[SQUEAKING]

[RUSTLING]

[CLICKING]

JONATHAN GRUBER: Why don't we go on and continue our discussion of chapter 17, which is talking about redistribution policy? If you recall, we were talking about assuming government that wants to redistribute. We were talking about ways the government could.

We said, obviously, initial ways just with a pure cash transfer program. But we talked about how the pure cash transfer program has limitations in achieving all its goals and that's why people have tried to augment the pure cash transfer program with various features.

One feature was creating categorical transfers to try to target or tag people who are needy. The other was to create transfers that are in-kind to try to get people to self-select into the people who really need transfers versus those who don't. And the third was to increase outside options so people didn't need to rely on transfers as much. We talked about a couple of ways of doing that.

We talked about training, the minimum wage, and wage subsidies. I want to talk about two others here. The first is-- so this is fourth on the list of ways to increase the outside option would be childcare subsidies or provision of childcare. So a major barrier towards female labor force participation, all family participation but, once again, traditionally female labor force participation, is the high cost of childcare.

Most women work today even when their kids are very small. Most families-- once again, I'm being too sexist. Most families have two earners, even when the children are very small. Traditionally, and continuing today, the parent whose work suffers the most from childbearing is the mom. And as a result, many women, particularly single women, could end up on welfare because they can't afford to work. Basically, the net wage, if you think about it, if you think about modeling it, what you care about is the net wage after tax and the cost of childcare.

If you have to pay a lot for childcare, working is not worth it so you go on welfare instead. So a clear way to increase outside options is to provide childcare, at least to subsidize it, so that it becomes an option instead of going on welfare. And indeed, it's been shown that the elasticity of female labor supply with respect to childcare subsidies is very high, that, basically, subsidizing childcare can have a major effect on increasing the odds that women go to work.

There's a number of cool studies of this. One of my favorites is done by an MIT grad student decades ago where he said, look, what's the largest form of free child care in America? It's called kindergarten. Basically, suddenly the state takes your kids off your hands for half a day or a full day.

And it turns out whether you get the form of childcare is a function of your child's birth date. So kids born in a certain-- in a typical state, a kid born on August 31 can enter kindergarten when they're 5. One born on September 1 is going to have to wait almost all the way until they're 6 to enter kind-- So he had a different quasi experiment of kids born on two days apart who have almost one full year extra of childcare.

And he found that women with kids born a little bit earlier are much more likely to go to work, unsurprisingly. There's lots of studies. I did a study of a massive expansion of childcare in Canada, where it happened in Quebec and not the rest of Canada. We found a huge increase in women's work. Basically, female labor supply is very elastic with respect to subsidies to child care. So that's another way to increase outside outcomes.

But now we get into an interesting feature where subsidizing wages just, well, you increase the outside outcomes but it costs money. If you're starting to subsidize childcare, you have another question, which is, well, is it good for the kids or not?

So basically, we're going to subsidize childcare. Maybe we'll get women off welfare. But if it turns to be-- it turns out that that's bad for kids, that may not be a trade-off we really want to take. And there's now a huge literature studying the effect of putting kids in childcare in preschool on the kids' short run and long run outcomes.

And this literature-- with the literature as vast as this one, there's going to be a difference of opinion. But my rough summary would be that if you expand-- if you put kids in childcare that's relatively low quality, it is worse for the kids' outcomes than not having them in child care. If you put kids in child care that's relatively high quality, it's better.

So there's experiments. For example, there's actually randomized trials of kids being put in very high quality childcare and preschool programs that show enormous benefits in the long run in terms of improved child earnings, reduced odds of engaging in crime, et cetera.

There's also articles like the one I did in Canada where they overnight massively expanded the entitlement to child care so they had to bring in a bunch of unqualified people to teach it, presumably. And that looked bad for the kids. We found that kids who were brought in the child care system had worse outcomes in the short run and the long run, more likely to commit crime, lower education later in life.

So it turns out that whether you expand childcare is good or bad for kids really depends on the nature of the childcare. And this is, once again, another reason we're trying to avoid thinking in black and white terms about policy making in this class. It's not childcare good or bad. It's the nature of the childcare that matters. OK. So basically, if you expand childcare in a way that's high enough quality, you can both expand the opportunities for women to go to work and also potentially benefit their kids. OK. So that's another way to increase outside outcomes.

A different way, which not a lot of folks have thought about but it's actually quite interesting and important, is child support. So when kids-- when they're single parents, either through a kid being born out of wedlock or through divorce, the absent parent often owes child support. It's a payment that's imposed by the absent parent by the courts to support the children that are left behind.

OK. So the idea is if you get divorced, there's a custody hearing. There's a divorce hearing. As part of that divorce hearing, they establish some support that the higher earning spouse gives the lower-- gives to the-- or that the spouse who's higher earning gives to maybe the spouse that's more responsible for taking care of their children.

The problem is, less than half of the child support orders awarded in the US are actually paid. Many, many people, once again, traditionally, dads, don't pay the child support owed to their traditionally lower earning wives who traditionally end up with the kids. OK. So basically, we have this problem that women aren't getting when they owed-- are not getting what they are owed. Since they're not getting what they're owed-- since they're not getting what they're owed, they can't afford child care. They can't afford things for the kids so they don't go to work and they end up in welfare.

So when an argument's been made is we could, by increasing child support payments, by increasing-- by making efforts to increase the collection of child support, we can help women and actually get them off welfare eventually by increasing their outside option in this case, which is having child support. OK.

And indeed, this is a real, like, universally pretty popular policy. I mean, indeed, we even created a term. It's called the deadbeat dads or the dads who don't pay child support. Now, my father-in-law is a deadbeat dad. I'm sympathetic to this. I mean, what can you like more than beating up on deadbeat dads? So actually, we've very much tightened the terms in which we collect child support. We've made it much harder for parents not to pay their child support.

But what's interesting is it's not clear, as morally upstanding as that sounds, it's not clear it's good public policy. And here's why. When a woman's on welfare and you increase child support payments, that essentially goes to the state to offset the cost of her welfare.

The state grabs that and says, oh, you're on welfare. We're going to take that and offset the cost of welfare. So think about a woman on welfare. So if it gets her off welfare, that saves the state money. But if she stays on welfare, it saves the state money, too, but they just take the child support money and they keep it to offset the cost of being on welfare.

Well, think now about how good a deal that is for the woman. It's not a good deal. She's basically getting the same welfare payment anyway. It's just it's coming-- she's getting the same check at the end of the day. It's just being financed by her ex-husband rather than being financed by the state.

So for the woman who stays on welfare, it's not really a benefit. For the woman where it can actually get her off welfare, it is a benefit. So if she can keep it, it's a benefit. But if it just goes to offset your welfare, it's not. People understand that? OK.

Now let's go further. Who are the deadbeat dads? They're often pretty low income folk. They're often people who are actually themselves not of many means and struggling to get by.

So now let's rephrase this public policy. What if I told you there was a policy that taxed low income men to support the state's spending money. You'd be like, ooh, that doesn't sound like such a good policy. Well, that's what this policy is. The deadbeat dads are low income men. You take their money to offset what the state spends on their wives. That suddenly doesn't sound like necessarily such a good policy. So basically, it's not entirely clear.

Really, in some sense, it depends a lot on the moral case for it, which depends a lot on whether it stops dads from becoming deadbeat dads. It's a complicated policy. As I said to you, the policy is-- let's say I said to you, whether someone's a deadbeat dad is written in their DNA. Nothing can change that. It's not elastic.

Then the trade-off is, on the one hand, you're going after these deadbeat dads for money. On the other hand, you're just offsetting other state income tax revenue. It's not clear it's a good idea. But if it stops people from becoming deadbeat dads, that might be a good idea. It might be a good idea if it actually can get-- if people say, well, wait a second, I don't want to leave my family because I'm going to have a big tax bill at the end. Maybe it's a good idea.

The evidence on that, however, is actually the opposite. So it turns out the evidence is that when you strengthen paternal identification loss, when you are better at finding fathers and making them pay, they are less involved in their kids' lives. Why is that? When you're better at finding-- yeah.

STUDENT: [INAUDIBLE]

JONATHAN GRUBER: Yeah. You're giving them money so you're like, fine, I'm going to spend less time with them. So actually, it turns out that may backfire. Now once again, I don't-- once again, I'm sympathetic. As I said, I'm sympathetic to this personally. But it's, once again, a good example of why economists think things through.

It's not obvious that this is a great way to solve the iron triangle problem, to collect money from these low income men when it doesn't actually, obviously make them any more committed to their kids. It just offsets state costs. OK. Sort of an interesting thought exercise about how you think through a policy, which on its face space sounds like a no brainer, but in practice it's a little more complicated.

And then finally, the last thing on the list to improve outside outcomes is you can remove what we can call transfer lock. We talked about job lock. Let's talk instead about transfer lock. And this is illustrated in figure 17.9, the first page of the handout you have today.

The way Medicaid used to work is you got it if you were on welfare. But when you left welfare, when you left what was then called AFDC, now called TANF, when you left it, you not only gave up your cash benefit, you lost your health insurance. You lost your Medicaid. OK. What did that do to people's budget constraints? Well, let's go back to figure 17.9. Remind yourself of the figure in the last lecture. A to C is the pre-welfare budget constraint. With a 50% tax rate, the post-welfare budget constraint goes ABDC. Remember that from last time.

Now let's imagine that, when you're on welfare but when you're not, you also get health insurance and the health insurance is worth $2,000. What does that do to your budget constraint? Well, it says as long as you're on welfare, you're getting $2,000 extra. So it shifts the welfare segment up by 2,000. Look at what that does. That creates an enormous disincentive to labor supply at the top of that graph, between $27,520 and $25,520.

Indeed, you would never want to earn $26,000. Because you earn $26,000, you're off welfare and you give up your health insurance. You'd rather continue to earn just below that to make sure you keep your health insurance. So just as having health insurance on your job can lead you to not leave your job, having health insurance tied to welfare can lead you to not want to leave welfare. And indeed, that was a major motivation for actually the previous round of health care reform, the Clinton health care reform.

One way he motivated it was to say, we need universal health care to get women off welfare because being on welfare was so unpopular. And in fact, the evidence is that when you-- the evidence is-- it's modest, but it suggests that when you expand health insurance, you do get women off welfare. OK. So that's kind of what I wanted to say about how we think about designing this.

I want to cover two other things before we move on to taxation. The first is I want to talk about welfare reform. This was a major public policy change in 1996. In 1996, Bill Clinton was a fairly unpopular president at that point. His effort at universal health care had failed. He decided he wanted to really tack to the middle, to try to attract a broader coalition of voters. And he decided one way to do so was to really go after what people perceived as the undeserving welfare recipients.

And so he worked with Congress, actually, many Republican members of Congress, to actually design a fundamental change to the way our welfare program worked. In particular, the most fundamental change was it set time limits on how long people could be on welfare. Before 1996, you could be on welfare, then called AFTC, now called TANF, you could be on that forever. As long as your income was low enough, you never had to leave.

What they did-- and this is when the name changed to TANF. What they did is they set a time limit on how long you can be on welfare. You could be on welfare only for two years at a time and five years for your whole life. They set a time limit. Moreover, they changed the way cash welfare was financed.

It used to be that it was financed in the same way programs like Medicaid is, through a matching grant. Every dollar the state spent, the federal government matched it. Instead, they gave states a block grant. They said, we're going to take what you're spending on welfare in 1994, give you that amount, raise it by inflation, but it doesn't matter how many people on welfare. That's the only amount you get.

In other words, if we go back to our health care lectures, they moved from retrospective reimbursement to prospective reimbursement. Instead of paying them for every new person on welfare, they will give you a flat check. We're going to look the other way. You do what you want.

You kick everyone off welfare, great. You get to keep all that money. You get double your roll of welfare, tough luck for you. We're not giving you any more money. So this is a major change in the incentive structure for bringing people onto the welfare program in the state. OK.

So what did-- there's also a number of efforts to try to limit unwed motherhood since people were really worried that welfare was causing unwed motherhood, even though the evidence said otherwise. There were things like they capped how many benefits you could get if you had additional kids and things like that. Yeah.

STUDENT: Is that grant also insensitive to changes in overall state population?

JONATHAN GRUBER: It's per capita. It's per capita. And it's inflated by population and inflation but not by enrollment.

So what effect did this law have? Well, the enrollment in welfare was dramatic. Look at figure 17.10. Figure 17.10 shows the number of recipients of welfare. And it fell from, about at its peak in 1995-- I'm sorry-- its peak in 1995 of about 15 million people, it fell down to about four million people, a massive, massive reduction in welfare rolls. Unprecedented. OK. So that was the first thing you did.

Now, the question there is, was that because of welfare reform? It turns out that also corresponds with a massive economic boom. And maybe people would have left welfare anyway because the economy was getting better.

So people have tried to study this. And they've decided probably about a third of this decrease was due to the reform, about 2/3 was due to better economic conditions. So it had a meaningful effect on enrollment. That's the first conclusion.

The second question is, what will this do to the well-being of single women? We're taking all those women off welfare. And this is a very important lesson for those of you who want to go on and work deeper in policy, which is that, at the time this happened when I taught this class in 1996-- OK. Much younger. You weren't born. I was much younger. I taught this class in 1996. I said, this is going to be a fucking disaster.

Based on what? Well, based on two things. First of all, there was a large literature which showed that if you cut welfare benefits, it doesn't cause women to work any harder. So it's not like by cutting welfare, these women are going to make it up by working more. They're just going to have lower income.

Second of all, it showed that-- there was a paper that I've written that, much like I showed for UI, I showed for welfare that when you cut welfare benefits, women consume a lot less. So it looked like there was big consumption smoothing benefits and not a lot of moral hazard. As a result, my feeling was, when you dramatically reduce this program, people are going to suffer. Their lives are going to get worse. And that was the general feeling. Indeed, many people left the Clinton administration in protest. It was really viewed as a betrayal of progressive cause to do this.

What happened? What happened was not at all what we predicted. What happened was women responded massively by going to work. And actually, their standard of living didn't fall. If anything, it rose. So actually, not at all what the previous research would have predicted.

What's going on? What's going on is this is-- what's going on is what Josh Angrist won the Nobel Prize for, which is the difference between when you look at something locally versus big changes. We were looking at what happens to little change. If you change benefits by $100, yeah, people don't work anymore, more or less. When you say we're getting rid of your benefits, people go to work, that this change was so dramatic that it shifted the whole nature of how people thought about work.

And it was so out of bounds from what previous studies had covered that it turned out well for them. Didn't cause mass starvation among single moms. Actually, if anything, their incomes went up a bit because, on average, they left work-- they left welfare and went to work. So this was a very surprising finding. So basically, this is viewed by many as saying welfare reform's kind of success. We lowered the welfare rolls and we didn't actually cause material suffering. OK.

Now two caveats to that. The first caveat is, on average, women's income went up, but some women at the bottom did suffer. So there's a distributional component and how you feel about that depends on your social welfare function. But it didn't-- it's not that it caused no suffering. Some women who couldn't go to work did suffer from these time limits. OK. So there was a distributional aspect that offsets that a bit.

The other thing is, once again, ultimately what did it mean for the next generation? What did it mean for the next generation of kids? Actually, no, that's the third thing. The second thing, which is quite interesting once again, ethically and morally, which is what is utility? Utility is a function of consumption and leisure. What I'm saying is consumption went up. Everybody says, yay. Consumption went up.

Look, these women were worse off. Well, leisure clearly went way down. But no one seems to care about that. No one seems to care about the leisure of single moms. They say, well, consumption is up. That's all I care about. Why? Because the view was that their leisure-- that we didn't value the leisure. The view was, well, this leisure is something-- they should be at work. Basically, a moral view of work, work as a good.

And actually, whether that's true or not depends a bit on what influenced it has on the kids. Part of the argument was what was called a welfare culture of dependency, that basically by these women not working, they were setting a bad example for their kids. And that basically, once women went to work, it would set a good example for their kids so we shouldn't really value a loss in leisure.

That raises the third issue which is what about the kids? And the evidence is really unclear on this, on what it did, whether it was good or bad for kids, welfare reform. Even though it's now far in the rearview mirror, there still hasn't been a really good comprehensive study of the next generation effects of welfare reform. Yeah.

STUDENT: Why do you think that is?

JONATHAN GRUBER: Partly because it was really pretty much a national change. It was a national change when the economy was booming. It's hard to separate out. There's not really a sharp design to study it very well.

STUDENT: So unless a new design evolves?

JONATHAN GRUBER: Yeah. It's something you have to think of something pretty clever to go after that. So anyway, a lot of stuff there, a lot of information. Once again, the main thing I want you to take away from this, not be tested on any institutional details. The main thing I want to take away is how to think about the pros and cons of policy changes. That's what we're trying to build the intuition of how we think about all the aspects that go along with policy change. That's what I want you to take away from it. OK. Questions about that?

OK. Last thing in chapter 17, inequality continues to be a problem. One great way to see this is in figure 17.11. Valerie, once again, has a typo in this figure. That x-axis is not 0.06%. The x-axis is in percent. Just there's a typo in the y-axis rather. This basically shows the income distribution against the percentage change in income over the 2006 to 2000-- over the period, I'm sorry, from 1980 to 2014. So each point in this graph is, at each point in income distribution, how did incomes evolve from 1980 to 2014?

And what you see is incredible inequality evolution of income. The richest people got much richer. So if you're at the very top of the income distribution, your income grew on average 6% a year. If you're at the bottom, your income fell or grew very little. And this has motivated folks to think, look, we're just not getting it done. The existing set of programs are not solving the problem of inequality. And we need to move to a system of Universal Basic Income, UBI.

UBI is like, look, let's not worry about all these moral hazard effects and we're targeting everyone. Let's give everyone money. Let's just say, look, we're going to give you money and it's not going to depend on your income. There's no tall y term. We're just going to give everyone $1,000 a month, for example. So there's no moral hazard because we're not making you work less to get the money. We're just giving you the money.

And indeed, there's a number of studies which show when you do universal basic income kind of interventions, it doesn't lower labor supply. There's a cool study actually, I talk about in the book, Alaska actually has universal basic income program.

They collect so much in oil revenues, everyone who lives in Alaska-- you guys ever see*The Simpsons* movie? They talk about the *Simpsons* movie. Everyone in Alaska gets a check every year for a couple grand. It doesn't affect labor supply. And now there's been a number of UBI studies on small populations which have shown that giving people this UBI does not change their labor supply. OK.

So the idea is, look, we just give people the money without changing the labor supply. Problem solved. OK. But remember, there were three things that caused the iron triangle. There was helping out poor. There was redistributing to the neediest. Well, UBI does that. The neediest get money. There was not disincentivizing labor supply. UBI does that. Doesn't disincentive labor supply. But the third was the government budget constraint. $1,000 a month for every family in America would cost $1.6 trillion a year.

OK. That is the cost of the Medicare and Medicaid program combined. That is not happening. That's unaffordable. No, it's not. Is it unaffordable? Well, I mean, basically it's the definition of how high you think taxes can go in America. But in current political climate, certainly in today's political climate, even in yesterday's political climate, it is not something that's likely to really be possible.

So basically, the problem is that, essentially, a truly untargeted UBI has the benefit of not causing distortions to labor supply. But it's a problem of being too expensive. And this is essentially the equity efficiency trade-off.

We can get rid of the efficiency costs if we spend enough money on it. But then where does that money come from? Well, let's go back to Okun's leaky bucket. Remember, there were three sources of leak in Okun's bucket. There was administrative costs. There was the fact that when you give money to poor people, they might work less. But the third leak was you have to tax the rich people to raise the money, and that might cause them to work less.

And so this is a great segue onto the next part of the course, which is, well, why not just send $1.6 trillion to people? Why not just do that. Why not just tax everybody and then give it back to universal basic income? And why not just tax the rich and give it back to universal basic income? And that's going to be the segue to the next part of the course question.

STUDENT: Could you explain again why this has an effect on labor?

JONATHAN GRUBER: Oh, sure. Because if you think about why welfare affects labor supply, it's because in order to qualify, remember, what the benefit you get is a grant minus a tax times what you earn. This is just a grant.

So there's no tax on your earnings. So it's just literally I'm saying whatever you earn, I'm also going to send you $1,000 bucks a month. Now there could be an income effect. You're richer, you might work less. But it turns out that's just really small. It doesn't really seem to affect people's labor supply. Yeah.

STUDENT: [INAUDIBLE] when there [INAUDIBLE] and then people were trying to return back to work, there were a lot of, I don't know, people saying that laborers having more money causes them to work less. And I don't know this whole thing. But there's no evidence?

JONATHAN GRUBER: There is, basically, the evidence is that it did not cause them to work less. It did cause them to be much choosier and essentially look for better jobs. In some sense, look for jobs that essentially made people realize, wait a second, I don't have to rush back to work, but actually it doesn't really seem to have caused them to work less. But that's hard because we're coming out of COVID. It's hard to separate that. We have real experiments which show it doesn't cause people to work less. But it's a good question. Essentially, we did, during COVID, we sent everyone a check. Yeah.

STUDENT: [INAUDIBLE] during COVID, which gave them a longer float.

JONATHAN GRUBER: Yeah. I mean, the idea is we didn't actually want them to work. COVID was so weird because we liked the moral hazard. It's not moral hazard anymore when you don't want people to go to work because they're going to get sick. Then it's not moral hazard. It's actually the intended effect of the policy. It's a very hard episode to learn from in that sense.

So the bottom line is the best way to get around the moral hazard problem-- did I answer your question, by the way, about why it doesn't cause-- that's why we have the moral hazard problem. Let's just give everyone the money. Why not? Well, we got to raise that money.

And that leads to the last section of the class. First section of class was externalities and public goods. Middle section was social insurance and redistribution. Now we come to the last part of the class, which is taxation. The fun's over, kids. We've been spending the money. Now we've got to raise it. And this is a great segue to why not just have a UBI program? And the answer is because of the problems with taxation.

So how are we going to-- now we're going to shift our focus to taxation. How is this part of the course going to work? The way it's going to work is that-- the way it's going to work is that we're going to start today and next time with chapter 18, which talks about the basics of taxation, sets the institutional framework for thinking about taxation. We're then going to move on to chapter 19 and 20, which are the theory of taxation, one focused on fairness, one focused on efficiency.

Then chapters 21 through 24 are different studies of different kinds of taxes, like chapter 13, 14, 15, 16, were different kinds of social insurance programs, We're going to learn about different kinds of taxes, learn about how tax affect people's decisions to work? We'll talk about how tax affect people's decisions to save, how people's decisions to invest, how they affect corporations.

Then finally, chapter 25 will wrap it all together and talk about how the government should change tax policy given what we've learned from all these chapters. OK. That's how we're going to roll forward.

So we'll start with chapter 18. And chapter 18, much like the social insurance chapters, started with the details of how our social insurance programs work. Chapter 18 is going to start our tax discussion by explaining how taxation works. And the first thing we'll do is say, look, there are multiple kinds of taxes in the US.

And if you look at figure 18.1, this shows you the different kinds of taxes. The first kind of tax is taxes on earnings. That would be the green Social Security contributions. These are your payroll taxes, the taxes you pay on your wages, what finances our social insurance programs. We've discussed them.

The second type are income taxes. That's the biggest source. That's in the salmon or whatever color that is. That is taxes on your income. You may say, wait a second. Aren't payroll taxes taxes on your income? Payroll taxes are taxes on part of your income, the part of your income that comes from employment.

But people have income from lots of sources, at least rich people do, such as investment income, royalties from writing a book, lottery winnings, all sorts of things. And income tax taxes all your income, not just your earned income, not just what you earn on the job. That's the second kind of tax.

The third kind of tax is taxes on corporate income. I've described individual income taxes, I'm sorry. Corporate income taxes tax the net profits of firms, of corporations. That, as you can see, only represents about 5% of the total government tax base. So if you look at the right hand column, Social Security contributions are about a quarter. Income taxes are almost 40%. Corporate tax are 5%, so a very small share of the pie that we raise.

The fourth type of tax is taxes on wealth. And this is fundamentally different than all the kinds of taxes. Taxes on income are taxes on flows. Taxes on wealth are taxes on stocks, not stocks like in the stock market, but a stock of goods.

So the most important of these, and by far the most significant, is the property tax. You pay a tax every year on the value of your house, not on some flow of services you got from the house, but literally on what your house is worth. That's very different than other kinds of taxes because you're literally paying a tax every year on an asset value, not on what you earned that year. Those are about 10% of total government revenues.

Finally, we have taxes on consumption. This is, once again, a flow tax. OK. This is basically a tax not on what you make but on what you consume. The most prominent of these, of course, are sales taxes. Massachusetts we have a 6 and 1/4% sales tax. But this also includes excise taxes. For example, when you buy cigarettes, there's an extra tax on cigarettes. There's a gas tax. There's an alcohol tax. Excise taxes are sales taxes on specific goods where sales taxes are general taxes on all sales.

So both sales taxes and excise taxes go in the category of consumption taxes. Now you notice at the federal level, we don't raise very much at all for consumption taxes. But at the state level, we raise a lot. So consumption tax at the federal level, the federal level has no federal sales tax. The consumption tax revenue at the federal level-- this is the upper left.

The consumption tax at the federal level comes from excise taxes. There are federal excise tax on alcohol, on gas, on cigarettes. At the state level, the consumption tax revenue comes mainly from sales taxes, although also from some state excise taxes. So those are the kinds of taxes. You can see here how they're distributed. We can also compare ourselves to the rest of the world. So for example, in the US, we raise about 25% from payroll tax contributions. So does the average OECD nation on the bottom right.

On the other hand, if you look at Denmark, they raise very little from payroll taxation. 0.1% comes from Social Security contributions. The OECD average income tax is 24%. That's much below the US. But once again, in Denmark, it's higher than the US. OK. And other countries raise much more revenues from the consumption tax. And we'll talk about that in chapter 25. That's because they have something called the value added tax, which is a form of national sales tax.

So relative to the rest of the world, we raise comparable amounts in payroll taxes, more in income taxes, less in taxes on consumption, and somewhat less on corporate income taxes, although once again that varies a lot across countries. In Norway, 16% comes from corporate income tax. In Denmark, it's only 6.5%. Yeah.

STUDENT: Maybe I missed it, but could you explain where on the pie tariffs would fall under?

JONATHAN GRUBER: You did not miss that. That's a great point. We have to start talking about tariffs. Tariffs are not taxes. And they would not be counted as taxes but they would be a source of revenue. They would really be in the consumption tax bucket. It's a tax on consumption. It's a sales tax but only on specific goods. It's kind of like an excise tax. The difference is-- yeah, it's basically an excise tax. But instead of on cigarettes, it's just on things from China. Yeah.

STUDENT: Besides tariffs and I guess fines, what are some other sources of revenue that are not taxes?

JONATHAN GRUBER: There aren't a lot. One of the most interesting ones is auctioning the spectrum. So it turns out one of the most valuable assets in the last 50 years is the airwaves because of cell phones, and satellites, and things like that. The government is the one that has the property right to those airwaves. For decades, they would just say if someone came and said, look, I want to run on this frequency, they'd say, great, have it. Then an economist said, wait a second. That is a valuable asset you're giving away. And we started setting up spectrum auctions.

And the government raises billions of dollars from actually auctioning off the right to use those various frequencies in the air, which is kind of cool. Once again, a positive role for economists. We want to tell those stories these days. On a day like today, there are positive stories that, basically, economists realized that the government was giving away for free and could actually raise revenues off it. Yeah.

STUDENT: Are lotteries revenue?

JONATHAN GRUBER: That's a great point. Lotteries are also a significant source of revenue. That's at the state level. Lotteries are a very significant source of revenue. I don't know how big they are compared to these others. They are not represented as graphs. Tariffs, lotteries, spectrum auction, that wouldn't be in this graph. This is just source of taxation. OK. Other questions? Now you put all those together, they're still trivial relative to stuff in this graph. But they're not zero. Yeah.

STUDENT: What about something like USPS that technically has its own revenue?

JONATHAN GRUBER: The Patent office?

STUDENT: Postal Service.

JONATHAN GRUBER: Postal Service. Yeah. I mean, basically, that's interesting. That almost goes back to chapter 10 and thinking about Tiebout and thinking about benefit taxation. That's really almost a price that's charged for a service. So it's a revenue source, but it's a dedicated revenue source to a particular service. Good question. Those are great questions. Other thoughts? Comments?

OK. So that's the kind of taxes. We're going to focus primarily for the next-- primarily for this lecture and certainly for lectures chapters 21 through 23, we're going to focus on the individual income tax. That's the most significant source of government revenue. So what I want to do now is tell you how income taxes work.

How many of you have filed your own income tax? Wow. Impressive. OK. How many of you did it without using software, like just did it by hand? OK. That's all right. Nobody does that anymore. Just checking. I made enough mistakes on mine that my wife finally made me give up and get an accountant.

OK. So how does the individual income tax work? Well, we'll do this by going through an example. let's take Jack. OK. We're going to basically walk through Jack's income tax calculation. That is shown in table 18.1. We're going to walk through Jack's income tax calculation.

OK. Jack starts by earning some income. Imagine Jack makes $85,000 a year. That is what's called his gross income, the total income that Jack earns. OK. This includes wages and salaries, capital income like interest and dividends, rental income, other business income, et cetera because all the income Jack makes is included.

Now, the first step is the set of initial deductions Jack can take off that income. They're called above the line deductions. This includes things, most importantly, like contributions to an IRA, an individual retirement account, a savings account. We'll talk about that in chapter 22. Alimony gets deducted above the line.

Expenses from being a teacher you conduct above the line. There's a few things you deduct above the line. After you deduct those, let's say Jack contributed 2,000 to an individual retirement account. He gets to what's called his adjusted gross income of $83,000.

OK. At that point, all hell breaks loose. At that point, he then has a choice. OK. He then-- so these initial deductions are irrelevant. They're a very small piece of the pie. The next stage is a big one, which is the government gives Jack a choice of itemizing his deductions or taking a standard deduction.

Let me explain what that means. Jack has a choice of saying, I'm going to deduct from my taxes $12,500 if I'm a single taxpayer or $25,000 if I'm a married couple. I can just take that off the top. That's another deduction. I had my $2,000. I'm going to take another deduction production.

Alternatively, Jack can forgo that, and there's a list of additional things Jack can deduct from his taxes that are called itemized deductions. These are things like medical expenses that exceed 10% of your income, other taxes paid like if you pay state and local income taxes, that is an itemized deduction.

Your mortgage payment is an itemizable deduction. Your charitable contributions, losses-- if your house burns down or if somebody steals stuff from you and you have to replace it, you can deduct those, et cetera. So basically, there's this list of things. And essentially, what Jack has to do is ask, do those things add up to more than the standard deduction? If so, I take that. If not, I take the standard deduction.

So you have a choice at that point. Roughly speaking, homeowners always itemize. Non-homeowners, only very rich do not itemize. So essentially, homeowners with a mortgage-- the homeowners with a mortgage generally itemize and very rich people. Non-homeowners who aren't very rich typically don't itemize. That's the way to think about it. The reason is the major deductible expense is mortgages and state and local taxes, which come from owning a home.

Now you take out that deduction. In our case Jack's going to take the standard deduction. And you end up with what's called your taxable income. That is the amount you get taxed on. Yeah.

STUDENT: [INAUDIBLE] the standardized.

JONATHAN GRUBER: Oh it's just the amount specified by Congress.

STUDENT: Is it determined by the [INAUDIBLE]?

JONATHAN GRUBER: It's a law.

STUDENT: Oh.

JONATHAN GRUBER: Yeah. Yeah. It's just like it's a parameter. It's like the tax rate. They have a standard deduction. Does that-- yeah. So basically, we end up with Jack's taxable income of $58,200.

So this is the first thing to note. When we talk about people's income, they're often taxed on a much lower number than their income. Indeed, as we'll discuss in a little bit, most Americans don't pay income tax. Don't pay more than-- don't pay positive income tax. And we'll come back to that in a little bit.

So in this case, Jack does. From that, he figures out how much he owes in taxes. And to do that, he applies a tax rate schedule. That tax rate schedule is shown in figure 18.3. Now here's a critical point to note about tax rate schedules. We are graphing what is called the marginal tax rate. OK. Very important distinction. We're graphing the marginal tax rate. What is the marginal tax rate? That is the rate you pay on the next dollar.

So let's look at how this works. OK. For any dollar of taxable income that's below $19,750, you pay $0.10 per dollar. But for the 19,751st dollar, you now pay $0.12 per dollar. OK. So let's say you earn $20,000. On that $20,000th dollar, you pay $0.12. But on the first $19,750, you only pay $0.10.

So the marginal tax rate is different than the average tax rate. The average tax rate is your total taxes over your income. The marginal tax rate is what you pay on your next dollar of income. And those are very different if you have a progressive-- if you have a schedule like this. So this schedule wanders up. And basically, it's ever-rising marginal tax rates hitting a top tax rate of 37%

So if you apply this tax rate to Jack's schedule, he owes 10% of his first 19,750, which is $1,975. So Jack owes $1,975. But he earns more than that on the remaining-- he also has $38,450 of taxable income left, so it pays another $4,614.

So he pays all on the first bracket and then he's halfway in the second bracket when he stops. So at the end of the day, if you flip back to table 18.1, Jack owes $6,589 in taxes. Question about how that worked? Understanding marginal versus average tax rates is essential for the next third of the course. Yeah.

STUDENT: What you said before that most Americans don't pay.

JONATHAN GRUBER: Let me come back to that. I shouldn't have previewed that. I'll come back to it.

STUDENT: Oh.

JONATHAN GRUBER: Yeah.

STUDENT: So for the first 19,750, you pay 10%. Anywhere between the 19 and 80, it'd be 12?

JONATHAN GRUBER: Exactly. Exactly. So if Jack earned-- if his taxable income was $100,000, he'd pay the whole 12% up to 80, and then he'd pay 15 on the rest. So you think of yourself as walking up that tax schedule. Other questions?

OK. So basically, Jack then owes $6,589 but we're not done yet because there's another feature of the tax code because it wasn't complicated enough called tax credits. These are distinct from deductions. Tax credits are various sources that you can subtract from your tax bill. Very important difference. Taxable deductions are things you subtract from your taxable income before computing your taxes. Tax credits are literally dollars you can take off the taxes you owe.

The most significant tax credits are the Earned Income Tax Credit, which I talked about last time and I'll talk about more in chapter 21, a credit you get back if your earnings are low. It's a wage subsidy. And the child and-- the CDC, basically, the child tax credit, which basically-- no, that's not. No. I'm sorry. Yeah. CTC is the Child Tax Credit. That's literally just a credit you get for having kids. They give you money for taxes.

There's also a CDC, which is the Child and Dependent Care Credit, which is the tax rate you can get against the cost of providing child care or elder care. So there's lots of these credits that are floating around at the end.

So let's say, for example, Jack had three kids. Well the CTC is $2,000 each. So he gets another $6,000 off his taxes.

STUDENT: Can I ask ask what the difference between the last--

JONATHAN GRUBER: Oh, this one is just for having a kid. This is for having a kid in child care. This, everyone who has a kid gets it. Here, you can deduct-- I'll come back to the details of this. You can deduct your child care expenses. You can get a credit for childcare expenses.

STUDENT: Childcare being--

JONATHAN GRUBER: Formal child care.

STUDENT: Formal child care.

JONATHAN GRUBER: Yeah. OK. But once again, the details aren't important to these. The important thing is that these credits exist and they come off the bottom line. Yeah.

STUDENT: So sorry. Tax credits and taxable-- what was the first point?

JONATHAN GRUBER: First is deductions. Deductions come off your taxable income before you compute your taxes owed. Credits come at the end after you've computed taxes owed. So Jack has three kids. So let's say he gets three CTCs. That's $6,000. So he ends up owing $589 in taxes. Think about this. This is pretty interesting. Jack earned $85,000 and he only ends up owing $589 in taxes.

OK. Now we're not quite done because the government doesn't just send Jack a bill every April 15 for $580. Doesn't send Jack a bill on November 15 for $589.

The government instead practices what's called withholding, which is the government takes-- and you've seen this on your paychecks. The government takes out from your paycheck every week an estimate of what you will owe in taxes. So the government doesn't want you holding the money, and you earn the interest, and paying them in April. The government wants the interest. So the government withholds your taxes along the way as you earn money.

Now, Jack here has set up a schedule such that his witholding is actually bigger than what he owes. He's actually had $2,000 withheld during the year. So that on net, he actually gets a check on April 15. It turns out that's true for most Americans who pay income taxes actually overwithhold. It's not quite clear why.

It could go back to behavioral economics. People just don't trust themselves to have the money on April 15 to pay their taxes. Could be they don't understand. But the bottom line is overwithholding. Most people-- so the average American actually gets a check on April 15. They don't pay. They don't pay money. Instead of people hating Tax Day, it's actually a day you get a check. Yeah.

STUDENT: Do you personally determine how much you withhold out of each month or is that--

JONATHAN GRUBER: There's a form. When you sign up for your job, there'll be a form. You list your number of dependents, stuff like that. But the reason people mostly overwithhold is because there's other lines like, do you think you'll take this deduction, that deduction? People just ignore them, whereas, in fact, they end up taking them and they end up overwithholding. Yeah.

STUDENT: Where along the list does tax penalty go on? For example, for the individual mandate.

JONATHAN GRUBER: That would be-- the tax on individual mandate, which is added to your taxes. So when I compute-- when I compute your taxes owed, there'd be other pieces in that that are small that I'm not including. Yeah.

STUDENT: How is the child tax credit set?

JONATHAN GRUBER: How is it what?

STUDENT: How is it the child tax credit set, like the amount of money.

JONATHAN GRUBER: Like the $2,000? Same answer. Congress determines it. It's just a law. Yeah. Yeah. So basically-- yeah. Go ahead.

STUDENT: So does that mean when you say more than half of Americans aren't paying income tax, is that more than half of Americans aren't sending a check on Tax Day or is it that--

JONATHAN GRUBER: No. More than half of the Americans, when you do this calculation, end up negative.

STUDENT: End up negative.

JONATHAN GRUBER: Now a lot of them still have withholding. A lot of them don't realize they're going to have negative so they still have withholding. So they end up getting a check. But actually, if they knew they were going to be negative, they could have not withheld anything. They could have just paid no money all year.

STUDENT: And with even without excessive withholding?

JONATHAN GRUBER: Without excessive withholding, most of the average-- I think it's about 50% of Americans, once you take all deductions and credits, end up owing nothing on the income tax.

STUDENT: OK.

JONATHAN GRUBER: Yeah.

STUDENT: [INAUDIBLE] commit tax fraud?

JONATHAN GRUBER: We'll talk a lot about that in chapter 25. The answer is we don't have nearly enough tax fraud in America. And I'll explain why in chapter 25. Yeah.

STUDENT: Do you just create a number for withholding to make it easier for [INAUDIBLE] people to do whatever they want with their cash?

JONATHAN GRUBER: Say it again. Aren't you what?

STUDENT: If you make it easy to hold [INAUDIBLE] people will have less cash.

JONATHAN GRUBER: Yeah. I mean, basically, look, we're not making it easy to withhold. We're just making it hard to properly withhold. And basically, it's a good question about whether we should do more to fight overwithholding. I think people really don't want to owe money April 15th. It's the behavioral thing that people just don't want that bill coming. And so I don't think people mind it actually. But that's a good question. There's not enough research on that. Yeah. Enoch.

STUDENT: The government does not give you money back off the interest that they gained if you overpaid or they do?

JONATHAN GRUBER: No, they do not. They do not. Now there's another feature not covered here, which is if you're wealthy enough, if you have unearned income, you also pay what's called estimated taxes.

So if you are going to have-- let's say you're going to earn $100,000 in dividends every year. You have to pay tax on that every quarter. You have to send them a check. You have to prepay that as well.

Now if it turns out that's a surprise, they don't hit you for it. But if you have income and you haven't prepaid it, then they will actually penalize you at the end. So you not only withhold your earnings. You have to send them a check in advance about unearned income to offset the taxes you're going to pay on that. They don't want you owing taxes.

STUDENT: Unrealized income.

JONATHAN GRUBER: Unrealized income is not taxed. We'll talk about that.

STUDENT: I was going to ask if that is dependent upon something happening in the market that you don't have full control over it--

JONATHAN GRUBER: It doesn't matter. I mean, basically, when it comes, you then pay tax on it if you realize it. Then we'll come back to that. OK. Those are good questions. Other questions about how taxes work?

All right. So that's how taxes work. Now here's the big question on every American's mind. Are taxes fair? The fairness. Fair, fair, fair. It's all you ever hear about tax systems. Well, fair is not really a term of art in economics. So how do we think about, in economics, how do we think about translating the concept of fairness to concepts we can measure and define?

And basically, the way we do that is by, first of all, distinguishing average and marginal tax rates. First of all, recognizing that fairness-- really people think in terms of not what you pay in the next dollar but how much you pay. So if I say my taxes are unfair, I don't mean that on the incremental dollar. I mean, I'm paying too much in taxes.

So fairness is really about average tax rates. That's the concept people have in mind when they think about fairness, which is what's the amount they're paying in taxes relative to their income. Are they paying too much of their income in taxes or not enough of their income in taxes? And fairness is judged against two different standards. The standard economists talk about and typically worry the most about is what's called vertical equity.

Vertical equity. Vertical equity-- the notion of fairness, which is it is fair if the rich pay more than the poor. So vertical means your spot in the income distribution. Vertical equity is what the rich pay relative to the poor. When you say equity, it's what you think of. I say the word equity. It's what you think of.

But there's another concept that actually doesn't really have a lot of spot in economic models but is critically important politically, which is the notion of horizontal equity. This is an odd concept. It's hard to define and measure, but the basic idea behind it is simple, which is that two people who are similar should pay similar taxes. It's unfair if two similar people pay very different amounts.

Here's the only true example of horizontal inequity. Everything else is convoluted. Imagine the way it worked was that sales tax, instead of being 6 and 1/4% were either 13.5% or 0, depending on a coin flip.

So you walk into the store. They flip the coin. Heads, you pay 13.5% sales tax. Tails, you pay zero. Well, if Enoch and I walk into the store and I pay 13.5%, he pays zero, that is horizontally inequitable. We are identical. We go in and I pay a different amount. The problem is, that's not how taxes work. And every other definition of horizontal inequity is problematic.

So let me give you an example. Imagine that my friend and I are identical in every respect-- in ability, in skill, in all sorts of things, with one fundamental difference, which is that I choose to spend more time with my kids and he chooses to spend more time at work. Well, he gets taxed more than I do. He could claim that as horizontally inequitable. We're identical. Just because he chose to work and I chose stay at home, why should I get to pay less taxes?

Now you might say, well, duh, of course you do. You have less money. But he might say, well, I have less money through a choice I made. And why should I pay less taxes because of a choice? Why should because I chose to stay at home? Maybe it's not my kids. Maybe I'm just home watching reruns. Why should I pay less taxes? And that's the notion of horizontal equity, which is very, very hard because, basically, it gets really tricky.

Imagine two couples, one where the wife works, one where the wife doesn't. Should the couple where the wife works have to pay more taxes? They do now. Is that fair? I think many people would argue, yes, their income is higher. But there's at least you could see the issue that raises. And horizontal equity, while hard to define and grasp hold of is actually a big motivator of tax debates. And we'll come back to that.

Typically, when I slip into a term like equity, I mean vertical equity. Unless I say horizontal equity, equity is a shorthand for vertical equity because horizontal equity is almost more of a political issue than an economic issue. OK.

Now, if we think about vertical equity, how do we measure it? Well, the way we measure it is essentially by asking, does the average tax rate-- how does the average tax rate vary with income? If the average tax rate rises with income, that is higher income people pay higher average tax rates, we call this a progressive tax system. The richer you are, the more tax you pay as a percentage of your income, not that just you pay more taxes. Pay more tax as a percentage of your income. If it's flat, that is, everybody pays 10% of their income, that's called a proportional tax system. And if it falls with income, that's called a regressive tax system.

So for example, if you go to figure 18.3, we have a progressive tax system. The higher income is, subject to these steps, the higher your average tax rate will be because these rising marginal rates lead to rising average rates. Just like a rising marginal cost leads to a rising average cost, rising marginal rates lead to rising average rates. We have a progressive system.

Now consider Social Security payroll taxes, which are a flat 6.2% on the employee. That's proportional except it's not. Why?

STUDENT: There's a cap.

JONATHAN GRUBER: There's a cap. So actually, the richer you are, the less your average tax rate is because once you're above whatever it is, $190,000, your Social Security tax goes to 0. Your marginal rate actually goes down. So actually, payroll taxes are regressive. So you can see how different taxes can fit these terms differently.

The problem is whether taxes are fair or not is often in the eye of the beholder. So let's run through a fun example of that. OK. George W. Bush signed a set of tax cuts into law in 2003 which were they reduced income tax rates and increased tax rates for corporations. Those were the major features of it.

Critics said that this was unfair. They said, look, 44% of these tax cuts go to the top 1% of Americans. 44% go to the top 1% of Americans. That's unfair. The Bush administration said, wait a second. The top 1% of Americans pay 40% of the taxes. They're pretty much just getting back what they pay. That's not unfair. They pay 40% of the taxes. They're getting 44% of the Tax Cut. How is that unfair?

To which critics responded, well, that's fine. They pay 40% of the income tax, but they pay 30% of all taxes because payroll taxes are regressive. So the rich may pay 40% of the income tax. They pay 30% of all taxes. So giving them 45% of the tax break is still unfair. OK.

To which the Bush administration responded, well, that's ridiculous because we are giving 34 million families a tax cut of $1,500 each. OK. That's a pretty good number.

To which critics responded, well, wait a second. That is true. But actually, that consists of 10 million families that get a tax cut of $100 and 200,000 families that get a tax cut of $100,000. So, as Paul Krugman wrote, when Bill Gates walks into a bar, the average person becomes a millionaire. OK. So on average, they were giving a tax break, but it mostly was a ginormous tax break to a few families and a small tax break to many families.

So basically, this went back and forth. The tax cuts eventually passed. It turned out each side just talked past each other and they passed. But this highlights the famous Mark Twain [INAUDIBLE]. There are lies, damn lies, in statistics. That, in fact, there are many ways to use statistics to make your case when you're arguing policy.

And ultimately, we have to ultimately, at the end, think about a principled definition. And the principal definition is this one, which is you have to ask, did the tax cut make the system more progressive or more regressive? And the answer is it made it more progressive-- more regressive. I'm sorry. The tax cut made the system more regressive. It was unfair in the sense of vertical equity. Does that help explain how these debates go? OK.

OK. So that's what I want to say about fairness. Any other questions about that? Now the other major topic I want to cover this lecture, which will go into next time, but it's a critical one, is we've just talked about tax rates. And the next two chapters, actually the whole rest of the tax chapters, will focus primarily on the effect of tax rates. What happens if you raise the tax rate? But taxes of, course, are the rate times the base. Well, what defines the base? Good question. Or why is the child tax credit $2,000? Why is standard deduction $12,000?

How about this. Why do we tax some things and not others? Why do we tax the things we do. And in fact, that is a deep and important question for dealing with tax policy design. And that leads to an important concept in economics, which is how do we think about the right definition of income. And a typical standard used by economists is what's called the Haig-Simons comprehensive income definition. The Haig-Simons comprehensive income definition basically says we're going to define people's resources based on their ability to pay taxes. And what is your ability to pay taxes? It is your potential annual consumption. It's your consumption during the year plus any change in your wealth. That is your ability to pay taxes. That's your total resources, how much you consumed plus any assets you added or subtracted. If you lost money, you have less than you consumed. If you made money, you have more than you consumed.

Now, for many, many people, that's equal to their income. For most Americans, that's equal to a measure of income. But for others, it's not for important reasons. But the Haig-Simons tax base is what economists-- when we think about fairness, economists say this is the right way to think about fairness, which you think about ability to pay.

And why is that the right way to think about fairness? Well, whether you think about vertical equity or horizontal equity, it's the right way to think. Think about vertical equity. Vertical equity says-- so let's say, for example-- let's say, for example-- one second. Yeah. OK. So let's take the example of the tax subsidy of employer-provided health insurance, the fact you're not taxed on what your employer spends on health insurance. OK.

Haig-Simons would say that deviates from a comprehensive income definition because you are wealthier by the fact you get health insurance from your employer. Well, by excluding that, we lower vertical equity. Why do we lower vertical equity? Because a rich person with health insurance is treated as poorer than they are. So we lower vertical equity. But we also lower horizontal equity because if Ahmed and I are the same, but I choose to have health insurance, I pay less taxes.

So whether you're a fan of vertical or horizontal equity, they're both better off with a broader, more comprehensive definition of income. Bottom line is you want someone's full ability to pay is a measure of how much they should pay in taxes. That's the economist's starting point.

The problem is that that's a theoretical concept. And in practice, it is very challenging to actually define what ability to pay is. And indeed, if you think about the US tax code, we deviate from Haig-Simons for two reasons. In both cases, the reasons are theoretically legitimate but practically illegitimate.

The first reason we deviate-- so what are the deviations from Haig-Simons? The first reason we deviate is because of ability to pay considerations. So here's the best example. Imagine your house burns down, through no fault of your own, and you get no enjoyment from that. OK. Well, you have lowered your ability to pay taxes.

To live, you have to buy a new house or something. Assume it's not insured. You lose all the money. You have lowered your ability to pay taxes. So even a Haig-Simons definition would say we define your income. We should allow you to deduct losses that are outside your control. Seems pretty reasonable. No argue with that.

OK. What if I end up having to spend 20% of my income on medical care because I have an accident? Well, if that was out of my control, then probably should deduct it as well. But it's hard to say it's out of my control. Maybe I spent 20% of my income on plastic surgery that I just chose because I wanted to look weird. OK.

So basically, the bottom line is, yeah, in theory, if we could define as non-controllable health care expenditures, we would want to let you deduct that from your Haig-Simons income. It's just hard to define. What do we do in the US? We compromise and say you can deduct any health expenditures above 10% of income, the idea being major health expenditures are not something you choose. So that's one way we compromise on that. OK.

Here's another fascinating case, state and local tax payments. As I said, if you itemize your deductions, you can deduct state and local tax payments. So in other words, I pay every year to my town of Lexington tax payments and to the state of Massachusetts tax payments. I get to deduct those, or I used to-- I'll tell you why not anymore-- get to deduct those from my income tax. And the idea was, well, I have less ability to pay income tax because I'm paying these taxes to other governments. So I have less ability to pay federal income tax. What economist is that ignoring? What concept does that ignore? Why is it wrong? Yeah.

It ignores the Tiebout concept. Because if those taxes are buying me something, they buy me local public goods. In fact, in a perfect Tiebout equilibrium, the tax I pay is the benefit I get. So in fact, I'm not poor at all from paying taxes. It doesn't lower my ability to pay at all. It's literally just the price I'm paying for my public goods. So I should only be able to deduct state and local taxes to the extent I'm deviating from the Tiebout equilibrium. Yeah.

STUDENT: Does that mean that a policy of reimbursing state taxes is, in effect, a transfer by the federal government or a transfer executed by the federal government from people in low tax states to high tax?

JONATHAN GRUBER: Yes, exactly. Exactly. It's basically a subsidy to state and local government spending. So that would say-- so economists for decades have argued that we probably shouldn't allow the full deduction. And indeed, as part of the 2018 tax reform, the Trump tax reform we'll talk a lot about throughout the next eight lectures, we actually limited the extent to which people could deduct their state and local income taxes to $10,000, which was a limit which basically hit the blue states. Trump didn't put it in because he'd taken my class. Trump put it in because he wanted to hit the blue states. But it's still a pretty good policy, one of the better things to come out of the Trump tax reform.

OK. So that's another example of where it makes sense but it's hard to do it in practice. Here's another example. The second deviate is the cost of earning which is, let's say that to get to work, I have to drive a certain distance and spend money on gas. Well, that lowers my ability to pay.

My earnings are not a measure of my resources. I should be able to deduct what I spent earning that money. So that says that there would be-- you should be able to deduct legitimate business costs from your income. The problem with that is what is a legitimate business cost? And the best example of that, of course, is any people here see *Mad Men?* Any *Mad Men* viewers here? The best thing, of course, is business lunches.

OK. Business lunches. You should be able to deduct if I take my client to lunch, I should be able to deduct the cost of that lunch minus my enjoyment of it, because that doesn't reduce my ability to pay. We used to just allow those lunches to be deducted. That's why *Mad Men* have these outstanding lunches every day because tax rates are very high and they were tax deductible. Over time, we've shrunk the ability. Now it's 50%, which probably makes sense, the idea that you don't get to deduct your lunch. You deduct the other person's lunch. So it's 50% deductible.

But this is just the tip of the iceberg. There's some fun examples in the*Book of Business Deductions.*

STUDENT: Is that for all business expenses?

JONATHAN GRUBER: No, just for lunches, or for meals. Other fun examples. So here's a guy who claimed $30,000 worth of business expenses for the cost of goods he was selling. And what were the goods? Amphetamines, cocaine, and marijuana. The government allowed the deduction and put him in jail.

ABBA reported that they should be able to deduct the clothes they wore on stage because they argued that the clothes were so uncomfortable, they couldn't wear-- they only wore them to make money. They actually didn't get any enjoyment out of wearing them. There was a cost of earning money was wearing those outfits.

And it turns out that the US-- and so Sweden passed a law which says business clothes are deductible only if they're so outrageous that they couldn't be worn on the street. I don't know how you define that. The US has a similar law, which says work clothes deductible if they're not suitable for everyday wear. Of course, the best example would be Lady Gaga's meat dress. It was deductible because that's really not suitable for everyday wear. I don't know. I don't think so.

So that's examples of how it's tricky to think about what is a deductible business expense and what's not. So those are two deviations from Haig-Simons. The third deviation is the most interesting, which is externalities, which is if my activity causes a positive externality, you may want to encourage it. And one way to encourage it is to lower the rate at which it's taxed.

The classic example here would be charitable deductions, which, as I noted, are deductible if you're an itemizer. The argument is, look, when I donate to charity, I am creating a public good, a positive externality. I'm giving money to other people. Therefore, that lowers my ability to pay. So in other words, unless there's a warm glow, I'm literally just giving the money away, that lowers my ability to pay.

Well, actually, let me go further. Let me step back. In a standard model with no other concerns, the money I give to charity lowers my ability to pay. Now, of course, if I'm altruistic, it still raises my utility. If I have a warm glow, it still raises my utility. So that would say you really wouldn't want people to-- to allow people to deduct all of it. You only want them to deduct the amount above which it raises their utility, which is impossible to measure, so we just allowed them to deduct all of it.

So we say basically you can deduct your charitable contributions. By doing so, we make charitable contributions cheap because you make them with pre-tax dollars on after tax dollars. In other words, if you're thinking about deducting $100 to charity versus not, if you don't deduct it, you pay taxes on it. If you deduct it, you don't pay taxes on it. So it's essentially that's equivalent to a subsidy of 1 minus the tax rate.

So the tax rate is 25%. If I spend that money on apples, I only get $75 worth of spending. If I give it to charity, I get $100 worth of spending, say 25% subsidy to charitable giving. So subsidy charitable giving is essentially 1 minus your tax rate. And we put that in the system through an externality rationale. The idea is that you're creating a positive good for others. So you should get to deduct that. So that is the next rationale.

The problem is the government actually has two very different tools to encourage public goods. It can give these tax breaks, which as I said, you could justify under Haig-Simons, although measuring how much is ability to pay is tricky, or it can also just spend the money. And a fascinating question is, what's the right thing to do?

So here's the problem I'm going to pose, and we'll come back to it next time to start. But I'm going to pose the following. The government wants to encourage more spending on a homeless shelter. And the government has two choices. It can give a tax break to individuals who give to that homeless shelter or the government can just spend its own money on the homeless shelter.

We're going to talk about next on what you think about is what's the trade-off and then we think about the optimal way for the government to undertake that activity. And we'll talk about that next time.