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EXPLAINED

Relevant for: Indian Economy | Topic: Issues Related to Poverty, Inclusion, Employment & Sustainable Development

Abhijit Banerjee, right, talks during a news conference with Esther Duflo at Massachusetts Institute of Technology in Cambridge, Mass., Monday, Oct. 14, 2019. | Photo Credit: AP

The **2019 Nobel Prize in Economic Sciences was awarded to three economists** on Monday for their pioneering research into the use of experimental approaches to fight global poverty. The trio, based in the United States, includes **Abhijit Banerjee** and Esther Duflo, who currently work at the Massachusetts Institute of Technology, and Michael Kremer of Harvard University.

The Prize committee noted that these economists "introduced a new approach to obtaining reliable answers about the best ways to fight global poverty." The new Nobel laureates are considered to be instrumental in using randomised controlled trials to test the effectiveness of various policy interventions to alleviate poverty.

A randomised controlled trial is an experiment that is designed to isolate the influence that a certain intervention or variable has on an outcome or event. A social science researcher who wants to find the effect that employing more teachers in schools has on children's learning outcomes, for instance, can conduct a randomised controlled trial to find the answer.

The use of randomised controlled trials as a research tool was largely limited to fields such as biomedical sciences where the effectiveness of various drugs was gauged using this technique. Mr. Banerjee, Ms. Duflo and Mr. Kremer, however, applied RCT to the field of economics beginning in the 1990s. Mr. Kremer first used the technique to study the impact that free meals and books had on learning in Kenyan schools. Mr. Banerjee and Ms. Duflo later conducted similar experiments in India and further popularised RCTs through their book *Poor Economics*, published in 2011.

At any point in time, there are multiple factors that work in tandem to influence various social events. RCTs allow economists and other social science researchers to isolate the individual impact that a certain factor alone has on the overall event. For instance, to measure the impact that hiring more teachers can have on children's learning, researchers must control for the effect that other factors such as intelligence, nutrition, climate, economic and social status etc., which may also influence learning outcomes to various degrees, have on the final event.

Randomised controlled trials promise to overcome this problem through the use of randomly picked samples. Supporters of RCTs believe that since all random samples are subject to the same array of "confounding" factors, they are essentially identical to one another. Using these random samples, they believe, researchers can then conduct experiments by carefully varying appropriate variables to find out the impact of these individual variables on the final event.

A researcher, for instance, may supply one random set of schools with more teachers while other schools are left alone. This will allow him to gauge the effect of hiring more teachers on learning. Many development economists believe that RCTs can help governments to find, in a thoroughly scientific way, the most potent policy measures that could help end poverty rapidly.

A popular critic of randomised controlled trials is economist Angus Deaton, who won the

economics Nobel Prize in 2015. Mr. Deaton has contended in his works, including a paper titled "Understanding and misunderstanding randomised control trials" that simply choosing samples for an RCT experiment in a random manner does not really make these samples identical in their many characteristics.

While two randomly chosen samples might turn out to be similar in some cases, he argued, there are greater chances that most samples are not really similar to each other. Other economists have also contended that randomised controlled trials are more suited for research in the physical sciences where it may be easier to carry out controlled experiments. They argue that social science research, including research in the field of development economics, may be inherently unsuited for such controlled research since it may be humanly impossible to control for multiple factors that may influence social events.

The 2019 Nobel Prize for Chemistry was awarded to John B. Goodenough, M. Stanley Whittingham and Akira Yoshino for working towards the development of practical lithium-ion batteries.

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