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**JONATHAN
GRUBER:**

All right. Let's get started. Today, we're going to continue our discussion of international trade. I want to finish up discussing comparative advantage, and then we'll talk about the welfare implications of international trade, and then how that drives our thinking about trade policy, one of the hottest topics in economics discussions today.

So let's finish our discussion of comparative advantage that we started last time. Remember, the key lesson from the PPF-type analysis we had last time is that if there's comparative advantage, it can yield gains to trade through specialization. So that's sort of the key lesson, is that comparative advantage yields gains from trade through the mechanism of specialization.

So basically, because of comparative advantage, you can specialize, and that means you can essentially get an outward-bending PPF. You can essentially get economies of scope by specializing and combining your activities.

Now, you don't literally get economies of scope, because each person's doing their own thing. But it acts as if the economy as a whole is yielding economies of scope, because basically, by specializing, you're allowing the economy as a whole to benefit from people doing what they're best at.

So that's the basic intuition of the economics of why international trade can yield gains. OK? Now, that raised the natural question of, well, where does comparative advantage come from? Why do some countries have comparative advantage? We [INAUDIBLE] from me versus LeBron James. He's got better genes and he's worked harder than I have. But basically, when it comes to countries, where does comparative advantage come from?

And basically comes from, roughly speaking, two sources. The first source of comparative advantage is factor endowments. Some countries, just through the nature of geography and geological history, are endowed with things that people want, and therefore gives a comparative advantage in trading those things.

So if you think about Canada, Canada is endowed with enormous amounts of forested land, and they've become a major exporter of lumber and paper products over time. That's their comparative advantage because they happen to have all this forested land around.

So for example, that's why most clothing today comes from China and less developed countries. Because their factor endowment is cheap labor. It's not that they have more natural textile threads or whatever. It's just they have a cheap labor, which is the primary factor which goes into producing textiles.

So one source of comparative advantage is factor endowments. Now, once again, some country could have more of everything. Canada could have cheap labor and lumber. But the key point is in the simple two-by-two world we're thinking of, it's all about relative, comparative advantage. So it's the one that have the most of relative to other countries. OK?

And the second source of comparative advantage, the second reason why some countries acquire advantage is technology. So if you look at Japan and cars, Japan has no comparative advantage of producing cars. It's not like they have more of the raw products that make steel than, say, the US does. The difference is that Japan was a leader in developing the technology of the modern automobile. And that technological boost gave the comparative advantage.

So factor endowments are kind of natural. Technology is a created source of comparative advantage that essentially, by developing the technology, you give yourself really sort of a first mover advantage, and are able to then have leadership, have the relative comparative advantage in producing that good.

That's why, in some sense, technology policy really becomes trade policy. And we'll talk about that at the end of the lecture when we talk about trade policy in the US.

OK. So that's really all. I just want to finish up on comparative advantage. The main thing's the intuition we developed last time, but just want to highlight also what competitive advantage means and where it comes from.

What I really want to focus on today is the welfare implications of the international trade, and why economists are such big fans of international trade. So the welfare.

Welfare and trade. And why do economists, in simple diagrammatic form, such strong proponents of free international trade?

So to consider that, let's go back to our example of roses, and look at figure 19-1. We have here a simple representation of the domestic market for roses. You've got a supply curve and a demand curve. And you yield your consumer and producer surplus.

So let's say this is for the US. You've got US supply of roses, US demand for roses, consumer and producer surplus. Now let's ask, what happens once we allow international trade? Once we allow for the importation or exportation of roses.

Let's go to the next figure, which is pretty complicated, so let's walk through it. Now we look at the rose market with imports. Now, the presence of imports doesn't actually change the nature of demand and supply. So the domestic or US demand and supply curves are not shifted. What imports do is effectively increase the supply curve of roses available to US consumers by adding roses from other countries.

So what we do is to make this work, what we basically-- the trick we use in these models is we essentially assume that in international markets, there's a perfectly elastic supply of the good. So what we say is international trade creates a perfectly elastic supply of rose at the price P_W . That is, the price used to be P_A for autarky. That's the price-- where domestic supply hit domestic demand.

We're going to assume that what international trade does is lower the price to P_W make supply perfectly elastic. That is, the US can get as many roses as it wants at a price P_W .

Now, for a small country, this sort of makes sense. For a small country, essentially, they're like a small producer in a perfectly competitive market. For the US, it might not make so much sense. The US is big enough that it's hard to imagine that we're price takers with respect to anything. We're the US, we don't take any prices.

But in principle, the basic intuition we get from this model works, so we're just going to treat US as a small country for these purposes. And for something like roses, it's probably not bad to think of the US as a price taker in the rose market.

So it's a bit of a cheat to say the US faces perfectly elastic supply in the world market, but it's not a bad cheat, and it doesn't hurt the important intuitions we'll derive. So we're going to assume the US faces a perfectly elastic world supply at price $P_{sub W}$.

Now, what does this do? What this does is, suddenly, at that lower price $P_{sub W}$, consumers now want $C_{sub T}$. They want a lot more roses, because the price has fallen, demand's downward sloping. But domestic producers want to produce a lot fewer roses, since marginal cost is upward sloping. If you're going to force the price down to $P_{sub W}$, they don't want to produce as many roses. They only want to produce $Q_{sub T}$.

How do you resolve this? You resolve this through imports. That the difference between $Q_{sub T}$ and $C_{sub T}$ is imports. So the total amount of roses consumed does rise from $Q_{sub A}$ to $C_{sub T}$. The total amount of roses consumed does rise. But the amount produced domestically falls.

So both things are happening. Both US consumers are consuming more roses, and US producers are producing fewer roses. And the gap is made up by imports. Kind of a complicated diagram. Are there questions about this? Because I'm going to build on this diagram going forward. Any questions about how this works?

OK. Now let's ask, what are the welfare implications? Let's go to figure 19-3. What are the welfare implications to international trade? Well, the welfare implications are, for consumers, their surplus used to be-- their surplus used to be W . They used to get $Q_{sub A}$ roses at a price $P_{sub A}$. So their surplus used to be the area W .

What is the surplus of domestic consumers? Let me-- an important point for welfare. We're going to look at domestic welfare only. We'll come back later to caring about the rest of the world, but for now, we only care about the US. So when I talk about welfare, unless I say otherwise, I think about US welfare only. US consumers, US producers. Very important to keep in mind, because otherwise this can get confusing. So for now we're talking about domestic welfare only.

So for US consumers, what has happened? They used to get a surplus of W . What's their surplus now? Yeah.

AUDIENCE: X, W, and Z.

JONATHAN GRUBER: Yes. Z, by the way, is the entire light purple area. It's confusing, because there's this dotted line down the middle. Z's either side of the dotted line. The entire triangle is Z.

So consumers now get W plus X plus Z . Why? Because they're consuming C sub T at a price P sub W . Don't let the other complications in the graph confuse you.

Remember, consumer surplus is just the area below the demand curve, above the price, at the equilibrium quantity. The new equilibrium quantity consumed is C sub T . The new price is P sub W , so they get that giant triangle.

Producers used to have a surplus of X plus Z . X plus Y , I'm sorry. Producers used to sell Q sub A at a price P sub A . So the area above the supply curve below the price was X plus Y .

Now, X has been transferred to consumers. So producer surplus has fallen to Y . So what's happened? What's the opposite of the deadweight loss diagrams we saw before? When we did things like impose a tax, we transferred from one group to another, creating deadweight loss. International trade is the opposite effect. We've transferred from one group to another and created social gain for the US. US consumers have gained. And on net, US society is better off by the area Z .

And this, in the terms of this course, is why economists like international trade. That expands the opportunity set. By allowing consumers to get these cheaper goods, you raise consumer surplus more than you lower producer surplus. And that's why we like international trade. It's a net win for society.

Now, different parties might feel differently about it, and we'll come back to that. But let's just focus right now on total social surplus. And for total social surplus, which are defined as producer plus consumers, we are better off. And that's why we like international trade. OK? Question about that. Yeah.

AUDIENCE: What is the new producer surplus?

JONATHAN GRUBER: The new producer surplus is just Y . It used to be Y plus X . So producers are losing X . Consumers gain that X , but consumers also get Z . So it's sort of the flip side of deadweight loss we talked about before. You're transferring for producers and

consumers, but you're also creating new gains for consumers along the way. OK?

OK. So now, that's imports. What about exports? Let's flip and think about computers. Let's go to figure 19-4 and talk about computers. For computers, once again, we start at point A. We start with computers under autarky without trading. The price is where demand equals supply, a $P_{sub A}$, and the quantity's $Q_{sub A}$. And that's the initial equilibrium for computers.

Now we open up to trade. Well, what happens now, is now, the rest of the world wants US computers, so the US can sell at a higher price. Before, the US could only sell to domestic consumers. But now, their demand for their goods worldwide-- we don't show world demand here. But world demand is way above US demand.

If you flip back to 19-3, the reason that that $P_{sub W}$ line is below the $P_{sub A}$ is that world supply-- or 19-2 is easier-- world supply is above US supply. Since supply is higher, the price falls.

Now, in 19-4, world demand is higher than US demand, so the price rises. So we end up with a $P_{sub W}$ at the higher level. What does this mean? With a higher $P_{sub W}$, domestic consumers want fewer computers. They used to be able to buy computers at $P_{sub A}$. Now they have to pay $P_{sub W}$, because they're competing with consumers around the world. So they have to pay more. So they want fewer computers. Their demand for computers falls from Q_A to C_T .

What about domestic producers? Well, now they're getting a higher price, so they want to make more computers. So their production rises from Q_A to Q_T . So you now have consumers consuming much less than producers are making. So the producers send the rest abroad, and that's exports.

So we have the flip side. Before, we had-- in figure 19-2, if you flip back and forth, in figure 19-2, we had consumers wanting more than producers domestically willing to make. So you had imports. Now we have domestic consumers wanting less than domestic producers are willing to make, so you have exports.

What are the welfare implications? Go to 19-5. Now what you get is consumers are worse off. They used to have a consumer surplus of W plus X , where X is the entire dotted area. Now, the consumer surplus has fallen to just W . Remember, we're doing

domestic consumers only. There's some people in Colombia who got computers. They're happy, we're ignoring them. We're just doing US consumers.

They used to get W plus X . Now they only get W . Below the demand curve, above the new price. But producers, who used to get Y , now get Y plus X plus Z . So you've transferred X from domestic consumers, domestic producers, but you've also given domestic producers this extra bit Z . So once again, surplus has gone up.

So this is the crazy thing about trade. Imports raise welfare, and exports raise welfare. Either way, whether the goods are coming in or the goods are going out, society as a whole is better off.

Why? Because of comparative advantage. Because we're better off as a world where we can share our goods across nations, because we can then rely in the more efficient producers lowering the prices for roses in places like the US, and raise the-- lowering the prices for goods US consumes, and raising the price for goods US produces.

And same with every other country. It's literally a win-win. Every country, by the need to specialize, gets to see lower prices in the goods they weren't good at making and higher prices at the goods they are good at making. So this transfers across producers and consumers, but overall, welfare goes up.

So basically, this is the bottom line. These two graphs are why economists unambiguously-- traditionally-- traditionally, economists unambiguously like free trade. So you get into subtleties, like caring about producers versus consumers separately. Basically, the logic of last time, which is a comparative advantage allows specialization, means that by trading, we can allow countries to specialize, and thereby getting higher prices for things they send abroad and lower prices of the things they bring in from abroad. OK? Questions about that.

And we can see from this why the notion of a trade deficit as something that we should care about is sort of ridiculous. Because it's all just about your endowments. At the end of the day, you want to sell stuff that you have a comparative advantage in and import stuff you don't have a comparative advantage in. If the rest of the world has more compared advantage than you, then you want to import more than you export. Doesn't mean you're worse off, it just means your consumers are

benefiting from the fact the rest of the world is good at making stuff like sweaters.

So that segues us naturally to our important policy discussion, and one of the main focuses of public policy today, which is trade policy. How do we take this framework and apply it to thinking about government policy over international trade? And that's what I'll spend the rest of today talking about. So let me just ask just before we go there, any questions about the economics here, before we start talking about policy?

OK. Now, let's start once again with trade policy with the standard economics view. Which is that you'll often hear people say, well, imports are a job killer. And in some sense, they're right. That's what figure 19-3 is showing. Producers are the ones with the jobs. Producer surplus is falling, so there's less profitability in the corporate sector, so there may be less jobs there.

Now, many people say we should react to that by imposing restrictions on imports. They say, look, exports are great, but what about imports that are killing jobs? Why don't we restrict those?

And there's two fundamental forms of restrictions on imports. There's quotas, which is literally a limit on how much of a certain good you can import. Those aren't used so much anymore. The more typical form of import deterrents is tariffs. Is tariffs. OK?

And basically, what these are are taxes that are levied only on imports. A tariff is just a name for a tax that only applies to imports. That's what a tariff is. It's a certain kind of tax that only applies to imports.

So we could, for example, levy a tariff on roses coming in from Colombia. If we levy that tariff, making roses expensive enough, then folks might go back to buying it from the US producers, and we can reopen those greenhouses and the jobs that come with them. That is true.

What that misses the fact that US consumers then suffer from paying higher prices for roses. And on net, we're worse off as a result.

To see that, let's go to figure 19-6. So basically, what figure 19-6 does is we now

start from the position of being in international trading. So before, the other figures, we started from autarky and added trade. Now I want to start from position with trade and add a tariff.

So initial equilibrium is at $P_{sub W}$, with consumers consuming C_1 , producers producing Q_1 , and initial level of imports denoted by imports before tariff. That's where we start.

What the tariff does is essentially raise the price back up. Now, I can't raise the price above the domestic price, because if the tariff's big enough, you just go back to buying what you want for domestic producers. But it raises it back towards the domestic price.

So let's say, for example, the tariff is high enough that the international-- that the world price-- the price paid in the US rises from P_W to P_T . The gap being the amount of the tax. So with untaxed trade, the US would pay P_W for roses. Now, when we tax trade, that price goes up to $P_{sub T}$. OK?

So now, let's ask, what does that do to the market? Well, it's pretty straightforward. You just say, well, what is demand and supply at that new price? Well, at that new price, there's lower demand for roses, so rose demand falls from C_1 to C_2 . There's more domestic production of roses, so domestic production rises from Q_1 to Q_2 . And the imports after the tariff shrink massively. The tariff had its desired effect. It shrunk imports.

But what does this do to welfare? Let's go to figure 19-7. Now, we can just compare this area between the two horizontal lines. We used to be at the bottom horizontal line. Now we're at the higher one.

A, the area A is the new producer surplus. Producers used to get the area-- that low triangle below area A. We used to call it Y. Now they've added A. Producers have now added a new producer surplus A.

But consumers have lost A, B, C, and D. That entire area is lost to consumers. Yeah.

AUDIENCE: Is this [INAUDIBLE] the comparison to when there was--

JONATHAN Yeah, that's what I said. Comparison-- when there was free trade, no tariff. So it's a

GRUBER:

comparison to the second situation in figure 19-3. So 19-3-- and this is confusing, I'm sorry about that, but it's too hard to put it all on one graph. 19-3 is what happens when we move from no trade to free trade. 19-7, 6 and 7, I'm going from free trade to free trade with a tariff.

By the way, if the tariff was-- brought us exactly back to the no-trade situation, it'd just be the flip of the previous diagrams. Just makes it a little more interesting by making the tariff somewhat lower than that.

So what's happened to consumer surplus? Well, look at this way. Remember consumer surplus. It's the area below the demand curve, above the price.

So it used to be a huge triangle. Now what's happened is fallen by the entire trapezoid, ABCD. Can folks see that? Look at the new consumer. Ignore the fact that it's four different areas. Just think of it as one trapezoid.

The new consumer surplus is the area under the main curve above PT. The old consumer surplus is the area under the demand curve above PW. That's followed by the trapezoid ABCD.

Now, why do we split that into four pieces? Well, first of all, because A is gained by producers, so we want to call that out. That's not a net loss of welfare. There's also the area C, the green area C. C is also a gain. What is C? That's the government revenue from the tariffs. The government's gained something from the-- we get tax revenue. We can give that back to consumers if we want, so that's not lost surplus.

The tax revenue's exactly the amount of new imports times the tariff. So it's complicated. Now we have this third player which is the government, it used to be just either producer or consumer, or society. Now we have this third player, which is the government.

So the deadweight loss from the tariff is B plus D. What we've lost is B plus D. So let me go through the math again. Consumers lost A plus B plus C plus D. Producers gained A, and the government gained C. So the net loss on the tariff is B plus D. That's sort of hard, but do people see that?

And that's why economists don't like tariffs. Because the amount producers gain, plus the amount the government raises, is much less than what consumers lose.

Yeah, we've produced some jobs growing roses. Yeah, we've gotten a little tax revenue. But we've really screwed producers who now have to pay much higher prices for their roses.

And if you add that up, it's worse. Why is it worse? Because you're taking less advantage of specialization in comparative advantage by forcing us away from the most efficient point. The most efficient point's where we can take-- everyone can specialize. You force that away. You've put the US, which shouldn't be growing roses, back in business of growing roses. And Colombia, which should be growing roses, gets out of that business. Yeah.

AUDIENCE: The tariffs-- where are tariffs applied? Are they on US-- I guess importers receive goods, or are they on [INAUDIBLE] exporters [INAUDIBLE].

JONATHAN GRUBER: Yeah. So that's a great question. I am not expert on the actual logistics, but roughly speaking, when it comes into the US, into Customs-- so any goods shipped in the US for sale into Customs, at that point, there is a tax levied on it. Now, I don't know logistically who gets the bill. Does the exporting company get the bill, or the importing company get the bill? When we talk about taxes, I'll show you it doesn't matter who gets the bill. It's the same either way. So hold that thought. But that's basically what happens. Good question.

OK. So with that in mind, so that is the fundamental reason, in graphical terms, why economists don't like tariffs. But that's not the only reason. In fact, there's two other reasons that aren't even in this graph why tariffs and restrictions on trade policy more generally are bad.

The other reason is that they cause trade wars. So let's say we impose this tariffs for Colombian roses. Well, Colombia will be like, screw you. If you're going to tax our roses, we're taxing your computers.

Well, what would happen if there was a tariff that Colombia placed on our computers? Well, I don't have that figure, but you should be able to show yourself that that is exactly the opposite effect. It raises US consumer surplus, because now computers are cheaper in the US because we can't sell them in Colombia. But it lowers our welfare, and now we don't get the government revenues. Colombia

does. So we lose almost all the trapezoid in that case.

If you flip this around, we would get a small rise in consumer surplus but a huge loss of producer surplus, and we wouldn't even get the government revenues to make it up. So that's really bad for us. And of course, it's a natural response. Why wouldn't Columbia do it?

So this first problem is, this understates, yes, we might create some jobs in roses, but we're going to destroy jobs in computers, because we're not going to sell as many computers as we used to. So it's not even job-creating. Once you take in the fact that other countries retaliate, in fact, we make consumers worse off and producers worse off. Because we make the price for roses much higher, and we lose jobs in the computer sector. Yeah.

AUDIENCE: Is there a way to diplomatically eliminate this if you're like a world monopoly? I feel like a world monopoly--

JONATHAN GRUBER: So basically, one way to do it is to come to trade deals, where you essentially cartelize countries. So this is much-- if you could think of this in very parallel ways to a non-cooperative oligopoly, if you can cooperate, what do you do? You just get to free trade. And we'll talk about trade deals in a few minutes. That's essentially what those are doing. Yeah.

AUDIENCE: Why are current economic advisors in the government [INAUDIBLE] tariffs [INAUDIBLE]?

JONATHAN GRUBER: So let me get to that. OK. So basically, what we've done-- and let me answer the first question. What we've done is, because of the archetype made here, over time, we've created essentially co-operative oligopolies around the world. The one you've heard of a lot is--

OK. So I'm sorry, trade wars is the first thing. Let me [INAUDIBLE] the second reason. The second reason is that, actually, as decent human beings, we might care about people in other countries too. And the fact is that there's-- when you-- these both import restrictions and trade wars hurt other countries just like they hurt us. It's not only we worse off, but other countries are worse off. Even without the trade war, we've made ourselves worse off, and we've hurt Colombia, because they can't sell

the roses to the US.

So the reason we don't like-- so the other reason besides this figure is that basically, if we place any weight at all on the utility of people outside the US, which we should, it's bad as well. Now, I'm not saying you have to weigh the Colombians' welfare the same as US welfare, but as long as it's nonzero, then that's a second reason to oppose it.

And that's why there's been a huge growth in agreements, the most famous of which we've heard of is NAFTA, the North American Free Trade Agreement, signed in the early 1990s under President Clinton, which essentially set up a cooperative oligopoly between the US, Mexico, and Canada. Essentially, let's just get rid of these trade barriers so we can have freer trade within our regimes.

And basically-- but this was actually you know quite popular at the time, economists liked it. But it's become very unpopular over time. Was opposed by President Trump, and in fact, he recently ripped up NAFTA, although replaced with something that's pretty much the same, just renamed it as USMCA.

So why are people so opposed to free trade? It's a great question. Why are Trump's advisors-- why in fact are the majority-- the majority of Americans, depending on how you ask the question, don't like free trade. It depends how you ask the question. But it's certainly not universally popular, like I said it should be.

So what's going on? Well, there's really a couple things going on. The first is that we can't-- we don't. I wouldn't say "can't." We don't compensate the losers. This is the most important part. We don't compensate the losers. What do I mean by that?

Let's go back to figure 19-3. What's happened when we've put international trade? Producers have lost X. Consumers have gained X and Z. So it's a simple economic policy. If we did international trade, and then just took X and gave it back to producers, no one would be sadder. Even if we give a little more than X. What if we did international trade and gave producers X plus 20% of Z? Then everybody wins. That's the [INAUDIBLE].

The problem is we don't do that. All we do is let consumers have these super cheap sweaters. So I get to go buy this incredibly cheap sweater, and people in North

Carolina's livelihoods are destroyed. We don't compensate the losers. And the winners don't notice they're paying \$5 or \$10 less for a sweater, but the losers notice they don't have a job.

So the problem is, yes, there's more winning. But first of all, it's winning among many more people by a small amount, whereas losing is by fewer people by a large amount, and that always gets more political attention. And we don't have mechanisms in place, or don't put in-- I started "I can't," but it's not "can't." We could. We could easily address this. There'd be a simple policy.

What if we simply said, there'll be a tax on all consumers of international-- not just a tax on consumers, not of international goods-- that would be like a tariff-- but just a general tax on consumers of consumer goods that tend to come in international trade. So it's a tax on clothes. And we'll take all that money, and we'll redistribute it to people who lost their jobs in the textile sector, help retrain them for new jobs, or help pay their bills while they find a new job. Then we could literally deliver some of X and even maybe some of Z to the producers. But we don't do that.

And that's the main reason, to answer your question, why does opposition to free trade? Is because people see the cost, they don't see the benefits. And well-off people like me who don't need-- who could happily afford to pay twice as much for a sweater, we just get these benefits we don't even pay attention to, whereas typically lower-income workers, because they compete in lower-income countries, lose their jobs and they notice it. So that's one big reason.

The other big reason is that there can be socially-damaging routes to comparative advantage. There can be socially-- that sounds like socially-damaging routes to California. Socially-damaging routes to comparative advantage. That is, there can be ways that countries get to comparative advantage that are not so happy.

So why does China have low labor costs? Partly because they got a billion and a half people to work. But partly because workers are massively exploited there. Work conditions are terrible. And it's a horrible life being a worker in a Chinese factory.

Moreover, there's terrible environmental conditions imposed by Chinese production. In the US, we have restrictions that try to minimize, in some ways, the environmental damage done by our production. They don't have those in China. Or India. India is

home to three of the top five polluted cities in the world. They don't have those.

So by creating their comparative advantage, they may be doing damage that we don't like. Just like we care about the fact that consumers-- that we care about other countries' welfare, we might also care about the fact that this free trade is hurting other countries' welfare.

So a great example-- I've got a great example. A very relevant example was a recent story about lead poisoning in China. There was this battery factory-- batteries are big business now-- that made lead acid batter for motorcycles and electric bikes. And basically, they operated in flagrant violation of environmental law. They would just dump the mercury and stuff they were using in the rivers and lakes all around. Flagrant, everybody knew it.

And 233 adults and 99 children were found to have lead in their blood up to seven times the safe amount. And they're basically are going to be-- lives will be destroyed by this.

And this is a big issue in the negotiation of NAFTA, and a big reason a lot of people on the left don't like international trade, is because they fear for the welfare of people who are being affected. So when NAFTA was negotiated in the early '90s, there were some protections for workers. There were some protections. Basically, the idea was, Mexico, if you want to sign this, you got to put in some protections to raise the standard of living of your worker and improve your environment.

So once again, there are ways to deal with this by saying, look, free trade, where you impose some restrictions, is still better than no free trade. So we might go in and say, look, once again, it's all about how you spend Z. You got a bunch of money to spend. How are you going to spend it? Some of the way you can spend it is by compensating the producers. Another way you can spend it is by saying, look, we'll be willing to make it all smaller, have the world price be a little bit higher, but make sure you have decent environmental conditions and decent wages for your workers. As long as we don't impose too high restrictions, we could still all gain.

So that's another reason people don't like international trade. On the other hand, we taught the story of the child workers in Vietnam, and how free trade in rice was better for them, because the parents got richer and had them work less and put

them in school. So it's not clear which way this goes, but that's certainly another concern.

And then finally, there's the issue which is, I think, paramount in this administration, which is trade policy-- trade policy as a tool of foreign policy. Trade policy as a tool of foreign policy.

Look, consider where we are with China today. There's a host of reasons to be angry with China. Now, some are irrational. The Trump's administration obsession with trade deficits, as I've explained repeatedly, is irrational. It's the Pikachu fallacy.

But some of it's rational. China-- we operate under something called the World Trade Organization. Once again, coming to the other question, it's another chance to try to cartelize the country and set a-- cartelize the world and set a set of fair trading rules. The World Trade Organization.

China repeatedly violates the rules set up by the World Trade Organization. For example, under those rules, China should allow much freer sales of US goods in China, but they implicitly restrict them. Not on paper, but in practice. They set up lots of practices which makes it harder to sell US goods.

They also do a lot of significant industrial espionage and stealing our industrial secrets. So one way to do that, for example, is China has a rule that you cannot have a solely-owned subsidiary in China. If you want a subsidiary in China, it has to be jointly owned with a Chinese company. Which then will promptly take the ideas, and pass them on, and kick you out of the country.

So China's engaged in some nasty practices which are bad for the US-- which are certainly bad. They may be good for China. They're certainly bad for US self-interests.

And that's true. That is unambiguously true. The question is, what's the right response? And the Trump administration argues the right response is tariffs. The right response is to punish China through tariffs for their bad behavior.

And economists-- virtually all economists-- say that's the wrong response. There is literally less than 1% of economists who agree with this policy. Just a few of them

happen to work with the Trump administration. But basically, at the end of the day, basically virtually all economists agree that it's a bad idea.

And that's for three reasons. The first reason is our standard reason that we think trade is good. We think we're hurting ourselves by imposing tariffs on Chinese goods. All we're doing is hurting ourselves. We're making people pay more for stuff. Why would we want to do that?

Moreover, we're causing a trade war. China's now imposing tariffs on our goods, which hurts our producers. So our farmers, for example, are going to suffer because it'll be harder to sell our farm goods in China because of the new tariffs they've imposed.

So the standard arguments we have here still hold. We like free trade because it expands opportunities, and if we try to limit it, other countries will respond in a way which further restrict opportunities. So that's the standard reason economists are mad about this.

The second reason is it's sort of hard to do this. It's hard to use trade police [INAUDIBLE] tool of foreign policy because it's not even clear what's made in China and what's made in America anymore. So if we build the car in America, but the parts are made in China, is it an American car or a Chinese car? Oftentimes, we'll have things which are shipped to China, back to America, then back to China, or vice versa. So it's not even clear what's a Chinese import or export and what's US import or export. These are blurry lines now.

Now, once again, that's all because of the efficiency of production. Basically, what we've done over time is we've sort of disaggregated production to more and more efficient components. It used to be one guy made the whole car. Now we recognize there are certain parts that are made more efficiently in China, certain parts made more efficiently in Cambodia, more efficiently in the US, more efficiently in Germany, and we put them together.

What that does is it makes international trade super messy to understand. But it makes the world better off. It's just further increasing comparative advantage and specialization. But it makes it hard to decide what's a Chinese good and what's a US good. So that's the second problem.

And the third and probably the single most important criticism economists make is, this is a really silly thing to do by yourself. The US is big, but we still represent a minority of Chinese exports. We obviously [INAUDIBLE] a large share, but still a minority. As long as China can still sell to other people, and they're making plenty of money off their practices against us, they might not stop.

Now, they prefer to sell to us. But if you think on the one hand, they're making a ton of money ripping us off. On the other hand, they'll still get to sell 70%, 80% as much to the rest of the world once they adjust things. Then maybe they'll be like, fine. We're happy to let you do that. You're just cutting off your nose to spite your face.

But if we get the whole world to coordinate and say, you violated the norms of the World Trade Organization, we're now all going to set up trade restrictions on China, then they feel the pain. So the other reason economists oppose this is moving unilaterally on trade just doesn't make sense. If you want to try to deal with these problems, you need to through coordinated response.

Now, let me be very clear. This is a very, very hard issue. Economists try to make it very simple with our surplus diagrams and stuff like that, but it's a super hard issue. Nonetheless, it's an issue where your bias in thinking about it should be towards the basic bias of economics, which is that if we can expand opportunities, that's a good thing.

And the real challenge is twofold. How do we expand opportunity sets in a fair way? And two, how do we deal with compensating the losers as opportunity sets advance? And this is something we'll spend a lot of time on after Thanksgiving, is how we redistribute society from one group to another.

OK. Now let me get some questions. I know, this is sort of a top [INAUDIBLE]-- yeah.

AUDIENCE:

So on an international level, when a country behaves badly, sometimes the UN will suggest that sanctions are imposed against the country. And I was wondering if you know anything about how that tends to work in terms of welfare? Like, do the sanctions tend to make a country behave better, and then ultimately the world is better off, or are those also a bad idea?

JONATHAN GRUBER:

That's a really interesting question. So let's think about sanctions in this framework. So sanctions-- let's say one sanction would be-- it depends on the form of the sanctions. It depends-- et cetera.

So one sanction would be, literally, you have to pay a bunch of money. Well, then, that's just like a tax on the country. We just think about that, think of the country individual. They're worse off. The UN gets some money. In some sense, it depends on whether the sanction works or not. So the easy case is just simply the trade-off of, do you encourage a behavior you want to encourage, versus what pain do you impose on the country, and how do you trade those two things off? If they're a really bad-acting country, you might not carry imposing pain on them. As long as there's some chance you get the change in behavior you want, you're happy.

But what if the sanction's limiting trade? Well, then you're hurting other countries too. Then it becomes a bit trickier. So then once again, the trade-off is three-piece. I hurt the country I want to hurt. But I hurt countries I don't want to hurt. But I also may get a change in behavior I want. So you have to weigh-- you have to add those three pieces and put them together. How do you put them together? That's exactly what we'll talk about after Thanksgiving. You put them together by thinking about a weighting function, which we call social welfare function, which weights the well-being of all these different parties and puts them together.

A very related issue we haven't talked-- yeah, I'm sorry, go ahead.

AUDIENCE:

So do you think that the current administration is putting in these policies to try and gain popularity because so many people understand trade?

JONATHAN GRUBER:

You know, I think there's almost no one who makes any money by trying to understand what's in the mind of the current administration. So I have no idea. I think China is engaging in bad practices, but I also think it's good politics, and it's hard to know what's the mix.

But let's actually relate-- [INAUDIBLE] take the current administration, this raises another issue that's related to all this which we haven't talked about, which is what about immigration? Another-- I'm going to stop before I get to abortion. What about immigration?

Well, immigration, actually, the framework is very much the same. If there are people who can contribute to our society by coming here, then we are better off by letting them in by the same logic of specialization and comparative advantage. If there are people-- for example, let's say US folks don't want to pick our crops, and we don't want to clean toilets. But picking crops and cleaning toilets at a low wage is a terrific opportunity for someone from another country. Then we could be better off by letting them in.

Or let's say-- as it's turned out to be true historically-- the kind of person who wants take the risk to immigrate to America is the kind of person who often becomes an entrepreneur and thinks up new ideas. Much of the entrepreneurial ideas in America have come from our nation's history of immigrants. Because who picks up and leaves? It's kind of a risky thing to do. To pick up, leave your home, and leave, and come to this unknown place. And those risk-loving people are often the kind of people who think up new ideas and want to start new businesses.

So for that reason, immigration has traditionally been an enormous benefit to the US economy. And I think today, the general consensus-- this is more controversial than free trade. But I think the general consensus among economists is that immigration on net is good for the country, but there's redistributive consequences. It's good for rich people because they get low-pay people to pick their fruits and do their lawn work. But it's bad for people who used to pick the fruits and do the lawn work.

So once again, if we can figure out a way to compensate the losers, immigration is probably [INAUDIBLE] good. Now, it's more complicated. When we import a car, it doesn't get welfare or commit crimes. Immigrants might get on welfare or commit crimes, so it's more complicated than just free trade.

So what you have to do in that case is you have to look at the evidence. And the evidence is that immigrants commit crime at a much lower rate than comparable US citizens and collect welfare at a much lower rate than comparable US citizens. So you can't compare an immigrant to me. An immigrant is more likely to commit crime or collect welfare than I am, but immigrant's also less educated than I am. I'm not the comparable person. Compare an immigrant to the person they're replacing in the labor market. A low-skilled US citizen. Immigrants are less likely to collect

welfare and less likely to commit crimes than are those people.

So as a result, those arguments don't really bode well for restricting immigration. On the other hand, I think there's very few people who say we should have a totally porous and open border. Because of illegal movement of goods, and because we don't want people objectively criminal in other countries that are also risk-loving, we don't necessarily want them here.

So I think this is a hard issue. Unlike international trade, where I think economists would say just more is good, I think that immigration, there are some difficult trade-offs, because people come with a set of baggage that goods don't come with. But I think economists would generally say a lot of the same arguments apply. We might need a more comprehensive policy than we have when it comes to trading goods.