

# Nobel winner sees big picture in micro-data



Nobel prize winning research showed that much foreign aid can be ineffective. Klaas Lingbeek- van Kranen

#### by Richard Holden

Suppose yourself a policy maker and imagine the following issue: you know that people who are poor have terrible nutrition—they don't get enough calories. You have lots of money to help alleviate this problem and could give money for food, or for policies that raise incomes, like building infrastructure. What do you do?

The correct answer depends on the causal relationship between nutrition and income. If poor nutrition—consuming too few calories—makes it impossible to work enough to earn a decent income then there will be a poverty trap caused by poor nutrition and policy-makers should focus on basic needs. If, however, low incomes cause poor nutrition—people cannot afford enough calories—then the optimal policy response is to focus on raising incomes.

On Monday, the 2015 Nobel Prize in Economic Sciences was awarded on Monday to



Angus Deaton of Princeton University for answering exactly this kind of question. Deaton showed—using the kind of micro-level data he championed his whole career—that poverty causes malnutrition, not the other way around. The correct policy response is to raise incomes, then more calories will follow.

This work is the basis for what Deaton is best known among non-economists: his view that foreign aid is ineffective. It is emphatically not an ideological statement—it is a data-driven one. Often, what policy works best is an empirical question.



Kenya. Daadab camp. Inside the world's biggest refugee camp. Ladan Waraq Yusuf, 30, with daughter Sahlan, 3, and other family. Sahlan became severely malnourished and almost died during the Horn of Africa famine in 2011 but received treatment at Dadaab refugee camp just in time. She is now doing well. The family?s story was featured in the SMH and The Age on July 19, 2011 (story by Matt Wade)Photo: Edwina Pickles. 16th July 2014. Edwina Pickles

Deaton's work, more broadly, goes to the very heart of economics: understanding what "stuff" individuals consume, and how this depends on the prices all the other stuff, and how much income they have. Without understanding this seemingly basic question we cannot hope to know the effects of income and consumption taxes, subsidies or exemptions for certain goods (like health care and education), or the correct policy prescriptions for lifting people out of poverty.

Deaton's pathbreaking contribution was to make economists focus on individual and household-level data on consumption, rather than macroeconomic aggregates like GDP, in order to make sensible policy prescriptions.

Deaton's first major contribution was to provide a link between economic theory about how much individual consumers would demand of a particular good, given prices and income, and a statistical way of estimating it. Previous approaches had made very special assumptions about the relationship between prices and consumption that did not really let the data "speak". Deaton made some special assumptions, too, but his were general enough for us to learn more, but specific enough to allow for estimation. In a sense, his model was the Goldilocks of

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consumption theory.

His second contribution was to use a similar approach to understanding how household consumption changes over time. This has big implications for how economies as a whole respond to macroeconomic booms and busts—especially because a big chunk of aggregate demand is consumption.

Prior to Deaton (and his followers) most macroeconomics focused on aggregate data, or a fudge where they assumed that there is some (magical) "representative" consumers whose consumption aggregates up to overall, economy-wide consumption. Deaton showed both that this was dangerously misleading, and also how to do better. As a result, we understand macroeconomic fluctuations much better: especially when households will hide money under the mattress and when they will spend. If we don't have a handle on this then we can't set interest rates sensibly, among other things.

The third, but perhaps most far-reaching contribution Deaton made was to the field of development economics: understanding the causes of poverty and the policy tools that can alleviate it. Deaton was at the coal face as development economics morphed from a field with theory that couldn't really explain poverty, and poor data to test or alter those theories.

Once again, Deaton shifted focus from aggregate, national accounts data (like GDP and unemployment) to household-level micro data, which in the 1980s was based on surveys. One important contribution was to show that surveys that do not track the same households over time ("panel data") could still be useful. Until Deaton, most economists had been rightly skeptical of surveys of different groups of households in different years ("repeated cross sections").

Deaton showed how repeated cross sections—which are much cheaper to collect could be analysed in a way that mimics some of the virtues of panel data (with the hope of understanding what causes what, not just what is correlated with what) but at a much lower cost. He also show that the downsides of panel data (losing some households over time for reasons related to what policymakers are interested in —"attrition bias") could be large relative to the downsides of repeated cross sections. This changed how the World Bank, for instance, conducted surveys and how they are analysed.

Deaton's work on development economics also laid the groundwork for modern-day development economics, which uses randomised controlled trials (much like pharmaceutical trials) to identify the causes of poverty and the most effective policy instruments to remedy it. When professors Abhijit Banerjee, Ester Duflo and Michael Kremer (of MIT, MIT and Harvard, respectively) are rightly recognised by the Nobel committee in the future, they will owe Deaton a large "thank you."

Deaton follows in a distinguished tradition which emphasises data-driven policy analysis. His singular contribution was to focus on the basic, individual-level data. He has taught a generation of scholars and policy makers that it really matters how one measures these things, and how one aggregates them. Only then can we hope to make well-informed policy.

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