Ask: NUS Economists

Evaluating whether policies are cost-effective

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How does the Government evaluate the cost-effectiveness of economic and social programmes?
A How much does the Gifted Education Programme (GEP) contribute to a child’s education?
B How does past aid affect the likelihood that defendants in criminal cases absorb? A How does treatment for prostate cancer affect the long-term health of patients?
A For effective design and implementation of government policy, it is essential to evaluate the policy. However, evaluating policies is challenging. For instance, as any parent knows, evaluating the GEP is not simply a matter of comparing the achievements of children who attended the GEP with those of children who did not.
The Ministry of Education selects its students from the cream of Primary 3 pupils. Hence, GEP students should perform better than other students, and also, directly comparing GEP with other students would not be meaningful. (Full disclosure: I did not benefit from the GEP.)

A Well-established method of programme evaluation is the randomised controlled trial (RCT). Recruit a large number of subjects with similar characteristics, and randomly assign some of them to treatment, while doing nothing to the others. At the end of the trial, compare the outcomes for the treatment group with the outcomes for the control group.

As our Government increases spending – from an average of 13.7 per cent of GDP in fiscal years 2010-11 to 17 per cent in the current fiscal year – it is increasingly important to systematically evaluate government spending. When randomised controlled trials are not ethical, acceptable or practical, regression discontinuity analysis may be an appropriate method.

Discontinuity analysis is a way to compare the borderline children – those with scores just above the cut-off with those with scores just below the cut-off. The children who score just above the cut-off are the “treatment group”, while those who score just below the cut-off are the “control group”.

The borderline children are almost identical on the objective criteria. Hence, it is reasonable to attribute any difference in their subsequent achievements to the GEP. If the students who just qualify for the GEP go on to contribute more to public service or engage more actively in entrepreneurship than those who just failed to qualify, then it is reasonable to attribute the difference to the GEP.

Although clearly non-experimental, regression discontinuity analysis is not less important to systematically evaluate government spending. Where RCTs are not ethical, acceptable or practical, regression discontinuity analysis may be an appropriate method.

The writer is Distinguished Professor at NUS Business School and the Department of Economics at the National University of Singapore. This is a monthly series by the NUS Department of Economics. Each month, a panel will address a topical issue. If you have a burning question on economics, write to stopinion@nus.edu.sg with “Ask NUS” in the subject field.