

## INTERVIEW

# Derek Neal

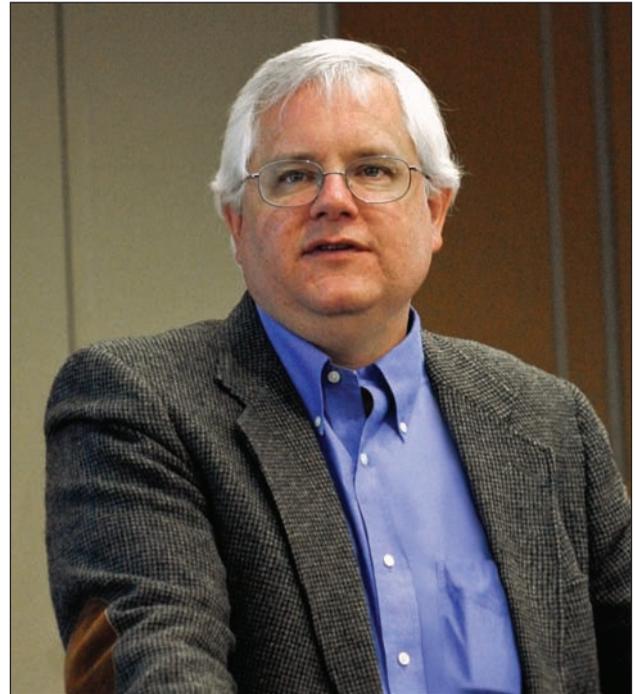
Nearly everyone has an opinion on what should be done to reform the American educational system. Among the more popular ideas over the last few decades has been to hold teachers and schools accountable by tracking student performance through standardized assessment exams. Such exams were at the center of the No Child Left Behind Act of 2002. Like many policies, though, it may have had consequences that were both unintended and undesirable, argues Derek Neal, an economist at the University of Chicago. Teachers have incentives to “teach to the test” rather than impart critical thinking skills that help students reason through issues. And school administrators have incentives to issue tests that help students achieve the scores needed for their schools to continue to receive full public funding.

Neal, whose work on education issues draws on his training as a labor economist, has also examined the factors behind the increase in wage and wealth inequality in the United States. He argues that trend is largely due to increasing returns to skill — that is, higher-skilled workers tend to earn a substantial premium relative to their lower-skilled counterparts. To help bridge that divide and improve educational opportunities for people in economically disadvantaged neighborhoods, particularly those in large cities, Neal argues that providing school vouchers is an idea worth trying. Vouchers, he says, may also help to narrow the skills gap that exists, on average, between black and white Americans.

Neal earned his Ph.D. in economics at the University of Virginia. In addition to his appointment in the Department of Economics at Chicago, he also is a professor with the university’s Committee on Education. Neal has served as the co-editor of the *Journal of Human Resources*, the editor-in-chief of the *Journal of Labor Economics*, and is the current editor of the *Journal of Political Economy*. Aaron Steelman interviewed Neal in August 2011.

**RF:** What is your view of subject matter assessments administered to students? Do they, on balance, have the intended effect of increasing knowledge in certain key areas and, as a result, students’ human capital?

**Neal:** I don’t think we have precise answers to those questions. I do believe there are reasons to suspect that the entire assessment-based accountability movement has produced rather small gains in terms of the true subject mastery that students possess, their true command of the curricu-



lum. It is very easy to find evidence that increases in test scores on a particular high-stakes assessment that are tied to accountability or performance pay often don’t show up when the same kids are taking other tests that are supposed to cover the same topics but happen to be low-stakes tests. That is not definitive proof that the source of the gains on the high stakes is entirely coaching or cheating or some other activity that has little lasting value for the students. But there’s enough evidence of that flavor in the literature now that we should be very cautious when advocates of these programs point to movements in scores of high-stakes tests as evidence that something important is happening.

There is a paper by Daniel Koretz in the *Journal of Human Resources*. In that paper he looks at a Kentucky school district that had a moderate-stakes assessment program and he noticed that when they changed test vendors — not the curriculum, just the company that made the exams — he saw drops in the scores, and then the scores went back up over three or four years. So he took the old test and gave it to a random sample of students, and it turned out that on the old test, the students who were now doing so well on the new test did just as poorly as the first year the new test was introduced. So it appears that all of the improvements on the new tests over a three- or four-year period were improvements in performance that were completely specific to a particular type of exam. I don’t believe that is the type of performance we are interested in when we are evaluating whether our schools are doing a good job or not.

**RF:** So this might suggest that assessment-based programs do little to help a student improve his ability to reason his way through a question or set of questions on a particular subject.

**Neal:** The big thing you have to realize is that these tests were not designed to be used to gather information for accountability systems.

These tests were designed so that you could track the performance of kids over time — for instance, that you could have a score for a kid in 2005 and a score for a kid in 2008 and make the claim that both scores are well placed on the same scale, so that a score for a third-grader in math in 2008 is comparable to a score for a third-grader in math in 2005. The idea was that this would permit us to say meaningful things about how the distribution of student achievement for third-graders is changing in a state or a district or a school over a period of time.

If you want that type of stability and the ability to make comparisons over time, you are going to need a testing system where a lot of questions are repeated, the tests follow a common format, and the tests are very regular in a way that allow the psychometricians to have links between the exams to place them all on a common scale. So the very regularity, the repetition of items, the features that provide the opportunity to create the constant scale also create the opportunity for coaching and manipulation and drilling on answers to specific questions. When you attach stakes to the exams, there can be a response by teachers that undermines the integrity of the scale because now it is no longer measuring student aptitude but measuring how well students were coached for the exam. The same features that make consistent scaling possible over time in theory will guarantee that the scale becomes corrupted over time in practice if you use the tests for accountability and performance pay rather than just as a source for gathering information. So the best way to understand this is that they are trying to have a twofer — they are trying to have a set of tests designed for one thing and use them for something different, and that's often problematic.

**RF:** If assessment-based systems provide an incentive for teachers to coach students for a test rather than help them gain mastery over a subject, how do you alter that incentive?

**Neal:** The first thing you need to do is have two sets of tests. You need the current tests and those tests have to be low stakes, and you have to have commitments that no one will ever know how the students in one particular school did on this test, that these scores will be reported on a district level or above, and they will be for the education department to track how things are going. And then you need a second set

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of tests for accountability and incentives that are designed for those purposes. Those tests would look very different. They would never repeat questions; they wouldn't have fixed formats; they would have a lot of essay and short answer questions; and they would not be multiple-choice tests, where there are optimal strategies for when you guess and when you don't guess and

opportunities for people to coach students on test-taking strategies. It would be a process of developing an entirely new type of exam that would not be predictable and would have the property that the best thing teachers could do to raise the scores of their students would be to teach them in ways that build a deep mastery of the curriculum.

The way that mechanism design works in economics is you figure out what you want people to do and then you build a system so that if they just try to maximize their own take-home pay or maximize their take-home pay net of effort — maximize their own well-being — then in response to the system you designed, they will do what you want them to do. So if we want teachers to teach well and build subject mastery in students, we need to design a system such that the best response of the teachers to the system is to teach that way.

**RF:** On that second test, even if you give short-answer rather than multiple-choice questions, there is still opportunity and incentive for administrators to grade those answers favorably. It seems that you need a third party to grade the exams.

**Neal:** You need third-party everything. You need third-party administration. You need third-party development of the grading rubrics. The thing that is silly about No Child Left Behind is that the impetus for it was the allegation that there were local school districts wasting the money the federal government, and in some cases state governments, were giving them, so we needed a system for making sure that people were accountable, especially for the federal money they received. Now, if the whole problem is that the states aren't holding the local school districts accountable for their performance, then why in the world does it make sense to develop a system where the states make up the exams, the states define what proficient means, the states let individual teachers administer the exams to their own students, and then the state education office scores the exams and decides what score is needed each year to meet the proficiency standard? It's very much analogous to me telling my kids that they have to clean their rooms but letting them define the standards of cleanliness and then letting them inspect their rooms to determine if they have met their own standards.

There are many things about the way No Child Left Behind was implemented that just make you scratch your

head in terms of whether this was ever a serious effort to build an accountability system that could work. People roll their eyes and scream and yell about the recent events in Atlanta — where teachers got together, sometimes with their principals, and changed the answers on exams before they turned them in to be graded. But if you read the literature, it's not a new story.

People in the private sector do not have situations where their supervisors say, "You come up with your own evaluation form, fill it out, and turn it in to HR yourself." Any system that is going to be worth having is going to be one that is designed to induce the behavior we want and to eliminate obvious opportunities for corruption.

**RF: While many of the reforms you have discussed seem relatively straightforward, it seems that it may be useful to have economists who understand a little about mechanism design sitting on the committees that determine how the programs are structured. Is that the case?**

**Neal:** If you look at all the stuff I have been doing recently, that idea has been the thrust of much of my research. One way to understand why performance-pay and accountability systems have been less than successful in public education is that these are human resource policies that are typically designed by people in education or maybe public policy schools who have no background in the design of incentive systems, who never took a class in the design of contracts, who never took a class in personnel economics. And so far what has happened, I believe, is that economists have gone and done empirical work to show that poorly designed incentive systems have had less than desirable outcomes that were completely predictable if you analyzed the systems from the outset. That's been valuable but it's time for economists to do more than that. So a big theme of my writing of the last year or two is that people who work in the economics of education need to do more than just come up with sophisticated methods for evaluating poorly designed programs. Economists need to start weighing in on how programs should be designed, the same way that economists weigh in on the design of regulations, the design of environmental policies, the design of government auctions, the design of the tax code. They need to be involved from the outset in building models that tell us how accountability policies in education should be designed.

**RF: What does your research on Catholic high schools tell us about their performance? And are there certain characteristics that are particularly important to the results they achieve in some cases?**

**Neal:** The second question is for someone who knows how to run a school. As an economist, I can say that it appears that the greatest gain from getting access to a Catholic school is for economically disadvantaged kids who have bad options in the public system. If you have a great public

school you can attend, it's not a big deal. If you live in an urban area and you have a bright kid and you can get him into a really good magnet school, who cares whether you have vouchers, who cares whether your kid won a scholarship to a private school. You have made sure that the public system gave you yours. I think the one thing that is most clear from the public-private schooling literature is that if there is a group who benefits greatly from having the private sector more involved in providing alternatives for them, it's politically and economically disadvantaged people who live in large cities where there is a large monopoly school system.

I believe what the literature shows is that Catholic schools, as a rule, are not super schools. If you go to the northern suburbs of Chicago, you are likely to find that both the local Catholic school and the public school offer good, comparable educations. But if you go to the inner-city neighborhoods of Chicago, you will find some Catholic schools where the students are doing quite well but the public school down the street is just a disaster. It's not that Catholic schools are better than all public schools. It's that in certain settings, Catholic schools are a lot better than their public school neighbors.

**RF: Much has been made about the importance of early childhood education in building human capital over the course of a student's educational career and then later in life. What is your view on this issue?**

**Neal:** I am not an expert on this issue, but I am predisposed to believe that there is something to it, that if you improve children's health and emotional well-being and cognitive development early in life, you give them things they can build on for the rest of their lives. That logic of making investments that can grow over time is quite compelling. The details of how you do it and how you could be confident that it would pass a cost-benefit test, that's something for others who know more about the issue to determine.

**RF: How large is the black-white skill gap and how has it changed over time? And what might be done to narrow that gap?**

**Neal:** The gap is smaller than it used to be in terms of basic reading and math skills. But it's still quite large and it's still quite important as a determinant of overall labor market inequality between blacks and whites. Jim Heckman and others have pointed out in recent years that there are gaps in noncognitive skills — persistence, work habits, personality traits — that are also important. I think that it is fairly obvious that strong basic reading and math skills are more essential requirements for labor market success in many different areas of the labor market than they were 50 years ago and, therefore, even though the black-white skill gap may be smaller than it was 50 years ago, the gap that remains may be more important.

As for narrowing the gap, I think one of the things we

should try — and I am not promising that it would necessarily work — is to give economically disadvantaged families who live in disadvantaged areas access to something like education vouchers that would allow the United Way or the Catholic Church or the local Edison Schools company — whoever it might be — to move into the neighborhood, open up a brand-new school, and compete for the public funding that has been allocated to these students. I think there's very little evidence that people who are wealthy or upper-middle class benefit greatly from expanded access to private schooling options, because they are usually politically powerful enough and geographically mobile enough to make sure that they get good services for their children, either by living in a good school district or by sending them to a good private school. The place where we have the most compelling evidence that there would be significant benefit from enhancing private alternatives is with disadvantaged minority populations, especially in large cities. If you have neighborhoods where the potholes aren't always fixed, and the police and ambulances don't always come when you call, and the trash isn't picked up regularly because the people living in the community are poor and disenfranchised and do not have a lot of political clout in the city at large, it should not be a great surprise that those same individuals do not receive great public schooling.

**RF: Opinion polls suggest that vouchers are, in fact, relatively popular with lower-income people and have been for some time, yet there has been little progress on that issue. How do those families gain the type of political support necessary to implement such programs?**

**Neal:** I don't know. Every time someone says it will never change, though, I always think about the time I said that 15 or 20 years ago at lunch and Gary Becker said, "When I was your age, they said we would never deregulate the airlines or trucking." So I don't understand how these things change or why these things change when they do, but we do have historical cases where there was an entrenched group of special interests that either had government monopolies in terms of providing some good or service or had a regulatory environment that stifled competition, cases that were clearly wasteful and went on for some time, but at some point policy changed and we got rid of them. Does that mean it will happen here? I don't know. But I do think it's hasty to adopt a this-will-never-change attitude simply because the political actors involved are very powerful. Which will we

## Derek Neal

### ➤ Present Position

Professor, Department of Economics and the Committee on Education, University of Chicago

### ➤ Previous Faculty Appointment

University of Chicago (1991-1998 and 2001-present); University of Wisconsin (1998-2001)

### ➤ Education

B.S. (1985), Shorter College; M.A. (1987) and Ph.D. (1992), University of Virginia

### ➤ Selected Publications

Author or co-author of papers in such journals as the *American Economic Review*, *Journal of Political Economy*, *Journal of Economic Perspectives*, *Review of Economics and Statistics*, *Journal of Labor Economics*, and *Journal of Human Resources*

see first: real school choice for disadvantaged families in large cities or the elimination of wasteful farm subsidies? I don't know, but both may happen.

**RF: Broadly measured, what has been the trajectory of returns to skill over, say, the post-war period — and has that changed recently?**

**Neal:** It depends on where you look in the skill distribution. The return to a college degree has been very significant for a long time, but it has not grown in the last 10 years. The return to graduate and professional degrees has grown during that period. And you have more people going on to graduate and professional education at the same time that you do not have more people graduating from high school, and you might actually have fewer if you count

things correctly. So I think what we are seeing is a great polarization in terms of the skills and capacities that people have and also the lifetime earnings that people can expect given their skills. We have a growing number of people who are becoming very well educated and highly trained by historical standards and another group that is poorly educated even by the standards of several decades ago.

**RF: We have seen a lot of stories in the popular press about the growing amount of debt that many college students are incurring and whether that is a wise decision from a simple pecuniary standpoint. What is your view?**

**Neal:** I think that's mostly silliness. The vast majority of people have an option, or at least people who live in urban areas have an option, of some state university where if they go and pay in-state tuition, and they work hard, and they get a degree that is marketable, the difference in what they will make over their lifetime as opposed to what they could have made if they went to work at, say, a retail store out of high school and tried to work their way up the ladder with no additional formal education is very large. The return on the time and money they spent on the college education is really impressive.

**RF: There have also been some claims that a growing number of people are now going to college who are simply not well suited for it.**

**Neal:** People aren't born as college material or not college material. There is a whole sequence that happens in terms of

how their parents interact with them, how their teachers interact with them, and how their parents interact with the schools that determine whether they will have the cognitive skills, work habits, and emotional stability to function well in college. I think the real question is, given that the returns to college have remained so high for so long, why has there been such a tepid response in terms of the number of young men — and it is more true among males than females — who are being shaped and urged to become prepared to succeed in college?

**RF: Why do you think the unemployment rate, especially the long-term unemployment rate, has remained so persistently high following the recession?**

**Neal:** I don't have any favored theories that I would offer as explanations for large components of what we have seen. I do believe one reason that unemployment remains at 9 percent or more is that we have extended people's eligibility for unemployment insurance benefits in ways that were never even dreamed possible decades ago. And I think we have fairly clear evidence from many different states in this country and many different countries around the world that when people's benefits exhaust, they look much harder for a job and they become less picky about the jobs they are willing to take. I am not claiming that this is a huge portion of why unemployment is 9 percent rather than 6 percent, but I find it inconceivable that the policies we have adopted with respect to unemployment insurance haven't played at least some modest role in keeping unemployment high.

**RF: What are the big unanswered — or understudied — questions in labor economics, in your view?**

**Neal:** I think the biggest question is one we have already talked about. The returns to formal education have been very high in the United States for a long time — at least from the 1990s through the present — but there have been very small changes in the number of males, in particular, who graduate from high school and finish college. So the question of why we live in a world where skills appear to be so valuable in terms of lifetime income and we still have roughly the same high school graduation rate among men that we had 30 or more years ago and college graduation rates among those who have graduated high school that have trickled up only a little bit is really puzzling. Why is that happening? Why aren't people responding to market signals that skills are really valuable and, as a result, acquiring more skills? A related question is: Why do the girls appear to get it? Unlike with males, there have been noteworthy changes in terms of educational attainment and skill development among young women over the same time period. I don't think we have answers to those questions, but I think they are key to understanding why we see the type of inequality that exists in the United States and what we can expect in the future.

**RF: As the editor of the *Journal of Political Economy*, how would you assess the overall health of the publication process in economics? Are there things that could be done to improve its efficiency and more generally the dissemination of research?**

**Neal:** This is a completely organic market. We see new journals start all the time and we see old journals fold; we see some journals that make you pay submission fees and we see some journals that don't; we see some journals that have very high standards and publish one out of 15 papers submitted and other journals that publish one out of three papers submitted.

So, overall, I think this organic publication process with no central governing body works pretty well. I believe there are very few papers worth reading that aren't published somewhere. If there is any inefficiency on that dimension it may be that papers are often published years after they should be because some editors allow the perfect to become the enemy of the good and waste months and sometimes years on revisions that have marginal value. So it may be the case that there are publication delays due to socially inefficient editorial behavior. But there are so many journals and so many different outlets that I find it very hard to believe there are good papers out there that don't see the light of day.

**RF: Which economists have been most influential in shaping your research agenda and your thinking about economic policy issues?**

**Neal:** I would say that the most important person who I ever had the privilege to interact with on a daily basis was Sherwin Rosen, who was a senior labor economist at Chicago when I was an assistant professor. He was both a mentor and a dear friend and was very willing and eager to sit and discuss ideas and help me learn about so many different areas of economics that I hadn't been exposed to. He also took the time to give me a pat on the back when I needed it and to give me a kick in the rear when I needed that.

I also learned a great deal from Bill Johnson and Steve Stern, my thesis committee chairs at the University of Virginia. Bill, especially, was very much like Sherwin in wanting to see how labor economics fit within the big picture of economics generally and how to always be aware of the opportunities to take ways of analyzing markets that were maybe more prevalent in other areas of economics and bring those into labor economics.

Even though I was on the faculty at the University of Wisconsin for only three years, John Kennan, whose office was next to mine there, also was in many ways like Sherwin, in that he knew a great deal about many fields of economics outside labor and was very willing to help me learn things that have improved my work and have made me a better economist.

**RF**