

Why Untaxing Is Fair

The guys with money will still be able to afford as much gas as they want. Only the little guys will suffer.

—Rita Gibson, Boston delicatessen owner, 1977,
quoted in *Time* magazine

“SLAP A 5¢-PER-GAL. TAX ON GASOLINE each year if conservation goals are not met.” That’s how *Time* magazine described President Jimmy Carter’s proposed gas tax shortly after he took office and declared the energy crisis to be the “moral equivalent of war.” But people had adjusted to OPEC’s tripled price and were getting complacent. No one foresaw that the Iranian revolution would soon trigger a doubling of the already high oil price.

Intense lobbying by the oil and gas industries derailed Carter’s proposals, but America’s sense of fairness also played a role. Carter saw the significance of underpriced oil and proposed several corrections, one of which was the five-cent gas tax. That’s similar to the carbon tax I’ve been discussing. Taxes are never popular, but the gas tax struck people as particularly unfair, and they were right.

According to the Congressional Budget Office, a carbon tax would cost the poorest one-fifth of families twice as much in terms of percentage as those in the upper fifth. The low-income group emits only a third as much carbon as the high-income group but suffers more under a carbon tax. Rita Gibson was right: “Only the little guys will suffer.”

Many economists recognize the fairness issue and attempt to solve it with some form of tax relief. Harvard economist N. Gregory Mankiw, for example, advocates a “rebate of the federal payroll tax on the first \$3,660 of earnings for each worker.” Such a tax rebate would distribute the carbon tax revenues in a way similar to the untax refund, so in spirit Mankiw is close to my position. But as I will show, his carbon tax with payroll-tax reduction is not quite as fair as the untax. And, as the headline of an op-ed he wrote for the *New York Times* proclaims, it’s “a new tax”—a huge new tax that will never fly.

Mankiw’s op-ed captures the economist’s dilemma perfectly. It’s about the extreme difficulty of passing a carbon tax, simply because it’s a tax. But the headline emphasizes only this problematic quality. Why is Mankiw beating his head against this wall? Why not suggest refunding the tax revenues, turning his new tax into an untax? Is the untax so novel an idea? Hardly. Economists habitually model a carbon tax as an untax. It’s an old and venerable idea. So why avoid it? Because economists think they have an even better idea.

Most economists believe that using the carbon-tax revenues in place of regular tax revenues is better, because it is the most efficient approach. So politics be damned. These economists want to recommend the best approach, and they do—even though they know it is political suicide. I admire this insistence on doing things efficiently, and for twenty-five years I bought the standard analysis that using the carbon-tax revenues in place of other tax revenues is a great idea. But this chapter shows it’s not, and that’s a great relief. There’s no need to keep banging our heads on the no-new-taxes wall.

But could most economists really have missed this point for so many years? Yes, and for a reason. According to economics, we should judge a carbon tax or untax on two counts: efficiency and fairness. Efficiency just means cost effectiveness. Fairness concerns taking money from one group and giving it to another. Unfortunately, fairness is usually difficult to assess, so economists usually ignore that issue and focus instead on efficiency. Economists have done just that with the carbon tax, proving that Mankiw’s approach is a bit more efficient than an untax. Efficiency is the sole reason Mankiw and other economists beat their heads on the no-new-taxes wall.

But a complete comparison between a carbon tax and a carbon untax requires considering fairness as well as efficiency. I have never seen anyone attempt this, but I will in this chapter. By a stroke of good luck, it turns out to be possible. I say good luck because I know of only one other policy that economists agree is wrong because it is unfair, even though it improves efficiency. Let’s call it policy X. Surprisingly, policy X is exactly the difference between a carbon tax and a carbon untax.

In a nutshell, this chapter shows that an untax is completely fair and that a carbon tax is just an untax plus policy X. Since economists agree that policy

X is wrong, they should agree that using the completely fair untax plus policy X is worse than using just the untax.

The Gold Standard of Fairness

The problem of global pollution resembles an old economics puzzle called the “tragedy of the commons.” Of several possible solutions to this puzzle, one stands out as the most obviously fair. The tragedy of the commons refers to the story, with some basis in reality, of an English town’s common pasture for grazing animals; let’s call them sheep. Anyone can graze as many sheep as he or she likes on the commons at no cost. The tragedy is that everyone takes advantage of this free resource, overusing it. Overgrazing kills the grass, and the commons becomes nearly worthless.

Global warming parallels this story in several ways. People can dispose of their carbon dioxide in the atmosphere for free, but the carbon dioxide reduces the value of this common resource. Economics suggests a solution to this problem—a solution that is widely agreed to be fair, although impractical on a global level. I will show that the untax is a practical way of getting this same fair result. But first, let’s look at the standard fair solution.

To avoid the tragedy fairly, the town determines how many sheep the commons can sustainably support and divides this number by the number of townspeople. Say it comes to two sheep per person. The town grants each person the legal right to graze two sheep. That’s fair, and it prevents overgrazing. To an economist, this is also an efficient solution because it maximizes the value of the commons. Any more sheep, and they would damage the commons. Any fewer, and the town would not fully utilize its commons.

If, however, the blacksmith does not want to graze sheep, a fair solution allows him to give away his rights, trade them, or sell them. After all, he should have the right to do what he wants with his rights. That’s why we call them rights.

In a large town, a market for rights to the commons develops. It likely just consists of a bulletin board with notices. But soon a typical price develops for, say, the right to graze one sheep for a month. That becomes the market price of sheep permits. In this way, the blacksmith can sell his right at fair market value, and neither buyer nor seller takes advantage of the other.

Notice that we have just reinvented, probably for the millionth time, the system we call cap and trade. The town caps the number of sheep at the sustainable limit of the commons and gives all the townspeople permits, which they are allowed to trade.

This system provides a fair and efficient solution to the tragedy of the commons. Giving out rights equally makes the system fair, since no one has

any special claim to extra rights. Giving out a sustainable number of rights and allowing trade makes the system efficient.

Conceptually, this system provides a fair way of solving the problem of climate change. Unfortunately, while fair in principle, giving people such rights and enforcing them on a global scale would be impossible.

Fairness: Twin Gold Standards

A fair solution to the global commons problem requires a special cap-and-trade system. Typically, carbon cap-and-trade systems work by distributing rights not on an equal-per-person basis, but in proportion to how much damage each person was causing on some past date. The big polluters get the rights, and as Gibson predicted, the little guys suffer.

The government can hand out permits in many ways, but only giving them out on an equal-per-person basis has any special claim to fairness. I will call this particular cap-and-trade system *equitable* cap and trade.

This system should sound familiar. The untax gives refunds on an equal-per-person basis, and equitable cap and trade hands out valuable free permits on an equal-per-person basis. The untax and equitable cap and trade are twins—provided they are adjusted to give the same carbon price. These prices are the same if permit prices under the cap are the same as the tax rate under the untax. Emitting carbon has the same cost in the two systems, so people reduce emissions by the same amount. The free permits, given out equitably, benefit low carbon consumers exactly as do untax refunds. I explain the reasons for this in “An Equitable Cap-and-Trade Program Matches the Untax” for those who wish to delve deeper into the economics.

The two systems differ in one way: The market sets the price of permits, so their cost fluctuates unpredictably. Still, on average, costs, revenues, and emissions all come out the same, so the two systems must be equally fair. This makes the untax a twin gold standard of fairness. It treats people as if they had equal rights to the climate, but without keeping track of 6 billion individual climate rights.

Enter the Economists

The untax is as fair a system as anyone can devise without getting into person-by-person calculations. Because such calculations add enormous complexity and are difficult to make fair, they should remain outside the untax system, even in the few cases in which they are practical to address.

In spite of the fact that the untax is the fairest system for correcting the underpricing of carbon, many economists recommend against the untax. Princeton economist and *New York Times* columnist Paul Krugman says that

An Equitable Cap-and-Trade Program Matches the Untax

It's hard to imagine individuals owning and trading carbon permits, so this example uses the analogy of a town commons with grazing sheep. To understand why an equitable cap-and-trade program and the untax are twins, consider two identical towns, one with an untax and one with equitable cap and trade. The permit price equals the untax rate; suppose they are both \$10 per sheep per month. (Permit prices are not that stable, but let's keep the example simple.)

Suppose each town has 100 people, and Cap Town caps the number of grazing sheep at 200. In Untax Town, with no cap, let us guess that citizens are grazing 220 sheep and paying taxes on them as well. We will soon check this guess. The per-person refund comes to \$10 times 220 sheep divided by 100 people, or \$22 per person per month.

	Mary Untax			Jane Capper	
	Tax	Refund	Untax Cost	Free Permits	Permit Cost
1 sheep	\$10	\$22	– \$12	2	– \$10
2 sheep	\$20	\$22	– \$2	2	\$0
3 sheep	\$30	\$22	+ \$8	2	+ \$10

The table shows the choice faced by a pair of identical twins, one in each town. If Mary Untax grazes one sheep, she pays \$10 in untax but receives the \$22 refund, for a gain of \$12. (The table shows a gain as a negative cost.) Jane Capper receives two free permits. If she grazes only one sheep, she sells one permit, for a gain of \$10. Notice that, in both towns, it costs \$10 more for each additional sheep grazed.

In either town, if grazing another sheep makes more than \$10, it's a good idea. Otherwise it's not. So Mary and Jane will decide to graze the same number of sheep—and so will every other pair of twins in the two towns.

Originally, we were not sure how many sheep people would graze in Untax Town, but now we know. At the same cost of \$10 per sheep, the two towns graze the same number of sheep. Since 200 sheep graze in Cap Town, 200 must also graze in Untax Town—not 220 as we first guessed. So the refund per person turns out to be only \$20. Recalculating the table shows that the two towns match perfectly.

	Mary Untax			Jane Capper	
	Tax	Refund	Untax Cost	Free Permits	Permit Cost
1 sheep	\$10	\$20	– \$10	2	– \$10
2 sheep	\$20	\$20	\$0	2	\$0
3 sheep	\$30	\$20	+ \$10	2	+ \$10

“any new tax on carbon could and should be offset by tax cuts elsewhere.” Mankiw would use the carbon tax to pay off some of the federal payroll tax.

Economists reason that taxes cause us to do less of what is taxed. Income taxes cause some to work a little less for wages and more for themselves; taxes on capital cause people to invest a little less. Working for wages and investing are beneficial and increase the gross domestic product (GDP), so taxes reduce the GDP. Even a carbon tax reduces GDP a bit, but economic calculations indicate that taxing carbon reduces GDP less than taxing labor or capital.

This means that replacing part of the tax on labor or capital with revenues from the carbon tax would increase GDP. That’s a good thing, but how big is the effect? Dale W. Jorgenson, the statistical economist we met in Chapter 2, has answered this question. He estimates that swapping a carbon tax for taxes on labor would increase GDP by 1 percent, and that swapping a carbon tax for taxes on capital would increase it almost 3 percent. These results apply to a carbon tax that cuts emissions by 30 percent.

So the effect of using carbon-tax revenues to pay off other taxes is beneficial, but not too impressive. Consider the 3 percent gain from reducing the tax on capital. GDP grows by about 3 percent every year, so after twenty years with compound growth, we might be 83 percent richer instead of 80 percent.

So the economists have a point. If they don’t let us have the refund and they instead use the \$300 billion or so per year of revenues to reduce taxes on capital, we will end up a bit richer on average. That’s why economists want to make the carbon tax a new tax—to replace an old tax.

Reenter Fairness

But *richer on average* doesn’t say what happens to you or me individually. Perhaps you will lose 10 percent and I will gain 16 percent, and so we will be better off by 3 percent on average. A lot of good that does you.

Economists know that they should take fairness into account, and, strictly speaking, if something is better only on average, economists should not say the situation is better. But they get frustrated when they can see that a policy improves GDP but they don’t know how fair the policy will be. So they figure, let’s bet on the part we understand and cross our fingers that the other part—the fairness part that we don’t understand—doesn’t cause too much trouble. That’s not a bad rule of thumb.

But in the case of an untax, it’s possible to evaluate fairness conclusively, although economists have overlooked this fact. Let’s take a look. In particular, let’s look at the idea of using carbon-tax revenues to reduce some other tax, which I’ll call tax T. Is this a good idea?

To answer this question, we must consider the deplorable policy X that I mentioned at the beginning of this chapter. Policy X is known to economists

as a *poll tax*, which is an old English term, or as a *capitation tax*, which means a tax on heads. That's a tax that charges everyone the same amount, no matter what. For example, the poorest person is taxed \$1,000, and the richest person is taxed \$1,000. No one I know of approves of such taxes anymore, and I have never heard of an economist recommending that a capitation tax be used to raise revenues to reduce taxes on labor, capital, or anything else.

But economists agree that replacing other taxes with a capitation tax would increase economic efficiency and increase the GDP.¹ So rejecting the capitation tax means they believe that the unfairness of such a tax overwhelms its benefits. That's a judgment I think we all share. Replacing current tax revenues with a capitation tax is simply too unfair and should be rejected.

Now consider three policies, each of which collects and distributes an average of \$100 per person:

- #1. A carbon tax used to reduce tax T.
- #2. An untax with an equal-per-person refund.
- #3. A capitation tax used to reduce tax T.

Could number one, the economists' new carbon tax, be better than number two, the untax? To answer this question, consider an easier question, which turns out to be the same question in disguise. If we had policy number two, a \$100-per-person untax, would it be a good idea to add to it policy number three, a \$100 capitation tax used to reduce tax T?

Is policy #2 + policy #3 a good idea?

No, because we have already seen that using a capitation tax is so unfair that everyone rejects it even though it increases efficiency. There is no reason to change our minds and start liking capitation taxes just because we have implemented an untax—the fairest form of carbon tax.

But an untax plus a capitation tax—number two plus number three—is exactly the same as number one, a carbon tax used to reduce tax T.

Policy #2 + policy #3 = policy #1.

Here's why: Start with policy #2, the \$100 untax. It's just a carbon tax with an equal-per-person refund of \$100. Now add policy #3, a \$100 capitation tax. That takes away everyone's \$100 refund. So we are back to a regular carbon tax with no refund. That's policy #1.

Since policies #2 and #3 together are a bad idea, and together they are the same as policy #1, then policy #1 must be a bad idea. And that's my point.

¹ The economic argument is that normal taxes discourage what is taxed, which means the taxes can end up discouraging something good. But a poll tax discourages nothing and so causes no good thing to be avoided. One cannot reasonably avoid having a head.

The economists propose policy #1, a carbon tax used to reduce another tax. Compared with an untax, it's a bad idea.

The only way out of this logic would be proof that a capitation tax would cancel out some unfairness in the untax. But since the untax is one of the twin gold standards for carbon fairness, that way out doesn't make sense.

This conclusion is important because it removes a stumbling block that causes economists to advocate a new tax. They can control carbon emissions just as efficiently with an untax as with a carbon tax. And, by turning the carbon tax into a carbon untax, they avoid the political pitfall of the T word. That should be comforting as well as familiar, since the untax has been showing up in economic models for years.

From Theory to Dollars

In 2000, the Congressional Budget Office (CBO) ran some numbers on the fairness issue. It considered a cap-and-trade system in which the government auctions off all the permits and uses the revenue to provide "each household with an identical lump sum." This is exactly the equitable cap and trade approach just discussed, except that it works per family instead of per person. But since equitable cap and trade is the twin of the untax, the CBO report can also serve as an analysis of the untax.

The CBO also considered a cap-and-trade policy in which all the permit revenues go to reduce corporate income taxes. This is just like a carbon tax whose revenues are used to reduce the corporate income tax. Table 1 shows the CBO's results.

Table 1. *The Congressional Budget Office Compared Two Ways of Using Permit Revenues or Carbon-Tax Revenues.*

Use of Carbon Revenues	Change in Real Annual Income	
	Lowest 20%	Highest 20%
Decrease in Corporate Taxes (Efficient but Unfair)	– \$510	+ \$1,510
Equal-per-Person Refund (The Untax Approach)	+ \$310	– \$940

The table shows that when carbon taxes or permit revenues are used to reduce corporate taxes, the poorest 20 percent of households experience a net cost of \$510, while the wealthiest 20 percent gain \$1,510—in spite of producing more carbon emissions. With an equitable cap-and-trade program or an untax, poor families gain \$310, and wealthy families experience a net cost of

\$940 per year because of their extra carbon emissions. These estimates apply to a policy that is intended to reduce emissions by 15 percent.

When the government reduces corporate income taxes with carbon-tax revenues, the poor, who emit less, get poorer, and the rich, who emit more, get richer. Gibson is right again.

Mike Huckabee complains, “I can waste all the energy I want and then justify it by writing a check.” An untax allows such waste and check writing, but the checks written by the rich provide the poor with a small net gain to compensate them for climate rights they are not using and that, in effect, the rich are using. The cost of this compensation is enough that it will change the behavior of the rich without the government having to interfere with the details of their lives. Of course, everyone has the same incentive to emit less; no one is singled out.

Some of the rich will ignore the cost, and some will reduce their emissions significantly. Everyone is free to choose their own strategy, but those using more than their share must compensate those using less than their share. If I were poor, I would rather the government charge the rich and send me some of the proceeds than heavy-handedly force the rich to cut back and give me nothing.



The untax, a carbon tax combined with an equal-per-person refund, has the same economic effect as giving everyone an equal right to emit carbon and allowing them to use or sell their rights. While it may sound antisocial to “privatize the climate,” the current system already privatizes the climate by allowing everyone to claim any amount of the atmosphere for their own private use without compensating anyone.

Redirecting untax refunds to reduce other taxes would increase economic efficiency a little. Reducing corporate taxes increases efficiency the most but is the most unfair. Any use of untax refunds to replace tax revenues turns the untax into a tax and is as unfair as implementing a capitation tax to reduce other taxes—a policy that almost everyone has rejected consistently for over a century.

The untax can protect the atmosphere to any desired degree simply by setting the appropriate tax rate. It allows everyone to choose how much they emit, but those who choose not to do their part must fairly compensate those who do more than their share.