

Economic Efficiency Examples

Recitation Assignment

News

Review

A Tax Levied on A Good Or Service
Creates Economic Inefficiency

Who Bears the Burden of a Tax?

What Have We Learned

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Recitation Assignment

Download and read "The Economic
Organization of a P.O.W. Camp"

Download the discussion questions and
arrive at your preliminary answers.

Bring the reading and the questions to
recitation with you.

There will be a quiz to determine if you
are prepared for discussion.

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New York Times

July 25, 2005

To Reduce the Cost of Teenage Temptation, Why Not Just Raise the
Price of Sin?

By DAVID LEONHARDT

WHEN you look back on all the attempts to curb teenage drinking, smoking and drug use over the last couple of decades, you start to ask yourself a question that countless parents have asked: Does anybody really know how to change a teenager's behavior?

Much of this back and forth is unnecessary. There is in fact a surefire way to get teenagers to consume less beer, tobacco and drugs, according to one study after another: raise the cost, in terms of either dollars or potential punishment.

Teenagers, it turns out, are highly rational creatures in some ways. Budweisers and Marlboros are discretionary items, and their customers treat them as such. Gasoline consumption, by contrast, changes only marginally when the price of a gallon does.

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What Economists Mean by Efficiency

An allocation is efficient if it is not possible
to reallocate goods in a way that makes
someone better off without making
someone else worse off.

If it is possible to make someone better off
without making anyone else worse off an
allocation is inefficient.

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Economic Efficiency

The Market Allocation Achieved by the Equilibrium Price Is Efficient.

Markets are efficient when the value placed by buyers on the last unit of the good bought just equals the marginal cost of producing that good.

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Use Your Clickers to Answer The Following Graded Question.

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In Asheville, there are two sources of electric power.

1. A hydroelectric plant produces power at a cost of \$0.04 per KWH.
2. A coal fired generator produces power at a cost of \$0.07 per KWH.

What should Asheville citizens pay for electricity?

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The electricity price paid by Asheville customers should...

- A. Equal the average of the costs at the two production facilities.
- B. Equal the lower, hydroelectric price provided the hydroelectric plant can meet total customer demand.
- C. Equal the higher coal-fired plant price no matter how large customer demand.
- D. Equal the marginal cost of electricity at the plant that supplies them.

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The electricity price paid by Ashville customers should equal the lower price if the hydro plant can meet total demand.

If the hydro plant can meet total demand, then the marginal cost of electricity to Ashville is the hydro price.

It is generally not efficient to have different customers pay different prices.

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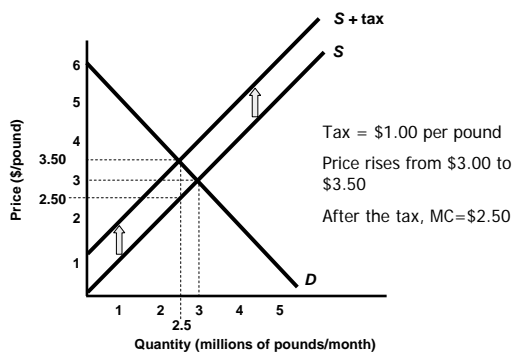
Levying a Tax on A Good Or Service Sometimes Creates an Inefficient Allocation

A tax on a good creates an inefficiency because it usually causes the market price of the good to be different from the marginal cost of the good.

A tax on a good leads consumers to under-use the good.

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The Effect of a Tax on the Equilibrium Quantity and Price of Avocados



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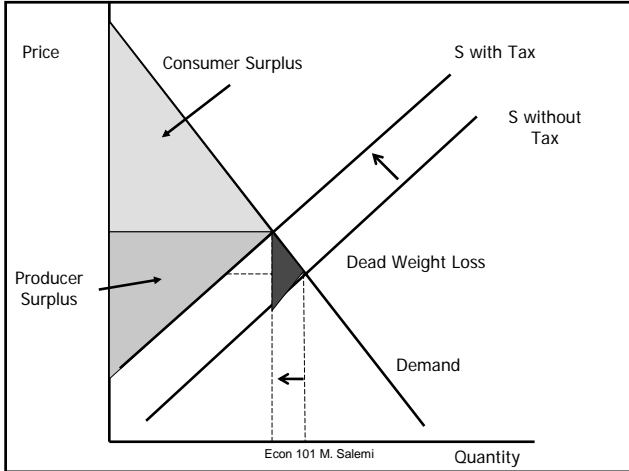
A Tax Levied on a Good Causes an Economic Inefficiency Because...

It causes price to rise above the marginal cost of producing the good.

It causes some consumers who are willing to pay the true marginal cost of the good to not consume it.

It causes a greater loss in surplus than is collected by the government as tax revenue.

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Motor Fuels Excise Taxes

in Selected States (Jan 1, 2008)

State	Excise Tax on Motor Fuel Per Gallon
Alaska	\$0.08
California	\$0.18
Maryland	\$0.235
North Carolina	\$0.302
South Carolina	\$0.16
Virginia	\$0.175

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Cigarette Taxes by State, 2008

STATE	TAX RATE (\$ per pack)	RANK	STATE	TAX RATE (\$ per pack)	RANK
Alabama (1)	42.5	42	Nebraska	64	35
Alaska	200	4	Nevada	80	32
Arizona	200	4	New Hampshire	108	24
Arkansas	59	38	New Jersey	257.5	1
California	87	30	New Mexico	91	29
Colorado	84	31	New York (1)	150	16
Connecticut	200	4	North Carolina	35	45
Delaware	115	23	North Dakota	44	41
Florida	33.9	46	Ohio	125	20
Georgia	37	43	Oklahoma	103	25
Hawaii (3)	180	10	Oregon	118	22
Idaho	57	39	Pennsylvania	135	19
Illinois (1)	98	28	Rhode Island	246	2
Indiana	99.5	27	South Carolina	7	51
Iowa	136	18	South Dakota	153	14
Kansas	79	33	Tennessee (1) (2)	62	36
Kentucky (2)	30	47	Texas	141	17
Louisiana	36	44	Utah	69.5	34
Maine	200	4	Vermont	179	11
Maryland	200	4	Virginia (1)	30	47
Massachusetts	151	15	Washington	202.5	3
Michigan	200	4	West Virginia	55	40
Minnesota (4)	123	21	Wisconsin	177	12
Mississippi	18	49	Wyoming	60	37
Missouri (1)	17	50	Dist. of Columbia	100	26
Montana	170	13			
			U. S. Median	100.0	

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Who bears the burden of a tax?

Taxing a good will generally change the market price of the good.

Whether demanders or suppliers bear the burden of the tax depends on the shapes of the demand and supply schedules.

The fact that the tax is collected from suppliers does not mean that suppliers bear the burden of the tax.

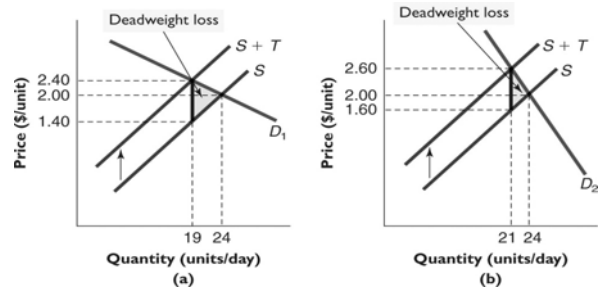
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How To Answer the Burden Question?

Assume that the seller collects the tax.
 Represent imposition of the tax with a shift in the supply schedule where the amount of the tax is the vertical size of the shift.
 Answer the burden question by comparing the change in equilibrium price with the tax.

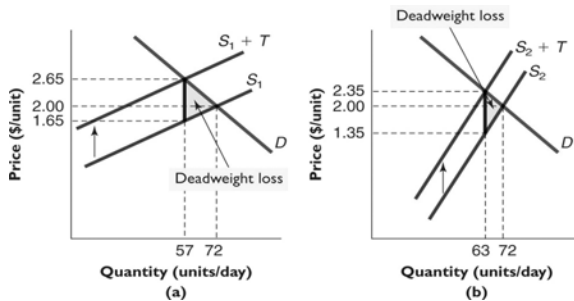
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When demand is less elastic, buyers bear a larger burden of the tax.



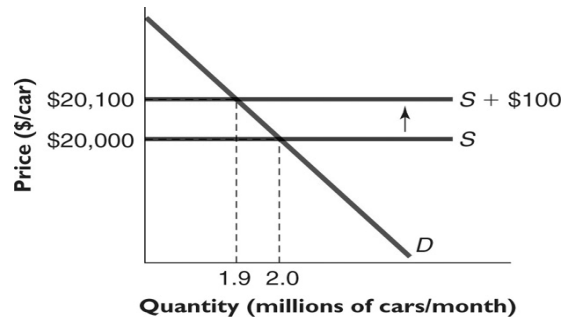
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When supply is less elastic, sellers bear a larger burden of the tax.



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If supply is highly elastic, buyers bear the whole burden of a tax.



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Use Your Clickers To Answer
The Following
Graded Question.

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Buyers are likely to bear a higher burden from a tax on a good when...

- A. The good is produced with highly mobile inputs.
- B. Good substitutes for the good exist.
- C. It takes a long time to change the quantity supplied of the good.
- D. The demand for the good is highly elastic.

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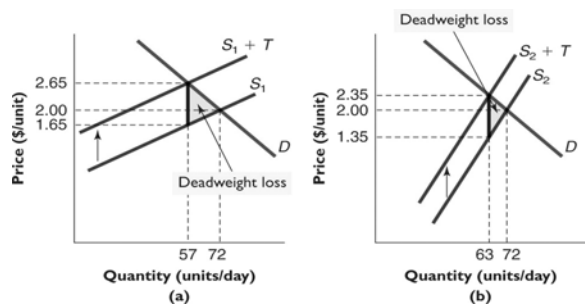
Buyers are likely to bear a higher burden from a tax on a good when the good is produced with highly mobile inputs.

If inputs are highly mobile, supply is more likely to be elastic.

So the situation looks more like the left panel in the diagram.

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When supply is more elastic, sellers bear a smaller burden of the tax.



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Use Your Clickers To Answer
The Following
Graded Question.

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Sellers are more likely to bear the burden of a tax imposed on _____ because _____.

- A. Tobacco products, because demand is highly inelastic.
- B. Tobacco products, because farmers can easily switch to other crops.
- C. Imported oranges, because domestic oranges are good substitutes.
- D. Imported oranges, because citrus growers can easily switch to other crops.

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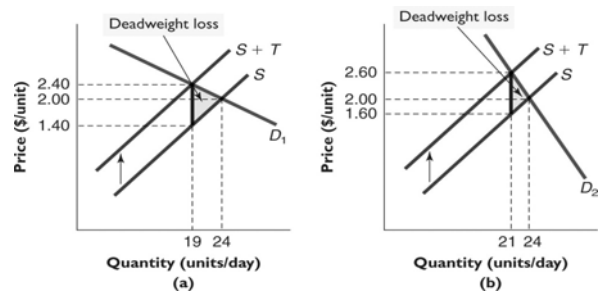
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When demand is less elastic, buyers bear a larger burden of the tax.



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A Third Puzzle: Will a Tax on Soft Drinks Have the Intended Effect?

September 17, 2009

Proposed Tax on Sugary Beverages Debated

By WILLIAM NEUMAN

The debate over a tax on sugary soft drinks — billed as a way to fight obesity and provide billions for health care reform — is starting to firm over.

President Obama has said it is worth considering. The chief executive of Coca-Cola calls the idea outrageous, while skeptics point to political obstacles and question how much of an impact it would really have on consumers.

But a team of prominent doctors, scientists and policy makers says it could be a powerful weapon in efforts to reduce obesity, in the same way that cigarette taxes have helped curb smoking.

Use Your Clickers to Answer The
Following
Non-Graded Question.

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The proponents of a tax on sugary beverages must believe that the young-person demand for sugary beverages is price _____ because then the tax will _____ of sugary beverages by a large amount.

- A. Elastic, raise the price
- B. Elastic, lower the quantity
- C. Inelastic, raise the price
- D. Inelastic, lower the quantity

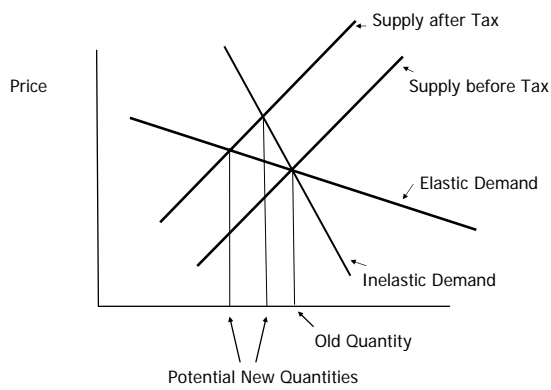
Will A Tax on Sugary Beverages Have the Intended Effect?

The Intended Effect is a Large Decrease in Consumption of Sugary Beverages by the Young.

The Size of the Quantity Response to a Tax Depends on the Elasticity of Demand.

Proponents of the Tax Must Believe that the Demand Schedule of the Young for Sugary Beverages is Highly Elastic.

Will a Tax Substantially Lower Consumption of Sugary Beverages?



Questions for Next Class

Is the UNC sports ticket distribution system efficient?

Is the UNC sports ticket distribution system fair?

Does the UNC sports ticket distribution system create incentives compatible with the UNC's educational mission?

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Today We Learned That

A tax levied on a good or service generally creates inefficiency.

Whether buyers or sellers bear the burden of an excise tax depends on the elasticities of demand and supply.

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