**New Nobel laureates and economic lessons**

**[Dr Kamal Monnoo](https://nation.com.pk/Columnist/dr-kamal-monnoo)**

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The Nobel this year in Economic Sciences was shared by three individuals: Joshua Angrist (writer of the famous book, “Mastering Metrics: The Path from Cause to Effect”) of the Massachusetts Institute of Technology (MIT); David Card of University of California, Berkeley; and Guido Imbens of Stanford University.

So, what exactly is the breakthrough research that merited them this award? While a lot of articles have already been published recently on how these scholars altered conventional economic wisdom on topics such as the minimum wage and immigration, let’s try and focus instead on the tools that the three developed to enable them to actually delve into real life situations to look for results that carry tangible practical implications rather than being of merely academic in nature—new tools that tend to be incredibly powerful yet refreshingly simple to grasp and follow.

The first tool they developed relates to solving the problem that econometrics often encounters on finding correlations that do not necessarily link to the real cause(s) of an effect. Meaning, just because one didn’t wear a dark suit to a business meeting and didn’t get the contract does not prove the hypothesis that wardrobe malfunction was what killed one’s chances. And naturally one cannot test the hypothesis by returning to the meeting wearing a dark suit.

[Father allegedly killed minor girl found dead at Islamabad metro bus station](https://nation.com.pk/19-Nov-2021/father-allegedly-killed-minor-girl-found-dead-at-islamabad-metro-bus-station)

Economists call this “the fundamental problem of casual inference.” Luckily, there is a way around it. Though it is impossible to rewind the clock to observe both possibilities for a single individual (interview not wearing a dark suit vs. interview wearing a dark suit), it is possible to find the average effect by doing experiments on multiple people.

For example, we will never know for sure if taking an aspirin is what cured your headache, however, we can, on the other hand, measure the average effect of aspirin across thousands of headache sufferers who did or didn’t take a tablet. The trouble is that economists cannot always run proper experiments where certain randomly chosen people are experimented on and the rest serve as the control group.

Still, this was the very technique adopted by the 2019 Nobel Laureate group—Abhijit Banerjee, Esther Duflo and Michael Kremer—who conducted such experiments aimed at alleviating global poverty. However, even though conducting these very experiments properly becomes a challenge or sometimes impossible, for instance, one cannot randomly assign certain people to be smokers or to drop out of college.

[Minor boy found dead at Faisalabad seminary](https://nation.com.pk/19-Nov-2021/minor-boy-found-dead-at-faisalabad-seminary)

As a fallback, economists look for ‘natural experiments’—real life situations that, because of a quirk of nature or government policy or some other source, resemble designed experiment, albeit in real-time situations. This is exactly where Mr Card, Mr Angrist and Mr Imbens innovatively identified ways of learning from natural experiments. Mr Card and his fellow economist Alan Krueger famously exploited a variation in the state minimum wage between New Jersey and Pennsylvania to see whether raising the minimum wage kills jobs.

Fast-food restaurants on either side of the border between New Jersey and eastern Pennsylvania were similar in every important respect except how much they had to pay workers, since New Jersey had raised its minimum wage. Contrary to accepted wisdom, the economist found “no indication that the rise in the minimum wage reduced employment.” If they had otherwise only looked at employment in New Jersey, they would have had trouble disentangling the effect of the higher minimum wage from the effect of seasonal changes in fast-food employment.

[Pakistan logs 418 fresh Covid-19 cases](https://nation.com.pk/19-Nov-2021/pakistan-logs-418-fresh-covid-19-cases)

In other words, they exploited the natural environment or the fact that seasonal effects in eastern Pennsylvania are similar to those in New Jersey, effectively using Pennsylvania as the real-life “control” group. This ingenious tool is on the face of it so simple, yet today advanced in a new manner by this group, in-turn winning them recognition.

The second one relates to figuring out the effect that serving in the military during the Vietnam War had on respective earnings later in life. They argued that it is not enough to compare lifetime wages of people who did or didn’t serve, because they might be systematically different from each other in other hard-to-detect ways. For example, what if people who did not serve tended to come from wealthier families?

In one of his earlier papers that looked at the relationship between military service during the Vietnam War and later-life earnings, Mr Angrist came up with a technique to get around the problem: He focused on a person’s draft lottery number.

[Study suggests inactivated bacteria could help prevent COVID-19](https://nation.com.pk/19-Nov-2021/study-suggests-inactivated-bacteria-could-help-prevent-covid-19)

Having a low lottery number increased the likelihood of serving in the military, and there was no risk that people who drew low numbers were systematically different from people who drew high ones, because the lottery numbers were assigned at random.

He recognised that this approach was not perfect, since a lot of those who served in the military during the Vietnam War were volunteers, which meant that they would have served even if they had high lottery numbers. Conversely, some who had low lottery numbers did not serve, in some cases because they qualified as conscientious objectors. To solve this, Mr Angrist and Mr Imbens figured out how to make some reliable inferences even when the natural experiment was muddled.

In the case of the draft, Mr Angrist showed that he could clear away the mud by zeroing in on the influence of the draft number—the natural experiment—on whether a man served, ignoring other factors. He found that it is possible to draw useful conclusions about the men who served because they were drafted, but impossible to conclude anything useful about the men who served because they volunteered.

[1st T20 between Pakistan, Bangladesh to be played today](https://nation.com.pk/19-Nov-2021/1st-t20-between-pakistan-bangladesh-to-be-played-today)

He found that, “in the early 1980s, long after their service in Vietnam was ended, the earnings of White veterans were approximately 15 percent less than the earnings of comparable nonveterans.” In this the real beauty of these findings or facts or correlations is that it provides governments and people with data where the work is all about the ‘real world’.

Finding fruitful natural experiments requires not just cleverness but also a deep understanding of the phenomenon being studied. Finally, how can we here in Pakistan learn from the work of these three outstanding Nobel laureates? The answer lies in using our minds and resources to find solutions to some of the existential challenges that we face today.

Challenges; on addressing inequality through rearranging state’s resources and priorities; on effects of every percentage incremental inflation on the economic future of low-income families; on the appetite of common man to digest further state borrowings; and last but not least, on the future of growth and economic stability of every event diluting state’s writ.

Believe me, there are enough ‘natural’ real-life opportunities out there to demonstrate, using real-time control groups to mirror-out to any government of the day, ‘live’ fallouts of its poor economic governance.