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The Excess Burden of Taxes and the Economic Cost of High Tax Rates

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Introduction

When it comes to tax policy, the emphasis in Washington, DC, has once again turned to how to split up the economic pie rather than the effect of tax policy on the size of the pie. During the 2008 Presidential campaign, the focus on equity took the form of rolling back the Bush tax cuts – increasing the top tax rates — for those with incomes above \$250,000. More recently, some policymakers have wanted to go even further by adding on a high-income surtax to partially finance health care reform, which would raise the top tax rate to more than 46 percent.

Making sure the tax burden is spread in a fair and equitable way clearly has popular and political support. But “fairness” is highly subjective. The current tax system is already highly progressive, with roughly two-thirds of all federal income taxes paid by the top 5 percent of taxpayers. Nevertheless, as income gains are not necessarily spread evenly across the population, the distribution of the tax burden is routinely adjusted through the political process.

What is surprising, however, is that the economic cost of some of the policies de-

Key Findings:

- *The individual income tax imposes an additional burden in excess of the revenue raised - the “excess burden”— of between 11 and 15 percent of revenues due to the various ways it interferes with household and business decisions.*
- *The excess burden is particularly high for the increase in the top two tax rates and the new proposal for a health care surtax.*
 - *With these two tax increases, the excess burden of the income tax rises by one-third, from 15 percent to 21 percent of tax revenue.*
- *The excess burden of the higher tax rates is even more dramatic when compared to the revenues they raise.*
 - *The excess burden almost equals the additional revenues from the tax increase; that is, the total burden is almost double their revenue impact.*

signed to increase progressivity – in particular, further increases in tax rates – is seemingly absent from the policy debate. High tax rates affect many decisions made by households and businesses. A basic tenet of sound tax policy is to balance distributional objectives with the distortive effects of high tax rates rather than disregarding one or the other.

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This report estimates the economic cost of higher tax rates, what economists often refer to as the “excess burden” or “deadweight loss” of taxes. It represents the loss in welfare over and above what people transfer to the government as taxes.¹ Virtually every tax creates an excess burden. Taxes distort choices and steer resources away from their best and highest use based purely on economic merit. When decisions are made in part for tax reasons, economic resources are wasted. The crucial point is that the revenue the government collects understates how much worse off an individual is because of a tax.

This report finds that the excess burden of taxes can be quite high, especially when the additional excess burden of higher tax rates is compared to the additional revenue raised.

- The excess burden of the current individual income tax is not inconsequential, amounting to roughly 11 to 15 percent of total income tax revenues.

- This means that in the course of raising roughly \$1 trillion in revenue through the individual income tax, an additional burden of \$110 to \$150 billion is imposed on taxpayers and the economy.
- Increased tax rates on higher-income households impose very large excess burdens that, under reasonable assumptions, nearly equal the revenue collected.
 - The combined effect in 2011 of increasing the top two tax rates and the health care surtax is an additional excess burden of \$76 billion. When combined with the \$88 billion in additional revenue, the total burden of these higher tax rates is \$164 billion.

The excess burden of the current individual income tax is not inconsequential, amounting to roughly 11 to 15 percent of total income tax revenues. This means that in the course of raising roughly \$1 trillion in revenue through the individual income tax, an additional burden of \$110 to \$150 billion is imposed on taxpayers and the economy.

These findings should give pause to advocates of higher tax rates as a means of achieving additional progressivity; this policy carries considerable economic costs. If lawmakers deem new tax revenues absolutely necessary, then they should consider policies

¹ The phrase “excess burden” or “deadweight loss” have the same meaning and are generally used interchangeably. The term “welfare loss” or “cost” is also used to describe this concept.

² One exception would be if the tax were designed to address an externality.

that achieve similar distributional objectives without the economic costs associated with high tax rates—policies such as broadening the tax base by limiting or repealing special tax preferences.

How Taxpayers Respond to High Tax Rates

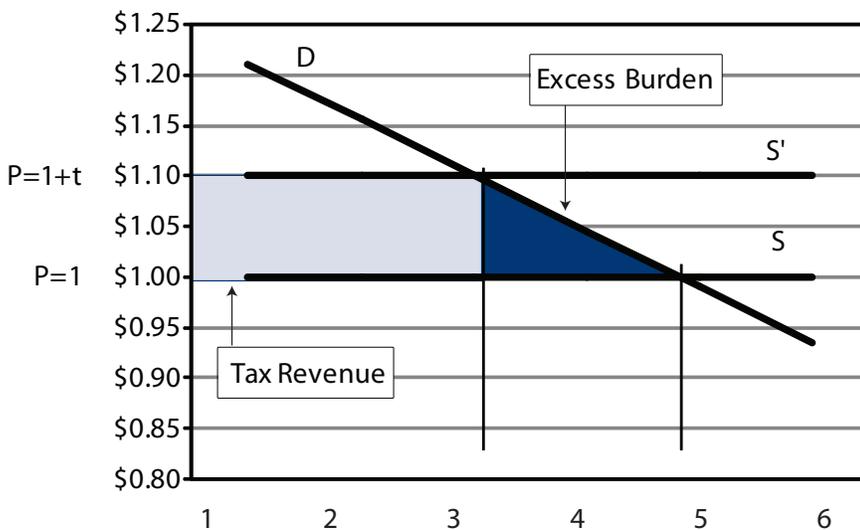
Economists have long focused on the role taxes play in the everyday decisions of people and businesses. Resources transferred from the private economy to the government through taxes reduce disposable income, and the manner in which revenues are raised can have important consequences for the economy. The more households and businesses base decisions on tax considerations, the more economic resources are wasted.

High tax rates in particular can be especially harmful. They can affect the amount of labor workers supply, especially for secondary workers among married couples, by decreasing the financial reward for additional work. High tax rates can also discourage saving, affect allocations of investments, and affect

how households spend their money. In addition, high rates can reduce taxpayer compliance because the gain from not reporting income is greater. If lawmakers deem new tax revenues absolutely necessary, then they should consider policies that achieve similar distributional objectives without the economic costs associated with high tax rates—policies such as broadening the tax base by limiting or repealing special tax preferences.

All of the ways in which taxpayers respond to higher tax rates generally reduce the amount of revenue the government can expect to collect from those rates. For example, when a worker chooses to supply less labor because he or she faces a higher tax rate and a lower after-tax reward from work, the worker is, in effect, choosing to consume more leisure rather than the consumption items that could be purchased with the additional income, either now or in the future. The decline in income means the taxpayer pays less in taxes and the government collects less in revenue.

Figure 1
Excess Burden of a Tax



The more households and businesses base decisions on tax considerations, the more economic resources are wasted.

The same logic applies if an investor real-locates his or her investment portfolio towards more lightly taxed investments, such as tax-exempt bonds or assets that yield long-term capital gains. This reduces the amount of tax the investor owes and the amount the government can expect to collect in revenue.

These behavioral responses are not inconsequential. Research on the major tax rate

3 See Auten, Carroll and Gee (2008).

changes that have taken place over the past nearly 30 years has generally found that these responses can have a significant impact on the size of the tax base, especially for higher-income taxpayers. For example, a recent study of the lower tax rates enacted in 2001 and 2003 found that they led to an increase in reported taxable income of roughly 3 percent for those affected and may have lowered the cost of the tax cuts by as much as 40 percent.³ Similar effects have been found for the lower tax rates enacted in 1981 and 1986, while the higher tax rates enacted in 1993 have been found to shrink the tax base.⁴

An Additional Burden: The Excess Burden of Taxes

The distorting effect of taxes not only reduces the government's revenue, but also results in a loss in economic efficiency, sometimes called the "excess burden" or "deadweight loss" of taxes. It represents the loss in welfare beyond what individuals transfer to the government as taxes.

To illustrate this concept, we'll consider a simple example: a consumer who likes to ride roller coasters. When each ride costs \$1, the consumer purchases tickets for five rides. Now suppose the government levies a tax of \$0.10 per ride, so the consumer now faces a price of \$1.10. At this higher price the consumer can be expected to reduce the number of rides he purchases to, let's say, three. So, now he consumes fewer rides and may consume more of some other goods as the price of roller coaster rides has gone up relative to other goods.

How does the tax affect this consumer? The extent to which the individual is worse off because of the tax can be divided into two

parts: the revenue transferred to the government and the welfare loss due to the reduced consumption of roller coaster rides. Some revenue is still collected for the remaining roller coaster rides he takes (i.e., 10 cents for the three rides, or 30 cents).

This example is portrayed in Figure 1. The downward sloping curve is the consumer's demand curve. The supply curve is depicted by the horizontal line. Initially the price per ride is \$1, but the tax increases the price the consumer pays to \$1.10. As shown in the figure, with the higher price, the consumer demands fewer roller coaster rides.

The crucial point is that while the government collects the revenue depicted by the shaded rectangle, the consumer suffers a loss in economic welfare because the tax causes him to make a less desirable consumption choice. This welfare loss is depicted by the lightly shaded triangle. The full cost of the tax consists of two parts: 1) the revenue transferred to the government and 2) the loss in consumer welfare due to the reduced consumption of roller coaster rides.

The tax has caused the consumer to change his consumption of roller coaster rides and other goods. He is not as well off because his new combination of roller coaster rides and other goods is inferior to the combination he enjoyed prior to the tax. He suffers a loss in economic welfare, and this reduction in welfare is the excess burden of the tax—that is, the cost of the tax in excess of the revenue raised.

Virtually all taxes generate some type of excess burden because they create a wedge between the actual price and the underlying economic value of the product or services.

⁴ A series of studies have examined the responsiveness of reported taxable income to changes in tax rates. Feldstein (1995) and Auten and Carroll (1999) examined the 1986 tax reform. Carroll (1998) and Heim (2009) examined the 1993 tax rates increases. For an extensive review of this literature see Saez, Slemrod and Gertz (2009).

The higher the tax, the larger this wedge and the excess burden of the tax.

As discussed above, an increase in the individual's income tax rate can affect many household and business decisions. A tax that causes someone to work less not only transfers less revenue to the government, but also distorts the individual's behavior. The person might reduce the time he spends working, take more compensation as a tax-preferred fringe benefit, or be less willing to take a riskier, but higher-paying job. All of the ways in which higher tax rates move households and businesses further from their desired choices absent the tax increase the excess burden.

If the excess burden represents an additional cost of the tax system, how can it be quantified? A study by Feldstein (1999) shows that the excess burden of the income tax can be computed by figuring out the change in ordinary consumption that the income tax induces.⁵ This framework is important to tax policy discussions because it provides a measure for the decline in economic welfare associated with the distorting effects of the income tax.

An important feature of this formulation is that the excess burden (i.e., the size of the triangle in Figure 1) rises with the square of the tax rate. Two things happen in Figure 1 as the tax rate increases. First, revenues go up. As explained above, this increase in revenues is captured by the increase in the size of the rectangle, which rises proportionally with the tax rate. Second, the excess burden also increases. But, here, the triangle expands in proportion to the square of the tax rate. Thus, as tax rates go up, the excess burden will increase faster than the revenue raised, implying an increasing economic cost as tax rates rise.

Table 1
Excess Burden for a Hypothetical Married Couple in 2011¹

| | Obama Policy | | |
|---------------------------|--|------------------------------|---------------------------|
| | Without Increase in Top Two Tax Rates (1) | With Higher Tax Rates (2) | Health Care Surtax (3) |
| Adjusted Gross Income | -----\$ 500,000----- | | |
| Taxable Income | -----\$ 410,000----- | | |
| Tax Liability | \$ 112,437 | \$ 118,656 | \$ 120,156 |
| Tax Increase | | \$ 6,219 | \$ 1,500 |
| Marginal Tax Rate | 36.1% | 40.8% | 42.3% |
| Marginal Tax Rate Squared | 13.0% | 16.6% | 17.9% |
| Excess Burden (EB) | \$ 16,664 | \$ 23,042 | \$ 25,412 |
| As % of Tax Liability | 14.8% | 19.4% | 21.1% |
| Increase in Excess Burden | | \$ 6,378 | \$ 2,370 |
| As % of Tax Increase | | 103% | 158% |
| Increase in Total Burden | | \$ 12,597 | \$ 3,870 |
| Total Burden | \$ 129,101 | \$ 154,295 | \$ 149,438 |

¹ Married couple is assumed to be a two-earner couple with two children, one of college age and one under age 13, and have itemized deductions equal to 20 percent of income.
Source: Tax Foundation calculations

Calculating the Excess Burden of the Income Tax

Several pieces of information are needed to compute the deadweight loss. The first thing is an estimate of the responsiveness of the tax base to changes in tax rates. Fortunately, as mentioned above, there is a substantial body of research on the responsiveness of taxable income to the net-of-tax rate—what taxpayers get to keep after paying taxes. For the taxpaying population, this research has generally found that a 1 percent increase in the

⁵ Feldstein (1999) shows that the excess burden can be calculated according to the following formula: $Excess\ Burden = 0.5 \epsilon \frac{t^2}{(1-t)} (Taxable\ Income)$ Where, ϵ is a parameter that indicates the responsiveness of a taxpayer's reported taxable income to tax rates (i.e., the so-called taxable income elasticity) and t is a taxpayer's marginal tax rate. Estimates of the taxable income elasticity can be found in Carroll and Hrngung (2005) and Saez, Slemrod and Gertz (2009). The above formula essentially measures the size of the triangle depicted in Figure 1 for the income tax.

net-of-tax rate will lead to a 0.4 percent increase in taxable income.⁶

Consider, for example, what this means for a taxpayer in the top tax bracket. Currently, this taxpayer is subject to a top 35 percent tax rate, but this rate will increase to 39.6 percent in 2011 when the Bush tax cuts sunset. This means that the net-of-tax rate, what the taxpayer gets to keep after paying taxes, falls from 65 percent to 60.4 percent, by 7 percent. Since the research finds that taxable income falls by 0.4 percent for a 1 percent decline in the net-of-tax rate, this suggests that the taxable income reported by those subject to the top tax rate will fall by 2.8 percent when the Bush tax cuts sunset (i.e., the 0.4 taxable income elasticity multiplied by the 7 percent decline in the net-of-tax rate).

The next piece of information needed is an estimate of a taxpayer's marginal tax rate. This report computes marginal tax rates for a sample of individual tax returns using the Tax Foundation's Individual Tax Model. The core data for this simulation model is the Statistics of Income Individual Tax Files released annually by the Internal Revenue Service. This sample, which is stratified by income and includes roughly 150,000 tax returns, is designed to be representative for all tax filers. These data are projected through the budget window (i.e., through 2019) using the Congressional Budget Office's economic projections to reflect expected economic conditions in the future.

A taxpayer's marginal tax rate is computed by adding \$100 to his or her income and computing the change in tax liability. This approach captures not only the effects of the tax rate schedule, but all the major features of the tax code that influence marginal

tax rates, such as the phase-ins and phase-outs of various deductions and credits.⁷ In 2009, the income-weighted marginal tax rate was estimated at 24.6 percent.

Once we have assumed a value for the taxable income elasticity and estimated marginal tax rates, the excess burden can be calculated for each taxpayer and then totaled over all tax returns to provide an estimate of the excess burden of the income tax.

Using this procedure for tax year 2009, we estimate the excess burden of the income tax to be \$105 billion. To put this in perspective, this estimate of the excess burden is compared to the \$921 billion in individual income taxes in 2009 as estimated by the Tax Foundation Individual Tax Model. Thus, the excess burden amounts to 11.4 percent of total income tax revenue; that is, the total burden of the individual income tax is 11.4 percent higher than what the government collects in revenue – totaling \$1,025 billion rather than just the \$921 billion in revenue collected.

The Excess Burden of Higher Tax Rates in 2011

The excess burden for different tax changes can also be compared using this framework. The basic approach is to compute the excess burden of the income tax under different tax policy regimes. The excess burden associated with a particular policy is then computed as the *difference* in the excess burden between two different tax policy regimes. This allows policies to be compared based on the extent by which they add to or subtract from the overall excess burden of the income tax.

Of crucial importance in the current policy debate is the excess burden of making the tax system more progressive through

6) For example, see Carroll and Hrung (2005) and Saez, Slemrod and Gertz (2009).

7 See Brill and Viard (2008) for a discussion of the various tax provisions that can affect a taxpayer's marginal tax rate.

higher tax rates. The policy focus has been allowing the top two tax rates to increase in 2011 and the imposition of a new health care surtax, which would also go into effect in 2011.

As indicated above, the excess burden of higher tax rates increases per dollar of revenue, imposing an ever greater economic cost. Why does the excess burden increase per dollar of revenue? Revenue increases with the marginal tax rate, but the excess burden increases with the square of the tax rate.⁸ Thus, as tax rates go up, the excess burden increases faster than the revenue raised, implying an increasing economic cost as tax rates rise.

Consider a hypothetical married couple earning \$500,000 in 2011 (shown in Table 1.) Since the objective is to estimate the excess burden of the higher tax rates, this study first computes the excess burden assuming all

of the tax provisions proposed by the Obama Administration are enacted except for the increase in the top two tax rates to 36 percent and 39.6 percent.⁹ The taxpayer's excess burden under this policy regime (column 1) would be \$16,664.¹⁰

As described above, this excess burden represents an additional cost to the taxpayer of \$16,664 over and above what the couple already transfers to the government as income taxes, or 14.8 percent more than what they pay in income taxes. For every dollar in taxes they pay to the government, they incur an additional cost of 14.8 cents.¹¹

Now consider what happens to the excess burden when the two top tax rates are increased (column 2). The couple's tax liability rises by 5.5 percent (or \$6,219), but their excess burden rises by 38.3 percent (or \$6,378). The couple's excess burden goes up faster than their tax liability because what

Table 2
Effect of Higher Tax Rates on the Excess Burden of the Individual Income Tax in 2011

| | Marginal Tax Rates | | | Excess Burden ¹ | | | |
|---|---------------------------|-------------------------|--|-----------------------------------|---|---|----------------------------------|
| | Simple Average | Weight By Income | Income Tax Liability (\$billions) | Total (\$billions) | Percentage of Total Income Tax Liability | Percentage of Additional Revenue | Total Burden (\$billions) |
| Top two tax rates kept at 33% and 35% | 13.20% | 25.47% | \$ 1,086 | \$ 125 | 11.5% | | \$ 1,210 |
| Increase top two tax rates to 36% and 39.5% | 13.26% | 26.72% | \$ 1,125 | \$ 151 | 13.4% | | \$ 1,276 |
| Effect of rate increase (no behavior) | 0.06% | 1.25% | \$ 39 | \$ 26 | 1.9% | 67% | \$ 65 |
| Add high income surtax | 13.29% | 27.77% | \$ 1,174 | \$ 175 | 14.9% | | \$ 1,349 |
| Effect of surtax (no behavior) | 0.03% | 1.04% | \$ 49 | \$ 25 | 1.5% | 50% | \$ 74 |
| Combined effect of rate increase and surtax | 0.09% | 2.30% | \$ 88 | \$ 51 | 3.5% | 58% | \$ 139 |

¹ Estimates for the excess burden assume a taxable income elasticity with respect to the net-of-tax rate of 0.4.
Source: Tax Foundation calculations

⁸ For all taxpayers, total revenues rise with the average marginal tax rate weighted by income, while the excess burden rises with the average of the square of the tax rate weighed by income.

⁹ The tax provisions proposed by the Obama Administration that are assumed to be in effect include the new Making Work Pay Credit, the expansion of the earned income tax credit, the expanded refundability of the child tax credit, the expansion to the Saver's Credit, and the new American Opportunity Tax Credit. The estimates also assume the alternative minimum tax (AMT), as enacted in the American Recovery and Reinvestment Act of 2009, is indexed to inflation.

¹⁰ The marginal tax rates shown in Table 1 include not only the effect of the higher tax rates, but also the effects of the limitation on itemized deductions for higher income taxpayers. This limitation increases marginal tax rates by another 3 percent (e.g., 35%*1.03 = 36.1% in column 1).

¹¹ Put another way, this amount represents the additional income that would need to be given to this couple to make them as well off assuming the value of government services they receive exactly equals the \$112,437 they pay to the government in income taxes.

they pay in taxes is related to their tax rate, while their excess burden is related to the square of the tax rate.¹² Moreover, the additional excess burden actually exceeds the revenue raised from the tax increase.

Allowing the top two tax rates to increase in 2011 ... and [enacting] the recent proposal for a new high income surtax to help finance health care reform ... will push the top marginal tax rate from roughly 36 percent to over 46 percent and increase the excess burden of the income tax to over 20 percent.

The effects of the health care surtax are also shown for this hypothetical couple in Table 1 with their marginal tax rate rising to 42.3 percent and the excess burden rising even further to 158 percent of the additional revenue raised (column 3). That is, for every additional dollar in taxes collected from this

taxpayer, the taxpayer bears an additional burden of \$1.58. As shown in Table 1, the total burden of the surtax is \$3,870, not just the \$1,500 in additional taxes from the surtax.

While the example portrayed in Table 1 was for a taxpayer with \$500,000 of income, the effects are even more dramatic for a taxpayer with income over \$1 million, where the health care surtax is much higher, increasing a taxpayer's marginal tax rate by 5.4 percent. Consider a taxpayer with \$1,500,000 of income. The combined effect of the increase in the top two tax rates and the health care surtax increases this taxpayer's marginal tax rate to 46.2 percent. For this couple, the total excess burden comprises 51 percent of their income tax liability. Moreover, the additional excess burden from the health care surtax is 200 percent of the additional revenue from the surtax.

The implication here should be clear: achieving additional redistribution by making that tax rate schedule more progressive imposes an ever greater economic cost.

Table 3

Excess Burden of the Individual Income Tax Assuming the Responsiveness to Tax Rates Rise with Income, 2011

| | Income Tax Liability (\$billions) | Excess Burden Estimates ¹ | | | Total Burden (\$billions) |
|---|-----------------------------------|--------------------------------------|--|----------------------------------|---------------------------|
| | | Total (\$billions) | Percentage of Total Income Tax Liability | Percentage of Additional Revenue | |
| Top two tax rates kept at 33% and 35% | \$ 1,086 | \$ 169 | 15.5% | | \$ 1,254 |
| Increase top two tax rates to 36% and 39.5% | \$ 1,125 | \$ 208 | 18.5% | | \$ 1,332 |
| Effect of rate increase (without behavior) | \$ 39 | \$ 39 | 2.9% | 100% | \$ 78 |
| Add high-income surtax | \$ 1,174 | \$ 245 | 20.8% | | \$ 1,418 |
| Effect of surtax (without behavior) | \$ 49 | \$ 37 | 2.4% | 75% | \$ 86 |
| Combined effect of rate increase and surtax | \$ 88 | \$ 76 | 5.3% | 86% | \$ 164 |

¹ Estimates for the excess burden assume a taxable income elasticity with respect to the net-of-tax rate of 0.6 for those with incomes of \$100,000 and above, and 0.2 for other taxpayers.

Source: Tax Foundation calculations

¹² This reflects the notion that the excess burden is related to the square of the tax rate while tax liability is related to the tax rate itself. As shown in Table 1, the square of the tax rate rises faster than the tax rate itself (i.e., 28 percent versus 13 percent), which explains why the excess burden also rises faster (i.e., 38 percent versus 5.5 percent) – higher tax rates impose an increasing economic cost.

Summing Individual Costs to the Entire Population

How do the effects for the hypothetical taxpayer shown in Table 1 translate to the entire population of taxpayers? The effect of the higher tax rates and the health care surtax for *all* taxpayers is shown in Table 2. The excess burden for both the increase in the top two tax rates and the health care surtax in 2011 is estimated using the Tax Foundation's Individual Tax model.

The collective impact of the higher tax rates is significant. In the absence of the higher rates, the excess burden of the income tax system in 2011 is estimated to be \$125 billion above the amount the government actually collects in revenues. This increases

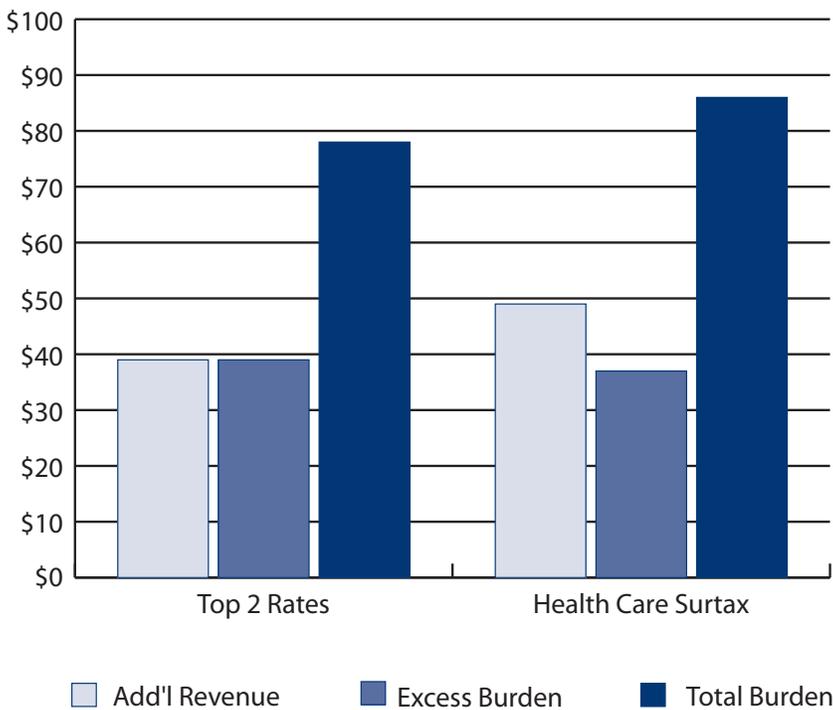
the total economic cost of the income tax system by 11.5 percent, from \$1.086 trillion to \$1.21 trillion.

However, the increase in the top two tax rates raises the total excess burden of the income tax by an additional \$26 billion to more than \$151 billion. This increases the total excess burden of the individual income tax from 11.5 percent to 13.4 percent of individual income tax revenues. Thus, the actual cost of the income tax is not just the \$1.125 trillion in revenue raised by the government, but also includes another \$151 billion in excess burden and totals \$1.276 trillion.

The health care surtax adds yet another layer of economic costs beyond what the government collects in revenues. As Table 2 shows, the health care surtax adds an additional \$25 billion to the excess burden, bringing the total to \$175 billion overall, or 14.9 percent of individual income tax collections. Added together, the total cost to the economy is \$1.349 trillion, not just the \$1.174 trillion the government intended to collect.

What is particularly dramatic is the additional excess burden per dollar of revenue under these two policies. The excess burden per dollar of revenue raised amounts to 67 cents per dollar for the increase in the top two tax rates and 50 cents per dollar of revenue for the health care surtax.¹³ Taken together, these two policies increase the excess burden of the income tax by more than \$50 billion while raising only \$90 billion. This means that the actual burden of the higher tax rates is 150 percent of the revenue raised.

Figure 2
Total Burden of Higher Tax Rates is Nearly Twice the Additional Revenue Raised (\$Billions)



¹³ The additional excess burden per dollar of revenue is actually greater for the increase in the top two tax rates than the surtax. This might, at first glance, seem surprising since the tax rates are higher under the surtax. However, the increase in the top two tax rates interacts with the alternative minimum tax in a way that causes a larger increase in marginal tax rates for some taxpayers. This can be seen from the larger increase in the income-weighted marginal tax rates under the increase in the top two tax rates as compared to the health surtax as show in column 3 of Table 2.

Of course, these estimates are sensitive to the assumed taxable income elasticity. As described above, the estimates presented in Tables 1 and 2 use the central tendency elasticity for the taxpaying population from the numerous studies on the effect of tax changes on reported taxable income.

It stands to reason, however, that higher-income taxpayers would likely be more responsive to changes in tax rates. As noted by Gruber and Saez (2002), a large share of the income for higher-income groups comes in forms that are more readily manipulable for tax purposes, while lower-income taxpayers receive primarily wages. The Gruber and Saez (2002) study estimated the taxable income elasticity for different income groups and found the elasticity for those with incomes above \$100,000 to be higher at roughly 0.6, with an elasticity of roughly 0.2 for other taxpayers.

The excess burden estimates in Table 2 are replicated in Table 3 using the income-varying elasticities from the Gruber and Saez (2002) study.¹⁴ Now the excess burden of the income tax is 15.5 percent of income tax revenues. Moreover, with the higher responsiveness for higher-income taxpayers implied by the Gruber and Saez (2002) study, the excess burden for increasing the top two tax rates and the health care surtax is also higher. If both policies went into effect, the excess burden of the income tax would rise by nearly one-third, from 15.5 percent to 20.8 percent.

The excess burden per dollar of revenue is considerably higher with the somewhat higher taxable income elasticity used. As shown in Figure 2, the excess burden associated with the increase in the top two tax rates is \$39 billion, exactly equal to the amount of revenue collected by the tax itself. Added together, the true cost of this policy would be twice the cost suggested by the additional revenue alone.

Some wariness would seem appropriate for policies that are purported to make higher-income taxpayers “pay their fair share” but that impose very substantial burdens on all taxpayers – nearly twice the revenue that is raised – and waste substantial economic resources.

For the health care surtax, the excess burden would total \$37 billion, 75 percent of the \$49 billion in revenue collected from the higher rates.¹⁵ The combined effect of these two policies would increase the total excess burden by \$76 billion. When combined with the revenue raised, the total burden of these policies totals \$164 billion—or double the original amount that lawmakers intended to raise.

14 A taxable income elasticity of 0.6 is used for taxpayers with incomes over \$100,000, and 0.2 for the remaining taxpayers with incomes below \$100,000.

15 Even these estimates may be conservative. A recent study by Heim (2009) estimates a taxable income elasticity of 1.2 for taxpayers with incomes over \$500,000. Reestimating the excess burden using this higher elasticity suggests an excess burden for increasing the top two tax rates at \$70 billion, or 179 percent of the additional revenue. For the health care surtax, the excess burden would increase by \$72 billion, or 146 percent of the additional revenue. Moreover, the estimates for the revenue raised by the two tax increases are overstated because they do not account for the lower level of taxable income reported by affected taxpayers due to the various behavioral responses described above. These behavioral responses could well reduce the revenue from these tax increases by 40 percent or more. Taking the lower revenue into account would increase the excess burden per dollar of revenue even more.

Conclusion

The emphasis in tax policy has taken a turn towards redistribution and increasing progressivity through higher tax rates. Absent from most policy discussions, however, is a recognition that the full cost of these policies exceeds the revenue raised. Virtually all taxes involve an excess burden, which can be substantial.

While lawmakers may intend to raise \$39 billion per year in new revenues by raising the top two rates, the actual cost to the economy will be \$78 billion.

For the income tax overall, the excess burden is estimated by this study to be between 11.4 percent and 15 percent of the revenue raised. Thus, while the current income tax may raise roughly \$1 trillion, the actual cost to the economy is between \$114 billion and \$150 billion more. But, more relevant to the current policy debate is the effect of allowing the top two tax rates to increase in 2011, when the tax cuts enacted in

2001 and 2003 sunset, and the recent proposal for a new high-income surtax to help finance health care reform.

These tax increases will push the top marginal tax rate from roughly 36 percent to over 46 percent and increase the excess burden of the income tax to over 20 percent. Moreover, the excess burden of the higher rates nearly exceeds the revenue raised; that is, the full burden of these taxes may well be nearly twice the revenue they raise. In other words, while lawmakers may intend to raise \$39 billion per year in new revenues by raising the top two rates, the actual cost to the economy will be \$78 billion. Similarly, the excess burden of the health care surtax will raise the economic cost beyond the \$49 billion intended to be raised to a total of \$86 billion.

Some wariness would seem appropriate for policies that are purported to make higher-income taxpayers “pay their fair share” but that impose very substantial burdens on *all* taxpayers – nearly twice the revenue that is raised – and waste substantial economic resources.

References

- Auten, Gerald and Robert Carroll. (1999). "The Effect of Income Taxes on Household Behavior." *Review of Economics and Statistics* 81(4), pp. 681-693.
- Auten, Gerald, Robert Carroll and Geoffrey Gee. (2008). "The 2001 and 2003 Tax Rate Reductions: An Overview and Estimate of the Taxable Income Response." *National Tax Journal* 61(3), pp. 345-364.
- Brill, Alex and Alan D. Viard. "Effective Marginal Tax Rates, Part 1: Basic Principles." *Tax Notes* 120, September 8, 2008, p. 969.
- Carroll, Robert. "Tax Rates, Taxpayer Behavior, and the 1993 Tax Act." Office of Tax Analysis Working Paper No. 79, U.S. Department of the Treasury, November 1998.
- Carroll, Robert and Warren Hsung. (2005). "Dynamic Scoring: What Does the Taxable Income Elasticity Say About Responses to Tax Changes?" *American Economic Review* Vol. 95(2), May, pp. 426-431.
- Feldstein, Martin. (1995). "The Effect of Marginal Tax Rates on Taxable Income: A Panel Study of the 1986 Tax Reform Act." *Journal of Political Economy* 103(3), pp. 551-572.
- Feldstein, Martin. (1999). "Tax Avoidance and the Deadweight Loss of the Income Tax." *Review of Economics and Statistics* 81(4), pp. 674-680.
- Gruber, Jonathan and Emmanuel Saez. (2002). "The Elasticity of Taxable Income: Evidence and Implications" with Jon Gruber, *Journal of Public Economics*, Vol. 84, pp. 1-32.
- Heim, Bradley. (2009). "The Effect of Recent Tax Changes on Taxable Income: Evidence from a New Panel of Tax Returns." *Journal of Policy Analysis and Management* 9(1), pp.147-163.
- Saez, Emmanuel, Joel Slemrod and Seth Gertz. "The Elasticity of Taxable Income with Respect to Marginal Tax Rates: A Critical Review" NBER Working Paper No. 15012, May 2009.



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