

*Freakonomics 'A Phenomenon'*

**Steven D Levitt &  
Stephen J Dubner**

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*Review by Janet Shapiro*

The economics in the title is effectively Statistics. Steven Levitt teaches economics at the University of Chicago but a quick search of his publications reveals that he is a statistician. The book is a joint effort; it appears that Stephen Dubner helped to make this book a racy read. The investigations are conducted as detective work; like Sherlock Holmes, Levitt keeps an open mind, views all competing theories with scepticism but makes detailed observation - particularly of the motivation of the protagonists. There is a whiff of eccentricity and imagination in this approach that reminds me of 'Quick and Dirty' techniques used in Operational Research; these are methods devised to obtain approximate solutions without heavy commitment of resources [Ackoff].

This is not a statistics text. Five problem situations are selected and followed through in narrative style. The text flits across varied life experiences of people all over the world. Frank and non-judgemental analogy is used to uncover similar practices in very different situations - such as cheating among school teachers or Sumo wrestlers or in decoding the jargon of experts, whether they are sales people or members of a secret organisation such as the Klu Klux Klan.

An investigation to expose likely interference with multiple choice test papers by school-teachers used the simple technique of tabulating the scores by pupil and class, noting unusual answer patterns. Longitudinal records of individual pupil scores would also indicate suspicious fluctuations in performance. This is similar to the Operational Research 'Quick and Dirty' approach. Such analysis of test score data could indicate which teachers were cheating, but closely supervised re-tests of classes under suspicion, together with other classes as a control, would be needed to provide evidence for disciplinary action.

The case study concerning the explanation for the unexpected fall of violent crime in the 1990s in the USA would be useful for class discussion wherever statistical methods are taught. In their inimitable style the authors begin their story in Ceaușescu's Romania, where abortion was banned in 1966. Meanwhile in the USA, crime was increasing and reached a peak in 1989 when Ceaușescu was overthrown. Abortion had been illegal in the States since 1900, but by 1970 five states had made it entirely legal and broadly available; abortion was legalised across the USA in 1973.

When violent crime was seen to be falling in the USA, social scientists produced numerous papers attributing the fall to various crime-fighting measures. Using cogent argument supported by published statistics, Levitt assessed these in turn, and while accepting that some could have partial effects, he rejected each one as a major causative factor. Instead he pointed out the effect of legalised abortion; those births terminated in the 1970s, if taken to full term, would have produced young people approaching maturity in the 1990s. Moreover they would, in all probability, have been raised in neglect and poverty and thus would have been recruits for violent crime by the time crime records showed a fall.

The evidence given for legalised abortion being the major causative factor is plausible but not phrased using standard statistical language in which conclusions are 'hedged about with provisos'; the text slips into easy acceptance of the favoured hypothesis. One would not expect statistical rigour in such a text, but there is a lost opportunity in failing to draw a distinction between association and causation. For example, the authors appear overconfident about the ability of multiple regression to distinguish between causal and spurious correlations.

However, the emphasis throughout the text is on thinking intelligently and avoiding preconceived ideas. It is a useful resource for general discussion on evaluating social research and drawing valid conclusions. Having read it, could students continue to make facile interpretations of their statistical investigations using a 'cook-book' approach to statistical methods?

Students will find this a fun read. What a pity that statistics does not appear in the title! We need more young people to know how exciting the subject can be.

**References**

Ackoff R. L., (1956) 'The Development of Operations Research as a Science', Operations Research, Vol. 4, No. 3 pp. 265-295

*Janet Shapiro*  
*editors@radstats.org.uk*