



## TRANSCRIPT

### The Work Goes On

**Guest: John Abowd**

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#### **John Abowd:**

The pandemic, of course, didn't make the 2020 census a piece of cake to conduct, but it did show that you could adapt to the environment very quickly. You could change the playbook in spite of long held beliefs that the playbook really couldn't be changed. But you don't want to have to change the playbook. You want to do it the way it's planned.

#### **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, emeritus 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 [John Abowd](#), who is Edmund Ezra Day Professor of Economics, Statistics, and Data Science Emeritus at [Cornell University](#). He also served as associate director for research and methodology and chief scientist at the U.S. Census Bureau for several years. He's renowned for his work in labor economics and statistics on a wide range of topics. John, welcome to [The Work Goes On](#).

#### **John Abowd:**

Hi, Orley. Glad to be here.

#### **Orley Ashenfelter:**

It's such a pleasure. Let's begin the discussion by talking about your background. Where did you grow up?

#### **John Abowd:**

I grew up in the suburbs of Detroit, Farmington before there were Hills.

#### **Orley Ashenfelter:**

Farmington? I didn't know you were from Detroit. Did you go to school there? High school?

**John Abowd:**

I went to a parish school, our Lady of Sorrows grade school and high school. The high school closed shortly after I graduated. The grade school and middle school are still in existence and some of my nieces and nephews have gone there.

**Orley Ashenfelter:**

That's great. You came from a pretty big family.

**John Abowd:**

Yeah, I'm the oldest of 12.

**Orley Ashenfelter:**

Oh. I didn't know it was that big. Twelve. Whoa.

**John Abowd:**

Yes.

**Orley Ashenfelter:**

A lot of siblings. Well, I know you went to Notre Dame. Now, did all of them go to Notre Dame?

**John Abowd:**

Nine of the 12 went to Notre Dame and the university has acknowledged that as the single-family record.

**Orley Ashenfelter:**

You could have your own reunion. Yeah, well, what can I say? Nine kids go to the same college. Hardly anybody even has nine kids, and 12 is certainly a... So, you're in Detroit and then you went to Notre Dame. How did you like it there?

**John Abowd:**

So, it was the late 60s, early 70s, and it was a very different place than it is today. I enjoyed it immensely. I can even report to you that the late season football games I spent in the library watching the snow fall on the field. But of course, I'm a Notre Dame sports fan, like any true alum, and I met my wife there.

**Orley Ashenfelter:**

So, that worked out okay, I guess for everybody.

**John Abowd:**

Yes, it did. Yes, it did.

**Orley Ashenfelter:**

And then I know graduate school, how did that come about? You went to Chicago?

**John Abowd:**

Yes. So, Joe Hotz was one class ahead of me at Notre Dame, and he went to Chicago and he came back in April, I think, during the decision window for graduate schools. And we had lunch and chatted. We'd known each other and basically, he told me everything about Chicago that you don't learn unless you talk to somebody who's been a graduate student there, why he transferred to Wisconsin, and my choice was between Chicago and Penn. So, I made the choice even up and I went to Chicago with my eyes open and I heard the famous speech, the famous McCloskey speech – look to your left; look to your right; neither of those guys will be here at the end of the year. So, I'm told it's not like that anymore, but I haven't given a paper in Chicago since 1995.

**Orley Ashenfelter:**

And of course, you worked with Arnold Zellner, which is probably not the typical economist's advisor.

**John Abowd:**

That's true. Well, he always had a PhD student from the economics PhD program as his RA/TA. And so, I succeeded a time series econometrician Walter Vandaele, and after me [there] were some other economists, some of whom even did labor economics, but he kept a foot in economics and statistics and kind of taught me that. But it was unusual for a labor economist to study with him at the time.

**Orley Ashenfelter:**

Yeah, he was, I mean, known for three stage lead squares and all kinds of econometric tools, and he was one of those old-time guys who wrote clearly so you could actually understand what was in the econometrics. It was he just wasn't trying to outfox you.

**John Abowd:**

He taught phenomenally clearly too. When I was back there on the faculty one year, I had to teach his classes. He was on leave and I could not come close to reproducing the clarity of his lectures.

**Orley Ashenfelter:**

Yeah. What did you work on?

**John Abowd:**

With Arnold?

**Orley Ashenfelter:**

Yeah.

**John Abowd:**

Well, so my thesis was a model of institutions of higher education where I learned how to process big data sets, stay up really late at night, and write down models that took a dedicated IBM 360 90 to compute, and I didn't go back to that subject ever again. I learned how to do careful empirical work from Arnold. He had some of the same instincts that later labor economists that I worked with had. If you put a table in a paper, you should be able to understand what that table is about without having to read the whole paper. It should be clear. But mostly I was his TA and RA. Well, I supervised the writing of a program that did Bayesian econometrics, and a friend of mine who was in the MBA program who'd been

an undergraduate friend at Notre Dame, programmed it, and he was a phenomenal Fortran programmer. He wrote Ara Parseghian's programs for tabulating up play calling options. We're now talking back in the 1960s and early 70s. So that was one of the things that we did together.

**Orley Ashenfelter:**

Interesting. I know he was always interested in data from the labor market too, as I recall.

**John Abowd:**

Yes, he was. Later on, we wrote a paper on gross labor force flows together, but that was when I was back on the faculty at the Chicago Business School.

**Orley Ashenfelter:**

I know... Now, was your first job at Princeton?

**John Abowd:**

Yes, it was. You recruited me, but I know this is supposed to be about me, but you did recruit me and then you went on sabbatical.

**Orley Ashenfelter:**

Well, then you moved back to Chicago after that.

**John Abowd:**

Yes, that's right. I spent 11 years at Chicago, just the two years at Princeton from the time I started graduate school until the time I left for the journey to Cornell. And it was in the heyday of Becker labor economics. And so, I tell people who don't really realize. Jim Heckman and Eddie Lazear were both assistant professors at that time. I mean, they didn't stay assistant professors very long, but they were when I got to Chicago and Gary ran his workshop on Monday by the Chicago rules that I'm not sure younger economists have ever confronted. Any questions on page one? Any questions on page two? We all really did read the papers in advance, and especially if you were a graduate student, you could be embarrassed pretty badly if you hadn't read the paper in advance because cold calling was allowed in the workshops as well.

**Orley Ashenfelter:**

There are many stories about those old days that people tell. My favorite is when George Johnson, who we've been mentioned on this podcast many times, but no longer with us, gave a talk in Milton Friedman's seminar. And on the first page, there was a footnote that said, and this is shown more rigorously in so-and-so place, and Friedman asked him, is that more rigorously? And in fact, I gave a talk there once. It became [Robert] Lucas's workshop, and I still remember it because for some reason in that room there was a sink with a faucet and it was hidden behind some little thing. So, when I walked in, I couldn't resist this, I said, oh, this is great. So, they have a sink here to wash the blood off because I thought you're going to be viciously attacked and you're going to need to wash the blood off, anyway. And then Cornell, now you were at Cornell for a long time?

**John Abowd:**

Long time. I got there in '87 and I left to take the full-time position at the Census Bureau in 2016. I'm still on the faculty there. I didn't go emeritus until well into my term as chief scientist at the Census Bureau. I have a lot of very fond memories of Cornell. It was a really good fit.

**Orley Ashenfelter:**

And it was such, you were there at the right time because it was really evolving to be a powerhouse operation, and you were a part of that.

**John Abowd:**

Well, we had a very collegial relationship. If you're in a department where your colleagues take as much pleasure in your success as they take in theirs, you can get a lot of really interesting work done. And that was the way we operated.

**Orley Ashenfelter:**

Yeah, there are a lot of things I could ask you about. We wrote a paper together too, actually. That has been...

**John Abowd:**

Yes, we did.

**Orley Ashenfelter:**

Others have reproduced, and I always thought you did a great job finishing it. I did a great job starting it, but you were the closer, thank God. And I think Sherwin Rosen made it happen. But I think instead of talking about that... You are now rightfully famous for, we're in the world of big data now, and you're very well-known along with two co-authors for being amongst the earliest to fit models that had specific effects for firms and workers and trying to sort out those effects and also trying to estimate those models. I thought that it's called the AKM model, obviously A... Well, incidentally, I can't help myself. My name is Ashenfelter. It starts with an A. You would think that I would have co-authors, and I would always be first on the list, but I can name at least three or four that I'm not. Abowd, of course, is one, along with Altonji and Abbott. How did I end up with co-authors where I'm the second author? Hard to explain. I think they searched me out. That was like...

**John Abowd:**

Yeah, they did. They did.

**Orley Ashenfelter:**

So, I'd like to know about the origin. This has become quite a well-known thing. People just call it the AK ... I don't even know if they give you a citation anymore. They just call it the AKM.

**John Abowd:**

They do give us citation, but even at the Society of Labor Economics meetings, I've been approached by younger economists who look at my name tag and say, oh, are you the A of AKM? Yes. And the last time it happened, David Margolis was standing next to me and I said, that's the M.

**Orley Ashenfelter:**

Well, tell us how that came about that paper.

**John Abowd:**

So, Cornell granted me early sabbatical when I arrived, so I got to take a sabbatical after three years as an associate professor. And so, I asked Janet, where do you want to go?

**Orley Ashenfelter:**

Janet is your wife. We should explain.

**John Abowd:**

Yeah, my wife Janet. When we moved to Ithaca, her career opportunities were severely limited because she had been working for AT&T and she knew how to assist the sale and installation of what were called switches at the time, the things that large private telephone systems ran on. There were two within a hundred miles of Ithaca that were the size that she was used to working on. One was at Cornell and one was at Ithaca College, and they didn't need anybody. So, she had decided she wanted to come back as a French teacher. She majored in French as an undergraduate. She'd lived in France for a year, so she said a French speaking European city. So, I did two things. I immediately started taking intensive French classes at Cornell, and I contacted people, connections in those. One of those connections was Alain Monfort, who was the director of research at the research center attached to the National Statistical Institute, INSEE, in France, in Paris.

And he invited me to fly out. It was November of 1990, and we had a long talk. My French wasn't very good. His English was much better, so that was mostly in English. And he said he had a young game theorist joining the research department named Francis Kramarz. And Francis, it might be a good idea to pair an empirically minded person like me with a theoretically minded person like him. And at the same time, David Margolis was my student, and so I said, if you want to, you can come to France too and we can set that up. So, he took the intensive French lessons too. And of course, while he was there, he met his wife, Claire. And so, after we came back from that year, he was more than eager to make trips to Paris to work on it. And I made trips to Paris.

But when I first showed up in 1991... Francis had just gotten back from his honeymoon. He was in his office because he was a junior bureaucrat. It was August so he couldn't take August holiday. He had to take July holiday. So, I walk in in August and he's in his office and he's flipping through 11-by-14 fan fold, working on a paper.

[I asked] "What are you doing?"

"I'm checking the derivatives from my asymmetric information, dynamic cost model of labor demand."

"That's nice. Of course you program them numerically to check them, right?"

"No, no, they're right."

So, then I said, "Well, what's the data look like?"

And he started describing the data that he was using for that dynamic factor demand model, and those ended up being the data that we used for AKM.

[And I said,] “You know there's some other interesting things we can do with that. Are you interested?”

And he said, yes. And so we basically started learning about all of the different components of the INSEE data that we could link to this core of employee data that had person identifier and a firm identifier on it, and built the data set, brought Margolis into it after he finished the chapter from his thesis that he was working on with similar data, similar French data (It was a collective bargaining paper in fact.) And so, by the end of the year, we had the prototype, but we didn't have very much to show for it, and it took multiple trips back to France. I taught MBA classes at HEC, a business school in the suburbs of Paris, and David was at the University of Montreal. Well, first he was back at Cornell. He finished his thesis and then he took a job at University of Montreal, and he was commuting back and forth before he got his position at CNRS, which is the French equivalent of the National Science Foundation.

**Orley Ashenfelter:**

I don't think I've met him. Is he French?

**John Abowd:**

No, no, no. He grew up in Philadelphia, and his parents might never forgive me for the fact that their grandchildren grew up in Paris, because that is what happened. We had a draft in '93. We had the draft that has been most widely circulated in '95. That's the last paper I gave it at Chicago. And then it spent five years under review at *Econometrica*, which was not at all unusual at that time. And the editor was David Card, who evidently learned it pretty well. So, when it was accepted, I said, “so, how do you want me to handle the appendix? Put it in a working paper series someplace in the NBER or something?” He said, “No, no, we'll publish that too.” So, I did not expect 83 pages in *Econometrica*. And really the salient appendix is a paper that Francis and I wrote with a statistician at the Census Bureau right after we finished work on AKM that actually did the exact calculation the way people do it now. It used all custom algorithms because it was still the 1990s, 2002.

**Orley Ashenfelter:**

And the data set was pretty big. I've forgotten how what scale...

**John Abowd:**

Yeah, the data set. Well, I mean it would be considered trivial by modern standards, but the data set was the maximum size that the mainframe network at INSEE could process using tape as the mode of input for the SAS file. And I believe that limit was 1.25 gigabytes, which of course my wristwatch stores way more than and processes a lot faster than. So, the folks at INSEE gave us free rein on that computer network every weekend, and some evenings. We ran SAS programs because that was the only language available to us to do the data sets.

**Orley Ashenfelter:**

What do you think has come of that? I mean, the ability to identify firm effects, high wage firms as opposed to high wage workers. What's your takeaway from... Now this has been done in many places, including the U.S. What's your takeaway from this analysis?

**John Abowd:**

So, I think the statistical evidence is clear. There's an independent statistical effect from where you work. The macro economists were the first ones to buy into that notion completely. Dale Mortensen in particular, but I think a lot of other macro economists, Rob Shimer. And so, a variety of sorting models, matching models have been proposed where the fundamental evidence is this evidently statistically independent effect of where you work as opposed to who you are on your earnings. David Card resurrected it by the 2013 paper with Heining and Kline, where they did a series of statistical tests that you could use to establish that what we were calling a firm effect was statistically a firm effect. If you move from a high wage firm to a low wage firm, your wage changed in the amount predicted by the firm effect. Absolutely.

**Orley Ashenfelter:**

We should explain that that's what it relies upon. If you don't have people changing firms, you can't really figure out their effects independent of...

**John Abowd:**

Actually, you can. It's a technical thing, but the graph needs to be connected and way more people are in the connected graph, jobs are in the connected graph, than there are movers in the dataset. When you restrict your attention just to movers, you get the wrong answer. You have to use the connected graph, which means you have to use all the people who ever worked at a firm where somebody in that firm moved to another firm in the sample. It's a bi-variate connectedness. And the tools that people like Patrick Kline have popularized also rely on this connectedness.

There are other statistical methods that you can use that use weaker forms of identification, but they're not popular in economics. So, they're random effects methods, and they haven't really taken hold. Most people use the fixed effect method that we propose. They calculate it exactly using formulas similar to the ones that are in that working paper I talked about earlier. And then they now do the post-processing using the variance correction formulas that Patrick Kline and his co-authors published. Those are very important if you're going to take functions of the estimates. But the key thing is that the tests that they propose do reasonably establish that the effect, the firm effect, is a statistically different effect from the person effect.

**Orley Ashenfelter:**

Yeah, I don't think people object to that now, but of course then it raises the question of why there are... We always had explanations or at least some explanation for why there are people get different pay. And then raises the question, why do firms, why do firms have different pay?

**John Abowd:**

Choose those strategies. Yes, I agree. I think the main contribution of that paper was to force people to think very carefully about ways to explain this rather than basically assume it away.

**Orley Ashenfelter:**

Well, a lot of unanswered questions. Well, we've taken quite a bit of time so far, and there is a topic that I think you're going to want to spend a little time on that I certainly want you to talk about. You spent your time at the Census Bureau as chief scientist, I guess, six years. During the time there was many, many litigations associated with the Census since you were there at the exact... Well, you were there in the runup to the census and as well as after it. And in fact, I still remember seeing you in San Francisco

where you were about to testify in a court case testifying apparently favorably for the plaintiffs, even though you actually work for the defendants who was the Census Bureau. Can you summarize what that all was about and what's happened subsequent? This had to do with the questions that were going to be asked on the census.

**John Abowd:**

Late in 2017, the Secretary of Commerce received a letter from the Department of Justice asking Census Bureau to put a citizenship question on the 2020 census. And Wilbur Ross was the Secretary of Commerce, but the letter came straight to Ron Jarmin, who was the acting director at the time. So, we're sitting in his office on a Friday afternoon having received this, what are we going to do? And I said, well, we're going to need to put a SWAT team together to address this. So, we got what you would recognize as a litigation support team together. And we wrote several memos to the secretary explaining why it was not a good idea to make a late add of a citizenship question to the 2020 census. But if he so instructed us, we would take measures to get as complete account as possible. And in March of 2018, he ordered us to put the question on the 2020 census, and we were under that order from that moment forward. So, one part of the Census Bureau started essentially dual programming the 2020 census to do it either way. And immediately the very next day, the state of California filed suit, and the day after that, basically several dozen states and municipalities, several dozen not-for-profit organizations all filed suits. So, there were six different suits. They were consolidated for the purposes of discovery. And the first one to come to trial was in New York where the judge was Jesse Furman, brother of the economist.

**Orley Ashenfelter:**

Was that right? I did not know that. We should add too. I think the census is required by the Constitution.

**John Abowd:**

The census is required by the Constitution. So, here's the thing...

**Orley Ashenfelter:**

Every decade, I guess is what it specifies in the Constitution. Yeah.

**John Abowd:**

That's right.

**Orley Ashenfelter:**

So, people should be aware that we don't just do a census of population because we feel like it.

**John Abowd:**

Yeah, I guess I took for granted that most of the people seeing this would know that it was a constitutional requirement to perform it on the zero years, but there's also a statute that dictates how it's to be conducted, and that statute has time deadlines for reporting to Congress. The Secretary of Commerce missed the deadline for adding a topic to the 2020 census. That was April 1st, 2017. Therefore, he was ordering a change in the 2020 census. And that meant the Administrative Procedures Act bound his actions, and he had to document that his order for a change was not arbitrary and capricious. The discovery took most of the summer. The litigation started in November, and I was the

government's only witness, and I was the last witness called by the plaintiffs in civil cases. That's called an adverse witness. So, my direct testimony was taken by the lawyers for the plaintiffs, Dale Ho, who's now a justice in the District Court of the Southern District of New York.

And then my expert testimony was taken under direct rules, and it basically centered on what were the consequences of the late add of a citizenship question to the 2020 census. So, I explained the expected fall off in the self-response rate and the procedures that the Census Bureau would use to address that. Judge Furman found for the plaintiffs. And that was rapid fire appeal to the Supreme Court because there was a hard deadline of July 1st to start the presses. So, when it got to the Supreme Court... The other two cases were litigated in January of 2019, but the case that got to the Supreme Court was the one from 2018. When it got to the Supreme Court, I got a ticket. So, I watched, and that's a real out of body experience. So, the justices didn't tip their hand too much during the examinations, in the oral arguments.

And literally the online instrument was dual programmed and the paper instrument, there were two sets of masters. And on July 1st, the paper instrument had to start printing. So, we're sitting there on the last days of the court in June of 2019 waiting for a decision, and it finally came on the penultimate day. The court was ordered and all sitting in the room, including the political appointee, the director Steve Dillingham, and you couldn't really tell which way they were going to decide. And they got to the paragraph where [Justice John] Roberts joined the, at the time, four liberal justices in saying that he couldn't accept the explanation that the secretary had given, that it was obviously pretentious. And so, if don't... You don't have to give every reason why you did something to satisfy the Administrative Procedures Act, but the reason you give has to be the truth. And so, he struck the question, and the next day, the presses turned on even though the president had not yet accepted the decision. And there was a lot that happened after that too, that involved litigation.

**Orley Ashenfelter:**

So, what's going to happen in the next census? You won't be there, I guess. for this one. Will there be a citizenship question and how much do you think the falloff would be if there is?

**John Abowd:**

So, it's not clear whether there'll be one or not because the current head of OMB, Russell Vought, is the same person who was there in the first Trump term and some of his people who work for his other foundations have advocated for putting a citizenship question on the 2020 census. If the Secretary of Commerce follows the rules, and it's announced before April 1st, 2027, that's the end of it. No one disputed last time, and no one will dispute this time that the secretary has the authority to do that. The secretary hasn't done that yet. I don't know whether the secretary will or won't. I'm confident in predicting that the self-response rate would fall off. You don't want to have a controversial census. Controversial censuses are really hard to conduct. And the pandemic, of course, didn't make the 2020 census a piece of cake to conduct, but it did show that you could adapt to the environment very quickly. You could change the playbook in spite of long held beliefs that the playbook really couldn't be changed. But you don't want to have to change the playbook. You want to do it the way it's planned. And I have not seen the instruments from the test that's about to run. I do not know whether one of those instruments has a citizenship question on it or not.

**Orley Ashenfelter:**

That's interesting. It's very interesting. What did you think the fall off would be? Did you have an estimate?

**John Abowd:**

Well, we did. We had an econometric estimate that [the] self-response rate would fall off about five percentage points. And subsequently there was a randomized controlled trial in which the self-response rate did not fall off by nearly that much, but that trial was run in the field while the citizenship question was being argued in front of the Supreme Court. So, it's not clear whether the macro effect of the environment or the micro effect of the randomized control trial with and without the question and subsequent analysis of those data show that you really do get markedly lower self-response from people in families where there's an immigrant. We could do that using administrative records to determine the family composition of the non-respondents.

**Orley Ashenfelter:**

Well, I'm not sure. Maybe we should never have brought this up because maybe everybody would forget about it. I think that's unlikely in current environment.

**John Abowd:**

I think that's very unlikely too.

**Orley Ashenfelter:**

Very unlikely in the current environment.

**John Abowd:**

I'm hoping that people from both sides of the political spectrum will understand the value of having a non-controversial census for most of the purposes that you want to use the data for. I don't think there's enough time in this podcast to explain what the really salient ones are here, but apportionment and redistricting are very important uses of the census data. And you want to have one that you can conduct reliably before you do those things.

**Orley Ashenfelter:**

Yeah, it has a lot to do with the allocation of funds and many other things that are quite important.

**John Abowd:**

We estimated 1.2 trillion dollars a year for the 2020 census, apply whatever inflation factor you're comfortable with to that number for 2030.

**Orley Ashenfelter:**

That would be the part that's allocated based on population numbers.

**John Abowd:**

Well, and all of the downstream consequences of those population numbers in other formulas.

**Orley Ashenfelter:**

Well, John, I think on that happy note, we're coming to the end of our podcast. It's been just such a pleasure to have you, and especially to get a brief discussion of this census issue, which is of course so important, not just for people that allocate money, but actually for economists who try to do work of their own.

**John Abowd:**

Yes.

**Orley Ashenfelter:**

And great to have you here today.

**John Abowd:**

I enjoyed it. Thank you, Orley.

**Orley Ashenfelter:**

Our guest today has been [John Abowd](#), Edmund Ezra Day Professor of Economics Emeritus at [Cornell University](#). 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](#). I'm your host, Orley Ashenfelter. Thanks for listening.

**Announcer:**

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