CoCo Seminar Series
Fall 2023

Policy Reform Effects in the Tax Ecosystem: An Agent-Based Simulation Approach

Dr. Peter Gerbrands
Postdoctoral Fellow, Economics, Utrecht University, the Netherlands / Visiting Scholar, Economics, Binghamton University (Work in collaboration with Brigitte Unger)

Wednesday November 1, 2023 12:00-1:00pm EDT
Hybrid (EB-T1 & Zoom; meeting link available on http://coco.binghamton.edu/)

In 2014 and 2016 the European Commission mandated the implementation of two tax policy reforms: Automatic Exchange of Information (AEoI) and Country-by-Country Reporting (CbCR). These two reforms have different goals: while the latter aims at reducing tax avoidance of corporations, the former focusses on reducing tax evasion by individuals. How successful have these policies been and how successful will they be when fully implemented in all EU countries? Extant literature has concentrated either on studying the effects of reforms on tax avoidance (the legal part of not paying taxes by using loopholes in the international tax system) or on tax evasion (the illegal part of not declaring taxes), hence studied the effect of either CbCR or AEoI separately. Through an agent-based simulation model, this paper analyses both reforms and their interaction simultaneously. Given that policy reforms may reinforce or counteract each other, obfuscating their individual effect, this model allows simulating the isolated effects of both reforms as well as study them jointly. This study compares the long-term effects (from 2019 until 2029) of these reforms to 1) what would have happened to tax compliance in the absence of these reforms, and 2) to a baseline model, i.e. the status quo of 2019, and 3) to a full implementation of each reform by all 33 European countries. The results show that 1) without new developments corporate tax avoidance schemes will increase the European CIT losses from €104.9 to €135.8 billion, while 3) fully implementing both Country-by-Country Reporting and Automatic Exchange of Information is expected to decrease the total CIT losses with 16.4 per cent (resulting in €113.5 billion in 2029 instead). Therefore we conclude that although these policy reforms were somewhat effective, they were no efficient given negative effects these reforms had on the tax morale.

Reference: Peter Gerbrands and Brigitte Unger, *Policy Reform Effects in the Tax Ecosystem: An Agent-Based Simulation Approach* In: *Combating Fiscal Fraud and Empowering Regulators: Bringing Tax Money Back into the COFFERS*. Edited by: Brigitte Unger, Lucia Rossel, and Joras Ferwerda, Oxford University Press (2021). © Oxford University Press. DOI: 10.1093/oso/9780198854722.003.0014

Peter Gerbrands (1978) was born in Gouda, The Netherlands. He developed an international career in the information technology sector while completing his Bachelor in Business, IT and Management at Amsterdam University of Applied Science in 2014. He pursued his studies at the University of Amsterdam and graduated as a Master of Science in Information Studies in 2016. In October 2016 he became a PhD candidate at Utrecht University School of Economics. The position was made available through the COFFERS project, which was funded by the European Commission's Horizon 2020 Research and Innovation Programme. During this time, he served as an external researcher at "infobox Criminal and Unexplained Assets" in Utrecht, The Netherlands. In April 2018 he was a research fellow at the Center for the Study of Democracy in Sofia, Bulgaria. He successfully defended his dissertation on September 7, 2021. In October 2020, he was recruited for a postdoc position at Utrecht University School of Economics where he will setup a data infrastructure with information on Dutch companies, the FIRMBACKBONE project. His main research interests are: agent-based simulation, social network analysis, complex systems, big data analysis, statistical learning, and computational social science. He applies his skills primarily for policy analysis, especially related to illicit financial flows, i.e. tax evasion, tax avoidance and money laundering.

For more information, contact Andreas Pape (apape@binghamton.edu). http://coco.binghamton.edu/