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EXCESS BURDEN OF FEDERAL TAXES IMPOSES HIGH ECONOMIC COST

Introduction. The overall burden of taxation is much larger than the tax receipts that government collects each year because taxes distort the behavior of individuals and firms. These distortions reduce potential output or economic welfare. Economists refer to this reduction as the **excess burden** or **deadweight loss of taxation**, which is usually expressed as a percent of tax collections either on average or at the margin (the last dollar of tax collected).

Overall cost of taxation. The overall economic cost of the federal tax system above and beyond tax collections arises from three sources:

1. **Administrative costs** are the expenses that the U.S. government incurs in devising, administering, and enforcing its tax laws. In fiscal year 2006, the Internal Revenue Service spent \$10.7 billion, or 0.5 percent of federal tax receipts.
2. **Compliance costs** are the value of time and the out-of-pocket expenses that individuals and firms must shoulder to learn tax requirements, keep records, and prepare returns, including accounting and legal fees. In 1999, compliance costs were estimated to be \$100 billion, or about 9.4 percent of federal income tax receipts.¹
3. **Excess burden or deadweight loss** is the reduction in potential output or economic welfare that occurs when taxes distort behavior. High marginal tax rates:
 - discourage individuals from working and firms from undertaking investments that would increase GDP;
 - cause individuals and firms to arrange their transactions in ways that minimize tax payments even though these arrangements may reduce GDP; and
 - prompt individuals to increase their consumption of less valuable goods and

services that are tax-preferred instead of more valuable goods and services that are taxed.

A JEC study published in 1999 found a midpoint estimate of the excess burden of the federal tax system to be 40 percent of federal tax receipts.²

Labor taxation. A higher marginal tax rate on labor income increases the tax wedge between what firms (as consumers of labor) spend to employ workers (including taxes) and what workers (as suppliers of labor) receive. By reducing the after-tax wage rate or equivalently the opportunity cost of leisure, a higher marginal tax rate on labor income simultaneously reduces work effort and increases leisure.³ The resulting reduction in work effort increases the excess burden of taxation.

The size of the increase in the excess burden depends in part on how responsive the supply of labor effort from workers is to a higher marginal tax rate. Economists use **elasticity** (which is the ratio of the percentage change in one variable to the percentage change in another variable) to measure the responsiveness of labor effort to the after-tax wage rate.⁴ Thus, a higher elasticity of labor effort with respect to the after-tax wage rate implies a larger marginal excess burden from any given increase in the marginal tax rate on labor income.

Early empirical research measured labor effort through the quantity of hours-worked. Because only married women had a significant elasticity of hours-worked with respect to the after-tax wage rate, early empirical research found a small excess burden or deadweight loss.

Hours-worked is an incomplete gauge of labor effort because hours-worked measures only the quantity of labor effort. Workers may also reduce the quality of their labor effort in response to a higher marginal tax rate. For example:

- Higher taxes may prompt some workers to choose easier jobs over more demanding jobs

that are more productive and consequently pay better. Although both jobs may entail the same hours-worked, this choice reduces the quality of labor-effort and thus output.

- Higher taxes may prompt other workers to forgo additional training or aver moving or changing occupations because of the smaller increase in after-tax income from securing more productive jobs in different industries or locations. Again, these choices may reduce the quality of labor effort and thus output without changing the quantity of hours-worked.

All other things being equal, increasing the marginal tax rate on labor income decreases taxable income by reducing both quantity and quality of labor effort by workers. Higher taxes produce other behavioral changes that also lower taxable income:

- Firms and their workers may alter the mix of labor compensation by decreasing taxable wages and increasing non-taxable fringe benefits.
- Individuals may tend to purchase more tax-preferred goods and services as higher marginal tax rates make deductions more valuable. For example, individuals may purchase a house to take advantage of tax-deductible mortgage interest and property tax payments rather than renting an apartment.

Because the marginal cost of leisure, fringe benefits, and tax-preferred consumption all equal the after-tax wage rate, economists may combine all of these behavioral responses, estimate the elasticity of taxable income with respect to the after-tax wage rate, and then use this estimate to calculate the marginal excess burden.

Capital taxation. Under the existing federal tax system, personal saving and investment are taxed multiple times. Saving, which is the remainder of after-tax income that is not consumed, is taxed again when it is invested into financial assets that earn interest and dividends. Moreover, dividends are taxed twice – first as profits at the corporate level and again as dividend income at the individual level. Finally, financial assets may be subject to capital gains taxes when sold or estate taxes upon the death of the owner.

By raising the price of saving and investment relative to consumption, this multiple taxation creates a bias against saving and investing in favor of consuming. This bias undermines an important source of capital formation. Although certain provisions in the tax code are designed to offset some of this bias, many of adverse effects from multiple layers of taxation remain. This multiple taxation raises the cost of capital, rendering some investment projects unfeasible. Thus, the tax bias against saving and investment reduces economic growth and creates a number of specific distortions.

The double taxation of dividends as profits at the corporate level and then again as dividend income at the individual level causes:

- the retention of earnings within profitable U.S. corporations instead of the payment of dividends to shareholders that could have been invested more profitably elsewhere in the U.S. economy; and
- the diversion of funds that would have otherwise been invested in U.S. corporations into the U.S. real estate sector and to foreign corporations.

The deductibility of interest payments, but not of dividends induces U.S. corporations to finance their investments through more debt relative to equity.

- Tax-induced higher debt levels make U.S. corporations more vulnerable to cash flow fluctuations during economic recessions.
- In turn, this vulnerability biases U.S. corporations toward short-term investments because even though long-term investments may have higher present values, the cash flow is more variable from long-term investments than from short-term investments.

Capital gains taxes are largely voluntary since an asset owner can delay paying this tax by not selling assets or can avoid this tax altogether by using appreciated assets to make charitable contributions or holding assets until death. Taxes on capital gains slow the reallocation of investment funds from established corporations to entrepreneurial ventures that could use these funds more profitably.

Owners of capital may make other behavioral changes in response to a higher marginal tax rate on capital income. For example, individuals can substitute tax-exempt municipal bonds for taxable corporate bonds to lower their taxable income. Owners of eligible small firms may elect to organize as S corporations rather than C corporations to avoid paying income taxes at both the firm level and again at the individual level.

Historically, economists estimated the excess burden from capital taxation through the elasticity of saving with respect to the after-tax investment return. Because the volume of saving has displayed a low elasticity with respect to after-tax investment return, many economists assumed that taxes on investment income produced a small excess burden. However, Feldstein (2006) observed that saving is not an end, but rather a means to an end, namely future consumption.⁵ Consider this example:

- A 45-year-old individual who saves \$1 now in expectation of using his savings for consumption during retirement 30 years later;
- An expected pre-tax return on a well diversified portfolio of stocks and bonds of 10 percent annually during the next 30 years;
- Reinvestment of all interest and dividend income over 30 years in the portfolio; and
- A 50 percent marginal tax rate (includes all federal, state, and local taxes).

In absence of all capital taxes, this individual could consume \$17.45 in 30 years. After taxes, however, this individual would be able to consume only \$4.32.⁶ In this example, capital taxation creates an effective marginal tax rate on future consumption of 75 percent. Therefore, the relevant elasticity that should be estimated to calculate the marginal excess burden of capital taxation is the elasticity of future consumption with respect to the after-tax rate of capital income.

Feldstein (2006) concluded:

- an excess burden from capital taxation occurs even if the volume of saving is unchanged;
- taxes on investment income can reduce the incentive to work and receive taxable earnings just as taxes on labor income do;

- existing taxes on investment income slow capital accumulation and real GDP growth; and
- slower real GDP growth depresses the real growth of federal tax revenues over time.

Empirical estimates. Examining data before and after the *Tax Reform Act of 1986*, Feldstein (1995) found that the elasticity of taxable income (plus partnership losses) with respect to the after-tax wage rate ranged from 104 percent to 125 percent.⁷ Using a different model that also accounts for changes in non-tax factors over time, Auten and Carroll (1998) found an elasticity of 66 percent.⁸ While Auten and Carroll found a lower elasticity than Feldstein, both were significant above the findings of earlier empirical research.

Feldstein then calculated the economic effects of a 1 percentage point increase in all federal income tax rates. Assuming an elasticity of taxable income with respect to the after-tax wage rate of 40 percent (much less than what either Feldstein or Auten and Carroll actually found), Feldstein found the marginal increase in the excess burden or deadweight loss is \$3.5 billion over time, or **76 percent** of the \$4.6 billion actual gain in tax revenue. Thus, the actual cost of a new dollar of federal spending in this example is \$1.76. Moreover, this hypothetical tax increase would net only \$4.6 billion in new revenue, or 57 percent of the \$7.5 billion estimated under static modeling. A tax that imposes such high economic costs relative to its revenue gain is inefficient and counterproductive.

Conclusion. While policymakers have frequently debated how proposed federal tax changes would affect the balance in the U.S. government's budget, the level of interest rates, and the short-term growth prospects for the U.S. economy, far less attention has been paid to how these changes would affect the U.S. economy.

Alternative tax policies that raise the same amount of revenue can have vastly different marginal excess burdens. Given the enormous size of the excess burden from the existing federal tax system, policymakers should pay greater attention to the effects of proposed changes on the efficiency and international competitiveness of the U.S. economy when shaping federal tax policy.

¹ Joel Slemrod and Jon Bakija, *Taxing Ourselves: A Citizen's Guide to the Great Debate over Tax Reform* (Cambridge, Massachusetts: MIT Press, 2000): 137.

² Richard K. Vedder and Lowell E. Gallaway, *Tax Reduction and Economic Welfare*, prepared for the Joint Economic Committee, 106th Cong., 1st sess., April 1999.

³ The inverse relationship between marginal income tax rates and labor effort is a substitution effect. An income effect (i.e., higher marginal tax rates may cause some workers to increase work effort to replace lost after-tax income, and vice versa) partially offsets the substitution effect. However, empirical studies have found the substitution effect consistently dominates the income effect, producing a net substitution effect.

⁴ Economists use (ϵ) as the symbol for elasticity. The elasticity of labor effort with respect of the marginal tax rate on labor income (ϵ) is the ratio of the percentage change in labor effort (L) to the percentage change in the after-tax wage rate ($w * (1 - t_L)$). Mathematically, $\epsilon = \delta L / \delta (w * (1 - t_L)) * (w * (1 - t_L)) / L$.

⁵ Martin Feldstein, *The Effect of Taxes on Growth and Efficiency*, NBER Working Paper 12201 (May 2006).

⁶ If this individual were to place this dollar into a tax-deferred retirement saving plan, he or she would have \$8.72 available for consumption 30 years later.

⁷ Martin Feldstein, "The Effect of Marginal Tax Rates on Taxable Income: A Panel Study of the 1986 Tax Reform Act," *Journal of Political Economy* (June 1995): 551-572.

⁸ Gerald Auten and Robert Carroll, *The Effect of Income Taxes on Household Income*, U.S. Department of the Treasury, OTA Working Paper 75 (1998).