

INDICE

Foreword	xi
The Report Team	xv
Executive Summary	1
State-owned Monopolies Often Exhibited Poor Performance	2
Leading to a New Model for Financing and Providing Infrastructure	3
The New Model Poses Risks-But Also Holds Considerable Promise	4
What Effects Have Reforms Had?	9
Developing Good Regulation Remains a Major Challenge	17
Many Prices and Subsidies Still Require Reform	19
An Agenda for Action-From Institution Building to Policymaking	21
	29
1. The New Paradigm for Network Utilities	
Why Are Network Utilities So Important?	29
From State to Market-Changing Views on Utilities	30
The Dawn of a New Utility Model	35
Framework for Assessing Reforms and Regulations	42
Recent Experiences with Privatization and Reform- Promises and Perils	51
Second Generation Reforms-Choices and Challenges	63
	79
2. Crafting Regulation for Privatized Infrastructure	
The Emergence of Post-Privatization Regulation	79
The Evolution and Elements of Effective Regulation	81
The Structure of Regulatory Institutions	95
The Importance of Regulatory Commitment	100
Getting the Economics Right	110
Mechanisms to Regulate Prices	112
Moving toward More Practical Regulation	123
3. Restructuring Electricity Supply	131
Background to Electricity Reform	132
Addressing the Problems of State Ownership	141
Regulatory Challenges	158
Reform Experiences and Lessons	167
	183
4. Managing Private Participation in Transportation	
Railroads: Restructuring Regulation for the Public Interest	184
Ports: Alternatives for Organizing a Multiproduct Activity	205
	219
5. Reforming the Water Sector	
Economics of Water Supply	220
Options for Competition and Market Structure	227
Choosing Regulation	235
Reform Experiences and Lessons	252

6. An Agenda for Action	259
Assessing Reform's Effects on Performance and Distribution	260
Pricing Reform-Balancing Efficiency and Equity	269
References	279
References	279
Boxes	
1.1 Milestones in Infrastructure Reform in the United States, the United Kingdom, and the European Union	32
1.2 The Technological Revolution in Telecommunications	40
1.3 Power Generation in Brazil Shows That Privatization Is/Not Always the Best Approach	43
1.4 Disadvantages of Vertical Separation	48
1.5 Prerequisites for Effective Privatization	58
1.6 Using Competition Policy to Avoid Regulatory Capture	69
1.7 Telmex's Market Power in the Internet Market	70
1.8 Consumer Participation in Colombia's Rulemaking	76
2.1 Regulation in Argentina-Repeating U.S. Mistakes	82
2.2 Recent Shortcomings and Achievements in Infrastructure Regulation	84
2.3 Decentralized Water Services in Mexico and Morocco	98
2.4 Latvia's Public Utilities Regulation Commission	99
2.5 Examples of Allegedly Opportunistic Government Behavior	102
2.7 Cost-Plus Mechanisms	113
2.8 Price Constraints Imposed by Price Cap Plans	116
2.9 Hybrid Regulatory Mechanisms	119
2.10 African Cooperation on Telecommunications Regulation	127
3.1 Rationale for Structural Integration of the Electricity Industry	133
3.2 Power Shortages in the Philippines	137
3.3 Opening the Electricity Market-Photovoltaic Systems in Kenya	141
3.4 Underpricing Undermines Electricity Expansion in Zimbabwe	143
3.5 Stranded Power Purchase Agreements in Poland	156
3.6 Lessons from California's Experience	164
4.1 Limited Rail Options Result in Captive Shippers	191
4.2 Examples of Port Services	208
4.3 Organizational Structures of Ports	209
5.1 Water Systems in Small African Towns and Rural Areas	229
5.2 Problems with Service Contracts in Mexico City	230
5.3 Private Sector Transactions in Water and Sanitation	235
5.4 Objectives of Water Tariff Design	237
5.5 An Aborted Attempt at Water Concessions in Atlanta, Georgia	241
5.6 Creative Management of South Africa's Commitment to Free Water	247
5.7 Making New Connections Affordable in Buenos Aires	248
5.8 Adapting Quality Standards to Permit Extensions of Low-cost Service	249

in El Alto	
6.2 The Need for Data on Infrastructure Reform	261
6.3 Criteria for Designing Subsidies	267
6.4 Picking Apart Cross-Subsidies	271
Figures	
1 In 1990-2001, Latin America and East Asia Received me Most Private Investment in Infrastructure	10
2 Private Investment in Infrastructure in Developing and Transition Countries Peaked in 1997	11
3 Privatized Services Have Increased Access to Safe Water in a Variety of Cities and Countries	12
4 In 1989-94, Privatization Contributed to Faster Growth in Phone Lines in Latin America	13
5 Railway Concessions Sharply Increased Labor Productivity in me 1990s	14
6 In 2000, Electricity Prices Covered a Small Fraction of Long-Run Marginal Costs in Many Transition Economies	15
1.1 Latin America and me Caribbean Has Led Developing Regions in Private Investment in Infrastructure, 1990-2001	34
1.2 The Optimal Size of Power Generating Plants Has Shrunk	39
1.3 There Are Now More Mobile Phone Users Than Fixed Phone Lines	41
1.4 Latin Americans Increasingly Disapprove of Privatization	52
1.5 Privatization Has Led to Rapid Growth in- Telecommunications Networks	54
1.6 Private Competition Generated me Fastest Gr owth in Telecommunications Lines in Latin America	56
1.7 Electricity Prices Often Fail to Cover Costs in Europe and Central Asia, 2000	66
1.8 Despite Liberalization, Entrants into the Local Exchange Account for a Small Share of Latin American Telecom Markets, 2001 Second Quarter	72
2.1 Results from a Survey of Telecommunications Regulators, 2001 93	93
2.2 Regulatory Indexes for Telecommunications in Latin America, 1980-97	94
3.1 Vertical Integration in Electricity	132
3.2 Customers per Electricity Employee in Selected African Countries, 1998	138
3.3 Projected Costs of Small-Scale Electricity Generation Technologies, 2000-15	139
3.4 The Single-Buyer Model for Electricity	148
3.5 The Wholesale Competition Model for Electricity	150
3.6 Average Ratios of Household to Industrial Electricity Prices, 1990-99	164
3.7 Types of Private Investment in Electricity, by Region, 1990-2001	170
3.8 Top 20 Recipients of Private Investment in Electricity, 1990-99	171
3.9 Post-Privatization Labor Productivity in Electricity Distribution in Argentina, Chile, and the United Kingdom	174
3.10 Energy Losses among Argentina's Distribution Companies, at	175

Privatization and in 1999	
3.11 Electricity Coverage in Peru, 1986-97	176
4.1 Railroad Freight in Transition Countries, 1988-2001	185
4.2 Cumulative Investment in Rail Projects with Private Participation in Developing and Transition Countries, 1990-2001	199
4.3 Performance of Class I U.S. Railroads, 1964-2000	200
4.4 Rail Labor Productivity in Argentina, 1974-2000	202
4.5 Cumulative Investment in Port Projects with Private Participation in Developing and Transition Countries, 1990-2001	211
5.1 Winners and Losers before and after Adjustments to a Water Concession in Parana, Argentina	246
6.1 Telephone and Water Access in Urban and Rural Areas of Developing Regions, 1990s	266
Tables	
1.1 Private Investment in Infrastructure in Developing and Transition Economies, by Sector, 1990-2001	33
1.2 Noncompetitive and Competitive Components of Network Industries	37
1.3 Exclusivity Periods for Incumbent Telecommunications Operators in Latin America	59
1.4 Access to Infrastructure Services in Urban and Rural Areas of Developing Regions, late 1990s	65
1.5 Average Household Incomes and Energy Tariffs in Ukraine, 1992-98	67
2.1 Ranking of Infrastructure Regulation in Asia, by Sector and Institutional Criteria, 1998	91
2.2 Example of Infrastructure Concessions in Developing and Transition Economies	107
2.3 X factor Decisions in U.K. and U.S. Telecommunications Regulation, 1984-Present	117
2.4 Features of Rate of Return and Price Cap Regulation	120
3.1 Net Electricity Consumption in Industrial and Developing Countries, 1990-2020	136
3.2 Options for the Structure of Electricity Markets	144
3.3 Cash Collection and Commercial Losses for Electricity Companies in Southeastern Europe, 2000	147
3.4 Market Shares of the Three Largest Generation, Transmission, and Distribution Companies in Various Countries, 2000	163
3.5 Electricity Reforms by Region, 1998	168
3.6 Private Investment in Electricity by Region, 1990-99	169
4.1 Market Structure and Ownership Options in Railroads, Various Countries, 2001	196
4.2 Rail Freight Tariffs in the Initial Years of Concessions and in 1999, Various Countries	203
4.3 Operating Performance of Ports in Colombia before and after Reforms,	212

1993 and 1996	
5.1 Ratios of Polices Charged by Water Vendors and Public Utilities	222
5.2 Institutional Options for Water Supply	228
5.3 Initial Conditions and Reforms in Six Water Systems	253
5.4 Effects of Reforms on Access and Waste in Six Water Systems	255