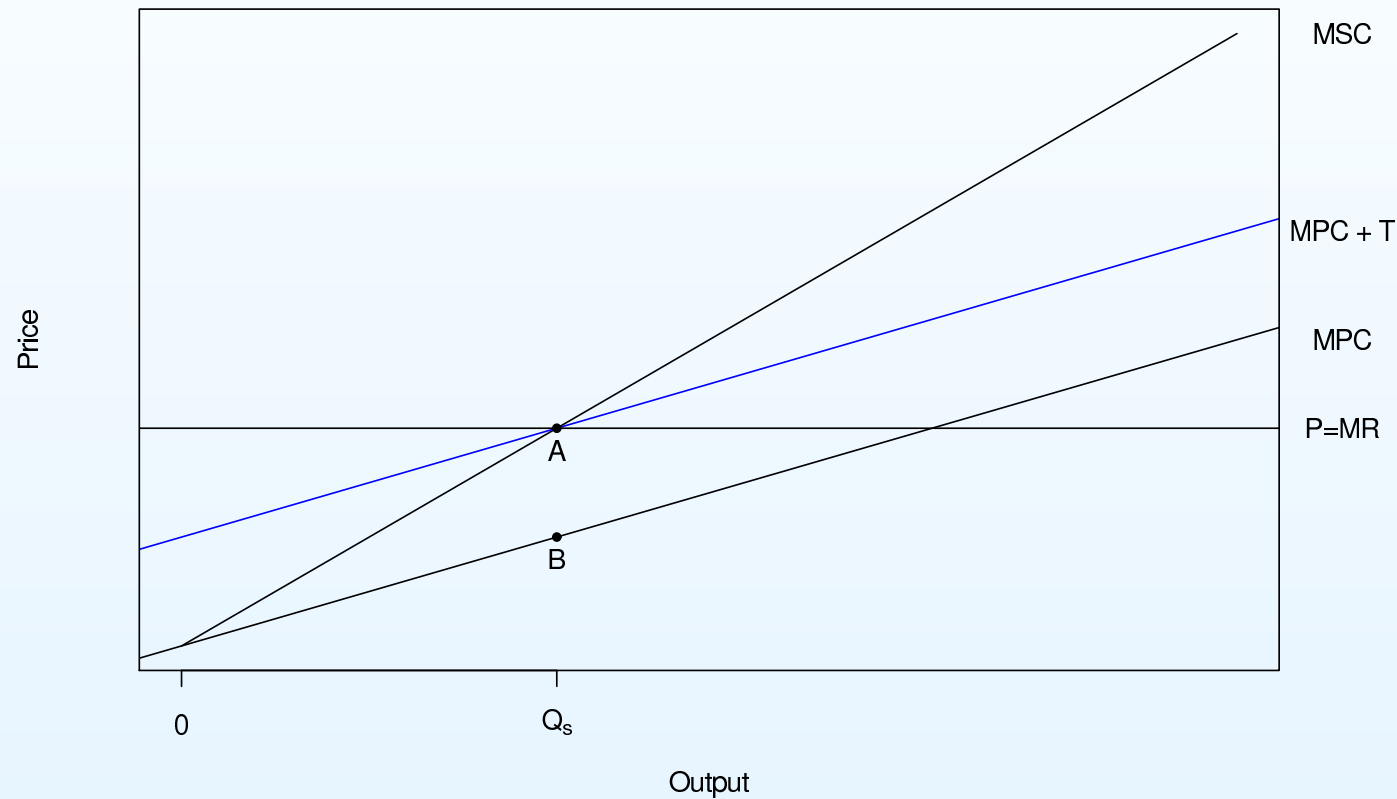
Are Americans Concerned?

2006 CNN/USA Today/Gallup Poll Results

- Seventy-one percent feel the current federal administration is not doing enough to solve the nation's energy problems.
- Roughly three out of four (77 percent) fear the future supply of oil will not be able to meet global demand

EIA data validates their concerns: 60% of current day consumption is imported oil from foreign countries; The EIA's 2004 estimate of proved domestic reserves was 21.4 billion barrels (Current U.S. consumption is over 7.5 billion barrels/year)

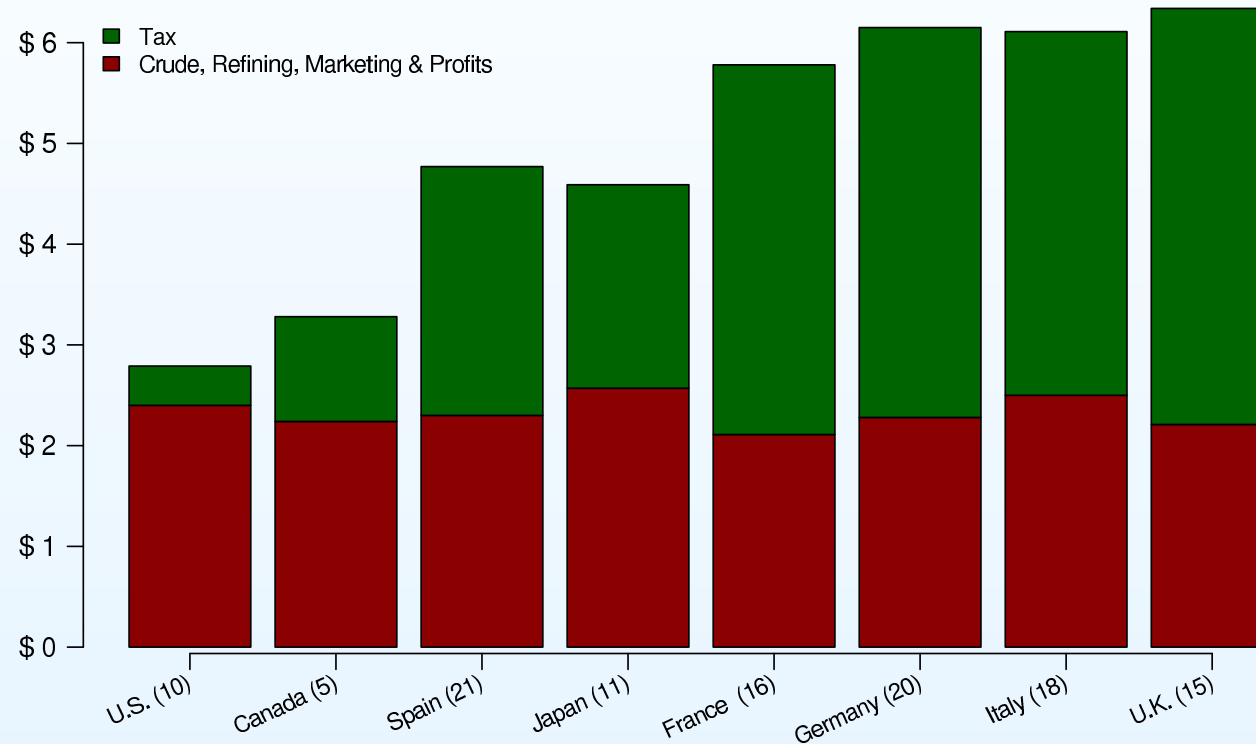
Pigouvian Tax



Source: Wikipedia.com, www.wikipedia.com

A \$.50/gallon tax increase would raise over \$50 billion per year in federal revenue

International Survey of Petroleum Taxing



Source: International Energy Agency
(2004 HDI Rankings in Parenthesis)

Note: 2004 U.N. Human Development Index (HDI) Ranking in Parenthesis (177 countries surveyed)

Conclusion

“Economic advance is not the same thing as human progress.”

John Clapham, British Economic Historian (1873-1946)