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Editors' introduction — Recent Applications and Developments in Behavioral Economics and Finance

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This special issue of the *Journal of Behavioral Economics for Policy* is the follow-up of the 2nd ECMCRC Summer School on Behavioral and Neuroscientific research for Economics, Finance and Accounting, hosted by Dublin City University (DCU) Business School from July 6 to July 10, 2020. It includes nine articles first elaborated and/or presented at the summer school by young researchers in behavioral economics and finance. One of the main constraint to publication of an article in our special issue was its positioning at the research frontier in behavioral economics and finance. The published articles are quite heterogenous in terms of topic with a high level of interdisciplinarity, while as for the methodology they can be regrouped into three main categories, with three articles for each of the three categories. The first category includes a group of critical reviews of the most recent articles in behavioral economics and finance. The second category contains theoretical works on the policy impact of new behavioral features. The third category includes three empirical works, bringing new evidence to well-known questions in behavioral economics. Each article presents implications of behavioral economics for public policy, and eventually a framework for policy makers.

Introduction

This special issue of the *Journal of Behavioral Economics for Policy* is dedicated to some of the most "Recent Applications and Developments in Behavioral Economics and Finance". The starting point of the special issue was the 2nd ECMCRC Summer School on Behavioral and Neuroscientific research for Economics, Finance and Accounting, hosted by Dublin City University (DCU) Business School from July 6 to July 10, 2020, and organized by Lisa van der Werff (DCU Business School) and the three guest editors of this special issue.

The aim of this Summer School was twofold. First, offer attendees the opportunity to acquire both theoretical and practical knowledge of the key theories, instruments, and techniques currently used to undertake high-impact behavioral and neuroscientific research projects in the fields of economics, finance, and accounting. In this regard, hands-on sessions focusing on the use of neurobiofeedback, eye tracking and data analytics followed more theoretical lectures which provided attendees with a grounding in behavioral economics and finance, experimental economics and neuroeconomics.

Second, attract and create practical value for Ph.D. students and post-doctoral researchers, by seeding future research collaborations among participants. Indeed, despite the travel restrictions and the social distancing imposed by COVID-19 – which led the Summer School to be hosted virtually, the 50 participants joining the event (from 19 different countries) had the opportunity to engage with leading academics connecting from Australia, United States and different EU countries. Furthermore, and more importantly, the last two days of the Summer School were dedicated to a paper development workshop, a practical session during where participants could develop a paper proposal for an upcoming special issue of the *Journal of Behavioral Economics for Policy* titled: "Recent Applications and Developments in Behavioral Economics and Finance". All articles published in this special issue comes from these 2-day "think tank" among young researchers physically located all over the world, but

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exchanging and confronting their thoughts in a unique virtual agora.

This has led to a series of contributions to the frontier of behavioral economics and finance which are quite heterogenous in terms of topic, while as for the methodology they can be regrouped into three main categories, with three articles for each of the three categories.

The first category of contributions includes a group of critical reviews of the most recent articles in behavioral economics and finance, focusing on the role of (i) ambiguity attitudes in decision making under uncertainty (Borozan et al., 2022), (ii) bullshit receptivity in flawed decision making (Iacobucci & De Cicco, 2022), and (iii) virtual and augmented reality in environmental decision making (Buljat, 2022).

The second category of contributions includes three theoretical works modelling the impact of respectively (i) artificial-intelligence technologies in financial decision making (Elbæk et al., 2022), (ii) nudged-based interventions for impulse buying in the e-commerce environment (Mandolfo, 2022), and (iii) guilt aversion in the case of tacit collusion in oligopolistic markets (Ferrario & Manzoni, 2022).

The third category includes three empirical works, bringing new evidence to well-known questions in behavioral economics, namely how (i) sociodemographic characteristics affect the decision to vote in elections (Ribeiro et al., 2022), (ii) the introduction of background risk modifies first-order and higher order risk attitudes (Mussio & de Oliveira, 2022), and (iii) incentive schemes and training programs affect groop coordination (Lefebvre & Martin-Bonnel de Longchamp, 2022). The three works use original datasets, generated through respectively an online questionnaire, an online experiment, and an artefactual field experiment.

In the next three sections, we describe more in depth the content and methodology of each of the nine articles of the special issue, relying on the “survey – theory – empirics” categorization introduced above.

Critical reviews of most recent articles in behavioral economics

The first review of the special issue, Borozan et al. (2022), examines the literature from economics and psychology by tracing a map of intellectual knowledge on **ambiguity attitudes** in both disciplines, and by highlighting open questions. The declared goal is to overcome a well-known conceptual impasse: while ambiguity attitude in decision making under uncertainty has received attention from researchers from many disciplines, scientists from different backgrounds have put forward divergent, often vague and contrasting definitions of ambiguity. This has somewhat obstructed cross-fertilization of insights across disciplines and has slowed the comparability of the results. With this in mind, the article discusses recent theoretical developments that could offer a unifying frame of reference for the study of ambiguity.

In the same vein as the previous article, Iacobucci & De Cicco (2022) first highlight how the concept of **bullshit receptivity** has recently gained interest as an individual characteristic of people with the tendency to be overly receptive of and sensitive to fake claims. With this, they identify and discuss peer-reviewed literature that applies bullshit receptivity scales, to better define their role within the bigger picture of the characteristics of those individuals particularly prone to the reception of a whole range of outlandish beliefs. Considering the cross-cutting nature of the issue, Iacobucci & De Cicco (2022) underline that – with bullshit receptivity belonging to the set of determinants contributing to flawed decision making in terms of spotting genuine from fake content – greater involvement of behavioral economists is desirable. They call for such involvement not only within the bullshit debate, but also in assisting policy makers in their hard task of developing tailored policy responses and digital literacy interventions to combat misinformation and disinformation at its roots.

The last article of this group is the one by Buljat (2022). She first notices how, under pressure to motivate people towards green behavior, environmental policy makers communicating about environmental issues face a challenge: people fail to recognize environmental problems because the consequences are usually temporally or physically distant from the causes. Immersive technologies, such as **virtual and augmented reality**, offer an opportunity to bridge this gap by providing direct experiences of environmental threats in a safe environment. These virtual experiences could reduce perceived psychological distance, enhance risk perception of environmental issues, and motivate behavior change before environmental damage is caused. Also, by bringing the field in the lab, virtual environments provide the context to laboratory experiments needed for investigating human behavior. Given these arguments, this article discusses how immersive technologies point to a promising tool for environmental policy implementation and evaluation. In particular, it presents an original survey covering experimental studies that were conducted in virtual environments and have explicit implications for environmental policies.

Theoretical works on the policy impact of new behavioral features

The first theoretical work of the special issue, Elbæk et al. (2022), starts from the evidence that individuals with low socioeconomic status are more vulnerable to making choices that undermine their welfare in economic decision environments that require an acceptable comprehension of risk. In order to improve on this situation, they propose that novel technologies, specifically **artificial intelligence**, can aid **in improving financial decision making** for individuals with low risk awareness, and suggest avenues where policy can leverage emerging artificial-intelligence technologies to design specific choice architecture that may support more risk-aware decision making of vulnerable socioeconomic groups. They conclude by discussing the ethics of utilizing nudges in vulnerable populations, and how the theoretical solutions that they propose can pave way for future research to improve decision making for socioeconomically vulnerable individuals.

Nudged-based interventions is also the proposed policy measure of the second theoretical work of the special issue, the one by Mandolfo (2022). He focuses on **impulse buying in the e-commerce environment**, both in economic and social terms. Starting from the evidence that young adults embody an acknowledged portion of online impulse buyers and that excessive impulse buying has a significant weight on social welfare, he proposes three possible **nudge-based interventions** for immediate coping with online impulse buying: designing for interactional friction, engaging in distraction, and the timely provision of feedback. He concludes by discussing the implications for online retailers and policy makers in terms of collaborative approaches to foster consumer trust, enhance brand reputation, reduce logistics costs, and promote public support.

The last article of this group is the one by Ferrario & Manzoni (2022). They show how emotions that depend on beliefs may influence the effectiveness of policies, highlighting the need for an analysis of the impact of **guilt aversion** – a specific belief-dependent emotion – in policy making. They do so by focusing on the case of **tacit collusion in an infinitely repeated duopoly**. They theoretically show that which type of duopoly favors collusion the most depends on the level of guilt aversion. Specifically, it is easier to sustain collusion in a Bertrand duopoly for low levels of guilt and in a Cournot duopoly for intermediate levels of guilt, while when the guilt parameter is high, collusion is sustained for any discount factor in both market structures. They conclude by showing how competition policies, such as the introduction of random audits and fines, may be less effective in the presence of guilt.

New empirical evidence on well-known research questions in behavioral economics

The order of appearance of the three articles in this group follows the rule "from more to less standard" database that the article uses, i.e., from survey data to online experimental data, to field experimental data.

The first article of this group, Ribeiro et al. (2022), analyzes how sociodemographic characteristics affect the **decision to vote in elections**. They use an original database with responses from more than 100 individuals collected through an **online questionnaire**, and apply factor analysis to estimate the dimensions that capture cognitive biases, risk aversion, the level of political identification, and the level of ideological identification. Subsequently, through the estimation of a logit model, they examine how each of these variables affects the likelihood of voting based on their average marginal effects. They find that risk aversion, and cognitive biases, namely overconfidence and winning effect, significantly influence the likelihood of voting, while ideological identification negatively influences the likelihood of voting.

The second article of this group, Mussio & de Oliveira (2022), focuses on a deeper measure of risk aversion, which also includes background risks (e.g., chronic illnesses, income volatility, environmental hazards and the COVID-19 pandemic). In an online experiment with around 300 participants, they implement a risk apportionment approach to measure individual risk attitude and higher-order risk attitudes (prudence and temperance), before and after an increase in background risk. They design background risk as a lottery with a 50% chance of winning 0 and 50% chance of losing 50 experimental currency units, the lottery outcome being independent from the subject's choice, and realized after the end of the experiment. Results indicate that, absent this background risk, around 17% of their sample is mixed risk-loving, i.e., risk-loving, prudent and intemperate. After the introduction of background risk at a within-subject level, the proportion of mixed risk-averse individuals (i.e., risk-averse, prudent and temperate) increases, driven by an increase in risk-averse choices. Their findings suggest that one-size-fits-all policies should be flexible to incorporate the heterogeneity of individual risk profiles, as well as changes in individual and overall risk conditions.

The last article of this group, Lefebvre & Martin-Bonnel de Longchamp (2022), presents an **artefactual field experiment** with 36 craftsmen working on renovation projects. The aim of the experiment is to assess the **effect of incentive schemes and training programs on coordination**. Indeed, workers frequently fail to coordinate their tasks when not supervised by a project coordinator. This is particularly important in the construction sector where it leads to a lack of final performance in buildings. The experimental design introduces two different incentives: a first contract paying craftsmen only according to their individual performance, and a second contract paying a group of three craftsmen with a weak-link payment according to the group's worst performance. Both incentives are tested on two different pools of craftsmen according to being or not previously trained to coordinate their tasks. Results show that when facing an individual-based incentive, trained subjects coordinate at significantly higher effort levels than non-trained subjects. However, when facing a group-based incentive, non-trained subjects "catch up" trained subjects in terms of coordination level, while the latter do not significantly increase their performance.

Conclusions

The heterogeneity of topics and methodological approaches of the articles included in this special issue is in line with the interdisciplinarity requirements of the *Journal of Behavioral Economics for Policy*, thanks to the integration of economic theory and other related disciplines including, for this special issue, psychology, neuro-science, finance, management, and political science. At the same time, also the specific scope of the Journal is matched by the fact that each published article contains specific sections with implications of behavioral economics for public policy, and eventually a framework for policy makers.

Besides the relevance of the topics and methodologies addressed in this special issue of the *Journal of Behavioral Economics for Policy*, we see a further advantage in its combination with the summer school where the published articles were first elaborated and/or presented: this special issue gives voice to young researchers in behavioral economics and finance, by allowing them to (virtually) meet in order to elaborate, submit and publish their research also during the hard times of the COVID-19 outbreaks. In fact, each published article has – as single or corresponding author – a Ph.D. student or post-doctoral researcher at the time of attendance of the 2nd ECMCRC Summer School on Behavioral and Neuroscientific research for Economics, Finance and Accounting.

Besides high quality of this research, the main constraint to publication of an article in our special issue was its positioning at the research frontier in Behavioral Economics and Finance. During the revision process, we did our best to allow future readers of this special issue of the *Journal of Behavioral Economics for Policy* to get the most recent applications and developments in the different sub-fields of behavioral economics which are the focus of the articles that we accepted for publication. In this respect, we thank twenty anonymous reviewers who collaborated to the revision process by providing valid support to our decisions and insightful reports that significantly increased the quality and depth of each published article with respect to their first submitted version.

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