## **CONTENTS**

Preface		page ix
1	The emergence of an economics of technical advance	1
	Early observations on technical advance	3
	Schumpeter and beyond	7
	Collective versus market direction	13
	Technical advance?	17
	Organization of the book	19
2	Schumpeterian hypotheses	22
	Innovation and monopoly power	27
	Innovation and firm size	31
	The "technology-push" hypothesis	33
	The "demand-pull" hypothesis	35
	Demand-pull and market structure	36
	Summary	47
	Appendix	48
3	Empirical studies of the Schumpeterian hypotheses	49
	The inventive process	54
	The roles of technological opportunity and economic	
	opportunity	58
	The innovation production function	64
	The effects of technical advance on market structure	70
	Firm size and inventive activity	75
	Market structure and innovation	84
	Concentration and research effort	86

	Concentration and innovation output	91
	Other elements of market structure	93
	Liquidity and profitability	95
	Diversification and entrepreneurial talent	98
	Market structure and diffusion of innovations	100
	Summary	102
4	Modern theories of market structure and innovation:	
	The decision theoretic approach	105
	The rewards and probabilities of collecting them	112
	The cost	116
	Speed of development	117
	New product pricing	122
	The nonrivalrous solution	123
	Intense rivalry	123
	A particular cost function	124
	Is development worthwhile?	125
	Noncontractual development	127
	Development ceases upon rival entry	130
	A range of innovations	131
	Self-financing	132
	Rival precedence need not halt R&D	135
	Impossible imitation and costless imitation	140
	Summary	141
	Appendix	145
	Speed of development • New product pricing • The	
	nonrivalrous solution • Intense rivalry • A particular	
	cost function • Development ceases upon rival entry •	
	A range of innovations • Self-financing • Rival	
	precedence need not halt R&D	
5	Modern theories of market structure and innovation:	
	the game theoretic approach	176
	Costs and the speed of development	179
	Rewards	182
	Technical and market uncertainty	182
	Efficiency	185
	Social optimality	187
	The market solution	189

	Summary	193
	A dynamic approach	197
	Appendix	199
	Costs and speed of development • Technical and	
	market uncertainty • Efficiency • Social optimality •	
	The market solution	
6 Su	ummary and prospectus	216
References		224
Author index		237
Subject index		240