

Scientific Misbehavior in Economics: Unacceptable research practice linked to perceived pressure to publish.

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Upholding research integrity depends on our ability to understand the extent of misconduct. Sarah Necker describes her landmark study on economists' research norms and practices. Fabrication, falsification and plagiarism are widely considered to be unjustifiable, but misbehaviour is still prevalent. For example, 1-3% of economists surveyed admit that they have accepted or offered gifts, money, or sex in exchange for co-authorship, data, or promotion. Economists' perceived pressure to publish is found to be positively related to their admission of being involved in several rejected research practices.



Science is the endeavor to gain a deeper understanding of how the world works. Trust in scientific research is grounded on the assumption that the researchers report their work honestly and accurately. The results are expected to be unbiased by the researchers' presumptions or strategic behavior. Experiments in the social sciences in which the researcher acted on behalf of each participant strongly mislead scientific progress. Cherry-picking of findings that conform to a desired hypothesis may be interpreted as the "quest for positive results" but not exactly as the "quest for truth."

While certain practices clearly represent scientific misbehavior, the justifiability of others is less obvious. What is the bottom line of acceptable behavior? How prevalent are rejected practices? An anonymous online survey among the members of the European Economic Association yields evidence for economics. It is the first study of economists' research norms and their engagement in a variety of research practices.

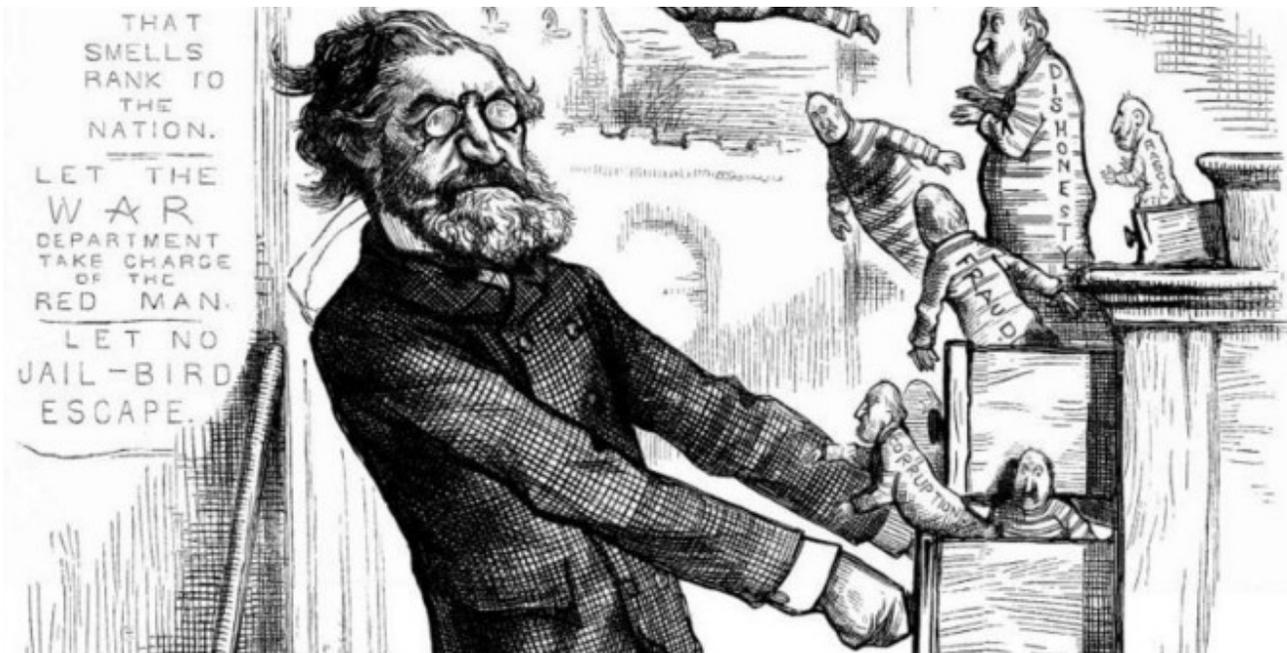


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The good news is that surveyed economists almost unanimously reject the fabrication or falsification of research as well as plagiarism. That is not to say that these practices are absent in economics. Cardinal sins such as the correction, fabrication or partial exclusion of data or the copying of another person's work are confessed by 1-3.5%.

Remarkably, 1-3% admit that in exchange for co-authorship, data, or promotion, they have accepted or offered gifts, money, or sex.

Several research practices are often considered “questionable.” Economists’ widespread rejection of the methods indicates that they definitely also represent scientific misbehavior. Economists seem to be aware that such practices can be as damaging to scientific progress as outright fraud. What is worrying is that – in conflict with economists’ convictions – their use seems to be the rule rather than the exception.

Almost every economist reports having engaged in at least one practice considered unacceptable by peers. For example, one third of the participants admit to having cherry-picked results – the selective presentation of empirical results that confirm one’s argument is rejected by 84%. Even though 64% consider it unacceptable to divide one’s work into small units to maximize the number of publications, 20% confess salami slicing. Strategic behavior in the publication process is considered unjustifiable by two thirds. However, 39% admit that they have taken into account suggestions of referees or editors even though they thought that they were wrong. Even 60% report that they have cited strategically to raise publication prospects.

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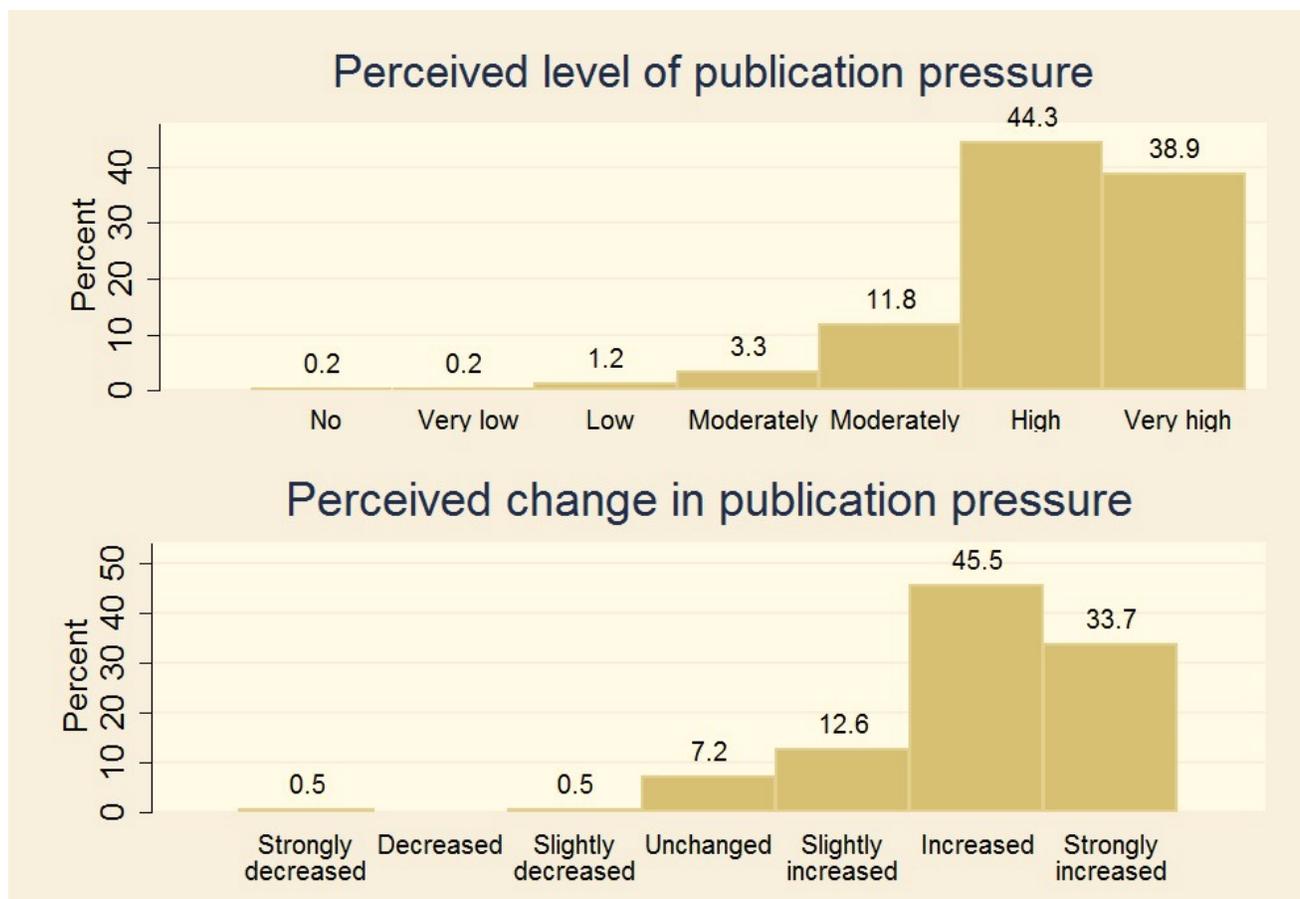
Research practice	% that consider practice unjustifiable	% that admit ever having employed practice
Copying parts from the work of others without citing	99.8	2.1
Excluding part of the data (e.g. outliers) without reporting this ^(*)	97.9	3.4
Correcting data to fit the theory	97.9	1.1
Fabricating some data ^(*)	97.1	2.6
Using tricks to increase t-values, R ² , or other statistics ^(*)	95.8	7.2
Incorrectly giving a colleague co-authorship who has not worked on the paper	92.9	1.4
Not checking the contents of the works cited	91.0	51.9
Not citing results that are not in line with own analysis	89.2	21.1
Not citing work in lower ranked journals, i.e., which in a ranking from A+ to C rank lower than A	85.6	20.0
Searching for control variables until you get the desired results ^(*)	85.1	36.5
Presenting empirical findings selectively so that they confirm one’s argument ^(*)	84.2	32.2
Stopping statistical analysis when you have a desired result ^(*)	80.6	37.9
Copying from your own previous work without citing	80.5	23.6
Not citing work from other disciplines	77.2	19.6
Citing strategically to raise publication prospects (e.g. to please editors or possible referees)	64.3	59.3
Maximizing the number of publications by dividing the work into the smallest publishable units, meaning several individual articles covering similar topics and differing from each other only slightly	64.1	19.9
Complying with suggestions from referees or editors when you think they are wrong	60.8	39.0
Defining the research question according to data availability	19.4	79.1

observations (^(*) behavior based on about 350 observations).

For many observers of science it is obvious why researchers violate their own standards. Researchers face two alternatives: “publish or perish.” Every researcher learns at a very early stage that in order to make it to a tenured

position, one “top of the top”-journal publication is the very least he has to offer. Do you expect tenured professors to have an easy life? Not anymore. To spur researchers also in other career stages, several countries recently introduced new incentive schemes that relate the laboratories’ funds or the researchers’ salary to the publication record.

The survey shows that economists have internalized that publishing is crucial for their academic survival. High or very high publication pressure is reported by 83% of the participants. Ninety percent perceive that the pressure has increased over the last decade. Economists also worry a lot about the funding for their research. Almost half of the respondents perceive high or very high pressure to raise external funds. How do you proceed if you feel urged to be successful and competition for publication space in top-journals is high? Nice results may increase the likelihood to get the paper published. Bowing to referees and editors may help as well.



Source: [Scientific misbehavior in economics \(DOI: 10.1016/j.respol.2014.05.002\)](https://doi.org/10.1016/j.respol.2014.05.002)

In line with that idea, economists’ perceived pressure is found to be positively related to their admission of being involved in several rejected research practices. For example, it is 14 percentage points more likely that an economist perceiving “very high” pressure admits to having cherry-picked results than that an economist perceiving only “moderately high” pressure confesses the deed. Although the results cannot prove causality, they are consistent with the notion that pressure motivates researchers to act dishonestly. In this light, the finding that economists’ belief in norms seems to be unshaken by competitive pressure is not really encouraging.

The importance to deal with serious violations of research integrity has long been recognized. Institutions have been established that handle allegations, e.g., the Ombudsman of the German Research Foundation. In contrast, “questionable practices” have received attention only more recently. Lack of evidence should be an important reason. It is difficult to assess whether the actions represent intentional bias. Stopping the analysis when a desired

result has been found can also be the consequence of ambiguity about the most reliable model. A researcher himself may re-interpret his wrongdoing accordingly. Whom would you rather take into custody: a colleague faking data or the one presenting only his favorite results? The survey reveals that even of the observed cases of serious misconduct only one fourth is reported.

Surveying large representative samples of researchers to obtain estimates of scientific misbehavior has become an established approach. The approach allows inquiring into which behavior researchers consider wrong – and whether they have nonetheless engaged in them. Of course the results depend on the researchers' willingness to report misbehavior. They are likely to present a lower bound estimate.

Awareness that several research practices are not “questionable” but represent scientific misbehavior may be essential to get a grip on them. Further research on the prevalence and determinants of all types of research behavior is thus desirable. Like whistle blowers, researchers who study scientific misbehavior may fear negative consequences from accusing colleagues of misconduct. They also face the same incentives as any other researcher: Do editors publish papers telling them that the contents of their journals may be biased? Apparently at least some do. This should provide ample reason to find out more about misbehavior in the academic universe.

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About the Author

Sarah Necker is a post-doctoral researcher at the Department of Economic Policy and Institutional Economics at the University of Freiburg and at the Walter Eucken Institute, Germany. Her main areas of research are behavioral economics, with a focus on risk and unethical behavior, and the economics of science.

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