# How Economics Shapes Science

*Paula Stephan*
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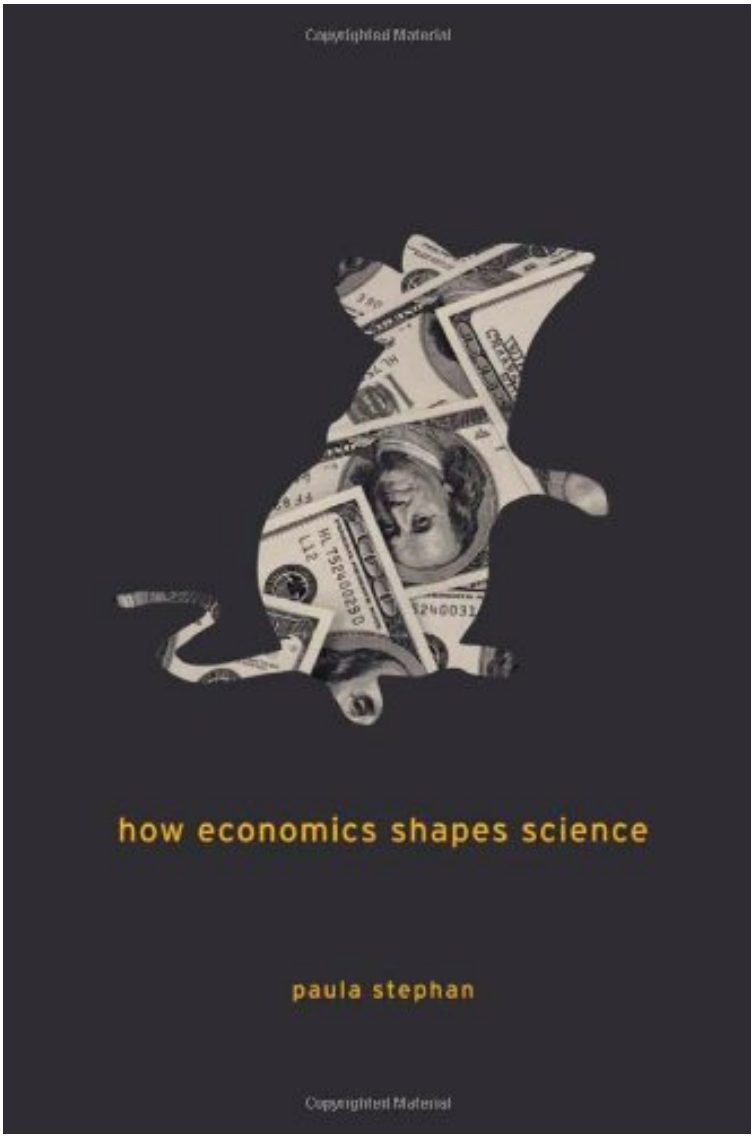




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**Paula Stephan : How Economics Shapes Science** before purchasing it in order to gage whether or not it would be worth my time, and all praised How Economics Shapes Science:

1 of 1 people found the following review helpful. Excellent in depth study of how science worksBy sienHow Economics Shapes Science (2012) by Paula Stephan is a comprehensive study of how economics influences US Science. The book is specific in that it does not look at the European, English or Australian systems although the European and Asian Universities get some mention.The book catalogues in considerable detail how money is spent on US science and how there has been substantial growth in the funding of life sciences in recent decades.Stephan describes how economics can be used to look at how science works and how scientists respond to incentives. The

drive to solve puzzles, to improve life and to understand things is given due as is the financial incentives that clearly also deeply affect what science is done.The typical US setup of Principal Investigators, postdoc students and PhD students is examined and what these people do, where they come from and where they go and how they have changed over the past 50 years is described. The equipment and even the space that science is performed in are also looked at. Stephan looks at how strongly the US pulls scientists from around the world to work in US labs.The penultimate chapter looks at how science is one of the engines of economic growth. Stephan also acknowledges how practical knowledge drove much technological improvement prior to C20 and even today how substantial practical knowledge is used to generate growth. Stephan also points out that the exact effect is unknown. Unfortunately the book doesn't look at why the US is so much better at making money out of certain types of science. The dominance of the US in computing technology is not mentioned.In the final Chapter whether the US can do better with science funding is looked at. Stephan describes current US universities as setting up something akin to high end shopping malls for science, facilities are built with the expectation that professors can then create labs that draw other academics and students. Stephan ponders the efficiency of the system and asks whether 0.3% or 0.4% of GDP is the right amount of funding, if the current allocation of 2/3s of the budget to life sciences makes sense and whether fewer larger grants or more small grants makes sense. Wisely Stephan concludes that the answers to these questions are not known and that they should be studied more. However, the book does make a small suggestion, namely that physical sciences and materials science may warrant more effort. It's also pointed out that the substantial increase in the NIH budget did not produce as much of an increase as expected.It's arguable that by looking at the book that science is actually sufficiently funded and that people's natural drive, enjoyment of the practice of science and the billions of dollars of current funding are highly effective.The book is a data heavy read that gives a really solid view of how US science is currently run. Trends in the data are brought out clearly in the text and with graphs. The book doesn't provide a strong recommendation for how things should be altered but instead looks at questions that can be asked about the current system.0 of 0 people found the following review helpful. A must in the new economics of science: a Review of Paula Stephan's How Economics Shapes Science, by Mahee FerliniBy Mahee FerliniI found it comprehensive and intriguing, especially because it shows some of the key challenges faced by research universities both in Europe and in the US. It shows the some of the consequences of an increasing dependence upon external grants to pay salaries, and the importance to design funding programs to sustain frontier research, without inducing an excessive focus on short term goals and a sort of risk aversion in the choice of research problems to focus on, for both institutions and individuals. Some of the current trends are inducing a significant change at the core of the academic profession: the upsurge of non tenure track faculty, the contrast between an increasing demand for high skill young researchers and the low probability of keeping them within the university system in the long term. It raises several important questions on the evolution of academic careers as well as the function of research universities in moving ahead the research frontier. It is a well written book and it is a must for those who want to get an informed view on the way in which economic forces, opportunities, and constraints shape the long term evolution of scientific research: a key precondition to approach a second set of issues, that is analyzing how science shapes..... economic growth. Mahee Ferlini7 of 7 people found the following review helpful. Fresh look at academic worldBy Gerard EscherThis book provides a badly needed fresh look at the world of research and higher education, through the eyes of a conventional economist who looks at this through salaries and markets. Highly recommended.One caveat : don't buy the kindle edition. In addition to be amazingly overpriced, it is poorly formatted. In particular, the footnotes are not activated so paging from text to notes is a nightmare.

At a time when science is seen as an engine of economic growth, Paula Stephan brings a keen understanding of the cost-benefit calculations made by individuals and institutions as they compete for resources and reputation in scientific fields. She highlights especially the growing gap between the biomedical sciences and physics/engineering.