HIDDEN COSTS OF GOVERNMENT SPENDING

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Summary

When thinking about government spending, often people only consider its benefits. But government spending has costs, too, because the resources government uses have to come from somewhere and could be put to other uses. Research indicates that when these factors are taken into account, it turns out that the cost of raising an additional $1 in taxes is not $1, but closer to $1.40. On the other hand, reducing government spending by $1 can benefit the economy by $1.40, leading to higher economic growth.

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I. INTRODUCTION

Government policy and the slowing U.S. economy. The U.S. economy has been
slowing down since the summer of 2000, and it is now in a recession.[1] Most other large
economies are also close to recession or at best growing only slowly. The economic
situation and the terrorist attacks of September 11, which have contributed to it, have
changed Congressional attitudes towards fiscal policy. There has been bipartisan
agreement that the so-called Social Security lockbox, which committed Social Security
surpluses to paying off publicly held federal debt, is no longer appropriate. An early
product of changed attitudes was Public Law 107-38, which commits up to $40 billion
for increased airport security, counterterrorism activity, and assisting victims of the
attacks.

Government influences economic activity through three main channels: monetary
policy, regulatory policy, and fiscal policy. Monetary policy is the job of the Federal
Reserve System, although the Fed reports periodically to Congress. Regulatory policy is
outlined by Congress, but it is the executive branch that fills in the details. Fiscal policy is
the area in which Congress has the clearest and most direct ability to influence economic
activity.

Emphasize higher government spending, or incentives to work and produce?
What can fiscal policy do to encourage a return to the sustained economic growth that the
United States has enjoyed for most of the last 20 years? There are two major points of
view on the subject. One emphasizes higher government spending. According to it,
during recessions the main problem is that people are not spending enough money; in
economic jargon, aggregate demand is deficient. Government can get the economy
moving again by in a sense spending for the public. Government spending should
therefore be higher than it currently is. Some advocates of higher spending propose
reducing tax rates or moving from a budget surplus to a budget deficit, while others do
not. However, they are united in advocating more government spending.[2] Many are not
particular whether it takes the form of spending on defense, education, transportation, or
any of various other competing priorities. This point of view has its roots in ideas
developed by the English economist John Maynard Keynes (1883-1946) during the Great
Depression.

The other major point of view emphasizes incentives to work and produce goods.
According to it, during recessions the main problem is that government policies impose
barriers to growth. The barriers hinder people's attempts to produce existing goods
efficiently and to develop new goods people will want to buy, which will therefore

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[1] As defined by the National Bureau of Economic Research, a nonprofit organization whose judgments are
widely recognized as authoritative.
[2] Madrick (2001), Stiglitz (2001).

generate new jobs and wealth. The best way to get the economy moving again is to reduce the barriers. The implication for fiscal policy is that government should focus on cutting tax rates, particularly tax rates that deter investment.[3] Spending more in particular areas may be desirable (for instance, spending more to improve airport baggage scanning machines or monitor terrorist groups), but there is no *general* case that higher government spending simply for the sake of spending stimulates the economy.[4] This point of view has roots in ideas of the "classical" economists of the 1700s and 1800s, such as Adam Smith (1723-1790). It has enjoyed a strong revival since the mid 1970s, under the label of supply-side economics.

Both viewpoints agree that recessions can sometimes occur because of factors beyond the ability of government to influence. In small economies, natural disasters or declines in the world price of a major export sometimes cause recessions. However, in an economy as big and diverse as the United States, such problems are usually small compared to the overall economy, though they may be quite important in particular areas of the country. There is no factor of this sort that has had an obvious role in *creating* the current recession, though the political and economic uncertainty resulting from the September 11 terrorist attacks has *aggravated* it.

The major flaw of the view that emphasizes higher government spending is that it looks at the benefits of spending without taking account of the costs. When government spends, it uses resources that could be used for other purposes. Government spending is not free. Substantial research exists to suggest that total government spending in the United States is higher than the level that would maximize economic growth. Responding to the current recession by emphasizing more spending rather than lower tax rates is a recipe for prolonging the recession.

II. BENEFITS AND COSTS OF GOVERNMENT SPENDING

Need to consider costs as well as benefits of government spending. Many people think of government spending only in terms of its benefits. Money the federal government spends building roads produces interstate highways; money it spends on crop subsidies increases the incomes of at least some farmers; money it spends on medical research produces vaccines.

However, government spending also has costs. Every dollar the government spends has to come from somewhere. A dollar the government spends buying what it wants is a dollar that somebody in the private sector cannot spend buying what he or she wants.[5] A full picture of government spending must look at its costs as well as its

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[3] Kemp and Miller (2001), Joint Economic Committee (2001).
[4] Contrary to a Keynesian criticism, the classical/supply-side point of view does not assume that all resources are fully employed. Resources can be underemployed on a wide scale if people make systematic mistakes about economic conditions. The major preventable cause of systematic mistakes is inappropriate government policy. If government spending simply for the sake of spending *does* stimulate the economy in a way that adds to the economy's long-term capacity for production, the likely cause is that the government has corrected a mistake it has made elsewhere, such as deflationary monetary policy. See Hutt (1977).
[5] Again, see the previous footnote.

benefits. Doing so involves thinking about points that are fundamental but often neglected.

Voluntary exchange versus taxation. Government differs from the private sector in how it obtains revenue. In the private sector, people have to provide something that other people are willing to pay for. Without customers, there are no businesses or workers. Businesses cannot force customers to deal with them; customers can go to competitors or, if they wish, refuse to buy what the businesses are selling. Because customers, workers, and businesses in the private sector can choose whether or not to buy and sell from one another, the presumption is that they will make deals only to the extent they think the deals will be mutually beneficial.

Government collects its revenue through taxes.[6] In the short term, it can borrow rather than tax, but borrowing just shifts the need to tax from the present into the future. The ability to borrow is important, but it does not eliminate government's ultimate reliance on taxation. Creating inflation, another way of raising revenue, is a kind of tax— a complex and hidden one, but a tax nonetheless. Unlike businesses, government can force people to deal with it, and part with some of their earnings. The presumption that exists with private-sector activity, that it is mutually beneficial to the parties involved, does not exist for compulsory payment of taxes. The presumption is in fact the opposite, namely, that some people would rather not pay taxes because they do not think they get enough personal benefit from government activities.

What is the economic justification for government spending? The economic justification for government spending must be that the government can provide some goods better than the private sector. "Better" does not necessarily mean more cheaply; it also may mean more comprehensively or in a manner that most people perceive as being more fair. What kind of goods are we talking about? Over the course of U.S. history, the federal government has grown from doing little besides maintaining an army, navy, courts, and post office to engaging in a huge range of activities that consume more of national income than food, housing, medicine, or any other single category of Americans' personal consumption spending.[7]

Debate about the proper size and functions of government is, of course, one of the main topics of political debate. What an economic perspective can add to the debate is an estimate of just what we gain or give up when the government shifts a dollar of spending from the private sector to itself. This involves thinking about what is known as the "deadweight loss" or "excess burden" of taxation.

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[6] Some revenue comes from user fees. Unlike taxes, people can easily avoid many user fees: somebody who does not want to pay the entrance fee to Yellowstone National Park can simply not visit the park. It is hard to conceive of a government funded entirely by user fees, though: it would look more like a business than like a typical government.

[7] President of the United States (2001), pp. 294-5, 369.

III. THE DEADWEIGHT LOSS OF TAXES

An explanation of the deadweight loss. The deadweight loss of a tax is a measure of the value that consumers and producers of a good lose from the imposition of the tax. Because of deadweight losses, the taxpayers' losses exceed the government's gain. Comparing a good without tax to the same good when the government imposes a tax, the tax operates as a wedge between the price consumers pay and the price producers receive. The government collects the wedge. Besides generating revenue, though, the wedge changes how consumers and producers behave. Let us use a hypothetical example to illustrate. Suppose the good being taxed is gasoline, and before the tax is imposed, gasoline sells for $1.00 a gallon at the pump. Consumers and producers each receive a kind of benefit from the price being where it is. Consumers receive what economists call consumer surplus because the price of gasoline is lower than what some consumers would be willing to pay. A consumer who would be willing to pay as much as $1.20 a gallon, for instance, enjoys 20 cents a gallon in consumer surplus from the price being $1.20 a gallon. Similarly, a producer that is efficient enough to be able to produce gasoline at 80 cents a gallon enjoys 20 cents a gallon in what economists call producer surplus from the price being $1.00 a gallon. (Producer surplus is different from profit. Profit accrues to the owners of a business, while producer surplus includes the net gains of everyone who helped produce the good, including employees.)

Now suppose there is a tax of 40 cents a gallon (roughly what combined state and federal taxes for gasoline are, on average). With the tax, the price of a gallon of gasoline rises to, say, $1.20. Why doesn't it rise to $1.40? Typically, in the short run producers cannot simply pass along the full amount of a tax to consumers because the higher price leads consumers to buy less of the good. High-cost producers have to cut back production or even go out of business. Lower-cost producers stay in business. Where consumers are highly sensitive to changes in the price of a good (or, as economists say, when their demand is highly elastic), the price consumers pay may rise only a little, or in the extreme case, not at all. Accordingly, people sometimes claim that in such cases producers rather than consumers bear the burden of the tax. In the final analysis, though, somebody somewhere bears the burden in his role as a consumer. If gasoline refiners have to lay off workers because a tax reduces demand for gasoline, those workers have less ability to consume.

With the tax, gasoline now costs $1.20 gallon, but gasoline stations only receive 80 cents a gallon in revenue for themselves. The 40-cent wedge that the gasoline tax imposes means that some buying and selling that went on before the tax now ceases. Consider what would happen if the tax did not exist. There are some consumers who would be willing to pay 90 cents, $1.00, $1.10, or even $1.19 for an extra gallon of gasoline, but do not buy the extra gallon because at $1.20 a gallon they consider it too expensive. On the other hand, there are some gasoline stations that would be willing to sell gasoline at $1.10, $1.00, 90 cents, or even 81 cents a gallon without the tax, but do not, because at 80 cents a gallon in revenue the price is too low for them. Hence the demand for gasoline falls. Lower demand for gasoline means lower demand for workers
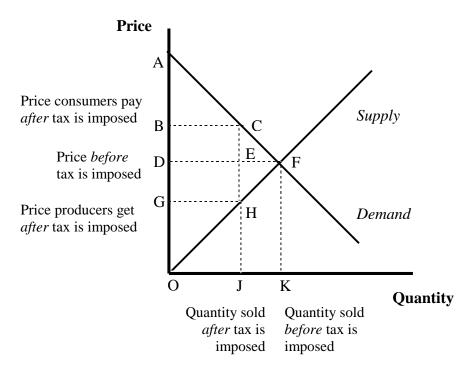
Figure 1. Deadweight loss from a tax

Price

A

Price consumers pay
after tax is imposed   B ---------- C

Price *before*   D -------- E
tax is imposed   F

                               G ---------
Price producers get   H
after tax is imposed

                                                    Supply

                                                    Demand

O   J   K

                                          Quantity

Quantity sold   Quantity sold
after tax is   *before* tax is
imposed   imposed

Consumer surplus *before* tax = triangle ADF; *after* tax = triangle ABC.
Producer surplus *before* tax = triangle DFO; *after* tax = triangle GHO.
Government's revenue resulting from tax = rectangle BCHG.
Deadweight loss resulting from tax = triangle CFH.

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who explore for oil, pump it out of the ground, refine it into gasoline, transport the
gasoline, and sell it to motorists. The tax reduces economic activity.

The other side of the imposition of the tax is that consumer surplus and producer
surplus fall. Consumer surplus falls 20 cents a gallon, and for those consumers who
formerly enjoyed 1 to 20 cents a gallon in consumer surplus, the surplus disappears.
Producer surplus also falls 20 cents a gallon, and for those producers that formerly
enjoyed 1 to 20 cents a gallon in producer surplus, the surplus disappears. (Note that in
this example producers and consumers alike lost 20 cents a gallon in surplus, but taxes
need not always affect producer and consumer surplus equally.)

A graph showing the deadweight loss from a tax. It is possible to use a graph with
supply and demand curves to illustrate the concept of the deadweight loss from a tax.
Figure 1 does so. Some readers may find it helpful to think in terms of the graph. Readers
who are not interested in the graph can skip to the next section (called "Types of
deadweight losses") without missing the essential points of this study.

Continuing with the example of the gasoline tax, before the tax is imposed, consumers pay $1 a gallon and producers receive $1 a gallon. The amount of gasoline sold at that price is, say, 500 million gallons a day (roughly the actual amount of consumption currently in the United States). This is point F of Figure 1. At point F, consumers enjoy a total consumer surplus equal to triangle ADF, while producers enjoy a total producer surplus of DFO.

Now the government imposes a tax of 40 cents a gallon. The higher price causes consumers to use less gasoline, so their consumption falls to 400 million gallons (corresponding to point J in Figure 1). As has been explained, in the short run producers typically cannot pass along the full amount of a tax to consumers. That is the case in this example. The price of gasoline that consumers pay rises from $1 a gallon not to $1.40 a gallon, but to $1.20 (corresponding to point B). The price that producers receive falls from $1 a gallon to 80 cents (corresponding to point G).

The government collects a tax of 40 cents a gallon on each of the 400 million gallons sold every day, for a total of $160 million. It is represented by rectangle BCHG in the figure. However, total consumer surplus, which was equal to the triangle ADF, is now equal to the smaller triangle ABC. Total producer surplus, which was equal to the triangle DFO, is now equal to the smaller triangle GHO. Triangle CFH represents the deadweight loss—the amount of surplus that, as it were, vanishes into thin air. Consumers and producers lose the surplus, but the government does not gain it. In this example, the deadweight loss is $20 million a day.[8]

Types of deadweight loss. What specifically are the types of deadweight loss involved in taxes?

Substitution into less desirable options. If fishing poles are subject to a special tax (as they are under current federal law[9]), people who do not want to pay the tax can avoid it by making their own poles out of sticks. However, most fishermen prefer store-bought poles, so they lose some degree of satisfaction by using a home-made pole instead.

Reduction of overall economic activity. By driving a wedge between the price consumers pay and the price producers receive, taxes discourage some transactions that would otherwise occur. Rather than accept a less desirable substitute, some people may buy or do nothing at all. For example, a few people may be so attached to fishing with a store-bought pole that they will accept no substitute if a tax makes the price higher than they wish to pay. As a result, fishing pole makers sell fewer poles than before, so they hire fewer employees than they would otherwise have.

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[8] The area of a triangle is one-half its height times its base. Triangle CFH has a base, CH, equal to 40 cents, and a height, EF, equal to 100 million gallons a day. Therefore the deadweight loss is
½ x $0.40 x 100 million gallons a day = $20 million a day. For simplicity, diagrams often show supply and demand curves as straight lines, but they need not be. When they are not, the excess burden is no longer a triangle, and measuring it becomes harder, particularly since researchers may not know the precise shapes of the supply and demand curves. Auerbach and Rosen (1980) describe different approaches to solving the mathematical problem of measuring the excess burden.
[9] The tax is 10 percent; see 26 United States Code sec. 4161.

Compliance costs. Taxes involve compliance costs, mainly in the form of additional record keeping. In the United States and most other countries, most of the burden of determining how to apply taxes, collecting taxes, and keeping records of collections falls on businesses. Individuals also bear the burden for certain kinds of taxes, notably income tax. The Tax Foundation estimates that the cost of complying with the individual income tax will reach $140 billion this year, or 12 cents for every dollar of tax collected.[10]

Enforcement costs. To ensure that taxpayers are paying the taxes required by law, governments employ small armies of lawyers, accountants, inspectors, and clerks. The more difficult a tax is to enforce, the more the revenue it generates is eaten up by the expense of paying government officials to extract it. The budget of the Internal Revenue Service was $8.6 billion in fiscal 2001.[11]

Tax evasion, economic activity, and government revenue. In general, the higher the tax rate, the more people are tempted to evade it. People who evade a tax also evade part of its deadweight burden, so there is a sense in which tax evasion actually reduces the deadweight loss. Many countries with high tax rates have large underground economies. (The United States, as a relatively low-tax country for its income level, is estimated to have a smaller underground economy than many other industrialized countries.) But with tax evasion come costs of a different kind. A plumber who takes payment only in cash and reports no income may be unable to get a bank loan to hire other plumbers and expand his business because he cannot show evidence of his potential to earn money. The more conspicuous a good, business, or individual is, the harder it is to avoid being noticed by tax collectors. High tax rates create a barrier that discourages people in the underground economy from going above ground and expanding small enterprises into larger ones. As a result, economic growth is lower than it could be.

IV. ESTIMATES OF THE DEADWEIGHT LOSS IN THE UNITED STATES

Concepts of deadweight loss. When economists first began serious estimates of deadweight losses in the 1960s, they limited consideration of the deadweight loss to the relatively small direct loss in economic activity caused by the imposition of a tax. In Figure 1, it is the little triangle CFH. However, further thinking about what the deadweight loss involves led them to realize that the deadweight loss can be much bigger. In general, the more a tax causes people to change their behavior, the larger the deadweight loss.

One way the deadweight loss can be bigger than the little shaded triangle is by using up resources in political activity. Taxes are imposed through political decisions. Lobbying to impose a tax, or to avoid having a tax imposed, generates costs. The direct monetary costs of lobbying and the indirect costs (paying bright people to become lobbyists rather than doctors, for instance). In the extreme case, interest groups may

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[10] Moody (2001).
[11] Office of Management and Budget (2001), p. 204.

expend so many resources lobbying to apply a tax to competitors or to prevent it from falling on themselves that the deadweight loss exceeds the tax. Imagine that Congress is considering imposing a tax of $10 million that might fall on either of two highly concentrated industries. Conceivably, it is worth up to $10 million for each industry to avoid the tax. But even if they are willing to spend only $6 million apiece in lobbying expenses, the deadweight loss of $12 million exceeds the tax of $10 million.

Another way the deadweight loss can be bigger than the little triangle is that the changes a tax causes in one part of the economy can spill over into other parts of the economy. The deadweight loss multiplies. For example, income or payroll taxes are taxes on hours worked. If the taxes become too high, some people will reduce the hours they work. Others, particularly people who are near retirement or are not the main wage earner in their households, will stop working altogether and enjoy more leisure. But taxes on labor do not just affect how many hours people work; they affect life choices that determine how productive people are and therefore how productive the economy is. A wife considering going back to paid work after her children are grown may face a choice between continuing to stay at home, working as a cashier without needing additional training, or working as an accountant but needing first to obtain additional training at her own expense. If the tax rate is high enough that investing in more training would not yield much more after-tax income for herself and her husband, she may work in the lower-skilled cashier's job or not work at all. The economy loses the additional value she could have contributed as an accountant.

Estimates of the deadweight loss in the United States. Economists' estimates of the deadweight loss from taxes in the United States have increased over the years as they have become aware of how a deadweight loss in one part of the economy can spill over into other parts and cause additional losses. Arnold Harberger, who pioneered measurement of deadweight losses, initially estimated that income taxes reduced Americans' willingness to work by 5 to 11 percent and that they imposed welfare losses of about 2.5 percent of tax revenue raised. At the time Harberger wrote, in 1964, he used his estimate as the basis for a suggestion to cut tax rates. He estimated that reducing marginal income tax rates by 30 percent within each income tax bracket would raise the same amount of revenue as existing tax rates, because lower rates would encourage people to earn more taxable income.[12]

More recent estimates have arrived at much larger estimates of deadweight losses, and often conclude that the deadweight losses are about equal to or exceed the tax revenue raised. Table 1 lists some studies of deadweight loss and their findings.

In light of the trend to increase estimates of deadweight losses, an earlier Joint Economic Committee report that reviewed some of the studies listed in Table 1 concluded that a *conservative* estimate of the deadweight loss imposed by taxation in the United States was 40 cents for every additional dollar in taxes collected.[13]

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[12] Harberger (1974 [1964]), pp. 46-7. Federal income tax brackets in 1964 ranged from 16 percent to 77 percent.
[13] Vedder and Gallaway (1999), p. 7.

Table 1. Studies estimating deadweight losses from taxation		
Author (year)	*What studied*	*Deadweight loss as % of tax collected*
Harberger (1964)	Taxes affecting U.S. labor	2.5
Browning (1976)	Taxes affecting U.S. labor	8-16
Findlay and Jones (1982)	Australian income, excise, sales taxes	11-160
Stuart (1984)	U.S. payroll, income, excise taxes	21-100
Ballard and others (1985a)	All major U.S. taxes	17-56
Browning (1987—revision of 1976 estimates)	Taxes affecting U.S. labor	8-100
Jorgenson and Yun (1993)	All major U.S. taxes after 1986 reforms	18 (average) 38 (marginal)
Feldstein (1996)	All major U.S. taxes	165
Gravelle and Smetters (2001)	U.S. cigarette and energy taxes	92-861

Sources: References given at end of paper.

V. POLICY IMPLICATIONS

The concept of deadweight loss has several important implications for making tax policy.

An extra dollar of government spending costs the economy more than a dollar. Accordingly, using government to transfer income from one group to another, without a clear rationale in terms of economic efficiency, does not simply reshuffle income; it reduces the overall size of the economy.

Conversely, *reducing taxes by a dollar generates more than a dollar of benefit to the economy.* That is why a previous Joint Economic Committee study concluded that, over a seven-year period, every $1 in lower federal spending and taxes would increase the size of the economy by $2.45. (That is equal to $2.09 in present dollars, since much of the growth would occur some years in the future and needs to be discounted by appropriate rate of interest to reflect that its benefits would not be immediately available.[14])

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[14] Gallaway and Vedder (1995).

Another implication of the concept of the deadweight loss is that maximizing the taxes the government collects over the short term is not the same as maximizing growth. In fact, *the level of tax rates that maximizes growth is almost certain to be far below the level that maximizes government revenue.*[15] The reason is that the deadweight loss grows the more tax rates increase beyond the level needed to fund those government functions whose benefits outweigh their costs. So, if the growth-maximizing level of government spending (federal, state, and local combined) is $2 trillion, but the maximum revenue that government could raise is $3 trillion, $1 trillion in revenue involves net deadweight losses that make economic growth lower than it otherwise would be.

Finally, *it is particularly important to be aware of the deadweight loss from taxation in an economy that is only growing slowly or not at all.* Taxation creates deadweight burdens in a fast-growing economy, but the economic environment is more forgiving of errors in policy. In an economy that is growing slowly or not at all, policies that increase the deadweight loss of taxation can delay or in extreme cases prevent recovery. The case for cutting tax rates is particularly strong in such circumstances.

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[15] Lindsey (1997).

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