

Calling all economists

Economists and scientists need to reunite – which is why *Nature* is embracing economics.

“He has enriched the world with works that will long remain monuments of science.”
Reading *Nature*'s 1873 obituary¹ of the philosopher and economist John Stuart

Mill, you would think economists and scientists were two sides of the same research coin – that economics was welcomed as part of the scientific tradition, and vice versa. But that was then. The age of the polymath was coming to an end and researchers were becoming single-discipline specialists. Economists and natural scientists drew apart as universities organized their researchers into engineering, humanities, science and social-science faculties.

The pendulum is swinging back. Economists and scientists are moving closer, as universities and funding agencies embrace more multi- and transdisciplinary research. Over at the World Health Organization, a chief-economist post is being considered. *Nature* will soon appoint an economics editor, following the lead of *Nature Climate Change*, *Nature Energy*, *Nature Sustainability*, *Nature Human Behaviour* and *Nature Communications*.

These moves could not have come soon enough. The world faces a mountain of challenges – and to find solutions, humanity must approach them in multiple ways. One of the biggest puzzles concerns the research enterprise itself. Economists have been pointing out for some years that we don't fully understand why the results of research and innovation – which have ushered in the digital age along with other transformations – are not benefiting everyone in society, as seen for example in wage stagnation and widening inequality. But relatively few natural scientists or engineers have taken up this question.

At the same time, more economists than ever are reaching across disciplinary divides, and they want journals to recognize the results. “I have younger colleagues interested in the economics of data, artificial intelligence, pharmaceuticals. They want to work with – and publish with – scientists,” says economist Diane Coyle of the University of Cambridge, UK. But she and others say that they struggle to publish work on big societal problems – co-authored by natural scientists or social scientists from other disciplines – because such work can fall outside the remit of economics and science journals.

But it matters. In 2011, not long after the global financial crisis of 2008, Bank of England chief economist Andy Haldane worked with theoretical ecologist Robert May to harness infectious-disease modelling techniques to investigate risks and vulnerabilities in the global financial system. Their resulting *Nature* paper² showed researchers how they

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could collaborate to understand other complex networks, such as those involving trade or information. Jim O'Neill, former head of economics research at global investment bank Goldman Sachs in New York City, also reached across the aisle to study the financing of new antimicrobial drugs (see go.nature.com/2e3bkmj). Economics research, he says, could demonstrate the costs and benefits of investing more in public health, to encourage governments in low- and middle-income countries to make such investments.

Similarly, with the pharmaceutical industry and governments still not properly funding development of a badly needed new generation of antibiotics, he says, biomedical researchers need to collaborate with economists and public-policy specialists to create a workable financial model.

The environment is one area in which natural-science researchers and economists do have a long-standing shared interest. Economics research, for example, is assessed by the Intergovernmental Panel on Climate Change, and *Nature*'s research and comment sections publish influential work from ecological and environmental economists³.

But here, too, there's potential for more joint problem-solving. Success in many of the United Nations Sustainable Development Goals will require an understanding of how far economies can continue to grow within planetary limits. But there are many views on this, including various intellectual traditions in economics. Some economists, for example, argue that a planet under pressure from industrialization cannot withstand continued economic growth. But for others, growth is essential to alleviating poverty – as long as growth becomes greener.

To solve these problems, economists, natural and social scientists and engineers must all engage with and learn from each other. It is often too easy to say ‘more research will help’. But here, it is necessary – especially economics research, which we look forward to publishing.

1. *Nature* **8**, 47 (1873).

2. Haldane, A. G. & May, R. M. *Nature* **469**, 351–355 (2011).

3. Costanza, R. et al. *Nature* **387**, 253–260 (1997).

In praise of replication studies

More funders and publishers must support replication studies and null results.

The Berlin Institute of Health last year launched an initiative with the words, “Publish your Replication Study – Fight the replication crises!”

The institute is offering its researchers €1,000 (US\$1,085) for publishing either the results of replication studies – which repeat an experiment – or a null result, in which the outcome is different from that expected. But Twitter, it seems, took more notice than

Clarification**Calling all economists**

This editorial omitted to mention *Nature Communications* in the list of Nature Research journals with economics editors.