Index

access and interconnection, telecommunications pricing 278–96
types 280–81
  one-way 281–5
  two-way 286–92
access pricing 14–15
  and competition 10–11
  telecommunication industry 317–18
accountability and regulatory framework 190–91, 199–202
Acid Rain Program, US 272
affirmage contracts, water services, France 383
airlines
  and contestability theory 362–4
  peak-load pricing 15–16
airport privatization and regulatory structure, UK 367
Ambler, T. 245, 247
American Telephone & Telegraph (AT&T) 1–2
antitrust law and welfare loss from monopoly 64
Armstrong, M. 11, 112–13, 177, 279, 283, 297
Arora, S. 274
AT&T (American Telephone & Telegraph) 1–2
Atkinson, S. 270
auction theory 7–8
audit trail, RIA evaluation 248
Australia, consumer representation 221, 222, 226
Austrian economics
  and competition 44
  and market failures 328–9
Averch, H. 69
bankruptcy, telecom businesses, US 318–19
Baron, D. 7, 70, 210
Bauer, P. 121
Baumol, W.J. 7, 10, 41, 75, 362–3, 372
Beaty, P. 113, 114
Beesley, M.E. 50
Bell Journal 6
Bell System (AT&T) and economic research 6
benchmarking 117–38
  CAPEX see CAPEX benchmarking and information asymmetry 172
  and information extraction 174–5
  limitations 133, 135–7
  OPEX see OPEX benchmarking
Berger, U. 298
Bernstein, J. 123–4, 316
Bernstein–Sappington price cap model 316
beta coefficient measurement 148, 152–4
Better Regulation Task Force (BRTF) UK 197, 202, 239
bill and keep 289–91
binding legal standards, service quality 85
Bluffstone, R. 265
Bogetoft, P. 121
Boiteux, M. 75
Borestein, S. 19
Bös, D. 138
Boyd, M.J. 272–3
Bradford, D.F. 75
British Gas Corporation 3
  and benchmarking 126
British Telecom 2
  and benchmarking 124–6
  customer compensation 88
  price cap regulation 118
broadband services
  overcapacity 319
  provided by municipalities 318
BRTF (Better Regulation Task Force) 197, 202, 239
Buchanan, J. 38, 41
bulk water supply, competition 377–8
burden test 29
Burns, P. 140  
bus services, Demsetz competition 364–5  
Byatt, I. 141  
cable networks 307  
competition with wireline 313  
California, electricity industry deregulation 18–21  
Canada  
consumer representation 222  
RIA programme 239–40  
cap and trade emissions trading programme 267  
CAPEX (capital expenditure) benchmarking 118–20, 135  
electricity industry 127–30  
gas industry 126–7  
water industry 131–2  
Capital Assets Pricing Model (CAPM) 147  
capital expenditure forecasting, electricity distribution, UK 175–80  
capital structure 155–9  
debt financing 147, 149  
CAPM (Capital Assets Pricing Model) 147  
carbon tax 335–6  
carbon trading scheme 336  
Cason, T. 274  
catch-up effects and efficiency benchmarking 122–3  
cellular wireless networks 308–9  
Central and Eastern European transition economies, pollution taxation 265  
CERCLA (Comprehensive Environmental Response, Liability and Compensation Act) 261  
Chile, fishing quotas 271  
Clean Air Act Amendments, US 272  
climate change and energy policy 334–6  
‘club’ response to natural monopoly 42  
Coase, R.H. 40, 46, 257, 269  
Coase Theorem 40  
Coelli, T. 122  
coercive regulation 325  
Collette, M. 3  
command-and-control regulation 262–3  
commitment and incentive compatible regulation 173–4  
common knowledge assumption 78–9  
comparative competition, water services, England and Wales 381  
comparative performance measurement  
see benchmarking  
compensation payments and service quality 85–9  
competition and access prices 283–4, 317–18  
in natural monopolies 45–6  
telecommunications, UK 2  
in utilities, developing countries 112–14  
in water services markets 376–9  
competition law 113  
developing countries 109  
competition promotion, UK energy industry 341–2  
competitive order and regulation 44–5  
compliance tests, RIA 245  
Comprehensive Environmental Response, Liability and Compensation Act (CERCLA) 261  
concession contracts, water services, France 383  
Constitution Committee report on regulatory state, UK 197–8, 203–4  
consumer bodies, UK 212–20  
Consumer Direct 228  
consumer representation 209–29  
power of exit 214  
UK 211–20  
contaminated land, liability, US 261–2  
contestability theory 7  
and airline industry 362–4  
contract incompleteness, water services 384–6  
contract monitoring 386  
cooperative arrangements and natural monopoly 42  
corporate governance and regulatory governance 189  
corporate social responsibility (CSR) 273  

cost of capital and regulation 146–61  
cost inefficiencies, transport industry 360  
cost reduction incentive scheme, National Grid Company 180–81  
cost of service regulation  
see rate of return regulation  

cost structure, water services 371–6
Index 397

Cournot competition and access prices 284
Crew, M.A. 7, 9, 70, 78, 173, 185
cross-subsidies, transport industry 352
CSR (corporate social responsibility) 273
customer compensation payments 85–9
customer service, impact of price regulation 83
Customer Service Guarantee, BT 88
data envelopment analysis (DEA) and benchmarking 121
deadbands and sharing, PBR 73
deadweight loss from monopoly 64
second best pricing, transport industry 355–6
debt finance in capital structure 147, 149
default service obligation (DSO) 12–14
electricity industry 18
DeGraba, P. 286, 289–90
delivery targets, Royal Mail 88, 100, 101
demand characteristics, transport industry 352
Demsetz, H. 39, 51
Demsetz competition, transport industry 364–6
deployment control, energy resources 326–7
deregulation 1–6
and default service obligation, US 18
problems, California 18–21
Deregulation Unit, UK 239
developing countries
RIA adoption 241–2
utility regulation and competition 106–15
dispute resolution 226–7
dolphin-friendly tuna labelling 274–5
Dolphin Protection Consumer Information Act 275
Drinking Water Inspectorate 85
dynamic regulation and information asymmetry 173
eco-labelling 274–5
economic efficiency see efficiency
economic regulation see regulation
economically efficient prices 74–8
in regulated monopolies 63–6
economics of density, transport industry 351
economies of scale see scale economies
economies of scope see scope economies
economists, changing role 14
ECPR (efficient component pricing rule) 10, 282–4
efficiency
access prices 282–3
models 133, 135–6
as pricing objective 64–6, 281
and privatization 43
and scope of regulation 72–3
efficient component pricing rule (ECPR) 10, 282–4
electricity distribution
benchmarking 128–9
for information extraction, NL 174–5
capital expenditure forecasting 175–80
cost reduction incentive scheme, UK 180–81
revenue caps and performance, Norway 182–4
electricity industry
benchmarking, UK 127–30
customer compensation payments 86, 87–8
deregulation 3–4
and peak-load pricing 16
peer pressure and service quality 96, 98
regulation formula and service quality 91–3
restructuring, US 16–21, 73
see also electricity distribution
emission standards 266–72
energy industry
default service obligations 12
regulation 325–44
Australia 221, 222, 226
resource regulation 326–7, 330–38
restructuring 3
utilities regulation 327–8, 338–44
see also electricity industry; gas industry
energy policies 326–8, 329–38
energywatch 215–20, 229
engineering models and benchmarking 121
Enron 3
entry barriers, airline industry 363–4
entry control, transport industry 358, 359–60
environmental effects and energy policy
327, 333–6
environmental liability 257–62
environmental regulation 255–75
equity beta coefficients 152–4
equity risk premium (ERP) measurement
147–8
Estonia, emission taxation 265
European Union
competition in water services retailing
378–9
consumer protection 221
Demsetz competition, passenger rail
services 365
environmental liability 260–61
RIA adoption 240–41
exit control, transport industry 358–9
exit rights and consumer representation
210, 226
expert panels and tariff dispute resolving
386
Extended Impact Assessments 247
externalities and environmental regulation
255
Fabbri, P. 375
*Fair Deal for Consumers, A: Modernising the Framework for Utility Regulation* 212
Farrell, J. 185
Farrell, M.J. 121
Farsi, M. 133
Federal Energy Regulatory Commission
(FERC) 4
Fernando, C.S. 29
fibre to the premises (FTTP) 312–13
Filippini, M. 133
financeability testing 159–61
Fios fibre communication 313
first best pricing, transport industry
355–6
fishing industry ITQs 270–71
fixed wireless networks 310
forecasting failures, California electricity
industry 19
fortress hubs, airline industry 363
fossil fuel price rises and energy policy
331–3
Foster, V. 385
France, water services PSP 382–4
franchising 51–2
Fraquelli, G. 375
Friedland, C. 37
frontier shift effects and efficiency
benchmarking 122–3
FTTP (fibre to the premises) 312–13
fuel taxation 266
function tests, RIA 247–9
Garcia, S. 375
Gardner, R. 256
gas industry
benchmarking 126–7
restructuring 3
scope of regulation 72
general competitive equilibrium 35–6
gérance contracts, water services, France
382
German Blue Angel eco-labelling 274
Glas Cymru 391
global price caps 11
Goldberg, V.P. 9
government intervention in energy
market 326–8
green taxation 263–6
Guaranteed Standards Scheme (GSS),
UK water industry 87
Guasch, J.L. 385
Hahn, R.W. 245, 270
Hayes, K. 375
Hermalin, B.E. 290, 298
Hester, G.L. 270
Heyes, A.G. 272, 274
Hicks, J.R. 8
hidden action 164–5, 167–71
hidden information 164–71
Hogan, W.W. 3
Hood, C. 191–2, 197
Huber, P. 17
Iceland, fishing quotas 271
incentive regulation 8–9, 117
### Index

**see also** price cap regulation
- incentives
  - for cost reduction, electricity industry 180–81
  - for information revelation 164–86
  - for service quality
    - Royal Mail 88–9
    - Scottish Water 387
- incomplete contracts, water services 384–6
- indigenous energy resources, protection of 327
- individual transferable quotas (ITQs) 270–71
- industrial structure and competition approach 114
- inefficiency, regulatory 111–12
- information asymmetry 164–74
- Information and Incentives Mechanism (IIP), Ofgem 91–3
- information and quality of service regulation 181–4
- information rents and regulated monopoly 66–72
- information revelation and incentives 164–86
- infrastructure provision, transport 350–51
- insurance principle, government interventions, fossil fuels 333
- interconnection charging *see* access and interconnection pricing
- interest groups and energy market regulation 328
- intermodal competition, transport industry 361–2
- international benchmarking 136
  - telecommunications 124–6
- Interruption Incentive Scheme, Ofgem 92
- ITQs (individual transferable quotas) 270–71

- Jacobs, S. 237
- Jalilian, H. 52, 249
- Japan, water services, economies of scale 375
- Johnson, L.L. 69
  - *see also* Averch–Johnson effect
- Joskow, P.L. 3

- Kang, J. 284
- Karl, H. 274
- Katz, M.L. 290, 298
- Kim, E. 375
- Kim, H.Y. 375
- Kingdom, W. 375
- Kirkpatrick, C. 241, 247
- Kleindorfer, P.R. 7, 70, 78, 173, 185
- Kovacic, W. 1
- Krueger, A. 38

- Labour Government, UK, review of regulation 195–6, 211–12
- Larson, B.A. 265
- Latin America, consumer representation 222
- lead trading programme, US 271–2
- Lee, H. 375
- Lee, N. 233, 247
- legal liability for environmental damage 257–62
- Leitzinger, J. 3
- Lightspeed broadband project 313
- Littlechild, S. 8, 49, 50, 82, 118, 138, 140, 141
- London bus services, Demsetz competition 364–5
- London Underground PPP 385
- low income consumers, and Energywatch 219–20
- Low Income Energy Consortium, US 226
- maintenance costs, wireline network 305
- management contracts, water services, France 382
- marginal cost of public funds 113
- market failure, energy markets 329–37
- Markou, E. 86, 102
- mathematical modelling and benchmarking 121
- Maxwell, J.W. 274
- mechanism design theory 7–8, 70–72
- Mercury 2
- metering, water 381–2
- Miceli, T.J. 272
- Michigan, Public Service Commission 226
Mikkers, M. 136
Mills, M.P. 17
Mizutani, F. 375
monitoring contracts, water services 386
monopoly regulation
developing countries 106–15
and efficient pricing 63–74
Montgomery, W.D. 267
Moran, M. 191, 193
municipalities and broadband service provision 318
Myerson, R. 7, 70
National Audit Office, UK, RIA evaluation 245–7
National Energy Code Administrator, Australia 222, 226
National Energy Task Force, Canada 222
National Utilities Consumer Council 228
nationalization of natural monopoly 42
natural gas industry see gas industry
natural monopoly 41–4
and competition 45–6
and sub-additivity 54
transport industry 353–5
Nee, V. 35
negligence-based liability rule 258–61
NETA (New Electricity Trading Arrangements) 343
Netherlands electricity industry, benchmarking 174–5
network characteristics, transport industry 351–2
network construction costs, wireline network 305
network economies in consumption 41
network industries and peak-load pricing 16
network separation, energy 340–41
New Electricity Trading Arrangements (NETA) 343
New Institutional Economics and economic regulation 39–41
New Zealand
Electricity Commission 221
ITQs, fishing 271
RIA adoption 240
nirvana economics 39
non-statutory consumer bodies 213
Nordic Swan eco-labelling 274
Norton, P. 204
Norway, quality regulation, electricity distribution 182–4
OECD countries, RIA adoption 234–5, 237
OECD regulatory framework 202–3
Ofcom consumer panel 215
Offer
benchmarking 127, 128, 129
incentive scheme 181
Ofgas
and benchmarking 126
consumer representation 214
Ofgem
and benchmarking 126–30, 135
capital expenditure forecasting 175–8
incentive schemes 91–3
performance tables 96
Ofetel, benchmarking 124–6
Ofwat 94, 96
and benchmarking 130–33, 135
financeability testing 159
performance tables 94–6
and quality standards 85, 90–91
and water company conduct 379–82
one-way access and interconnection 280–81, 281–5
OPEX (operating expenditure) benchmarking 118–20, 122–4, 135
electricity industry 127–30
gas industry 126–7
water industry 131–2
ordered competition 44–7
organizational and regulatory culture, effect of RIA 248
Orwat, C. 274
Ostrom, E. 256
overcapitalization as incentive for service quality 83–4
Panzar, J.C. 372
Pargal, S. 273
Parker, D. 109, 140, 374
Parliament, UK
and regulatory accountability 200, 201
review of regulation 197–9
PBR (performance-based regulation) 73
PCR see price cap regulation
peak-load pricing 15–16
peer pressure and service quality 93–9, 102
Peltzman, S. 38
Perelman, S. 122
performance-based regulation (PBR) 73
performance league tables and service quality 93–9, 102
performance tests, RIA 245–7
Phillips, A. 1, 77
Pigou, A.C. 263
pipelines, regulation, US 367
Plain Old Telephone Service (POTS) 304–7
Polanyi, K. 35
Poletti, S. 289
political support for RIA 243
pollution taxation 263–6
Posnerian approach to deregulation 13
post-tax cost of capital 148
postal services
access pricing 10–11, 14–15
customer compensation 88–9
quality 100, 101
postal worksharing 14–15
POTS (Plain Old Telephone Service) 304–7
pre-tax cost of capital 148, 156
pressure groups and energy market regulation 328
price cap regulation 8–9, 49–50, 67–8, 117
and benchmarking 117–38
compared with PBR 73
developing countries 107–8
and service quality 82–3, 89–93
telecommunication industry 313–16
UK 339–40
water services, England and Wales 380
price control
transport industry, US 357–8
see also price cap regulation
price discrimination
airlines 15–16
transport industry 351
price regulation
and efficiency maximization 64–6
and service quality 82–102
Prices vs. Quantities 257
pricing
objectives, access and interconnection 281
problems, transport industry 358
in regulated monopolies 63–78
principal–agent theory 7–8, 47–8, 55–6
private sector participation (PSP) contracts, water services 382–6, 389
France 382–4
private toll roads, regulatory structure 368
privatization 1–4
and competition 44–7
and consumer representation 210
developing countries 106–15
natural monopoly industries 43
rail see rail privatization
UK 195–6
water services, England and Wales 374
process reforms to improve accountability 196–7
productivity indices and benchmarking 120
profit sharing regulation 50–51
property rights in energy resources 326
PSP see private sector participation contracts
public choice theory
and market failures 328
and regulation 37–9
public funds, marginal cost of 113
public goods
and environmental regulation 255
and transport industry 355
public interest theory of regulation 35–7
public policy objectives, access pricing 282
public private partnership (PPP), monitoring 385
public utilities regulation, Scotland 386–8
Public Utility Regulatory Policies Act (PURPA) 3–4
quality of regulation, OECD definition 244
quality of service see service quality
rail privatization
and competition 46
Demsetz competition 365
and regulatory structure, UK 367–8
rail travel
customer compensation payments 86
service quality league tables 97–9
Ramsey, F.P. 75
Ramsey pricing 65, 76
ratchet effect 179–80
rate of return regulation (ROR) 48–9,
67–8, 117, 339
criticism of 8, 69
real-time pricing 15–16
régie intéressée, water services, France
382
Regional Bell Operating Companies
(RBOCs) 2
regulated competition and access pricing
10–11
regulation
and competition 44–7
and consumer representation 209–29
and the cost of capital 146–61
definition 325–6
developing countries 106–15
energy industries 325–44
and environmental protection 256–75
Labour Government review 195–6,
211–12
methods 47–52
and pricing 63–74
as surrogate for competition 110–12,
113–14
and the telecommunication industry
302–20
theories 6–14, 34–41
transport industry 350–68
water and sewerage services 370–90
regulators, energy, UK 338–9
regulatory accountability 190–91,
199–202
regulatory capture 111–12
and RIA 243–4
regulatory culture, evaluation of RIA
effects 248
regulatory environment, evaluation of
RIA impact 248–9
regulatory formulae and service quality
89–93
regulatory framework 190–91
regulatory governance 188–205
regulatory impact assessment (RIA) 197,
201, 232–50
definition 233–6
principles 236–7
regulatory paradigm, UK 192–4
regulatory quality, OECD definition 244
regulatory reform 1–6
regulatory state, characteristics of 191–4
Regulatory State, The: Ensuring its
Accountability 198
reliability of service, impact of price
regulation 83
Remedying Environmental Damage 261
rent seeking 38
regulated monopoly 66–72
reputation effects and service quality
93–9, 100, 102
Responsible Care Program 274
revenue caps, electricity distribution,
Norway 182–4
RIA see regulatory impact assessment
Ricardian scarcity, fossil fuels 331
Rickman, N. 272
risk aversion
and capital expenditure forecasting
177
and information asymmetry 171–2
risk-free interest rate measurement 147
risk measurement and cost of capital
determination 149–55
road pricing 266
roadmap for regulation, transport
industry 353–58
Roberts, G.L. 77
Rohlfs, J. 65
ROR see rate of return regulation
Rose, N.L. 359
Rowley, C.K. 9
Royal Mail, customer compensation
88–9
RPI minus X regulation 49–50, 339
see also price cap regulation
rule-setting regulations 34
Saal, D. 140, 374
Sappington, D.E. 123–4, 316
satellite communications 311–12
SBC 312–13
scale economies 372
water services 373–6
Scandinavia, dispute resolution 226
Schumpeterian competition and regulation 46–7
scope economies 372
in natural monopoly 41
water services 373–6
scope of regulation, and efficiency improvement 72–3
Scotland, water services regulation 386–8
second best pricing, transport industry 355–6
second best regulation, transport industry 356–8, 366–8
sector regulatory agencies 113
security of supply, and energy policy 330–31
Segerson, K. 272
Service Performance Adjustment, Ofwat 90
service quality
and benchmarking 136–7
and binding targets 85
incentives, electricity distribution, Norway 183–4
and peer pressure 93–9, 102
and price regulation 82–102
regulation and information asymmetry 172–3
and regulation, transport industry 360–61
Sethi, R. 256
Shavell, S. 260
Shestalova, V. 136
Shleifer, A. 117, 119–20
Sidak, J.G. 10
Singapore, road pricing 266
social norms and common property resources 256
Somanathan, E. 256
spatial competition, transport industry 362
standards, legal, service quality 85
Stavins, R.N. 270
Sterner, T. 265, 271
Stigler, G.J. 37, 38, 39
stochastic analysis and benchmarking 120–21
Stone and Webster Consultants 374
Strategic Rail Authority 98–9
strict liability 258–61
structural separation, telecommunications industry 319–20
structure regulation, water services market 388–9
sub-additivity and natural monopoly 54
sunrise clauses for consumer representation 214
supervisory agencies, water sector 384–6
supply security, and energy policy 330–31
Sweden, dispute resolution 226–7
‘take the money and run’ strategy 174
targets, legal, service quality 85
technological change
and regulation, transport industry 352–3
telecommunications 2
telecommunication industry 1–2
access and interconnection charges 278–96
and access pricing 10
benchmarking, UK 124–6
competition 312
market developments 316–20
price caps 313–16
and regulation 302–20
regulatory intervention, UK 46–7
structure 1–2, 312–13
technologies 303–12
telephone service 304–7
customer compensation 88
TEPs (tradable emissions permits) 266–72
33/50 Program 273–4
Thomas, A. 375
Tiesl, M.F. 274–5
Tietenberg, T. 270
timing distortions 178–9
Törnqvist index 138
tradable emissions permits (TEP) 266–72
train operating companies, service quality league tables 97–9
transaction costs 39–41
and ordered competition 46
permit trading 270
Transco and benchmarking 126–7

Index 403
transition countries
  pollution taxation 265
  RIA adoption 241
Transmission Services Scheme (TSS) 181
transport industry 350–68
  Demsetz competition 364–6
  industry characteristics 350–52
  regulation 350–68
Tullock, G. 9
two way interconnection 280–81, 286–92
Tynan, N. 375
unbundling of the regulatory state 199
union power, transport industry 359–60
United Kingdom
  benchmarking 124–38
  capital expenditure forecasting 175–80
  cost of capital regulatory decisions 148–9
  cost reduction incentives, National Grid Company 180–81
  customer compensation 85–9
  electricity industry 4
  energy utilities regulation 338–44
  natural gas industry 3
  passenger rail services 365
  price cap regulation 69
  public enterprises performance problems 42
  regulatory governance 194–205
  RIA adoption 239
  service quality regulation 85–102
  telecommunications industry 2
  water industry 373–5, 379–82
United States
  access and interconnection pricing 279, 292–5
  Acid Rain Program 272
  consumer representation 222, 226
  electric utility industry 3–4
  energy utilities regulation 338
  lead trading programme 271–2
  liability for contaminated land 261–2
  National Low Income Energy Consortium 226
  natural gas industry 3
  and price cap regulation 9
public choice theory and regulatory
  system 38–9
  RIA adoption 237–8
  ROR regulation 68
  telecommunication industry, changes 1–2
  voluntary agreements 273–4
  water industry 375
United States Postal Rate Commission 14
United States Postal Service (USPS) 14
Urakami, T. 375
utility regulation
  developing countries 106–15
  see also individual industries
Verizon 312–13
vertical disintegration and competition in
  natural monopolies 45–6
Vibert, F. 245
VoIP communication 307–8
volumetric charging, water, England and Wales 381–2
voluntary agreements (VA) 272–4
voluntary regulation 325
Waddams Price, C. 86, 94, 100, 102
wastewater tariffs, England and Wales 382
water and sewerage industry
  benchmarking 130–33
  competition 376–9
  conduct regulation 379–86
  customer compensation payments 86, 87
  incentive measurement timing distortion 178
  peer pressure and service quality 94–6
  public utility regulation 386–8
  regulatory formulae and service quality 90–91
  risk measurement and cost of capital 152–3
  service quality standards 85
  structure regulation 370–79
Weaver, J.L. 3
weighted average cost of capital (WACC) 148
Weisman, D.L. 283–4
Weitzman, M. 257
<table>
<thead>
<tr>
<th>Term</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>welfare economics theorems</td>
<td>36, 53–4</td>
</tr>
<tr>
<td>welfare loss from monopoly</td>
<td>64</td>
</tr>
<tr>
<td>Wheeler, D.</td>
<td>273</td>
</tr>
<tr>
<td>wheeling</td>
<td>378</td>
</tr>
<tr>
<td>wholesale markets, electricity generation</td>
<td>342–4</td>
</tr>
<tr>
<td>Wi-Fi (wireless fidelity)</td>
<td>310–11</td>
</tr>
<tr>
<td>Williamson, O.E.</td>
<td>52, 75</td>
</tr>
<tr>
<td>Willig, R.D.</td>
<td>10, 372</td>
</tr>
<tr>
<td>WiMAX (wireless microwave access)</td>
<td>310–11</td>
</tr>
<tr>
<td>windfall tax on privatized utilities, UK</td>
<td>195–6</td>
</tr>
<tr>
<td>wireless fidelity (Wi-Fi)</td>
<td>310–11</td>
</tr>
<tr>
<td>wireless microwave access (WiMAX)</td>
<td>310–11</td>
</tr>
<tr>
<td>wireless networks</td>
<td>308–9</td>
</tr>
<tr>
<td>wireline</td>
<td>304–7</td>
</tr>
<tr>
<td>Wolak, F.A.</td>
<td>4</td>
</tr>
<tr>
<td>Wright, J.</td>
<td>289, 290</td>
</tr>
<tr>
<td>X-efficiency, PCR</td>
<td>8–9</td>
</tr>
<tr>
<td>X factor</td>
<td>118, 123–4</td>
</tr>
<tr>
<td>BT</td>
<td>125</td>
</tr>
<tr>
<td>electricity industry, Netherlands</td>
<td>174–5</td>
</tr>
<tr>
<td>yardstick competition</td>
<td>see benchmarking</td>
</tr>
<tr>
<td>Yarrow, G.</td>
<td>109</td>
</tr>
</tbody>
</table>