

## Why Taxes Matter

by J. Scott Moody

It is known that taxpayers respond to tax incentives and disincentives. For example, a taxpayer may buy a larger house than they may "need" because they can deduct the mortgage interest from their income taxes. Since the behavior is tax-induced, it harms the economy. Rather than buying a larger house, the taxpayer could have instead invested in Google.

"Deadweight loss" is a term used by economists to describe the economic inefficiencies created by taxation such as when taxpayers reduce work and/or consumption or shift income in order to avoid taxation. In other words, the very process of transferring resources from the private to the government sector results in a permanent loss of potential economic output.

Chart 1 shows graphically how economists are able to estimate deadweight losses where Quantity ( $Q_e$ ) and Price ( $P_e$ ) show the market equilibrium. The addition of tax has the same effect as an artificial price increase. The new price point of intersection with the Demand ( $P+T_d$ ) and Supply ( $P+T_s$ ) curves is at Quantity ( $Q_t$ ). The rectangle formed by the new intersection is the revenue gained by the tax. However, the triangle represents the value of trade that would have occurred without the tax, but are not precluded by the tax. Deadweight loss can be estimated by calculating the area of the triangle.

However, estimating the deadweight loss is subject to the degree in which taxpayer's change their behavior. If, in fact, taxpayers buy larger houses because the mortgage interest is deductible; then the deadweight loss is large and vice-versa. Economists refer to this as the "tax elasticity (TI)." The example given above is an example of "high tax elasticity." Graphically, in Chart 1, TI is shown by the steepness and curvature of the supply and demand curves.

Based on this standard economic methodology, Dr. Martin Feldstein, president and CEO of the National Bureau of Economic Research, pioneered the empirical estimations of deadweight loss. In one of Dr. Feldstein's famous studies, co-authored with Dr. Daniel Feenberg, they estimated that the TI during the 1993 Federal income tax increase was 0.75. This means that for every one percent reduction in after-tax income, taxable income decreased by 0.75 percent. [1]

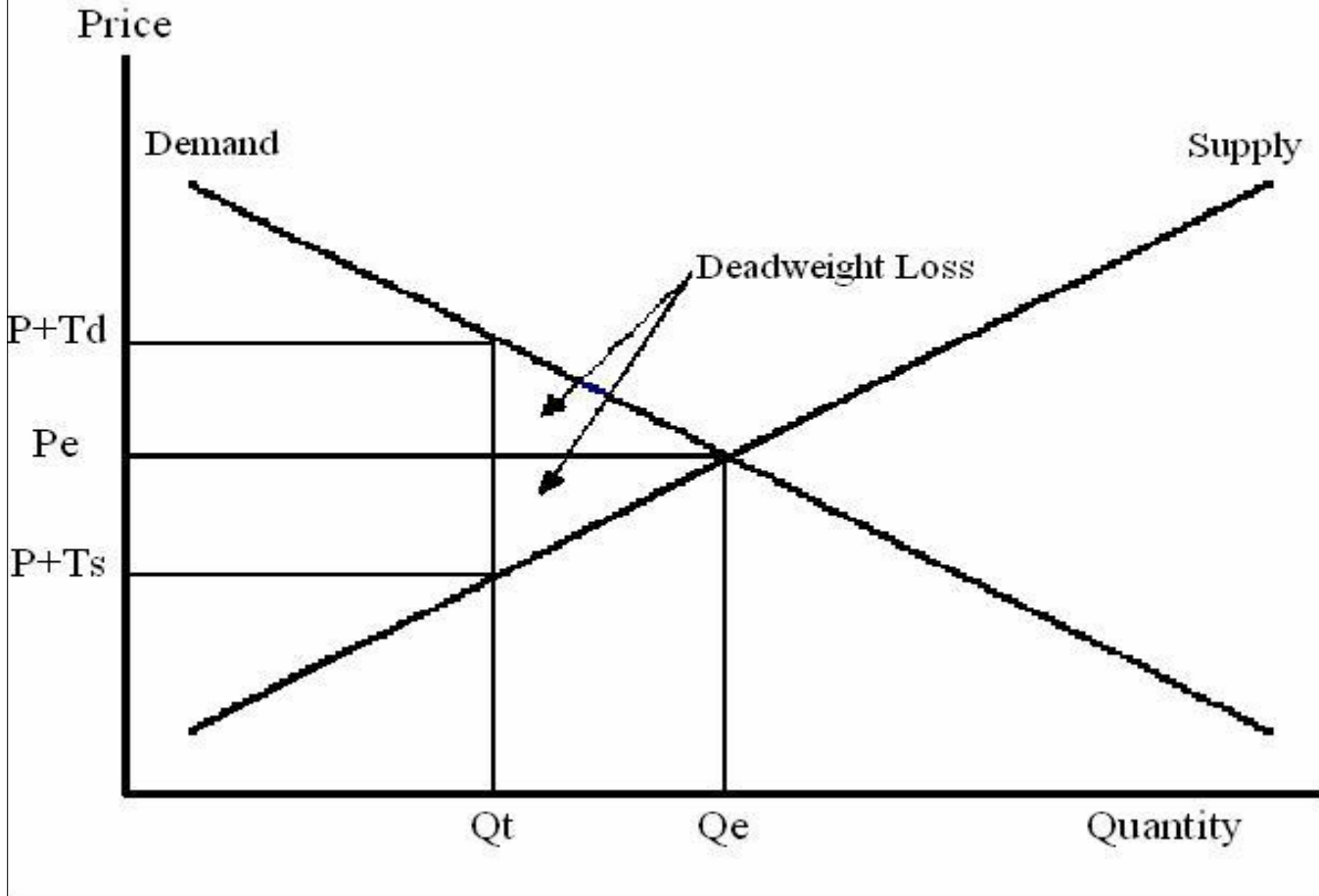
In dollar terms, suppose a taxpayer with \$100,000 in after-tax income experiences a statutory tax increase of \$1,000 to \$99,000. In response, the taxpayer reduces his taxable income—perhaps by buying tax-free municipal bonds—by \$750. As a result, government collects lower tax revenues (the \$750 is tax-free) and the economy suffers significant deadweight losses (he could have went on vacation instead).

According to static federal revenue projections, the 1993 tax increase (both marginal income tax rates and the payroll tax) was estimated to raise \$19.3 billion in additional revenue. However, based on behavior response, the actual additional revenue raised was estimated at a much lower level of \$8.4 billion—a decline of 57 percent.

In addition, the deadweight loss was estimated at 15.9 billion, or nearly twice the behavior adjusted revenue of \$8.4 billion. Thus, federal taxpayers incurred a cost of nearly three dollars due to this tax increase—the dollar transferred to the federal government plus the deadweight loss of nearly two dollars.

More recently, new evidence has come to light that strongly supports the TI estimate used in their study. The study by Dr. Adam Looney and Dr. Monica Singhal, published by the John F. Kennedy School of Government at Harvard University, used two different data-sets that both reached virtually identical TI estimates of 0.75. [2] To summarize their conclusions:

# Chart 1



"We focus primarily on tax rate changes arising from the loss of a dependent exemption. Using the SIPP, we estimate a significant elasticity of family labor income of 0.75 for families with base year earnings between \$35,000 and \$85,000. Our estimates using the tax panel data are almost identical. These estimates are at the high end of the range found in previous work . . . In theory, however, our estimates of labor income elasticities from the SIPP data should be lower bounds on the true elasticities of taxable income. ***The high-end estimates then imply substantial behavioral responses to taxation and sizable efficiency costs of taxation.***" (emphasis added)

Deadweight loss is not just an academic issue. In the real world it means a smaller economy and lower standard of living for everyone. For example, a recently released study from the

National Bureau of Economic Research by Dr. David Romer and Dr. Christina Romer, two highly reputable economic professors at the University of California, Berkeley, examined federal tax law changes over the last 50 years conclude:

"This paper investigates the impact of changes in the level of taxation on economic activity . . . the resulting estimates indicate that ***tax increases are highly contractionary***. The effects are strongly significant, highly robust, and much larger than those obtained using broader measures of tax changes. The large effect stems in considerable part from a powerful negative effect of tax increases on investment." [3] (emphasis added)

At the state-level, Dr. Besci comes to same conclusion:

"The study finds that relative marginal tax

rates have a statistically significant negative relationship with relative state growth averaged for the period from 1961 to 1992. These results are economically significant because controlling for progressivity with greater accuracy than other specifications uncovers the effects of taxes." [4]

Despite this economic evidence against taxation, some pro-government ideologues insist that "government spending" is really "government investment." Naturally, this implies that government spending has a surplus benefit above and beyond the taxes raised and resulting economic carnage. To test this hypothesis, Dr. Stephen Brown, Dr. Kathy Hayes and Dr. Lori Taylor released a recent study at the state-level that sheds new light on the "investment" versus "tax" debate. They find that:

"If anything, most public services do not appear to justify the taxes needed to finance them. Any tax savings financed by slower growth in environmental services, health and hospitals, or elementary and secondary education is positively associated with growth in private capital. Similarly, any tax savings financed by slower growth in public safety or education spending is positively associated with growth in private employment . . . this finding would seem to imply that other state and local public capital has been increased to the point of negative returns, perhaps because a growing stock of other public capital is indicative of an increasingly intrusive government." [5]

But you do not even need complex statistical studies to see the obvious negative impact of excessive taxation. To witness this effect in the real world, let's look at three important measures of economic prosperity among the ten states with the highest and the ten states with the lowest level of taxation between state fiscal years 1994 and 2004. These measures include: population growth, personal income growth, and employment growth.

Table 1 illustrates the difference in taxation and economic performance of the ten lowest tax states and the ten highest tax states. The ten lowest tax states had an average tax bite of 9.5 percent of personal income versus 13 percent for the ten highest tax states. As such, the tax bite of the lowest tax states was 27.2 percent lower than the highest tax states. Not surprisingly, the lowest tax states enjoyed population growth that was 172.1 percent higher, personal income growth that was 31.9 percent higher, and employment growth that was 78.6 percent higher. [6]

Table 1

10 Lowest Taxed States Economically Outperform 10 Highest Taxed States

State Fiscal Years Between 1994 and 2004

Category	Lowest Taxed States Growth Rate	Highest Taxed States Growth Rate	Advantages to Low Tax States	National Average
Average State and Local Taxes as a Percent of Personal Income	9.5%	13.0%	27.2% Lower Tax Burden	10.7%
Population Growth	17.5%	6.4%	172.1% Higher Population Growth	11.7%
Personal Income Growth	75.6%	57.3%	31.9% Higher Personal Income Growth	65.7%
Employment Growth	23.3%	13.0%	78.6% Higher Employment Growth	17.6%

Source: Census Bureau, Bureau of Economic Analysis, MPPI.

**Sources**

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