

AEB 3103 Principles of Food and Resource Economics

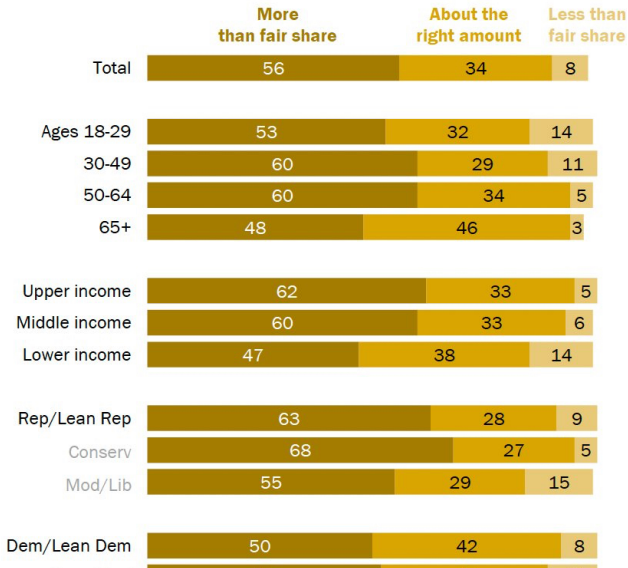
Module 6: The Economics of Taxation

In this world nothing can be said to be certain, except death and taxes - Benjamin Franklin

What is the first word you think about when you think about tax?

A majority of Americans – especially those ages 30-64 – say they pay more than their fair share in taxes

% who say, considering what they get from the federal government, they pay ____ in taxes



Type of taxes

- ▶ Exercise tax: tax on goods and services
 - ▶ Everything you buy, you pay 6% tax in Florida
 - ▶ OR and NH has no exercise tax
- ▶ Income tax: tax on income
 - ▶ Different brackets; federal and state income taxes
- ▶ Corporate tax
- ▶ Capital gain tax
- ▶ Tariff

And here's a couple of statement about taxes. Are they correct?

- ▶ Tax only affects those who actually pay taxes.
 - ▶ For example, taxing Canadian steel = Canada will pay for that tax.
 - ▶ Taxing food and beverage = consumers will pay for that tax
- ▶ Lower taxes stimulates consumption, which boosts the economy through multiplier effects.
- ▶ Income tax makes people less likely to work.

★ U.S. IMPORT TARIFFS

STEEL: 25%

ALUMINUM: 10%





Donald J. Trump ✓

@realDonaldTrump



....I am a Tariff Man. When people or countries come in to raid the great wealth of our Nation, I want them to pay for the privilege of doing so. It will always be the best way to max out our economic power. We are right now taking in \$billions in Tariffs. MAKE AMERICA RICH AGAIN

♡ 118K 7:03 AM - Dec 4, 2018



💬 62.8K people are talking about this





Donald J. Trump 

@realDonaldTrump

Following



Tariffs are the greatest! Either a country which has treated the United States unfairly on Trade negotiates a fair deal, or it gets hit with Tariffs. It's as simple as that - and everybody's talking! Remember, we are the "piggy bank" that's being robbed. All will be Great!

7:29 AM - 24 Jul 2018

9,989 Retweets 41,528 Likes



15K



10K



42K





Ben Sasse ✓
@BenSasse



Following

Pres-Elect Trump means well. But won't his 35% tariff idea raise prices on American families? How would it not be a new 35% tax on families?

RETWEETS

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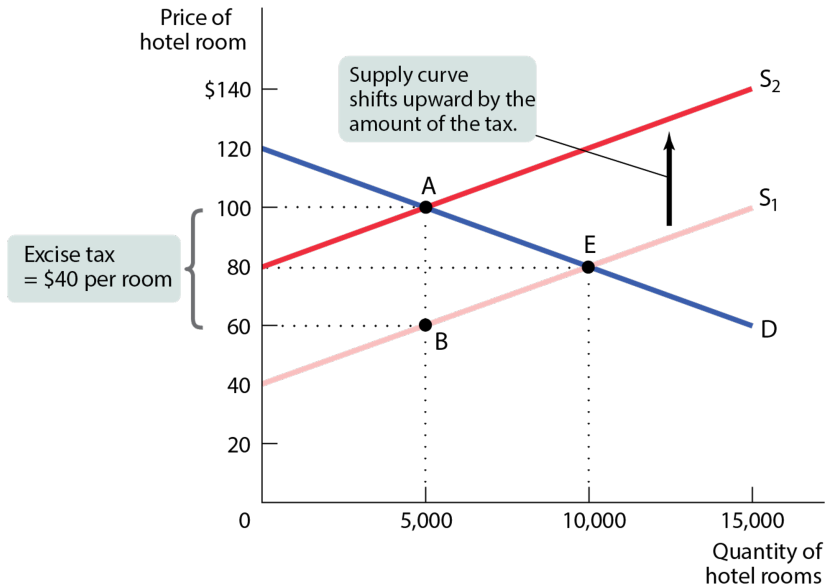


8:04 AM - 4 Dec 2016

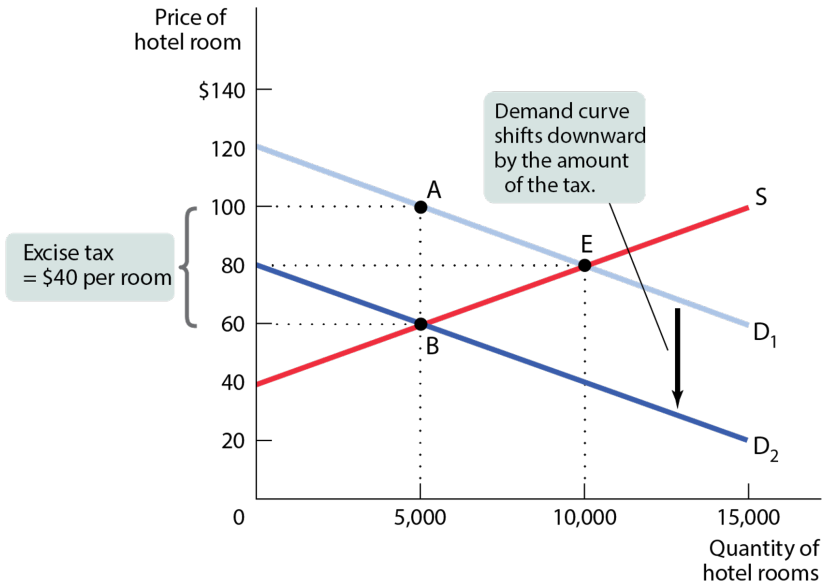
A simple model on tax

Say the government imposes a tax of \$40 on each night of hotel room stay.

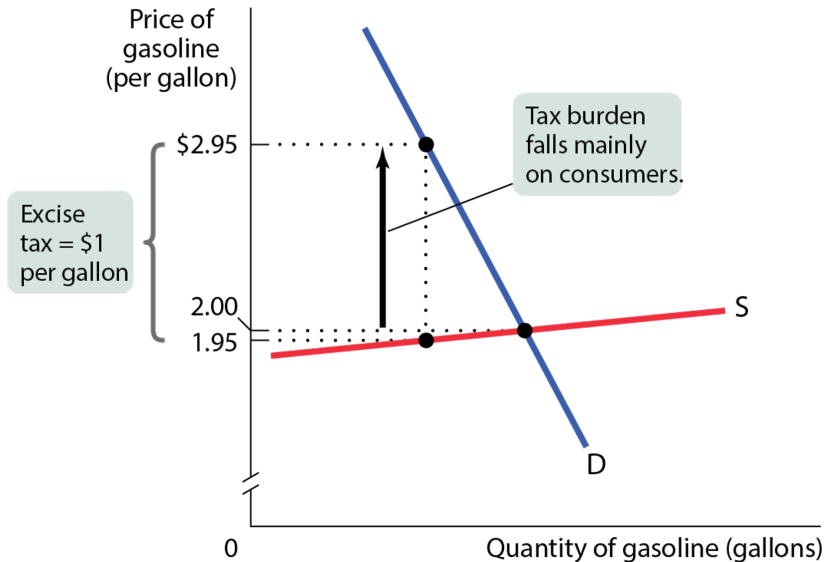
- ▶ How does that affect consumption?
 - ▶ Distortion; tax neutrality
- ▶ Who is paying for the tax?
 - ▶ Tax incidence
- ▶ What are the “spillover” effects?
 - ▶ Avoidance; evasion

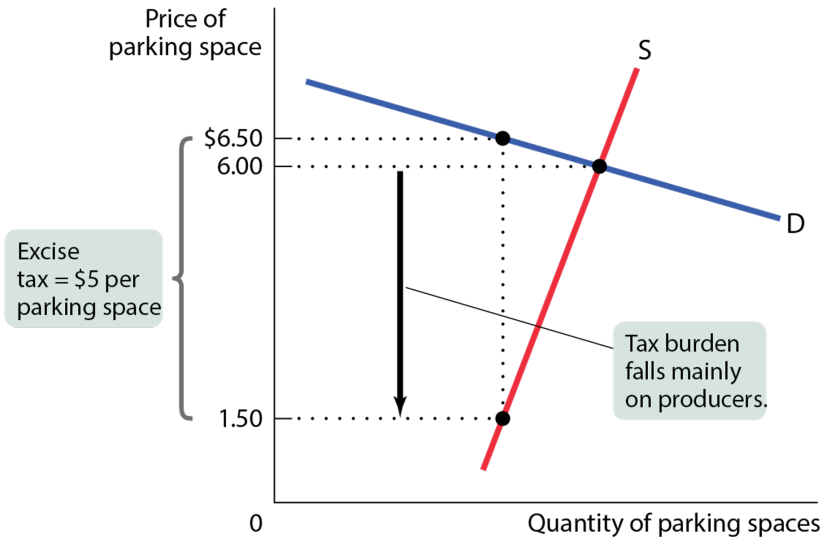


- ▶ The \$40 excise tax is shared between buyers and sellers.
- ▶ The equilibrium price of hotel rooms falls to \$60 a night.
- ▶ Hotel guests bear some of the burden as price paid by the guests (price plus tax) RISES from \$80 to \$100.
- ▶ Hotel owners also bear some of the burden as their price FALLS from \$80 to \$60.



- ▶ It is not necessarily the case that consumers and producers bear equal burden of tax
 - ▶ In fact, it is rare that tax burden is equal
- ▶ In a long-distance relationship, for example, who will do more of the driving?





If demand of some good is more elastic than supply and a tax is imposed on the consumption of the good, who will bear more of the burden of the tax?

- a) producers, because consumers have a greater ability to change their behavior in response to the tax
- b) both parties will share the burden equally
- c) consumers, because they pay the tax out of pocket
- d) the government, because the tax will cause less of the good to be produced and consumed

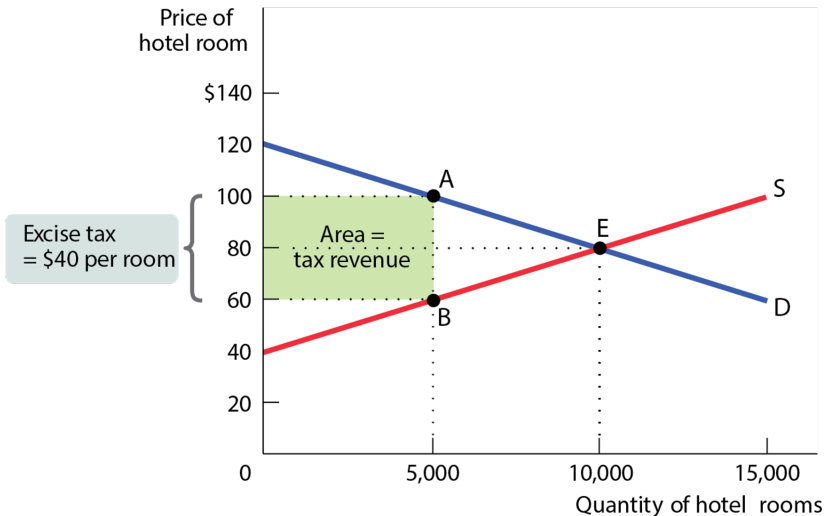
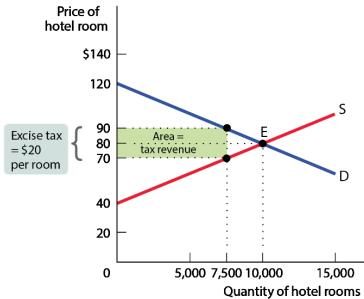
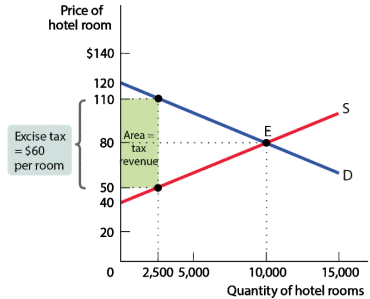


Figure 14-7

(a) An excise tax of \$20



(b) An excise tax of \$60



In-class exercise

The demand curve for apple is $P = 10 - 2Q$. The supply curve for apple is $P = 0.5Q$. The government decided to impose a 30% tax on all apples sold in the supermarket, levied on the consumers.

Please calculate:

1. The market equilibrium without the apple tax
2. The market equilibrium with the apple tax
3. Government's tax revenue
4. The share of taxes paid by consumers vs. producers
5. The amount of deadweight loss as a result of the tax

Exercise tax creates distortion

- ▶ Deadweight loss is higher when
 - ▶ Demand is more elastic
 - ▶ Supply is more elastic
- ▶ Deadweight loss is lower when
 - ▶ Both supply and demand are inelastic

If we have to tax consumption, which of the followings should we tax in order to minimize distortion?

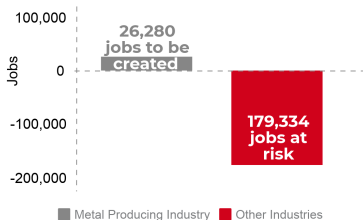
- ▶ Gasoline
- ▶ Apple
- ▶ Apple Computer
- ▶ Cigarette
- ▶ Salt
- ▶ Green House Gas Emission



Lessons Unlearned: Employment Effects of Steel Tariffs in 2002 and 2018

2018 Trump Administration

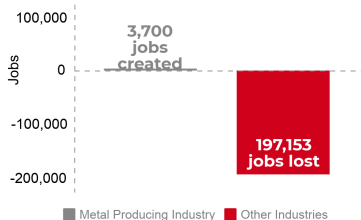
25% tariff on steel
10% tariff on aluminum



Projected Net Loss: -153,054 jobs

2002 Bush Administration

15-30%* tariff on steel
(varied by type of steel)



Net Loss: -193,453 jobs

US Demand for Steel by Downstream Consumers



American firms and consumers paid the vast majority of the cost of Trump's tariffs.



While tariffs benefited some workers in import-competing industries, they hurt workers in sectors that rely on imported inputs and those in exporting industries facing retaliation from trade partners.



Trump's tariffs did not help the U.S. negotiate better trade agreements or significantly improve national security.



Two remaining questions

1. Do we actually want lower or higher tax rates?
 - ▶ THE debate between smaller or larger government
2. Given a fixed tax revenue target, which taxes should be levied?

1. Lower or higher taxes

Two very different paradigms:

- ▶ US: low tax rate, limited public service
- ▶ Scandinavians: high tax rate, highly-subsidized public service

Public services in Denmark

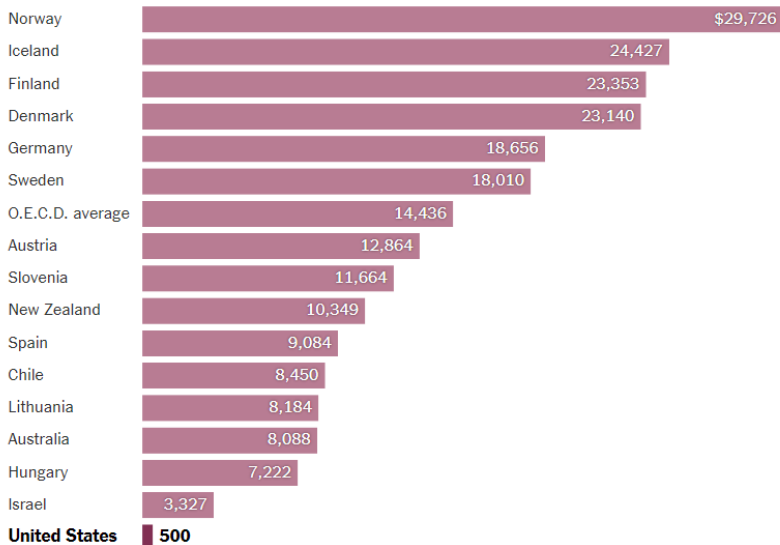
- ▶ Free healthcare
- ▶ Free education
- ▶ Heavily subsidized childcare
- ▶ 52 combined weeks of parental leave
 - ▶ 24 weeks for each parent plus 4 weeks for mother before birth

Tax Revenue and Tax Rates in Scandinavia versus Selected Comparison Countries

	<i>Denmark</i>	<i>Norway</i>	<i>Sweden</i>	<i>Germany</i>	<i>United Kingdom</i>	<i>United States</i>
Tax revenue /GDP	48.2%	42.8%	45.8%	36.3%	35.0%	24.8%
Shares of tax revenue						
Income taxes	64.2%	70.7%	68.4%	68.7%	54.8%	70.0%
Property taxes	3.8%	2.9%	2.4%	2.4%	11.8%	12.2%
Consumption taxes	31.6%	26.4%	28.8%	28.4%	32.8%	17.9%
Income tax distortions						
Top marginal tax rate	69.8%	60.8%	73.6%	59.3%	62.7%	43.3%
Participation tax rate	87.0%	77.6%	76.7%	63.0%	55.6%	36.6%

How Much Governments Spend on Child Care for Toddlers

Annual public spending per child on early childhood care.



Arguments for/against higher taxes

1. Tax evasion: people find ways to evade paying taxes
 - ▶ Income tax *might* discourage labor supply
2. Tax avoidance: selective taxation creates distortion
3. Supply-side economics: cutting taxes stimulates the economy
 - ▶ But there's really no free lunch

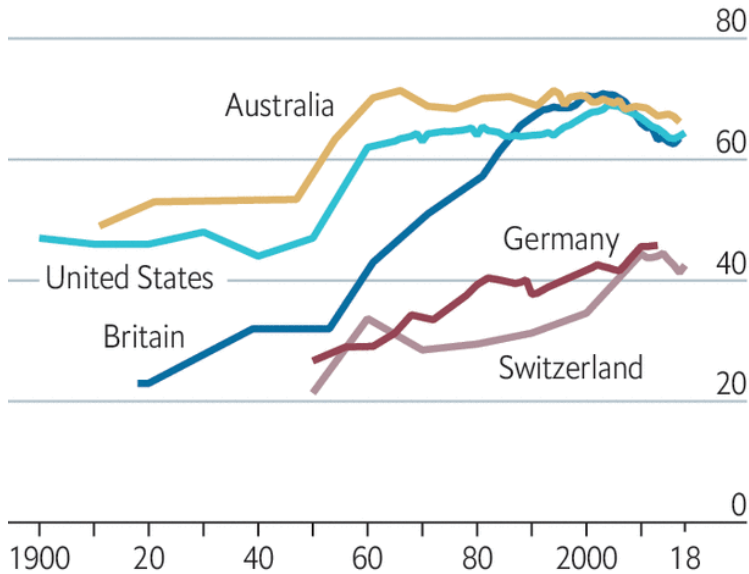
What should be taxed if we have to tax?

- ▶ Tax on regular items is “bad” because it creates distortion
 - ▶ If you tax one item, people 1) consumes less of it; 2) move to its substitutes
- ▶ Tax neutrality: economic decisions should be made based on economic merits, not tax reasons
 - ▶ Other than those decisions that the government wants to encourage/discourage
- ▶ Basic principle of taxation: lower tax rates and broaden tax base
 - ▶ If you tax everything at the same rate, there is no substitution effects

In some instances, we may want tax to achieve specific goals - in those cases, tax is designed to be non-neutral: * Encourage home ownership * Encourage health insurance adoption * Discourage carbon emission - Pigovian tax: correcting externality-generated distortion * Discourage cigarette consumption

Anglo fever

Home-ownership rate, %



- ▶ Mortgage interest for up to \$750,000 is tax deductible
 - ▶ If you buy a \$750,000 property at today's rate, your annual interest payment is here
 - ▶ Standard deduction is at \$25,000 (married file jointly)
 - ▶ Annual tax savings at 22% marginal rate: \$4840 + additional deductions
- ▶ Total cost of the program: \$70 billion

What does the mortgage deduction program incentivize?

A note on externality and Pigovian tax

- ▶ With the presence of externality, market equilibrium will NOT be efficient
 - ▶ The ultimate cause of environmental problems
 - ▶ AEB 2451 / AEB 3450 specifically deal with this problem
- ▶ One of the ways to address it is to use Pigovian taxes

Deadweight loss with externality

Pigovian tax corrects externality