



The place to learn and think about tax and tax policy

## 3 Tax Expenditures: Detailed Effects

Tax expenditures, as document-lessons 6-1 and 6-2 explain, enact government policies through the tax laws. This document-lesson details how tax expenditures affect revenue and behavior, using both a tax deduction and a tax credit. As examples. The tax expenditures here occur at the local level, but all levels of government can and do use tax expenditures. The example is also a very simplified version of real life: a town with only 5 taxpayers in it and a simplistic version of an unequal distribution of income. If the readers want more realistic examples, they should just add zeros to the numbers of people and dollars. The principles and results remain the same, however.

The examples show the effects on taxpayers who take the expenditure; taxpayers who don't, and the economy as a whole. They also demonstrate that the many people who believe that a tax expenditure just returns taxpayers' own money to them are wrong. Taxpayers using tax preferences do get some of their own money back, but they also get money from other taxpayers.

**Part I**      1      Taxpayers who benefit from tax expenditures do not merely get their own money back; they receive money from other taxpayers as well.

2      Tax expenditures decrease the revenue a government has to spend on other policies and administration.

3      Tax expenditures affect taxpayer behavior and the economy.

### **Baseline Situation**

#### **Town statistics**

The small town of Happeeville has only 5 people living in it and their total income is \$100,000:

Alberto's income is \$15,000.

Bernie's income is \$15,000.

Callie's income is \$15,000.

Debra's income is \$15,000.

Eddie's income is \$40,000.

Note that the **average** or **mean** income in Happeeville is \$20,000. [\$100,000 income/5 people.] The **median income** (the income in the middle) however is lower. It is \$15,000.

Happeeville has a 10% flat (proportional) income tax which was passed several years ago by the Happeeville legislature (consisting of all 5 people). This tax raises \$10,000—which is enough to provide all the goods and services the legislature has approved.

Under this law, Eddie pays \$4,000 of income tax and the other four pay \$1,500 each.

**Table 1: Taxes and Revenues with 10% Tax**

	Income	Tax Rate	Tax	After-tax Income	
Alberto	\$15,000	10%	\$1,500	\$13,500	
Bernie	\$15,000	10%	\$1,500	\$13,500	
Callie	\$15,000	10%	\$1,500	\$13,500	
Debra	\$15,000	10%	\$1,500	\$13,500	
Eddie	\$40,000	10%	\$4,000	\$36,000	
<b>Total</b>	<b>\$100,000</b>	<b>10%</b>	<b>\$10,000</b>	<b>\$90,000</b>	

*Please Go to the Next Page*

## Part II Government Spending through the Tax Laws

Happeeville's income (and economy) has been static for several years. To boost its economic activity, it decides to offer some tax incentives—tax provisions that will decrease taxpayers' tax liability if they start new businesses in Happeeville or expand current ones. Eddie had been thinking about expanding his restaurant, Eddie's Excellent Eats but hadn't committed to doing so. Now that the town is offering tax incentives, he applies for one. He tells the town council that his expansion qualifies for the business preference because not only can he hire more employees if he has a bigger restaurant but modernizing it will bring in more customers.

### Example I: Boosting the Economy through a \$1,000 Deduction

**Table 2: Taxes and Revenues with 10% Tax and \$1,000 Tax Deduction for Eddie**

	Gross Income	Deduction	Taxable Income	Tax Rate	Tax	Income After Tax
Alberto	\$15,000	0	\$15,000	10%	\$1,500	\$13,500
Bernie	\$15,000	0	\$15,000	10%	\$1,500	\$13,500
Callie	\$15,000	0	\$15,000	10%	\$1,500	\$13,500
Debra	\$15,000	0	\$15,000	10%	\$1,500	\$13,500
Eddie	\$40,000	\$1,000	\$39,000	10%	\$3,900	<b>\$37,000</b>
<b>Total</b>	<b>\$100,000</b>	<b>(\$1,000)</b>	<b>\$99,000</b>	<b>10%</b>	<b>\$9,900</b>	<b>\$91,000</b>

The \$1,000 deduction costs the town \$100 in revenues because Eddie pays \$100 less in taxes (10% x \$1,000). In other words, without the deduction, Eddie would have had another \$1,000 of taxable income upon which he would have paid a 10% tax or \$100. (Note that if Eddie paid a higher rate of tax—say 20%—he would have saved \$200 and the town would have had \$200 less in revenues: \$9,800 instead of \$9,900.)

#### My Money or Our Money: Where Does Eddie's Extra \$100 Come From?

Some people say that Eddie is simply getting his own money back. Instead of paying \$4,000 of taxes, he only pays \$3,900.

But notice that the town has \$100 less revenue than without the deduction. Without the deduction, the town would have collected \$100 more of revenue which it could spend in a variety of ways.

Taxes go into the general revenue of the government which means that people don't get to pick and choose where their tax dollars go. Consequently, a proportionate share of every taxpayer's taxes goes to every amount spent by the government. So the \$100 spent to encourage business by improving lighting came from \$40 of Eddie's taxes and \$60 from Alberto, Bernie, Callie, and Debra (\$15 from each). The town would be left with \$9,900 to spend in other ways.

When Happeeville decides to encourage business by giving Eddie the \$1,000 deduction, its revenue is decreased by \$100. In effect, it costs the government \$100 of revenue. It ends up with \$9,900 instead of \$10,000. Instead of giving Eddie the \$1,000 deduction it could have handed out \$100 to Eddie (the amount by which his taxes were lowered). That \$100, like any spending would come from 10% of every taxpayer's taxable income: \$15 from Alberto, Bernie, Callie, and Debra and \$4,000 from Eddie. (because he has more income than the others).

**Example II: Boosting the Economy through a \$1,000 Credit**

The town's income (and economy) has been static for several years. Last month Eddie said he planned to expand his restaurant, Eddie's Excellent Eats. This, he said, would boost employment in Happeeville and the economy generally. He also said he needed some help to complete the expansion, and asked the Legislature for a \$1,000 tax credit. The credit will save him \$1,000 in taxes (reducing his taxes to \$3,000) but he says that the bigger, better restaurant will also help Happeeville's economy.

The Legislature agrees and passes a law granting the tax credit. This means the town collects only \$9,000 in taxes.

**Table 3: Taxes and Revenues with 10% Tax and \$1,000 Tax Credit to Eddie**

	Income	Tax Rate	Tax	Tax Credit	Tax After Credit	Income After Tax & Credit
Alberto	\$15,000	10%	\$1,500	0	\$1,500	\$13,500
Bernie	\$15,000	10%	\$1,500	0	\$1,500	\$13,500
Callie	\$15,000	10%	\$1,500	0	\$1,500	\$13,500
Debra	\$15,000	10%	\$1,500	0	\$1,500	\$13,500
Eddie	\$40,000	10%	\$4,000	\$1,000	<b>\$3,000</b>	<b>\$37,000</b>
<b>Total</b>	<b>\$100,000</b>	<b>10%</b>	<b>\$1,500</b>	<b>\$1,000</b>	<b>\$9,000</b>	<b>\$91,000</b>

- 1 Eddie saves \$1,000 in taxes and has \$1,000 more after tax income.
- 2 Alberto, Bernie, Callie, and Debra have no change in their taxes or after-tax income.
- 3 Happeeville is short \$1000 of tax revenues that it needs to provide all the other goods and services it is supposed to provide.

**NOTICE:** Since Happeeville still needs \$10,000 to provide all the other necessary goods and services, Happeeville raises its income tax rate to 11%.

*Please Go to the Next Page*

**Table 4: Taxes and Revenues with 11% Tax and \$1,000 Tax Credit to Eddie**

	Income	Tax Rate	Tax	Tax Credit	Tax After Credit	Income After Tax & Credit)
Alberto	\$15,000	11%	\$1,650	0	\$1,650	\$13,350
Bernie	\$15,000	11%	\$1,650	0	\$1,650	\$13,350
Callie	\$15,000	11%	\$1,650	0	\$1,650	\$13,350
Debra	\$15,000	11%	\$1,650	0	\$1,650	\$13,350
Eddie	\$40,000	11%	\$4,400	\$1,000	\$3,400	\$36,400
<b>Total</b>	<b>\$100,000</b>	<b>11%</b>	<b>\$11,000</b>	<b>\$1,000</b>	<b>\$10,000</b>	<b>\$9,800</b>

**The End Results After The 11% Tax and Eddie’s Credit:**

- 1 Happeeville ends up with the \$10,000 revenue it needs and can give Eddie the \$1,000 tax credit.

(Under the 11% tax, Happeeville would have collected \$11,000 but it gave Eddie a \$1,000 credit (reduction) in his taxes, so it still ends up with \$10,000).

**But where does Eddie get that \$1,000 from?** It’s the same question as in the case of the deduction. Eddie may think he’s just getting back \$1,000 of the taxes he paid, but, like in the deduction case, that is not true.

- 2 Alberto, Bernie, Callie and Debra end up paying \$150 **more** than they did before. (\$1,650 instead of \$1,500). This means their after-tax income goes down \$150 and they only have \$13,350

each to spend—instead of \$1,650. (Maybe they’ll spend some at Eddie’s restaurant which will increase Eddie’s income. Or maybe they won’t!)

This is a 10% increase in their taxes ( $\$150/\$1,500 = 10\%$ ) and a 1% decrease in their after-tax income compared to the 10% tax without a credit tax law.

3 Eddie, in contrast ends up paying \$600 **less** than he paid before—once the \$1,000 credit is taken into account. (\$3,400 instead of \$4,400). This means his after-tax income goes up to \$36,400. This is a 15% decrease in his taxes ( $\$600/\$4,000 = 15\%$ ) and a 15% increase in his after-tax income compared to the 10% tax without a credit tax law.

4 In other words, only Eddie benefits. Alberto, Bernie, Callie and Debra—who have significantly less income than Eddie—are giving money to Eddie via the tax system.

5 To put it another way: Eddie did not simply get “his” money back when he got the \$1,000 tax credit. His tax credit was paid for by taxes from all 5 taxpayers. His taxes paid for only \$400 of his credit, and Alberto, Bernie, Callie and Debra paid the other \$600. ( $\$150 \times 4 = \$600$ )

### Part III Do Tax Expenditures Spur the Economy As Supporters Say They Will?

Sometimes tax expenditures—whether they are deductions or credits, boost the economy but sometimes they don’t. Let’s assume that the \$1,000 credit Eddie get does increase the economy.

The next question is: **Whom does it help?**

Let’s assume that the credit boosts the economy by providing a 10% rate of return on the \$1,000. In other words, it produces \$100 of income that wouldn’t have otherwise been produced. And let’s assume (unrealistically) that it all goes to Alberto, Bernie, Callie and Debra in equal amounts. That is they each get \$25 more income than they would have had in some way from Eddie’s investment. Maybe, for example, Alberto worked for Eddie and put in more hours, and Bernie, who sold vegetables to Eddie’s restaurant sold more vegetables than he would otherwise do, and so forth.

**Table 5 11 % Tax, Credit & Revenues with \$100 Economic Growth  
(\$100 goes to Alberto, Bernie, Callie & Debra)**

Taxpayer	Income	Tax Rate	Tax	Tax Credit	Tax After Credit	Income after Taxes & Credit
Alberto	\$15,025	11%	\$1,652.75	0	\$1,652.75	\$13,372.25
Bernie	\$15,025	11%	\$1,652.75	0	\$1,652.75	\$13,372.25
Callie	\$15,025	11%	\$1,652.75	0	\$1,652.75	\$13,372.25
Debra	\$15,025	11%	\$1,652.75	0	\$1,652.75	\$13,372.25
Eddie	\$40,000	11%	\$4,400	\$1,000	\$3,400	\$36,600
<b>Total</b>	<b>\$100,100</b>	<b>\$11,011</b>	<b>\$11,011</b>	<b>\$1,000</b>	<b>\$10,011</b>	<b>\$90,089</b>

**Results for the individual taxpayers:**

- 1 Alberto, Bernie, Callie and Debra each have \$25 more income.
  
- 2 They pay an 11% income tax on the extra \$25 of \$2.75.
  
- 3 They end up with less after-tax income than they did when the tax rate was 10% and no credit. With the 10% no credit tax law, their after tax income was \$13,500; now it is \$13,372.25—which is \$127.75 less than under the 10% no credit tax.
  
- 4 Eddie, on the other hand, ends up with \$600 more after tax income even though he is paying 11% tax and gets no benefit from the increased growth of the economy. This is because he got a \$1,000 tax credit.
  
- 5 The end result, in other words, is: Alberto, Bernie, Callie and Debra—who have significantly less income than Eddie—are still giving money to Eddie via the tax system, even though they received some benefit from the economic growth the credit produced.

**Results for Happeeville as a Whole.**

With the increased tax rate and increased economic activity Happeeville can give Eddie the \$1,000 and have the \$10,000 revenue it needs. In fact, it will have \$11 more than \$10,000. The increased

economic activity might have increased the cost of providing existing goods and services—possibly more than the \$11 of increased revenue. If it did, then Happeeville would need to keep the \$11 (and possibly raise more taxes) in order to adequately continue to provide the goods and services it was already obligated to under its laws (e.g. more police or trash collection).

If the increased economic activity did not increase the cost of providing existing goods and services by \$11, then Happeeville could do one of three things:

- 1 Provide new goods or services costing \$11.
- 2 Refund that \$11 to its citizens in proportion to how much of it they paid: \$4.40 would go to Eddie, and the other four would each get \$1.65, or
3. Lower its income tax rate a very tiny bit from 11% to 10.989%. At that rate the tax would raise \$11,000 and after the \$1000 credit to Eddie Happeeville would have the \$10,000 revenue it needs.

*Please Go to the Next Page*



## 11% Tax, \$1000 Credit and Increased Income Going to All (including Eddie).

More realistically, Eddie will also gain from the increased economic activity.

So let's assume that the \$1,000 credit has a 20% economic return and produces \$200 new income—one-half to Eddie, the rest to Alberto, Bernie, Callie & Debra.

**Table 6 11 % Tax, Credit & Revenues with \$200 Economic Growth  
(\$100 to Eddie, the rest to Alberto, Bernie, Callie & Debra equally)**

	Income	Tax Rate	Tax	Tax Credit	Tax After Credit	Income after Taxes & Credit
Alberto	\$15,025	11%	\$1,652.75	0	1,652.75	\$13,372.25
Bernie	\$15,025	11%	\$1,652.75	0	1,652.75	\$13,372.25
Callie	\$15,025	11%	\$1,652.75	0	1,652.75	\$13,372.25
Debra	\$15,025	11%	\$1,652.75	0	1,652.75	\$13,372.25
Eddie	\$40,100	11%	\$4,411	\$1,000	\$3,411	\$36,689
<b>Total</b>	<b>\$100,200</b>	<b>11%</b>	<b>\$11,022</b>		<b>\$10,022</b>	<b>\$90,178</b>

1 Alberto, Bernie, Callie and Debra have the same result as before—each has \$25 more income on which they will each pay income 11% income tax.

2 Alberto, Bernie, Callie and Debra will each pay an **additional \$2.75 of tax** which will leave each with an after-tax income of \$13,372.25.

3 Thus, despite growth in their income, they each will still have **less \$127.75 income** after taxes than they did when there was only a 10% tax and no credit.

4 Eddie now has \$100 more income. He ends up (after his credit) with \$3,411 of taxes and an after-tax income of \$36,689. He ends up paying \$589 less in taxes and has \$689 more in after-tax income than with the 10% rate and no credit.

**5 To sum up: only Eddie benefits from the credit. He pays less tax and has more after-tax income. All the others end up paying more tax and having less income after taxes.**

## Effect on Happeeville

Happeeville will have slightly more than \$10,000 revenues, even after the \$1000 credit—\$22 to be precise.

The increased economic activity might have increased the cost of providing existing goods and services—possibly more than the \$22 of increased revenue. If it did not, then Happeeville could do one of three things it could in the previous example:

- 1 Provide new goods or services costing \$22.
- 2 Refund the \$22 to its citizens.

If it does refund the extra \$22, how should it be distributed among the five taxpayers? Should Eddie get 33.7% of the \$22 (about \$7.41) since he paid 33.7% of all the income tax? That would leave about \$3.65 for each of the others—their proportionate share of the total income tax.

But is that fair? Remember Eddie's tax (after the credit is \$589 less than it was before the credit while Alberto, Bernie, Callie & Debra's taxes were higher and they ended up with less after-tax income than before. Do you think that the total \$22 should be split only among those four?

- 3 Lower its income tax rate a very tiny bit from 11% to 10.989%. At that rate the tax would raise \$11,000 and after the \$1000 credit to Eddie, Happeeville would have the \$10,000 revenue it needs.

## Part IV Summary

- 1 Taxpayers who benefit from tax expenditures do not merely get their own money back; they receive money from other taxpayers as well.
- 2 Tax expenditures decrease the revenue a government has to spend on other policies and administration.
- 3 Tax expenditures affect taxpayer behavior and the economy.