

**Feichtinger, Gustav; Hartl, Richard F.**

**Optimale Kontrolle ökonomischer Prozesse. Anwendungen des Maximumprinzips in den Wirtschaftswissenschaften.** (German) Zbl 0612.90001

Berlin-New York: de Gruyter. XIV, 631 S.; DM 220.00 (1986).

This is a reference book about applications of economic control theory. It includes a theoretical development of all the economic models known nowadays. It also contains many theoretical examples and exercises. The historical notes at the end of each chapter are very interesting and complete. The bibliography covers 1032 items. The book is of great interest to theoretic mathematical economists, and of very little or no interest to practitioners.

Content: Part I: The maximum principle: Necessary and sufficient conditions of optimality. Chapter 1. Dynamic decision processes. Chapter 2. Heuristic deduction and economical interpretation of the maximum principle. Part II: Structural analysis of control models. Chapter 3. Optimal linear control models. Chapter 4. Concave models with one state variable. Chapter 5. Non-linear models with several state variables. Part III: More on standard models. Chapter 6. Dynamic systems with trajectory restrictions and extremal conditions. Chapter 7. Several generalizations. Chapter 8. Examples. Part IV: Case-studies. Chapter 9. Production and inventory planning. Chapter 10. Replacement. Chapter 11. Marketing mix: price, advertising and quality of product. Chapter 12. Growth of the firm: investment, finances and human resources. Chapter 13. Capital accumulation. Chapter 14. Resource management. Chapter 15. Environmental protection. Chapter 16. Other control models. Part V: Appendices.

Reviewer: [J.P.Vilaplana](#)

**MSC:**

- 91B62** Economic growth models
- 90-02** Research exposition (monographs, survey articles) pertaining to operations research and mathematical programming
- 91B76** Environmental economics (natural resource models, harvesting, pollution, etc.)
- 93E20** Optimal stochastic control
- 91B38** Production theory, theory of the firm
- 91B66** Multisectoral models in economics

Cited in **87** Documents

**Keywords:**

[applications of economic control theory](#); [maximum principle](#)