

Bounded Rationality In Macroeconomics The Arne Ryde Memorial Lectures Clarendon Paperbacks

WINNER, Business: Personal Finance/Investing, 2015 USA Best Book Awards FINALIST, Business: Reference, 2015 USA Best Book Awards Investor Behavior provides readers with a comprehensive understanding and the latest research in the area of behavior and investor decision making. Blending contributions from noted academics and experienced practitioners, this 30-chapter book provide investment professionals with insights on how to understand and manage client behavior; a framework for interpreting market activity; and an in-depth understanding of this important new field of investment research. The book should also be of interest to academics, investors, and students. The book will cover the major principles of investor psychology, including heuristics, bounded rationality, regret theory, mental accounting, framing, prospect theory, and loss aversion. Specific sections of the book will discuss the role of personality traits, financial therapy, retirement planning, financial coaching, and emotions in investment decisions. Other topics covered include risk perception and tolerance, asset allocation decisions under inertia and inattention bias; evidenced based financial planning, motivation and satisfaction, behavioral investment management, and neurofinance. Contributions will delve into the underpinnings of various trading and investment topics including trader psychology, stock momentum, earnings surprises, and more. The final chapters of the book examine new research on socially responsible investing, mutual funds, and real estate investing from a behavioral perspective. Empirical evidence and current literature about each type of investment issue are featured. Cited research are presented in a straightforward manner focusing on the comprehension of study findings, rather than on the details of methodological frameworks.

In a complex and uncertain world, humans and animals make decisions under the constraints of limited knowledge, resources, and time. Yet models of rational decision making in economics, cognitive science, biology, and other fields largely ignore these real constraints and instead assume agents with perfect information and unlimited time. About forty years ago, Herbert Simon challenged this view with his notion of "bounded rationality." Today, bounded rationality has become a fashionable term used for disparate views of reason. This book promotes bounded rationality as the key to understanding how real people make decisions. Using the concept of an "adaptive toolbox," a repertoire of fast and frugal rules for decision making under uncertainty, it attempts to impose more order and coherence on the idea of bounded rationality. The contributors view bounded rationality neither as optimization under constraints nor as the source of reasoning fallacies. The strategies in the adaptive toolbox dispense with optimization and, for the most part, with calculation of probabilities and utilities. The book extends the concept of bounded rationality from cognitive tools to emotions; it analyzes social learning, imitation, and other cultural tools as rational strategies; and it shows how smart heuristics can exploit the structure of environments. This thesis consists of three chapters about macroeconomic policy. In the first chapter, I study the empirical relationship between nominal rigidities and the real effects of monetary policy. Nominal rigidities lie at the core of macroeconomics. The empirical evidence

prices and wages adjust sluggishly to aggregate shocks, while theoretical models justify why and to what extent these rigidities cause monetary non-neutrality. However, direct evidence on nominal rigidities being the actual channel for the transmission of these shocks is relatively scarce. I construct a highly disaggregated measure of regional price stickiness for the U.S. and use it to provide evidence on this channel. My results are in line with sticky price models, indicating that employment in more rigid industries and commuting zones have stronger reactions to monetary policy shocks. In the second chapter, joint with Emmanuel Farhi and Iván Werning, we discuss the extreme sensitivity of New Keynesian models to fiscal policy announcements during a liquidity trap--a phenomenon we call the "multiplier puzzle". The response of current output to government spending grows exponentially in the horizon of the stimulus. The introduction of rule-of-thumb hand-to-mouth agents, combined with deficit-financed stimulus, can easily generate negative multipliers that are equally explosive. This intuition translates to incomplete markets heterogeneous-agent New Keynesian models, leading to negative multipliers when taxes are backloaded. We construct a belief-augmented New Keynesian framework to understand the role of expectations in shaping the fiscal multiplier puzzle. The key element behind this result is the extreme coordination of the consumption and supply blocks under rational expectations. Common knowledge between these two blocks induces an inflation-spending feedback loop. Government spending boosts aggregate demand and drives up inflation, which in turn leads to lower real rates and higher spending by households, increasing aggregate demand again. We break this strategic complementarity by introducing bounded rationality in the form of level-k thinking. In contrast to rational expectations, level-k multipliers are bounded and tend to zero over infinite horizons for any finite level of k. Moreover, level-k interacts strongly with incomplete markets in two different ways. First, the attenuation of the multipliers is increasing in the level of k on the degree of market incompleteness, especially in the future. Second, in contrast to complete markets, incomplete markets increase the magnitude of the multipliers for low levels of k when taxes are backloaded, making deficits more effective at stimulating the economy. In the third chapter, I explore the implications of downward nominal wage rigidities for fiscal policy and inflation in a liquidity trap. The standard Phillips Curve predicts big declines in economic activity should be accompanied by big deflation episodes. I study whether downward nominal wage rigidity can explain the missing deflation during the Great Recession. To do so, I introduce downward nominal wage rigidity in a standard cash-in-advance liquidity trap model. My results show that nominal wage rigidities are consistent with mild deflationary episodes only when the trap is expected to be very short-lived. Away from this case, the model predicts large deflations and recessions as in standard New Keynesian models. I also study the impact of fiscal policy in my setup, finding large multipliers that increase with the degree of wage rigidity. The main reason behind the effectiveness of government spending is its persistent effects on economic activity. Wage rigidity generates unemployment persistence due to pent-up wage deflation. Fiscal spending boosts aggregate demand and relaxes deflationary pressures today. This increases output today and in the future by relaxing the downward wage rigidity constraint in subsequent periods. Keywords: nominal rigidities, price stickiness, monetary policy, regional, bounded rationality, incomplete markets, level-k, fiscal policy, downward nominal wage rigidity. JEL Classification: E52, E62, E7.

In contrast to mainstream economics, complexity theory conceives the economy as a complex system of heterogeneous interactions characterised by limited information and bounded rationality. Agent Based Models (ABMs) are the analytical and computational

developed by the proponents of this emerging methodology. Aimed at students and scholars of contemporary economics, this is a comprehensive toolkit for agent-based computational economics, now quickly becoming the new way to study evolving economic systems. Leading scholars in the field explain how ABMs can be applied fruitfully to many real-world economic examples and represent a significant advancement over mainstream approaches. The essays discuss the methodological bases of agent-based approaches and demonstrate step by step how to build, simulate and analyse ABMs and how to validate their outputs empirically using the data. They also present a range of applications of these models to key economic topics, including the business cycle, labour markets, and economic growth.

Bounded Rationality and Experimental Macroeconomics

Bounded Rationality in Keynesian Beauty Contests

Rationality, Bounded Rationality and Microfoundations

The Schumpeter-Parsons Seminar 1939-40 and Current Perspectives

A Lesson for Central Bankers?

The first step-by-step introduction to the methodology of agent-based models in economics, their mathematical and statistical analysis, and real-world applications.

This book develops a philosophico-methodological analysis of prediction and its role in economics. Prediction plays a key role in economics in various ways. It can be seen as a basic science, as an applied science and in the application of this science. First, it is used by economic theory in order to test the available knowledge. In this regard, prediction has been presented as the scientific test for economics as a science. Second, prediction provides a content regarding the possible future that can be used for prescription in applied economics. Thus, it can be used as a guide for economic policy, i.e., as knowledge concerning the future to be employed for the resolution of specific problems. Third, prediction also has a role in the application of this science in the public arena. This is through the decision-making of the agents – individuals or organizations – in quite different settings, both in the realm of microeconomics and macroeconomics. Within this context, the research is organized in five parts, which discuss relevant aspects of the role of prediction in economics: I) The problem of prediction as a test for a science; II) The general orientation in methodology of science and the problem of prediction as a scientific test; III) The methodological framework of social sciences and economics: Incidence for prediction as a test; IV) Epistemology and methodology of economic prediction: Rationality and empirical approaches and V) Methodological aspects of economic prediction: From description to prescription. Thus, the book is of interest for philosophers and economists as well as policy-makers seeking to ascertain the roots of their performance. The style used lends itself to a wide audience.

The monograph is about a meta-theory of knowledge-production process and the logical pathway that connects the epistemic possibility to the epistemic reality. It examines the general conditions of paradigms for

information processing and isolates the classical and fuzzy paradigms for comparative analysis. The sets of conditions that give rise to them are defined, stated and analyzed to abstract the corresponding sets of laws of thought. The fuzzy paradigm with its corresponding logic and mathematics is related to inexact symbolism for the defective information structure where the results of the knowledge production must satisfy the epistemic conditionality, composed of fuzzy conditionality and fuzzy-stochastic conditionality under the principle of logical duality with continuum. The classical paradigm with its corresponding logic and mathematics is related to exact symbolism for exact information structure where the vagueness component of the defectiveness is assumed away, and where the results of the knowledge production must satisfy no epistemic conditionality or at the maximum only the stochastic conditionality under the principle of logical dualism with excluded middle. It is argued that the epistemic path that links ontological space to the epistemological space is information. The ontological space is taken as the primary category of reality while the epistemological space is shown to be a derivative. Such information is universally defective and together with assumptions imposed guides the development of paradigms with their laws of thought, logic of reasoning, mathematics and computational techniques. The relational structure is seen in terms of logical trinity with a given example as matter-information-energy transformational trinity which is supported by the time trinity of past-present-future relationality. The book is written for professionals, researchers and students working in philosophy of science, decision-choice theories, economics, sciences, computer science, engineering, cognitive psychology and researchers working on, or interested in fuzzy paradigm, fuzzy logic, fuzzy decisions, and phenomena of vagueness and ambiguities, fuzzy mathematics, fuzzy-stochastic processes and theory of knowledge. It is further aimed at research institutions and libraries. The subject matter belongs to extensive research and development taking place on fuzzy phenomena and the debate between the fuzzy paradigm and the classical paradigm relative to informatics, synergetic science and complexity theory. The book will have a global appeal and across disciplines. Its strength, besides the contents, is the special effort that is undertaken to make it relevant and accessible to different areas of sciences and knowledge production.

Standard models in economics and finance usually assume that people are rational, self-interested maximisers, effectively co-ordinated via the invisible hand of the price mechanism. Whilst these approaches produce tractable, simple models, they cannot fully capture the uncertainties and instabilities that affect everyday choices in today's complex world. Insights from the other social and behavioural sciences can help to fill the gap and behavioural economics is the subject which brings economics and finance together with psychology, neuroscience and sociology. Behavioural Economics and Finance introduces the reader to some of the key concepts and insights from this rich, inter-disciplinary approach to real-world decision-making.

A New Approach to Financial Policies and Regulations
Philosophico-Methodological Analysis of Prediction and its Role in Economics
Bounded Rationality and Heterogeneous Expectations in Macroeconomics
A Perspective from Behavioural Economics
Towards Algorithmic Foundations for Economics

Macroeconomic Modelling has undergone radical changes in the last few years. There has been considerable innovation in developing robust solution techniques for the new breed of increasingly complex models. Similarly there has been a growing consensus on their long run and dynamic properties, as well as much development on existing themes such as modelling expectations and policy rules. This edited volume focuses on those areas which have undergone the most significant and imaginative developments and brings together the very best of modelling practice. We include specific sections on (I) Solving Large Macroeconomic Models, (II) Rational Expectations and Learning Approaches, (III) Macro Dynamics, and (IV) Long Run and Closures. All of the contributions offer new research whilst putting their developments firmly in context and as such will influence much future research in the area. It will be an invaluable text for those in policy institutions as well as academics and advanced students in the fields of economics, mathematics, business and government. Our contributors include those working in central banks, the IMF, European Commission and established academics.

Conventional economic theory assumes that consumers are fully rational, that they have well-defined preferences and easily understand the market environment. Yet, in fact, consumers may have inconsistent, context-dependent preferences or simply not enough brain-power to evaluate and compare complicated products. Thus the standard model of consumer behavior-which depends on an ideal market in which consumers are boundlessly rational-is called into question. While behavioral economists have for some time confirmed and characterized these inconsistencies, the logical next step is to examine the implications they have in markets. Grounded in key observations in consumer psychology, Bounded Rationality and Industrial Organization develops non-standard models of "boundedly rational" consumer behavior and embeds them into familiar models of markets. It then rigorously analyses each model in the tradition of microeconomic theory, leading to a richer, more realistic picture of consumer behavior. Ran Spiegler analyses phenomena such as exploitative price plans in the credit market, complexity of financial products and other obfuscation practices, consumer antagonism to unexpected price increases, and the role of default options in consumer decision making. Spiegler unifies the relevant literature into three main strands: limited ability to anticipate and control future choices, limited ability to understand complex market environments, and sensitivity to reference points. Although the challenge of enriching the psychology of decision makers in economic models has been at the frontier of theoretical

research in the last decade, there has been no graduate-level, theory-oriented textbook to cover developments in the last 10-15 years. Thus, *Bounded Rationality and Industrial Organization* offers a welcome and crucial new understanding of market behavior-it challenges conventional wisdom in ways that are interesting and economically significant, and which in the end effect the well-being of all market participants.

The *Big Problem of Small Change* offers the first credible and analytically sound explanation of how a problem that dogged monetary authorities for hundreds of years was finally solved. Two leading economists, Thomas Sargent and François Velde, examine the evolution of Western European economies through the lens of one of the classic problems of monetary history--the recurring scarcity and depreciation of small change. Through penetrating and clearly worded analysis, they tell the story of how monetary technologies, doctrines, and practices evolved from 1300 to 1850; of how the "standard formula" was devised to address an age-old dilemma without causing inflation. One big problem had long plagued commodity money (that is, money literally worth its weight in gold): governments were hard-pressed to provide a steady supply of small change because of its high costs of production. The ensuing shortages hampered trade and, paradoxically, resulted in inflation and depreciation of small change. After centuries of technological progress that limited counterfeiting, in the nineteenth century governments replaced the small change in use until then with fiat money (money not literally equal to the value claimed for it)--ensuring a secure flow of small change. But this was not all. By solving this problem, suggest Sargent and Velde, modern European states laid the intellectual and practical basis for the diverse forms of money that make the world go round today. This keenly argued, richly imaginative, and attractively illustrated study presents a comprehensive history and theory of small change. The authors skillfully convey the intuition that underlies their rigorous analysis. All those intrigued by monetary history will recognize this book for the standard that it is.

This book is about bounded rationality and public policy. It is written from the perspective of someone trained in public economics who has encountered the enormous literature on experiments in decision-making and wonders what implications it has for the normative aspects of public policy. Though there are a few new results or models, to a large degree the book is synthetic in tone, bringing together disparate literatures and seeking some accommodation between them. It has had a long genesis. It began with a draft of a few chapters in 2000, but has expanded in scope and size as the literature on behavioural economics has grown. At some point I realised that the geometric growth of behavioural search and the arithmetic growth of my writing were inconsistent with an ambition to be exhaustive. As such therefore I have concentrated on particular areas of behavioural economics and bounded rationality. The resulting book is laid out as follows: Chapter 1 provides an overview of the rest of the book, goes through some basic definitions and identifies themes.

Bounded Rationality and Behavioural Economics

Bounded Rationality in Macroeconomics

Rational Expectations Econometrics

Some Aspects of Market Economies as Complex Systems

Law and Economics

This dissertation consists of three essays on information frictions and liquidity in macroeconomics. The first chapter introduces a form of bounded rationality called adaptive learning in a news-driven economy in order to better explain the depth and persistence of recessions. In doing so, this paper adopts expectational stability ("E-stability") as a natural criterion for rationality. In examining the model's stability properties, I find that when agents do not observe current state variables when forming expectations, the rational expectations equilibrium (REE) is not learnable for calibrated parameter values capable of generating news-driven recessions. The second chapter develops an information-based theory of international currency based on search frictions, private trading histories, and imperfect recognizability of assets. Using an open-economy search model with multiple competing currencies, the value of each currency is determined without requiring agents to use a particular currency to purchase a country's goods. Strategic complementarities in portfolio choices and information acquisition decisions generate multiple equilibria with different types of payment arrangements. While some inflation can benefit the country issuing an international currency, the threat of losing international status puts an inflation discipline on the issuing country. When monetary authorities interact in a simple policy game, the temptation to inflate can lead optimal policy to deviate from the Friedman rule. The third chapter is joint work with Sebastien Lotz and studies the choice of payment instruments in a simple model where both money and credit can be used as means of payment. We endogenize the acceptability of credit by allowing retailers to invest in a costly record-keeping technology. Our framework captures the two-sided market interaction between consumers and retailers, leading to strategic complementarities that can generate multiple steady-state equilibria. In addition, limited commitment makes debt contracts self-enforcing and yields an endogenous upper bound on credit use. Our model can explain why the demand for credit declines as inflation falls, and how hold-up problems in technological adoption can prevent retailers from accepting credit as consumers continue to coordinate on cash usage.

The form of bounded rationality characterizing the representative agent is key in the choice of the optimal monetary policy regime. While inflation targeting prevails for myopia that distorts agents' inflation expectations, price level targeting emerges as the optimal policy under myopia regarding the output gap, revenue, or interest rate. To the extent that bygones are not bygones under price level targeting, rational inflation expectations is a minimal condition for optimality in a behavioral world. Instrument rules implementation of this optimal policy is shown to be infeasible, questioning the ability of simple rules à la Taylor (1993) to assist the conduct of monetary policy. Bounded rationality is not necessarily associated with welfare losses. How do people behave in new situations in which previous experience is not useful? The recent changes in Eastern Europe, for example, are unprecedented and there is not an available model on which to base the mechanisms that will govern the economics in this region. The concept of "bounded (or limited) rationality" is being developed to analyze behavior in such situations. In this book Thomas Sargent describes and interprets the recent work in the area, especially in statistics,

econometrics, networks and artificial intelligence. He focuses on examples designed to illustrate the issues involved and the kinds of questions that are being asked and answered in this research. He points to further potential positive developments of the theory as well as some of its limitations.

Financial markets are complex. Regulators strive to predict ways in which they can malfunction and create rules to prevent this from happening, yet behavioural impacts are often overlooked. This book explores how behavioural finance can go hand-in-hand with traditional methods to help banks and regulators create better policies. It also demonstrates how the behavioural finance revolution has opened the way to a more integrated approach to the analysis of economic phenomena.

Bounded Rationality and Industrial Organization

Essays on Nominal Rigidities, Bounded Rationality, and Macroeconomic Policy

Bounded Rationality

The Adaptive Toolbox

Behavioural Economics and Finance

Economics Nobel Laureate Herbert Simon developed the concept of bounded rationality in the 1950s. This asserts that the cognitive abilities of human decision-makers are not always sufficient to find optimal solutions to complex real-life problems, leading decision-makers to find satisfactory, sub-optimal outcomes. This was a foundational component of the development of Behavioural Economics but in recent years the two fields have diverged, each with its own literature, its own approach and its own proponents. Behavioural Economics explores the areas of commonality between Economics and Psychology, in terms of its focus and its approach, whereas the bounded rationality literature largely analyses the implications of sub-optimal decision making through the mathematically sophisticated methodology of mainstream Economics. This book examines the nature and consequences of this divergence and questions whether this is a case of beneficial specialisation or whether it is unhelpful, potentially stunting the development of some aspects of Economics. It has been suggested that the major deficiency of Behavioural Economics is that it has failed to produce a single, widely applicable alternative to constrained optimisation. This book evaluates the extent to which this is the true and, if it is, the extent to which it is a product of the divergence between the two literatures. It also seeks to identify commonalities between the two subjects and suggests avenues of research in Economics that would benefit from a re-fusion of these two fields.

This book collects important contributions in behavioral economics and related topics, mainly by Japanese researchers, to provide new perspectives for the future development of economics and behavioral economics. The volume focuses especially on economic studies that examine interactions of multiple agents and/or market phenomena by using behavioral economics models. Reflecting the diverse fields of the editors, the book captures broad influences of behavioral economics on various topics in economics. Those subjects include parental altruism, economic growth and development, the relative and permanent income hypotheses, wealth distribution, asset price bubbles, auctions, search, contracts, personnel management and market efficiency and anomalies in financial markets. The chapter authors have added newly written addenda to the original articles in which they address their own subsequent works, supplementary analyses, detailed information on the underlying data and/or recent literature surveys. This will help readers to further understand recent developments in behavioral economics and related research.

In *The Conquest of American Inflation*, Thomas J. Sargent presents an analysis of the rise and fall of U.S. inflation after 1960. He examines two broad explanations for the behavior of inflation and unemployment in this period: the natural rate hypothesis joined to the Lucas critique and a more traditional econometric policy evaluation modified to include adaptive expectations and learning. His purpose is not only to determine which is the better account, but

also to codify for the benefit of the next generation the economic forces that cause inflation. Providing an original methodological link between theoretical and policy economics, this book will engender much debate and become an indispensable text for academics, graduate students, and professional economists.

Herbert Simon's renowned theory of bounded rationality is principally interested in cognitive constraints and environmental factors and influences which prevent people from thinking or behaving according to formal rationality. Simon's theory has been expanded in numerous directions and taken up by various disciplines with an interest in how humans think and behave. This includes philosophy, psychology, neurocognitive sciences, economics, political science, sociology, management, and organization studies. The Routledge Handbook of Bounded Rationality draws together an international team of leading experts to survey the recent literature and the latest developments in these related fields. The chapters feature entries on key behavioural phenomena, including reasoning, judgement, decision making, uncertainty, risk, heuristics and biases, and fast and frugal heuristics. The text also examines current ideas such as fast and slow thinking, nudge, ecological rationality, evolutionary psychology, embodied cognition, and neurophilosophy. Overall, the volume serves to provide the most complete state-of-the-art collection on bounded rationality available. This book is essential reading for students and scholars of economics, psychology, neurocognitive sciences, political sciences, and philosophy.

Investor Behavior

Analyses in Macroeconomic Modelling

Routledge Handbook of Bounded Rationality

Rationality in the Social Sciences

Lectures on Behavioral Macroeconomics

This thesis studies the effect of individual bounded rationality on aggregate macroeconomic dynamics. Boundedly rational agents are specified as using simple heuristics in their decision making. An important aspect of the type of bounded rationality described in this thesis is that the population of agents is heterogeneous, that is, actors can choose from different rules to solve the same economic problem. The set of rules is disciplined by an evolutionary selection mechanism where the best performing rule, measured according to some fitness metric, attracts the higher number of agents. An important role in triggering switching between rules is played by the dynamic feedback between individual expectations of macroeconomic variables and their aggregate realizations. The macroeconomic models with heuristics switching developed in the thesis are used to evaluate standard policy advices and to explain aggregate time series data as well as experimental data on individual expectations and aggregate macro behavior.

At the core of the rational expectations revolution is the insight that economic policy does not operate independently of economic agents' knowledge of that policy and their expectations of the effects of that policy. This means that there are very complicated feedback relationships existing between policy and the behaviour of economic agents, and these relationships pose very difficult problems in econometrics when one tries to exploit the rational expectations insight in formal economic modelling. This volume consists of work by two rational expectations pioneers dealing with the "nuts and bolts" problems of modelling the complications introduced by rational expectations. Each paper deals with aspects of the problem of making inferences about parameters of a dynamic economic model on the basis of time series observations. Each exploits restrictions on an econometric model imposed by the hypothesis that agents within the model have rational expectations.

This book pursues a nonlinear approach in considering both chaotic dynamical models and agent-based simulation models of economics, as well as their dynamical behaviors. Three key concepts arising in this context are "nonlinearity," "bounded rationality" and "heterogeneity," which also make up the title of the book. Nonlinearity is the warp that runs throughout all models because systems that exhibit chaotic or other complex behavior in the absence of any exogenous

disturbances are absolutely nonlinear. Bounded rationality constitutes the woof, because economic systems do not exhibit complex behavior if all agents are perfectly rational, as is usually assumed in neoclassical economics. Agents who are boundedly rational have to struggle to do their best with limited information and tend to adapt to their economic environment without knowing what is the best. Furthermore, the heterogeneity of firms or consumers dyes the fabric of complex dynamics woven from the warp and woof.

This book challenges the generally accepted theories of classical economics, explaining why the expected utility theory, even if it were true, fails to be of much help in solving economic controversies.

The Big Problem of Small Change

The Psychology of Financial Planning and Investing

Advanced Introduction to Behavioral Economics

The Conquest of American Inflation

Nonlinearity, Complexity and Randomness in Economics

Bounded Rationality in Macroeconomics The Arne Ryde Memorial Lectures Oxford University Press, USA

Covering over one-hundred topics on issues ranging from Law and Neuroeconomics to European Union Law and Economics to Feminist Theory and Law and Economics, The Oxford Handbook of Law and Economics is the definitive work in the field of law and economics. The book gathers together scholars and experts in law and economics to create the most inclusive and current work on law and economics. Edited by Francisco Parisi, the Handbook looks at the origins of the field of law and economics, tracks its progression and increased importance to both law and economics, and looks to the future of the field and its continued development by examining a cornucopia of fields touched by work in law and economics. The uniqueness of its breadth, depth, and convenience make the volume essential to scholars, students, and contributors in the field of law and economics.

We review how realistic frictions in information and/or rationality arrest general equilibrium (GE) feedbacks. In one specification, we maintain rational expectations but remove common knowledge of aggregate shocks. In another, we replace rational expectations with Level-k Thinking or a smooth variant thereof. Two other approaches, heterogeneous priors and cognitive discounting, capture the same essence while offering a gain in tractability. Relative to the full-information rational-expectation (FIRE) benchmark, all these modifications amount to attenuation of GE effects, especially in the short run. This in turn translates to either under- or over-reaction in aggregate outcomes, depending on whether GE feedbacks are positive or negative in the first place. We review a few applications, with emphasis on monetary and fiscal policy. We finally discuss how the available evidence on expectations, along with other considerations, can help guide the choice among the various alternatives, as well as between them and FIRE.

In mainstream economics, and particularly in New Keynesian macroeconomics, the booms and busts that characterize capitalism arise because of large external shocks. The combination of these shocks and the

slow adjustments of wages and prices by rational agents leads to cyclical movements. In this book, Paul De Grauwe argues for a different macroeconomics model--one that works with an internal explanation of the business cycle and factors in agents' limited cognitive abilities. By creating a behavioral model that is not dependent on the prevailing concept of rationality, De Grauwe is better able to explain the fluctuations of economic activity that are an endemic feature of market economies. This new approach illustrates a richer macroeconomic dynamic that provides for a better understanding of fluctuations in output and inflation. De Grauwe shows that the behavioral model is driven by self-fulfilling waves of optimism and pessimism, or animal spirits. Booms and busts in economic activity are therefore natural outcomes of a behavioral model. The author uses this to analyze central issues in monetary policies, such as output stabilization, before extending his investigation into asset markets and more sophisticated forecasting rules. He also examines how well the theoretical predictions of the behavioral model perform when confronted with empirical data. Develops a behavioral macroeconomic model that assumes agents have limited cognitive abilities Shows how booms and busts are characteristic of market economies Explores the larger role of the central bank in the behavioral model Examines the destabilizing aspects of asset markets

Essays on Macro-dynamics, Bounded Rationality, Dynamic Oligopolies and Quantitative Finance (collected Papers and Book)

Topics in Behavioral Economics

A Toolkit

The Arne Ryde Memorial Lectures

Dampening General Equilibrium

Recognising that the economy is a complex system with boundedly rational interacting agents, applies complexity modelling to economics and finance.

The great recession (2008) triggered an apparent discrepancy between empirical findings and macroeconomic models based on rational expectations alone. This gap led to a series of recent developments of a behavioral microfoundation of macroeconomics combined with the underlying experimental and behavioral Beauty Contest (BC) literature, which the authors review in this paper. They introduce the reader to variations of the Keynesian Beauty Contest (Keynes, The general theory of employment, interest, and money, 1936), theoretically and experimentally, demonstrating systematic patterns of out-of-equilibrium behavior. This divergence of (benchmark) solutions and bounded rationality observed in human behavior has been resolved through stepwise reasoning, the so-called level k, or cognitive hierarchy models. Furthermore, the authors show how the generalized BC function with limited parameter specifications encompasses relevant micro and macro models. Therefore, the stepwise reasoning models emerge naturally as building blocks for new behavioral

macroeconomic theories to understand puzzles like the lacking rise of inflation after the financial crisis, the efficacy of quantitative easing, the forward guidance puzzle, and the effectiveness of temporary fiscal expansion.

Two leaders in the field explore the foundations of bounded rationality and its effects on choices by individuals, firms, and the government. Bounded rationality recognizes that human behavior departs from the perfect rationality assumed by neoclassical economics. In this book, Sanjit Dhami and Cass R. Sunstein explore the foundations of bounded rationality and consider the implications of this approach for public policy and law, in particular for questions about choice, welfare, and freedom. The authors, both recognized as experts in the field, cover a wide range of empirical findings and assess theoretical work that attempts to explain those findings. Their presentation is comprehensive, coherent, and lucid, with even the most technical material explained accessibly. They not only offer observations and commentary on the existing literature but also explore new insights, ideas, and connections. After examining the traditional neoclassical framework, which they refer to as the Bayesian rationality approach (BRA), and its empirical issues, Dhami and Sunstein offer a detailed account of bounded rationality and how it can be incorporated into the social and behavioral sciences. They also discuss a set of models of heuristics-based choice and the philosophical foundations of behavioral economics. Finally, they examine libertarian paternalism and its strategies of “nudges.”

Nonlinearity, Complexity and Randomness in Economics presents a variety of papers by leading economists, scientists, and philosophers who focus on different aspects of nonlinearity, complexity and randomness, and their implications for economics. A theme of the book is that economics should be based on algorithmic, computable mathematical foundations. Features an interdisciplinary collection of papers by economists, scientists, and philosophers. Presents new approaches to macroeconomic modelling, agent-based modelling, financial markets, and emergent complexity. Reveals how economics today must be based on algorithmic, computable mathematical foundations.

Subgame Perfect Implementation

Agent-Based Models in Economics

Behavioral Rationality and Heterogeneous Expectations in Complex Economic Systems

Optimal Monetary Policy Under Bounded Rationality

Leading researcher John F. Tomer presents an invigorating and concise introduction to behavioral economics that offers essential behavioral theories, perspectives, trends and developments within this ever-evolving discipline.

This volume presents for the first time a collection of historically important papers written on

the concept of rationality in the social sciences. In 1939–40, the famed Austrian economist Joseph A. Schumpeter and the famous sociologist Talcott Parsons convened a faculty seminar at Harvard University on the topic of rationality. The first part includes their essays as well as papers by the Austrian phenomenologist Alfred Schütz, the sociologist Wilbert Moore, and the economist Rainer Schickele. Several younger economists and sociologists with bright futures also participated, including Alex Gerschenkron, John Dunlop, Paul M. Sweezy, and Wassily W. Leontief, who was later awarded the Nobel Prize for developing input-output analysis. The second part presents essays and commentaries written by today's internationally noted social scientists and addressing the topic of rationality in social action from a broad range of perspectives. The book's third and final part shares the recently discovered correspondence between the seminar principals regarding the original but failed plan to publish its proceedings. It also includes letters, not previously published, between Richard Grathoff, Walter M. Sprondel and Talcott Parsons on the rationality seminar and the exchanges between Parsons and Schütz.

Foundations of Theoretical Economics

Essays on Information Frictions and Liquidity in Macroeconomics

Nonlinearity, Bounded Rationality, and Heterogeneity

The Behavioural Finance Revolution

Bounded rationality and heterogeneity in economic dynamic models