[SQUEAKING]

[RUSTLING]

[CLICKING]

JONATHAN GRUBER:

So we're talking about chapter 9, about political economy. Let's remember where we've been so far. We've talked about our first best outcome or what we called unanimous consent, which, under certain theoretical conditions that'll never be met, we could actually meet the Samuelson rule. We'd actually get everyone to contribute and provide the optimal level of public goods.

Then we said, well, look, that's not realistic. What we actually do in society is we vote. So let's start with society where actually all votes are done by direct democracy. And we talked about direct democracy. And we talked about when direct democracy will or will not deliver consistent outcomes.

And in particular, we talked about the fact that if you assume preferences are single-peaked, then majority voting can deliver consistent outcomes. And moreover, it delivers this wonderful thing we call the Median Voter Theorem, which is to know what society wants, you only have to know what the median voter wants, or what we call today, swing voter. That's all you need to know, which we said has the advantage that it's incredibly data-efficient.

Has the disadvantage that it is not necessarily the first best outcome, that what the median voter wants may not be what meets the Samuelson Rule. In particular, if the median of the distribution does not equal the mean of the preference distribution, it will not meet the Samuelson Rule with the median voter outcome. So that's where we've gotten to so far. Questions about what we covered last time or any of that stuff?

Today we get to the fun stuff, which is well, in reality, most decisions that are made politically are not made either by a Lindahl mechanism or direct democracy, but by representative democracy. And that's what we'll talk about today, which is the promise and pitfalls of representative democracy.

Now what we're going to start with is another version of the median voter theorem, which is we're going to show that, in fact, even if you elect your representatives, under certain conditions, you will still get the median voter outcome. Actually, only under one-- single-peaked preferences still. And you need one other thing. You need that politicians are vote maximizers, that their sole goal is to maximize their votes.

If you take single-peaked preferences and have vote-maximizing politicians, it turns out that it doesn't matter if you have direct democracy or representative democracy. You will still get the median voter outcome. And to see that, let's go to figure 9.3.

So imagine these two candidates running-- Joe and Donald. Now the next edition would be Kamala and Donald. And imagine it's a one-issue election. And the issue is how much to spend on defense. And there's some range of spending, from 0% to 50%. And let's assume voters are lined up along this line. This line represents voters' preferences, and they're equally distributed.

It doesn't have to be a normal-- it doesn't have to be a normal distribution, but it has to be a symmetric distribution. Imagine it's symmetrically distributed along this line. And Joe and Donald are considering what positions to take. So if Donald says, look, I'm going to advocate for a lot of defense spending, and Joe says, I'm going to advocate for little defense spending, then they'll split the vote. People go who's ever closest to them. And the people in the middle will be just indifferent.

In that situation, it is in Joe's interest to move to the center. Why? Because by moving to the center, he doesn't lose anybody on the left. He still preferred to Donald. But he gets some people towards the center who now are closer to his preferences than they are to Donald's preferences.

Well Donald, seeing this, could immediately react by moving even closer to the center. And then he'll get more votes. And you can see where this ends up. This game ends up, clearly, with both people at the center. And indeed, it's a Nash equilibrium. There's no incentive to deviate, because the minute you move away from the perfect center, you cede votes to your opponent.

So this says that the Median Voter Theorem is not just a theorem for direct democracy, but it's actually a theorem that applies to representative democracy as well. But it turns out it only applies to representative democracy under a wide variety of assumptions that I've implicitly made. So why don't we talk through-- where's my chalk? I'll use big chalk today. Here's one.

Why don't we talk through, what are the implicit assumptions I've made in laying out this model? What are some things about reality that deviate from what I've laid out? Alec?

AUDIENCE:	That we will abstain.
JONATHAN GRUBER:	Yeah. So I've assumed universal voting, universal as opposed to non-selective voting. What else? What else is-- yeah?
AUDIENCE:	[INAUDIBLE] even if pick one of the two people
JONATHAN GRUBER:	What's that?
AUDIENCE:	You're [INAUDIBLE] pick one of those two people.
JONATHAN GRUBER:	Right. So I've assumed only two candidates. In fact, it turns out-- and those of you who are game theoretically-minded will see this immediately-- this model breaks down with three candidates because you can always gain market share by continuing to move. Once there's three candidates, there's no equilibrium. There's no Nash equilibrium with three candidates.

So I've assumed two candidates. What else? What else have I assumed that's violated in reality? Yeah? |
AUDIENCE:	Candidates only care about one and two.
JONATHAN GRUBER:	I've assumed, fundamentally, no ideology. I've assumed that candidates only are vote-maximizing machines that don't actually care about anything. Steven?
AUDIENCE:	I was going to say that.

JONATHAN GRUBER:	Yeah. Good. Others? What else? What else have I done here? What else have I assumed here?
	Well, let's go through these, and then we'll talk. So first of all, I've assumed universal voting. Once there's non-universal voting, people might deviate from the middle. In particular, if voters on one end of the spectrum-- if people on one end of the spectrum or another are more likely to vote, there'll be an incentive to move away from the middle towards that end of the spectrum. I think that's pretty clear to see.
	So first of all-- now once again, if there's non-selective voting that's equally distributed, that doesn't matter. So if randomly, half the people vote, the model still works. It's only if there's differential selective voting. So it's not that the voting has to be universal. It's really that has to be non-selective. That's the key. It has to be symmetric, the people who aren't voting. Once they're not, then you're going to not be at the middle anymore.
	Likewise, two candidates, I explained, the model breaks down. You just can't find an equilibrium on the line with three candidates.
	No ideology is very interesting. No ideology is important because remember, I'm assuming a normal symmetric distribution. But once there's ideology, then candidates may not want to be at the middle. In particular, if voting is selective and there's one other important element of the political system I haven't mentioned yet-- and what's that? What's a key aspect of the US political system in particular I haven't mentioned yet? Besides voting, what else matters in US politics?
AUDIENCE:	[INAUDIBLE]
JONATHAN GRUBER:	Well, no. Yes, they matter, but what else systematically matters in US politics besides people's votes?
AUDIENCE:	Lobbying?
JONATHAN GRUBER:	Lobbying is an aspect that matters. But more generally than that. What would some say is the most important factor in US politics today? Steven?
AUDIENCE:	Attention.
JONATHAN GRUBER:	Attention? And how do you get attention?
AUDIENCE:	Media.
JONATHAN GRUBER:	And how do you get media? Money. So I've ignored the role of money. I'm delighted that you all are such bright-eyed and optimistic and believers in democracy that you did not immediately come up with this answer. That's a good sign for your lack of skepticism about the world. Unfortunately, you're wrong. It is money.
	So now imagine a world where money matters. And money matters because money buys you attention. Imagine where money matters, voting is not universal, and ideology-- then ideology can matter. So for example, you could imagine a world where you say, look, I am willing to not be at the median defense. I will advocate for high defense spending because the people who like defense spending are very passionate about other things. And they'll turn out and vote and give me money if I signal high if I like defense spending.

So basically, once there's-- just like intensity of preferences violates the efficiency of the Median Voter Theorem, intensity of preferences here can lead people to actually not want to settle at the middle if there's more intense preferences. Once again, if preferences are equally intense on both sides, it doesn't change things. It needs an asymmetry of preference intensity.

But that's sort of related to the other thing, which is we said only two candidates. We also didn't talk about, we're assuming this model, single-dimensional voting. That's another problem with this model, which is people don't just vote over one thing. And so by not staking out the middle on one thing, you might signal your preference for something else that people care more about.

So people who like big defense tend to be anti-abortion. So maybe by saying that-- taking a controversial position on abortion, maybe if there are other voters who don't really care about abortion, but really like defense, then you don't have to be in the middle of an abortion. That's a reason not to be in the middle, because you pull in people who really like defense. And they matter. So it gets much more complicated.

And then finally, we have the last thing, which we, once again, cannot forget we're always assuming here, which is we're assuming full information and, slash, no-- I mean, I don't want to call them mistakes. But no bias, if you will. We're assuming that people truly understand what candidates mean when they say things and truly understand what the candidates' positions are. In a world where moving away from the middle allows you to obfuscate in certain ways, you may move away from the middle because that could be beneficial. Yeah, Alec?

AUDIENCE: Does the full information assumption supersede the money assumption? Because the purpose of money is to provide information.

JONATHAN GRUBER: Excellent. Excellent question. Actually, that leads to what I'm talking about next. So let me hold that question. Other questions about this?

So that's a great-- so the bottom line here is, once again, as with all these generalized models we'll teach, from Coase to this model to the Median Voter Model, there's a lot of interesting aspects of this that speak to reality. But it clearly is not a pure description of reality.

And basically, let's talk for a minute. I'll come back to your question in a minute, Alec. Let's talk about evidence, which is, does the Median Voter Model explain reality? And the answer is, to some extent, yes, to some extent, no. So how do you actually test the Median Voter Model?

Well basically, you want to ask-- so the Median Voter Model says that if I'm in a district, if Paul and I are in two districts, and my district cares more about x, and his district cares more about y, I should vote more towards x, and he should vote more towards y. The problem with testing that is, well, how do you separate that from other things about our districts that might violate this? It's the classic bias problem we talked about in chapter 3.

So what studies have done is essentially looked at random variation in the makeup of a district. For instance, there's redistricting, or if there's population shifts, then suddenly, who's in your district changes. And what they found is when people and when the composition of a district changes, politicians, voters change with it. Votes change with it.

Let's look at what politicians do. What they do and their votes in Congress actually do respond to changing the composition of the people they're representing. Basically, you have-- and moreover, another piece of confirmatory evidence, if you look at politicians in their last term when they're going to quit, they become less responsive to the composition of their district, which is, once again, consistent with a Median Voter Vote Maximization model.

On the other hand, there's clear evidence cleverness the Vote Maximization Model isn't right. I mean, the most transparent evidence is US senators. Two US senators from the same state have the same median voter. And yet, in a large number of states, the two senators are often of different parties who do not agree on every issue. So clearly, the Median Voter can't explain Everything when you got two people representing the exact same population taking sometimes diametrically opposed positions. Yes, Steven?

AUDIENCE: [INAUDIBLE] still hold because it's happening at different points in time?

JONATHAN   Yes, that's a good point, if they're elected at points in time. But you'd need a pretty radical swing in preferences
GRUBER: over, say, two years, to go from a-- I mean, if they're right towards the middle, you can imagine that. But that's a good point. But even sometimes elected at the same time, you get two different parties. Yeah? Well, because you have special elections and things. So basically, that's a rejection.

A more clever rejection actually comes from researcher, a former student of mine, Ebonya Washington, did, which is, she looked at how politicians voted on issues affecting women's rights based on the gender composition of their children. So conditioned on having a certain number of children, the gender composition is random.

So two politicians, both of which have two kids-- one has two boys, one has a boy and a girl-- are functionally identical. Yet she finds the ones that has the boy and the girl votes much more positively on women's issues than the one that has two sons. That cannot be explained with the Median Voters. That's got to be ideology, underlying ideology.

So clearly, the Median Voter Model matters. People respond to the composition of who their voters are. But it's also not determining.

I think the most interesting evidence of the Median Voter Model actually comes from this thing in 2007. So basically, there's something we do in the US government, and all governments. It's called earmarks. An earmark is when they put together this giant $3 trillion budget, there'll be a line. Line 974 will say, including $3 million for this baby pet project of this politician. And that's how these deals get made. There's a bunch of little pet projects that get rolled in to get people's votes on the big budget. Those are called earmarks. Those are really buried in these bills.

In 2007, the House of Representatives added a rule to try to fight-- these earmarks are generally viewed as often very wasteful, things done to please constituents, and not really what should be in the interest of the overall US public. So in 2007, the House of Representatives put in a rule which said, we've got to make all these earmarks public. And the idea was they hoped it would shame politicians into not creating earmarks.

It had the opposite effect, because they were like, great. I can brag to my constituents now about all the things I'm doing for them. It actually increased earmarks because politicians didn't want to hide the fact they were doing good things for their constituents. They wanted to advertise them. So it actually had the opposite effect, which is, once again, consistent with a Median Voter kind of model.

As one representative from Kansas said, "Democracy is a contact sport. I'm not going to be shy about asking for money for my community." So that's where we are with the Median Voter Model. But I want to come back to a question about that.

I want to come back to Alec's point, which is let's talk about the L word-- lobbying. OK. This is sort of a swear word in common political discourse. Those lobbyists, they're so terrible. Lobbyists are ruining Washington. First of all, where does lobbying come from?

The term lobbying comes from the fact that President Grant, when he was president, would, every afternoon, get drunk and sit in the lobby of the Willard Hotel, which is across the street from the White House. And he'd go ask favors of him. And he'd say yes because he was drunk. So that's where the term lobbying comes from.

I don't want to impugn the guy-- maybe not every afternoon, but on many afternoons. And that history maybe leads to a negative taste in people's mouths with lobbying. But in fact, as Alex's question pointed out, lobbying is not obviously bad. It's not obviously bad for two reasons. Why is that? Why might lobbying be productive? In fact, why might an optimal government have some lobbying? Yeah?

AUDIENCE: It helps with the information.

JONATHAN GRUBER: It helps with the information. So I worked in the government. We had to deal with an enormous number of issues all the time on which we were not expert. Lobbyists would come in, and they'd be experts. Now, they'd experts with a point of view. But as long as there are lobbyists from both sides, I got educated. So, actually, they help fight the full information problem. That's one thing they help with. What else do they help with? How else could lobbyists help to deliver the efficient outcome? Yeah, [? Alec? ?]

AUDIENCE: They provide information about the preferences.

JONATHAN GRUBER: Yeah, they can represent intensity of preferences. Remember, the median voter model fails when the median voter does not represent the mean voter because there's an intensity of preferences we're missing. Well, lobbyists represent that intensity of preferences. The problem, of course, is when they go too far. The problem, of course, is that basically-- so I have an example in the book. You don't have to write it down. It's just a simple example.

Imagine there's a policy that will benefit a hundred people in the US by $1 million each, but the remaining citizens in the US will lose $100 each. Clearly, that's a loser. Clearly, we are worse off as a society. But that project may still pass, often through an earmark, because basically, the intensity of preference of those 10 voters is not offset by anyone representing the nonintense preference of every other voter.

So once again, you can see the balancing act here. The balancing act is, on the one hand, if you don't at all represent preference intensity and there is ideological differences, then you do not get the optimal outcome with the median voter. On the other hand, lobbying probably overcorrects for that by overrepresenting the preferences of small groups versus large groups. And that's the tension with lobbying.

Now, there's no better example of that-- and I have several pages on this. I'll just go through it quickly-- than farm policy in the US. In 1900, 35% of all workers in the US worked on farms. Today, it's 1%. And yet, we spend $22.4 billion as a federal government every year sending money to farms. Now, think of it this way. And so basically, each US household, every household in the US, spends $144 every year supporting US farmers.

Now, you might think, gee, I don't want to spend $144 supporting US farmers. Why does that happen? Well, that's because each farmer in the US gets, on average, $15,000 in supports. So you have your $144. You don't get together and lobby because it's a classic free-rider problem. Who's going to put all the work in to lobby for $144? Lots of people put the work in to lobby to get $15,000.

So the problem with lobbying is, the free-rider problem is going to lead to an overweight on issues that are intensely important to a small number of people versus issues that aren't that important to a large number of people. That's the classic flaw in lobbying. Now, if you ask farm folk, they'll say, well, you're just biased against the family farm, and family farming is a way of life in America. We need it.

Well, they'd be wrong because almost all the subsidies to farms go to large corporate farms, not small family farms. The top 10% of farms in the US, all of which are owned by big corporations, received on average $560,000 per year, while the bottom 80%, which include family farms, received on average $8,000 a year. So this is not preserving some way of life of the family farm. It's large subsidies to large corporations that farm.

And basically, this is not just a US phenomenon. A lot of things we'll talk about are how messed up US politics are. This has got the benefit that it's messed up all over the world. For example, the European Union spends about $113 annually supporting its farmers. The average European cow, the average cow in Europe gets $2.33 in government subsidy every day.

Japan spends more than $47 billion on its farmers, with rice tariffs near 800%. And a lot of times, these farm subsidies are just pure corruption. And we'll come back to corruption to talk about later in this lecture. They're not actually even going directly to people they're supposed to benefit. So basically, farm policy is a classic example of how lobbying can work in theory but in practice will not work when you have small groups with large interests versus large groups with small interests. Yeah?

AUDIENCE: Are those subsidies like [INAUDIBLE] buy a lot of land [INAUDIBLE]?

JONATHAN GRUBER: It's a very complicated system. Some of it's a direct subsidy. Some's loans, subsidized loans. It varies by crop. It varies by type of crop. There's winter wheat and spring wheat. And winter we consider subsidies of spring wheat. It varies by all sorts of things. So there's no simple explanation. I describe more in the book, but there's no simple explanation. All right. So we've done this whole study of, OK, here's how representative democracy works. And that's where my lecture ended until about 2016, when American politics broke, and where we cannot discuss American politics without discussing the issue of polarization.

So we have become an unbelievably polarized nation. And there's no better way to see that than to look at figure 9-4. So what does figure 9-4 show? There's an organization which measures how conservative and how liberal each politician's votes are. So on most issues, there's a conservative position, a liberal position. And they give a score based on essentially how conservative or liberal the votes are of each politician.

We have two graphs here, one for the Senate, one for the House. Let's look at the bottom line in the Senate graph, the line for Democrats. What this says is, in 1879, the average Democratic senator was about 45% more liberal than a neutral set of votes, than if they'd randomly voted up or down on everything.

They then became more centrist, less liberal-- so as this goes towards the median line, that's less polarization, more centrism-- by about the middle of the 20th century and then became more polarized again, more partisan again. Same with Democrats in the House-- similar pattern.

Republicans have a similar time pattern but much more extreme. So what we see is that polarization has gone up enormously. So the two lines are as far apart today as they were in 1879. The difference is that the Democratic line hasn't changed a lot, and the Republican line has gone up a lot. So essentially, we have polarization that's driven by both sides but primarily by one side. But the bottom line is, we have polarization. This is not a US-specific phenomenon. Polarization is happening all over the world.

So all over the world, we see this separation. But the US is unique in how extreme it's been. Yeah?

AUDIENCE: For data like this, how do they keep a standard for what is neutral when the [? line's ?] on average [INAUDIBLE]?

JONATHAN GRUBER: There's judgment involved, obviously. Obviously, on every bill, there's a panel of people who work for this organization who evaluate, what vote's liberal? What vote's conservative? They're nonpartisan experts. They may get it wrong sometimes. But the average should be pretty good. So basically, the whole world is polarized, but the US actually seems to lead the world in polarization. We're number one in polarization.

And you see this in-- COVID is the best example, where when you ask people of different party, 37% of Republicans thought COVID was a big problem and 73% of Democrats did. Now, COVID, it's a scientific thing about whether COVID is a big problem. You could imagine a little variation around the word big problem. But the bottom line is, there's just enormous disagreement over basic facts. And we all see this every day. We all know this is true. I don't think it's controversial to say we've become an incredibly polarized country.

The question is, what has changed? What's going on? What's driven this polarization? So you tell me. What's caused this? Yeah?

AUDIENCE: Technology.

JONATHAN GRUBER: What do you mean?

AUDIENCE: Like the internet.

JONATHAN GRUBER: Well, how does the internet cause polarization?

AUDIENCE: More information.

JONATHAN GRUBER: OK, more information. But in fact, if anything, we'd think more information will cause less polarization. More information would be now, if you have biases, you can defeat them with information. So let's stay on this. So flesh out your answer. It's not just more from-- what do you think when you speak about the internet? You're not thinking about all websites. What websites are you thinking about in particular? What about the internet? Yeah?

AUDIENCE:	I think, specifically, misinformation on social media.
JONATHAN GRUBER:	Yeah. So look, let's be honest, the internet's great. Social media, not so much. Basically, what's gone on is, essentially, individuals have been able to create their own-- what we call echo chambers and their own fact bases based on the-- it wouldn't be possible without the internet. But it's not espn.com that's causing this, OK? It's social media sites, other news sites. And that essentially, there's this been this proliferation of media, which has caused polarization.

So basically, if you go back to history, after World War II, most Americans got all their news from one of two or three sources. And then, as one author put it, "All that changed with the advent of cable television in the 1980s and the internet in the 1990s. Now Americans can choose from hundreds of partisan news sources, many of which care more about arousing emotions than hewing to journalistic standards. This proliferation of sources interacts with the most notorious problems in human cognition, the confirmation bias." And this is where information can be bad, not good.

People rarely seek out evidence on both sides before making a decision on moral or political matters. Rather, they begin with their initial belief and seek out evidence to confirm it. And this is the fundamental challenge. The typical view of economists and scientists would be truth is the best disinfectant, that basically, if people are biased, give them the truth and that'll fix it. But in fact, that is no longer true when there's no objective truth.

And that is a little bit where we've been heading, that basically, what we have is a partisan media environment that's not just confirming voters' beliefs but actually shaping them. As some authors say, "describe a polarizing feedback loop, an echo chamber, where partisans can reinforce and strengthen their initial biases." So you have these echo chambers-- the key term. People are put in these echo chambers, where they can essentially get initial biases confirmed and strengthened.

And of course, this is strengthened by the algorithm used by social media companies, which, essentially, when they see you like something that is left wing or right wing, immediately pound you with more and more lefter and lefter and lefter and righter and righter and righter things. That's the way the algorithms are designed to maximize eyeballs. So we have this. I don't think what I'm saying is new to you all. The question is, is this just, quite frankly, liberal, usually, whining, or is this real?

And the evidence is that it's actually quite real. And in fact, probably the best evidence for this comes from a really cool study, which asked, how much does *Fox News* influence voters? And look, we know *Fox News* has a conservative bias, but whatever. As long as people are watching it, they understand that. It shouldn't influence their views. How would you test that? Well, it's hard because people who choose to watch Fox are different than people who choose not to. There's no random assignment there.

But they found a very clever way to get random assignment, which is, it turns out that most people, when they turn on the TV, when they used to watch TV, turn on TV, would start at 2 and click up. And it turns out that stations that are at the bottom of the number distribution were more likely to be watched than stations at the top of the number distribution. It also turns out that it's random, where *Fox News* was in the number distribution, basically depends on the timing of when Fox got to town.

So they said, if you're randomly in a place where Fox is low in the number distribution, it turns out you watch Fox more than if you're in a place where Fox is randomly higher than the number distribution. And they found that places where Fox was low on the number distribution were much more likely to vote conservatively, even though being otherwise identical to a place where it was higher. And this is not small. They actually estimate that-- I don't have the numbers in the book. But they estimate that in 2004, John Kerry would have beaten George Bush if you take out the Fox effect, and that in 2012, President Obama would have won by 10% more than he did if you take out the Fox effect.

So this is quantifying and saying there are enormous, enormous effects here. Now, that's just *Fox News.* But social media has amplified this. So in 2020, 71% of Americans reported getting at least some news from social media. And basically, the echo chamber basically allows people to confirm their biases and their positions.

Something personally important to me is how it affected perceptions of the Affordable Care Act. So in a 2017, poll respondents were asked whether repeal the Affordable Care Act, which eliminated expanded Medicaid coverage and private insurance subsidies-- so basically, repeal this law, which basically gave a lot of people insurance. They asked, would this lower insurance coverage? The answer's unambiguously yes. 80% of Democrats said it would. 50% of Republicans said it would.

Here is what's perhaps most disturbing. If you took people who had pre-existing beliefs about the Affordable Care Act and gave them facts about the Affordable Care Act, objective facts to both sides, that move their opinions farther apart, not closer. How can that be? It's because the confirmation bias principle. People heard what they wanted to from the facts and used to confirm their pre-existing positions. That is incredibly scary. That's the scariest thing of all. It says the problem is not necessarily even more the lack of objective truth, that basically, there is no objective truth, that if you give people objective truth, it becomes twisted into confirmation bias.

So that is a clear cause of polarization. And it seems like a clear major cause of our polarization. So one is media. So one is media. The second is the voters, which is absent media. Obviously, these are going to be impossible to separate. But there is an important distinction, which is, even absent media, are we becoming more polarized as a society? And we clearly are becoming massively more polarized society. Now, we don't know how much of the media channel, but it's incredible.

Here is my favorite scary fact about this. In 1960, the majority of people in America were opposed to someone marrying someone of a different race. Today, it's only 10%, still too high but whatever. 10% of America is opposed to their child marrying someone of a different race. In 1960, 5% of voters were opposed to their child marrying someone of a different political party. Today, it's 50%. So people are as opposed to their children of different political party as they were opposed to different races in 1960.

And basically, the most thoughtful writer in all of this is a guy named Ezra Klein. And he talks about the rise of tribalism, that essentially, political party has become a symbol for identity, that essentially, there's a bundle of things that make you a Republican voter. And those things are reinforced, and they go together, and they become an identity a set of people, and likewise with the Democratic voter. We talk about the MAGA, true, real conservatives, or the woke left.

These are groups where, basically, they are self-reinforcing. They hang out with each other-- media helps with that-- and where they're becoming less and less likely to either communicate with or even interact with people of opposing views. They don't interact with people with opposing views. They don't see people with opposing views. They are vividly opposed to those opposing views. And it becomes a sense of, everything becomes that way, that it's not like, well, I don't like them on this issue, but I'll compromise on this issue.

No. It becomes, this is your tribe and you can't-- look, I don't know how many of you-- there's probably no one in this room as big a sports fan as I am. I conjecture. But if you're a sports fan, it's like sport rivalries. I heat the Yankees. I'm a Red Sox fan. I heat the Yankees. And you know what? That doesn't do anybody any harm. I don't do anything physically bad to them. I might boo them occasionally. I think they can handle it.

But when people have that same feeling about the opposing political party, that matters. That matters because what happens to the Yankees does not determine my well-being. They don't rule me yet. But what happens in the elections does. And so people have the fandom, super fandom, about political parties and irrational-- my love for the Red Sox is totally irrational. There's nothing rational behind it. Then that's sort of worrisome about where we're heading. So that's the second problem.

A third problem that I think is not discussed as much, but is very important, actually, is essentially institutional changes, institutional changes, which have happened at the same time. As people become polarized, the media is changing. The institutions have changed. And there's no better example of this than gerrymandering, a term many of you have heard. It's because there was a politician whose name was Gerry who wanted to create a district where he could win. So it was shaped like a salamander.

So basically, here's the deal. In a rational system-- senators are elected from each state. Representatives, all 438 of them, are elected from districts. And they're supposed to be population representative. Senators are state representative. Congresspeople are supposed to be population representative. So the idea is to divide the country into 438 pieces in a sensible way so they represent the US population.

That is the idea. So you can imagine how you could do this. An MIT thesis could do this. You could sit down. You could say, look, districts have to be geographically sensible because people go to vote physically. Maybe in 50 years, we'll all vote by mail, and it won't matter. But traditionally, people vote physically. So you've got to have some geographically sensible configuration of land. Let's figure out the best way to geographically divide the country into 438 blocks that best represent the views of our country. Now, there'd be some decisions along the way, but you could get pretty close. That's how most countries do it.

In the US, in many states, the shapes of districts are created not by some apolitical process but by the state legislatures themselves. State legislatures determine what districts look like. And state legislatures therefore have incentive to shape the districts in a way that maximizes the chance that their party wins. How do they do that? They do that by cracking and packing. I love these terms.

Cracking is divide your opponent's supporters into multiple districts so in no district are they a majority. Packing means make one or two districts which have a ton of your opponents in them, but then you become majority everywhere else. So the best way to think about this is, essentially, you want to maximize the number of wasted votes that the opposing party has. You'd like to win every race 51 to 49 because then you win every race and your opponent's wasted all their votes.

So essentially, every vote, which is every time you lose or vote where you win by more than 51%, those are wasted. The only vote that matters is the vote that gets you to 51%. Everything above that's a waste. Everything below that's a waste. So you can measure how efficient political systems are or how neutral they are by how many wasted votes there are. The more wasted votes, the less well designed a district system is. You'd like a district system that would minimize wasted votes, whereas partisans want a system that maximizes wasted votes.

This is actually pretty cool because this is the first time I know that computer simulations were presented in front of the Supreme Court-- was in 2017, there was a case about this. Wisconsin had a massive efficiency gap. That is, in a typical system, you'd like to be a zero efficiency gap. Both parties would be equally efficient. Both parties have the same number of wasted votes. Wisconsin, there was a 12% gap. Democrats had 12% more wasted votes than Republicans.

Now, the Wisconsin Republican Congress state legislature supported this, said, well, look, that's just random chance it's going to happen. So they did a computer simulation. And he essentially drew 200 different possible configurations of geographies of Wisconsin and, in each configuration, measured the efficiency gap. And all 200, their existing configuration had a bigger efficiency gap than any other randomly selected possible configuration of areas, which clearly showed there was bias going into selecting those areas.

So basically, we have this problem, fundamentally put, that voters should choose politicians, but right now, through gerrymandering, politicians are choosing their voters because they're determining where voters go and who they vote for. That's the kind of institution. Now, of course, there's another institution, which we talk about a lot, which is coming up in a couple of months.

Remember to vote. I'll keep reminding you. Remember, if you don't know what to do, go to MIT TurboVote. Learn about how to register. Make sure you vote. Presidential election's coming up. And there, we're going to hear a lot about the Electoral College, which is, once again, another institution-- this is not new-- but another institution which is affecting the bias in our system, which is that we have had, essentially, I think-- let's see. It's, what's, three of the last six elections, the winner of the election has not won the popular vote.

So the majority of America is not electing the candidate. So that's another institution that matters. The one institution that matters-- yeah?

AUDIENCE: [INAUDIBLE] the United States, they decided [INAUDIBLE] electoral district and see who wins this instead of having an aggregation of individual votes?

JONATHAN GRUBER: You're talking about the Electoral College?

AUDIENCE: Yeah.

JONATHAN GRUBER: Yeah. That was basically historically because it was too hard to aggregate. Everyone was just voting on a piece of paper, and you had to drive by horses and get them all together. So it's just too hard to aggregate. There's no reason to have it now, except let's, remember, think about the political economy, which is, as long as more states-- to repeal this, you would need an amendment to the Constitution. The amendment of the Constitution has to be passed by 2/3 of states. As long as 1/3 of states, 1/3 plus one state, benefit more from this, then the other 2/3 lose. You'll never pass that amendment.

And that'll, by definition, always be true. By definition, there'll always be at least 1/3 of states that are better off because of the Electoral College. That may shift over time. So if you could manage some period of time, where suddenly, Electoral College was neutral, maybe then you could get a change. But if it's ever not neutral, the people who win from it, people who get more power because of it-- so a vote for president cast in Wyoming currently counts four times as much for president as one cast in California.

Why would you want to give up that power if you're Wyoming? What politician would ever visit Wyoming with a national electoral-- they wouldn't. So basically, the argument that advocacy of Electoral College make, which is worth discussing-- this is not a priori crazy-- is, look, if we got rid of the Electoral College, politicians would never visit any but the top 10 most populous states. Because why bother? Be inefficient. So the whole country would not get attention if it got rid of the Electoral College. That's the argument. Yeah, Steven?

AUDIENCE: I was just curious. When you talk about the Electoral College, the thought that I have is, at some point, there might have been concerns about states trying to increase the amount of votes that they get relative to other states in the general election by, for example, lowering the voting age to five or something like that, where you can make a bunch of changes to try and get--

JONATHAN GRUBER: The voting age is set federally. The voting age is set federally, I believe. No, is that not true?

AUDIENCE: No.

JONATHAN GRUBER: Can states let 16-year-olds vote if they want?

AUDIENCE: They can also let noncitizens vote if they want.

JONATHAN GRUBER: OK. I know about that, but I'm not sure about age. Are you sure about age?

AUDIENCE: Age is maximum limit is 18. So [INAUDIBLE].

JONATHAN GRUBER: Maximum, great. So that's a good point. That may be another reason why you wouldn't want to race to the bottom among states of letting newborns vote. That's a fair point. But on the other hand, the Electoral College-- it's funny. Those people who say, well, all the attention would be paid to California are missing the fact that now all the attention's paid to Pennsylvania. So no matter what system you have, there'll be a small subset of states that get all the attention. With our current system, it's the seven swing states, which are where the median voters live.

So the median voter theorem lives. And the reason it lives is because Harris and Trump will be spending a huge amount of their time over the next few months in just seven states-- Pennsylvania, Michigan, Wisconsin, Nevada, Arizona, Georgia, and North Carolina. They'll be spending the majority-- now, those seven states only have probably 20% of the US population, but they'll get 80% of their time. So it's not like having the Electoral Colleges solve the problem of politicians concentrating their activity. If anything, it's made it less good. At least if they're spending all their time in big states, it'd represent more Americans. So that's the Electoral College.

We actually have another feature which would be even harder to change, which is the structure of the Senate. I don't know if we have *Hamilton* fans here, but we all know about the compromise by which America was set up. It was a compromise between states' rights advocates or not. And the way they solved that compromise was by creating a body where the representation is essentially by state, not by population.

The result is, the current projections are about 70% of the US population will be represented by 30% of the Senate because small states get two senators, just like big states do. So once again, if you really care about direct democracy, it's hard to think how that makes sense.

But once again, the argument would be that there's a unique set of interests that these states have that would get ignored if it was popular-- once again. And they're right. No one would ever pay attention to Wyoming if there was no Senate. They'd have no power. So basically, that's a fair point. The question is, why do we care? And that's an important question to be thinking about.

So those are the kinds of institutions. But there are other institutional changes that matter too. So one example-- there's a number of examples. Some recent examples is things like voter fraud concerns and voter registration, that basically, once again, in principle, we should have a national conversation about who is eligible to elect our representatives. And then everyone should follow the same rules and allow those people to vote.

That is no longer happening, or there's a concern that's no longer happening, and that different states, based on their partisan composition, may be restricting who can vote in different ways, maybe passing laws which say-- this maybe is another confirmation of your point, Steven, which is that maybe it's not playing with age but playing with other things, like criminal status, access to a polling place, et cetera that is basically causing there to be a partisan bias and essentially who can vote.

So basically, that's another institutional change. So the point is, we're seeing lots of interesting changes in how we institutionalize this. And so the question is-- we could talk about which of these is the problem. They're all the problem. And I'm going to use problem. I have no problem using a loaded term like that.

It is a problem that we talk past each other, that we don't have the same set of objective facts, that we don't have a truly representative democracy in which-- I don't mean the Senate, Electoral College thing. That is just debate between states' rights, not. And I have my views, but there's no objective truth on that, I think. It's more stuff like gerrymandering or the other biases that we talked about that are more obviously problematic.

So the question is for you guys to solve, lest your lives be ruined-- what are we going to do about this? I'm old. I'm done. Basically, I've gotten through this pretty well. But you guys, this is your life, and it's only getting worse. So the question is-- and I mean this legitimately. I'm asking I'm asking the class. What can we do about this? What answers are there out there to try to address these kinds of problems that are causing more polarization? Yeah, Alec?

AUDIENCE: Independent districting committees.

JONATHAN GRUBER: So that's a perfect example of a technical but very valid conclusion, which some states are doing. Some states have independent districting committees, which are trying to really minimize this efficiency gap and choose districts in the most appropriate way, not in a political way. What else can we do? Alec?

AUDIENCE: Mandatory voting. It would change the issue [INAUDIBLE].

JONATHAN GRUBER:	So my son is new wife is from Brazil. They have massively higher voting turnout than we do. Why? Well, for two reasons. First of all, you get fined if you don't vote. Second of all, voting is a holiday. Voting day is a holiday. We're, I think, the only major country where voting day is on a work day. Now, once again, how could you be opposed to voting day not being in a work day? Well, you're opposed to that if you're the side that wants low turnout, which, once again, could vary over time.
	Right now it's the Republican side which would like low turnout. In 20 years, it could be the Democrats who want low turnout. The bottom line is, if you want low turnout, you like voting being on a Tuesday and you like it not being mandatory. So those are things we could do-- once again, all things that other countries do that are sensible. What else? Yeah, Enoch?
AUDIENCE:	Getting rid of super PACs.
JONATHAN GRUBER:	So we could try to tamp down on money in politics. So what happened was, the Supreme Court essentially took a limit of how much money, through various mechanisms, people could contribute to politics in what-- 2012, I think was *Citizens United*-- 2008. I don't remember. They took a limit off how much people can contribute. And money in politics by and large, while in principle-- once again, here's the key thing. In principle, money in politics could be good because it could represent intensity or preference, which is missed by the median voter model. In practice, it's bad because it overly represents intensity of preferences, and in particular, overly represents the preferences of people who happen to have money at that point in time.
	And so as a result, you are getting politicians paying attention to particular donors rather than the needs of all their constituents. And you're not necessarily getting what is in the interest of social welfare. Remember our social welfare weights. Remember, we think that, basically, we probably would be redistributing from those who have a lot and thus a low marginal utility consumed. Those who have a little and a high marginal utility consume, that's the opposite of where the money is currently held.
	And so there'll be a natural bias against social welfare maximizing redistribution. So money in politics is another thing we can do. Yeah?
AUDIENCE:	One issue about mass media echo chambers is that once a news company formed their user base, which is usually biased, they have no incentive to deviate from that towards a nonbiased [INAUDIBLE] type of media. So if there were a way to either have a greater focus on, quote unquote, "centrist sources" to re-incentivize the media companies--
JONATHAN GRUBER:	This is, to me, the fundamental challenge we face, which is-- that, to me, of all these problems is the dominant one. Because I can see answers to a lot of these problems. Along the way, these were suggested. That one, I don't see the answer. Without nationalizing news, how do you get-- they're profit-maximizing companies. How do you get them to do that? Yeah?
AUDIENCE:	[INAUDIBLE] they do this type of [INAUDIBLE] reform [INAUDIBLE] has information from both of the [? position? ?]
JONATHAN GRUBER:	Yeah, we could try to do that. The only problem is, I'm sort of depressed by-- the evidence says that facts don't matter or could make things worse. So getting both sides-- certainly, that would help in theory. In practice, the Fox viewer is going to throw away the blue pamphlet and keep the red pamphlet, or interpret the blue pamphlet as supporting their position. So in some sense, if you had made that suggestion 20 years ago, I'd be much more optimistic and said yeah, we should do that. Now, I don't know if that moves the needle.

AUDIENCE: So then the provision of information is not going to change because even though you received information [INAUDIBLE], you can always change and ignore it.

JONATHAN GRUBER: So the question-- what do we do about that? That's the challenge. Yeah, Steven?

AUDIENCE: This I don't think is actually feasible. And I'm not sure--

JONATHAN GRUBER: Oh, no. We're not doing feasible.

AUDIENCE: But mandating a cap on the price of advertisements.

JONATHAN GRUBER: Basically, you could make it less profitable, in some sense. But the problem is-- that's an interesting argument. But in fact, some economists have explored this issue of whether competition-- essentially, whether the money to be made is causing this bias. And it's not clear. If it's not profitable to run a news network, if you can't make a profit on a news network, then basically, it'll be the really crazy biased people who run news networks, right? Because that's the only reason they're going to run it then, is because they have crazy views. At least a profit motive can keep them a little honest. Yeah, Alec?

AUDIENCE: There is a level to which some of the other things you talked about that we do have solutions to play into the polarization, like gerrymandering, because you have politicians who cater to an extreme base and can do that because their district isn't competitive. And when you start to solve that, you start having politicians who can't do that anymore. And there is an impact that leaders have on public opinion.

JONATHAN GRUBER: I think that's right. I think this all interacts. I agree. And I agree. I remain concerned that it's hard to-- that this echo chamber problem kind of dominates. But the question is, what do we do about this? And there's actually a very interesting new case, which may have a big influence on this. So I don't know how much you guys know about internet law.

But part of the reason the internet flourished was a law passed a number of years ago, Section 330 or something-- 230-- which basically says, platforms cannot be held responsible for what you post. So basically, if you post some racist Nazi shit in a platform, it's not their fault. They can't do that. So people have been unable to deal with the fact that [INAUDIBLE] online.

But there's an interesting lawsuit. And the reason is because they are viewed not as media sources, but as platforms-- as platforms, not responsible for what's posted. But a lot of what's driving the problems today is not what's being posted but the algorithms that drive where you look. And the lawsuit says you can sue them over their algorithms. That's kind of interesting. Because if a lot of these problems are caused by algorithms, then you're not a neutral platform anymore if you have algorithms driving where people go.

And so if we can start to-- that's the most optimistic thing I've heard about trying to deal with this, is, how do we get at those algorithms that are driving this? I think more generally, it's, how do we create-- and here, I want to be more optimistic. How do folks like you, which are the next generation of elites and thought leaders in the country, how do we deal with this and help solve it? And one way we do that is by recognizing, in some sense, the underlying danger of social media and trying to deal with it.

I don't know how many of you guys have known my favorite new social media study. Have you guys heard of the FOMO study with social media? You guys heard about this one yet? This is the most amazing study. So a great economist at Chicago named Leo Bursztyn, he went to university students at about a dozen universities and said-- actually, I'll ask this question. Here we go. I don't have a clicker, so we can't take the vote.

Imagine I told you-- you're all busy. You're not typical, right? But imagine I was willing to pay you to give up TikTok for a month. Imagine willing to pay you to give TikTok for a month. How much would I have to pay you to give up TikTok for a month? I'm not going to ask, actually, just be embarrassing. But I've asked people, kids of people, my friends-- I get numbers in the range of $100. And the average in the sample is $60. They had to pay people $60 to give up TikTok for a month.

Then he said, look, I've reached an agreement with your university that if 2/3 of you agree to it, the US will ban TikTok for everyone on campus for a month. How much would I have to pay you to do that? Or how much would you pay for that? And the answer is, people said they would pay $40. Think about that for a second. They have to be paid to give up their own TikTok account, but they would pay $40 for everyone to give up, including themselves, to give up their TikTok account.

That is proof of FOMO right there. It's perfect evidence. Basically, the only people using TikTok is because they're afraid of not. In other words, TikTok is making us worse off, not better off, because we'd all be happier if it was gone. Now, that's extreme. But the bottom line is, how can we use studies like that and evidence like that to really come at the root source of what's driving this?

And here is where I will put in my pitch for where you can help. And it comes a bit to the comment here about sending that information, which is, the other trend that's gone on that's making this worse is a view of, to put it in elitist terms, lack of respect for elites, to put it in nonelitist terms, a trend towards people doing their own research. I did my own research. OK. Well, that's just not healthy. There are experts in things, and experts know stuff, and that should be respected. But that's going away.

I don't think that's a controversial statement. I mean, it's controversial in today's world. But it's not factually controversial that some people know more about things than other people and that we can learn more about things by consulting those who know. Why has this lack of respect for expertise exploded? Well, all these reasons plus one more, elites separating themselves, intellectuals separating themselves from communicating with everybody, talking only to each other in language we only understand, and not using terminology and expressing ourselves in ways that other people can understand.

In fact, the one piece of really good evidence of how you can move people is through personal connections. The one piece of evidence on how you change people's opinions is, when people have friends and connections from the other side, you can move their opinions. But when experts stand up and just say, look, you're wrong-- one of my favorite-- you guys know *The Onion*-- favorite *Onion* articles ever, it was a fake editorial saying, you know, I totally changed my views when that guy called me an ignorant asshole.

And it's like, no, that's not going to change anybody's views. And you may feel that way, and you're entitled to your feelings. But the bottom line is, we need to engage with where people are. And we, as the experts, need to go and engage and build our communication skills. I realize MIT is not a communication-focused university, and you all hate your communications courses. I understand that. But it's important that we don't just talk to each other but that we can talk in terms that everyone understands and that we can basically-- because that's how we actually change things.

So my message to you is to urge you, as you become an expert in something, to not buy into the bullshit that expertise is invaluable-- expertise is incredibly valuable-- but to recognize people have that view because we're not good at expressing our expertise in understandable and humane ways. And that's, I think, the place we can make a difference, and I'm hoping a positive difference. Hoping that someday, if it's done in that way-- oh, here they come for me.

[LAUGHTER]

Someday, if it's done in that way, that you can get those red and blue pamphlets, and you will pay attention. So that's what I want to say about polarization. Any other questions about that? Let me come to one last topic. Let's go even further, which is-- I've talked about a system of unanimous consent. I've talked about direct democracy. I've talked representative democracy. I've talked about polarization. But I have yet to talk about a system where politicians don't actually care at all about what's good for the country.

I've talked about a system where politicians may not do what's best for the country in aggregate or may bias them, but I still assume politicians are kind of trying to do what's right. And the whole course does. But in fact, that may not be true. And that leads to a whole area of corruption, which is basically a fundamental challenge to, how do we think about modeling government and designing policy in a world where, really, the goal of the government is not at all to do social welfare maximization, but just to maximize their own power and wealth?

Now, this is obviously a huge problem-- to be fair, worse around the world than it is here, especially in developing countries. So as fun examples, the former prime minister of Malaysia was arrested in July 2018 because, since 2015, the US government had been investigating $4.5 billion stolen from the Malaysian government and laundered through US corporations.

More than $1 billion of that was spent on US goods, including a 22-carat pink diamond necklace that cost $27 million, necklaces that cost $1.3 million, the production of the movie *The Wolf of Wall Street,* and his son's lavish parties, including $12 million in gifts of art to Leo DiCaprio.

So that is one example. Now, the US is not alone. Now, probably the king of corruption in the world-- I think the title-- probably goes to Joseph Mobutu of the Congo, which was renamed Zaire and then renamed back to Congo. Between 1967 and 1997, when he was chased out of power, the entire worldwide incomes grew over that period. In real terms, they probably doubled or tripled.

In the Congo, income per capita fell by 2/3. Over a 30-year period while the rest of the world was becoming two to three times richer, income per capita fell by 2/3. And he became one of the richest men in the world, with wealth of more than $5 billion. Now, in a situation like that, how can you think they're doing anything we're talking about in this class? They're not worrying about optimal public goods provision. They're worrying optimal yacht provision to them.

Now, we're no exempt from this. And one of the fun examples is-- we have any folks from Illinois here? No Illinois folks, OK. Well, Illinois is the great-- maybe you're afraid to admit it-- corruption capital. George Ryan was the governor. He was indicted by a federal grand jury because it turned out that when he was secretary of state, he allowed people to buy their way into driver's m even if they weren't qualified. And result-- at least 20 people died in accidents involving drivers who were unqualified who bought their licenses.

And so he was sent to jail and replaced by someone who campaigned on clean government, a man whose name I heard, named Rod Blagojevich. Rod Blagojevich, you might say, God, that name sounds maybe a little familiar when I was a kid. He went to jail because he auctioned off Barack Obama's Senate seat. So Barack Obama went to president, ran for president. His Senate seat became open, and there should be an election for it. Blagojevich secretly took bribes to decide who would-- the governor got to appoint the senator. He took bribes to decide who would get that seat. And so he went down.

So corruption is everywhere. It's endemic. So what do we think about this? How do we think about the role of corruption? Well, there's a couple points I want to make. Point one is, we should not have a black-and-white view of thinking about corruption. That is, we should never have the view that any corruption means the whole system's broken. This is a problem we have in US politics today, which is that any example of corruption causes a uniform loss of belief in the whole system. And that's a problem, that basically, people lose their faith in the system at even a hint of corruption.

We're going to talk in the next section of the course all about public programs like Social Security, Medicare, unemployment insurance. There has never been a public program in the history of the world in any country that has not had some fraud-- never. Does that mean they shouldn't exist? No. It just means you got to balance the fraud against the good they do. Likewise, the fact that there's some corruption in the system-- does that mean the system is fundamentally broken and has to be ripped apart? Only if you've got a better system with less corruption should you do it.

It may be that a certain amount of corruption's inevitable in a system. And one should not think that any corruption-- it's sort of like we talked about pollution, said that optimal pollution is never zero. I'm not saying optimal corruption's never zero. I'm just saying realistic corruption is never zero. And so the first point is, we cannot get in this black-and-white system of thinking like people got about pollution, that any means the whole thing needs to be torn down. That's not true. We have to think about trading off how bad the corruption is versus the other features of the system.

So that's point 1. Point 2 is related to that, which is, corruption can lead to a dangerous cycle. Now, I've traveled all over the world. And whenever I'm in a country, I try to talk politics with the local folk. And in most countries in the world, in every developing country I've been to, you always get-- I'll say, OK, who are your political parties? Who are you going to vote for? You always get the same answer, everyone I ask. They're all corrupt. It doesn't matter anyway. I'm not going to vote. Everywhere, every developing country gives the same answer.

Think about what that means. That means that corruption can create a self-reinforcing cycle. And the reason is my third point, which is that the best barrier to corruption is democracy, that basically, the evidence exists that the more democratic a society, the less corruption there is. There's a number of studies which show that increasing democratic institutions, the democratic supports, leads to a fallen corruption.

So this means that we have a possibility of a vicious cycle, where corrupt politicians cause people to lose faith in government, cause them to not participate, which allows more corruption. And it continues 'til you're Zaire. And that is the risk with corruption that you move to-- we talk in economic about multiple equilibrium. We'll talk about some macroeconomics, different equilibriums that are equally likely possible, depending on random things happening.

Well, we are in the US, have traditionally been a very good equilibrium, where we have relatively little corruption and relatively high participation in democracy-- not as high as it could be. We're not as good as Europe, but we're better than developing countries. That can go away if a corrupt president erodes the faith in the whole political system. People just throw up their hands and say, forget it. I'm not interested.

And that is the other message on my soapbox I'm delivering to you all, which is, many of my friends on my side of the political spectrum got very depressed after 2016 and said, oh, the whole thing's broken. I'm not going to participate. And that's wrong. It's actually the wrong reaction. If the side you don't like is winning, the reaction is not to drop out. Participate more. But the problem is, it can feel it can feel like an uphill battle. It can feel like Sisyphus doing that. And that situation, many developing countries find them in. And it's a risk that any country can find themselves in that situation. OK. Yeah?

AUDIENCE: Quick comment. You mentioned that democracy is associated with lower corruption. How about democracy as well correlating with economic development?

JONATHAN GRUBER: Yeah, they've done studies. It's a great point. It's a great point.

AUDIENCE: [INAUDIBLE]

JONATHAN GRUBER: It's a bias problem, right? Democracy also correlates with-- now, democracy also correlates with economic success, say, to separate them. But there's various clever ways they've done that. It's not a pure-- it's not a randomized trial. But generally, the view is, from the bulk of evidence, that democracy is correlated with lower corruption.

AUDIENCE: OK. I guess my other comment was, there are outliers in this. For example, China is not really a democracy. But I guess, over time, given what some the leaders are doing, corruption may be also going down in the country.

JONATHAN GRUBER: Once again, we don't know. That's the problem. We don't know how much corruption there is in China. It could be enormous. We've got no-- I mean, look at how little Putin knew about the corruption in his own military and the decrepit state of his own military before he went to war. He thought he had a great military. Turns out, he doesn't, because it's all corrupt. So the problem with a nondemocracy is, you don't have the institutions that let you know how much corruption there is. So as a result, it could be self-reinforcing. I don't know how much corruption's in China. I'm not sure anybody does.

So that's the other point I want to make. Finally, let me come to the meta point of this chapter. The meta point of this chapter is to go back to the four questions of public finance, and to remember that just because the private market fails doesn't mean the government will succeed. What we technically are saying when we prove private market failure, like an externality or a public good, we're saying there is the scope for the government to improve things but not the, necessarily, will.

And I'll be sloppy on that discourse. I'll sometimes slip into language like, OK, the market's broken. The government should fix it. But the government might not. Just like there's market failure, there is government failure. And so the key thing to remember, even if I'm sloppy with my language, is that, basically, when we prove market failure, we're not proving the government can make it better. We're proving the government has the scope to potentially make it better. When the government will make it better, it depends on the scope of government failure.

And in particular, let me end with one important point about that, which comes, as I mentioned-- I realized, like I said, we only get a lecture in half on political economy, which is too bad. It's a great topic. But we have maybe the world's most famous political economist, Daron Acemoglu, teaching here. And he has a famous book called *Why Nations Fail,* which is all about the role that institutions play in determining the success or failure of countries, that it's not just about whether you got some corrupt guy in charge or not, but basically, how robust the institutions are.

And there's no way to see that more than look at the 2020 election. The US electoral system held up under enormous pressure from one side to change the results. It held up. Institutions matter. So there's a longstanding debate about, well, is it institutions that matter or people that matter? What really matters? And Daron's lifeblood has been a series of articles showing how critical institutions are, the underlying institutions of a country's success.

And maybe his most famous article is a super cool article he did, where he and his co-authors noted that, basically, there were two sets, two types of countries colonized by the great powers back in the 1600s and 1700s. And basically, [MIC INTERFERENCE] some countries were [MIC INTERFERENCE].

Some countries were colonized from afar, countries in the Caribbean and Africa. The Europeans generally didn't go live there. They set up proxy governments and went back to live in Europe. Other countries, like in South America or Australia, the Europeans went and lived there. It turns out that if you look today-- and it turns out, from the perspective of that time, those countries were all about pretty comparable economically.

Today, there's an incredible correlation between whether they were countries where the Europeans actually went and lived and economic outcomes. In particular, the ones where Europeans went and colonized and lived there had much better economic outcomes than the one they ruled from afar. They might say, well, I don't know. Maybe they want to live there because things about the country. So how did they actually test that? Did a really cool thing-- was they said, look, what's the best predictor of whether Europeans would live there? The incidence of malaria, that basically, Europeans didn't want to go live where there was malaria.

Locals aren't affected by malaria. They were immune. So it's basically whether Europeans would get sick by living there. And they found that places where you get more sick by living there, the Europeans were less likely to live there. What did they do? They did not set up strong institutions because they didn't live there. They didn't care. They were just extracting resources. They didn't care if there was crime. They didn't care what life was like there, how awful life was there. They said, give me my diamonds. I'm out. Whereas when they lived there, they cared. They didn't want to be victim to crime. They wanted good schools.

So essentially, where there wasn't a risk of malaria, a low risk of malaria, Europeans actually settled there, created good institutions, and those countries grew rapidly. Where there was a risk of malaria-- now, it's not one to one. It's a relationship. But as the risk of malaria went up, Europeans were less likely to settle there. They just became extractive powers. And weak institutions got set up.

So that's why-- and that's, they argue, a argue fundamental reason why Africa was much less successful than South America. If you look at two continents, which were in pretty similar places in 1600-- indeed, Africa's resource richer than South America is. Africa is a mess. And South America is, at least historically, been largely successful, certainly a lot richer than Africa. And they would argue it's because Africa was set up as an extractive culture, whereas South America was set up as a culture which had good institutions because Europeans wanted to live there.

So it's a pretty cool study that says that this stuff matters. It doesn't matter for our everyday life, but literally, it matters to orders of magnitude of GDP, setting up proper institutions. And that's why, once again, it comes back to this point, that it's critical that we keep the institutions in the-- it's critical. It matters less who's in charge, who's president. What matters is the underlying institutions that support a democracy stay in place. When those start to erode, that's when things really go south. OK. Questions about that? Yeah?

AUDIENCE: Because I think we talked about [INAUDIBLE] institutions versus scarcity of institutions-- are [INAUDIBLE] building institutions like ingrained in themselves, like incentivize corruption?

JONATHAN GRUBER: Yeah, so what [INAUDIBLE] incentivize corruption? What do you mean by that?

AUDIENCE: Or it was like [INAUDIBLE] were not well thought out. And they were like [INAUDIBLE].

JONATHAN GRUBER: Yeah. No, obviously, you can build good and bad institutions. But I think the point is that legitimate institutions are generally more observable, and observability is the opposite of corruption. So basically, when things are observable, they're less likely to be corrupt. So I think that would be the answer. Once again, if you find this interesting, *Why Nations Fail*-- sold more than a million copies, amazing book. So you can read all about this set of really interesting issues from one of our nation's leading intellectual stars. Yeah?

AUDIENCE: Do you think that paying politicians more for cracking down on corruption would do anything?

JONATHAN GRUBER: It's a really interesting question about the proper reimbursement of public officials. Indeed, there's a lot of incentive, that part of the reason politicians are so corrupt and local officials are corrupt in low-income countries, they're paid so little [INAUDIBLE] can survive, that basically, they take bribes. And think of a simple model, where I have consumption and honesty, my utility function. And I have a budget constraint.

Well, in that model, the more income I have, the more honest I'll be, because honesty is a good something I want. But I got to survive too. So in that simple model, paying politicians more will fight corruption. There's some evidence that's true. I think it's second order. I'm not an expert. Ben Olken, who's another incredibly wonderful political economist in our department, has done work on that. I think the evidence is that it matters, but it's not a primary determinant.

All right. Great. Good. Hopefully I didn't get myself into too much trouble. Let's stop there. And we will come back on Monday, and we'll talk about chapter 10.