

TRANSCRIPT

The Work Goes On

Guest: Robert Solow

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Robert Solow:

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Orley Ashenfelter:

Welcome to [The Work Goes On](#), a podcast from the [Industrial Relations Section at Princeton University](#). I'm your host, [Orley Ashenfelter](#), the Joseph Douglas Green 1895 Professor of Economics at [Princeton University](#). In this podcast series of conversations with leading thinkers and practitioners we are creating an oral history of an entire generation of industrial relations experts and labor economists, whose contributions to their fields have been absolutely extraordinary. Our guest today is [Robert Solow](#), who is Institute Professor of Economics Emeritus at the [Massachusetts Institute of Technology](#). He is renowned for his work on the role of labor markets in macroeconomic analysis, as well as for his work in the economics of growth and many other topics. Bob, welcome to [The Work Goes On](#).

Robert Solow:

I'm glad to be here. I mean that in very many senses. Yeah.

Orley Ashenfelter:

Good. Let's begin the discussion by talking about your background. Where did you grow up?

Robert Solow:

I grew up in Brooklyn, New York.

Orley Ashenfelter:

And I know that you went to Harvard College, but with a hiatus or a break.

Robert Solow:

Yeah, there's a long story there. By the way, the important thing about my background, I think, is not so much Brooklyn, although that's of course a fabled place, but I was born in 1924, so I am now almost exactly 98 and a half years old. But 1924, that means I was six years old and a pretty precocious six years old in 1930, the first year of the Great Depression of the 1930s, and I was 16 years old in 1940, where The Depression was clearly over.

So I was not only a child of Brooklyn, I was a child of the Great Depression, and it has, I think it's been an important fact about my own life and what I've done because there are very optimistic ways of looking at the economy, at an industrial capitalist economy like ours, and they just don't wash for me and they've never washed for me since I was a kid.

By the way, I should say I was not a deprived child. I come from a, certainly not upper middle-class, probably not the very lower middle-class, but I come from a middle-middle class family. My father was never wholly out of work. He was a furrier by the way. He had to take jobs that he would rather not have had, but he paid the rent and we were never deprived.

But all during that childhood, from 1930 to 1940, I was conscious of the fact that almost the only thing my parents talked about was the general insecurity of things, the fact that you never knew where the next dollar would come from. I knew, for instance, that there was a high school math teacher in their circle of friends, and for a long time, they felt sorry for him because he wasn't paid very well. But by 1935, they envied him because he had a secure job. He knew he'd be employed next month.

So, I have always felt, I mean, always, my whole life, that whether the economy provides comfort and security and safety for people, is as important as anything else. So we just want to keep that in mind. And in my view of the labor market, this is now a maturer [sic] view, you don't forget that. You don't ask about efficiency and stuff like that without taking account whether the labor market provides comfort, psychological comfort for people. So anyhow, I wanted to say that because it's important.

So there I am growing up in Brooklyn and I went to the New York City public schools and they were good schools. By the way, that's worth talking about, too. Let me think about that for a minute. I know how to make city schools better than they are. It takes two things. First of all, you have a massive depression so that there are no jobs to be had, and secondly, you discriminate against women and you keep them out of all the decent jobs in the economy, and so you force them into school teaching.

And I had very good teachers during The Depression. Many of them, not all of them, but many of them, maybe most of them, were women who I now see were very smart, very able, and it was the combination of The Depression and discrimination that put them in school teaching jobs. So we could fix it. All we need is a depression and discrimination.

By the way, the high school, I went to James Madison High School in Brooklyn where Gary Becker graduated as well, and Ruth Bader Ginsberg graduated as well, and Senator Schumer, Chuck Schumer graduated as well...was a neighborhood school. It was nothing special; it just sat there. It was three blocks from where I lived. It had 10,000 students. That high school had 10,000 students. It was so crowded it ran on double session. The freshman and sophomores went from eight in the morning until one in the afternoon, and then the juniors and seniors went from one in the afternoon until six in the evening.

Orley Ashenfelter:

Well, Bob, how did you get from there to Harvard.

Robert Solow:

I got from there to Harvard because I got sort of semi-adopted in my junior senior year at Madison High School by a schoolteacher, by one of those very smart schoolteachers, an English teacher. Before that, before she sort of took me over, I was very smart, I got good grades, but there was nothing intellectual about me. I didn't have any intellectual interests, I played ball in the streets, but she got me interested in reading novels and in politics and things like that.

And she insisted that instead of doing the routine thing and going to Brooklyn College, which I would, it's a public university, which I would normally have done, that I apply to Harvard and to Columbia, and I did, and I got in. And so, I owe the fact that I went to Harvard to Mrs. Touster, who taught English at Madison High School and taught me. She insisted I apply, and I did. And I got in and I managed to get a scholarship so I could go between that and a part-time job, I could afford it, and off I went to Harvard.

By the way, I was 16 years old when I went to college. When I got to Harvard, I was behind all of the prep school kids who had been given an education more oriented toward higher education than I had been. It took maybe one term to catch up with them because I had been well-educated in the New York City public schools. Well, anyhow, there I was at Harvard, aged 16, and I did okay. I did fine.

Orley Ashenfelter:

Well, how did you end up in the army?

Robert Solow:

I can remember that. In 1942, I turned 18 and I arrived back in Cambridge for my junior year at Harvard. And it started off absolutely routinely. One of the courses I was taking was a course in the psychology of personality, which I was taking because my advisor, whom I admired and respected very much, told me to take it. And also, because I had already by that time had the feeling that society wasn't working very well. Remember, The Depression and the war had started and there was always the chance that there was something in human nature that had to do with it.

So very early in the term, September, late-September, probably, maybe early-October, 1942, I'm sitting in a classroom assiduously taking notes in a course on the psychology of personality. And I am not interested in the psychology of personality, but there I am, like the good student I am, taking notes, taking notes. And suddenly it occurred to me, "I can't do this. I just can't do it. I can't go for another 13 weeks," the length of a term, semester, "Can't go for 13 weeks every Monday, Wednesday and Friday, taking notes on the psychology of personality when over there in Europe, the most important thing that's going to happen in the rest of my life, namely the struggle to defeat Hitler and the Nazis is going on. How can I expect myself to sit here and take notes and take notes and take notes?"

So, I sat to the end of the lecture, continuing to take notes. When the lecture was over, I packed up my notebook and my pencil or pen or whatever I was using, and I walked out of the building. I walked one block to Harvard Square, I walked into the subway, put my nickel in the slot. I got out at Park Street where I knew there was a recruiting station, and I enlisted in the Army, just like that. It took me about, well, from the middle of that lecture until a little after it was over. And I hadn't thought about it before, it just came over me that I can't spend all this time doing this while something very important is going on without me there in Europe. So I found myself in the army.

Orley Ashenfelter:

Basic training. Where did you have basic training?

Robert Solow:

Now, that's an interesting thing. The Army was famous for putting square pegs in round holes, but in my case, they didn't do that. I had two capacities that were sort of by chance. I was a fairly fluent speaker of German because the roommate I had been assigned as a freshman was a German refugee, and we became friends for life, and I started to study German. I figured, what a good opportunity. I was fluent in German and I happened to know Morse code. So they-

Orley Ashenfelter:

Morse code and German...OK!

Robert Solow:

Yeah. Well, some smart person assigned me to the Signal Corps and the Signal Corps put me in a unit whose business was intercepting tactical German radio traffic and translating and decoding it if it was in simple codes. This is not like the fancy people at Bletchley Park like in the movies. This was combat stuff. We were listening to company commanders talking to their battalions or even people talking to their company commanders. And so, I ended up doing that sort of work, combat radio intelligence, in Italy for close to three years. So when I came back at age 21, I'd had more experience as a soldier than I had at anything else.

Orley Ashenfelter:

In Italy for three years. I bet that was fun?

Robert Solow:

Was it fun? No, it was not fun because we were fighting a war and it was not fun. On the other hand, I did get to love Italy, but it was definitely not fun. I wanted nothing so much as to survive and get home and marry the girl, which I did-

Orley Ashenfelter:

Barbara Lewis.

Robert Solow:

Which I did.

Orley Ashenfelter:

How did you meet Barbara Lewis?

Robert Solow:

In a class then... Oh, by the way, that's all part of this story. I told you how I just all of a sudden upped at the beginning of my junior year and joined the army. Well, in that same junior year, I was attending a non-credit seminar that met one evening a week on the subject of capitalism, socialism, and democracy, and it was being taught by Joseph Schumpeter, as you can imagine, and Paul Sweezy, a Marxist, and someone else on the faculty.

And so one evening a week... By the way, when I joined the Army in early October, September, the system then was they gave you a six-week, rough six week or eight-week period and a date at the end of that, and that was the date that you had to turn up and put on a uniform and take the oath and start being a soldier.

So in the intervening six or eight weeks, I had nothing else to do but hang around Cambridge Mass., and I think I stopped going to the psychology of personality, but I continued going to the capitalism, socialism, and democracy [class]. And a week or two later, I met this girl and I fell for her a ton of bricks. And when the six or eight weeks were over and I had to go off to Fort Devens and put on a uniform and disappear into the army, we had already decided that we would get married when I got back, if I got back in one piece.

Orley Ashenfelter:

As you've been talking, I think it's apparent that you have a fantastic sense of humor, and I want to read something to you. I got a copy, by the way, of your Royer Lectures at Berkeley, and I want to read you

something from it. "There is a vast literature on the determination of nominal wage rates. In volume and variety, it rivals the literature on losing weight." Even you think that's funny. I thought that was hysterical. Now, I think everybody has a story of you and your humor, where not everybody has that. Where does that come from?

Robert Solow:

I don't know. I must have been born with that. I don't really know, Orley. From an early age, I've had the feeling that the world was nuts. Things happened that you couldn't possibly explain in any intelligible way, and things strike me as amusing, as funny. I don't know. And as you can tell from the way we're going on, you get me started, I have a loose tongue, and when I said or wrote that passage that you just read out, it just must have, of course, I don't remember this, it must just have occurred to me that here's all this literature and the world looks funny to me.

Orley Ashenfelter:

Everybody has different stories about you and humor. Another thing that I wanted to ask you about. In the Royer Lectures, there's a very nice list of all your publications. And I know your doctoral dissertation was done at Harvard. Who was your advisor?

Robert Solow:

I don't really know who my formal advisor was, was maybe Wassily Leontief, who was sort of my main teacher, but nobody advised me on that thesis because nobody in the Harvard Economics Department, and I would guess nobody at Harvard University, was interested in probability models. And I was interested in probability. That's what it is, the thesis is an attempt to model changes in employment and wages as a random process. And so I really had no guidance on that. I wrote it myself. I don't even think I wrote it, most of it in Cambridge, Massachusetts. I got, just like I said, I got interested in probability and statistics, and Harvard University was miserable, that's a compliment, Harvard University was miserable at probability and statistics. So I got a fellowship from the Ford Foundation, a dissertation writing fellowship, and I spent it at Columbia University, and I took courses in probability and statistics from Abraham Wald and Jacob Wolfowitz and Ted Anderson, really first class people who were totally unavailable at Harvard, who had essentially nothing.

Orley Ashenfelter:

That is fascinating. I wanted to ask you about publications. And when I look through this list, it's a very nice list, a nice little book. What struck me most though, was at least in the first 20 years that you were writing, many, many of the papers are book reviews.

Robert Solow:

Yes.

Orley Ashenfelter:

I'm was shocked, actually. I know the papers, the growth paper and the Markov Model of Employment. I was completely unaware of all of these book reviews that you wrote. How did that happen?

Robert Solow:

Well, I guess there are two things I can say about that. First of all, I really, in those days, and still, I don't much enjoy the act of writing. I think I write reasonably well, but I just don't like it. I don't get any pleasure out of it. So, I often had some small idea and didn't bother, I'd work it out, but I wouldn't bother writing it up because I just took no pleasure in it. But people would ask me to write a book review and if the book looked interesting, I'm just a girl who can't say no. And I would agree, and I read a number of interesting books that way that I might have missed left to myself. I've written a lot. I get more credit than I deserve, but that's just because I don't just don't like writing.

Orley Ashenfelter:

I understand. I have to ask you about this because you're one of the few people around who can talk about it. You actually served as a senior economist at the Council of Economic Advisers.

Robert Solow:

Yes, I did.

Orley Ashenfelter:

When Kennedy was there.

Robert Solow:

Yes.

Orley Ashenfelter:

What was that like?

Robert Solow:

That also was interesting. I didn't really want to do that. The one thing we have to say that I haven't said yet, is that I love teaching, and I was teaching at MIT, and I was a happy little fella teaching at MIT. And when Walter Heller and Jim Tobin and Kermit Gordon asked me to come and spend a year or more as an economist at the Council of Economic Advisers, just at the very beginning of the Kennedy Administration, my first inclination was to say, no, but Bobby, my wife, shamed me into taking the job. So no, it was literally...

Well, I will quote to you because when I told her I had been talking to them, they called one night when we were already in bed, and I got to get out of bed to answer the phone. I came back and I told her that they wanted me to do that, and I said, "I don't want to do that. I need a job in Washington like I need a hole in the head. I'll call them tomorrow and tell them no." And she said, "You know, I've heard you complain about the policies of the Eisenhower Administration for several years. Don't you think it's time you put your money where your mouth is?" So, I thought for about 60 seconds, and I said, "I don't have any answer to that." I said, "If I take the job, will you and the kids come?" She said, "You bet we will." So, the next day I said I would go.

But that was, in spite of the fact I didn't want to do it, it was a wonderful experience and it taught me a lot. First of all, it was a very good group of people. If you're interested in macroeconomics and you spend your late nights chatting with Jim Tobin and Art Oaken about macroeconomics, you are having a good time. And I did, and I learned a lot about economics because I was...

Oh, good Lord. This I have to tell you, just popped into my head. That experience actually solidified my interest in labor markets because almost the first chore that Walter Heller, who was the chairman of the

council gave me, was... There was an idea circulating that the... This was 1961, and unemployment rate was, oh, I don't know, about seven percent. Something like that. It was high. And Kennedy's promise was to lower unemployment. And the idea circulated that the unemployment was, quote, "structural," end quote. That the high unemployment was due to a fundamental mismatch between the available supply of labor and the sorts of people that employers wanted. And Walter gave me the task of sorting that out.

And so, I did a crash research in what labor market data I could find from the BLS and elsewhere, and came to the conclusion that of course there was this kind of structural unemployment, but there was no evidence, there was really no evidence that it had worsened in recent years. So if any increase in unemployment, we really couldn't attribute, in a major way, to a worsening, to a bulge of this structural unemployment.

But that necessity to... Oh, I should say this, Walter Heller, the chairman, was a night owl, and his method of operation was to hang around the White House all during the day. And whenever any conversation turned to an economic matter, Walter would say, "Oh, I can get a memo on that to you by tomorrow morning." And then he'd come back at five o'clock and he'd say, "Well, by tomorrow morning, we have to produce a memo on this and a memo on that and a memo on something else."

And oh, Orley, I remember this. Of course, I would have to call home and my poor three-year or four year old son would pick up the phone and I'd say, "I have to talk to mom." And I could hear him say, "Mom, it's dad. He's going to tell you he can't come home for dinner." And so I'd settle down with a pastrami sandwich or something and we would all work hard and get tomorrow morning's memos out. But that's, in a way, good training, that's in a way, good training, especially when you have good people, smart people to talk to. And I like that.

I have the notion that a lot of progress is due not to individuals, but to groups, to research communities. And I have enjoyed, what I think is a virtuous circle. If you're in a group that is doing good work, it'll have a high morale. And if it has high morale, it'll do good work. And I've had that experience several times, and the Council of Economic Advisers in those, I was going to say in the early years of the Kennedy Administration, but there only were early years, of course, that was one of those experiences. We worked our behinds off, but it was fun, and I think we did pretty good work, although some of it appears now to have been erroneous, but that happens, and we enjoyed it. I enjoyed it.

Orley Ashenfelter:

I have another thing from your Royer Lectures, which it's certainly appropriate for this podcast and I want to read just a little bit more of what you wrote. You say, "One of the first courses I attended as an undergraduate some 50 years ago was John Dunlop's on labor economics. Ever since then, a lot of my best friends have been labor economists. Maybe that is why it has long been a source of nagging intellectual discomfort for me that the treatment of the labor market by macroeconomic theorists is so much at variance with the beliefs of those who study it most closely." I have a couple questions. First, the last person I had on in the podcast was Dick Freeman, who of course worked with John Dunlop. In fact, Dunlop was his supervisor. So, Dunlop has shown up again. You were an undergraduate, this must have been in 1940, 1941?

Robert Solow:

Yes, thereabouts.

Orley Ashenfelter:

What did you think of him?

Robert Solow:

Did you know John Dunlop very well?

Orley Ashenfelter:

No. I met him. I knew him a little.

Robert Solow:

Yeah. Well, the thing about Dunlop was, first of all, he was a bundle of energy. I don't know what his middle name was, John T. Dunlop, but everyone thought his middle name was Tiger. I'm telling you the truth. And so, he was very energetic. He had this odd mixture in his writing, making labor economics part of economics, of doing it as a branch of economics, but also, he was very anxious to be practical and often had the notion that anything could be fixed. If you put him in a room with the people who caused the problem, he could get that problem fixed. And that I never came quite to believe. But Dunlop, John Dunlop put so much energy into thinking about the labor market that it was contagious. It was like a disease. So, I took that course Economics 81, as I remember, probably as a sophomore at Harvard College, and I got to be friends with John Dunlop for long after. Yeah.

Orley Ashenfelter:

That's very interesting. He was so connected to the Department of Labor, that when I worked there once, the executive dining room, which was in the basement, was open to him. So he would just walk in like he owned the place, and that's consistent with what you said. So, the little book is called "The Labor Market as a Social Institution." And it's hard to summarize everything that you have done to try to provide a more compelling way of thinking about labor markets and macroeconomics, but what would you say, if I could just ask you for one or two things, what would you say are the things that you tried to do in that area?

Robert Solow:

I had two preliminary thoughts that I think are in those lectures. One was, that I really was convinced that people's behavior in the labor market was strongly, really strongly influenced by feelings of fairness. For instance, somehow, I'm not sure whether this is correct or not, but I remember having the feeling that the structure of relative wages of occupational differentials, seniority differentials, and things like that was very fixed in the labor market.

It was hard to change. People would kill for their differentials, and that it probably had some justification, but certainly not a complete justification in the realities of productivity and that sort of thing. And that you could not understand the development of wages unless you understood the fact that workers, wage earners themselves, have strong feelings about what was right and proper, and that employers either came to agree with them or thought that it was unwise to disagree too strongly with that. So I wanted to get that notion of fairness. God, I have remembered this just now for the first time in 70 years or whatever it is. Did I quote this in those lectures, a long passage in which Alfred Marshall agreed with me.

Orley Ashenfelter:

Yes, you do quote it.

Robert Solow:

Marshall had that same feeling about the importance of fairness, and I wanted to build that in, and I think I did in one lecture. And then in another lecture, I worked out a kind of semi-game theoretic arrangement in which a group of workers could punish someone who violated their norms of what was right and proper. And I wanted to, well, you would know this at least as well as I, I have the economist's instinct for getting something modeled right, and I worked out a model in which anyone who violated what the group norm was to his or her, in those days was mostly his, advantage, could be punished by his peers in the labor market. I thought, and that's where the title of lectures came from, I thought that you could not just do simple supply and demand in the labor market. You had to take account of the fact that these animals had strong feelings about what they were doing. So I enjoyed that. I really enjoyed writing that.

Orley Ashenfelter:

I could see that you were having a good time writing it. And of course, there's the quote about how the literature on wage inflation is as varied as the literature on losing weight. That's kind of a hard one to beat. We're coming to the end now, and I just have one more question I want to ask you, and it's really about current matters. But you're one of the few people I think that I could ask this question that might actually have lived through a part of it.

There is a period, the current situation with high inflation, well, of course the inflation rate is coming down now, but it has been high, very low unemployment, and there was, until recently, weak growth. I look back at the period when you came back from the army, 1946, '47, and I don't know if you remember, but the inflation rate in 1946 was something like 16 percent.

Robert Solow:

Yeah.

Orley Ashenfelter:

The unemployment rate was low, and real growth was negative, about minus 9%. And I think there were two or three years that were clearly a response to the Second World War, and the fact that we had disrupted... I mean, no automobiles were made with model years, '43, '44, or '45, and so suddenly there was a big demand for all that. What do you think about the comparison of what we see today post-COVID with that period post-war?

Robert Solow:

That's interesting 'cause I had not thought about that, but I think that the demobilization from the war did have some of the characteristics that made the COVID economy such a problem. There were supply chain disruptions at the end of the war. There were temporary people leaving the labor force, all these able-bodied males coming out of the army were rejoining the labor force. The one big difference, Orley, is that...I would think one big difference, is that '46, '47, that's about the time that industrial unions are replacing craft unions. And some of the strong disruption might have come about as part of the shift in power relations between workers and employers in the major heavy industries, in steel and autos and aluminum and things like that. There is a disruption in the supply side of the economy that bears a family resemblance to what you got in COVID. I had never thought about that, but I think it's real.

Orley Ashenfelter:

I wondered, too, whether anybody had ever tried to construct an economic model of that very brief period after this major shock? I don't think anybody's ever explained how-

Robert Solow:

I don't think anybody ever did, and I certainly couldn't because that's the time when I was just beginning to study economics, really.

Orley Ashenfelter:

Or you were in the army, one or the other. Bob, it's been absolute pleasure talking to you today. And I'm going to close out now, but I just want to make it clear, I realize that it's an effort to do this, but you have 98 years that seem to have nothing has changed in your brain, as far as I can tell. And it's been just an incredible pleasure to have you.

Robert Solow:

It's been fun. It's been fun, Orley.

Orley Ashenfelter:

Our guest today has been [Robert Solow](#), the Institute Professor of Economics Emeritus at MIT. Please join us again for the next episode of [The Work Goes On](#), an Oral History of Industrial Relations and Labor Economics from the [Industrial Relations Section at Princeton University](#), when we will speak with [Frank Stafford](#), Professor of Economics Emeritus at the University of Michigan, and also Co-Principal Investigator on the Panel Survey of Income Dynamics. I'm your host Orley Ashenfelter. Thanks for listening.

Announcer:

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