Contents

LIST Of	rigures	VIII
List of	Tables	X
List of	Boxes	Xii
Abbrev	iations	xiii
Acknow	vledgements	XV
	eagainavba qirletaravo to ealiettatastotato ad T. S.A.	
Intro	duction ygolombel bas	1
	echnology and Globalization as Concatenated rocesses: A Brief Commentary on the Causes	
	f Globalization '	13
	1.1 Introduction	13
	1.2 Mapping globalization	14
	1.3 Financial liberalization	18
	1.4 Multinational enterprises	20
	1.5 The globalization of innovation by MNEs	26
	1.6 Liberalization of economic systems	29
	1.7 Regional and economic integration	33
	1.8 The role of new technologies in globalization	35
	1.9 The knowledge-intensive, multi-technology firm	38
	10 Political economy: shifting hegemonies and discontinuities	40
	11 Standardization and homogeneity across borders	42
	12 The dynamics of international interdependence:	
	countries and firms	45
2 C	ross-border Interdependence between Locations:	
	earning, Growth and Systems of Innovation	51
	2.1 Introduction	51
	2.2 The basic concepts underlying systems of innovation	55

VI CONTENTS

		Understanding learning processes	59
	2.4	Understanding the growing international	62
	25	dimension of learning	68
		Limitations of learning Conclusions	73
3	Inn	ovation Systems and 'Inertia' in R&D Location:	
		rwegian Firms and the Role of Systemic Lock-in	76
		Introduction	76
		Systems of innovation and inertia in R&D	77
		Responses to inertia from a firm perspective	84
		The evidence: R&D activities of Norwegian firms	87
		'Systemic' lock-in: dependence on the	
		innovation system	97
	3.6	Summary and policy implications	106
4	Cro	oss-border Interdependence between Firms:	
	The	e Growth of Strategic Technology Partnering	109
		Introduction	109
	4.2	The characteristics of ownership advantages	
		and technology	111
	4.3	Explaining strategic technology partnering:	
		some definitions	113
		The growth of alliance activity	119
		The special case of strategic alliances to conduct R&D	123
	4.6	Conclusions	129
5		house R&D, Outsourcing or Alliances? Some	E. I
		ategic and Economic Considerations	133
		Introduction	133
	5.2	The growth of the multi-technology firm	10/
		and non-internal R&D	134
		Standardization, cost and industrial organization	138
	5.4	Distributed competences and the choice between	141
		internal and non-internal activity: a static view	141
	5.5	The dynamic view: the evolution of	146
	F (technological paradigms Dynamic aspects of shoosing between in bouse	140
	5.6	Dynamic aspects of choosing between in-house	150
	E 77	R&D, alliances and outsourcing	130
	5./	Some conclusions, caveats and avenues for	157
	1	future research pendix A	162
	Ap	Pendix A	102

		CONTENTS	vi
6	Par 6.1 6.2 6.3 6.4	thering in Developing Countries Introduction Strategic alliances and catching up Organizational modes and developing-country STP Differences in the industrial specialization of countries Conclusions	164 164 166 172 175 180
7	Sor 7.1 7.2 7.3	hnology, Globalization and Policy Issues: ne Observations The challenges of globalization and fuzziness The role of governments in innovation Government intervention and innovative activity R&D cooperation and governments: direct vs. indirect intervention	184 189 193
	7.5	On innovation systems and learning: some policy issues	202
Not	es		211
	erence		218
Inde			
		extent of internalization and interdependence	