

The Randomised Evaluation Revolution in Development Economics

Bansi Malde

“Massive poverty and obscene inequality are such terrible scourges of our times -- times in which the world boasts breathtaking advances in science, technology, industry and wealth accumulation -- that they have to rank alongside slavery and apartheid as social evils.”

Nelson Mandela

Overcoming extreme poverty in developing countries has long been recognised as one of humanity’s greatest challenges. Governments in both developed and developing countries, along with aid agencies such as the World Bank and non-governmental organisations (NGOs) spend hundreds of billions of dollars each year on programmes and policies to fight poverty. Examples of anti-poverty programmes and policies include giving money to poor families on the condition that they send their children to school and providing free bed nets, which help protect people against malaria-carrying mosquitoes.

But do these programmes actually work? With such huge amounts of money at stake, a key component of these programmes and policies must surely be to evaluate their effectiveness, or in other words check whether they improve the outcomes they target. Until recently however, there have been very few *rigorous* policy and programme evaluations.

The Evaluation Problem

A key reason behind this is the *evaluation problem*, which can be explained as follows. In order to measure how a programme or policy affects a particular outcome, one would need to know what the outcome would have been for that same individual had the programme not been in place. This is often referred to as the *counterfactual* outcome. Suppose policymakers want to assess the effectiveness of a programme in which poor families are given money on the condition that they send their children to school (this sort of scheme is known as a ‘conditional cash transfer’ programme). The policymakers would like to know exactly how effective this programme is at

improving school attendance. In this case, researchers would need to know what would have happened to the school attendance of individuals who received the programme had they not received it and vice versa. But, unless time travel was possible, this is impossible to know. Hence, without observing the same people concurrently receiving and not receiving a programme, researchers must think of other ways of estimating the counterfactual in order to be able to measure the impact of the programme. This is the evaluation problem.

Randomised Evaluations

One way of overcoming the evaluation problem is via a powerful tool that has long been used in the pharmaceutical industry to test new drugs. This tool is the randomised trial, which is considered to be the 'gold standard' of all the methods economists have available in overcoming the evaluation problem. A group of economists based at Harvard University and the Massachusetts Institute of Technology in the United States have argued persuasively for the evaluation of anti-poverty programmes using randomised trials (or evaluations) and have sparked a revolution in the way development policies and programmes are assessed. This revolution has resulted in a growing use of randomised evaluations to appraise policies, aid programmes and even to test economic theories in developing countries. So, what exactly is a randomised evaluation?

A randomised evaluation involves randomly assigning some individuals (or households or villages) to receive a programme (in technical terms this is called the *treatment*) and other individuals not to receive the programme. This latter group form a *comparison* group. The average outcome of the comparison group is used as the counterfactual for the treated group. Since the treatment and comparison groups are chosen randomly, we can be fairly confident that the two groups are similar in terms of the outcomes of interest and other observable characteristics in the absence of the programme. This is important because it is assumed that the outcome of the comparison group is a very close approximation of what the treatment group's outcome would have been in the absence of the programme.

So, how does randomisation work in practice? I shall illustrate with an example.

A developing country government wants to introduce a policy of giving money to poor families in a set of villages on the condition that they send their children to school. This government wants to make sure that this is the best way to get poor children to attend school and so wants to assess the impact of providing these conditional cash transfers on school attendance. It decides that the best way of doing this is via a randomised evaluation. Researchers decide to randomise at the village level: that is, some villages will get the programme while others will not. One way the researchers could randomly assign this programme could be by picking a certain number of village names from a hat to receive the programme. There are other methods of random assignment and no matter what method is used; the important thing is that each village should have an equal chance of being picked to receive the treatment.

After randomisation, the treatment and comparison villages should be as similar as possible and thus have similar poverty levels, education, infrastructure, ethnicity, etc. The sole difference will be that the treatment villages receive the programme while the comparison villages do not. To check this, researchers compare these characteristics across treatment and comparison villages using data they collect before the programme has been implemented (and ideally before the people the programme is aimed at know of it).

The programme is then put in place in the treatment villages and households in both the treatment and comparison villages are followed over time and the relevant outcomes measured. The effect of the programme is then calculated as the difference between the average outcomes of the treatment and comparison villages.

So, obtaining the impact of a programme from a randomised evaluation is relatively straightforward, and there is no need for a degree in econometrics or statistics to understand how the impact is found. Thus researchers like randomised studies because results are very easy to explain to policymakers and to the media. Moreover, from a methodological perspective, randomised evaluations provide the most reliable results.

Limitations and Practical Considerations

For the reasons outlined above, randomised evaluation is an attractive approach to use in evaluating development programmes. Yet, it is not without its limitations. This section outlines some of these limitations and practical considerations that need to be kept in mind when conducting a randomised evaluation.

The first limitation is that it may not be possible to randomly assign the programme or policy in the first place. There are at least 3 reasons for this. The first is that it may just be impossible to randomise. For instance, if one is interested in studying the impact of monetary policy on investment, researchers cannot randomly assign a certain monetary policy (e.g. an independent central bank) to some countries and not to others. Monetary policy is simply too important for governments to agree to such an experiment! A second reason why randomised evaluation may not be possible is due to ethical objections. Many people deem it unethical to deny resources to people who clearly need them. Supporters of randomised evaluations argue that while in some cases randomisation would be unethical, it is not always the case. Denying resources to people in need can be justified on the grounds that we do not even know what impact, if any, the programme in question will have. A third reason is that it may not be politically viable for a programme to be randomly assigned. Those not receiving a programme are likely to complain very loudly, leading governments to become very unpopular and hence be toppled from power. If the government foresees this, it will refuse to allow for random assignment of social programmes, particularly close to election time and instead control where the programme is implemented. Donors, too, may not be able to assign programmes randomly if there is too much opposition from the communities in which they intend to implement the programme.

The second practical consideration is that it may be difficult to ensure that individuals in the comparison group do not receive the treatment. Researchers try to avoid this problem by keeping the treatment and comparison groups far from each other by for example, implementing the programme at the village level, rather than at household level. If this is not possible, they then try to use some fancy statistical methods to overcome this problem.

A third limitation that is common to other evaluation methods is that the randomised evaluation tells us nothing about whether or not the programme would work in a different environment or if the programme was expanded. This is because the randomised impact evaluation tells researchers nothing about the reasons underlying the success or failure of the programme. To find out whether policies or programmes would have similar impacts in different locations (with different cultures and institutions); the programme needs to be randomly evaluated in a range of locations, which would be very expensive and time consuming.

However, as the randomised evaluation revolution has gathered steam over the years, policymakers, donors and even the local communities targeted by the programmes are learning the benefits of random assignment and are moving towards accepting this evaluation method. Indeed, the danger now is that this revolution will claim as its victims methods that are just as useful and complementary to randomised evaluation in the search for solutions to global poverty.

Conclusion

The randomised evaluation revolution has added a powerful tool to development economists' toolkits for investigating what works in fighting poverty. While it is not a perfect tool, hope remains that it will enable donors, policymakers and practitioners to learn from experience and overcome the global poverty challenge.