

TELECOM REFORM

Principles, Policies and Regulatory Practices

Edited by William H. Melod

DEN PRIVATE INGENIÖRFOND

TECHNICAL UNIVERSITY OF DENMARK

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This version of the book is a reprint, which differs slightly from the original 1997 Version. Small corrections to the text have been made and the page numbering is slightly altered. An original appendix of statistical indicators has been removed from this version, as readers are encouraged to access more up-to-date indicators available from the ITU. These can be found at <http://www.itu.int/industryoverview/>.

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*To Dallas Smythe (1907-1993),
friend and colleague of many contributors to
this volume, and tireless champion of
improving communication for human development*

and

*To Melissa, Danielle and Jonathan,
whose arrival in the class of 96 on three continents
influenced the preparation of this book. They will
grow up in information societies now being shaped by
the telecom reform process*

Preface and Acknowledgements

This book responds to a demand from new participants in the telecom policy development and regulatory process. Feedback from workshops, seminars and lectures on telecom reform in many countries over the past few years has consistently included requests for a book that provides a comprehensive review and assessment of the unfolding telecom reform process.

The book springs most directly from a one week intensive Course in Telecom Regulation provided by the Center for Tele-Information (CTI) for new national telecom regulators and senior policy and regulatory staff members, held at Helsingør, Denmark from 28 January to 2 February 1996. This course included 32 participants from 16 countries, including all the Nordic countries and, thanks to ITU support, 9 developing countries. As there was no adequate text for the course, course materials were drawn from a wide variety of sources. Course lecturers were selected who were active at the frontier of developments in the subject matter of their presentation(s). The core of the book is papers prepared by the lecturers for the course and revised after it. An outline of the material covered then was circulated among experts and potential users for critical review. Additional papers were added in response to their recommendations. I hope this volume now responds to the expressed demand.

The book examines in some detail the telecom reform process occurring in developed countries and at the international level. It accepts as a point of departure that effective regulation is, and will continue to be an essential instrument for implementing efficiency, competition, universal service, consumer protection and information society policies. Although the book provides an introduction to the fundamental issues facing developing countries, it does not provide a comprehensive treatment. Nevertheless, as developing countries are being invited - indeed in some cases pressured very hard - to adopt the telecom reforms of developed countries, this review may be of greater value to them than at first appears, as they must be in a position to make independent assessments of the specific telecom reforms being advocated to them. For my appreciation of this, I am indebted in particular to the participants in the ITU Telecommunications Policy, Legislation and Regulation Seminar, Bangkok, March 1995 and the Workshop on Telecommunication Reform at the Economic and Technological Development Research Center, MPT China, Beijing, March-April 1995.

It is perhaps ironic that the telecom reform process, which has been preoccupied with issues of efficiency in the allocation of capital resources, has paid so little attention to the efficient allocation of labour resources. To be sure, there is concern about labour productivity and efficiency, primarily associated with the reduction of staffing levels of public telecom operators (PTOs), but relatively little attention has been paid to the issues of productive reallocation of telecom sector labour resources, or the future demand for labour and the specified skills that will be required. Clearly labour has been an expendable resource in the telecom reform process, so much so that labour market structural adjustment issues are not considered part of the telecom reform process at all in most developed countries or in the literature. Due to the absence of policy development

on labour issues as part of the telecom reform process, and the relative paucity of substantive research on the subject of telecom labour market reform, they are unfortunately not included.

More people contributed directly and indirectly to the preparation of this book than can possibly be formally acknowledged. The participants in seminars and workshops held in many countries over the last several years have provided a continuing source of inspiration, ideas and information. The participants in the CTI Course in Telecom Regulation in particular helped shape the structure and contents of the book. The Nordic country telecom regulators and their staff members have contributed directly on a number of occasions. In particular, Jørgen Abild Andersen and Roald Ekholdt, Directors of the telecom regulatory agencies of Denmark and Norway respectively have been active in supporting staff training and the integration of research knowledge into the regulatory process.

Most of the chapter contributors to this volume have provided advice and assistance on a range of issues, as have the members of the CTI International Advisory Board. Pekka Tarjanne also facilitated ITU support for developing country participation in the CTI Course. Other colleagues who have contributed to the development of the book include, Shahid Akhtar, Richard Butler, Chee-wah Cheah, Richard Dowling, Richard and David Gabel, Merete Aagaard Henriksen, John Houghton, Manley Irwin, Arne Jensen, Bella Mody, Boyd Nelson, Sam Paltridge, Edwin Parker, Russell Pipe, Martin Salamon, David Schwartz, Norman Schwartz, Jolien Ubacht, Tapio Varis, Robert Walp, William Withers and Elaine Wightman.

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List of Acronyms

AC	average cost
ADAD	automatic dialling and announcement device
ADC	access deficit contribution
ALEC	alternative local exchange carrier
ANI	automatic number identification
ATM	asynchronous transfer mode
BCM	benchmark costing model
BHCA	busy hour call attempt
BHE	busy hour erlang
B-ISDN	broadband integrated services digital network
BOC	Bell operating company
BOT	build operate transfer scheme
BS	base station
BSC	base station controller
CAP	competitive access provider
CAS	conditional access system
CCA	current cost accounting
CIT	communication and information technology
CLID	calling line identification
COLR	carrier of last resort
CPI	comparable performance indicator
CPI	consumer price index
DBS	direct broadcasting satellite
DSU	dispute settlement understanding
ECPR	efficient component pricing rule
FDC	fully distributed cost
FRBS	financial results by service statement
FSLRIC	full service long run incremental cost
HCA	historic cost accounting
ICT	information and communication technologies
ILEC	incumbent local exchange carrier
IMTS	international message telephone service
IPR	integrated product reporting
IPR	intellectual property right
ISA	investments in subsidiaries and affiliates
ISDN	integrated services digital network
ISN	international significant number
ISO	International Satellite Organization
ISO	International Standards Organization
ISP	international settlements policy
ISP	internet service provider
ISS	international satellite system
IVAN	international value-added network
IXC	interexchange
LAN	local area network
LDC	local distribution company
LEC	local exchange carrier
LEO	low earth orbit satellite
LRIC	long-run incremental cost
MC	marginal cost
MDF	multi-service distribution frame
MFN	most favoured nation
MMDS	microwave multipoint distribution system
MSC	mobile switching centre

NANP	North American Numbering Plan
NAS	network access service connection
NCC	National Consumer Council
NDC	national destination code
NGBT	Negotiating Group on Basic Telecommunications
NOPR	Notice of Proposed Rulemaking
NSN	national significant number
NSP	net settlement payments
ONA	open network architecture
ONP	open network provisioning
OSI	open systems interconnection
OTS	official telephone service .
PCN	personal communication number
PCR	price cap regulation
PCS	personal communication service
PCS	personal communication system
POTS	plain old telephone service
PRS	premium rate service
PSTN	public switched telephone network
PTO	public telecom operator
PTT	postal telegraph and telephone
PUC	plant under construction
PUC	public utility commission
RAC	recoverable assignable costs
RBHC	Regional Bell Holding Company
RBOC	Regional Bell Operating Company
RBRR	rate base/rate of return regulation
RSP	revenue settlement plan
SDH	synchronous digital hierarchy
SDR	Special Drawing Right
SME	small and medium-sized enterprise
SMS	short-message service
SRB	Split Rate Base
SS7	Signalling System 7
TELRIC	total element long run incremental cost
TGI	transaction-generated information
TMN	telecommunications management network
UPT	universal personal telecommunication
USO	universal service obligation
VAN	value-added network
VANS	value-added network service
VAS	value-added service
VLSI	very large scale integrated circuits
WLL	wireless local loop