

Contents

Jan Krämer, Indra Spiecker gen. Döhmann

Introduction 13

Part I: Network Neutrality 17

Günter Knieps

Congestion Pricing, Quality of Service Differentiation and Network Neutrality 19

- I. From Narrowband towards Broadband Internet 19
- II. Network Neutrality in the Broadband Internet 20
- III. Market Driven Network Neutrality, Quality of Service Differentiation, and Inter-class Externality Pricing 21
- References 25

Bernd Holznagel/Christoph Nüßing

Legal Framework of Net Neutrality: USA vs. Europe 27

- I. Introduction 27
- II. Potential Threats 28
- III. The Parties' Positions 28
- IV. Regulation of Net Neutrality in the US 30
 - 1. Madison River Case 30
 - 2. Comcast Case 31
 - 3. AT&T Case 32
 - 4. Genachowskis's 2009 Notice of Proposed Rulemaking 32
 - 5. FCC's Report and Order on the Open Internet 34
- V. European Regulation Attempts 35
 - 1. Net Neutrality as a Regulatory Aim 36
 - 2. Transparency as the Major Essence 36
 - 3. Minimum Standard in Service Quality 37
 - 4. Consultation on Network Neutrality 37
 - 5. Critical Evaluation 38
- VI. Proposal for a Net Neutrality Rule 38
 - 1. Aims of Regulation 38

7

2. Principles of Regulation	39
3. Proposed Rule	39

Simon Schlauri

Network Neutrality as a New Regulatory Principle of Telecommunications Law	43
I. Introduction	43
II. Monopolization of Application Markets	43
1. Examples	43
2. Previous work by Farrell, Weiser, and van Schewick	44
3. Disciplining Effect of Competitive End User Markets for Internet Access	46
4. Is there a Case for Government Intervention?	46
5. The Role of Technical Progress	48
III. Network Management Regulation	48
IV. Access Fees for Application Providers	49
V. Legal Implementation of Network Neutrality Rules in the EU	51

Bastian Henze, Florian Schütt and Jasper P. Sluijs

Does Transparency Regulation Work? An Experimental Evaluation	53
I. Introduction	53
II. Methodology, Design and Hypotheses	54
1. Methodology and General Design of the Experiment	54
2. Transparency: Implementations and Hypotheses	55
III. Results	57
IV. Conclusion and Policy Implications	58
References	58

Timothy J. Brennan

Net Neutrality or Minimum Quality Standards: Network Effects vs. Market Power Justifications	61
I. Introduction	61
II. Market Power in the Net Neutrality Debate	65
III. Content Quality Network Externalities	69
IV. Lessons from the Model	72
V. Concluding Observations: Implementation and Alternatives	74

References	78
------------	----

Tommaso Valletti

Net Neutrality – An Economist’s Perspective	81
I. Two Problems of Net Neutrality: Vertical and Horizontal Issues	82
II. Academic Findings on Net Neutrality: Where Do We Stand?	87
References	91

Fernando Herrera González

Net Neutrality Regulation: The Intended Consequence of Price Regulation in Telecommunications	93
I. Introduction	93
II. Literature Survey	94
III. Economic Insight on Resource Management	98
1. Praxeology	98
2. The Market as a Process	99
3. Scarcity and Management of Resources	100
4. Relationship between Capital Structure and Investment Decision	100
5. Summary	102
IV. The Theory of Price Control and the Causes of Net Neutrality Regulation	103
1. The Theory of Price Control	103
2. Effects of Price Controls on Capital Stock	105
3. Price Regulation in the Telecommunications Sector	106
4. The Need of Net Neutrality Regulation	109
V. Conclusion and Outlook	112
References	114

Hairong Mu and Carlo Reggiani

The Internet Sector and Network Neutrality: Where Does the EU Stand?	115
I. Introduction	115
II. An Overview of the Internet Sector	116
III. Two-Sided Markets and the Internet Sector	120
IV. The Main Economic Issues behind the Network Neutrality Debate	121

1. A Theoretical Framework	124
2. Investment and Innovation	125
3. Discrimination	127
4. Integration and Foreclosure	129
5. Congestion Concerns	130
V. An Overview of the Network Neutrality Debate: EU vs. US	131
1. NN Debate in the US	131
2. NN Debate in the EU	134
VI. Market Conditions in the US and the EU	136
VII. Policy Implications and Discussion	140
1. Regulatory Framework in the US and the EU	140
2. Regulatory Concerns for the EU	142
3. Ex Ante vs. Ex Post Regulation	143
4. Policy Analysis	144
VIII. Conclusions	148
References	149
List of Abbreviations	151
Part II: Open Access	153
<i>Johannes M. Bauer</i>	
Network Openness, Innovation, and Sector Performance	155
I. Introduction	155
II. Anatomy of ICT Innovation	157
III. Innovation in Layered Systems	160
IV. Innovation Incentives of Types of Players	163
V. Network Openness Regulation and Sectoral Innovation Performance	167
VI. Policy Implications	171
References	172
<i>Thomas Fetzer</i>	
Open Access and Access Regulation in Increasingly Regionalized Telecommunication Markets	177
I. Introduction	177
II. What is Open Access?	178
III. Why Open Access?	179

IV. Under Which Circumstances Can Open Access Be Effective?	182
V. Substantive Standards for an Open Access Regime	184
1. Non-Discrimination and Transparency	184
2. Terms and Conditions of Network Access	185
VI. Possible Solutions to Strengthen the Open Access Concept	188
VII. Outlook	190

Harald Gruber

European Sector Regulation and Investment Incentives: European Options for NGA Deployment	191
I. Introduction	191
II. Policy and Regulatory Developments	192
III. Diffusion of Broadband Access in the EU	195
IV. Options to Cater for the Investment Needs Implied by Policy Targets	198
V. Conclusions	201
References	201

Iris Henseler-Unger

Competition, Regulation and Open Access	203
I. Open Access – Open Sesame?	203
II. Open Access, Net Neutrality and Functional Separation – An Approach	204
III. Open Access in Community Guidelines	205
IV. Open Access from the regulator's perspective	206
V. NGA forum	207
VI. Status of Discussion	209
Contributors	213