

# Contents

Preface .....	V
<b>A. Telecommunications and the Internet Boom: Analysis and Economic Perspectives .....</b>	<b>1</b>
1. Trends in ICT Markets .....	1
2. Towards a New Economy .....	8
2.2 Growth, ICT Dynamics and Innovation.....	13
2.3 New Economy .....	17
2.3.1 The Digital Network Economy: Ten Basic Elements of the New Economy .....	19
2.3.2 Some Reflections on Computers .....	23
2.4 Information and Communication Technology, Trade and FDI .....	27
2.5 ICT Dynamics and Entrepreneurship .....	33
2.6 Internet and Company Dynamics .....	34
2.7 Competition in and Deregulation of Telecommunications.....	38
3. Boom in Telecommunications in the OECD.....	52
3.1 General Trends in Leading Industrial Countries .....	52
3.1.1 Privatization.....	54
3.1.2 Some Regulatory Problems after Privatization and Opening-up ....	56
3.1.3 Mobile Telecommunications: Growth and Auctioning of Licences.....	57
3.2 Financial Markets and the Internet .....	67
4. Internet Economics and the Digital Divide within the OECD.....	68
5. Telecoms Modernization, Productivity and Growth .....	70
6. Computer Lag, Network Fragmentation and Education Deficits: Policy Challenges in a European Perspective.....	74
Appendix I: Accounting for the US Productivity Acceleration in the 1990s .....	77
Appendix II: Relative Price of ICT Capital to Price of Capital and Growth Rates of ICT Capital Formation and Non-ICT Capital Formation in the US .....	78
<b>B. The Internet in Macroeconomic Analysis and Growth Analysis .....</b>	<b>79</b>
1. Short Term and Long Term Aspects .....	79
2. The Internet in Macroeconomic Analysis .....	80
3. Internet, Telecommunications and Economic Growth .....	85
4. Internet, Innovativeness and the Real Exchange Rate.....	88
5. Information & Communication Technology and Growth: Some Neglected Dynamic Aspects in Open Digital Economies .....	90
5.1 Introduction .....	90
5.2 The Basic Analytics of ICT.....	92
5.2.1 Spillover Effects from Computers Used in Households .....	96
5.2.2 Endogenous Growth in an Open Economy.....	100
5.2.3 Network Effects and the Macroeconomic Production Function...	102

5.2.4 Impact of the Internet in a Model with Human Capital and Unemployment .....	104
5.3 Conclusions and Policy Implications.....	107
5.4 High Dynamics of Telecommunications and Productivity Growth....	108
<b>C. Telecommunications Policy in the European Union .....</b>	<b>113</b>
1. Introduction .....	113
2. Changes in the Telecommunications Sector.....	117
2.1 Basic Regulatory Problems: Theoretical Aspects.....	118
2.2 The Competition Problem in Telephony and Foreign Investment.....	121
2.3 Market Convergence and Distortions from the Media Sector .....	124
2.4 Theory of Vertical Integration .....	125
2.5 Special Aspects of Telecoms and Information Markets .....	130
2.6 Regulations of Telecommunications and Internet Expansion.....	131
3. Traditional and New View of Telecommunications.....	134
3.1 Vertical Integration and Political Economy of Liberalization Policy.....	135
3.2 Implications for Deregulation.....	136
4. Competition in Network Industries .....	138
4.1 Network Theory, Technological Progress and Competition.....	140
4.2 Domestic Competition and Foreign Direct Investment in Telecommunications .....	144
5. Regulatory Issues .....	145
5.1 Regular Framework and Regulatory Policy.....	145
Appendix I: Monopoly Versus Competition in International Telephony ....	147
Appendix II: Deregulation Dynamics .....	150
Appendix III: External Effects of Telecoms Network Expansion.....	151
Appendix IV: Transfer of Market Power in Interdependent Markets.....	153
Appendix V: Telecommunications and Trade: Theory, Gravity Equation Analysis and Implications for Economic Policy.....	154
<b>D. Transatlantic Growth Differentials, ICT Dynamics, Fiscal Policy and Innovation Policy.....</b>	<b>163</b>
1. Euro Weakness and Transatlantic Growth Differentials .....	163
2. Theoretical Analysis.....	166
2.1 ICT Dynamics and Growth.....	166
2.2 Perspectives on Inflation and Growth.....	174
2.3 What is the Impact of US Growth Leadership for the Euro?.....	178
3. Some Long Term Aspects .....	181
4. Internet, Telecommunications and Innovation .....	182
5. ICT Dynamics and Economic Policy .....	185
6. Innovation Policy Challenges.....	187
Appendix I: Data from IMF Economic Outlook 2001 (or website).....	190
Appendix II: A Simple Model of an Economy with Information .....	194
Appendix III: Innovation, Savings and Growth .....	197
List of Figures .....	201
List of Tables .....	203
References .....	205