Bradley, M.D. 335, 372, 373
Braeutigam, Ronald R. 7–8
brand loyalty 121
Brealey, R. 244, 245
British Airways plc v Commission 263, 269–70, 271
British Telecom 7, 242, 243
broadband 95, 121, 347
BT 7, 242, 243
Bulgaria, licensing regime in 284, 290
bulk mail
companies focusing on 222, 226, 227
competition in 45, 225, 227, 228, 252
equivalent terms of access for 277
USO and 347
VAT on 220, 222
zonal pricing for 345
Bundeskartellamt 219
Bundesnetzagentur 196, 198, 219, 220, 221
Burns, P. 121
Bush, George W. 249, 253
business cycles 96, 102
Business-to-Business (B2B) mail flows
demand for
company turnover and 98
economic and demographic dispersion
and 74–6, 79–84
own price elasticity of demand 96–7
substitution by electronic communications
91, 93, 94, 95–8, 103, 104
trends in 75, 89, 90, 95
and network externalities 301–2
parcel business lost by USPS 5
Business-to-Consumer (B2C) mail flows
companies focusing on 222–3, 227, 229
demand for
economic and demographic dispersion
and 74–6, 79–83
own price elasticity of demand 99–100
substitution by electronic communications
91–2, 93, 94, 98–101, 103, 104, 264
trends in 75, 89, 90, 95, 98, 263
network externalities in Sub-Saharan Africa
301, 303, 306
Businesspost 222, 223
bypass
prices, volume and welfare with entry
through 155–60, 166
pricing and investment strategies to deter
125–34
route-cost profiles and outcome of FMO in
bypass model 169–82
C-licences 220
C2C mail flows see consumers, mail sent by
CAA see Civil Aviation Authority (CAA)
call externality 28, 33, 34
Calzada, J. 16, 244
capital asset pricing model (CAPM) 233,
237–8
CAPM alpha risk 239–40, 244
CAPM beta risk 238–9, 244
Capital One NSA 199, 200, 203–4, 209
carrier identification 289
cash on delivery (COD) 108–9
Cassa Depositi e Prestiti 40
Castronovo, V. 40
cavallari 39
Cazals, C. 233
Cazenave, T. 244
CEN/TS 15523 (2006) 381, 382
CERP see Committee of European Postal
Regulators (CERP)
Chronopost case (2003) 347
Chu, E. 335
Citipost 220
City Mail case 274
Civil Aviation Authority (CAA) 241, 245
Civil Service Retirement System (CSRS) 255
Clements, M.P. 64, 69
card goods 190, 191, 192
two-sided markets analysis and club effects
300–303
Coase, R. 46
Coasian bargain 40–41
Cobb–Douglas model 376
Cohen, Robert H. 49, 57, 335, 348, 372
co-location strategies of competing services 53
Colvin, J. 335, 372
Combs, P.P. 47
commercial services networks
accessibility in France 48–54
Commission for Energy Regulation 242
Commission of the European Communities
189
Committee of European Postal Regulators
(CERP) 291, 339, 340, 343
common costs, allocation of 339–42, 346, 348
common pool resources 190, 191
compensation to customers 234, 243–4
competition fund 167
competitive fringe 134, 152
competitive products 251, 252–3, 257
complaints 258, 285, 288, 289
conflict of interest 266–7
conjoint analysis 108
consistency principle 339
consolidation services 218
constrained access (deferred bypass) 129–31
investment incentives under 132–3
convenience stores, mail collection from 109, 110
conveyance and delivery obligations 287
coordination costs 378
Correos y Telégrafos 224, 225
Correspondence Delivery Law (2003) 118
‘correspondence’ mail, proportion of 380–81
cost accounting
data requirements for, in the mail
communication system 370–83
requirements in EU 339–42, 345, 346, 348–9
see also product costing, tradeoffs in
cost causality principle 339, 340
cost elasticities of cost pools 353, 356–63, 364, 365, 367
cost-of-service regulation 7
cost plus principle 228, 229, 277–8, 279
cost pools 353, 354
Council of European Energy Regulators 242
Council of Ministers 167, 275, 279
counter services 36–7
courier services 287, 291
courthouses 49, 50, 53, 54
CRA 373
credit/debit cards 27–8, 137, 138, 210, 218
Cremer, H. 30, 35, 45, 134, 244
Crew, Michael A. 7, 11, 13, 15, 16, 18, 30, 48,
125, 127, 134, 150, 168, 178, 237, 300, 306,
365, 372
Critelli, Michael 89
cross-border mail 273, 274
accounting systems for 345–6
cross-elasticity of demand
discount elasticity of first class and
Standard Mail 202, 204, 206, 208,
211–12
incumbent’s letter price and demand faced
by entrant 126
cross-subsidies
EU competition law approach to 267–9
from low-cost to high-cost customers 4, 5,
26–7, 29, 32–3, 180–81
PCR and incentives for 7, 8, 9, 11
in two-sided markets 28, 137–9, 145, 146,
147, 307
Cusack, Thomas 76
customer complaints 258, 285, 288, 298
customer direct access (CDA) 226, 228
d’Alcantara, G. 168, 171
D-licences 219, 220, 221, 286
damaged items 243
data protection 283, 285
De Donder, Philippe 16, 125, 150, 151, 154,
161, 162, 171, 233
De Rycke, Marc 100, 112
delivery costs
cost accounting for 375, 377
fixed 127, 128–9, 131, 171–2
per unit 127, 128–9, 131, 174–6
route-cost profiles and market entry under
FMO 167–82
delivery flat rate 139, 140, 141, 145
delivery frequency
demand related to 28, 108, 109–10, 118, 119
in EU member states 346–7
licensing requirements for 290
USO constraint on 169, 170
delivery mode, demand related to 108
delivery scheduling 333
delivery speed
demand related to 108, 109, 110, 111, 112,
117, 118, 119
see also next-day delivery
Delivery Stop Point Density 169, 172–3
Deloitte 225
demand externalities 57–8
demand for mail
country-specific fixed effects and 79
demand analysis of small package market in
Japan 107–20
derived from utility of a representative
sender 171, 183
forecast uncertainty in dynamic models
63–70
impact of economic and demographic
dispersion on aggregate mail volumes
74–85
substitution of letter mail for different
sender–receiver segments 89–104
Denmark
ethnic diversity in 78
post offices in 37
Dense Stop Point route profile 168, 171, 172,
173, 174, 176, 178, 179–80, 181
Deutsche Post AG (DPAG)
access to network of 219, 272–3, 277
acquisitions by 223, 225
European Commission cases against 219,
267–8, 272–3, 277
exempt from VAT 220
and licensing regime 286
and postcode system 195–6
Royal Mail agreement with 277
scope economies exploited by 5
DHL / Deutsche Post 272
DHL Global Mail 225, 228
Dietl, Helmut M. 148, 216–17, 218, 222,
230
Digital case 275
direct mail
growth rate in EU 264
licensing regime applicable to 286
physical return to sender 139
electronic notification in lieu of 199, 200, 204, 205, 210–11
selective discounts to 275–6
sender pays postage on 136, 138
share of German mail market 221
treated as printed matter 221
volume discounts for see volume discounts in regulated posts
Discover NSA 200, 204–6, 209
displacement ratio 155, 164, 171, 181
Distribution Bar Code Sorting (DBCS) machines 316
document exchange services 217
examples in EU countries 220, 227
licensing regime for 220, 286
Dual route-cost profile 168, 172–3, 175, 176, 177, 178, 180–81
Dutch Ministry of Economic Affairs 222
Dutch Postal Act 221
new 222
DX Network Services 227
E-Communications Network 371
EC Treaty
    Article 82 (EC) 263, 269, 272, 273, 275, 277, 279, 341
derogations contained in 288
economies of scale see scale economies
economies of scope see scope economies
ECORYS 216, 219, 225, 230, 291, 293
ECOSOC 296
Efficient Component Pricing 252, 258
El País 224
elasticity of demand for mail see price elasticity
electronic Address Correction Service (ACS) returns 199, 200, 204, 205, 210–11
electronic communications penetration of 93, 95, 98, 101, 103
substitution for letter mail 23, 107, 222
for different sender–receiver segments 89–104, 264
see also email, substitution for letter mail;
    Internet; mobile phone text messages;
    telefax; telephone communications
ELF index 78
Elkelä, Kari 91, 102
Elsenbast, W. 108
email, substitution for letter mail 23, 89–90, 222

for different sender–receiver segments 91, 93–104
email addresses 99, 103
English Court of Appeal 272
Entrega en Mano 225
entry barriers 3, 129, 131, 291, 342
equi-proportional mark-up (EPMU)
    regulation of mail network operator (MNO)
        only 150–51, 153, 154, 157, 158–60, 165–6
    regulation of PO as a whole 150, 153, 155–6, 164
Ericsson, N.R. 64, 70
Estach, A. 295
Estavez-Abe, Margarita 76
EU Directives
    First Postal Directive (97/67/EC)
        accounting implications of 338–9, 350
        avoided costs principle in 278
        licensing regimes under 282–3, 288, 289
        accounting implications of 339, 345–6
        no requirement to grant access under 278
        non-discriminatory access required by 278
Third Postal Directive (approved July 11, 2007)
    accounting implications of 338–50
    content of 265–7, 274
    licensing regimes under 282, 283–4, 291
    and postcode systems 189
    pricing of access to postal services
        network 276–9, 346
    removal of prohibition on cross-subsidies 267–9
    and scope of competition legislation 279–80
    subsidies payable from regulator to USP under 170
    Euro Mail Group 223
    European Commission 47, 372
    Postal Directives see EU Directives
    Postal Notice (1998) 342, 350
    proportionality principle of 288–91
    and VAT 220
    European Court of First Instance 267, 268, 269, 272, 277
    European Court of Justice 263, 266, 269, 283, 288, 289, 341
    European Parliament 3, 167, 275, 279, 341, 350
    European Regional Development Fund 47
    European Union
        Directives see EU Directives
        and application of competition law 263–80
        see also Full Market Opening (FMO)
excludability 190
   in use of postcodes 191, 192
exemption from penalties 241
exigent case 255–6
Express Mail 252
express services 252, 287, 291

fair competition 7–8, 252–3, 257
fake destinations 196
FEDEX 5
Felisberto, Càtia 137, 139
Fenster, L. 383
Fève, Frederique 97, 100, 301
FiCom 95
fidelity rebates 268
financial exposure limit 241–2
financial services offered by post offices 40, 45, 46
financial stability of USPS 250–51, 254–5
Financieel Dagblad 223
fines 220, 226, 234
   limits on 241–2
Finland
   econometric models used in 63
   licensing regime in 285, 290
   pay-or play mechanism in 181
   post offices in 37
   reserved area in 264
Finland Post 63
first class mail
   cross-elasticity of demand in relation to
      Standard Mail 202, 204, 206, 208,
      211–12
   cross elasticity of demand in relation to
      telecommunications prices 96
   own price elasticity of demand for 99–100,
      102, 201, 202, 204, 205–6, 208, 211
   predicting demand volumes for 65–6, 68
      for volume discounts 200, 201–3, 209–12
   price stability of 251
   service standards for 252, 257
   volume discounts on marketing mail
      199–213
   volume shifts between Standard Mail and
      203–4, 205, 207, 259
   willingness-to-pay for service quality
      improvements 242
First Handling Pieces (FHP), data on 374–5
First Postal Directive (97/67/EC) see EU
   Directives
flats sorting
   ML estimate of translog production
      function 328–9
   production function for 321–3
   returns to density and scale 324–5

FMO see Full Market Opening (FMO)
forecast uncertainty in dynamic models,
   applied to demand for mail 63–70
France
   accessibility of public services and
      commercial services networks in 48–54
   definition of USO in 24
   government’s general expenditure in 75
   licensing regime in 285–6, 293
   post offices in 37, 47
France Télécom S.A., formerly Wanadoo
   Interactive S.A. v Commission 268
franchises 37, 41, 225
French Competition Council 270
Friedli, Beat 137, 139
Fromantçais case 288
Full Market Opening (FMO)
   funding the USO under 4–6, 125
   implementing PCR under 11–14
   post-FMO pricing 128–9, 170, 173, 179,
      184–5
   pre-FMO pricing 127–8, 170, 173, 184
   regulatory accounting requirements
      following 338–50
   role of regulation under 6–11
Fuller, W. 38
Fundenberg, Drew 126
gas distribution 242, 243
gas stations 49, 50, 54
gas suppliers 243
Gautier, Axel 125, 127, 134, 182
GB-Inno-BM 266
gender, customers’, and service quality
   demanded 110, 112, 117
geographic postcodes 191, 192, 193, 195, 196,
   197, 198
German Ministry of Economics and Labour
   220
German Postal Law 219, 267, 272, 277
Germany
   access pricing in 219, 226, 229, 272–3, 277
   definition of USO in 24
   full liberalization of postal market in 219,
   220
   licensing regime in 219, 220, 221, 286, 291–2,
   293
   post offices in 37
   postcode system in 192, 195–7
   service quality factors in 108
   VAT regime in 220
GINI coefficient 77, 80–81, 83–4
Gleazer, Edward L. 85
Gleiman, Edward 250
global price caps 13–14, 127
Goethe, J.W. 370
Goicoechea, M.A. 295
Goldfeld, S.M. 335
Gori, S. 372
Government Planning and Results Act
(GPRA) (1993) 259
graveyard spiral 178
Greater London 345
Greece, post offices in 37
gross domestic product (GDP)
  and demand for mail 74, 77, 80, 89, 96, 99,
  238–9
  and public services provided 57
  stock market index and changes in 239
    in Sub-Saharan African countries 296
Grossekettler, H. 190
Grossman, Martin 74, 148
Grouping Index 167, 169, 171
GSK v Commission 272
Gupta, S.N. 335
Hall, Peter A. 76
Hamilton, J.D. 335
Harding, Matthew C. 74, 77, 83, 92, 97, 100,
  102
Hartley, M. 335
Hatfield derailment 242
Hays Management Services SA 273
Hearn, John 341
Heino, Aulikki 91, 92, 93, 94, 95, 96
Hendry, D.F. 64, 69, 70
Hermanos 225
Hicks, J.R. 15
Hill, Rowland 5, 39, 136, 139, 300, 306–7
Hoffman La Roche v Commission 270
Holt, L. 242, 244
hospitals 49, 50, 54
Hotelling's law 53, 141, 143
households, number of, and demand for mail
  79
HSBC NSA 200, 209
Hungary, licensing regime in 286–7, 290
hybrid mail 264
Ida, T. 121
Ilots 48
income inequality
  and demand for mail
    baseline panel data model 78–80, 83–4
    differences across developed countries 75
industrial action 241
industrial engineering models 365
inputs, mail products as 26–7
INSEE 48
Instrumental Variables (IV) estimator 319, 320,
  374
insurance 240
integrated mail logistics service 286
Intelligent Mail 252, 375
interconnection rates 145
interest rates 200
internal benchmarking 376
Internal Market 264, 338, 348
International Accounting Standards (IAS) 343
Internet 30, 45, 79, 80, 91, 92, 137, 138, 196,
  378
Internet access services 268
Internet search engines 137, 138
investment
  direct incentives for 126, 132, 133, 134
  inequality and 76
  service quality and 232, 237–40, 244
  strategic incentives for 126, 132–3, 134
  strategies to deter bypass 126, 131–4
Ireland
  post offices in 37
  service quality incentives in 242
Irish Sugar 271
Israel, satellite free P.O. boxes in 307
Italy
  ethnic diversity in 78
  post offices in 36–7, 39–41
    comparison of distribution of post offices
    and banks 43–5
  service quality incentives in 242
Iversen, Torben 76
Jaag, Christian 148
Japan
  liberalization of postal sector in 117–18,
    119, 120
  post offices in 37
  service quality in small package market
    107–20
Japan Post
  privatization of 107, 118, 119
  share of small package market 108
Japanese Ministry of Internal Affairs and
  Communications (MIC) 117–18, 119, 121
Japanese Ministry of Land, Infrastructure and
  Transport (MLIT) 121
Jimenez, L. 78, 82, 92
John, R. 45
Jones, S. 244
Joskow, P. 232
Judge, G.G. 320, 335, 336
Kappel Commission 45
Karlsson, Peter 342
Kay, J. 70
Kennedy, B.P. 77
Kleindorfer, Paul R. 7, 11, 13, 15, 16, 18, 21, 22, 30, 48, 125, 127, 134, 150, 168, 178, 237, 300, 306, 335, 365, 372
Kolbe, A. 244, 245
Koppe, Peter 92, 98
Kraus, A. 237
Kunz, Pieter 230
Kuroda, T. 121
Kuznets, S. 76

Mean Squared Error (MSE) 356, 358, 359, 361–2, 363
measuring service quality 234
medical laboratories 49, 50, 54
‘meeting competition’ defence 275
Meltzer, Allan H. 76
mentally challenged persons 222
Merewitz, L. 335
mergers 206–8, 209–11
Michelin 268
Michelin II 269, 271
minimarkets 50, 54
minimum coverage obligations 290
minimum headroom 226
Ministry of Transport and Communications Finland (MoTC) 92, 95
Miyauchi, T. 111
mobile phone networks 138
mobile phone text messages 89–90, 91–2, 93, 95
mobile phone users 79, 80
mobile services 41
MODS see Management Operating Data System (MODS)
Moene, Karl Ove 76
money order transfer networks (MO operators) 298
Moniteur Belge 242
Monte Carlo simulations 64–9
Moriarty, R. 335, 376
mortality rates 77
MoTC see Ministry of Transport and Communications Finland (MoTC)
Multinomial Logit models (ML) 121
municipalities 198
museums 49, 50, 54
Musgrave, R.A. 198
Myers, S. 244, 245
Nader, Fouad H. 89, 92
Nankervis, J. 63, 65
national full-service providers 218
elements in EU countries 220, 221, 222, 225
New Zealand, sender pays principle in 139
New Zealand Post 139
newspapers 251, 287, 347
niche services 218
economies of scope utilized by 348
examples in EU countries 221, 223, 227, 229
Nikali, H. 70, 91, 92, 93, 94, 95, 96, 100, 102
Nikkei Research Co. 109
Niskanen, William A., Jr. 8
non-discrimination principle 189, 226, 265, 276, 278, 279, 346
interpretation of 271–6
non-geographic postcodes 191, 192, 193, 196, 197
Norwegian, J.R. 335
Norway
ethnic diversity in 78
post offices in 37
NSAs see negotiated service agreements (NSAs)
objectivity principle 339
OECD 75, 85
income inequality in OECD countries 75
Ofcom 245
Office Fédérale de la Statistique 58
Neels, K. 326, 335
negotiated service agreements, (NSAs) 199–213
Bank of America NSA 213
Bank One/Chase NSA 200–201, 206–8, 209–11, 212
Capital One NSA 199, 200, 203–4, 209
Discover NSA 200, 204–6, 209
HSBC NSA 200, 209
Washington Mutual NSA 200, 207, 211, 213
Nelson, F.D. 335
NERA 46, 346, 370
Nested Logit models (NL) 121
Netherlands
access pricing in 221, 228, 229
development of competition in 222–3
interaction between regulation and 223
licensing regime in 291
mandate of regulator in 222
post offices in 37
reserved area in 221, 223, 264
VAT regime in 222, 223
network externalities in two-sided markets 27–8, 33–5, 137, 138, 139, 147
negative 305–6
in Sub-Saharan African postal markets 301–2, 303, 305–6, 307
Network Rail 241, 242
networked local mail services 217
elements in EU countries 220, 221, 222, 225
New Zealand, sender pays principle in 139
New Zealand Post 139
newspapers 251, 287, 347
niche services 218
economies of scope utilized by 348
examples in EU countries 221, 223, 227, 229
Nikali, H. 70, 91, 92, 93, 94, 95, 96, 100, 102
Nikkei Research Co. 109
Niskanen, William A., Jr. 8
non-discrimination principle 189, 226, 265, 276, 278, 279, 346
interpretation of 271–6
non-geographic postcodes 191, 192, 193, 196, 197
Norwegian, J.R. 335
Norway
ethnic diversity in 78
post offices in 37
NSAs see negotiated service agreements (NSAs)
objectivity principle 339
OECD 75, 85
income inequality in OECD countries 75
Ofcom 245
Office Fédérale de la Statistique 58
Ofgem 241, 245
Ofwat 241, 242
OPTA 222
ORR 241
outsourcing 41, 45, 126, 221
overnight delivery service 286
Oxera 48

package rate, demand related to 109, 110, 111, 112, 113, 117, 118
Panzar, John C. 7–8, 16, 30, 136, 140, 148, 335, 346, 372
parcel mail
  abuse of a dominant position in market for 268
  fair competition in 252
  price elasticity of demand for 100 see also small packet market, Japanese, service quality in Pareto optimum 6
passports 218
pay-or-play mechanism 168, 174, 181, 285
PCR see Price Cap Regulation (PCR)
Pearsall, E.S. 320, 332, 335, 336
peer-to-peer networks 137
Penny Post 300, 307
pension obligations 251, 254
performance-based incentives 213
periodicals 251, 252, 285, 287, 347
Perotti, R. 76
Persson, T. 76
petrol stations 49, 50, 54
pharmacies
  accessibility in France 49, 50, 52–3, 54, 57
  link with commercial services 57
  distribution in US 41–2, 44–5
piggy backing 327
PIN AG 220, 221
plant output, measures of 374–5, 376
P.O. boxes
  cumulated and marginal effects of variations in number of 309–11
  distribution in Sub-Saharan Africa 297, 298
  postcodes relating to 192, 196–7
  pricing arrangements for 136, 139, 145, 147–8
  in Sub-Saharan Africa 295, 298–307
  service quality provided by 305–6
populations size, and demand for mail 79, 94
portfolio diversification 237, 239–40, 244
Portugal
  post offices in 37
  service quality incentives in 242
Post Express 225
post offices
  see also collection points
  comparison of selected countries 37
  cumulated and marginal effects of variations in number of 309–11
  franchises 37, 41
  in Italy 36–7, 39–41
  comparison of distribution of post offices and banks 43–5
  in rural areas 6, 36, 37–8, 40–41, 44, 47, 50–51, 53, 54, 57, 297, 298
  in the US 36–7, 38–9
  comparison of distribution of post offices and pharmacies 41–2, 44–5
Postal Accountability and Enhancement Act (PAEA) (2006) 249–60
background to 249–50
considerations for future of reformed USPS 258–60
evaluating achievement of goals 254–5
goals 250–54
PCR adopted by 15, 208, 249–50, 251, 255–6, 258–9
Postal Rate Commission restructured as Postal Regulatory Commission under 213, 249
reserved areas defined in 107
Postal Directive Committee 291
Postal Directives see EU Directives
Postal Notice (1998) 342, 350
postal rate proceedings 316, 317
postal reform
  and application of competition law in the EU 263–80
  consequences of Postal Accountability and Enhancement Act (PAEA) (2006) 249–60
  and licensing regimes 282–92
  in Sub-Saharan Africa 295–307
Postal Reorganization Act (PRA) (1970) 208, 213, 253
postal savings 40
  implicit interest rate on 45–6
Postal Service Retiree Health Benefits Fund 255
Postal Services Commission 198
postcards 93
postcodes, regulation of, in competitive markets 189–98
conclusions 197–8
  efficiency from a social perspective 193–5
  postcodes as public goods 190–93
Poste Italiane 38, 40–41, 43–4
Poverty Line 77
predatory pricing 263, 267–8, 341, 344
Premiere One Limited 288
presorted traffic 169
   companies focusing on 223, 227
   cost accounting data affected by 374, 377
   and mail processing productivity 333
   predicting demand volumes for 65–6, 68
Preston, A. 372
Price-cap regulation (PCR)
   accounting system for 344–5
   applied to USPS 249–50, 251, 255–6, 258–9
   cost of capital used in setting 237
   demand changes under different structures 238–9
   efficiency properties of 7–11, 18–22
   implementing under FMO 11–14
   and investment incentives 133
   and regulation of NSAs 208–9, 213
   service quality incentives within 232, 233, 234, 242, 244
   see also global price caps
price control, accounting systems for 344–5
price discrimination 263, 267, 268, 269–76, 277
price elasticity of demand for mail
   bank mail 164
   Business-to-Business (B2B) 96–7
   Business-to-Consumer (B2C) 99–100
   Consumer-to-Consumer (C2C) 102
   first class mail 99–100, 102, 201, 202, 204, 205–6, 208, 211
   for monopoly USP 171, 301
   single piece mail 163
   Standard Mail 202–3, 204, 206, 208, 211
   in two-sided markets 301
price leadership 127
price stability 251, 255–6
price subsidies
   justification for 25–6
   USO funded with 10, 167, 168, 169, 170, 173, 174, 176, 178, 180, 181
   shadow cost of 169, 173, 181, 184
   USO funded without 3, 4, 14, 170, 181
PricewaterhouseCoopers (PwC) 3, 131, 148, 182, 293
pricing flexibility 5, 6
   PCR and 7, 11, 12–14
pricing under entry
   access, bypass and productivity gains in competitive postal markets 125–34
   national postal strategies after a full market opening 167–82
   pricing in competitive two-sided mail markets 136–48
pricing, welfare and organizational constraints for postal operators 150–61
Priority Mail
   fair competition in market for 252
   sorting
      returns to density and scale 324, 325
privatization
   alternatives to 249, 260
   and demand for a level playing field 3
   of Japan Post 107, 118, 119
   and market dominance 5
   volume discounts following 199
Probit models 111, 113
procaccia 40
product costing, tradeoffs in 352–65
   impact of combining cost pools 356–65
   impact of costing errors (bias) and uncertainty (variance) 355–6
   volume variable cost model 353–5
production functions for mail processing 321–3
   labour variabilities derived from 326–7
productivity
   investment to increase 126, 131–4
   of USPS 251–2, 256
   in mail processing 315–35
profit maximization
   cost allocation under 342
   coverage of network under 28, 34–5
   efficiency properties of PCR for 7–8, 9, 10, 21
   incentives for USPS 208, 212
   by retail business (RB) 154, 158–60
   and service quality 119, 120
profit sharing 10
proportionality principle 288–9
   licensing and 289–91
pseudo residual claimants 10–11
PTS 197, 198
PTT Post 223
public goods
   postcodes as 190–93
   theory of 190–91
   USO as mechanism for 28–9
public infrastructure investments 40
public interest 283, 288
public procurement policies 348
public provision of private goods 25
   justification for 25–6
public services networks
   accessibility in France 48–54
   influence of public services on commercial activities 54–7
   categories of 49
Putnam, Robert 85
PwC see PricewaterhouseCoopers (PwC)
Index

Quandt, R.E. 315, 335

$R^2$ 83–4, 332

see also McFadden $R^2$

radio frequency identification (RFID) tagging 245

radio and television broadcasting 137–8, 190

Railtrack 241–2

Ramsey, J.M. 335

Ramsey pricing 9, 21, 33, 152, 153, 155, 157, 163–6, 318

RAND Europe 236, 242

rate of return regulation (ROR) 7

RBB Economics 222

Reay, I. 108, 232, 238, 244

receiver pays principle 139

recording industry 92

redistributive pricing, USO as 24–5

economic background 25–6

redistributing in a sender-pays sector 26–7, 32–3

regional policies

constraints imposed by 51

USO as instrument of 29

registered mail 379

regulation

incentive regime for service quality of USPs in the postal sector 232–44

negotiated volume discounts in a regulated post 199–213

and pattern of competition in the EU 216–30

postcodes in competitive postal markets 189–98

role under FMO 6–11

regulatory accounting requirements of NRAs in the EU 338–50

accounting implications of functions of NRAs under Third Postal Directive 343–50

determining net cost of USOs 346–8, 349

interoperability of postal networks 345–6

price control 344–5

accounting principles 339

audit 342–3

cost allocation 339–42

frequency of preparation 343

transparency of accounts 339, 343

regulatory uncertainty 227, 228

reserved area

cross-subsidization of universal services outside reserved sector with profits from 267–9

in Finland 264

in Germany 219, 264, 277

in the Netherlands 221, 223, 264

in Spain 223–4

in Sweden 264

timetable for abolition in the EU 264–5

in UK 225–6, 228, 264

in US 107

and USO 3, 4, 30, 47–8, 58, 107

residual claimants 7, 8, 9, 10, 22, 208, 213

creating pseudo residual claimants 10–11

retail business (RB), explicit objective functions and constraints for regulation of 150–61, 163–6

retail-minus principle 228, 229, 277–8, 279

retained earnings 255

retiree health benefit obligations 254–5

retiree pension obligations 251, 254

returns to scale see scale economies

Richard, Scott F. 76

Riordan, M. 27, 30, 35

risk management 161

rivalry 190

in use of postcodes 191–2

Roberts, M. 319, 326, 335, 372, 373, 374–5, 379

Rochet, Jean-Charles 136, 137, 139, 295, 301, 302

Rodrik, D. 76

Rogerson, C. 335

Rovizzi, L. 244

Roy, B. 30

Royal Mail

access agreements with 226–7, 228, 229–30, 277–8

cost accounting by 340, 372, 376–7, 382–3

discriminatory discounting by 270

licence conditions 198, 227, 270, 277, 279, 287

rural post offices maintained by 47

zonal pricing considered by 345

Runyon, Martin 250

rural carriers 38, 333

Rural Free Delivery (RFD) 38

S-curves 90–91

Saint-Paul, Gilles 76

sales revenue maximization 8

efficiency properties of PCR under 9, 21

same-day delivery service 286

Sand 222–3

Sappington, David E.M. 8–9, 21, 232, 244

Sargan test 309

satellite free P.O. boxes 307

savings-based cap on volume discounts 199, 200–201, 207, 210, 212

scale economies

cost function reflecting 8
delivery exhibiting 169, 170
in mail processing 315–35
selective discounts contributing to 275
in two-sided markets 138–9
USO supported by 4, 5
scope economies 4, 5, 8, 40, 348
scope of regulatory intervention 236–7
screens 319–20
seasonal variations 332, 374
second class mail
cross-elasticity in relation to
telecommunications prices 96
predicting demand volumes for 65–6, 68, 112
price elasticity of demand for 100, 102
willingness to pay for service quality
improvements 242
Second Postal Directive (2002/39/EC) see EU Directives
Second World War 76
secondary schools 49, 50, 54
Selekt Mail 222–3
sender pays principle
adoption in Italy 39–40
adoption in Sub-Saharan Africa 303–7
applied by designated postal operators’ competitors only 302–3
in competitive postal markets 136
effect on transactions costs of switching to 305–6
origination of 136, 139, 300–301, 306–7
redistributive pricing under 26–7, 32–3
and total demand for mail 139
separation of regulatory and operational activities 265–7
Sertel, Murat R. 21, 22
service quality
bottlenecks due to insufficient 306, 311
incentive regime for USPS in the postal sector 232–44
core components of regulatory intervention 234–7
regulatory incentives 240–44
risks to the regulated business 237–40
in Japanese small package market 107–20
USO and service quality 107, 108, 117–19, 120
licensing regimes and 234, 236–7, 289–90, 291
outperformance of 242
as a product characteristic 232
of USPS 252, 256–7
Sidak, J. Gregory 8–9, 21
single piece product
global price cap on 150, 154, 158–60, 165–6
uniform tariffs for 170, 266
small and medium-sized companies 97–8
small packet market, Japanese, service quality in 107–20
SMS messaging see mobile phone text messages
social capital 85
social insurance 76
social services provided by POs 119
social tariffs 25
social and territorial cohesion 29, 47, 57
sociale werkplaatsen 222
Soini, Osmo 96, 100
sorting, automated see automated sorting
sorting networks, rationalization of 131
Spanish Ministry of Development 224
Spanish Postal Act 224
Special Mail Services (SMS) 227
specific egalitarianism 25
spillovers 189
spot operators 218, 229
stamp price see letter price
Standard Mail
cross elasticity of demand in relation to first class mail 202, 204, 206, 208, 211–12
price stability of 251
service standards for 252
volume shifts between first class mail and 203–4, 205, 207, 259
state subsidies 339, 348
statement of mailing submission (SMS) 381–2, 383
stock market flotations 240
stock market index 239
Strack, W.D. 335
Sub-Saharan Africa, postal services in 295–307
free delivery and club effects 303–7, 309–11
survey of postal delivery 296–300
two-sided markets analysis and club effects 300–303
subsidiarity principle 24
substitution effects, nature of 90–92
substitution models 93–5
sunk costs 3, 148
Index

Tirole, Jean 13, 16, 126, 127, 129, 136, 137, 139, 295, 301, 302
TNT/Canada Post, DBF Post Dienst, La Poste, PIT Poste & Sweden Post 272
TNT Post 5, 221, 222, 223, 227, 228, 230
tobacco dealers 49, 50, 54
Tobin, J. 25
Toledano, J. 295, 296, 306
Tolley, G.S. 70
Total Factor Productivity (TFP) 256, 374, 375
Total Pieces Fed (TPF) 374, 375
Total Pieces Handled (TPH) 374, 375
TPG Post UK Limited 277
tracking and tracing 236, 243, 259, 286, 379
train operating companies 243
transactions costs
between MNO and RB 161
of data collection and maintenance 378
of NSAs 209
PCR and 7, 11
postcodes and 189, 193, 194
in Sub-Saharan African postal markets 302, 303
two-sided markets and 138
uniform pricing and 30
of zonal pricing 345
transfer prices for intermediate services
150–51, 153, 154, 157, 158–60, 165–6
transparency principle 189, 226, 265, 269, 276, 339, 343, 346
transport networks, rationalization of 131
transportation
cost of 372
returns to scale in 315
Treaty of Rome (1957) 47, 288
Trinkner, Urs 74, 148
two-sided markets
changes in liberalized markets 147–8
network externalities in 27–8, 33–5, 137, 138, 139, 147
negative 305–6
in Sub-Saharan African postal markets 301–2, 303, 305–6, 307
optimal pricing structures in liberalized
postal markets 144–7
postal market as 28, 139–40
price elasticity in 301
pricing structures in 137–9, 301
tying 263, 273
typing rebates 270
UK Competition Appeal Tribunal 278
UK Mail 226, 227, 228, 277–8
UK Office of Fair Trading 275–6

Index

Suresa CIT 225
Survey Research Center Co. 109
Sweden
competition in postal market in 3, 45, 348
ethnic diversity in 78
government’s general expenditure in 75
postcode system in 195, 196–7, 198
reserved area in 264
single-piece price increase in 5
Swinand, G. 244
switching costs 121
Switzerland
ethnic diversity in 78
letter market in 144
post offices in 37
sender pays principle in 139, 147
Tabellini, G. 76
Takis, W. 335
taxes 76, 252, 290
see also value-added tax (VAT)
technology changes
and FHP variations 374
and service quality 238, 252
and structural changes in the demand for
mail 64, 67–9
and substitution of letter mail for different
sender–receiver segments 89–104
telecommunications
common costs in 340
network externalities in 27, 30, 137
numbering following liberalization 189
prices in Finland 92, 95
cross-elasticity of demand for mail in
relation to 96
prices in Germany 92
self-delivery and collection by
telecommunications companies 300
service quality incentives in 242, 243
USO in 347
telefax 93
temperature-controlled handling 109
Teräsvirta, Timo 96
TetraPak case 268
text messages see mobile phone text messages
Third Postal Directive (approved July 11, 2007)
see EU Directives
Thisse, J.F. 47
Thompson, D. 244
Thompson, Fred 251
Thress, T.E. 70
time-certain delivery service 286
time horizon 67, 69, 70, 306
Tirole, Jean 13, 16, 126, 127, 129, 136, 137, 139, 295, 301, 302
TNT/Canada Post, DBF Post Dienst, La Poste, PIT Poste & Sweden Post 272
TNT Post 5, 221, 222, 223, 227, 228, 230
tobacco dealers 49, 50, 54
Tobin, J. 25
Toledano, J. 295, 296, 306
Tolley, G.S. 70
Total Factor Productivity (TFP) 256, 374, 375
Total Pieces Fed (TPF) 374, 375
Total Pieces Handled (TPH) 374, 375
TPG Post UK Limited 277
tracking and tracing 236, 243, 259, 286, 379
train operating companies 243
transactions costs
between MNO and RB 161
of data collection and maintenance 378
of NSAs 209
PCR and 7, 11
postcodes and 189, 193, 194
in Sub-Saharan African postal markets 302, 303
two-sided markets and 138
uniform pricing and 30
of zonal pricing 345
transfer prices for intermediate services
150–51, 153, 154, 157, 158–60, 165–6
transparency principle 189, 226, 265, 269, 276, 339, 343, 346
transport networks, rationalization of 131
transportation
cost of 372
returns to scale in 315
Treaty of Rome (1957) 47, 288
Trinkner, Urs 74, 148
two-sided markets
changes in liberalized markets 147–8
network externalities in 27–8, 33–5, 137, 138, 139, 147
negative 305–6
in Sub-Saharan African postal markets 301–2, 303, 305–6, 307
optimal pricing structures in liberalized
postal markets 144–7
postal market as 28, 139–40
price elasticity in 301
pricing structures in 137–9, 301
tying 263, 273
typing rebates 270
UK Competition Appeal Tribunal 278
UK Mail 226, 227, 228, 277–8
UK Office of Fair Trading 275–6
uncertainty, cost estimates affected by 355–6, 361–2, 363–4
unemployment, and demand for mail 76, 80
uniform price
accounting systems and 345
adopted in Italy 39–40
increase in 5–6
limitations in Third Postal Directive 266, 274
redistribution achieved through 25, 26–7, 29
taxation costs avoided by 30
USO constraint on 168, 169, 170
Unipost 225
United Kingdom
access pricing in 226, 227, 228, 229, 230, 277–8
compensation schemes in 243
development of competition in 3, 226–7
interaction between regulation and 228
econometric models used in 63
liberalization of postal market in 227, 228
licensing regime in 198, 226, 227, 270, 277, 279, 287, 291
mandate of regulator in 226
outperformance incentives in 242
post offices in 37, 47
postcode system in 197, 198
reserved area in 225–6, 228, 264
VAT regime in 226, 228, 230
United States
econometric models used in 63
ethnic diversity in 78
government’s general expenditure in 36
mail per capita in 36
policy decisions in 107
post offices in 36–7, 38–9
comparison of distribution of post offices and pharmacies 41–2, 44–5
postal reform in see Postal Accountability and Enhancement Act (PAEA) (2006)
rural carriers in 38, 333
see also United States Postal Service (USPS)
United States Postal Service (USPS)
brake-even constraint applied to 199, 208, 255
business lost by 5
considerations for future of reformed USPS 258–60
econometric models used by 63, 374, 375
efficiency of 251–2, 256
electronic Address Correction Service (ACS) offered by 199, 200, 204, 205, 210–11
fair competition in competitive products 252–3, 257
In-Office Cost System (IOCS) 374
long-term financial stability of 250–51, 254–5
Management Operating Data System (MODS) 315, 318–20, 374–5, 383
bad data in samples 319–20, 328, 330, 332, 375
performance reporting by 259
post office closures by 38–9
preservation of USO 249, 253–4, 257–8
price cap regulation applied to 249–50, 251, 255–6, 258–9
price stability provided by 251, 255–6
Reports 213, 214, 340
returns to scale in 315–35
service quality and performance of 252, 256–7
volume discounts offered by 199–213
Universal Postal Union (UPU) 297, 299, 310
universal service compensation fund 283, 284, 286, 339, 348
Universal Service Obligation and accessibility of the postal retail network 47–58
definition of 24
determining net cost of 346–7, 349
and distribution of post offices in Italy and the US 36–45
fixed delivery cost imposed by 127, 133
funding of 3, 4–6, 47–8, 57–8, 125, 167–82, 257, 283–4, 290
international comparisons of 108
licences and 236–7, 283–4, 291–2
and network externalities 28, 139, 147
preservation by USPS 249, 253–4, 257–8
reducing costs of 5, 6, 48
regulation and the USO under entry 3–22
scope of 5–6, 346–7
and service quality 107, 108, 117–19, 120
social costs and benefits of 23–30
in telecommunications sector 347
transferable between operators 239–40
UPS 5
UPS v Commission 267, 269
Urbandisa 225
US Congress 249, 250, 252, 259, 260
US Federal Trade Commission 253
US Government Accountability Office (GAO) 251
US Postal Rate Commission 199, 200, 210, 250, 254, 259, 317, 318, 319, 340, 373, 375
restructured as US Postal Regulatory Commission 213, 249
US Postal Regulatory Commission 249, 250, 252, 253, 254, 257, 258–9, 316, 317, 318
US Postal Rate Commission restructured as 213, 249
US Senate 252
US Treasury 255
USO see Universal Service Obligation
USPS see United States Postal Service (USPS)
utility companies, self-delivery and collection of mail by 300
value-added mail products 219, 221, 224, 379
value-added tax (VAT)
in Finland 95
in Germany 220
in the Netherlands 222, 223
in Spain 224
in UK 226, 228, 230
value chains 371, 373
Varian, H. 35
Vickers, John 15
Virtual Mobile Operators (VMOs) 41
Vodafone 41
volume discounts in regulated posts 199–213
volume variable cost (VVC)
cost accounting data requirements relating to 373–8
impact on VVC estimates of aggregating cost pools 356–65, 367–9
mailer-generated data used for computing 378–82, 383
volume variable cost model 353–5
von Stackelberg games 134, 170
WACC see weighted average cost of capital (WACC)
Waddams Price, C. 244
wage maximization, efficiency properties of PCR under 9, 21–2
walk sequencing/walk route optimization 131
Waller, Peter 216–17, 218, 222, 230
Wallerstein, Michael 76
Wallis, K. 64
Ward, Benjamin 9, 21
Washington Mutual NSA 200, 207
changing circumstances affecting 211 withdrawn by USPS 213
water and sewerage companies 241, 242, 243, 278, 300
weighted average cost of capital (WACC) 237–8, 239, 240, 241, 244
Weisman, D. 240
welfare state, and demand for mail 76, 82
Wells, F.J. 335
WIK-Consult 3, 7, 220, 222, 226, 243, 292, 342, 344, 345, 346, 350
Wilkes, S.S. 320
Williamson, Oliver E. 8, 18
willingness to pay for service quality 6, 108, 232, 234, 235–6, 242
in two-sided markets 136, 138
within-model forecast errors 64, 67, 68, 69
Wolter, Kirk M. 365
working family members, and service quality demanded 112, 117
worksharing agreements in Spain 224
meaning of 125
PCR and 12–14
worksharing discounts 12–14, 256, 258, 278, 381
World Bank 296
Wright, Julian 147
wrongly-addressed mail 287, 289
wrongly-delivered mail 287, 289
X-efficiency 5, 6, 7, 9
X factor 12
Y factor 12
Yarrow, George 15
zonal access agreements 227
zonal pricing 227, 345