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978-1-107-02423-6 - Modern Economic Regulation: An Introduction to Theory and Practice

Christopher Decker

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Modern Economic Regulation

Drawing from the most recent work on economic regulation, this book introduces readers to the main principles and examines how economic regulation is applied in four key public utility industries – electricity, gas, water and telecommunications. Written for students and practitioners with little prior knowledge of economic regulation, this is an accessible, non-technical entry point to the subject area, exploring the fundamental questions: Why do we regulate? What are alternatives to regulation? Which institutions are involved in regulation? What have been the impacts of regulation? Readers will gain a clear understanding of the basic principles that apply to all regulated sectors, as well as the regulatory choices that reflect the specific economic and physical characteristics of different industries. Case studies demonstrate the connections between regulatory theory and practice and extensive references provide readers with resources for more in-depth study.

Christopher Decker is a Research Fellow specialising in Law and Economics at the Centre for Socio-Legal Studies, Oxford University. Dr Decker's research interests include economic regulation, competition (antitrust) economics, industrial organisation and law and economics. He has considerable practical experience of the application of economic regulation across a range of industries (energy, water, telecommunications, transport, financial services, environmental regulation and the regulation of the professions) and has acted as an advisor to competition authorities and regulators in a number of jurisdictions.

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An Introduction to Theory and Practice

CHRISTOPHER DECKER

University of Oxford



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Selected acronyms and abbreviations

2G	second generation of mobile communications technology
3G	third generation of mobile communications technology
4G	fourth generation of mobile telecommunications technology
ACCC	Australian Competition and Consumer Commission
ACER	Agency for the Cooperation of Energy Regulators
ACT	Australian Competition Tribunal
ADSL	asymmetric digital subscriber line
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
A–J	Averch–Johnson (effect)
APA	Administrative Procedures Act 1946
APX	Amsterdam power exchange group (in the UK and the Netherlands)
ARCEP	L'Autorité de Régulation des Communications Électroniques et des Postes (telecommunications and post regulator, France)
ARROW	(costs) that are Avoided or Reduced or Recoverable in some Other Way
AUC	Alberta Utilities Commission
BAK	bill and keep
Belpex	Belgian Power Exchange
BEREC	Body of European Regulators for Electronic Communications
BOT	build–operate–transfer
BT	British Telecommunications
CAISO	California Independent System Operator
CAPM	Capital Asset Pricing Model
CAT	Competition Appeal Tribunal (UK)
CCS	Carbon Capture and Storage
CEER	Council of European Energy Regulators
CEGB	Central Electricity Generating Board (England and Wales)
CFC	chlorofluorocarbon
CIS	capital expenditure scheme

xii List of selected acronyms and abbreviations

CLEC	competitive local exchange carrier
CO ₂	carbon dioxide
COLS	Corrected Ordinary Least Squares
CPI	Consumer Price Index
CPNP	Calling Party Network Pays
CPP	Calling Party Pays
CPP	critical peak pricing
CPUC	California Public Utilities Commission
CRTC	Canadian Radio-Television Telecommunications Commission
CS	consumer surplus
DCF	discounted cash flow model
DEA	data envelopment analysis
DECC	Department of Energy and Climate Change (UK)
Defra	Department for Environment, Food and Rural Affairs (UK)
DOCSIS	Data Over Cable Service Interface Specification
DoJ	Department of Justice (USA)
DORC	depreciated optimised replacement cost
DSAC	distributed stand-alone cost
DSL	Digital Subscriber Line
DWI	Drinking Water Inspectorate (UK)
EC	European Community
ECJ	European Court of Justice
ECPR	efficient component pricing rule
EEA	European Environment Agency
EIA	Energy Information Administration (USA)
Eltermin	NordPool price hedging contract trading market
ENTSO	European Network of Transmission System Operators for Electricity
ENTSOG	European Network of Transmission System Operators for Gas
EPA	Environmental Protection Authority (USA)
EPMU	equi-proportionate mark-up
ERG	European Regulators Group (for telecommunications)
ERGEG	European Regulators Group for Energy and Gas
ESP	electricity service provider
ETNO	European Telecommunications Network Operators' Association
ETS	emissions trading scheme
EU	European Union
EUB	Energy and Utilities Board (Alberta, Canada)
EXAA	European Energy Exchange
FCC	Federal Communications Commission (USA)
FCM	financial capital maintenance

List of selected acronyms and abbreviations xiii

FDC	fully distributed costs
FERC	Federal Energy Regulatory Commission (USA)
FL-LRAIC	forward-looking long-run average incremental cost
FL-RIC	forward-looking long-run incremental cost
FTC	Federal Trade Commission (USA)
FTM	fixed-to-mobile (access)
FTR	financial transmission right
FTTB	Fibre to the Basement/Building
FTTC	Fibre to the Curb
FTTH	Fibre to the Home
FTTN	Fibre to the Node
FTTO	Fibre to the Office
FTTx	Fibre to the XX
GAO	Government Accountability Office (USA)
GDP	gross domestic product
GECPR	Generalised Efficient Component Pricing Rule
GSM	Global System for Mobile Communications
HDSL	High bit rate Digital Subscriber Line
HFC	Hybrid fibre coaxial
ICC	Interstate Commerce Commission (USA)
ICN	International Communications Network
ICRPM	Investment Cost Related Pricing Methodology
ICT	information and communications technology
IEA	International Energy Agency
IECR	Incremental Energy Capacity Release
IERN	International Energy Regulation Network
IGT	Independent Gas Transporters
ILEC	Incumbent Local Exchange Carrier
IMF	International Monetary Fund
IP	Internet Protocol
IPEX	Italian Power Exchange
IPP	Independent Power Producers
IPTV	Internet Protocol television
ISO	Independent System Operator
ISP	Internet Service Provider
ITU	International Telecommunications Union
LMP	locational marginal pricing
LNG	liquefied natural gas
LRAIC	long-run average incremental cost
LRIC	long-run incremental costs

xiv List of selected acronyms and abbreviations

LRIC +	LRIC + (mark-up)
LRMC	long-run marginal cost
LSE	load-serving entity
LTE	Long Term Evolution (of mobile communications)
M-ECPR	market-adjusted ECPR
MFJ	Modified Final Judgment (in relation to the <i>AT&T Corp. et al.</i> case)
MIBEL	Iberian Electricity Market
MMC	Monopolies and Mergers Commission (UK)
MTM	mobile-to-mobile (access)
MVNO	mobile virtual network operator
NAESB	North American Energy Standards Board
NAO	National Audit Office (UK)
NARUC	National Association of Regulatory Utility Commissioners (USA)
NBP	national gas balancing point (Britain)
NEB	National Energy Board (Canada)
NEM	National Electricity Market (Australia)
NETA	New Electricity Trading Arrangements (England and Wales)
NGG	National Grid Gas (Britain)
NGN	Next Generation Network
NordPool	Nordic electricity trading market
NordREG	Nordic energy regulators' organisation
NPV	net present value
NRA	National Regulatory Authority/Agency
NRA	National Rivers Authority (now Environment Agency in England and Wales)
NTS	National Transmission System
NYMEX	New York Mercantile Exchange
OCA	Office of Consumer Advocate
OCM	operational capital maintenance
OEB	Ontario Energy Board (Canada)
OECD	Organisation for Economic Cooperation and Development
Offer	Office of Electricity Regulation (Britain, now Ofgem)
Ofgas	Office of Gas Supply (Britain, now Ofgem)
Ofgem	Office of Gas and Electricity Markets (Britain)
OFT	Office of Fair Trading (UK, now Competition and Markets Authority)
Oftel	Office of Telecommunications (UK, now Ofcom)
Ofwat	Office of Water Services (England and Wales)
OLS	Ordinary Least Squares
OPTA	Onafhankelijke Post en Telecommunicatie Autoriteit (telecommunications regulator, the Netherlands, now Autoriteit Consument & Markt)
ORC	optimised replacement cost

List of selected acronyms and abbreviations xv

ORR	Office of the Rail Regulator (Britain)
OTC	over-the-counter
PCR	price cap regulation
PJM	Pennsylvania–New Jersey–Maryland (electricity market)
POLPX	Polish Power Exchange
PSTN	Public Switched Telephone Network
PUC	Public Utility Commission
QoS	quality of service
RAB	Regulatory Asset Base
RAV	Regulatory Asset Value
RBOC	Regional Bell Operating Company
RCV	regulatory capital value
RGGI	Regional Greenhouse Gas Initiative (USA)
ROR	rate of return
RPI – X	Retail Price Index – X
RPNP	Receiving Party Network Pays
RPP	Receiving Party Pays
RRP	Regional Reference Price
SAC	stand-alone cost
SFA	Stochastic Frontier Analysis
SIM	subscriber identity module
SMP	significant market power
SO ₂	sulphur dioxide
SRMC	short-run marginal cost
STB	Surface Transportation Board (USA)
TCP	Transmission Control Protocol
TELRIC	Total Element Long Run Incremental Cost
TFP	total factor productivity
TKG	Telecommunications Act (Germany)
TNUoS	Transmission Network Use of System
TSLRIC	Total Service Long Run Incremental Cost
UNECE	United Nations Economic Commission for Europe
USO	universal service obligation
VDSL	Very-high-bit-rate digital subscriber line
VoIP	Voice over Internet Protocol
WACC	Weighted Average Cost of Capital
WHO	World Health Organisation
WiMax	Worldwide Interoperability for Microwave Access
WTO	World Trade Organization
xDSL	x type of digital subscriber line (such as VDSL or ADSL)