‘Loss Aversion,’ Teacher Bonuses and Student Performance


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Here’s a new twist on teacher bonuses that may produce better results than the standard approach: Give instructors the bonuses at the start of the school year but yank them back if students underperform. (The current economics literature finds that standard bonuses are effective in poor countries where teacher absenteeism is a serious problem — bonuses get them to at least show up — but in the United States so far researchers have turned up little evidence they do much.)

In an experiment described in a new National Bureau of Economic Research paper, 150 teachers in nine poor K-8 schools in Chicago Heights, Illinois took part in the experiment. One group of teachers got $4,000 in a lump sum at the start of the school year, but were told they’d lose some of all of it if their students did not improve sufficiently. (They could get more, up to $8,000, for exceptional performance.) The other group was simply offered a traditional bonus, also $4,000, payable at the end of the year. (That figure could also grow).

The standard bonuses had little to no effect, but students taught by teachers who got the advance bonus saw their relative standing, on a math test, rise 6.8 to 9.6 percentile points—an effect comparable to that caused by reducing class size by a third, the authors said. In more technical terms, the results were the same as raising the quality of a teacher by more than one standard deviation — that is to say, by quite a lot.

The study was inspired by three decades of psychological research into "loss aversion": People fear financial losses more than they are excited by potential gains.

Bonuses always raise the likelihood of cheating, but the authors found no evidence of this: Students’ performance on the math test that was used to give or strip away bonuses correlated closely with their performance on other standardized math tests they took.

The effects of the intervention were stronger in lower grades than in higher grades.

Source: "Enhancing the Efficacy of Teacher Incentives Through Loss Aversion: A Field Experiment," Roland G. Fryer, Jr., Steven D. Levitt, John List and Sally Sadoff, NBER (July)