

CONTENTS

	<u>Page</u>
CHAPTER 1	1
CHAPTER 2	32
CHAPTER 3	76
ANNEXURE TO CHAPTER 3	106
CHAPTER 4	110
APPENDIX 1	227
APPENDIX 2	235
APPENDIX 3	314
APPENDIX 4	319
CHAPTER 5	404
ANNEXURE TO CHAPTER 5	422

BIBLIOGRAPHY

CONTENTS

		Page No.
Chapter 1	Development of the Indian Steel Industry and Its Present Status	1
Section 1.1	Introduction	1
Section 1.2	A Brief History of the Indian Steel Industry	2
Section 1.3	The Importance of Steel in the Indian Industrial Sector	5
Section 1.4	The State of Steelmaking Technology	11
Section 1.5	The Present Structure of the Indian Steel Industry	19
Section 1.6	The Motivation for Undertaking Present Study	28
Section 1.7	A Summary	29
Chapter 2	Existing Theories for Investment Planning : Introduction of a New Model for the Indian Steel Industry	32
Section 2.1	Existing Theories of Investment	32
Section 2.2	Features of a Typical Investment Planning Model	44
Section 2.3	Review of Some Models of Investment Planning	46
Section 2.4	Importance and Scope of the Model Developed in the Present Thesis	58
Section 2.5	Summary	73
Chapter 3	The Structure of the Investment Planning Model for the Indian Steel Industry	76
Section 3.1	Introduction	76
Section 3.2	Development of the Framework for M1	76
Section 3.3	Description of M1	84
Annexure to Chapter 3		106
Chapter 4	Empirical Application of the Model, Sensitivity Analysis and Conclusions	110
Section 4.1	Introduction	110
Section 4.2	Parameters for M1	110
Section 4.3	Programme and Flow-chart	134
Section 4.4	Results of Optimisation	156
Section 4.5	Conclusions	221
Appendix 1		227
Appendix 2		235
Appendix 3		314
Appendix 4		319
Chapter 5	Review of Major Assumptions and Policy Recommendations	404
Section 5.1	Review of Major Assumptions	404
Section 5.2.1	Rationale for Domestic Production in New Regime	408
Section 5.2.2	Role of Investment Planning for Steel in New Regime	410
Section 5.2.3	The Demand Situation	411
Section 5.2.4	Growth of the Secondary Sector	416
Section 5.3	Review of Policy Recommendations	418
Annexure to Chapter 5		422
Bibliography		431

BIBLIOGRAPHY

1. Aris, R.,(1964) Discrete Dynamic Programming (Balisdell, Waltham, Mass.).
2. Beckman, M. J.,(1968) Dynamic Programming of Economic Decisions (Springerverlag, Berlin).
3. Bellman, R., Dynamic Programming (Princeton, N. J. Princeton University Press).
4. Bird, Tony (1984), Steel : Is There a Future (Financial Times Business Info Ltd.)
5. Chakravarty, S.,(1968) The Logic of Investment-Planning (North-Holland Publishing Co., Amsterdam).
6. Chenery, H. B.,(1952) 'Overcapacity and the Acceleration Principle', Econometrica.
7. Dano, Sven,(1975) Non-linear and Dynamic Programming (Springerverlag Wien New York).
8. Dore, M. H. I.,(1977) Dynamic Investment Planning, (Croom-Helm Ltd., London).
9. Eisner, R. and Strotz, R.H.,(1963) 'Determinants of Business Investment', Commission on Money and Credit, Impacts of Monetary Policy (Prentice-Hall).
10. Erlenkotter, D.,(1967) 'Optimal Plant Size with Time-Phased Imports' in Alan Manne(ed) 'Investment for Capacity Expansion' (George Allen and Unwin, London).
11. Hicks, J.,(1973) Capital and Time, (Clarendon Press,Oxford).
12. International Iron and Steel Institute (1974), Steel Intensity and GNP Structure (Brussels).
13. Intriligator, M. D.,(1971) Mathematical Optimization and Economic Theory, (Prentice-Hall Inc).

14. Little, I.M.D., and Mirrlees, J.A., (1967) Project Appraisal and Planning for Developing Countries (Heinemann, London).

15. Jorgenson, D.W., (1967) 'The Theory of Investment Behaviour' in R.Ferber (ed) Determinants of Investment-Behaviour (NBER).
16. Keynes, J.M., (1936) The General Theory of Employment, Interest, and Money (Macmillan, London).
17. Junankar, P.N., (1972) Investment Theories and Evidence (Macmillan).
18. Kamien, Morton I. and Schwartz, Nancy L., (1981) Dynamic Optimization, The Calculus of variations and Optimal Control in Economics and Management Series Vol.4 (North-Holland).
19. Kendrick, David A., Meeraus, Alexander and Alatorre, Jaime, (1984) The Planning of Investment Programs in the Steel Industry (Johns Hopkins University Press).

20. Lucas, R.E. Jr., (1967) 'Adjustment Costs and the Theory Supply' , Journal of Political Economy, Vol.75.

21. Manne, A., Investments for Capacity Expansion: Size, Location and Time-phasing, (George Allen and Unwin, London).

22. Marglin, Stephen A., (1963) Approaches to Dynamic Investment Planning (North-Holland).
23. Murty, Goldar, Kadekodi and Mishra (1992)
24. Pal, S.P. (1984) Long Term Demand for Iron and Steel (National Council of Applied Economic Research)
25. Steel Authority of India Ltd. (1992, 1994) Statistics for Iron and Steel Industry in India.

26. Dasgupta, P., Marglin, S. and Sen, A.K. (1972) Guidelines for Project Evaluation (UNIDO, United Nations, New York).

27. Westphal, L.E., (1971) Planning Investment with Economies of Scale, (North-Holland).
