Taxation-Overview
(Chapter 18)
Taxation-Overview

• So far, we have talked about different government expenditure items:
  – Education
  – Social Security
  – Health insurance
  – Welfare programs
Taxation-Overview

• How does local and federal governments finance such programs?
  – Thru different types of taxes

• In the next three chapters, we will talk about
  – Tax incidence
  – Tax inefficiency and optimal taxation
  – Tax reform
Taxation-Overview

• Different types of taxation
  – **Taxes on earnings (payroll taxes)**
    • Primarily used by the federal government to finance Social Security, unemployment insurance and Medicare.
  – **Taxes on individual income**: different from payroll taxes since
    • They are applied to a broader set of income sources (e.g. interest income)
    • Usually applied to entire income of the family rather than the individual earnings.
Taxation-Overview

• Different types of taxation
  – **Taxes on corporate income**
    • Tax earnings of capital owners that might otherwise escape taxation by the individual-based income tax-system.
  – **Taxes on wealth:**
    • Taxes on the value of assets such as land, jewelry, art etc.
    • **Property taxes:** commonly used by local and state governments.
Taxation-Overview

• Different types of taxation
  – **Taxes on consumption:**
    • Taxes on individual or household consumption of goods.
    • **Sales taxes:** paid by consumers to vendors at the time of transaction.
    • **Direct taxes:** income, payroll and wealth taxes
    • **Indirect taxes:** consumption taxes
Taxation-Overview

• Different types of taxation (U.S.)

U.S. Tax Revenue by Type of Tax (2005, % of total tax revenue)

Federal government:
- Social Security contributions (38.2%)
- Individual income (42%)
- Consumption (3.3%)
- Corporate income (13.7%)
- Other (2.8%)

State and local governments:
- Other (38.4%)
- Individual income (14.8%)
- Property tax (20.2%)
- Consumption (23.2%)

Total government:
- Social Security contributions (26.1%)
- Individual income (35.5%)
- Consumption (13.9%)
- Property tax (10.2%)
- Corporate income (10.9%)
- Other (3.4%)
Taxation-Overview

• Different types of taxation (Other countries)
Taxation-Overview

• Income Taxation in the U.S.
  – How to compute the tax base?
    • **Gross income**: Sum of individual’s different sources of income:
      – Wages and salaries
      – Capital income
      – Interests, rental income etc.
Taxation-Overview

• Income Taxation in the U.S.
  – The individual can adjust the gross income downward by subtracting several items:
    • Contributions IRAs or self-pension plans
    • Alimony paid to a former spouse
    • Health insurance premiums paid by the self-employed
    • One-half of the payroll taxes paid by the self-employed.
  – **Adjusted gross income**: Gross income less the deductions listed above.
Taxation-Overview

• Income Taxation in the U.S.
  – Subtract **exemptions** from AIG
    • **Exemptions:** Fixed amount of money that can be deducted for the taxpayer, taxpayer’s spouse and any dependent living in the household.
    • In 2006, $3,300 per person in the households.
  – Can also deduct one of the following two:
    • **Standard deductions:** $5,150 for single taxpayers, $10,300 for married taxpayers.
    • **Itemized deductions:**
      – Medical and dental expenditures exceeding a certain amount
      – State and local taxes paid
      – Interest paid on funds borrowed for investment or home mortgages
      – Gifts to charity
Taxation-Overview

• Income Taxation in the U.S.
  – **Taxable income**: Gross income minus the sum of deductions and exemptions, used to determine taxes owed.

![Graph showing marginal tax rates](image-url)
Taxation-Overview

• Income Taxation in the U.S.
  – **Tax credits**: flat amounts subtracted from taxes owed.
    • Credit for having children (Child Tax Credit)
    • Credit for the poor and the elderly
    • Credits for educational expenditures of family members
  – If taxes already paid exceeds the remaining taxes owed $\Rightarrow$ refund
  – If taxes already paid are smaller than the remaining taxes owed $\Rightarrow$ withholding
Taxation-Overview

• Income Taxation in the U.S.
  – Example:

\[
\begin{array}{|c|c|}
\hline
\text{Computing Jack's Income Tax} & \\
\hline
\text{Gross income} & $60,000 \\
- \text{Deductions} & - $2,000 \\
\hline
\text{= Adjusted gross income (AGI)} & $58,000 \\
- \text{Exemptions} & - $16,500 \\
- \text{Standard (or itemized) deduction} & - $10,300 (or $9,000) \\
\hline
\text{= Taxable income} & $31,200 \\
\hline
\text{Use income tax schedule (Figure 18–3)} \\
\hline
\text{= Taxes owed} & $3,925 \\
- \text{Credits} & - $3,000 \\
\hline
\text{= Total tax payment} & $925 \\
- \text{Witholding} & - $2,000 \\
\hline
\text{= Final payment (refund) due} & ($1,075) \\
\hline
\end{array}
\]
Taxation-Overview

• Fairness of Tax Systems
  – **Marginal tax rate**: The tax rate paid for the next dollar earned.
    • Income less than 15,100, marginal tax rate is 10%
    • Income more than 336,550, marginal tax rate is 35%
  – **Average tax rate**: The percentage of total income paid in taxes.
Taxation-Overview

• Fairness of Tax Systems
  – **Example:** Total income = $150,000 with taxable income of $130,000
    • Marginal tax rate: 28%
    • Taxes owed
      \[ \text{(\$15,100 \times 0.1)} + (\text{\$(61,300 - \$15,100) \times 0.15)} + (\text{\$(123,700 - \$61,300) \times 0.25)} + (\text{\$(130,000 - \$123,700) \times 0.28)} \] = $25,804
    • Average tax rate = \[ \frac{\$25,804}{\$150,000} \] = 17.2%
Taxation-Overview

• Fairness of Tax Systems
  – *Vertical equity*: Groups with more resources should pay higher taxes than groups with lower resources.
    • Why?
      • Remember social welfare functions: more equity might increase the social welfare.
  – *Horizontal equity*: Similar individuals who make different economic choices should be treated similarly by the tax system.
Taxation-Overview

• Fairness of Tax Systems
  – How to measure?
    • Harder to define horizontal equity. Consider two cases:
      – Two sales tax proposals: (1) 5% on all items for everyone (2) 0% or 10% depending on the flip of a coin.
      – (1) and (2) raise the same tax revenue, but (2) is obviously more horizontally equitable.
Taxation-Overview

• Fairness of Tax Systems
  – How to measure?
    • Harder to define horizontal equity. Consider two cases:
      – Two individuals with the same skill levels
      – One spends more time working and makes more money and pays more taxes, the other spends more time with family and has less income and pays less taxes.
      – Does this violate horizontal equity?
Taxation-Overview

• Fairness of Tax Systems
  – How to measure?
    • Tax system must be progressive to satisfy vertical equity.
    • Progressive taxation: average tax rate must increase with income.
    • Proportional taxation: average tax rate does not change with income.
    • Regressive taxation: average tax rate decreases with income.
Taxation-Overview

• How to define taxable income?

  – **Haig-Simons definition**: defines taxable resources as an individual’s ability to pay taxes, which equals the sum of
    • Individual’s total consumption during the year
    • Increases in his or her stock of wealth
Taxation-Overview

• How to define taxable income?
  – **Haig-Simons definition:**
    • Satisfies vertical equity, since those with more resources (including non-taxable compensations such as health-insurance) pay more tax.
    • Also satisfies horizontal equity, since people with similar in terms of their underlying resources pay the same amount of tax.
Taxation-Overview

- Why not use Haig-Simons definition?
  - Deviations due to ability-to-pay considerations
    - Property and casualty losses
    - Medical expenditures
    - State and local tax payments
  - Deviations due to costs of earning income
    - Some expenditures are not for consumption but rather reflect the cost of earning a living (e.g. business meals).
Taxation-Overview

• Why not use Haig-Simons definition?
  – Deviations due to externality/public goods rationales
    • Reducing taxes on certain activities will yield external benefits to society.
Taxation-Overview

• Why not use Haig-Simons definition?
  – Deviations due to externality/public goods rationales
    • **Charitable giving:** By not taxing charitable donations, government makes charitable giving more attractive to individuals.
    • Why doesn’t the government provide the charitable good itself?
Taxation-Overview

• Why not use Haig-Simons definition?
  – Deviations due to externality/public goods rationales
    • Spending crowd-out versus tax subsidy crowd-in
      – If the government provides the charitable good, it will crowd-out some of the previous donors.
      – When the government provides tax subsidies on the other hand, it will crowd-in some new donors.
      – However, by doing so, the government also provides tax subsidies to those who were donating pre-tax cut.
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• Why not use Haig-Simons definition?
  – Deviations due to externality/public goods rationales

• Spending crowd-out versus tax subsidy crowd-in
  – Marginal impacts: Changes in behavior the government hopes to encourage through a given tax incentive.
  – Inframarginal impacts: Tax breaks government gives to those whose behavior is not changed by new tax policy.
  – The most cost-efficient tax breaks are those with high marginal impacts and low inframarginal impacts.
Taxation-Overview

• Why not use Haig-Simons definition?
  – Deviations due to externality/public goods rationales
    • Spending crowd-out versus tax subsidy crowd-in
      – If the following inequality holds, the government should use a tax break instead of direct provision:
        \[
        \text{Increase in charity per dollar of tax break} > 1 - \text{the reduction in charity per dollar of government spending}
        \]
Taxation-Overview

• Why not use Haig-Simons definition?
  – Deviations due to externality/public goods rationales
  • Consumer sovereignty versus imperfect information
    – Advantage of tax subsidies: government respects citizens’ preferences
    – Downside: hard to detect whether citizens are actually making the donations.
Taxation-Overview

• Why not use Haig-Simons definition?
  – Deviations due to externality/public goods rationales

• Housing: Why subsidize home ownership?
  – Evidence that the citizens become more involved in the community if they own a home.
  – Selection issue: home buyers might be the ones who would have also been involved otherwise.
Taxation-Overview

• **Tax deductions versus tax credits**
  – Tax deductions allow taxpayers to reduce their taxable income by a certain amount.
  – Tax credits allow taxpayers to reduce the amount of tax they owe by a certain amount.
Taxation-Overview

• **Tax deductions versus tax credits**
  – Which one to use?
    • Current tax deductions versus 100% tax credit with $1,000 upper limit.
    • Tax deductions subsidize all giving partially.
    • Tax credit subsidizes some giving and some not at all.
    • **Efficiency:** not clear which one to use
      – How important is it to achieve some minimal level of behavior?
Taxation-Overview

• Tax deductions versus tax credits
  – Which one to use?
    • Equity: tax credits are more equitable than tax deductions, which are regressive
      – High income individuals receive a higher tax-cut than the low-income individuals
    • Tax deductions are progressive, since credit amounts are lower as a share of income for high income individuals.
The appropriate unit of taxation

- Design a system with the following features:
  - Progressive: marginal tax rate rises as family income rises
  - Across-family horizontal equity: families with equal incomes would pay equal taxes
  - Across-marriage horizontal equity: tax burdens would be marriage neutral, independent of whether two individuals decide to wed.
  - NOT POSSIBLE
Taxation-Overview

• The appropriate unit of taxation
  – Design a system with the following features:
    • **Example:** Consider two couples
      – Hillary ($140,000), Bill ($10,000)
      – George ($75,000), Laura ($75,000)
      – Consider the following tax system
        » 10% up to $20,000
        » 20% up to $80,000
        » 30% above $80,000
Taxation-Overview

• The appropriate unit of taxation
  – Design a system with the following features:
  • Example:

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**TABLE 18-3**

<table>
<thead>
<tr>
<th></th>
<th>Individual income</th>
<th>Individual tax</th>
<th>Family tax with individual filing</th>
<th>Total family income</th>
<th>Family tax with total family income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hillary</td>
<td>$140,000</td>
<td>$32,000</td>
<td></td>
<td>$150,000</td>
<td>$35,000</td>
</tr>
<tr>
<td>Bill</td>
<td>$10,000</td>
<td>$1,000</td>
<td>$33,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>George</td>
<td>$75,000</td>
<td>$13,000</td>
<td>$26,000</td>
<td>$150,000</td>
<td>$35,000</td>
</tr>
<tr>
<td>Laura</td>
<td>$75,000</td>
<td>$13,000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Taxation-Overview

• The appropriate unit of taxation
  – **Marriage tax:** A rise in the joint tax burden on two individuals from being married
    • If taxed individually, families with more equal distribution of income will pay less taxes in total, violating the across-family horizontal equity
    • If taxed as a family, the average tax rate will increase due to progressivity.
Taxation-Overview

• The appropriate unit of taxation
  – Possible solution
    • Subsidize marriage with tax deductions for married couples
  • Issues:
    – marginal versus inframarginal impacts
    – Why subsidize marriage?
  • Secondary earner subsidies