What’s holding agricultural workers back?

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Magazine

Professor of Economics Berthold Herrendorf digs into why farm laborers make less money than those in any other sector — even when they move on to different jobs.

By Teresa Meek

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No matter where in the world they live — in a rich, middle-income, or a developing country — agricultural workers make less money than those in any other sector. So why don’t they quit their low-wage jobs and switch to something better?

Previous economic research has suggested that structural barriers keep them in place. Laws or rigid, deeply ingrained social structures, such as the caste system in India or the Hukou system in China, discourage farm workers from pursuing other types of work, even though wages are higher outside of agriculture.

But most countries don't have a caste system like India's or a harsh government policy like China's Hukou system, which cuts people off from education and health services if they move from farm to city without authorization. That raises many questions.

For agricultural workers in places that lack apparent restrictions, where are the barriers that economists imply are standing in their way? Is there even proof that they exist at all? And if not, what is holding agricultural workers back?

Questions like these led Professor of Economics Berthold Herrendorf to research the subject, along with colleague Todd Schoellman, formerly an assistant professor of economics at W. P. Carey and now a senior research economist at the Federal Reserve Bank of Minneapolis.

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— Berthold Herrendorf

Those who switched

For their paper, "Wages, Human Capital, and Barriers to Structural Transformation," published by the *American Economic Journal: Macroeconomics*, Herrendorf and Schoellman studied data for U.S. workers who switched from agriculture to different careers. They also examined the work of other researchers who studied the same thing in countries across the world's economic spectrum. Their full sample included about a third of the world population in 2010, including people from four of the five most populous countries: India, the U.S., Indonesia, and Brazil.

Their research focused on the question of whether agricultural workers who did manage to transition to a different type of work received a bump in wages. If an artificial legal or social barrier had been the only thing holding them back, then you would expect to see their wages increase once they transcended it.

But that's not what happened. Across the board, the farm workers who moved into different jobs continued to make wages similar to those they had before.

The role of human capital

The finding suggests that other factors play a role in switching sectors. Individual characteristics such as education, skill, talent, drive, and personality, which economists subsume under the term "human capital," could account for workers' success or failure in making a transition to higher paying work.

Human capital, however, is not an easy area to study. Though it plays a vital role in the economy, its components aren't always visible to researchers. They can see some statistics, like education levels, but not others, like motivation or unique skills.

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Though the researchers couldn't evaluate every aspect of human capital for agricultural wage-earners, they did document that education levels were consistently lower than they were in other fields. This holds broadly for the aforementioned sample from four of the five most populous countries.

Productivity problems

In comparing the productivity of agricultural workers to those in other fields, other researchers found gaps even broader than the wage gap. Part of the reason could be that measuring the value of agricultural work is notoriously difficult.

In another research paper, published in the *Review of Economic Dynamics*, Herrendorf and Schoellman discovered that in the U.S., agricultural productivity measurements are often done poorly, resulting in inaccurate figures. It isn't just a matter of sloppy work. Their research suggests deliberate manipulation of the data. "Proprietors lie because they don't want to pay taxes, at least in the U.S. As a result, productivity in U.S. agriculture can be underestimated by as much as a factor of two," Herrendorf explains.

In other parts of the world, low productivity in agriculture is likely the result of low human capital. "To do anything even slightly sophisticated in farming, you need to read. If you use fertilizer, you need to read the package to know how to apply it."

In many countries, workers can't do that. The large-scale result of low skill levels is economies in which 50 to 90 percent of the working population is engaged in a low-wage, unproductive activity, because that is the only way of producing the food required for survival.

It may not be that way forever. In the 1800s, the U.S. economy was in a similar situation. Herrendorf refers to several statistics that prove it, and he sometimes shows them to surprised undergraduates.

A new focus

Trying to determine whether or how third-world countries will evolve beyond low-functioning agricultural economies is outside the scope of Herrendorf's work. Next, he intends to focus on the decline of manufacturing and the rise of the service sector in the U.S. economy, and the implications of that trend for productivity.

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