

Public Economics (ECON 131)
Section #4: Labor Income Taxation

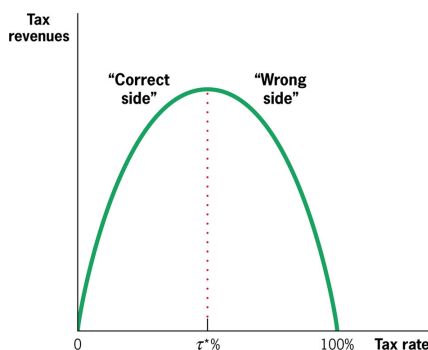
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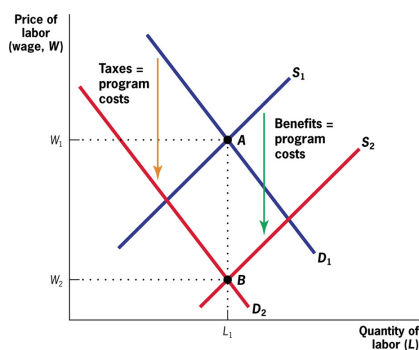
1 Implications of Tax Inefficiencies for Optimal Taxation

1.1 Key concepts

- How should the government determine the taxes?
 - Smooth tax rates, consider equity-efficiency tradeoff
 - Optimal taxation
 - (a) Optimal Commodity Taxation (Ramsey Rule): $\frac{MDWL_i}{MR_i} = \lambda$ and $\tau_i^* = -\frac{1}{\eta_i} \times \lambda$
 - (b) Optimal Income Taxation: $\frac{MU_i}{MR_i} = \lambda$
- The Laffer curve:



- Tax-benefit linkages:
 - Direct ties between taxes paid and benefits received.
 - Link between payroll and social insurance benefits causes the incidence of payroll taxation to fall more on workers.
 - Also, the efficiency cost of financing social insurance may be lower than presumed.
 - Perfect linkages: taxation with no deadweight loss due to linkages.



1.2 Practice problems

1.2.1 Gruber, Ch.20, Q.8

Luxury goods often have much higher elasticities of demand than do goods purchased by a broad base of people. Why, then, are governments more likely to tax luxuries than these “staple” goods?

1.2.2 Gruber, Ch.20, Q.14

What is the theoretical justification for a so-called Laffer curve? Based on the empirical evidence described in the book, should the U.S. raise or lower its tax rates in order to increase tax revenues? Explain.

2 Labor Income Taxation

Public economists are interested in problems where the choice variables for the consumer are consumption and leisure. When this is the case, the budget constraint differs from the standard case in micro since income is no longer exogenous, but chosen by the consumer through their labor. In this section, we will consider how the budget constraint of the consumer changes in response to labor income taxes, and how this may affect choices of consumption and leisure.

2.1 Key concepts

- Income and substitution effects
- Earned Income Tax Credit
 - Understand what it is
 - Understand how it impacts the budget constraint
 - Know how to draw EITC budget constraint
 - Income and substitution effects on different portions of EITC budget constraint (Phase-in, flat, phase-out)

2.2 Practice problems

2.2.1 Gruber, Ch.21, Q.1

Suppose that for every hour you work you can earn \$10 before taxes. Furthermore, suppose that you can work up to 16 hours per day, 365 days per year. Draw your annual budget constraint reflecting the consumption-leisure trade-off under the following income tax schemes.

- (a) A flat income tax of 20% on all income earned*
- (b) An income tax where you pay no tax on the first \$10,000 earned and a tax of 25% on all income over \$10,000.*
- (c) An income tax where you pay 10% on the first \$5,000 earned, 20% on the next \$10,000 earned, and 30% thereafter.*

2.2.2 Gruber, Ch.21, Q.7

Suppose that you can earn \$16 per hour before taxes and can work up to 80 hours per week. Consider a tax increase from 10% to 20% over all income.

- (a) On the same diagram, draw the two weekly consumption-leisure budget constraints reflecting the two different tax rates.
- (b) Draw a set of representative indifference curves such that the income effect of the tax increase outweighs the substitution effect.
- (c) Draw a set of representative indifference curves such that the substitution effect of the tax increase outweighs the income effect.

2.2.3 Gruber, Ch.21, Q.13

You graduate from college and take a job at a consulting firm with a wage of \$25 per hour. Your job is extremely flexible: you can choose to work any number of hours from 0 to 2,000 per year.

(a) Suppose there is an income tax of the following from:

- Income up to \$10,000: no tax*
- Income from \$10,000-\$30,000: 20% tax rate*
- Income from \$30,000 up: 30% tax rate*

Draw a graph in hours worked/consumption space, showing your opportunity set with and without the tax system. With the tax system in place, are there any points that you are particularly unlikely to choose? Why or why not?

(b) Say you choose to work 1,500 hours per year. What is your marginal tax rate? What is your average tax rate? Do these rates differ? Why or why not?

(c) Suppose that the two tax rates are increased to 25% and 50% . What is the likely effect on the labor supply of men? What is the likely effect on the labor supply of married women? Explain how the responses might differ between these groups, both in terms of underlying economic effects and in terms of the empirical evidence on labor supply responses.