

Christopher Ruhm

Editor's Note: *This is an abbreviated version of RF's conversation with Christopher Ruhm. For the full interview, go to our Web site: www.richmondfed.org/publications*

Christopher Ruhm readily admits that when he was a graduate student under future Nobel laureate George Akerlof, at the University of California-Berkeley, his research centered on the conventional fare of labor economics. But once he started dabbling in health economics, he realized that studying how people enjoy time *away* from work can actually shed light on a variety of issues.

Today, Ruhm is known for his research on what might broadly be called “work/life balance.” Encompassing both labor and health economics, his work has explored provocative questions, like whether economic growth really makes us healthier. Other elements of his research look at the implications of family leave policies for both parents and children. Much of his recent work has involved tracking the academic, health, and behavioral benefits of attending preschool.

Dr. Ruhm is currently the Jefferson-Pilot Excellence Professor of Economics at the University of North Carolina at Greensboro. His research has appeared in many of the major economic journals such as the *American Economic Review*, the *Quarterly Journal of Economics*, and the *Journal of Economic Perspectives*. The work for which he is best known has graced the pages of the *Journal of Health Economics* and the *Economics of Education Review*. He has also appeared in journals that are far from the stomping grounds of many economists, like the *International Journal of Epidemiology*. In addition, he has taught economics at Boston University and served as a senior staff economist on the President's Council of Economic Advisers from 1996 to 1997.

Region Focus senior editor Stephen Slivinski interviewed Ruhm at his Greensboro office on Feb. 7, 2008.

RF: How does attending preschool influence the early educational outcomes of children?

Ruhm: My work on the effects of preschool, almost all of it co-authored with Jane Waldfogel [of Columbia University] and Katherine Magnuson [of the University of Wisconsin-Madison], looks specifically at the effects on children of attending preschool or types of center-based day care programs a year prior to entering kindergarten.

There are a couple of results that are pretty clear. The first is that — after controlling for lots of factors — there seem to be benefits to attending preschool if you look at academic performance, particularly in kindergarten. They're not huge, but there are certainly significant benefits on cognitive test scores for children who attended preschool. But if you then look at what happens after kindergarten, there it gets a little bit more complicated. You see a portion of that initial advantage fade by first grade. So, there's a benefit but part of it is short-lasting.

A second consideration is how advantaged the child is, in terms of family income or their parents' education, when they start school. It seems that preschool gives a bigger boost to poorer or otherwise less advantaged kids.



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Christopher Ruhm

► Present Position

Jefferson-Pilot Excellence Professor in Economics, University of North Carolina at Greensboro

► Previous Faculty Appointments

Assistant Professor of Economics, Boston University (1984-1991)

► Government Experience

Senior Staff Economist, Council of Economic Advisers (1996-1997)

► Education

B.A., University of California-Davis (1978); Ph.D., University of California-Berkeley (1984)

► Selected Publications

“Health Outcomes: Economic Determinants” in *The New Palgrave Dictionary of Economics*; “Are Recessions Good For Your Health?” in the *Quarterly Journal of Economics*; “The Economic Consequences of Parental Leave Mandates: Lessons from Europe” in the *Quarterly Journal of Economics*

► Offices

Board of Trustees, Southern Economic Association; Associate Editor, Southern Economic Journal; Research Associate, National Bureau of Economic Research

RF: Economists can usually tell us a great deal about how and why we work. But what can economic analysis also tell us about how we balance work and other aspects of our lives?

Ruhm: To start, it’s worth considering what economics can’t teach us about that. I don’t think that economic analysis can tell us how we balance work and family in the broadest sense. That said, economic factors certainly influence it very strongly. One thing that seems true to me is if you were to compare most European countries to the United States, you discover there are just different attitudes and ways of thinking about a lot of these issues. For example, if you look at survey data, Americans who are employed are more likely to say they want to work more hours than to say they want to work fewer hours, even though we have much less vacation time than Europeans. I think there’s a very large cultural component that is mostly outside the scope of economic analysis.

What economics can say more about is how people are going to respond if you have a certain environment and you change the incentives. For instance, we can analyze how people will respond to a new law mandating a worker’s right to a certain amount of family leave. Or if we were to see a change in the availability or cost of high-quality child care, we know, at least in theory, the direction of the change in behavior and we’ll probably get it right. Then we can look at the data and quantify how big those responses are.

RF: Tell us about your research into what sorts of economic effects you find abroad in relation to mandated parental leave policies.

Ruhm: My work on parental leave policies has led to a lot of my other work on health topics. How I got into it was a fluke. I was doing work on advance-notice provisions — the mandate [passed in 1988] that requires firms to tell their workers in advance if management is planning a mass layoff. That issue got me interested in mandated benefits more generally, and what happens when the government tells a firm it has to do something.

When I got interested in the role of parental leave mandates, there weren’t many in the United States. There were some states that had mandates and, of course, later the Family and Medical Leave Act was passed as a federal

mandate. But even with all that, the entitlements to parental leave are quite weak in the United States relative to other countries. So, what I did was go to European data because those countries had a long tradition with parental leave mandates.

At the time, there was no time-series data that integrated what types of policies were in place in different countries. So, with the help of Jacqueline Teague, a graduate student working with me, I started to construct this sort of dataset.

Then I looked at the effects of labor market outcomes for women. Men were the control group in this research, because at the time men almost never took parental leave. What I found was that in the presence of parental leave requirements, women were more likely to be employed. There are a lot of reasons why you would expect that to be true. The most obvious one is the notion of job protection. If you don’t have to quit your job to take leave, careers outside of the home become more attractive to women.

It’s not entirely obvious, however, that it had to work that way. You can imagine the opposite outcome. Employers might have been encouraged to discriminate against women because women are more likely to actually take the leave, for instance. But there was pretty strong evidence that you did find increased employment-to-population ratios for mothers — a larger percentage of mothers became employed. Yet, I also found that if the leaves got sufficiently long, there was some possible negative effect on wages. In some European countries, you’re talking about leave lengths that can equal a few years.

RF: What sorts of child health measures correlate with parental leave policies?

Ruhm: When I use the term parental leave, I’m using it to broadly encompass all kinds of provisions, including maternity leave — the initial period only available to mothers — and broader forms of family leave, which in principle could be available to either parent.

I used the same dataset and I looked at health outcomes for children, mainly infant mortality rates — deaths in the first year. I also looked at neonatal fatalities, which is death of the baby in the first 30 days, versus post-neonatal fatalities, which is death in the rest of the first year. Then I extended the analysis out to age 5.

The results were quite striking and consistent with what I would have expected. In the first 30 days, you didn't see much of a reduction in infant mortality, most likely because neonatal deaths are unrelated to how much leave the parents are taking after the birth. It has more to do with what type of hospital care you're getting or whether the baby is born with a congenital defect of some kind. But in the post-neonatal period and after that, you see reductions in infant mortality correlated with parental leave mandates.

RF: If you assume employees would prefer to work at a company that offers paid family leave benefits, you might also think that the labor market would be competitive enough to incentivize employers to offer those benefits. What barriers exist to the voluntary adoption of family leave options by private firms?

Ruhm: That's a really important issue. The basic question is: When should we or should we not have mandates on employers? The standard argument is that, if I as a worker value parental leave benefits, employers are free to offer that. Presumably, it's also somewhat costly. So if my employer provides leave, it might reduce my wages somewhat. But if the value of the benefit to me of leave is higher than the corresponding wage reduction, I'll take the job and private labor markets will give the desired outcome. Some people believe that is true. There are a couple of issues with that, though. One is that, administratively, it may not be possible to reduce a worker's wage if there's institutional rigidity of any kind — union contracts or internal personnel arrangements — and so wages may not be sufficiently flexible.

A second issue is asymmetric information. Let's say an employer wants to offer a generous leave benefit package while his competitor does not. The problem is that the employer doesn't know whether a specific worker will take advantage of the benefit. The employee himself does know (or at least has better information on the likelihood of this than the employer), so you will have the individuals who are more likely to use the benefit flocking to the employers who offer it. That bids up the cost of doing business quite dramatically, and the employer will eventually stop offering the benefit because it places them at a competitive disadvantage.

The other really important point when considering parental leave policies is that we often tend to think about putting mandates on employers. Of course, we have one with the Family and Medical Leave Act, which requires many employers to provide a period of unpaid leave. And when people talk about instituting paid family leave, it's almost always discussed in the context of the employers bearing the full cost of providing it.

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It's worth noting that if you look at other nations, particularly European countries, that is almost never the way it's arranged. In virtually all European countries, the cost is borne by the government. Now, it may be paid for through some kind of payroll tax that supports social

welfare programs of all kinds, not just paid parental leave benefits. But the cost of offering the paid leave is not directly imposed on employers. You can think of it as sort of an insurance policy and the cost is being spread widely. Now that doesn't mean a system like that is costless to employers. For instance, it may cause some degree of disruption to your business.

Of course, there are legitimate arguments to be made for the U.S. system. Americans tend to prefer smaller government, and more comprehensive social insurance implies a bigger role for government. But I think it is fair to say that if you wanted to create a system that would generate the most employer opposition, the mandate system is it. It also results in the weakest level of benefits. I'll note it's not so different than health insurance these days. The United States is the only country I know of where the primary burden of health insurance is placed on employers. If we're interested in greater social insurance, to help families, to balance these competing needs without imposing excessive costs on employers, the current U.S. model is a pretty expensive way to provide it.

RF: One of your articles is provocatively titled, "Are Recessions Good for Your Health?" Discuss the relationships you've discovered between economic growth and health.

Ruhm: Many years ago I did quite a lot of work examining the consequences of job turnover and labor displacement. One of the things you would read a lot about at the time was that when the economy stagnates, lots of bad things would happen. Wages don't go up and housing values fall. Then you'd also see other things reported such as how more marriages break up, crime increases, and health deteriorates. That seemed plausible, so I read a bunch of studies that had been done and realized they weren't using state-of-the-art methods. They were written by epidemiologists and social psychologists but did seem to include plausible mechanisms: When the economy goes bad, for instance, people get stressed out and stress is bad for your health. In addition, stress leads to people drinking more and smoking more and they engage in all this risky behavior as a consequence. I doubted the specific estimates, but not the overall direction of the effect. I wanted to come up with a better way to confirm the results and ended up finding something different.

In these early studies by others, there was a tendency to look at long time-series of aggregate data. They'd look at the

United States or Britain from the 1930s to the 1970s and look to see, when the economy got better, whether the health measures — hospital admissions or mortality rates — were improving or deteriorating. The studies tended to find that when the economy improved, health seemed to get better. But lots of things were going on at once during that period. For example, at roughly the same time the Great Depression ended, there were improvements in nutrition and in the availability of antibiotics.

So I looked at each state in the United States as a laboratory. I studied changes within states relative to what was going on in other states. The advantage to this method is that if there is a change in, say, medical technology, it is likely to affect workers in all states. But the Virginia economy might be improving at the same time the Texas economy is worsening. You can use the fact that there was independent variation in macroeconomic conditions across states to estimate the effects on health.

My first analysis of mortality rates was not at all what I expected. When times were good, mortality rates were increasing and when times were bad they were decreasing. When I first got the results, I didn't particularly believe them. I expanded the analysis in a variety of ways to see if the results would change, but they didn't.

What ultimately convinced me of the result is one of those things that I always tell my students to do first. I made a picture that overlaid the national mortality rates and unemployment rates — after de-trending them and normalizing them so the scales matched — and when I did all that, I found they were almost a mirror image. It was at that point I really believed my results.

This says something about how economists actually conduct research versus how we say we do. I tell my students what we should do is look hard at our data before we do any fancy statistical or econometric analysis. But it's not unusual to do some of that other work and get results you don't understand until you look really hard at the data.

The reasons for mortality increasing when the economy strengthens vary by cause of death. If you look at motor vehicle fatalities, they go up pretty dramatically when the economy improves. That's not so surprising. People drive more when times are good. But it's also true that deaths from heart disease or flu and pneumonia go up when the economy improves and down when the economy deteriorates. Across a wide variety of health measures I was finding the same result.

There were a couple of exceptions. Cancer was unrelated to economic trends. Since we were looking at relatively short-term changes, it's no surprise that we would see this result. Whereas, for something like heart attacks, we do notice that short-term macroeconomic changes can have a big effect.

Another exception was suicides. They went down when the economy improved, and up when it deteriorated. That's consistent with a long line of work on suicides. That also suggests to me, since suicide has a mental health component, it might be the case that economic patterns I had

identified mainly refer to physical health measures. That led me to conclude that when the economy tanks, people are healthier but they may not necessarily be happier.

RF: What sorts of mechanisms do you think drive the health trends you studied?

Ruhm: In my research, I also look at behaviors, like drinking, smoking, and exercise. All of these trends exhibit a consistent pattern. When the economy weakens, people smoke less, they are less likely to drink heavily, and they tend to exercise more.

If you look at drinking, you notice that heavy drinkers become light drinkers when the economy deteriorates. Yet light drinkers don't abstain from drinking. For smoking, you see the same result. People also shift from being sedentary to being somewhat active, but not very active. We also don't see a big change in the number of people who are overweight, but we do see a reduction in severe obesity.

RF: How does your work fit in with the classical model of economic man in which people are assumed to be rational? Is it rational to engage in behavior that jeopardizes your health when the economy is booming?

Ruhm: What I'm finding is that, on average, when there is a short-term weakening of the economy — not a permanent one — people get a little bit healthier. I think these results are mostly consistent with the classic economic model.

Let's say I offer you, for the next year, a tripling of your hourly wage. It would just be for one year, and you can work as many hours as you want. Most people are going to rationally say they are going to work a lot while they can get the high wages. But while they are working really hard, they may be doing some other things that aren't great for their health. They won't have time to exercise, or they're going out and eating really fatty meals. That's at least a partly rational response.

If, however, I say I'm going to triple your wage forever, then you're not going to respond in the same way. Maybe you're going to work a little bit more and maybe you won't. But you're certainly not going to pack all that work into one year. And to the extent that you do work more hours, you're probably going to make more time for your family and to tend to your health. Maybe you'll join the health club down the street. Maybe you'll learn how to eat better. I think the crucial distinction is between the short-run and the long-run incentives.

Also, while these results represent a predictable response to changes in economic incentives, that does not mean people don't make mistakes. For instance, many individuals may not fully account for the negative health effects of the extra work they undertake when receiving a temporary wage increase, or when economic conditions temporarily improve. So the responses reflect the efforts by individuals to optimize but they may ultimately not be fully rational.

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