



Behavioural experiments as an impactful tool in sustainable development

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Abstract: Behavioural economics emphasizes aspects of decision-making that rational actor models do not anticipate, such as the altruism of the decision maker, the role of peer pressure, or their tendency to cleave towards social and cultural norms. Methodological, behavioural sciences rely on real-world experiments to understand what influences behavioural outcomes. Studies with these methods can also be used to enable better identification of the monetary and non-monetary incentives that need to be in place for groups of people to adopt a desired behaviour. This information can be critical for improved programmatic design, research, and for policy implementation. Behavioural sciences can be a strong complement to neoclassical economics, furthering our understanding of critical issues and contributing to better, more diverse, and more adaptable models.

Key words: behavioural economics, decision-making, altruism, social and cultural norms

JEL classification: C90, D01, D30

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1 Introduction

Only recently has the importance and potential of behavioural sciences been recognized as a critical tool to achieve the Sustainable Development Goals (SDGs). This long-awaited recognition comes from the highest levels of the United Nations, with the Secretary-General recently issuing a [guidance note](#) (United Nations 2021) on how and why to use behavioural sciences.

Behavioural economics emphasizes aspects of decision-making that rational actor models do not anticipate, such as the altruism of the decision maker, the role of peer pressure, or their tendency to cleave towards social and cultural norms. Methodological, behavioural sciences rely on real-world experiments to understand what influences behavioural outcomes. Studies with these methods can also be used to enable better identification of the monetary and non-monetary incentives—and/or deterrents—that need to be in place for groups of people to adopt a desired behaviour. This information can be critical for improved programmatic design, research, and for policy implementation. Furthermore, the behavioural sciences can be a strong complement to neoclassical economics, furthering our understanding of critical issues and contributing to better, more diverse, and more adaptable models. Frequently understood as competing substitutes, behavioural and neoclassical economics disciplines are both more useful together, as complements. For this reason, I argue here—and in much greater detail in [a recent WIDER Working Paper](#) together with Rachel Gisselquist (Puzon and Gisselquist 2021)—for greater interdisciplinary collaboration between practitioners.

Finally, research practitioners that specialize in behavioural or experimental economics have so far conducted research primarily with WEIRD subjects (Western, Educated, Industrialized, Rich, and Democratic). There is a dearth of research on subjects that might be adequately representative of societies in the Global South. An incipient literature on developing countries has sprouted at UNU-WIDER—with recent applications of behavioural methods being used to study equality preferences, political clientelism, and ethnic preferences for ecosystem restoration—but it is still small and there are considerable opportunities for expanding it. More research in the Global South is needed on a range of topics on top of replication studies with more diverse cohorts.

What follows in this background note is a basic introduction to the methodology and methods of behavioural sciences, with examples from experimental economics, a brief summary of recent literature in developing countries, and an argument for greater representation of behavioural methods in research programmes concerned with human progress and the global goals.

2 Behavioural sciences' methodological role

Behavioural economics studies the effects of non-economic factors on people's market actions. These may include psychological, cultural, social, and cognitive factors. It is evidence-driven and focuses on how people make decisions and modify their behaviour in response to policy interventions.

With respect to sustainable development, behavioural economics enables better identification of the monetary and non-monetary incentives, and barriers, that people need to adopt desired behaviour. In this regard, behavioural economics plays an integral role in accelerating the development process.

A good example is a programme to encourage timely payment of income taxes. Social norms and peer pressure can be considered useful tools. When individuals are informed, for example, through reminders that the majority of the population pays taxes on time, they might be more likely to comply.

Indeed, behavioural methods can help us evaluate why certain policy options succeed while others fail. The relevance of behavioural economics to achieving the SDGs is highlighted in the [61-page report of the UN Behavioural Science Group](#) (UN Innovation Network 2021). Case studies from different UN agencies are used to demonstrate this relevance. Behavioural science tools have strengthened development programmes across several sustainable development dimensions, from peacekeeping to climate change, vaccination campaigns, food aid, and tax compliance. The UN Secretary-General's Guidance Note on Behavioural Science formally encourages UN entities, such as UNU-WIDER, to adopt behavioural methodologies in their work and provides tools and advice on how to do that.

3 Economic experiments

Though various tools exist for conducting behavioural studies; in sum, [the methodology of behavioural science is four-pronged](#) (UN Innovation Network 2021):

1. Define: Identify the problem and behaviour that the programme aims to change,
2. Diagnose: Understand the context and explore how qualitative and quantitative methods can be used to measure how people behave and why,
3. Design: Design solutions, e.g., policy interventions, that respond to the diagnosis, possibly in consultation with local stakeholders,
4. Test: Evaluate the solution by running fieldwork or laboratory experiments to determine if their real-life effects are sufficiently significant and suitable for wider implementation.

Social preference experiments, in the laboratory and in the field, can be critical to Step 2 Diagnose. They can reveal how people's actual behaviour differs from what classical economic theories might predict, for example. Classical economics assumes that individuals always behave rationally (i.e., selfish, own-profit-maximizing), but many experiments have shown the merits of assuming otherwise, as behavioural economics does, that non-market factors affect decision-making. That is, people's actions can also be altruistic and other-regarding, too—see for example [Truc \(2018\)](#) or [Levine \(2012\)](#).

A standard 'dictator game' ([Leder and Schütz 2018](#)), for example, is one way to measure how altruistic people are. The game is simple. Assume you have €10. You can allocate this money between yourself and an unknown recipient. How much money will you keep for yourself, and how much will you give to the recipient? Does your behaviour change if the money involved is €100,000, instead? What changes when the recipient is identified as a charity, such as the International Red Cross?

Rational actor theory predicts that participants in this game will always keep everything and give zero, regardless of the situation. In the real world, that is not what happens at all. Results from experimental economics show that individuals are not entirely selfish. They often allocate more money to certain recipients, showing that decision-making is context-dependent and conditioned

by social norms. Or, they agree to share the money, reflecting an aversion to inequality. Sometimes, the more money there is to be distributed, the more people tend to share.

4 Behavioural experiments at UNU-WIDER

Economic experiments are like laboratory experiments in the hard sciences. They are used to investigate how a given change in a given variable (i.e., social policy or cultural context) may or may not relate to significant behavioural change. Roughly speaking, while controlling for all other social and environmental factors, participants are divided into two groups. Those in the treatment group are subjected to an intervention, while those in the control group are not.

In the dictator game, for example, the control group might be endowed with €10, while €100 are given to the treatment group. Such an experiment deepens understanding of whether people's generosity and redistributive preferences change when the stake is higher, or not.

A methodological advantage that behavioural economic experiments brings is the role of incentives. As implied above, experiments follow a game-like format where respondents either gain or lose money conditional on their actions and that of others. The existence of incentives in economic experiments mean that results are not merely hypothetical. Observed behaviour in experiments may reveal actual preferences with respect to issues of inequality and fairness. This is in contrast to traditional surveys which are only able to measure stated preferences, i.e., actual behaviour is not observed.

UNU-WIDER has now published a few papers that utilize behavioural experiments to investigate a range of issues, such as clientelism in electoral politics, inequality, and preferences for ecosystem conservation. In [Banerjee et al. \(2019\)](#), a modified dictator game was played by a real-life politician and the recipients were Indian citizens. The experiment was used to analyse the giving behaviour of politicians, and their citizen-voters' reactions.

More recently, [Molina et al. \(2021\)](#) conducted a field experiment in the form of a game used to measure people's willingness to donate to a reforestation project in the Philippines. The results showed that certain ethnic groups are sensitive to how the donation game is framed, while others are not.

Similarly, another recent publication ([Tacneng and Puzon 2021](#)) shows that reminders of social norms affect the propensity of people to engage in financial insurance schemes. [In the study](#), undertaken in rural Philippines, reminding women of gender stereotypes (that women are more altruistic, generous, and sensitive to group welfare than men) encouraged women to invest more often in mitigating collective risks.

5 Going forward

The UN Secretary-General's Guidance Note has encouraged UN entities to apply behavioural science in their work. Indeed, more can be done, both in increasing the number of research projects undertaken and in terms of interdisciplinary collaboration.

There might be initial bias in favour of the view that rational choice and behavioural economics are substitutes rather than complements. Rational choice assumes individual profit maximization. That is, maximization of one's satisfaction without regard for others. Behavioural economics, on

the other hand, grants psychological mechanisms a role in economic decision-making. Individual satisfaction can also depend on the welfare of others.

These two starting points are not mutually exclusive. As Gisselquist and I posit [in our paper](#), experiments can be used as tools to compromise standard economic assumptions of rational choice with behavioural economics. Psychological concepts are complementary tools that can be used in conjunction with rational choice models—see for example [Rabin \(2013\)](#).

Unfortunately, collaboration by practitioners of the two methods is still rare. Cross-collaboration is needed though, to allow for greater diversity and calibration of models.

In the context of how experimental studies can improve models, I will give two examples. First, one can test status-seeking models with labour competition experiments. Status-seeking theories assume that an individual gains satisfaction when their income is higher than that of a reference group, e.g., the average person. On the other hand, models that focus on altruism assume that minimizing income inequality increases individual satisfaction more. If a researcher wants to test altruism, then charitable giving experimental designs might suit more.

In the end, it is important that researchers choose models suitable to their specific research question, and then test the models' validity using observed behaviour in experimental games.

6 Local context using fieldwork in developing countries

Most of the experimental economics literature to date pertains exclusively to [WEIRD respondents](#) (Easterbrook 2021). Results are not likely representative of societies in the Global South, especially because most rely on student samples. Given this lack of generalizability, in our review paper we call strongly for replication studies in developing countries where income inequality and poverty are pressing issues.

[The cross-cultural experiments by Falk et al. \(2018\)](#) provide an excellent example. They used experimentally validated survey data on various domains like risk aversion, time orientation, altruism, and trust from 80,000 people across 76 countries. Their findings reveal heterogeneity both across and within countries. Across individuals, they have found that preferences vary with gender and age. Across countries, observed heterogeneity was caused by factors in a broad range from religion to the country's agricultural suitability.

7 Reference groups other than the 'average' as point of comparison

A person's perception of inequality may change depending on his reference group, i.e., with whom is he comparing his income with. Average income, i.e., per capital income, is typically [used as baseline of comparison](#) (Bolton and Ockenfels 2000). In our review, we predict that an individual's opinion on inequality will change if we consider the poorest as the reference group. In this regard, the recommendation by [Hvidberg et al. \(2020\)](#) to use multiple reference groups is worth pursuing. [Perceptions change when reference groups change](#) (Hauser and Norton 2017). The higher a reference group's social distance—degree unrelatedness or anonymity—is to the respondent, the more likely that income inequality will be viewed as unfair.

Altogether, I identify three important gaps: (i) a lack of interdisciplinary/inter-methodological collaboration in research, (ii) insufficient representation of respondents from the Global South,

(iii) and the need to reduce the potential for bias when methods fail to account for multiple reference groups. We hope to fill in some of these gaps in the [The impact of inequality on growth, human development, and governance \(@EQUAL\)](#) project, a collaboration between the University of Copenhagen, UNU-WIDER, UEM, and CIEM.

Collectively, the project team—working collaboratively across the partner institutions—will run behavioural experiments on fairness views and redistribution preferences in Mozambique and Viet Nam over the next several years. Ultimately, the project aims to shed light on the channels underlying how inequality influences individual behaviour, and in turn growth, human development, and governance. This speaks directly to a large literature on the impact of inequality, as summarized in a recent [journal article](#) (Ferreira et al. 2022). The planned experiments also hope to shed light on specific issues, such as how perceptions on meritocracy and luck affect support for redistribution of income from the rich to the poor, and how framing of inequality trends affect willingness to donate in charitable causes. To provide more robust findings, we will relate survey responses with behavioural data from experiments. This allows us to see if there are consistencies or deviations between people’s beliefs and actions.

As Gisselquist and I argue in our [working paper](#), methodological pluralism, where standard economic tools are consolidated with the behavioural sciences, is critical to advancing our understanding of people’s economic behaviour. The ideas and examples listed here so far, collectively, make our main point for us. This is especially true with respect to issues of inequality and poverty. A more co-operative collaboration across different theoretical and empirical disciplines is an important first step. Behavioural economics, as an emerging scientific tool, can help find effective tools to reduce inequality and consequently bring progress in achieving SDGs.

References

- Banerjee, P., Banerjee, P., V. Iversen, S. Mitra, A. Nicolò, and K. Sen (2019). ‘Politicians and their Promises in an Uncertain World: Evidence from a Lab-in-the-Field Experiment in India’. WIDER Working Paper 2019/60. Helsinki: UNU-WIDER. <https://doi.org/10.35188/UNU-WIDER/2019/694-4>
- Bolton, G., and A. Ockenfels (2000). ‘ERC: A Theory of Equity, Reciprocity, and Competition’. *American Economic Review*, 90(1): 166–93. <https://doi.org/10.1257/aer.90.1.166>
- Easterbrook, M.J. (2021). ‘The Social Psychology of Economic Inequality’. WIDER Working Paper 2021/43. Helsinki: UNU-WIDER. <https://doi.org/10.35188/UNU-WIDER/2021/981-5>
- Falk, A., A. Becker, T. Dohmen, B. Enke, D. Huffman, and U. Sunde (2018). ‘Global Evidence on Economic Preferences’. *Quarterly Journal of Economics*, 133(4): 1645–92. <https://doi.org/10.1093/qje/qjy013>
- Ferreira, I.A., R.M. Gisselquist, and F. Tarp (2022). ‘On the Impact of Inequality on Growth, Human Development, and Governance’. *International Studies Review*, 24(1): viab058. <https://doi.org/10.1093/isr/viab058>
- Hauser, O., and M. Norton (2017). ‘(Mis)perceptions of Inequality’. *Current Opinion in Psychology*, 18: 21–25. <https://doi.org/10.1016/j.copsyc.2017.07.024>
- Hvidberg, KB, C. Kreiner and S. Stantcheva (2020). ‘Social Position and Fairness Views on Inequality’. NBER Working Paper 8099. Cambridge, MA: National Bureau of Economic Research. <https://doi.org/10.3386/w28099>
- Leder, J., and A. Schütz (2018). ‘Dictator Game’. In V. Zeigler-Hill and T. Shackelford (eds), *Encyclopedia of Personality and Individual Differences*. Berlin: Springer. https://doi.org/10.1007/978-3-319-28099-8_652-1

- Levine, D. (2012). *Is Behavioural Economics Doomed? The Ordinary versus the Extraordinary*. Cambridge: Open Book Publishers. <https://doi.org/10.2307/j.ctt5vjtf5>
- Molina, I.R., K. Castillo and K. Puzon (2021). Ethnic Disparity in Altruism towards Reforestation: A Social Preference Experiment in Mindoro, Philippines. WIDER Working Paper 2021/73. Helsinki: UNU-WIDER. <https://doi.org/10.35188/UNU-WIDER/2021/011-5>
- Rabin, M. (2013). ‘An Approach to Incorporating Psychology into Economics’. *American Economic Review*, 103(3): 617–22. <https://doi.org/10.1257/aer.103.3.617>
- Puzon, K., and R. Gisselquist (2021). ‘Consolidating Behavioural Economics and Rational Choice Theory: Insights from Inequality Research’. WIDER Working Paper 2021/76. Helsinki: UNU-WIDER. <https://doi.org/10.35188/UNU-WIDER/2021/014-6>
- Tacneng, R. and K.A. Puzon (2021). ‘Gender Priming in Solidarity Games: The Philippine Context’. *Review of Behavioural Economics*, 8(2): 193–211. <https://doi.org/10.1561/105.00000137>
- Truc, A. (2018). ‘Is “New” Behavioural Economics “Mainstream”?’’. *Journal of Economic Methodology*, 25(1): 83–104. <https://doi.org/10.1080/1350178X.2017.1407436>
- United Nations (2021). *UN Behavioural Science: Guidance Note. Secretary-General’s Guidance on Behavioural Science*. Available at: <https://www.un.org/en/content/behaviouralscience/assets/pdf/UN%20Secretary-General's%20Guidance%20on%20Behavioural%20Science.pdf> (accessed: 10 March 2022).
- UN Innovation Network (2021). *United Nations Behavioural Science Report*. Available at: https://www.uninnovation.network/assets/BeSci/UN_Behavioural_Science_Report_2021.pdf (accessed: 10 March 2022).