1. Record Nr. UNINA9910298538203321 Autore Sato Ryuzo Titolo Symmetry and Economic Invariance / / by Ryuzo Sato, Rama V. Ramachandran Pubbl/distr/stampa Tokyo:,: Springer Japan:,: Imprint: Springer,, 2014 **ISBN** 4-431-54430-5 Edizione [2nd ed. 2014.] Descrizione fisica 1 online resource (278 p.) Collana Advances in Japanese Business and Economics, , 2197-8859; ; 1 Disciplina 330.15 330/.01/51 Soggetti Economic theory Economic history Economic Theory/Quantitative Economics/Mathematical Methods History of Economic Thought/Methodology Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. ""Preface""; ""Contents""; ""Part I Introduction""; ""Chapter 1: Nota di contenuto Introduction""; ""1.1 Group Theory and Classification of Mathematical Structure""; ""1.2 Lie Groups and Invariance""; ""1.3 Economic Applications of Lie Groups""; ""Chapter 2: Technical Progress and Economies of Scale:Concept of Holotheticity""; ""2.1 A Reformulation of the Problem""; ""2.2 Lie Groups""; ""2.3 Holotheticity""; ""2.4 Conclusion""; ""Chapter 3: Holothetic Production Functions and Marginal Rate of Technical Substitution""; ""3.1 Types of Technical Progress Functions and Holotheticity"" ""3.2 Marginal Rate of Transformation and ExtendedTransformation"""" 3.3 Holotheticity and Lie Bracket""; ""3.4 Conclusion""; ""Chapter 4: Utility and Demand""; ""4.1 Integrability Conditions""; ""4.2 Conclusion""; ""Chapter 5: Duality and Self Duality""; ""5.1 Duality in Consumer Theory""; ""5.2 Separability and Additivity""; ""5.3 Self-Duality in Demand Theory""; ""5.4 A Method of Deriving Self-Dual Demand Functions"": ""5.5 Empirical Estimation of Self-Dual Demand

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## Sommario/riassunto

Symmetry and Economic Invariance (second enhanced edition) explores how the symmetry and invariance of economic models can provide insights into their properties. Although the professional economist of today is adept at many of the mathematical techniques used in static and dynamic optimization models, group theory is still not among his or her repertoire of tools. The authors aim to show that group theoretic methods form a natural extension of the techniques commonly used in economics and that they can be easily mastered. Part I provides an introduction that minimizes prerequisites including prior knowledge of group theory. Part II discusses recent developments in the field.