[SQUEAKING]

[RUSTLING]

[CLICKING]

JON GRUBER: Today, we're continuing our discussion on social insurance. To remind you where we are, we're on the second big section of the class on social insurance. And last lecture, we covered the principles of social insurance. How does social insurance basically work?

How do we think about the fundamental social insurance trade-off between consumption smoothing and moral hazard? What we'll do for the next few lectures is apply those basic principles to a variety of different social insurance programs.

Now, there's a tension with these lectures. These programs are somewhat complicated. They all have different rules about how they work and who's eligible and stuff like that. So my goal is to tell you enough about the program so you can do the economics, but not more than you need to know.

That means I walk the line between boring you and leaving you uninformed. I'll try to walk that line appropriately, but please don't be afraid to ask questions. Wait till I go through the details. But at the end, if you're like, I still don't understand how this program works, you don't have to wait.

But if there's questions along the way, let me know. And if I'm going to answer them later, I'll tell you. So go ahead and ask when you have them. You don't have to wait. If I'm going to answer them later, I'll tell you. But just ask me questions if it's not clear how the programs work.

So today we're going to start with our nation's largest single social insurance program, which is the Social Security program. The Social Security program is basically our program that provides people insurance against retirement and disability and death of a spouse, basically terrible things that are very financially consequential at the end of your life.

So how does this work? How does the program work? Well, first of all, you pay a tax when you work. You pay the FICA tax. The FICA tax, you may have seen that line on your pay stub. That is the tax that goes to contribute towards Social Security. It's 12.4% split between you and your employer, 6.2% on each.

And it's capped at a certain level, right now about $150,000 of earnings. So on$ the first $150,000 of earnings, you and your employer each pay 6.2%. That goes into a trust fund we'll discuss later. And that finances Social Security.

Now, who gets Social Security? Well, to get Social Security, basically you have to have paid into the system-- you've paid this FICA tax for 40 quarters. I say 40 quarters instead of 10 years because it can be 40 quarters spread across many years. They measure it quarterly.

So you have to have paid above some minimum amount in payroll tax over 40 different quarters. Then you qualify. If you qualify, you can get a benefit. And so what is that benefit? Well, that's where things get complicated. OK?

What you get as a benefit is you get what's called an annuity payment. An annuity is the opposite of life insurance. We all know what life insurance is. You pay money while you're alive and your kids get money when you die.

Annuity is the opposite. You pay them a chunk of money upfront and you get a check as long as you're alive. But it stops when you die. It's a way to insure against the uncertainty of the length of your life.

Since you don't know when you're going to die, savings is not a very good way to insure. You'll either die with too much or too little. Imagine you don't have kids or don't care about your kids. Then by definition, when you save-- unless you know with certainty the day you're going to die, by definition, you save too much or too little.

What annuity does is resolve that uncertainty by basically letting you buy upfront a payment stream that lasts until the day you die. And that's what Social Security provides. That annuity is based on your 35 years of highest earnings.

So they take your earnings over all your life. And they take the 35 highest years and average your earnings. They take those 35 highest years. They put them in real terms and they average them. And that gives you your average income monthly earnings.

Your average monthly earnings, think as your average monthly earnings over your working life. Now, it's not really over your whole working life. It's 35 years. Why 35 years? Well, there's a trade-off.

On the one hand, if they average over your whole life, that means that quarter when you made like $6 delivering newspapers-- or well, you don't deliver newspapers anymore, but $6 working on mowing your neighbor's lawn or whatever, it's going to count your average. You don't want that.

At the same time, if you make it too short, you can distort decisions. A great example of that is what happened in Boston, which is the MBTA in-- I forget the year-- 1980. The MBTA, there was a huge crash.

It turned out that the crash was caused because the operator had fallen asleep at the wheel, because he was working a 24-hour shift, because retirement benefits were based on what he earned the last year he worked. So he wanted to make as much money as he could the last year he worked.

Likewise, if you go to Brazil, it turns out traditionally that your pension benefits-- what you get for your entire retirement-- were based on 100% of what you-- were 100% based on what you earned the last month before you retired.

So everyone got promoted right before they were retired and got a big pension. Clearly, that's too short. Clearly, your whole career is too long. Is 35 years right? I don't know, but it's some compromise in between.

So you get this average income monthly earnings. And that translates to the benefit you get. So look at figure 13-1. On the x-axis is your average indexed monthly earnings. On the y-axis is your Social Security benefit.

This essentially is a schedule that translates. It's not your Social Security benefit. It's what's called your primary insurance amount. Your AIME translates to your PIA, your Primary Insurance Amount.

By the way, you're not responsible for specific details like this. I will not ask you specifically what AIME and PIA are. I just want you to understand the basic concepts. What is your primary insurance amount? It's what your benefits are based on. And I'll come back later to what I mean based on.

And so it's a translation. So basically, for the first $996 of AIME, you get $0.90 per dollar in benefits. Then for the next chunk, you get $0.32 per dollar of earnings. And then for the last chunk, you get $0.10 per dollar of earnings.

So the bottom line is-- and the reason it cuts off is at some point, you stop paying Social Security taxes-- $150,000 a year. So you stop paying Social Security tax. That's why the benefits cut off at that point.

So basically, if you think about it, the idea is that everyone's eligible. But the amount of benefits you get are a function of your earnings. But it's what we call a progressive function. The poorer you are, the more you get to keep. The richer you are, the less you get to keep.

But it doesn't mean rich people aren't in the program. Everyone's in the program. It just means that as you get richer, the benefits gets less generous per dollar you earn. OK? Another way to think about this is a common term we'll use when talking about social insurance programs, what we call the replacement rate.

The replacement rate is, to what extent does a social insurance program replace what you're earning? So in this case, since we're insuring you against retirement, to what extent do your Social Security benefits replace your pre-retirement earnings?

And on average, that number is about 40%. On average, Social Security replaces about 40% of what you earn before you retired. But as you can see from this chart, that varies. If you're a low income person, you replace much more.

In fact, if you're very low income, it would replace 90%. For Bill Gates, it'd replace approximately zero. So basically, that replacement rate varies based on how much you earned before you retired.

Now, that's the benefit. How do you get the benefit? Well, as I said, have to work for 40 quarters. Then you have to retire. And what does that mean? OK, well, first of all, it means you have to be at least age 62. That is what's called the early entitlement age. That is the earliest age at which you can collect your Social Security.

But the other key age is 67, which we call the full benefit age. 67 is key because if you retire at 67, you get your PIA. So this PIA I calculated, this is what you get if you retire at 67. But you can retire as early as 62 or as late as 70. Actually, you can retire whenever you want, but there's no gain for going past 70.

And what they do is they adjust your benefit for the retirement age. Here's the basic principle. You get Social Security till you die. Imagine when you die is independent of when you retire. It's not, but imagine it is.

Then the idea is if you retire earlier, you get more months of Social Security, because you get from the time you retire until you die. If you retire later, you get fewer months. So what we have is we have what's called an actuarial adjustment, which basically says if you retire before 67, we're going to crank down your monthly benefits. Because you're going to get them for more months, so you get less per month.

And if you retire after 67, we're going to crank up your monthly benefits, because you're getting them for fewer months. So we're going to give you more per month. So the idea is, think of a system that pivots around 67.

At 67, you get this PIA. If you retire earlier than 67, then every month you get less than your PIA. If you're retire later than 67, every month you get more than your PIA. And that's basically the way it works.

So the idea is-- now, one other thing. What does retire mean? Retire means earning below a certain amount. That amount today is about $19,000. So retire means not earning much. So basically, retiring means not earning much.

So essentially you can keep working and make up to $19,000, and you're effectively retired as far as the system is concerned. If you earn more than $19,000-- well, let me just stop there. So basically, retirement means earning less than $19,000. So that's how the system works.

If you've worked 40 quarters and you reach age 62, you're eligible for this system. The benefits you get depend on what age you retire and what your past income was. And you have to earn less than $19,000 to qualify. OK?

Two other wrinkles. First of all, the benefits are indexed, which means that the benefits also go up with inflation. So once you're receiving benefits, your monthly benefit doesn't stay-- let's say you retire at 67 and get your PIA.

Let's say you're exactly this guy who earned 996 and your PIA is 896. You get a check for 896 the first 12 months. But then every year it goes up with inflation. So it's indexed.

The second thing to know is that family members also get Social Security benefits. In particular, most importantly, a spouse is eligible for-- to make things really hard-- the larger of their own Social Security benefit or half of yours.

So if you're married to someone who didn't earn much relative to you, they'll get half your Social Security benefit. If you married someone who earned a lot relative to you, they'll get their own Social Security benefit. OK?

And lastly, there's a survivor benefit. When you die, your spouse gets the larger of their benefit or all of your benefit. So basically, the idea is a married couple gets at least 150% of the higher earning spouse's benefit. When they die, it goes to 100% of the larger earning spouse's benefit. OK, I'll stop there. Questions about how this works?

So basically I said social insurance is payments you get in an adverse event. The adverse event here is retirement, being unable to work. Then you get this payment, which is this annuity based on your past income and the age you retired. And that's how it works.

Now, that's how the benefits are determined. But what's very interesting about Social Security and drives a lot of the policy debate is how it works over time. Because the point is, when you retire, many of you will get jobs with, say, a 401(k) or a pension plan.

These plans are what's called funded retirement plans. What is a funded retirement plan? That means that-- so MIT, I have a retirement plan where every month they take some money out of my salary, put it aside. It goes into an account, it grows. I get it when I retire. That's not how Social Security works.

Social Security was set up because an entire generation had been devastated by the Depression and lost all their savings. So they wanted to immediately bail out a generation that needed savings.

They couldn't let them spend their lifetimes building up like you will. So they set up what's called an unfunded system. The way an unfunded system works is it's not real savings. It's transfers from workers to retirees in real time. OK?

Let me explain how this works. Look at table 13-1. Table 13-1 is a simple version of what we call an overlapping generations model, a famous modeling tool used by economists.

Imagine a society with the following conditions. The society starts with 100 people in it. There's two periods to the world. Everybody works the first period and retires the second period. The two periods, there's working life and retirement.

Every period, a new generation is born that's 5% larger than the last, and due to productivity, earns 5% more than the last. So it's a society where every year, a new generation is coming along. They're 5% bigger than the previous generation, earning 5% more.

Then they get old, and then new generation comes along. And so at any point in time, you have two groups alive, the young and the old, the workers and the older. So let's map out what this means for how Social Security works in reality.

So we started with society just starting out with 100 young workers who paid $20,000 per worker. And these are the pre Social Security. These are the people before Social Security existed. Now we go to period two.

In period two, there are 105 young workers because population grows. They each earn $21,000. Why? Because of productivity growth. Remember, wages go up 5% for every generation. So the number of workers has gone from 100 to 105. Earnings has gone from $20,000 to $21,000. OK, clear on that?

Now, the young people from period one are now the old people in period two. That's the overlapping generations notion of it. Well, how many were there? Well, there were 100 retirees, because they were the 100 young workers in the previous period.

Well, each of those retirees gets $2,205. Why do they get that much? Because the 105 workers are each paying taxes on $21,000. Oh, last thing is assume the tax rate is 10%. I'm sorry. My bad. Assume there's a 10% tax rate.

So the total tax that's collected from those young workers in period one are $21,000 a worker. You get $2,100 per worker in taxes times 105 workers for $220,500 in total revenue. People see that? You split that across 100 old people, they each get $2,205. And they paid no taxes.

Now we go to period three. In period three, there are now 110 young workers. I'm assuming the 5%-- I'm smoothing the 5% out a little bit. Not making it precisely 5%, rounding it. And they each earn $22,050 because of productivity growth.

So they each pay $2,205 in taxes. That means total taxes collected are $242,550. There's now 105 old workers because the young from period two are the old in period three. They each get $2,310. And they each pay paid $2,100 in taxes. Same in period four.

Now, in period five, something changes. In period five, the government decides it's going to cancel Social Security at the end of period five. So what does that mean? That means the young workers in period five, they pay taxes. The young workers in period five don't pay anything. So at the end of period five, young workers pay nothing, and therefore the old people in that period get nothing.

Now let's look at what does that imply for the rate of return of the system. Well, first of all, for the first generation, they have an infinite rate of return. Why? They paid in nothing and they get benefits.

The second through fourth-- the second and third generations, they get a 10% rate of return. Now, stop and think about this for a second. This is pretty fucking weird. OK, think about interest.

We think of interest is coming from-- you put money in the bank and it's used productively. There's a marginal product of capital. That marginal product of capital is returned to you as interest payments. There's no capital here. There's no savings. How are they getting a rate of return of 10%? How is that possible? Yeah.

AUDIENCE: Increased productivity.

JON GRUBER: Increased productivity, increased population. It's just they are basically-- this is basically a Ponzi scheme. Now, remember what Ponzi schemes were. Ponzi actually lived in my town of Lexington, Massachusetts.

How did Ponzi schemes work? Well, imagine the way Ponzi scheme would work is let's say I teach two classes in one day, as I used to when I was younger and stronger. OK, let's say I go to the first class and I say class, if you each give me $1, I will come back next class and give you $2.

And they're kiss asses. They're like, fine, I'll give him $1. What's it going to cost me? I then go to my afternoon class and say, class, if you each give me $3, then I'll come back next class and give you $5.

They say, fine, I'll give you $3. I take the $3, I pocket $1. I bring the other $2 and give it back to the first class. They're like, holy shit, this guy's for real. So I say, here's an even better deal.

If you guys give me $6, I'll pay you back $10 next class. They're like, great. They give me $6. I pocket $1, I bring the $5, I pay back the second class. They're excited, and on it goes. This is what Bernie Madoff did successfully for decades.

This is what the single largest social program of the US government relies on. OK? What's the problem with Ponzi schemes? Why did Madoff's Ponzi scheme fall apart? The problem is people stop-- if the class finally says, you know what, we're not contributing anymore, it all falls apart because then I can't pay the other class.

That's what happens to the last generation. The last generation gets totally screwed, as all the people who ended up holding the bag for Madoff did. As my voice says, his name is "Made-off." Didn't people see that coming?

So basically, the thing with an unfunded system is it works under two conditions-- as long as the contributions are ever-growing and as long as people always agree to play. Now, the difference between the Madoff scheme and Social Security-- I'm being kind of glib. Social Security has one big advantage compared to Madoff, which is what would happen politically if the US government announced they were ending Social Security?

AUDIENCE: I think a number of policymakers would be literally killed.

JON GRUBER: They would all lose their jobs because the elderly would be like, no way. We paid into the system. We want our money. So unlike Ponzi, there's the power of the entire US democracy behind-- the power of vote maximizing politicians behind this Ponzi scheme. This is a Ponzi scheme with real credibility behind it. OK, so that's why it's different.

But what this does say is the rate of return to this Ponzi scheme that we call Social Security is dictated by two things, the rate of population growth and the rate of productivity growth. Those dictate what happens.

Now, you might think this all sounds kind of fun and theoretical. But let's talk about Ida Mae Fuller, my favorite example in this class. Ida Mae Fuller was the very first beneficiary of Social Security. She was born in 1874, in Vermont, and attended the same school that President Calvin Coolidge did.

She worked for three years once Social Security was established and paid a total of $24.75 in Social Security taxes. On November 4, 1939-- I love this-- she dropped by a Social Security office in Rutland, Vermont.

And she said, it wasn't that I was expecting anything, mind you, but I had been paying for something called Social Security and I wanted to ask the people in Rutland about it. She was the very first check processed by Social Security Administration, and she got a check for $22.54, almost the entire amount she paid in.

Ida Mae Fuller lived to 100. Over the 35 years she lived, she collected $23,000 in Social Security benefits. Ida Mae Fuller is generation one. She paid $24. She collected $23,000. The problem is, what about generation four?

Well, they haven't hit yet. But the existing generation four means the Social Security system carries around it something my Nobel Prize winning former colleague Peter Diamond called a legacy debt, which is essentially the Social Security system carries around a giant implicit debt.

What is that debt? It's what we owe the generation that's old. That if we wanted to end the system and not cause revolt, we'd have to pay off a whole generation of old people. And that debt is enormous.

So the consequence of an unfunded system is we're always behind the eight ball. If we don't keep it going, we have a huge debt. A funded system doesn't matter because a funded system, you put the money and you take the money out.

An unfunded system, that does matter. So you end up with a system with this giant legacy debt. OK? We'll come back to this when we talk about Social Security reform at the end of the lecture. OK, questions about that?

OK. Let's keep being active here. I know the details get a bit sloggy, but let's keep staying involved here. Now, while 13-1 is an imaginary system, let's go to real Social Security system. Let's go to table 13-2.

What table 13-2 does is calculate something called Social Security wealth. What is Social Security wealth? Social Security wealth is the net present discounted value of your stream of Social Security payments minus taxes.

What you do is you, say, take someone, project how long they're going to live, calculate all the benefits they'll get over the rest of their life, and discount them back to today. Do the same with taxes and discount it back to today. The difference is your Social Security wealth-- the net of what the system will pay out to you over your life minus what you'll pay in discount to today.

What this table does is show the amount of Social Security wealth for people in three generations-- the first generation, those who turned 65 in 1960, the middle generation, those who turned 65 in '95, and my generation, those who turn 65 in 2030.

What you see here-- and then it shows it for three types, a low earner, an average earner, a high earner. A couple of things to note. First thing to note, all three columns, the numbers are getting smaller over time. Why?

Because population growth and productivity growth are both falling. The rate of return to this scheme depends on how fast the population and the productivity growth grow. The less they grow, the less good a scheme it is.

So basically, the whole system is less beneficial because basically we are seeing a dramatic drop. Before 1973, population growth was 1.5% a year. Now it's less than 1% of year. Productivity growth was 2.5% a year. Now it's less than 1% of year.

So we've seen a shrinking in the rate of return to this scheme. That's the first thing you note. The second thing you note is a fascinating inversion by income. For the first generation, the richer you are, the more wealthy you had.

For the last generation, the richer you are, the less wealth you have. Indeed, it's negative. The richest generation is a loser from this. What happened? What changed? Why? Well, I'll you a hint what changed, which is r plus d. Population and productivity growth changed. But why did that invert the income distribution effect? Why did it go from being-- yeah.

AUDIENCE: Your income [INAUDIBLE].

JON GRUBER: Not quite. That's a piece of it. But what else?

AUDIENCE: Is it the distribution of low, average, and high-income earners?

JON GRUBER: No. No, you guys are way too clever. Think way simpler. Basically, this is an investment that for the first generation was a better investment than what they could have done with their money otherwise. For the last generation, it was a worse investment.

That means the more you're invested, the better you did at first and the worse you did at the end. In the first generation, it was a good investment. It was better than investing in the stock market.

Therefore, the more you invested, the better you did. Richer people are more invested. For the last generation, it was a bad investment, way worse than the stock market. Therefore, the more you invested, the worse you did. And that's why it actually goes negative. The negative number means for high earners in Social Security today, they would be better off having their money out than in the system. OK?

Now, that's not the only redistribution. It's the only one shown here. Let's talk about other redistribution. Think about a single woman and a single man. Who has more Social Security wealth? With the same earnings. Who has more Social Security wealth? Single woman, same man with the same-- single woman, single man, same earnings. Who has more Social Security wealth? Yeah.

AUDIENCE: Single women.

JON GRUBER: Why?

AUDIENCE: They live longer.

JON GRUBER: Women live longer. Women live about five to seven years longer on average than men. Now, let's talk about a married couple. So my wife and I versus someone who earns the exact same-- my wife and I versus someone else who's not married, who earned the same as I did. Which family has more Social Security wealth? Yeah.

AUDIENCE: You do.

JON GRUBER: Because?

AUDIENCE: If you die, your wife continues--

JON GRUBER: Not just that, she gets 50% of my benefit. So just by virtue of being married, I get a 50% plus up from my family and my benefit. Now, here's a tricky one. Take my couple where I've earned and my wife doesn't earn anything, and another couple where basically the husband earns the same I do and the wife earns a decent amount, but less than the husband.

Actually, let's say the wife earns less than a quarter of what the husband does. So take my family where my wife's earned nothing, and their family where the husband earns the same as me, and the wife's earned about a quarter of what the husband does. Which one has more Social Security wealth?

AUDIENCE: [INAUDIBLE].

JON GRUBER: Why?

AUDIENCE: Because the wife, essentially she gets 50% of the [INAUDIBLE] 25% [INAUDIBLE].

JON GRUBER: Well, you describe the benefit side, which is we get the same benefits. We each get 50%. Remember, you get the bigger of your own-- so why is it less wealth? Why is it--

AUDIENCE: She paid [INAUDIBLE].

JON GRUBER: She paid no taxes. My wife paid no taxes, but still gets 50% of my benefit, whereas the wife of my colleague earns 25% of what he did. She paid a bunch of tax on that, but still gets only 50% of his benefit. So working spouses are penalized by the system.

And then finally, one last interesting wrinkle is this table's a bit misleading because of an important reason, which is rich people live much longer than poor people. So while it's still a bad deal for rich people relative to poor people today, the numbers in reality are much closer than they show in this table, because rich people on average live a lot longer than poor people. So they get more benefit from the system.

So basically, there's a lot of redistribution going on within the system. So I just want to stop-- that's basically all I want to describe about the system. Then I want to come back to the chapter 12 stuff. But any other questions about how this works? Yeah.

AUDIENCE: I understand that Social Security is primarily a distribution of wealth to current retirees from current workers.

JON GRUBER: Yeah.

AUDIENCE: Was it also designed to be a redistribution of wealth from past high earners and past low earners?

JON GRUBER: It was not clear. That was not clear in the founding, not explicitly. It was really about basically bailing out a generation whose retirement savings had been wiped out by the Great Depression. Basically, those people were going to retire with no money. And they bailed them out by having young people send them money. Yeah.

AUDIENCE: Is there any thought to adjust the tax rates, so that the rate of returns were even across generations?

JON GRUBER: Well, that's a great point. So what happened over time was the tax rate's gone up a lot. So the tax rates increased a lot. Another way to fight the Ponzi, fight the erosion-- if you raise the tax rate to offset the slowing of productivity and population growth, then it evens it up. But then you have higher tax. So that did happen some, but now it stopped because people didn't want to raise taxes more.

So that's basically the program. Now let's come back and apply chapter 12. What chapter 12 says is that the optimal size of a program like Social Security is about trading off its consumption-smoothing benefits against its moral hazard costs.

Well, what are the consumption smoothing benefits? Well, that's going to depend in return on self-insurance. And what's the primary form of self-insurance for retirement? Savings. So the big question is going to be, to what extent does Social Security actually help you consume when you're retired? Or does it just displace savings you would have done anyway?

Is it just that you would have saved anyway, and now Social Security is doing it for you? That becomes the central question in thinking about the consumption-smoothing effect of Social Security. OK?

Actually, I skipped something. Let's go back for one second. I forgot the first question, which is, why do we need Social Security? Bad on me. Why do we need Social Security in the first place?

Well, there's a technical answer and a real answer. The technical answer is we need Social Security because of a critical market failure, which is a failure in the market for annuities. In principle, people should just save when they're alive. The minute they retire, they should annuitize.

They should say, look, I don't know how long I'm going to live. So I'll take all my wealth, put it in annuity. I'll take aside what I leave to my kids. But I'll take the rest, I'll annuitize it. And that way, I can take money to live.

And annuities are a great deal. Why are annuities a great deal? Annuities are a great deal because essentially people live a long time benefit from people who die soon. So essentially the idea is you can get a positive rate of return on annuity from the fact that you're pooling with a bunch of people. And the longer you live, the more benefit you get.

But in fact, no one ever annuities. So there's two possible reasons why. One reason is because the annuity market is a classic example of market failure. Because what's the adverse selection in the annuity market? What sorts of adverse selection in the annuity market? Yeah.

AUDIENCE: People who might not live longer are less likely to want to save.

JON GRUBER: Yeah. So basically, people who buy annuities are going to be the ones who know they're going to live a long time. There's private information. There's an information asymmetry, which is if you know you're going to live a long time, you want an annuity. If you know you're going to die soon, you don't. And therefore, the market doesn't work well.

So that's the classic rationale for an annuity program. The real rationale is we just think people just don't know how to save for retirement, which means people aren't going to save enough. They don't really know how to annuitize.

And it's really kind of a form of the Samaritan's dilemma. Indeed, one of the very first pension programs-- it's just an apocryphal story, but probably true. One of the very first pensions in the country was at Harvard University.

And the story goes that Harvard University didn't used to have a pension. Then what happened is all the widows of professors-- because professors were all men back then-- would come and say, I'm starving, you got to help me out, because my husband didn't save enough.

Eventually Harvard said, well, you know what, we've got to make these professors save so their widows don't come and throw themselves on our doorstep and say they need money. So really, the origin of the pension system was sort of a Samaritan's dilemma, that they wanted to make sure people actually saved for themselves, rather than relying on Harvard at the end. OK?

OK. So that was a side note, why do we have Social Security. Now let's go back to does Social Security smooth consumption. Well, empirically, there's two ways to look at that, because there's two sides of the same question. One is does it crowd out saving? The other is, does it smooth consumption? Two different sides of the same coin.

And both topics have been studied. On the savings, there's actually an incredibly large empirical literature on how Social Security affects savings decisions. It's very interesting, because if you follow this literature, it traces the evolution of empirical work in economics.

The first work in this area was time series studies, where they said, look, over time, as Social Security gets more generous, people save less. Therefore, Social Security is crowding out savings. Well, the problem with that is lots of stuff is changing over time and they aren't really credible.

The second was cross-sectional regression saying, hey, A has more Social Security benefits than B. Does A save less than B? Well, the problem with that is if A has more Social Security benefits than B, then A is different than B in ways that may affect their savings. We have the standard bias problem we talked about in chapter 3.

And that's why the literature has moved on to very clever natural experiments or quasi-experimental methods, where for example, they'll study countries where there are two groups of workers, one group sees a big Social Security cut and one doesn't. And they'll look over time what happens to their savings.

So a typical difference in difference quasi-experimental study of what happens when there's two groups of workers, one sees a Social Security benefit cut, one doesn't. How does their savings change?

And what these studies typically find is that every dollar of Social Security benefits crowds out about $0.40 of savings. That basically, there is some savings crowd out, but it's not complete. So that's one way of looking at this is asking if it smooths consumption? Does it crowd out savings? The answer is yes, but not completely.

Now, the other way to look at it is to say, well, do elders smooth consumption? Does Social Security-- let me back up. Does Social Security-- instead of asking does Social Security crowd out savings, you can ask, does Social Security help elders smooth their consumption?

One way to look at that is to look at, to what extent did the increase in Social Security grew dramatically in the 20th century? Because tax rates went up. To what extent does an increase in Social Security lower poverty among the elderly?

Now let's step back to a standard model where everyone's rational optimizers and they self-insure. Well, if you self-insure, then Social Security should just crowd out your savings. And it shouldn't affect whether you live in poverty or not. Your decision to live in poverty should be independent.

Well, if you look at the data as shown in figure 13-2, you see an unbelievably strong time series correlation, in particular in the first half of the period, between Social Security generosity and the elderly poverty rate. Indeed, at the start of the so-called war on poverty in 1959, elderly had the highest poverty rates in society. Now they have the lowest of any group

And at least in the time series, it's suggested-- now, once again, I already told you time series studies are not to be trusted. But I actually did a research project looking at a quasi-experiment across groups that got different Social Security benefits.

And our estimate suggests that 100% of this time series is actually causal-- that actually the entire drop in the elderly poverty over this time period can be explained by the massive rise in Social Security.

Which is once again consistent with the fact that it's playing an important consumption smoothing role. Not necessarily full consumption smoothing, or there'd be no savings crowd out. But there's certainly some consumption smoothing going on. It's a prior condition.

If we found zero consumption smoothing and 100% savings crowd out, we could be done. We don't care if there's moral hazard. There's no reason to have this program. But since we find that there's important consumption smoothing being done, now we have to go to the second question, which is, well, how big is the moral hazard? That's the other side of the trade-off.

Well, what's the moral hazard for Social Security? Well, Social Security is a program that protects you against your income loss from retirement. So what's the moral hazard we're worried about here? What's the behavioral response that we're worried about Social Security inducing? Yeah.

AUDIENCE: People not saving as much.

JON GRUBER: No, that's a crowd out. That's the crowd out. What's the behavioral response? What is the thing that society wants more of that less gets done, or the decision people aren't making optimally because Social Security exists? Yeah.

AUDIENCE: Retiring too early.

JON GRUBER: Yeah, retiring too early. Basically, if you think about it, Social Security is bribing you to retire-- is paying you to retire. So basically it might cause you retire earlier.

So the question there is, does Social Security induce early retirement? Now, in this case, there's also a huge literature looking at this. And the evidence is pretty clear. First of all, we saw with time series evidence, here we look at figure 13-3.

Figure 13-3 is not as compelling as 13-2 in that over the first half of the period, once again, what you see is as Social Security benefits go up, labor force participation, or the opposite of retirement, goes down. Elders work less, benefits go up. But then they seem to move together instead of the opposite way. So it's not super compelling.

More compelling is studies which look at data on people's retirement decisions. Remember that there's these key ages in Social Security-- 62 and 67. 67, by the way, used to be 65. That used to be the normal retirement age. The retirement age used to be 65-- the full benefit age. Now it's 67.

So what people have done is they've taken data and graphed what we called the retirement hazard rate. What is a retirement hazard rate? It is the odds of retiring conditional on working at the start of that year. So take a look at figure 13-4.

This graphs, with old data, the retirement hazard rate in the US. So for example, what this says, if you were working at age-- if you were working at age 60, there is less than a 2% chance you retire over the next year. If you're working at age 64, there's a 2% chance you retire the next year.

If you work at age 67, there's a 2% chance you retire the next year. But at age 62, it jumps to an 8% chance. And at age 65, it jumps to an 11% chance. Now, unless there's some biological reason why people are innately programmed to retire at 62 and 65, it seems like this must be Social Security having an effect.

These jumps that people happen to retire a lot more at the age of when Social Security effects kick in and what we call the full benefit age seems like that suggests Social Security is playing a role.

Indeed, if you look around the world, you see lots of examples like this. If you look at the hazard graph for France, in France, the normal retirement age and the early retirement age is age 60. It's one age for both. Among people working approaching a 60th birthday, 60% of them retire over the next year-- 60% in one year. Whereas it's very low all other years. It's got to be Social Security causing that.

Indeed, these facts are so compelling that a co-author and I did an international study where we got a group of people together from 11 different countries. And we said, look, we want in each country to understand what are the incentives for retirement in your country and how does it affect people's retirement decisions?

So let's go back to how Social Security works. And let's ask, how does Social Security affect your retirement decision? Well, it affects your retirement decision. Let's say you're age 62 and you're considering, do I retire at 62 or work one more year? There are four things that change if you work one more year.

What are those four things and how do they affect your retirement decision? Given the institutional features, if you work one more year, four things happen that matter for your retirement decision, besides the fact you earn wages. Social Security impacts that decision four ways at age 62. What are they? Yeah.

AUDIENCE: Higher PIA.

JON GRUBER: Higher PIA. So the first way is if you work an extra year, your PIA goes up. That's going to make you want to work longer. What else happens for that year at age 62? That's one. What else? That's actually the hardest one. What else happens? What else happens at age 62?

Well, if you retire at 63 rather than 62, what happens to your lifetime amount of Social Security benefits? It changes for two reasons. What are the two reasons? Why if you work one more year do your lifetime Social Security benefits change? You guys are too shy. I'm not going to bite. Go ahead. Yeah.

AUDIENCE: For that year that you worked, you incurred an opportunity cost.

JON GRUBER: Well, for that year that you worked-- let's flesh that out. If you work one more year but you die at the same date, you get fewer years of Social Security benefits. You get one fewer year.

So fewer years-- years of benefits fall. So that makes you work shorter. So that makes you want to work shorter because you're getting less benefits. But what else happens? What else happens? Yeah.

AUDIENCE: You don't pay tax.

JON GRUBER: Well, tax is the fourth one. If you work one more year, you're going to pay tax. Your tax will go up and that's going to make you want to work shorter. But there's a fourth thing. If you work one more year, what else happens? Yeah.

AUDIENCE: You'll be closer to the full benefit.

JON GRUBER: You'll be closer to the full benefit age, so your benefits every month will go up. You get the actuarial adjustment. And that's going to make you want to work longer. So four things happen. Four things affect your decision. Four ways that Social Security affects your decision to work that extra year, in addition to the fact that you were in wages.

You can take these four factors and for any individual calculate what we call the implicit tax that Social Security places on working an extra year, which is the delta in Social Security wealth relative to what you earned that year. And that delta in Social Security wealth is the net of these four things. Yeah.

AUDIENCE: The PIA going up, isn't that caused by the actual--

JON GRUBER: Is that what you meant? There's two reasons PIA goes up. It's also caused because-- you're right. I'm sorry. I probably misinterpreted what you said. You probably meant that one. The PIA-- what I thought you meant is it goes up because the longer you work, the higher your 35-year average is, because people's income is typically higher later in the career.

That may or may not have been what you meant. I won't quiz you on it. But that's the other reason. So I shouldn't say PIA up, it really should be earnings up. Your average earnings in your 35 years goes up, because that's why it's the hardest one to suss out. The average earnings of 35 years goes up because basically people earn more later in their life. Good catch. Thank you.

OK. So basically, implicit Social Security taxes net these four things out. Does Social Security penalize or reward an extra year of work? So what we did is in each country, we computed what is the implicit tax over the entire period of retirement decisions and correlated that with whether people work.

And the result we got is the incredible correlation in figure 13-5, one of the most cited figures I think I've ever done in my career, which shows on the x-axis a measure of disincentive to work.

Don't worry about the units. It's complicated. It's basically a measure of the average implicit tax. It's the sum of implicit taxes over a period. On the y-axis, what share of elderly don't work? So look here.

In the United States and especially Japan have relatively low disincentive to work. Why is that? That's because these things largely balance out. We've set it up so they do. We've set the actual adjustments so these things balance out.

Now take the Netherlands. In the Netherlands, when you retire, your replacement rate is 90%. So you get 90% of what you got when you were working. That's not necessarily actually a problem.

The problem in the Netherlands is that there is no actuarial adjustment. This piece goes away. So think about what that means. That means if you work one more year-- let's ignore the fact your earnings is higher. It's just a complication. OK?

Imagine you work one more year. Your earnings is the same, just to get rid of that factor. You work one more year. You earn your wage. What do you give up? 90% of your wage. So what do you net? 10% of your wage by working. Think about the opportunity cost of working is you're giving up 90% of your wage from sitting at home.

But it's worse than that, because how do they pay for this generous Social Security system? With a 40% tax rate on workers only. So if you put it all together, by working in the Netherlands, your implicit tax rate is 140%. You lose money by working. Guess what-- no one works.

Once you get to the early retirement age, everyone drops out. Now, they drop out of the formal labor force. There's some informal labor. People work in the black market and doing stuff under the table. But the bottom line is that's why there's all these old people sitting around cafes in Europe. Because basically, there's no reason to work. You don't make any money. Essentially, whatever you make in wages you take away in lower Social Security benefits.

So these nerdy things like actuarial adjustments turn out to be crucial for determining the entire size of the labor force in a country. The thing you already forgot about and don't understand anyway you got to understand, because basically this is a key factor that drives whether people want to work or not.

And this suggests that essentially, there is a large moral hazard consequence of Social Security in terms of causing early retirement. But that moral hazard consequence depends on how the program is designed-- that different programs have different amounts of disincentive depending on how they're designed. OK? Yeah.

AUDIENCE: I have a question regarding my understanding of other countries' social security programs. Are there countries with multiple social security, programs like unemployment?

JON GRUBER: There are lots of-- that's a good question. There's lots of different systems of many types. Some countries have what's called partially-funded systems, where it's part of a 401(k) and partly unfunded. Countries have different systems for different kinds of workers-- government workers, private sector workers. There's a ton of variation out there. And that's the variation we study in these systems to try to understand how Social Security works. Good question. Other questions? Yeah.

AUDIENCE: If we assume that the government of the Netherlands is a benevolent, utility-maximizing planner, then what does the fact that this even happens in the Netherlands mean?

JON GRUBER: Great question. Why did the Netherlands do this? We actually wrote a whole book on that. We have a series of books on this topic. The first book was so successful, we did five more. And what we concluded is that these countries believe in an incorrect model of the labor market.

It's a model of the labor market we often call the lump of labor view. The lump of labor view is that the number of people working is some fixed number of people. There's some fixed number of jobs. So if you get people out of those jobs, you make more jobs for other people.

So the idea is, we want young people to work. Let's get the old people-- they wanted old people not to work. The problem is, it's wrong. Why is it wrong? Because taxes impact behavior.

So the fact there's this huge tax means there's fewer jobs to be had in the first place and fewer people who want them. So they've actually shrunk the whole economy rather than redistributing jobs from young to old. Question? Yeah.

AUDIENCE: Is the replacement rate before or after tax?

JON GRUBER: That's a great question. So social security income is taxed different ways in different countries. In the US, it is untaxed up to a certain level and then taxed beyond that level.

The replacement I give you is the pre-tax replacement rate. For most Americans, it's not taxed. So that's typically how we think about it. It's only taxed for the higher income Americans. Good question. Other questions?

OK, so where does this leave us in terms of optimal Social Security? Well, it leaves us that Social Security benefit should certainly be well below 100% but definitely above 0%, a tight range.

But more generally, 40% doesn't sound kind of nuts. The idea is, you want enough that people can live on, because we know they can't fully smooth their consumption on their own. But you really don't want to cause too much retirement.

So range around 40%, 50%, 60% does not sound crazy. 90% sounds almost certainly wrong. And 0% would almost certainly be wrong. And something in the middle sounds about right. And that's about where we are as a country. So it's not too bad. We'll do better next time being more precise.

So that's where it leaves us in trading this off. But this is once again why I love this topic. It's a full circle. We can actually get the costs and benefits. We have to measure both. We can put them together and think about, is this program too big or too small? That's what's cool about this social insurance trade-off. Now, any other questions about that? Yeah.

AUDIENCE: Can you tell us a little bit about Japan?

JON GRUBER: Yeah, Japan, they just loved their working. They just love to work there. So they have a system which really rewards work or doesn't penalize it in a very serious way. They have very strong adjustments. And I don't remember what the replacement rate is.

But essentially, the key thing that drives this is really this actuarial adjustment. It's the actuarial adjustment times how generous the system is. Once again, if the Netherlands had a 90% replacement rate but had an actuarial adjustment, it wouldn't be as bad. It's that they have this huge replacement and they take it away from you if you work.

But I don't remember enough about the details in Japan. I wrote this book in 1996, so I'm a little fuzzy on it. All right? You're supposed to say, gee, Jon, you don't look old enough to have written a book in 1996.

But anyway, now we come to the last and most policy-relevant part of the lecture, which is the long-run prospects for the Social Security system. The problem with the Social Security system is the Ponzi scheme is quickly eroding.

So if you look at figure 13-6, this shows the ratio of older people to working age Americans. And what you see is until the turn of the century, typically had five working Americans for every older person. That was the base that supported the Ponzi scheme.

It's rising to be only two working people for every older American. That really limits the Ponzi scheme, where only two people are paying in to support one old person. They have to pay a lot. Here's a way to think about it. In the US today, in three states are more than one in five people are elderly. Florida, Vermont, I forget the third one. More than one in five people are elderly.

In 20 years, in 43 states more than one and five people will be elderly. We're aging very rapidly. It's largely because the baby boom and because of falling fertility. So what happened is we had a big, big burst of births after World War II.

And those people are having fewer kids. And the next generation is having fewer kids. So we're basically shrinking the rate at which we can grow the population and keep this Ponzi scheme going. OK?

What that means is over the next-- so what that means over the next 75 years, the amount by which our promises we've made will exceed the taxes we collect is about $18 trillion. So the next 75 years is $18 trillion, a promise we made beyond the tax we're going to collect.

So this is a big legacy debt. This is essentially a measure of the legacy debt. This is the amount of money we have hanging around because we have this unfunded system. So what do we do about it?

Well, we took one stab at this in the early 1980s with what was called the Greenspan Commission. You might know the name Alan Greenspan. He was secretary of the Fed for a long-- chairman of the Fed for a long time.

His first role in public policy was he actually ran this commission in 1983 to try to save Social Security. At the time he put this commission together, Social Security was about to run out of money. In about six months, it was going to be unable to pay its bills.

So what they did is they put together a system to try to save the program. And the way they did it was basically two things. First of all, they raised the retirement age. That went from 65 to 67. They kept 62, but took the full benefit age from 65 to 67.

Now, you can puzzle on this one at home. When you change the full benefit age, that's simply a cut in benefits. Why is that? Well, if you keep 62 but tie the PIA to 67, that means there's more penalty for retiring earlier.

It used to be you only got three years of penalties retiring earlier. Now you get five years of penalty retiring earlier. So in retirement age, you get less benefits. All it did was it's basically a clever way to cut benefits, was to basically raise the retirement age.

That's what they did. But they also substantially increased the tax. Increasing the tax meant all of a sudden there was extra money. So they created a large Social Security trust fund, a fund into which the extra tax will be put to save up so that it could pay down the debt when this baby boom retired.

The problem with that is they didn't put enough in and the baby boom was not just a one-off thing. As you can see from this graph, forever and ever more, we're going to have a very high ratio of elderly to working people.

So as a result, Social Security's trust fund will run out in about 20 years. It's the best estimate. The dates fluctuate. I think it's now actually about 17 years, they're saying. But the point is-- what?

AUDIENCE: It's 10.

JON GRUBER: No, no, they pushed it further out.

AUDIENCE: They pushed it out again?

JON GRUBER: Yeah. I think it's like the late 2030s now. So it may be 15 years, whatever. The point is, in the not-too-distant future, we're going to run out of money. So what do we do about it? OK?

Well, what we do about it is we can either try to take small swings to incrementally fix the system or a big swing to fix it once and for all. So let's first talk about the small swings and the big swing.

One small swing is we can just raise taxes. Indeed, if we raise the payroll tax today by 3% we would solve the 75-year problem. If we raised it by 5%, we'd solve the problem forever. We could build a big enough trust fund that would never, ever, ever run out. The problem is, raising taxes is a very difficult thing to do politically. But that'd be the most straightforward thing to do.

You could alternatively not raise taxes as much, but tax more of income. For instance, you could remove the cap on taxable earnings. Right now it's capped at $150,000. You could tax all earnings. You could tax more earnings.

Alternatively, another way you could do it is by expanding the base of the Ponzi scheme. How do you do that? Well, you could have caused people to have more kids. It turns out government policy is incredibly bad at causing people to have kids.

China showed you can limit-- you can have a one-child policy and cause people to have fewer kids by imposing massive fines if they have more. But it turns out it's very hard through government incentives to get people to have more kids.

What's another way to increase the base of the Ponzi scheme? How can we get more workers in America? Ideally, low income workers, because low income workers-- ideally more low income workers, because the low income workers will basically be ones who come and eventually don't drain the system too much. Yeah.

AUDIENCE: Immigration.

JON GRUBER: Immigration. Immigration is a massive win for the Social Security system because you basically increase the base of the Ponzi scheme. Now, in 70 years, when they retire, you got to pay them. But if they're low earnings, you don't have to pay them that much.

So basically, immigration is a great fix. And there's enormous fiscal benefits from that. So that's another increment you could do. You could raise the taxable wages. You could allow more people to come into the country.

Another thing you could do is you could continue to raise the retirement age. So in 1950, men who were aged 65 lived on average 13 more years. Today they live 19 more years. We took 65 to 67.

So men are living on average seven more years. Women as well. I forget the number for women there. Seven more years, yet we only raised the retirement age two years. We could raise it more.

Now, as I said earlier, raising the full benefit age is simply a benefits cut. If we raise 67 to 70, that would just mean that every age you get less money. The real game changer is this one, which is should we raise the age at which you retire early?

This is a fascinating topic because let's go back to figure 13-4. You see the spike at age 62. Here's the strange thing, that spike should not exist, because it turns out the implicit tax at age 62 is zero.

We've actually got a system which is almost perfectly actuarially fair at age 62. That is, the net benefit of working one more year is basically zero. I mean, it's basically your full Social Security benefit. Or in other words, there's no delta in your Social Security wealth from working that extra year, because you get less benefits, but we have the actuarial adjustment, et cetera.

So why do people retire at 62? Unless we know that, we can't say whether we should change age 62. The problem is, there are two views and they have opposite policy implications. One view is that it's liquidity constraints.

The view is that people would like to retire earlier. They are happy to optimize and retire earlier. But they can't because they don't have the liquidity, and you cannot by law borrow against your Social Security benefits.

So the idea is, I'm happy. If I get my Social Security benefits at 60, I'd be happy to retire at 60 and just live on those benefits longer. But you're not letting me. So what I do is I pile up from the bottom, and as soon as I can get them, I quit.

That implication-- that explanation would suggest we should let people get Social Security benefits even earlier. We're, in fact, lowering welfare. There are people who have a high marginal value of leisure who are not getting to retire because they can't access the liquidity.

There's an alternative theory, which is that people just don't understand how the system works. And they don't understand that if they work past 60, they get bigger benefits. So it's the Homer theory. It's like, woo-hoo, I'm 62, I'm retiring.

And in that case, they're making a mistake. If they understood this, then they'd retire later. But they're making a mistake and retiring earlier. And in that case, they're pushing the spike from above.

These are people who in an ideal world would retire later, but they retire at 62 because they don't understand. What's the implication of that theory? We should raise the early retirement age and protect people from themselves. So we have two theories, both valid, with diametrically opposite policy prescriptions. And we don't actually-- probably both are right for different groups.

OK? For some groups, liquidity is a big issue. For other groups, probably misunderstanding is a big issue. So that's why the age 62 policy is fascinating. It's also fascinating because this comes-- someone asked about different systems and heterogeneity.

Jobs are so different I mean, I'm going to be 62 in like three years. There's no reason I'm going to retire in three years. But if I was a coal miner, it'd be pretty shitty to be like a coal miner at 62.

So another thing is, you raise it for everyone. It's very different. There's a lot of heterogeneity of whether it's OK to be working at 62. So basically, that's the other trick here with age 62. And so we don't really have a good answer here. But we do know that would be a game changer. If we raised it to 62, that could save a lot of money. Yeah.

AUDIENCE: Do you think we can harmlessly mitigate problem two by more information?

JON GRUBER: Great, great question. We have tried to provide more information. You actually get a mailing from the Social Security Administration, which says if you retire at this age, you'll get this. If you retire at this age, you'll get that.

I don't think it's really moved the needle, but I don't know. I don't really have a good study of that information provision. Good question. So that's something we could do. We could change the retirement age.

A third thing we could do is we just cut benefits. A simple way to do that would be-- if you go back to figure 13-1, we could just lower the bend points. We just say, instead of getting $0.90 on the dollar, you get $0.80 on the dollar for the first branch. Instead of getting $0.32, you get $0.25 for the second branch. We just lower benefits.

The problem with that is it's lowering benefits. Nobody likes that. The other thing you can do is you can try to hide the lowering of benefits by saying that basically, we are overadjusting for inflation. You often hear this, that the inflation rate is overstated.

And remember, we raise benefits by inflation. We should raise benefits by less than inflation over time. People argue, well, the elderly already have their house. Inflation is driven a lot by housing prices. They don't need such a big adjustment in their benefits every year.

The important thing to know about that-- that may or may not be a valid thing to do-- but it has important implications. This is something I learned. I never forget learning this from my Nobel Prize winning colleague Peter Diamond, who is the world's expert on Social Security.

Think about two policies that save the same amount of money, one that cuts everybody's benefits equally and one that cuts the rate at which benefits grow. Which groups benefit and suffer from the second relative to the firs? One cuts benefits equally for everyone. One cuts the rate at which they grow. Yeah.

AUDIENCE: [INAUDIBLE] marginal benefit [INAUDIBLE].

JON GRUBER: Imagine you're doing it distributionally neutrally. Possibly. What else? Income is one thing. What else? Yeah.

AUDIENCE: People in the future are more benefited.

JON GRUBER: People who live longer. The longer you live, the more you're hurt. Well, it turns out, while we have largely solved elderly poverty, there still remains large pockets of poverty in the oldest old, basically widows whose husband didn't do a very good job protecting them because men are not good. Basically, men don't take care of things.

So basically, you have a situation where, in fact, relative to cutting everyone's benefits, the benefits you'd cut would be actually the people who are the worst off in society. So that's a clever way to hide the benefit cut.

It's actually not a very good way to cut benefits. Not an important point. You won't be tested on it. But just a great way to use basic economic insights to think about economic policy. That's why I always love that example.

Another thing you could do is you could say, look, let's make it a more progressive system. Let's cut benefits for the rich. For example, we could raise the tax on Social Security benefits. We don't tax them very much. We could tax them more.

We could essentially cut it off and say, if you're rich, you don't get Social Security. So essentially, we could move more and more away from a universal program towards a means tested program. It depends on your resources.

Now, that could save a lot of money. And once again, if we haven't talked about distribution yet, if we talk about our typical utilitarian social welfare planner, probably taking money from the rich and giving to the poor is probably a good thing to do.

But there's a key criticism that people levy against this, which is that the whole reason Social Security is so popular is that it's universal. People love Social Security. They're not so crazy about welfare programs to distribute to the poor.

Once Social Security becomes a welfare program, it loses its popularity and it might suffer. So that's one argument people make against doing that. So those are what I call modest-sized swings to reform the program.

There's two big swings you can take. One big swing you can take is recognize that the Social Security program is misinvested. The government is a trust fund. How does it invest that trust fund? It buys bonds. It buys government bonds.

If you're an investment advisor and you said to your client, you're going to need money over the next 75 years, I'm going to put none of it in the stock market and all of it in government bonds, you'd be fired and probably sued.

The bottom line rule in investing is if you're investing for the long run, you should be more heavily invested in the stock market. Stock market over short-term periods is more volatile, but over long-run periods, it's a higher rate of return.

So given how long the trust fund is supposed to be around, we could be investing it in riskier assets. And that could actually-- and we have a much higher rate of return to risky assets, which means it could offset some of the deficit. Indeed, the estimate is that if we invested half the trust fund in the stock market, we could cover up to half of the projected deficit in the system. Yeah.

AUDIENCE: [INAUDIBLE] bitcoin.

JON GRUBER: What? I will let my smirk summarize my feelings towards the entire issue of cryptocurrency. My feeling of bitcoin is roughly my feelings on any form of gambling. It is purely without content and entertainment.

So basically, we can invest in the stock market. But then what's the challenge there? What's the big criticism of that? What's the big criticism? Yeah. Yeah. Did you? Oh, no, go ahead.

AUDIENCE: [INAUDIBLE].

JON GRUBER: Yeah. I mean, basically the trick is, do we want the government-- what happens when the government owns 20% of the stock market and they suddenly say, we're not going to invest in companies that make tobacco. We're going to invest in companies that have non-union workers. We're not going to invest in companies that are woke.

OK? That's not good for American capitalism. To have the fundamental arbiter of American capitalism, our stock market, be driven by political considerations would be an unhappy outcome. Yeah.

AUDIENCE: Aren't there examples of countries--

JON GRUBER: There are pension funds, but it's a choice. You can choose whether to have your money in them or not. You can't choose to have your money in Social Security. So basically, that's the challenge with that big swing.

But it's certainly something to be considered. For example, you could say we're going to put money in the stock market. We're going to have the Fed or some independent organization will decide what it gets invested in.

So it's worth considering. If you could set up an ironclad rule, there's no reason why it shouldn't be done. A proper investment would have a mix of assets. The question is, can you set up an ironclad enough rule that you can protect it from political interference? Yeah.

AUDIENCE: [INAUDIBLE]

JON GRUBER: With what?

AUDIENCE: [INAUDIBLE]

JON GRUBER: Well, no, but this is just the risk profile of the government. They're still getting their benefits. My benefits are based on what I earned and stuff. This is just the government's fiscal risk. No individuals invest in the stock market here.

AUDIENCE: No, I know that. For example, what happens if a person is closer to retire and everything is invested in [INAUDIBLE]?

JON GRUBER: Yeah, but it's not his money. It's the government's money. He gets a benefit determined by this formula. This is what's called a defined benefit program. His benefit is defined. It's not based on where the money is. That unfunded system, it's a defined benefit system. So if the stock goes down, no individual suffers.

But that relates to the second big swing, which is to say, why don't we just bag this unfunded system and move to a funded system? Let's get rid of this whole problem. Let's have people save on their own.

Let's basically get rid of this Ponzi scheme and have people invest in-- have everyone have a 401(k) instead of force them into Social Security. You're forcing people to basically invest in a bad investment now.

Why are we doing that? Why don't you let them invest their money? Now, we still are worried people are making mistakes. So we'll make them have savings. We'll let them decide where it is, like a 401(k). And it'll be real savings that they know is there when they retire.

Well, this approach has really three problems. The first problem is, who's paying the legacy debt? If you suddenly say everybody's going to save for themselves, what about those old people? Who's paying for them? Who's paying the $17.2 trillion we owe them? OK? What's that?

AUDIENCE: [INAUDIBLE].

JON GRUBER: Yeah, well, basically you could essentially tax people and set this up. But then what's the point? In fact, people say-- it's a great article which points out, everybody says, well, we should privatize Social Security, because instead of running this Ponzi scheme rate of return, we'll earn the market rate of return.

So instead of earning a rate of return which is the rate of population growth P plus the rate of productivity growth, delta, which is less than the interest rate-- if people invest in the market, they earn the interest rate. Wouldn't that be great?

There's an article which says if you take the amount of money people would owe and impose it on a tax, it absolutely offsets this entire gain. And we'd be back to turning P rho plus delta. Because we'd earn r, but we'd have to pay a tax on legacy debt. And that would offset the entire gain from moving to r. So the legacy debt is one problem.

The second problem is that basically it would be much higher administrative costs. Remember, one of the justifications for Social Security was if you have a giant pool of people doing an activity, you can spread the administrative cost wide.

The administrative costs of Social Security are on the order of 0.2 cents per dollar, or 20 basis points, for those of you who knows finance. OK? In an example, the UK has a privatized system. They're partially privatized.

The administrative costs are 1.2% a year. You might think, well, 1.2% versus 2%, those are small numbers. Remember, one more percent should be compared to the r, which is maybe 4%. Here's another way to think about it.

If your administrative fee is 1.2% versus 0.2%, after 30 years, you have 2/3 as much money. Because it really eats into that compounding. That's the wonder, the miracle of savings. Note for all of you making saving decisions, look at fees.

Don't be thrown off by fancy sounding funds. Fees are what drive everything. There's no investment advisor in the long run who can do better than just finding a low-fee fund. So basically, that's another problem.

And then finally we have the last problem, which I think is the most fundamental, which comes to the question in the back. Which is, do we want people investing their money given the risk they might take and they might suffer?

In this case, if the market goes down and you're about to retire. You are screwed, because it's not a defined benefit plan. Your benefit is based on what you saved. Market goes down, you are screwed.

Think about this. This is what to me is the death knell of this whole idea. We're saying we think people are too stupid to save for retirement but smart enough to optimize their portfolio. Right? We think they're too stupid because we're going to force them to save. We think they're smart enough to choose the right mix of stocks and bonds.

I'm not smart enough to optimize my portfolio and I know a lot about this topic. And that was a really arrogant statement. The bottom line is, it's a lot harder to optimize your portfolio and decide how much to save.

So the whole idea is kind of dumb, if you think about it. And in fact, people have realized that nobody now would propose a privatization with full choice. They'd say there'd be some government constraint. Just like the government constraints in the stock market, you'd have to have some mix of stocks and bonds, et cetera.

But the bottom line is privatization was very popular about 20 years ago. There was real legislative proposals. It's pretty much died as a topic. It's still in Project 2025 as a Republican talking point. But no one really takes it that seriously anymore because they haven't overcome these problems of how do you pay the legacy debt and how much individual responsibility do you want people to have?

So that's i on Social Security reform. Look, here's the bottom line. You remember global warming and I said the good example was the ozone layer? There's a hole in the ozone layer, like, oh my god, we got to fix this.

Social Security reform is not going to happen until we're six months away from crisis. Everybody's talking about it. I'm actually working with people who are trying to put together Social Security solvency reforms. That's great. Solvency plans, I love it. We should deal with it.

It's crazy not to wait till the end. But that's just the nature of our political process. It's hard to imagine with 10 or 12 or 15 years to go we're going to seriously raise taxes on people to solve this problem. It's going to have to get closer to crisis before we do. All right? Stop there.