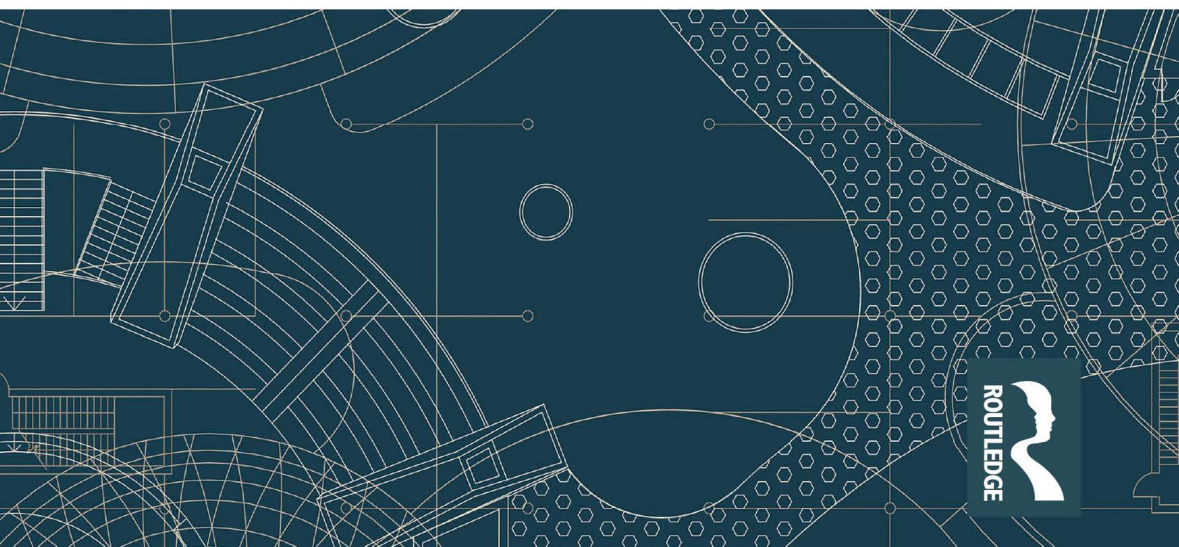
Routledge INEM Advances in Economic Methodology

DETERMINISM, CAUSALITY AND EXPLANATION IN ECONOMICS

AN AUSTRIAN SCHOOL PERSPECTIVE

Dawid Megger



Determinism, Causality and Explanation in Economics

In recent years, the concepts of determinism, causality, and explanation have taken on particular importance in the economic literature. Due to the failures of economic predictions based on mathematical models, philosophers and economists turned their attention to methodological issues. At the same time, heterodox approaches to economics have received increased attention, including the Austrian school of economics, an intellectual tradition that perceives economics as a science of human action and has emphasised the role of causal explanations practically from its inception. This book opens by exploring disputes in the philosophy of science over the fundamental goal of science. While instrumentalists argue that scientists should aim at good predictions regardless of the veracity of theories, according to scientific realists, they should look for knowledge that reflects reality. The book shows that the Austrian tradition adheres to scientific realism and can be perceived as a middle ground between historicism and positivism. It discusses the determinism/free will problem in economics and its methodological relevance. Then, it examines various theories of causality (regularity, counterfactual, interventionist, probabilistic, and process/mechanistic) and their applicability to economics. Finally, it explores possible and desirable types of explanations in economics. As the book tries to show, the Austrian school offers a unique and valuable approach to these issues. The book will be of particular interest to readers in economic theory, philosophy of economics, and economic methodology, especially those appreciating heterodox traditions.

Dawid Megger is an assistant professor at Nicolaus Copernicus University in Toruń, where he teaches microeconomics and public choice theory, among others. His research interests revolve around economic theory, methodology, and political economy. His articles on the philosophy of free action and voluntary exchange in economics have been published in such journals as *Journal of Economic Methodology* and *Synthese*. He also participates in international conferences across Europe.

Routledge INEM Advances in Economic Methodology
Series Editor: Esther-Mirjam Sent
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The field of economic methodology has expanded rapidly during the last few decades. This expansion has occurred in part because of changes within the discipline of economics, in part because of changes in the prevailing philosophical conception of scientific knowledge, and also because of various transformations within the wider society. Research in economic methodology now reflects not only developments in contemporary economic theory, the history of economic thought, and the philosophy of science; but it also reflects developments in science studies, historical epistemology, and social theorizing more generally. The field of economic methodology still includes the search for rules for the proper conduct of economic science, but it also covers a vast array of other subjects and accommodates a variety of different approaches to those subjects.

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Routledge
Taylor & Francis Group
LONDON AND NEW YORK

First published 2025
by Routledge
4 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

and by Routledge
605 Third Avenue, New York, NY 10158

Routledge is an imprint of the Taylor & Francis Group, an informa business

British Library Cataloguing-in-Publication Data
A catalogue record for this book is available from the British Library

ISBN: 978-1-032-90043-8 (hbk)
ISBN: 978-1-032-90044-5 (pbk)
ISBN: 978-1-003-54593-4 (ebk)

DOI: 10.4324/9781003545934

Typeset in Sabon
by Apex CoVantage, LLC

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http://taylorandfrancis.com

Introduction

The millionaire who built his fortune on the sale of an economics textbook, Paul A. Samuelson, once stated, "Methodological discussion, like calisthenics and spinach, is good for us" (Archibald et al., 1963, p. 231). Although presumably few callisthenics enthusiasts discuss economic methodology and few economic methodologists practise callisthenics, it seems that while callisthenics is a relatively safe sport (its preachers claim that the probability of injury is close to zero), engaging in economic methodology is quite a risky endeavour.

To support this claim, one may cite the words of the economist Roy F. Harrod (1938), which Mark Blaug included as the epigraph to his *The Methodology of Economics* (Blaug, 1992): "The barrenness of methodological conclusions is often a fitting complement to the weariness entailed by the process of reaching them." One of the protagonists of my book, Ludwig von Mises (whose methodological views made Samuelson tremble – see Samuelson, 1964, p. 736 – and Blaug could not believe that he truly held such views – see Blaug, 1992, p. 80), though speaking not of methodology but of the very method of economics, remarked: "It leads along a sharp edge; on both sides yawns the chasm of absurdity and nonsense. Only merciless self-criticism can prevent a man from falling headlong into these abysmal depths" (von Mises, 1998, p. 238).

And yet, as Harrod (1938) continues:

> Exposed as a bore, the methodologist cannot take refuge behind a cloak of modesty. On the contrary, he stands forward ready by his own claim to give advice to all and sundry, to criticise the works of others, which, whether valuable or not, at least attempts to be constructive; he sets himself up as the final interpreter of the past and dictator of future efforts.

This is undoubtedly another serious risk; intellectual humility is a virtue, the lack of which can lead to prolonged persistence in error, the costs of which may be borne by society as a whole.

DOI: 10.4324/9781003545934-1

Beyond the risks of intellectual exhaustion, descending into the abyss of absurdity, being perceived as tedious, and succumbing to arrogance, economic methodologists are also at risk of becoming entrenched in the analysis of issues irrelevant to economists' research practice. And while the value of purely epistemic endeavours should not be underestimated, if the questions pursued by methodologists and philosophers of economics bear no connection to economic research, it seems they are missing the very aim of their inquiry. The methodology of economics is, after all, a normative discipline: its ambition is to determine *how economic research ought to be conducted*. Yet establishing this also requires addressing questions within the purview of the philosophy of science, and in this context, the philosophy of economics: What is the nature of the objects studied (the economy, prices, money)? What are our epistemic capabilities in the areas under investigation (economic planning, institutions and organisations, monetary policy)? What is the aim of science (economics)?

Despite all the risks mentioned, contemporary works on the philosophy and methodology of economics remain plentiful. A surge of interest in these areas became evident after the financial crisis of 2007–2009. Economists were then criticised for failing to foresee the impending economic problems and for excessive optimism. However, while mainstream economists lamented the crisis in their discipline and called for a focus on the realism of economic models (Krugman, 2009; Colander et al., 2009; Stiglitz, 2009), the Austrians not only warned of the possibility of a recession but also offered a business cycle theory that could explain it (for some evidence, see Thornton, 2018). Yet they did not claim to provide precise quantitative forecasts, as they consistently argued that such predictions are not possible.

Over the past few decades, several intriguing developments have emerged in the literature on the philosophy and methodology of economics. Tony Lawson (1997) proposed the so-called ontological turn, advocating for the treatment and study of economics as a social theory concerned with the structure and evolution of the socio-economic world. Daniel M. Hausman (1998, 2008, 2018), Uskali Mäki (2008, 2009a, 2009b), Łukasz Hardt (2013, 2017), and Karl Mittermaier (2023) have presented insightful findings on realism and the realisticness of economic models. Philosophers of economics such as Nancy Cartwright (2007), Julian Reiss (2009a, 2009b, 2013, 2015), Mariusz Maziarz (2020), and Tobias Henschen (2023) have devoted considerable attention to the issue of causality in economics. Notably, the study of causal relationships in economics has also received recognition from the Nobel Prize committee. In 2023, Joshua D. Angrist and Guido W. Imbens were awarded the prize "for their methodological contributions to the analysis of causal relationships," while in 2011, Thomas J. Sargent and Christopher A. Sims were honoured "for their empirical research on cause and effect in the macroeconomy." The diagnoses and recommendations of these scholars aim to improve economists' research practices and, in turn,

contribute to more effective economic policymaking. These developments underscore the significance of the issues under investigation.

Due to increasing scepticism regarding the truthfulness and practical relevance of standard economic theory, recent years have also seen a growing interest in heterodox approaches, such as feminist economics, behavioural economics, post-Keynesianism, institutionalism, and the Austrian school. Despite a fundamental call for humility in assessing socio-economic issues (Hayek, 1952, 1955, 1988), Austrian economists present quite firm views in the fields of economic philosophy and methodology. They firmly reject historicist methodologies, which suggest that universal laws and theories have no place in the social sciences, as well as positivist methodologies, which imply that only the methods of the natural sciences are reliable for research. Austrians believe that economic laws are universally valid and that they can be discovered and studied through methods of *a priori* reasoning based on empirically relevant premises. Some of them consider their intellectual tradition to be "a causal-realist approach to economics" (Salerno, 2007, 2010; Klein, 2008; Wiśniewski, 2014; Gordon, 2023). This term has a relatively short history. It was popularised by the vice president of the Ludwig von Mises Institute, Joseph T. Salerno, who, along with Peter G. Klein, led a seminar in the late 2000s titled *Fundamentals of Economic Analysis: A Causal-Realist Approach*. Salerno (2007, 2010) and Klein (2008) argue that the causal-realist approach to economics was initiated by Carl Menger, who – as he himself emphasised – sought an economic theory grounded in reality and scientific laws describing causal relationships in the economy. Currently, dozens of articles featuring the term "causal-realist" can be found on the Mises Institute website (mises.org), and the term also appears in academic works.

At the turn of the 20th and 21st centuries, a debate emerged regarding realism in Austrian economics (Boettke, 1997; Block, 1999, 2003; Caplan, 1999, 2001; Hülsmann, 1999, 2000; Mäki, 1990). The Austrians argued that their economic theory – unlike standard neoclassical theory – is based on realistic assumptions, thus providing a better explanation of reality. Some proponents of the Austrian school have also dedicated attention to causality (Hoppe, 1993; Cowan, 1994; Cowan & Rizzo, 1996). In recent years, there has been no shortage of works addressing various philosophical, methodological, and epistemological issues within the Austrian school (e.g. Cubeddu, 2005; Di Iorio, 2015; Gordon, 1993; van den Hauwe, 2011; Linsbichler, 2017, 2019, 2022, 2023; Lipski, 2021; Martin, 2015; Oliva Córdoba, 2017; Rasmussen, 2020; Scheall, 2015, 2017; Wiśniewski, 2014; Slenzok & Turowski, 2024; Zanotti et al., 2023). These studies largely focus on the issues of apriorism, subjectivism, and methodological individualism. However, certain aspects of Austrian philosophy and methodology – such as determinism, causality, and explanation – have not received sufficient attention in the literature. One of the aims of this work is to fill this gap.

The issues of determinism, causality, and scientific explanation are closely interconnected. For some philosophers, it is even challenging to separate them. They thus require exceptionally careful and nuanced analysis. For Aristotle, whose philosophical views shaped the scientific world for centuries, scientific explanation essentially involved identifying causes. With the development of modern physics, through figures such as Galileo and Isaac Newton, a mechanistic-deterministic view of the world emerged during the Enlightenment. Pierre-Simon de Laplace suggested that a physicist who possessed complete knowledge of initial conditions and the laws of nature could, through mathematical equations, describe the state of the world at any point in time. Due to a blurring of the line between causality and determinism (which, not without David Hume's fault, came to be seen as regular successions of events), causality gradually began to be viewed as a metaphysical relic of the past. In Bertrand Russell's view, science ought to abandon causality in favour of a mathematical-functional approach.

However, in contemporary realist philosophy of science, there has been a renewed turn towards causality. It has been recognised that knowledge of statistical correlations is insufficient for explaining phenomena or for effectively manipulating reality. Attention has been drawn to the fact that there is no symmetry between prediction and explanation, and therefore, a mathematical-functional analysis does not fully address either the cognitive or practical depth of the issues. Realist-oriented philosophers such as Wesley C. Salmon (1984) and David Lewis (1986) openly state – much like Aristotle – that scientific explanation involves identifying causes.

Causal research is considered particularly challenging in biology, medical sciences, and social sciences (Imbens & Rubin, 2015). The multitude of variables and the complexity of the phenomena under study rarely allow for drawing clear conclusions. Yet many neurobiologists and philosophers of mind, notably due to the famous experiment by Benjamin Libet (Libet et al., 1993), which suggested that the human brain makes decisions before they are consciously realised, and the influential work of Daniel C. Dennett (1993), tend to argue that free will, in the metaphysical sense, does not exist; human actions are determined by the past and the laws of nature. This view is particularly attractive to proponents of so-called strong artificial intelligence, who are convinced that the workings of the human mind are ultimately reducible to algorithmic operations, which can be carried out by computers. However, this view also has staunch opponents. Philosopher John R. Searle (1980, 1984), presenting the famous Chinese Room thought experiment, argues that operations performed by computers are not equivalent to understanding because semantics cannot be reduced to syntax. The mathematical physicist Roger Penrose (1989) argues that there must be a non-algorithmic component in human consciousness; otherwise, humans would not be able to recognise the truth of so-called Gödel's theorems, a view he also supports with theories from quantum physics.

Physics and mathematics in the 20th century have provided scientists with reasons to doubt human epistemic possibilities. Werner Heisenberg's indeterminacy principle demonstrates that the act of measurement implies a loss of information, making it impossible to obtain complete knowledge of the world. Kurt Gödel's aforementioned theorems show that no algorithm can solve all mathematical problems. The self-reference problem, present in the works of mathematician Alan Turing and logician Alfred Tarski and also fundamental to Gödel's theorems, suggests that no system can be fully described "from within"; to do so, one must transcend "beyond it." This is also a significant issue in the social sciences, where the actions of the researcher are part of the systems being studied and the processes being forecasted. This issue, now referred to as self-reflexivity, implies the impossibility of strict predictions. Based on such reasoning, Karl R. Popper (1964) argued that the development of knowledge cannot be predicted. Under the weight of these theories, Laplace's vision of science collapses.

All of this suggests that even if we are able to describe and explain certain phenomena well, it does not necessarily mean that we can predict them equally well (and certainly not with mathematical precision). In other words, it seems clear that we must accept the conclusion that a theory that explains reality well does not necessarily make a good predictive tool (and vice versa). A scientific realist, who views explanation rather than prediction as the main goal of science, should have no difficulty accepting this.

The observations emerging from the above philosophical and scientific panorama interestingly align with the position of the Austrian school of economics. Representatives of this tradition have always emphasised that economics has limited predictive capabilities, yet they argued that it discovers universal laws and theories that explain socio-economic reality. They also highlighted that economics is a science of human action. Therefore, issues of determinism, free will, causality, and scientific explanation appear to be significant for this school. However, as Uskali Mäki (1990) pointed out more than 30 years ago, despite criticism of instrumentalism (the view that the main goal of science is prediction), Austrian economists have devoted little attention to the problem of scientific explanation. Although since then, undoubtedly, works have emerged that have, to some extent, filled this gap, it is difficult to find a publication that systematically links this issue with considerations on determinism and causality. In fact, few works have been dedicated to such issues in relation to economics. In recent years, the book *Agency and Causal Explanation in Economics* (2020), edited by Peter Róna and László Zsolnai, somewhat addresses this issue, though it makes no reference to the Austrian tradition.

This topic seems especially worth pursuing when one considers that the Austrian school of economics can fundamentally be viewed as a research programme: (1) adopting scientific realism as its foundation; (2) treating economics as a science of human action, grounded in the explanatory principles of subjectivism and methodological individualism (Lachmann, 1959,

1976; von Mises, 1998; Rothbard, 2011; Coyne & Boettke, 2015); (3) focusing on explaining the unintended consequences of intended human actions, spontaneous orders, and complex phenomena (Hayek, 1952, 1955, 1982); (4) emphasising the importance of time and ignorance (O'Driscoll & Rizzo, 2015); and (5) oriented towards causal explanations of socio-economic processes (Cowan & Rizzo, 1996; Martin, 2015).

The contents of this book are organised as follows. In Chapter 1, I present the philosophical and scientific context of my research. I define the concepts of scientific realism and antirealism and outline their key variants. I then explore their manifestations in the philosophy of economics. In Chapter 2, I discuss the methodological views of economists. I attempt to answer the question: How can the Austrian school be situated within the map of alternative methodological approaches such as historicism and positivism? I argue that Austrian methodology, by positing the existence of universally valid economic laws and theories and rejecting the methods of the natural sciences, can be considered a middle ground between these two extremes. In Chapter 3, I address the problem of determinism and methodological dualism, the view that the methods of social sciences should differ from those of natural sciences. I attempt to answer questions such as: What is the relationship between determinism and methodological dualism? What are the Austrian arguments in favour of methodological dualism? I argue that Austrians' methodological dualism requires the acceptance of epistemological indeterminism (but not necessarily metaphysical), for which they have several supporting arguments. I also demonstrate that their theory is reconcilable with metaphysical determinism. In Chapter 4, I deal with the issue of causality. Specifically, I address questions such as: What is (or should be) the Austrian stance on causal inference in economics? Which theories of causality may be attractive in economics from the Austrian perspective? I note that Austrians reject David Hume's regularity theory and empirical inference in regard to economic causal laws. I also engage in a discussion about counterfactual, probabilistic, and process-mechanistic theories, attempting to define their scope of applicability. Finally, in Chapter 5, I develop the issue of scientific explanation. I attempt to answer questions such as: What does explanation in economics entail? What can and should economics explain? What explanatory principles should be adopted? Which theories or models of explanation are applicable? I argue that standard models of scientific explanation (deductive-nomological, inductive-statistical, statistical-relevant) have relatively little significance, but alternative proposals (process-mechanistic, teleological/functional, genetic, unificationist explanations) should be considered attractive. I show how Austrians apply the principles of subjectivism, individualism, and singularism to causal explanation of socio-economic processes, social institutions, spontaneous orders, and complex phenomena. I argue that Austrians fundamentally strive for scientific unification, that is, to describe and explain all socio-economic phenomena using a single set of scientific concepts and theories.

This book is a revised version of my doctoral dissertation titled *Austrian School of Economics as a Causal-Realist Research Program: Methodological Studies*, which I originally wrote in Polish and defended at Nicolaus Copernicus University in Toruń in 2023 under the supervision of Professors Łukasz Dominiak and Michał Moszyński. I would like to thank all the people with whom I had academic contact during the writing of this work; whose work had an impact on the shape of this book; who read my work, reviewed it, criticised it, or just familiarised themselves with its parts and appreciated my findings during the conferences we attended together; and those who contributed to my scientific development and academic opportunities:

Łukasz Dominiak, Michał Moszyński, Jerzy Boehlke, Magdalena Osińska, Józef Stawicki, Tomasz Szlendak, Arkadiusz Sieroń, Grzegorz Szulczewski, Robert Ciborowski, Igor Wysocki, Mateusz Machaj, Jakub Bożydar Wiśniewski, Mateusz Benedyk, Łukasz Jasiński, Mateusz Czyżniewski, Krzysztof Turowski, Joanna Turowska, Paweł Nowakowski, Stanisław Wójtowicz, Norbert Slenzok, Alicja Sielska, Marcos Benjamín-Gonzalo, William Hongsong-Wang, Guido Hülsmann, Karl-Friedrich Israel, Olga Peniaz, Alexander Linsbichler, Jesús Huerta de Soto, Leef H. Dierks, András Tóth, Peter G. Klein, Joseph T. Salerno, Mark Thornton, Thomas DiLorenzo, Jon Williamson, Mariusz Maziarz, Łukasz Hardt, and Marcin Gorazda.

As compensation, I want to express my special gratitude to those whom I unintentionally overlooked but should have mentioned. I also accuse myself exclusively of any negligence found in this book.

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Conclusion

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