

# Contents

<b>1</b>	<b>Introduction: the new meanings of innovation</b> .....	1
1.1	Everyone’s talking .....	1
1.2	Defining innovation .....	3
1.3	The economics of innovation .....	4
1.3.1	Efficiency and its limits .....	5
1.3.2	Innovation and entrepreneurship .....	8
1.3.3	Innovation and information .....	8
1.3.4	Commons, anticommons and semicommons .....	10
1.4	The firm and the market: drawing new boundaries .....	12
1.4.1	Networks and system goods .....	13
1.4.2	Co-opetition, patent pools and “open innovation”: the new nature of the firm .....	15
1.4.3	Clusters, hubs and platforms .....	19
1.4.4	From producers to users: the growth of “user innovation” .....	23
1.4.5	Summary: four main trends of innovation .....	25
1.4.6	The last frontier: innovation “ecology” .....	26
1.5	The architecture and governance of innovation policy .....	27
1.5.1	Main actors of innovation .....	28
1.5.2	The role of government in innovation policy .....	37
1.6	The changing role of government in innovation policy .....	41
1.7	Dynamic views of innovation: from the knowledge triangle to smart cities and regional innovation ecosystems .....	43
1.8	Concluding remarks: innovation as a moving target .....	46
	References .....	48
<b>2</b>	<b>Innovation in Europe: taking stock</b> .....	53
2.1	Introduction .....	53
2.2	Larger lags, smaller leads: how Europe is being wiped away from the global innovation map .....	54
2.2.1	The Innovation Union Scoreboard: specific indicators .....	55

2.2.2	Differences in national performance and the lack of a single market for innovation	60
2.2.3	Specific indicators	65
2.2.4	Summary: navigating difficult waters	76
2.3	The governance of EU innovation policy: entering the post-Lisbon era	76
2.3.1	The Lisbon strategy and innovation	77
2.3.2	Europe 2020 and the new governance of innovation policy in the European Union	82
2.3.3	Innovation Union	83
2.3.4	Other flagship initiatives: a quick look	90
2.4	A map of the EU innovation policy toolkit	93
2.4.1	FP7 actions for research and education: the Joint Technology Initiatives	94
2.4.2	Public procurement networks and Lead Market Initiatives	96
2.4.3	Key enabling technologies: not all technologies are created equal	97
2.4.4	Cluster policy in the European Union	100
2.4.5	Financing innovation: the quagmire of SME financing	103
2.4.6	The new competitiveness and SME programme 2014–2020	111
2.5	Has governance really improved?	114
	References	117
<b>3</b>	<b>Key policies</b>	121
3.1	Patent law and policy in Europe: a paradox	121
3.2	Systems, not a system	122
3.2.1	Costs	124
3.2.2	Legal uncertainty	125
3.2.3	Incongruities and complexities	126
3.2.4	Inconsistent quality	126
3.2.5	Lack of an EU-wide patent jurisdiction	128
3.3	Efforts to create a Community patent system	130
3.4	Policies for a patent system in Europe 2020	132
3.4.1	The right level of centralisation and the role of national patent offices (NPOs)	133
3.4.2	A language for patents in Europe	134
3.4.3	Set a level of costs that is acceptable for applicants and coherent with protection strategies	135
3.4.4	A unified patent litigation system with an acceptable level of centralisation	136
3.4.5	Improve the quality of patents	136
3.5	From Community Patent to enhanced cooperation in the field of unitary patent protection	138
3.6	Unitary protection: towards Europe 2020	139
3.7	The unsolved problem: jurisdiction	141

---

3.8	Technology transfer and the Fifth Freedom for Europe	143
3.9	Public-to-private technology transfer	144
3.10	Transfer of climate-related technologies	147
3.11	Waking up Rembrandts that sleep in the attic: the problem of unexploited patents	152
3.11.1	Technology markets and IPR trading	152
3.11.2	The problem of illiquidity of intellectual property rights	153
3.11.3	Strategic use of IPR and opportunistic behaviours	156
3.11.4	IPR-enabled business models	158
3.11.5	Alternative trading systems for IPR	160
3.11.6	Towards a financial market for IP	161
3.11.7	Policy actions to favour trading of IPR	164
3.12	The debate over standardisation	166
3.12.1	Problems	167
3.12.2	Standards, IPR and competition	169
3.12.3	Focus: practices in patent pools	171
3.13	European standardisation	173
3.13.1	Some indications of policy	175
3.14	Conclusions	177
	References	177
<b>4</b>	<b>Tomorrow's innovation policy</b>	<b>183</b>
4.1	A problem of governance?	183
4.2	Towards a layered approach to innovation policy	185
4.2.1	“Layer 1” policy: the building blocks	187
4.2.2	“Layer 2” policy: the interface between research and innovation	190
4.2.3	“Layer 3”: innovation for smart, sustainable and inclusive growth	192
4.2.4	A sketch of a possible future layered innovation policy	194
4.3	Innovation in EU policymaking: towards a “whole-of-government” approach	196
	References	198