

Public Economics

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Office Hours: Tuesday afternoon (15h30 – 16h50) – or simply e-mail me

5- Taxation

5.1) Equity implications of taxation (Chapter 19 Gruber)

Taxation – What is a fair tax?

Equity Considerations

- Horizontal Equity

Similar individuals who make different economic choices should be treated similarly by the tax system.

- Vertical Equity

Individuals with more resources should pay higher taxes than groups with fewer resources.

PS 11: Taxation

Ex.1) Your roommate and you had identical high school grade point averages and SAT scores. In many respects, one would expect that you would be equally successful. But because you chose economics as a major and your roommate chose geology, you will be paying a larger amount of tax in the future than your roommate will because your income will be higher.

- Is this attribute of the tax code vertically equitable? Is it horizontally equitable?

- **Vertically equitable? Yes!**

If the economics major earns more, then according to this principle he should pay the higher tax

- **Horizontally equitable? Probably not!**

This principle requires that people with similar ability to pay should pay the same tax. An argument could be made that since they had an identical academic performance, their ability should be quite similar, in which case the tax would be horizontally inequitable

Taxation – Tax Systems

- Progressive (regressive) – Effective average tax rate increases (decreases) with income
- Proportional – Effective average tax rate does not vary with income (flat tax)
- Tax credits: Reduce the final tax value (e.g.: if you spend 1k in education, you can pay 1k less of income tax)

Notice: Many lower-income families do not pay income taxes. Solution: Refundable tax credit

- Tax deductions: Reduce the taxable income (e.g.: if you give 10k on medication, you can decrease your taxable income by 10k).

Notice: You benefit more from tax deductions the higher your marginal tax rate - Regressive

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Ex.2) The government of Utopia plans to offer a transportation tax credit in which families receive a share of their expenditures on transportation to and from work or school as a reduction in their tax bill. Utopia is considering two forms of this tax credit, one that is fully refundable and one in which the tax credit is limited to the amount of taxes the family pays.

- Which form of the tax credit is more progressive? Explain.

- **Fully refundable tax credit is more progressive**

Unless a tax credit is fully refundable, families whose incomes are so low that they do not owe any income taxes do not receive the credit.

Critics might claim that it isn't a tax refund if you haven't paid taxes in the first place, but this is not quite correct. Everyone pays some taxes, whether in the form of sales taxes when they purchase goods or in the form of increased prices when taxes are passed through to the consumer.

PS 11: Taxation

Ex.3) The demand for rutabagas is $Q = 2\,000 - 100P$ and the supply of rutabagas is $Q = -100 + 200P$.

- Who bears the statutory incidence of a 2€ per unit tax on the sale of rutabagas, already included in the price tag?
- Who bears the economic incidence of this tax?

Taxation – Tax Incidence

- Statutory incidence – Who sends the check to the government.
- Economic incidence – Who actually bears the burden of taxation, measured by the change in the resources available to any economic agent as a result of taxation
- The three rules of tax incidence:
 - Statutory incidence does not describe who really bears the tax;
 - The side of the market on which the tax is imposed is (theoretically) irrelevant to the distribution of the tax burdens;
 - What determines economic incidences are **elasticities**: more elastic agents avoid the tax; more inelastic agents bear it.

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Ex.4) The city of Malaise is considering a 10 tax on the revenues of all hotels/motels inside the city limits. Although not completely different from hotels and motels in the nearby suburbs, the ones in Malaise have a distinct advantage in their proximity to the interesting sights and convention centers. So individuals will pay some premium to stay in Malaise rather than to stay nearby. Furthermore, all land is used equally well by hotels/motels and other forms of business; any Malaise land not taken by a hotel/motel is readily absorbed by other forms of business. Mayor Maladroit calls you in to advise him on the incidence of such a tax. He is particularly concerned with who will bear this tax in the short run (one month) and the long run (five years).

- a) What is the incidence of the tax in the short run? Answer intuitively, and use a diagram if possible.
- b) What is the long run incidence? Once again, use a diagram if possible.
- c) How would your analysis in b change if hotels/motels in the suburbs were perfect substitutes for those in Malaise? What would happen to tax revenues?

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Ex.5) To finance a new health insurance program, the government of Millonia imposes a new 2€ per hour payroll tax to be paid by employers.

- a) What do you expect to happen to wages and the size of the workforce?
- b) How will this answer change in markets where labor is inelastically demanded.

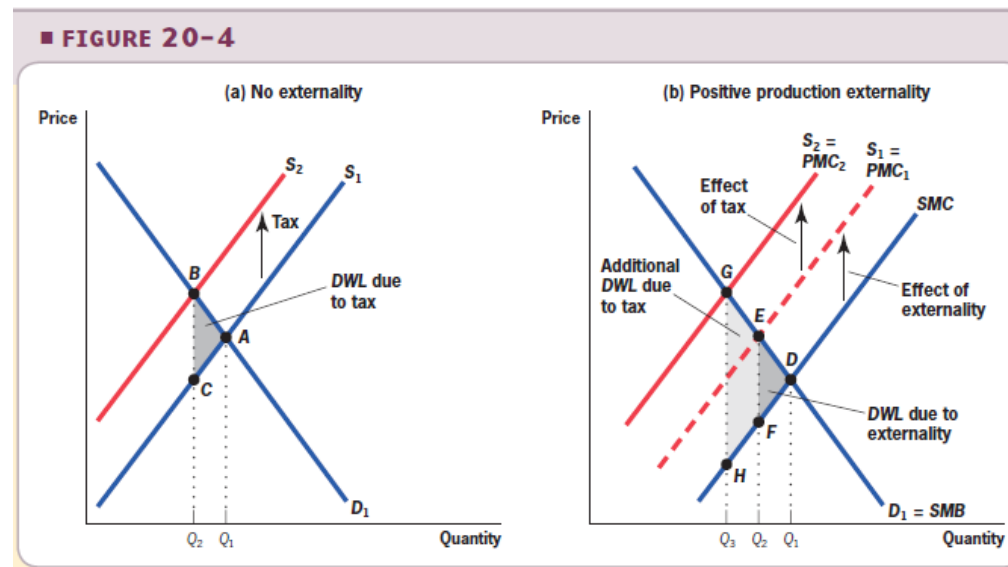
5- Taxation

5.2) Efficiency implications of taxation (Chapter 20 Gruber)

Taxation – What is an efficient tax?

Tax inefficiency

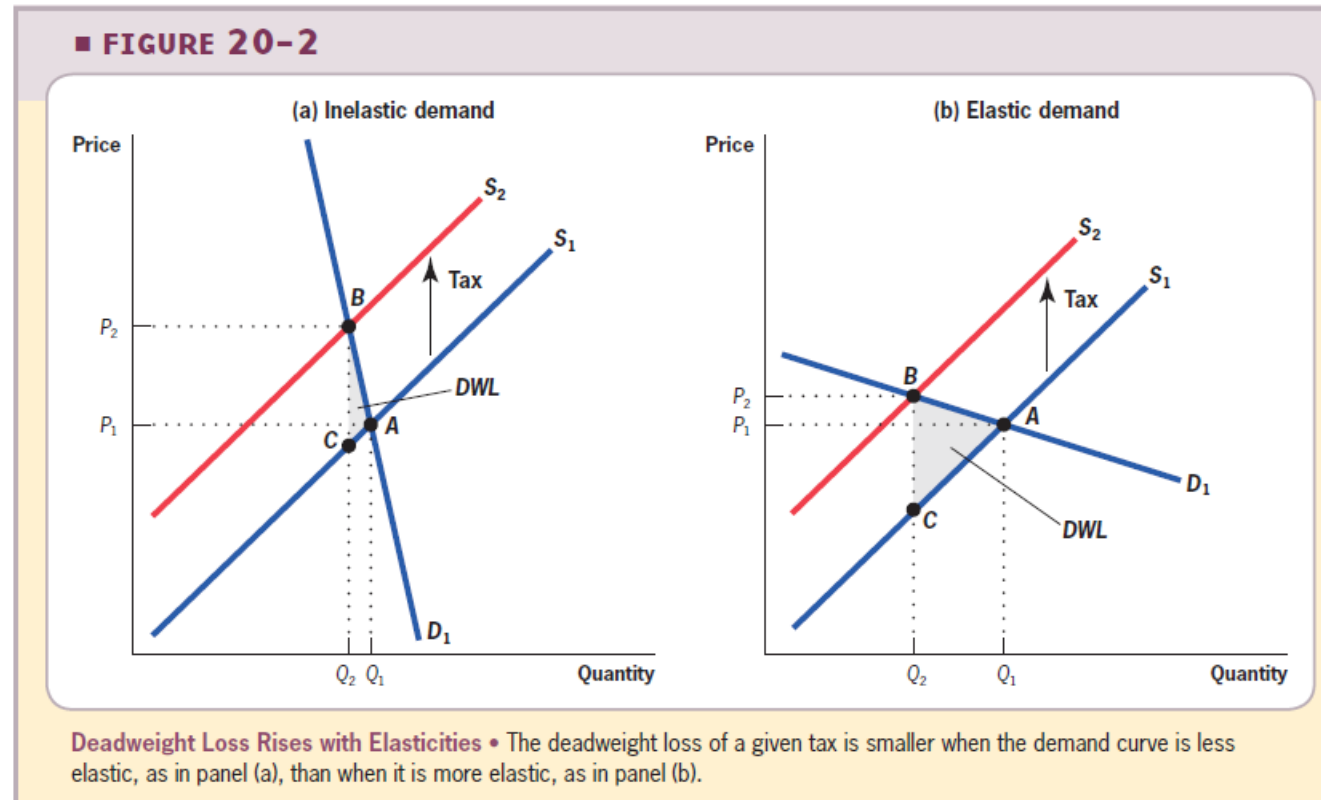
- Surplus that is lost due to previously mutually beneficial trades that no longer take place after the tax is imposed – **DWL**
- **This happens because agents make inefficient choices to avoid taxation**
- **When is the DWL higher?**
 - 1) More elastic markets have higher DWL
 - 2) DWL is higher when there are already pre-existing distortions in a given market.



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Ex.6) The government of Washlovia wants to impose a tax on clothes dryers. In East Washlovia the demand elasticity for clothes dryers is -2.4, while in West Washlovia the demand elasticity is -1.7.

- Where will the tax inefficiency be greater? Explain



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