

Olga BERNARD

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EDUCATION

- 2016 - 2020 Ph.D. in Economics, Toulouse School of Economics, Toulouse
Title: **Essays in Economics of Science: Publication quality and research incentives**
Chapters: “Refutation in research: how to improve publication quality”.
“Citizen science vs. traditional science: the speed/quality trade-off”.
“Citizen science and preemption”.
- 2015-2016 **M.Sc. in Economics**, Toulouse School of Economics, Toulouse
- 2013-2015 **M.A. in Economics Theory and Econometrics**, Toulouse School of Economics, Toulouse
- 2011-2013 **B.A. in Economics and Mathematics**, Toulouse School of Economics, Toulouse
- 2009-2011 “**Classes Préparatoires**”, Lycée Bellevue, Toulouse
Two year intensive undergraduate courses in Mathematics, Physics and Engineering Sciences

TEACHING EXPERIENCE

- 2019-2020 Microeconomics, Undergraduate level, Université Paris Saclay, Palaiseau
- 2017-2019 Industrial Organization, Graduate level, Toulouse School of Economics, Toulouse
Microeconomics, Undergraduate level, Toulouse School of Economics, Toulouse
- 2015-2016 Microeconomics, Undergraduate level, Toulouse School of Economics, Toulouse
- 2014-2015 Mathematics, Undergraduate level, Toulouse School of Economics, Toulouse

PUBLICATIONS

Bernard, Olga (2020). Refutation in research: how to improve publication quality, *Annals of Economics and Statistics*, June, 2020.

WORKING PAPERS

Citizen science vs. traditional science: the speed/quality trade-off

I examine the tradeoff of the scientist who has access to citizen science (CS) or traditional science (TS) to undertake her research. A sequence of projects are successively available on a discrete time horizon. Each project is a public good with some value. For each project, a scientist (she) chooses to implement it with CS or TS. With TS, she implements the project for sure but it takes one period. With CS, the project is implemented immediately with the help of two citizens. However, its success is uncertain and depends on the citizens' actions. When the successive projects have the same value, the scientist's strategy is a cut-off: when the value of the project is above some threshold, she uses CS. Below this threshold, she uses TS. This result is generalized to any sequence of project values which satisfies the Markov property. In an extension, two scientists compete to attract citizens on their project. Focusing on stationary Markovian equilibria, I show that the equilibrium in pure strategies is unique: for sufficiently high project values, both scientists always choose CS. For sufficiently low values, both scientists always choose TS. In both cases, there exist no equilibrium in mixed strategies. For intermediate project values, the unique equilibrium is in mixed strategies: if one scientist is stuck with choosing TS at the former period, the other one always chooses CS. Otherwise, they both mix between TS and CS.

Citizen science and preemption

I study the tradeoff of the scientist who chooses between citizen science (CS) and traditional science (TS) for her research. After time 0, there exists a new idea which can be studied. Two scientists can discover this idea at any time. Their objective is to publish it before the other one does. However, competition is only potential as a scientist's discovery time is not observable by her competitor. At the scientist's discovery time, she faces two technological choices, which are not available past that time. The first one is TS: she takes time to let the idea mature. There exists an optimal maturation delay which maximizes her publication payoff with TS without any competitor. With the second choice, called CS, the scientist involves citizens' help to publish instantaneously the idea. However, she incurs a fixed cost to make the idea available to citizens. Moreover, the latter are non-experts so there is some risk error that the publication is of bad quality, which brings her no payoff. Focusing on Bayesian pure-strategy equilibria, I prove that there exists two kind of symmetric stationary equilibria. When CS is low-cost, every scientist chooses CS. Otherwise, everyone chooses TS. Besides, I study equilibria in which every scientist chooses TS before a discovery time threshold and CS after. There exists no such equilibrium when it satisfies one of these two assumptions: i) the threshold discovery time is lower than the equilibrium publication time of the scientist discovering the idea at time 0 and ii) the equilibrium scientists' strategy is continuous at the threshold discovery time. At last, there exists no asymmetric equilibrium in which scientists choose different technological choices.

CONFERENCES & SEMINARS

- 2020.04 Applied Economic Theory Workshop (TSE), Toulouse, France
- 2018.11 PhD workshop (TSE), Toulouse, France
- 2018.05 Spring Meeting of Young Economists, Mallorca, Spain
- 2018.05 Congrès annuel de l'association française de Science Economique (AFSE), Paris, France
- 2018.04 ENTER Jamboree, Toulouse, France
- 2017.11 Applied Economic Theory Workshop (TSE), Toulouse, France

PROFESSIONAL ACTIVITIES

- 2017-2018 Student organizer of the Applied Economic Theory Workshop, TSE

COMPUTER SKILLS

- IT Skills Stata, R, Mathematica, \LaTeX , MATLAB, VBA
- Languages French (Native), English (Bilingual), German (Intermediate), Italian (Intermediate)