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Nota di contenuto	Cover; Title Page; Copyright; Contents; Preface; Acknowledgements; Chapter 1 Preliminary notions and definitions; 1.1 Sets of numbers; 1.2 Gambles; 1.3 Subsets and their indicators; 1.4 Collections of events; 1.5 Directed sets and Moore-Smith limits; 1.6 Uniform convergence of bounded gambles; 1.7 Set functions, charges and measures; 1.8 Measurability and simple gambles; 1.9 Real functionals; 1.10 A useful lemma; Part I Lower Previsions On Bounded Gambles; Chapter 2 Introduction; Chapter 3 Sets of acceptable bounded gambles; 3.1 Random variables; 3.2 Belief and behaviour; 3.3 Bounded gambles 3.4 Sets of acceptable bounded gambles3.4.1 Rationality criteria; 3.4.2 Inference; Chapter 4 Lower previsions; 4.1 Lower and upper previsions; 4.1.1 From sets of acceptable bounded gambles to lower previsions; 4.1.2 Lower and upper previsions directly; 4.2 Consistency for lower previsions; 4.2.1 Definition and justification; 4.2.2 A more direct justification for the avoiding sure loss condition; 4.2.3 Avoiding sure loss and avoiding partial loss; 4.2.4 Illustrating the avoiding sure loss condition; 4.2.5 Consequences of avoiding sure loss; 4.3 Coherence for lower previsions 4.3.1 Definition and justification4.3.2 A more direct justification for the

coherence condition; 4.3.3 Illustrating the coherence condition; 4.3.4 Linear previsions; 4.4 Properties of coherent lower previsions; 4.4.1 Interesting consequences of coherence; 4.4.2 Coherence and conjugacy; 4.4.3 Easier ways to prove coherence; 4.4.4 Coherence and monotone convergence; 4.4.5 Coherence and a seminorm; 4.5 The natural extension of a lower prevision; 4.5.1 Natural extension as least-committal extension; 4.5.2 Natural extension and equivalence; 4.5.3 Natural extension to a specific domain 4.5.4 Transitivity of natural extension 4.5.5 Natural extension and avoiding sure loss; 4.5.6 Simpler ways of calculating the natural extension; 4.6 Alternative characterisations for avoiding sure loss, coherence, and natural extension; 4.7 Topological considerations; Chapter 5 Special coherent lower previsions; 5.1 Linear previsions on finite spaces; 5.2 Coherent lower previsions on finite spaces; 5.3 Limits as linear previsions; 5.4 Vacuous lower previsions; 5.5  $\{0,1\}$ -valued lower probabilities; 5.5.1 Coherence and natural extension; 5.5.2 The link with classical propositional logic 5.5.3 The link with limits inferior 5.5.4 Monotone convergence; 5.5.5 Lower oscillations and neighbourhood filters; 5.5.6 Extending a lower prevision defined on all continuous bounded gambles; Chapter 6 n-Monotone lower previsions; 6.1 n-Monotonicity; 6.2 n-Monotonicity and coherence; 6.2.1 A few observations; 6.2.2 Results for lower probabilities; 6.3 Representation results; Chapter 7 Special n-monotone coherent lower previsions; 7.1 Lower and upper mass functions; 7.2 Minimum preserving lower previsions; 7.2.1 Definition and properties; 7.2.2 Vacuous lower previsions; 7.3 Belief functions 7.4 Lower previsions associated with proper filters

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## Sommario/riassunto

This book has two main purposes. On the one hand, it provides a concise and systematic development of the theory of lower previsions, based on the concept of acceptability, in spirit of the work of Williams and Walley. On the other hand, it also extends this theory to deal with unbounded quantities, which abound in practical applications. Following Williams, we start out with sets of acceptable gambles. From those, we derive rationality criteria---avoiding sure loss and coherence---and inference methods---natural extension---for (unconditional)

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