Fundamental Uncertainty: Rationality and Plausible Reasoning

Silva Marzetti Dall'aste Brandolini
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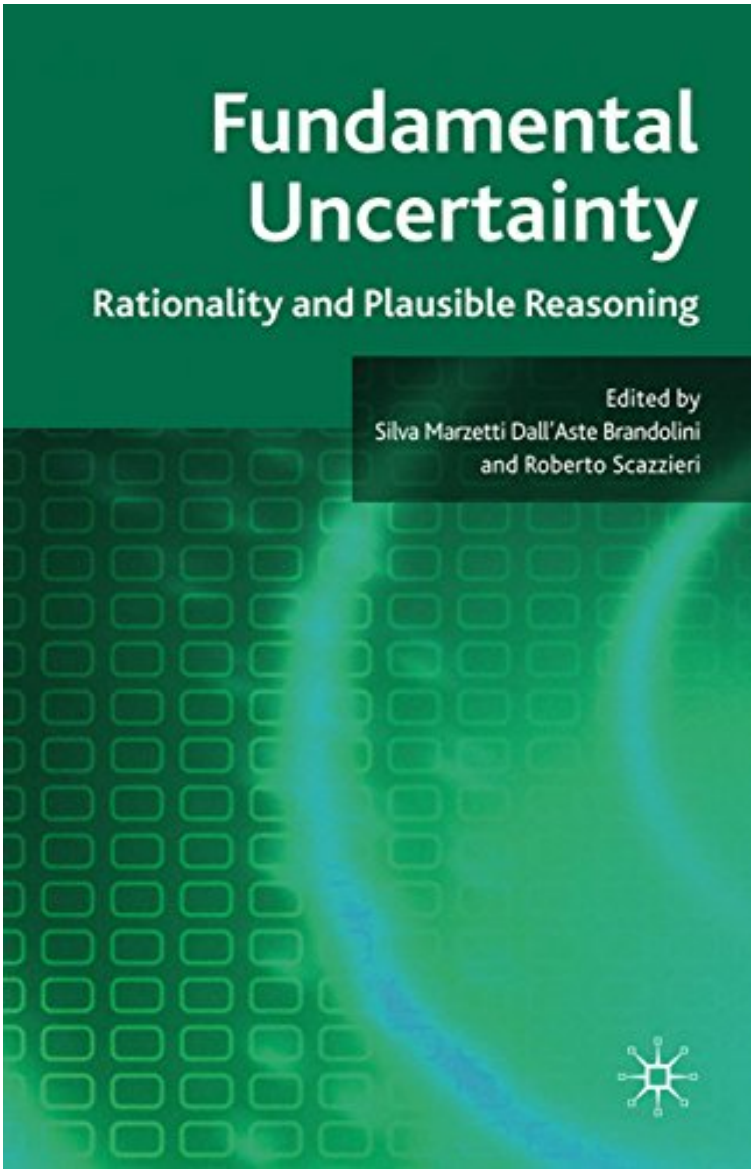

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Silva Marzetti Dall'aste Brandolini : Fundamental Uncertainty: Rationality and Plausible Reasoning before purchasing it in order to gage whether or not it would be worth my time, and all praised Fundamental Uncertainty: Rationality and Plausible Reasoning:

4 of 6 people found the following review helpful. J M Keynes's theory of probability is based on interval estimatesBy Michael Emmett BradyThis is a collection of essays written by a number of authors who try to deal with Keynes's contributions to probability and decision making ,but who are ignorant of the nature of Keynes's interval estimate approach.The result is,as one would expect,a book that,overall,fails to satisfactorily cover Keynes's interval based

logical theory of probability approach.I will concentrate this review on the contributions of H E Kyburg and I Levi .Consider the following assessment made by Kyburg of J M Keynes's contributions to probability and decision making in his February,1992 article in Synthese,titled "Getting Fancy with Probability",pp.189-203,Vo.90,no.2.It is a very good representative sample of the sort of assessment made by Kyburg about Keynes from 1961 till Kyburg's death in 2007 : "Are there alternatives ?(to Bayesianism-author's insert).J M Keynes didn't think that all probabilities could be compared,but didn't say much about their (non-linear) structure.B.O. Koopman took up Keynes's idea,and provided an abstract algebraic structure he took to embody Keynes's intuitions.One natural alternative is to consider the set of odds that a person would be willing to accept a bet at...This alternative was explored by C. A. B. Smith;it leads to probability intervals.Variations on this scheme have been considered by I.J.Good and Patrick Suppes" .(1992,p.192) This is exactly the same assessment that the reader will find in Kyburg's contribution in this book.The egregious nature of Kyburg's error cited above,which is incorporated into all of his work in decision theory and probability as it relates to Keynes,can be examined simply by turning to pp.160-163,186-194,234-237,254-257,and 310-315 of Keynes's A Treatise on Probability (1921).KEYNES PRESENTS A FULL BLOWN ,MATHEMATICAL STRUCTURE,BASED ON A FORMAL, BOOLEAN APPROACH THAT USES INTERVALS.Kyburg's essay is simply a waste of time since he basically repeats over and over again the same error that he first incorporated in work published in 1961.Kyburg believed that he was the first to present an interval estimate approach for a logical theory of probability.Kyburg was dead wrong.J M Keynes presented an interval valued approach to probabilty 16 years before Kyburg was born.Levi's contribution is no better.Levi can't get past chapter 6.The reader is advised to go to chapter 26 of the TP and read sections 6-8,especially pp.310-315.He can then turn to chapters 12 and 17 of the General Theory (1936;GT) to see how Keynes integrated the concept of the weight of the evidence into his GT in 1936.I have appended a summary for the interested reader below that corrects Levi's many omissions concerning Keynes's use of the weight of the evidence in the GT in his discussions of uncertainty,the state of confidence, confidence and liquidity preference .Keynes's 1921 A Treatise on Probability(TP) analysis of decision making can be found in sections 6-8 of chapter 26 and chapters 15,17,20 and 22.We will concentrate on the conventional coefficient of risk and weight in chapter 26,as opposed to the interval estimate approach of the other chapters,because of the greater explanatory power exhibited by the conventional coefficient.The technical details can be found on p.315 and in footnote 2 on p.315 .Keynes presented a very precise analysis demonstrating that an analysis of uncertainty introduced non additivity and non linearity into the formal representation of decision making. The subjectivist, Bayesian approach regards decision making as another name for the application of the purely mathematical laws of the probability calculus that require additivity and linearity. The Bayesian Subjectivist approach vto probability makes the crucial error of conflating probability theory with decision theory.Keynes realized that ,due to the impact of the weight of the evidence (confidence)on decision makers ,as well as the optimism-pessimism of the decision maker,decision theory would have to be able to take into account the importance of non linearity and non additivity. The concept of expected value or expected utility is crucial to the Ramsey-De Finetti-Savage-Friedman approach.Keynes demonstrated that expected value or expected utility can ,at best, only be a special case of a much more general theory .The Ramsey-De Finetti-Savage-Friedman approach is the mathematical translation of Jeremy Bentham's Benthamite Utilitarian approach.Bentham's approach was that the whole can never be anything more than the sum of the individual ,atomic parts. However, this requires the assumptions of additivity and linearity.Bentham assumed also that all decision makers can calculate the odds all the time.Keynes showed that this was not the case because this requires a w=1. Keynes's demonstration ,taken from chapter 26 of his A Treatise on Probability(1921;TP),of the special case nature of any expected value(utility) approach ,based on the purely mathematical laws of the probability calculus,shows this to be a very special case that rarely,if ever,occurs in the real world.This is why public policy based on utilitarianism fails . Bentham claimed that all individuals have the capability to calculate the odds and outcomes and act on the expected utility (the probability times the utility of the outcome) in a rational(optimizing) way.This is where the rationality postulate comes from. This can be expressed by the following maximization problem ,where p is the probability of success,q is the probability of failure, and A is the outcome:Maximize pA.The modern version of this is to Maximize pU(A),where p is a subjective probability that is additive,linear,precise,and exact and U(A) is a Von Neumann-Morgenstern Utility function. The goal is toMaximize pU(A). This is the approach formalized by Frank Ramsey.The modern name for Benthamite Utilitarianism in neoclassical economics is SEU theory(Subjective Expected Utility). Therefore,a microeconomic foundation based on Utility Maximization is just Benthamite Utilitarianism updated with modern mathematical probability techniques.Modern macroeconomics is all disguised SEU theory.Keynes rejected Benthamite Utilitarianism as a very special case that would only hold under the special assumptions of the subjectivist, Bayesian model-that all probabilities were additive,linear,precise,single number answers that obeyed the purely mathematical laws of the probability calculus.Keynes specifies his conventional coefficient of risk and weight,c, model in chapter 26 of the TP on p.314 and footnote 2 on p.314,as a counter weight to the Benthamite Utilitarian approach of Ramsey.Essentially, Keynes's generalized model is given byc=2pw/(1+q)(1+w),where w is Keynes's weight of the evidence variable that measures the completeness of the relevant, available evidence upon which the probabilities p and q are calculated.(Benthamite Utilitarians always assume that the value of w is always 1.)w is an

index defined on the unit interval between 0 and 1,p is the probability of success,and q is the probability of failure.p+q sum to 1 if they are additive.This requires that w=1.Keynes's c coefficient can be rewritten asc=p [1/(1+q)][2w/(1+w)].Now multiply the above by A or U(A).One obtainscA =p[1/(1+q)][2w/(1+w)] A orcU(A)= p[1/(1+q)][2w/(1+w)]U(A).The goal is to Maximize cU(A) as opposed to the special Ramsey-Savage case of Maximizing pU(A).If w = 1 and all probability preferences are linear,then one obtains Ramsey's special result ,which wasMax pU(A).It is very simple to see that Ramsey's approach is a linear and additive one that is a special case that occurs in Keynes's decision theory when the decision weights are linear and additive.The general case is that the decision weightsare nonlinear and nonadditive.My recommendation is that a reader not buy this book.A better choice is to simply buy a copy of the TP and read it for yourself.Levi and Kyburg never covered more than chapters 3,4 and 6 of Keynes's TP.They needed to read the other 30 chapters that are in the book.

This volumenbsp;addresses the subjectnbsp;ofnbsp;uncertainty from the point of view of an extended conception of rationality. In particular, thenbsp;contributions explore the premises and implications of plausible reasoning when probabilities are non-measurable or unknown, and when the space of possible events is only partially identified.

About the AuthorSILVA MARZETTI DALL'ASTE BRANDOLINI is Professor of Economics, University of Bologna, Italy. She has published, amongst other research papers, 'Il comportamento razionale del policy maker', Economia Politica,1998; 'Economic and Social Demand for Coastal Protection',Coastal Engineering, 2005 (co-authored); 'Happiness and Sustainability: A Modern Paradox', in L. Bruni and P. L. Porta (eds), Handbook on the Economics of Happiness, Cheltenham, U.K. and Northampton, Mass., 2007; 'Recreational Demand Functions for Different Categories of Beach Visitors', Tourism Economics, 2009. She has also edited (in collaboration with A. Pasquinelli), John Maynard Keynes, Trattato sulla probabilitagrave; (Italian translation of J. M. Keynes's A Treatise on Probability) and (in collaboration with R. Scazzieri), La probabilitagrave; in Keynes, Bologna, 1999.ROBERTO SCAZZIERI is Professor of Economic Analysis, University of Bologna; Senior Member, Gonville and Caius College and Clare Hall, Cambridge. He won the St Vincent Prize for Economics, 1984 and the Linceo Prize for Economics, 2004. He has authored A Theory of Production. Tasks, Processes and Technical Practices, Oxford, 1993; co-edited Foundations of Economics. Structures of Inquiry and Economic Theory, Oxford, 1986; Production and Economic Dynamics, Cambridge, 1996; Knowledge, Social Institutions and the Division of Labour, Cheltenham, UK and Northampton, US, 2001; Reasoning, Rationality and Probability, Stanford, 2008; The Migration of Ideas, Sagamore Beach, 2008; Markets, Money and Capital. Hicksian Economics for the 21st Century, Cambridge, 2008; and Capital, Time and Transitional Dynamics, London and New York, 2009.