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978-1-107-02386-4 - The Theory of Economic Policy in a Strategic Context

Nicola Acocella, Giovanni Di Bartolomeo and Andrew Hughes Hallett

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The Theory of Economic Policy in a Strategic Context

In developing a new and highly innovative theory of economic policy, this book deals with conflicts between strategic actions by public and private agents. It builds on the Lucas critique, but also applies the tools introduced by Tinbergen and Theil to dynamic policy games and from there derives a new theory of economic policy. Its main propositions describe such properties in the models currently used for policymaking as neutrality and equilibrium existence, uniqueness, and multiplicity. These properties are key to understanding the impact of concepts such as rational expectations, time inconsistency, communication and the use of policy announcements. As the numerous examples show, they are useful both for model building and for devising optimal institutions. *The Theory of Economic Policy in a Strategic Context* is an essential but accessible tool for economic researchers involved in policy questions.

NICOLA ACOCELLA is Professor of Economic Policy at the University of Rome “La Sapienza.”

GIOVANNI DI BARTOLOMEO is Associate Professor of Economics at the University of Teramo, where he is also the Director of the postgraduate course in Management and Business Communication.

ANDREW HUGHES HALLETT is Professor of Economics and Public Policy at George Mason University, and Professor of Economics at the University of St. Andrews. He is a Fellow of the Royal Society of Edinburgh.

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To Flavia, Elena and Viola, for being smart, sweet, and joyful. N.A.

To Daniela (wherever she might be) and Raffaele with love, as always. G.D.B.

To David, Jim and Nicky, who prefer controllability to stabilizability, but understand both. A.H.H.

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Preface

Economics lost an important part of its foundations, and some would say of its *raison d'être*, when the theory of economic policy devised by Jan Tinbergen, Henry Theil, Ragnar Frisch and others was destroyed under the logical stringency of the Lucas critique. The idea of the government as influencing or even controlling a private sector with conflicting targets, but not fully informed and possibly inactive, was certainly short-sighted and correctly dismissed after Lucas' criticisms. However, the Lucas critique contributed to a widespread but often incorrect belief of policy irrelevance, time inconsistency in policy actions and the need to substitute government by markets.

This book recognizes Lucas' point of view and the idea that different agents – in particular, the government and private agents – can have fully or partially divergent goals and actively intervene in order to try to pursue them. But it distinguishes that idea from its implications, derived in specific context, by attempting to build, on the ashes of the Tinbergen–Theil contributions, a general approach to the theory of economic policy consistent with the Lucas critique and rational expectations. In our view, the proper general context where such active conflicts can be analyzed is to be seen in policy games. Then, by using a revised version of the tools introduced by Tinbergen, Theil and others in this context, we derive a new and more relevant theory of economic policy.

The main propositions of this new theory describe such properties of the models usually used for policymaking as neutrality or equilibrium existence, uniqueness, and multiplicity. These properties are also the key to understanding the impact of many concepts – such as rational expectations, time inconsistency, communication effectiveness, and policy announcements – currently used in macroeconomic theory and many other applications. These concepts are therefore useful both for model building and for devising proper institutions, and we hope that they will re-establish the theory of economic policy as

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part of mainstream economic thinking or make it an essential tool for any economic social science researcher interested in evaluating different policy issues. Finally, they may also contribute to putting public action into a more balanced and nuanced perspective: not blindly powerful as in the fifties and sixties, but also not powerless as it was presented to be in the following decades.

Whilst innovative, and the first comprehensive restatement of the theory of economic policy for several decades, our book should be accessible to every graduate or advanced undergraduate student of economic and social sciences familiar with the essentials of game theory, linear algebra and calculus; and should become a “vade mecum” for researchers in academia, think tanks or research institutes who lack an overview of the flaws and alternative approaches to the policy problems they are familiar with.

The book is based on the techniques and outlook of a number of papers published by the three of us over the past eight years. Those papers in turn build on earlier work by one of the authors, Andrew Hughes Hallett, who some time earlier had contributed to the theory of economic policy along the lines of Tinbergen and Theil.

This book would not have appeared without the support of a number of institutions and people. Nicola Acocella and Giovanni Di Bartolomeo acknowledge funding from Sapienza University of Rome and MIUR when the new theory was only in their minds. The Department of Geo-economics and that of Methods and Models for Economics, Territory and Finance (Memotef) at Sapienza have also provided them with a friendly and encouraging environment. Nicola Acocella is deeply indebted to Federico Caffè, who started his interest in the theory of economic policy some fifty years ago, suggesting that policymaking should be considered as the result of the interaction of “big government” with “big business” and “big labor” before the Lucas critique was stated and game theory applied to policy problems (Caffè, 1966: 14). Nicola Acocella has taught parts of the book to his students in the Doctoral School Program of Sapienza University and would like to thank them for all their suggestions, doubts and questions on some initial versions of the theory. Elisa Guglielminetti spotted some remaining typos in the last version of the manuscript. Giovanni Di Bartolomeo also acknowledges the University of Teramo and the Marie Curie Fellowship Program for funding, the University of Crete (Department of Economics), and the CORE at the Université

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Catholique de Louvain for hospitality during his work on the very last part of the book.

We should also express our thanks to many colleagues for their comments and feedback, after many discussions on the issues investigated in the book during the last ten years, when we were developing the first concepts of our approach to the theory of economic policy. These were invaluable in giving us a better understanding of the subject matter. We are particularly grateful to Bas van Aarle, Guido Candela, Maria Chiarolla, Jacob Engwerda, Peter Flaschel, Douglas Hibbs, George Kouretas, Reinhard Neck, Stefano Papa, Wilfried Pauwels, Joseph Plasmans, Emanuela Randon, Patrizio Tirelli. We are also grateful to the anonymous referees of Cambridge University Press for their appreciation of our manuscript and their valuable remarks.

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Veronica Fedeli has provided invaluable help in editing the many papers on which this book is based, as well as editing the many versions of the manuscript. Chris Harrison, of Cambridge University Press, provided us with valuable suggestions and has followed the various steps of the publication with care and efficiency. Thanks also to Elizabeth Spicer for her efficiency and patience.

Finally, we would like to thank our respective families without whom, it might be thought, the book would have been completed in half the time. In fact, the blame for that is entirely ours (although not perhaps in equal measure); as is the responsibility for any errors, omissions or views that the reader might not agree with.

Common symbols

Real number set	\mathbb{R}
Matrix rank	$r[\cdot]$
Matrix determinant	$\det(\cdot)$
Partial derivative of y with respect to x	$\partial y / \partial x$
Expectation operator	$E[\cdot]$
Lag operator	L
Spectrum	$\sigma[\cdot]$
The i -th element of vector y	$y(i)$
The i -th, j -th element of matrix B	$B(i, j)$
Identity matrix	I
Vector y at time t	y_t
Sequence of vectors x between time 1 and s	$X^s = \{x_i\}_1^s \in \Omega_X$
Endogenous (target) variables	y
(Exogenous) desired target values	\bar{y}
Exogenous (control) instruments	u
State variables	z
Number of quadratic targets	q
Number of linear targets	l
Number of instruments	m
Policymaker's preference matrices and vectors	Q, r, l
Endogenous (target) variable lags	p
Irrelevant endogenous variable lags	r
Exogenous (control) instrument lags	g
Economic system parameter matrices	$A, B, C, D, E, F,$ G, H
Economic system parameter vectors	w, d
Policy multipliers	Π
Target interval	T
Policy lead	S
Information set	Ω