Chapter Summaries

Chapter 16: The Trade-off Between Equity and Efficiency in Taxation

Chapter 16 begins by describing how to raise a given amount of tax revenue with the least amount of deadweight loss, which is the efficiency goal for taxation. The government is assumed to be able to tax all goods and factors. (But one good or factor must remain untaxed to generate inefficiency from taxation.)

1. Deadweight loss is minimized if the marginal loss per dollar of revenue collected, dL/dT = $tE^{C}_{X,P}$, is equalized across all taxed goods and factors. This rule has two equivalent interpretations:
   a. Tax rates should be set in inverse proportion to the compensated demand (factor supply) elasticities. This rule is called the *inverse elasticity rule* (IER).
   b. Tax rates should be set so as to generate an equal percentage change in the compensated demands (supplies) of all taxed goods (factors). This is called the *equal percentage change rule*.
2. The conclusion that (almost) all goods and factors should be taxed to minimize loss, in general, is disappointing because it implies a large degree of government intrusion into the market economy, at least on the tax side.

The next section of the chapter adds the goal of promoting end-results equity in taxation to the efficiency goal of minimizing deadweight loss, again assuming the government can tax all goods and factors except one.

3. The use of distorting taxes prevents society from reaching the utility possibilities frontier. Instead government policy is limited to a restricted, second-best set of utility possibilities that lies below the utility possibilities frontier.
4. The goal is to find the point on the restricted, second-best frontier that maximizes social welfare, the point at which a social welfare indifference curve is tangent to the

restricted frontier. The choice in terms of tax policy involves finding the best trade-off between efficiency and equity. Setting taxes to minimize deadweight loss may lead to too unequal a distribution. Setting taxes to equalize incomes, as would be done under the Atkinson assumptions for social welfare described in Chapter 5, may generate too much inefficiency.

5. To satisfy the efficiency goal, tax goods (factors) with low compensated demand (supply elasticities). To satisfy the equity goal, tax more heavily those goods (factors) consumed (supplied) disproportionately by people with low social marginal utilities of income (i.e., people with higher incomes).
6. Taxing food purchased for home consumption is an example of the efficiency/equity trade-off. It makes sense on efficiency grounds because it raises a lot of revenue and the demand (actual and compensated) for such food is highly inelastic. But firms can easily pass the tax on to consumers by raising their prices, and food purchased for home consumption makes up a higher proportion of households' budgets the lower their incomes. Therefore, the burden of the tax falls disproportionately on low-income taxpayers, those with relatively high social marginal utilities of income. Twenty-six states exempt food purchased for home consumption from their sales taxes and nineteen do not. Presumably the former states give more weight to the unfavorable equity implications of the tax and the latter give more weight to its favorable efficiency properties.

The chapter concludes with a discussion of how best to solve the efficiency/equity trade-off if only one tax is used, the example being a personal income tax. The model used to consider the trade-off under income taxation assumes: a linear credit income tax; there is one consumer good that is produced entirely with the labor supplied by the individuals; all individuals have the same tastes for the consumer good and leisure but differ in their skill levels and hence wages; and the government has a revenue requirement to finance a given amount of expenditures. The goal is to set the tax rate and credit to maximize Atkinson's social welfare function with an aversion to inequality paremeter, e (as described in Chapter 5).

7. In this model, the tax rate should be higher:
   a. the higher the government's revenue requirement;
   b. the greater the dispersion of skills (the greater the inequality of wages and thus the more gain to reducing inequality);
   c. the higher society's aversion to inequality, e;
   d. the lower the compensated labor supply elasticity (the source of the efficiency loss).
8. The lowering of the highest marginal tax rate under the federal personal income tax in 1986 from 50% to 28% was in line with the policy prescription from the optimal

income tax models at the time. Since 1986, estimates of compensated labor supply elasticities have risen, implying that the highest marginal tax rate should be even lower, and the inequality of incomes has increased, implying that the highest marginal tax rate should be higher.

9. The optimal income tax models also tend to conclude that having graduated tax rates leads to very small gains in social welfare relative to having a single tax rate for all incomes (a so-called flat tax).
10. Mainstream economists prefer the optimal income tax framework for studying how to design an income tax to the Smith–Mill ability-to-pay framework because the latter only considers equity issues rather than the appropriate trade-off between efficiency and equity.
11. The optimal income tax framework is also consistent with Musgrave's advice regarding the equity goal in taxation to worry more about the structure of a broad-based tax – vertical equity – than what the ideal tax base should be – horizontal equity. The same framework could be applied to any chosen tax base.