Index

abuse of dominant position
Art 102 restrictions
   competition on the merits 102–3,
      121–2
   consumer benefit, and 99–100
criticism of 98–9
efficiency justifications 98–105
   ‘extra-competition rules,’
      non-compliance with 103–4
innovation, and 98–105
parallel trade 100–101
   ‘per se’ or ‘object’ abuses 98
proportionality 103
refusal to deal 100–101
safe harbors 103–4
state intervention 100–101
data-related markets, in 169–71
digital economy, and
criticality for 304–5
use in 313–14
health care sector 154–6
pharmaceutical sector 154–6
abuse of market power
patent injunctions as 254–70
   Bosch 259–61
   EU law 263–73
   exclusionary vs. exploitative
      conduct 258–9
   FRAND commitments 254–61,
      263–70
   Google-Motorola 260–61
   Huawei v ZTE 266–71
   judicial inconsistencies 260–63
   Motorola-Apple 261–2
   Motorola-GPRS 265–6
   Orange-Book-Standard 266,
      268–9
   Samsung-Apple 262–3, 272
   Samsung-UMTS 263–4
SSO regulatory role 270
Unwired Planet v Huawei
   269–70
US law 257–63, 271–2
abuse of rights
   competition law, in
      AstraZeneca 276–9
   commercial authorization,
      withdrawal of 276–9
   competition on the merits 278–9,
      283–4
   conflict of laws, and 283–6,
      288–91
divisional patents 279–82
   EU law 276–83, 288–91
   intention to obtain advantage
      278–9, 286–8, 291–3, 295–7
   Ratiopharm/Pfizer 280–82
   supplementary protection
      certificates 279–82
   US law 283–6
interpretation
   development 288–90
   Emsland-Stärke 290–95
   excess of rights 295
   exercise or rights without
      pursuing goal 295–6
   intention to obtain advantage
      291–3, 295–7
no other than test 291–3
   objective approach 294–5
   prohibition, principle of 274–5,
      294–7
   subjective approach 291–3,
      296–7
TV10 broadcasting decision 289
   Union vs. Member State law,
      conflicts 288–91
Aghion, Philippe 19
The roles of innovation in competition law analysis

all circumstances test 324–5
Amazon 348
analytical framework 6–10
anonymization 107–9
anti-competitive conduct see also
tying and bundling; unfair practices
assessment criteria
conduct analysis 45–7
market dominance/power 43–4
multi-sided features 42–3, 307
new technologies, challenges of 42–3, 45–6, 48–9
relevant market 41–2
innovation influences on 39–40
intellectual property rights, and 44
new market entry, and 43–4
new technologies 42–3, 45–6, 48–9
Type I and Type II errors 38
antitrust law (US)
consumer welfare vs. total welfare 338
innovation markets approach 188–9
Merger Guidelines 188
R&D collaborations, and background 179, 192–4
blacklisting 203–5
DOJ Licensing Guidelines 196–7, 201, 205, 207–8
dominance thresholds, and 205
EU approach, compared 198–9, 204, 211–13
innovation market concept 169–97, 188–9, 202, 206–7, 212
joint ventures, applicability to 193–5, 200–201, 211–13
law reform 193–4, 197–9
limitations 185, 200, 204
market power requirement 200–201
NCRPA, protections under 199–205
proof of anti-competitive restraints 193
right of access to R&D joint ventures 207–9
rule of reason 205, 207
safe harbor provisions 193, 195–6, 199
safe zone, conduct outside 205–7
standard-setting procedures 197–8
summary of 198–9
Apple 261–4, 272
Arrow, Kenneth 4–5, 16–17, 183–4, 186
Article 29 Working Party advisory opinions 105–6, 114–16, 118–19
artificial intelligence see also
data-related markets
Application Programming Interfaces 176–7
competition law, and anti-competitive conduct, analysis of 165–6
legislative challenges 164–5, 175–7
standard essential patents 175–6
coordination, need for 164, 175–6
cyber-physical systems (CPS) 163
development, impact of 81
law, implications for 162, 175–7
network potential 163–4, 176–7
platforms 163
as efficient competitor test 323–6
AstraZeneca 276–9
Baker, Jonathan B. 17, 39
Baron, Justus 190–91
Bertrand, Olivier 24
Big Data
aims 79
challenges 173–4
definition 81
innovation, negative value 7–8
legislative challenges 162
privacy implications 173–4
biotechnology industry
mergers, innovation impact studies 21–3
block exemptions
Index

Guidelines 90–92
R&D collaborations, and
  background 179–80, 194, 202–3
  blacklisting 203–5
  damages rules 201
  definitions 201–2
  dominance thresholds, and 205
  effect doctrine applicability 205
  effects on future markets 180–81
  ex post view 203–4
  Honeywell and DuPont 213–14
  Horizontal Guidelines 198,
  205–6, 208
  innovation market concept 202,
  212
  joint ventures, applicability to
  195, 211–13
  limitations 185, 203–4
  right of access to R&D joint
  ventures 208–9
  safe harbor provisions 195–6,
  202–3
  safe zone, conduct outside 205–6
  standard-setting, and 208
  summary of 198–9
  Technology Transfer Guidelines,
  and 195, 205–6, 208
  US approach, compared 198–9,
  204, 211–13
  sufficiently deleterious restrictions
  89–90
Böhme, Enrico 238–40, 242
Booking.com 343, 345–6
BookitNow 352
Bosch 259–61
Cass, Ronald A. 40–41, 44
Cassimen, Bruno 24
Charter of Fundamental Rights
  right to health and health care
  140–41
Coleman, Mary 44
collaborations see R&D collaborations
Colomo, Pablo Ibáñez 36, 41
competition
  analysis
    abuse of dominance 98–105
ancillarity concept 91–4
balancing 91–2
consumer choice 96–100
economic choice vs. court
  experience 89–90
exclusivity 92
exemption Guidelines 90–92,
  95–6
‘extra-competition,’ compliance
  with 103–4
incentive to innovate 183
innovation limitation 182–3
inter-brand competition vs.
  intra-brand competition
  90–91
necessity test 92–5
regulatory frameworks, relevance
  of 104–5
relevant markets 91
sufficiently deleterious
  restrictions 89–90
trial and error innovation, as
  181–3
wealth creation, and 182–3
economic efficiency, and
  definition 86–7
online travel sector, retail MFN
  clauses 359–75
role of 84–9, 95–6, 98–105
two-sided markets, in 334–9
tying and bundling, and 334–9
sufficiently deleterious restrictions
  89–90
theories of 181–6
innovation, and 182–3, 185–8
R&D collaboration, and 187–8
undistorted competition 87–8
competition law see also TFEU art
  101; TFEU art 102
enforcement
  effectiveness and efficiency 36,
  49
innovation considerations 36–9
institutional implications 47–9
new technology, challenges of
  37–8, 49
purpose 36–7
free-riding defence 357–9
innovation, role in
  Arrowian approach 4–5, 16–17, 183–4, 186
  Article 101 restrictions 89–98
  Article 102 restrictions 98–105
  benefits of 5–6, 34–5
  consumer influences 34
  efficiency justifications 98–105
  endogenous value 8–10
  exogenous value 7–8, 10
  framework for 6–10
  generally 2–3, 5–6
  indirect influence on policy 36
  influence assessments 38–9
  market efficiency 84–9
  mergers, and 19–20
  negative value 7–10
  positive value 7–10
  price competition 4–5
  product competition 4–5
  scholarship trends 3–9
  Schumpeterian approach 4–5, 16–17, 182–4, 186, 188
  theories of harm 6–8
  Type I and Type II errors 38–9
  von Hayek’s approach 181–2
  purpose 33, 36, 84–5
  consumer choice 88–9, 96–8
  consumer protection 36
  freedom to compete 86–7
  market efficiency 84–9, 95–6
  consumer behaviour
  competition and innovation, influences on 34
  digital industry, role in 332–3
  consumer choice 88–9, 96–100
  consumer data see also data protection
  competition and innovation, influences on 7–8, 79
  data-related markets
  data ownership 174
  data portability 174–5
  mergers and privacy 171–4
  consumer protection 36, 135–7
  consumer rights
  patent settlements, and 223–5
  consumer welfare effects

patent settlements
  180-day exclusivity period 238–9
  innovation incentives, and 234–7, 241–2
  patent challenges incentives, and 237–40, 242
  price effects 234–5
  research limitations 241–2
  consumers, definition 368, 371
  creative destruction 4
cyber-physical systems (CPS) 162

Danzon, Patricia 21–3
data ethics 82–3
data innovation
  customization, and 81–2
  data as currency 167
  data driven innovation vs. data protection innovation 80, 83–4, 93–8, 107–13, 127–30
development 80–84
Fourth Industrial Revolution, as 80–81
obstacles to 93–8
productivity impacts 81–2
surveillance capitalism, and 83
data protection
  competition and innovation, and anonymization 107–9, 127
  automated profiling 117–19, 128
  balancing test 120
  compatible use of data 112–17, 120
  consent restrictions 108–10
  data protection innovation vs. data driven innovation 80, 83–4, 93–8, 107–13, 127–30
data-related markets, in 172–4
discrimination 111
economic efficiency, and 119, 121–2
enforcement challenges 83
implications for 82–3
influences on 7–8, 79
lawful processing requirements 108–9

382  The roles of innovation in competition law analysis
Index

legitimate interest 109–11, 113–16, 120–21
necessity, and 109–10
objective justifications 119–24
obstacles to 93–8
policy conflicts 119–27
possible interactions model 122–30
privacy, and 122–6
research purposes 108, 113–14, 127–8
whitelisting 123–4
data ownership 174
data portability 174–5
data privacy, and 83, 173–4
data subjects 106
balancing interests of 115–16
data shadows 118
dignity and autonomy of 117–19
fundamental rights of 82, 124
profiling 117–19
European Data Protection Supervisors 80
pseudonymization 107–8
data protection law
advisory opinions 105–6, 114–16, 118–19, 125
applicability 106–7
competition and innovation, and anonymization 107–9, 127
automated profiling 117–19, 128
balancing test 120
compatible use of data 112–17, 120
competition on the merits 102–3, 121–2
economic efficiency, and 119, 121–2
legitimate interest 109–11, 113–16, 120–21
objective justifications 119–24
policy conflicts 119–27
possible interactions model 122–30
privacy 122–6, 173–4
research purposes 108, 113–14, 127–8
whitelisting 123–4
development 105
exclusions 106–7
GDPR 306
adequate safeguards 108, 115–17, 127–8
anonymization and pseudonymization 107–9
Article 29 Working Party opinions 105–6, 114–16, 118–19, 125
automated profiling 117–19, 128
changes following 105–6
compatible use of data 112–17
data breach notifications 111
data quality 108
freedoms of natural persons 110–11
human dignity and autonomy protection 117–19
legitimate interest 109–11, 113–16
processing, justifications for 108–11
provisions 105
research purposes 108, 113–14
risk assessment guidance 111–16
purpose 120
data-related markets
abuse of dominance 169–71
data as an essential facility 169–71
data as currency 167
data ownership 174
data portability 174–5
exclusive use of data 170–71
FRAND declarations in 175–6
market definition, and 166–9
market power analysis 166–8
data possession, and 167–8
mergers
competition law applicability 171–2
privacy implications 171–4
R&D incentives 170–71
SSNDQ test 168–9
standard essential patents, role in 175–6
zero-price products or services
166–7
Davis, Joshua P. 243
difference-in-differences method
20–21
Digital Clearinghouse 128–9
digital economy
business principles of 344–5
competition in
abuse of dominance rules 304–5
effective protection 375–6
German MMC report on 300–306
implications of 300–302
law, challenges for 339–40
merger control challenges 300–302
merger thresholds, proposed amendments 303–4
search-based vs. non-search-based advertising 302
search engines, regulation of 305–6
SSNIP test, and 302
tyling and bundling 304–5, 313–14
innovation, importance of 300
market concentration 299–300
market development 308–9, 344–5
network effects 299–300, 310–311
digital platforms
competition, and
law, challenges for 301–2, 312–13, 341–2
for the market vs. on the market 311, 318–19
online travel sector, in 341–4
rate parity clauses 341–4
tyling, effects of 317–19
definition 308–9
market definition, and 168–9, 328–9
multi-sided platforms
assessment criteria 42–3, 307
asymmetric pricing 310–313
competition law challenges 301–2, 312–13
cross-subsidization 310–311
economies of scale 311
features of 308–13
feedback mechanisms 311–12
functions 309–10
network effects 310–311
out-of-market efficiencies 371–3
online travel sector
cannibalization effects 353–5
competition dilution mechanisms 350–51
entry foreclosure 351–2
features of 344–5
free riding defence 355–70
hold-up problem 356–7
horizontal and vertical restraints 348–9
most favoured customer clauses 347–8
most favoured nation clauses 344–55
network effects 353–5
rate parity clauses 341–4, 350, 353–4
retail MFN clauses
alternatives to 373–5
retail MFN clauses
anti-competitive effects 348–55, 375–6
retail MFN clauses
efficiency defence 359–75
retail MFN obligations 346–7
wide vs. narrow MFN clauses 345–8, 353–5
price comparison websites 352, 374
SSNIP test, and 302
two-sided platforms 309–13, 375–6
dominant position see abuse of dominant position
DuPont 213–14
economic efficiencies
competition law, role in 84–9
definition 86–7
online travel sector, retail MFN clauses 359–75
two-sided markets, in 334–9
tyling and bundling, and 334–9
Elhauge, Einer 234–7, 241
Index

Emsland-Stärke 290–95
Encaoua, David 244
European Data Protection Supervisor, role of 80
exclusionary conduct see abuse of dominant position; tying and bundling; unfair practices
Expedia 344, 346
Facebook 173–4, 303
Farrell, Joseph 222, 237, 242, 244–5
FinTech sector 176–7
FRAND declarations data-related markets, in 175–6
free riding
defence, principles of 357–9
efficiency gains, and 360–70
fair share, and 367–70
halo effect 364
hold-up problem, and 356–7, 361
horizontal free riding 361
investment incentives, impact on 364–5
investment, scope and extent of 361–3
likelihood of 363–7
online travel sector, in 355–70
pass on requirement 367–70
two-sided markets, and 375–6

General Data Protection Regulation 306
adequate safeguards 108, 115–17, 127–8
anonymization and pseudonymization 107–9
Article 29 Working Party opinions 105–6, 114–16, 118–19, 125
automated profiling 117–19, 128
changes following 105–6
compatible use of data 112–17
data breach notifications 111
data quality 108
freedoms of natural persons 110–11
human dignity and autonomy protection 117–19
legitimate interest 109–11, 113–16
processing, justifications for 108–11 provisions 105
research purposes 108, 113–14
risk assessment guidance 111–16
generic competition delay, and innovation incentives 234–7, 241–2
patent challenge incentives 237–40, 242
effects trade-offs 242
implications for 225
multiple challenger/entrant problem 231–2
optimal delay 242
Germany competition in digital markets, MMC report 300, 302–6
competition law, amendment proposals 129–30
Google case 59, 69
information exchange rules 129–30
Gilbert, Richard 17–18, 46, 196–7
Ginsburg, Douglas H. 48
Glaxo Wellcome 28
Google 42, 50, 54–5, 339, 363
merger 172
non-exclusionary innovation harm 59–75
specialized search services 59–70, 74–5
using content without authorization (scraping) 63–8, 71, 73
Google AdWords 67
Google-Motorola 260–61
Google News 67–70
Grabowski, Henry 24
Gratz, Linda 238–40, 242
Gutterman, Alan S. 209

harm, theories of 6–8, 50–51
health care policy
competition influences on 143–4
customer protection, and 135–7
EU role and powers 132–4
Charter of Fundamental Rights, and 140–41
The roles of innovation in competition law analysis

harmonisation, lack of 133–4
importance of
economic controls 142–3
social policy objectives 141–2
internal market and free movement
principles
medical services 137–9
medicinal products 135–7
patient mobility 139–40
national financing requirements 133
secondary legislation 136–7
social influences on 133
health care sector
ageing population, and 131–2, 142–3
competition, and
abuse of dominant position 154–6
applicability to 145–53, 160–61
cartels 153–4
indirect effects on national law 158–9
influences of 143–4
national laws, relationship with 157–60
pharmaceutical companies 154–6
public regulation 145–6
public vs private entities, role of 145–7, 150–53
service of economic interest 157–8
specific restrictions 153–7
state aid provisions 145
undertakings, concept of 146–7
expenditure trends 131–2, 142–5
liberalisation 132, 143–5
principles 160
private undertakings, role of 132
undertakings
health insurance 147–50
hospitals and care facilities 150–51
interpretation difficulties 146–8, 152–3
medical associations 151–2
private undertakings, role of 132, 145–7, 150–53
Higgins, Matthew 25
hold-up problem 56–8, 356–7, 361
Honeywell 213–14
Hovenkamp, Herbert 36–7, 329
HRS 341–3, 345–6
Huawei 266–71
Hylton, Keith N. 37
hypothetical monopolist test 41–2
IBM 42
injunctive relief
abuse of market power, as 254–70
availability 248–54
Bosch 259–61
EU law 251–4, 263–73
exclusionary vs. exploitative
conduct 258–9
FRAND commitments 254–61, 263–70
Google-Motorola 260–61
Huawei v ZTE 266–71
international conventions 248–9
Motorola-Apple 261–2
Motorola-GPRS 265–6
Orange-Book-Standard 266, 268–9
pecuniary compensation 252–3
preliminary injunctions 253
Samsung-Apple 262–3, 262–4, 272
Samsung-UMTS 263–4
SSO regulatory role 270
Unitary Patents 253–4
Unwired Planet v Huawei 269–70
US law 249–51, 257–63, 271–2
innovation
anti-competitive effects
assessment of 46–9
dynamic analysis 46–9
new technologies 42–3, 45–6, 48–9
single firm conduct 39–41
vs. efficiency 46–7
benefits of 34–5, 181–2
business productivity, and 34–5
competition, and
endogenous value 8–10
exogenous value 7–8, 10
negative value 7–10
positive value 7–10
concentration, and 16–19
Index

definition 3–4, 46
intellectual property protection, and 17–18, 35
market structure, and 85–6
measuring, approaches to 14
mergers, impact of 14, 19–20
difference-in-differences method 20–21
merger retrospectives 20–26
motivations 22–3
pharmaceutical industry, in 28–9
pressures regarding 35–6
product vs. process innovation 17–18
value of 7–10
Intel 323–6, 337, 339
intellectual property see also patents;
standard essential patents
importance of 5
innovation, and 17–18, 35, 44
intention to obtain advantage 278–9,
286–8, 291–3, 295–7
Internet of Things technologies 162
Japan 165
Just-Book 352
Katz, Michael 19–20
Krüger, Alex 234–7, 241
Kyle, Margaret 24
LaMattina, John 30
Larouche, Pierre 85–6
Lefouili, Yassine 244
Leheyda, Nina 25
Lemley, Mark A. 220–21
Long, William 25
Manne, Geoffrey A. 39
market concentration, influences on 299–300
market definition
digital platforms, and 302, 307–9
two-sided platforms 309–13
multi-sided platforms 308–10
new economy markets 308–9
SSNDQ test 168–9
SSNIP test 41–2, 168, 302
market dominance, conduct analysis 45–7
market foreclosure
competition protections against 5–6
foreclosure theories of harm 54–5
innovation, influences on 44
online travel sector, in 351–2
two-sided markets, in 330–34
tying, and 321–3, 330–34
market power, abuse of see abuse of market power
markets, generally see also
data-related markets
contestability, need for 5
definitions 167
data-related markets, difficulties with 166–8
innovation market 180–81
relevant market 41–2, 168–9
synergies in 5–6
Merck 28
mergers
competition, and concentration 16–19
data-related markets, applicability to 171–2
digital economy, challenges for 302–3
dynamic effects 13–14
economic analysis 13–14
privacy implications 171–4
R&D impacts 8–9, 17–19
static effects 13–14
thresholds, proposed amendments 303–4
concentration, impacts on 16–19
innovation, impacts on 14, 19–20
difference-in-differences method 20–21
merger retrospectives 20–26
motivations 22–3
pharmaceutical industry, in 28–9
technological progress, relevance for 13–14, 16–17
trends 14
monopolization
innovation incentives, theories of 16–17, 183
Morais, Luis Silva 209
most favoured nation clauses
travel industry, in 344–55
retail MFN clauses
alternatives to 373–5
anti-competitive effects of 348–55, 375–6
efficiency defence 359–75
retail MFN obligations 346–7
wide vs. narrow MFN clauses 345–8, 353–5
Motorola 260–62, 265–6
multi-sided platforms see digital platforms
Munos, Bernard 25–6
Narodowy Fundusz Zdrowia (NFZ) 156
non-exclusionary innovation harm
anti-competitive harm
likelihood of 72–3
whether 70–72
basis for 50, 76–7
challenges/analysis difficulties with 50
Google specialized search services 59–70, 74–5
hold-up power 56–8
incentives to innovate, and 73–4
pro-competitive conduct,
justifications for 73–5
standard essential patents, and 55–8
standards for condemnation of 75–6
theories of 70–72
use of content without prior authorization (scraping) 63–8, 71, 73

online travel industry
most favoured nation clauses 344–55
cannibalization effects 353–5
competition dilution mechanisms 350–51
entry foreclosure 351–2
free riding defence 355–70
hold-up problem 356–7
horizontal and vertical restraints 348–9
most favoured customer clauses 347–8
network effects 353–5
wide vs. narrow MFN clauses 345–8, 353–5
rate parity clauses 341–4, 350
alternatives to 373–5
retail MFN clauses
alternatives to 373–5
anti-competitive effects 348–55, 375–6
efficiency defence 359–75
obligations 346–7
Orange 266, 268–9
Ornaghi, Carmine 21, 23–4
patent settlements
anti-competitiveness
debate 215–19
reverse payments 228–9
classification 216–17
competition analysis 223–5
knowledge assumptions 229–31
consumer rights, and 223–5
consumer welfare effects
180-day exclusivity period 238–9
innovation incentives, and 234–7, 241–2
patent challenges incentives, and 237–40, 242
price effects 234–5
research limitations 241–2
EU position
guidelines 216–17
technology transfers, and 224–5
generic pharmaceuticals
delay, innovation incentives 234–7, 241–2
delay, patent challenge incentives 237–40, 242
effects trade-offs 242
implications for 225
Index

multiple challenger/entrant problem 231–2
optimal delay 242
illegality, presumption of 243–4
invalid patents
  incentive problems 222–3, 237–9, 244–5
less restrictive alternative standard 223–4
limitations 232–4, 243–4
litigated patents, invalidity trends 220
model for 226–9, 238–40
pay for delay 215–18
probabilistic patents 221–2, 235
reverse payments
  anti-competitive effects of 228–9
ban, implications of 243
illegality, presumption of 243–4
innovation incentives, and 234–7, 241–2
US challenges 215–16, 243–4
rule of reason approach 216–18, 242–3
error-cost analysis, and 242–3
weak patents
challenge incentives 237–40
problem of 216–17, 220–23, 244–5
patents
injunctive relief
  abuse of market power, as 254–70
availability 248–54
EU law 251–4
FRAND commitments 254–7
US law 249–51
protection provisions
EU law 251–4
import exclusion orders 250
injunctions, availability 248–54
international conventions 248–9
pecuniary compensation 252–3
preliminary injunctions 253
Unitary Patents 253–4
US law 249–51
'per se' or 'object' abuses 98
Peritz, Rudolph 184
personal data see data protection
Petrovič, Urška 258–9
Pfizer 279–82
pharmaceutical industry see also patent settlements
abuse of dominant position 154–6
abuse of rights
Astra-Zeneca 276–9
commercial authorization, withdrawal of 276–9
competition on the merits 278–9, 283–4
conflict of laws, and 283–6, 288–91
divisional patents 279–82
EU law 276–83, 288–91
intention to obtain advantage 278–9, 286–8, 291–3, 295–7
Ratiopharm/Pfizer 280–82
supplementary protection certificates 279–82
US law 283–6
generic drugs
entry dates, influences on 228–9
impact of 26–7
legislative incentives 225
mergers, and 27
multiple challenger/entrant problem 231–2
patent settlements, impact on 225, 228–9
testing procedures 276
mergers
  generic drugs, and 27
innovation impact studies 21–6, 28–9, 32
R&D, impacts on 29–30
trends 26–8
new molecular entity (NME) innovation 26–8
output trends 29
patent settlements
  anti-competitiveness, debate 215–19
classification 216–17
EU guidelines 216–17
generic entry date implications 225, 228–9
knowledge assumptions 229–31
litigated patents, invalidity trends 220
multiple challenger/entrant problem 231–2
pay for delay 215–18
probabilistic patents 221–2
reverse payments, anti-competitive effects of 228–9
rule of reason approach 216–18
US reverse payments challenges 215–16
weak patents, problem of 216–17, 220–23
R&D expenditure trends 28–31
structural changes 27–8
testing procedures and requirements 276

Pharmacia 25
Pohlmann, Tim 190–91
Posner, Richard A. 40
privacy
data protection, and 83, 173–4
definition 83
probabilistic patents 221–2, 235
pseudonymization 107–9
public authorities
regulatory ancillarity doctrine 93–4
Ratiopharm 280–82
Ravenscraft, David 25

R&D
aims of 190–91
commercialization, and 15
competition, and mergers, impacts of 8–9
standard-setting, role of 190–92
definitions 15
digital industry, in 309–10
input quantification 15
mergers
competition, impacts on 8–9
expenditure trends following 29–30
innovation, impacts on 20–24, 32
output quantification 15–16

pharmaceutical industry
expenditure trends 28–31
mergers, impacts of 21–30
productivity growth, and 16
R&D collaborations
benefits of 185–6, 188–9, 210–11
competition, theories of 181–6
competition by imitation 187–8
innovation, links with 185–9
EU block exemptions approach
background 179–80, 194, 202–3
blacklisting 203–5
damages rules 201
definitions 201–2
dominance thresholds, and 205
effect doctrine applicability 205
effects on future markets 180–81
ex post view 203–4
Honeywell and DuPont 213–14
Horizontal Guidelines 198, 205–6, 208
innovation market concept 202, 212
joint ventures, applicability to 195, 211–13
limitations 185, 203–4
right of access to R&D joint ventures 208–9
safe harbor provisions 195–6, 202–3
safe zone, conduct outside 205–6
standard-setting, and 208
summary of 198–9
Technology Transfer Guidelines, and 195, 205–6, 208
US approach, compared 198–9, 204, 211–13
regulatory treatment, generally 180–81, 189–92
right of access to 207–10
standard essential patents, and 208–10
standard-setting procedures, and 190–92, 197–8, 208
US antitrust law approach
background 179, 192–4
blacklisting 203–5
Index

DOJ Licensing Guidelines 196–7, 201, 205, 207–8
dominance thresholds, and 205
capacity of competition, compared 198–9, 204, 211–13
innovation market concept 169–97, 188–9, 202, 206–7, 212
joint ventures, applicability to 193–5, 200–201, 211–13
EU approach, compared 198–9, 204, 211–13
innovation market concept 169–97, 188–9, 202, 206–7, 212
law reform 193–4, 197–9
limitations 185, 200, 204
market power requirement 200–201
NCRPA, protections under 199–205
proof of anti-competitive restraints 193
right of access to R&D join ventures 207–9
rule of reason 205, 207
safe harbor provisions 193, 195–6, 199
safe zone, conduct outside 205–7
standard-setting procedures 197–8
summary of 198–9
relevant market, definition 41–2, 168–9
Rodriguez, Daniel 25
rule of reason approach 242–3
error-cost analysis, and 242–3
patent settlements 216–18, 242–3
innovation market concept 169–97, 188–9, 202, 206–7, 212
law reform 193–4, 197–9
innovation market concept 169–97, 188–9, 202, 206–7, 212
Standard Essential Patents 246–7
data-related markets, in 175–6
injunctive relief 254–70
availability 248–54
Bosch 259–61
EU law 251–4, 263–73
exclusionary vs. exploitative conduct 258–9
FRAND commitments 254–61, 263–70
Google-Motorola 260–61
Huawei v ZTE 266–71
international conventions 248–9
Motorola-Apple 261–2
Motorola-GPRS 265–6
Orange-Book-Standard 266, 268–9
pecuniary compensation 252–3
preliminary injunctions 253
Samsung-Apple 262–3, 262–4, 272
Samsung-UMTS 263–4
SSO regulatory role 270
Unitary Patents 253–4
Unwired Planet v Huawei 269–70
US law 249–51, 257–63, 271–2
non-exclusionary innovation harm, and 55–8
enjoining products infringing SEPs 56
harm, likelihood of 73
hold-up power 56–8
incentives to innovate, and 73–4
refusal to grant licenses 74
Small but Significant Non-decrease in Quality Price see SSNDQ test
Small but Significant Non-transitory Increase in Costs see SSNIC test
Small but Significant Non-transitory Increase in Price see SSNIP test
SmithKline Beecham 28
SSNDQ test 168–9
SSNIC test 169
SSNIP test 41–2, 168, 302
standard essential patents
competition implications 246–7
data-related markets, in 175–6
injunctive relief 254–70
availability 248–54
Bosch 259–61
EU law 251–4, 263–73
exclusionary vs. exploitative conduct 258–9
FRAND commitments 254–61, 263–70
Google-Motorola 260–61
Huawei v ZTE 266–71
international conventions 248–9
Motorola-Apple 261–2
Motorola-GPRS 265–6
Orange-Book-Standard 266, 268–9
pecuniary compensation 252–3
preliminary injunctions 253
Samsung-Apple 262–3, 262–4, 272
Samsung-UMTS 263–4
SSO regulatory role 270
Unitary Patents 253–4
Unwired Planet v Huawei 269–70
US law 249–51, 257–63, 271–2
non-exclusionary innovation harm, and 55–8
enjoining products infringing SEPs 56
harm, likelihood of 73
hold-up power 56–8
incentives to innovate, and 73–4
refusal to grant licenses 74
threats to innovation of exploiting market 56–8
purpose 246–7
right of access to R&D joint ventures, and 208–10
standard-setting see also standard essential patents
competition implications 190–92, 246–7
FRAND terms 247, 254–7
licensing agreement conflicts 247
purpose 246
R&D collaborations
competition implications 190–92
EU block exemptions approach 208
US antitrust law approach 197–8
Sunshine, Steven 196–7
Technology Transfer Guidelines 195, 205–6, 208
Teece, David J. 44
TFEU art 101
efficiency gains
fair share/ pass on requirement 367–70
interpretation 359–60
out-of-market efficiencies 371–3
exemptions
conditions 359–60
free riding, and 360–61
guidelines 90–92, 95–6, 359–60, 371
innovation restrictions 89–98
intra-brand competition vs.
inter-brand competition 90–91
online travel sector, retail MFN clauses in 349, 369–70
TFEU art 102
tying, prohibition of 314–15
all circumstances test 324–5
anti-competitive foreclosure 321–3
distinctness of products 327
effects-based application 320–27
efficiency defence 334–9
as efficient competitor test 323–6
Guidelines 321–2, 335–7
Intel 323–6, 339
loyalty rebates 323–6
objective justification 325, 334–9
rule of reason approach 327
travel industry see online travel industry
Tripadvisor 364
two-sided markets 309–13
free riding defence, and 375–6
market definition challenges 328–9
out-of-market efficiencies 371–3
retail MFN clauses, anti-competitive effects of 351–2, 375–6
tying in
burden of proof 336
coercion or refusal to deal 330–31
Commission Guidelines 335–6
competitive risks of 317–18, 334
tying as result of 330–34
objective justification, and 334–9
separate products criteria 327–9
tyling and bundling 46–7
abuse of dominance, as 313–14
art 102 TFEU prohibition 314–15
all circumstances test 324–5
anti-competitive foreclosure 321–3
burden of proof 336
distinctness of products 327
effects-based application 320–27
efficiency defence 334–9
as efficient competitor test 323–6
Guidelines 321–2, 335–7
Intel 323–6, 337, 339
loyalty rebates 323–6
objective justification 325, 334–9
rule of reason approach 327
contractual tying 315, 330
definition 314–15, 330
digital industry, in 313–14
alternative products, availability of 332–3
competitive risks 317–19, 334
consumer behaviour, and 332–3
law, challenges for 339–40
new market entrants, barriers for 318–19
reputational effects 318
general effects of 313–14
predatory pricing, and 316
refusal to supply 315, 330–31
technical tying 316
two-sided markets, in
burden of proof 336
coercion or refusal to deal
330–31
competitive risks of 317–18
efficiency defence 334–9
foreclosure as result of 330–34
Microsoft 327–8, 330–35
objective justification, and 325, 334–9
separate products criteria 327–9
types and features 315–17
withdrawal or withholding benefits 315
understandings
definition 146–9
health care sector
concept difficulties for 146–8
health insurance 146–50
unfair practices see also abuse of
dominant position; tying and bundling
law enforcement powers
definitions of anti-competitive
conduct 51–2
foreclosure theories of harm, and 54–5
Google case 59–70
interventions in unilateral
practices 52–5
private enforcement 51
SEPs, licensing and enforcement
55–8
unilateral practices beyond
exclusionary conduct 51–2
non-exclusionary innovation harm
anti-competitive harm, likelihood of 72–3
anti-competitive harm, whether 70–72
basis for 50, 76–7
challenges/analysis difficulties with 50
Google specialized search
services 59–70, 74–5
hold-up power 56–8
incentives to innovate, and 73–4
pro-competitive conduct,
justifications for 73–5
standard essential patents, and 55–8
standards for condemnation of 75–6
theories of 70–72
use of content without prior
authorization (scraping) 63–8, 71, 73
Unwired Planet 269–70
von Hayek, Friedrich 181–2
Warner-Lambert 28
weak patents
challenge incentives 237–40
problem of 216–17, 220–23, 244–5
WhatsApp 173–4, 303
Woodcock, Ramsi A. 236
Wright, Joshua D, 39, 48
Wu, Tim 38
Zuniga, Pluvia 24