
Index of subjects

- 1G, 148–9, 153–4
2030 Agenda, 369
25 percent rule, 253, 313
2G, 149–55, 334
3D-printing, 231, 287, 290
3G, 150–55, 204, 334
4 percent goal, 283, 286, 289
4G, 152–5, 204, 334
- ABB, 143, 157–8, 196, 198, 200, 215, 217
accounting, 8, 82, 269–70, 378
activity models, 56–60
actor (subject) concepts, 43
adopters (early/late), 43–4
 definition, 43, 465
adoption, 42
 definition, 46, 465
AGA, 107, 198
Air Preheater, 155
Akzo Nobel, 215
Allied Security Trust, 331
Amazon, 9
America Invents Act (AIA), 312–14
Android, 152
Anoto, 196, 198, 200, 215
anti-commons problem, 87, 164, 255
 definition, 355, 465
AOL, 335
appeal, 251–2, 294, 314
 definition, 465
Apple, 9, 152–4, 346
application, 77–8, 84, 181, 188, 191, 201–6,
 208, 210–12, 214
 definition, 465
appropriation, 170–72, 178, 239–40, 410–11
 definition, 170, 239, 465
arbitrage, 239
ARIPO, 181, 246
artificial intelligence (AI), 6, 227, 360, 387, 394
Asea *see* ABB
Asia, 14–16, 231, 300–309, 438
Assa Abloy, 157–8
asset, 64, 104, 269–70, 284, 378–9
 definition, 269, 465
assignee, 76
 definition, 465
AstraZeneca, 109, 143, 145–6, 198, 200, 215
AT&T, 150–51, 155
- Atlas Copco, 197–8, 200–201
Australia, 15–16, 19–22, 24, 25–6, 31, 216
Austria, 15–16, 19, 21–3, 26, 31, 130, 189, 216
autonomous entrepreneurship, 62, 143, 184,
 325
 definition, 465
awareness programs, 270–71
- backlog problem, 293
Bacou-Dalloz, 157–8
Bangalore, 229, 238
Basic Law on Intellectual Property (Japan),
 304, 306
basic patent, 145
 definition, 180, 465
Bayh-Dole Act, 11, 307
Belgium, 15–16, 19, 21–3, 26, 31, 189, 216
biomaterials *see* BIO-M
blanketing strategy, 14, 163–4, 344
 definition, 465
Bloomberg Innovation Index (BII), 22
big-bang policy, 276
big data, 9, 394
Big Five, 244, 248, 294, 304, 310, 316
 see also IP5
BIO-M biotechnology, 144, 146–7, 281
Bofors, 198, 201
Boliden, 229
Boston, 110, 229
Brazil, 20, 22, 24–5, 380
Brexit, 297
BRIC, 214
broken beyond repair, 314
Brånemark, 144, 146, 158
business cycles, 183–4, 197, 287
business development, 225–8, 233–6, 240–41,
 273
buy-back, 335
buyer diffusion, 44, 57
 definition, 44, 465
- CAFC, 10, 243, 251–2, 285, 312
Cambridge, 110
cannibalization, 50
 definition, 50, 465
capitalize, 46, 378–9, 413
 definition, 465
CAPM, 97

- carbon tax, 392
 Casco, 155
 cash-flow model, 54–6
 CBI, 260
 centralization, 249, 326, 394
 certification system, 274, 289
 chemical engineering field (C-field), 89, 94, 97,
 159–60, 285, 318
 chicken-and-egg model, 56–60
 China, 12, 14–16, 19–22, 24–6, 31, 191, 214,
 216, 300–304, 310, 334, 348, 377, 384
 China Mobile, 334
 CIS survey *see* European Community
 Innovation Survey
 claim, 314
definition, 465
 client-attorney privilege, 275
 climate change, 368–70
 cluster, 144, 158, 237–8, 271, 273
 Cochlear Corporation, 146
 Comecon countries, 383
 command and control, 227
 commercial success, 45, 60
definition, 45, 466
 commercialization, 45, 63–4, 92, 170–71,
 178
 community patent (CP), 246–9, 295–6, 297
 company-external factors, 264, 276
 company-internal factors, 264, 276
 competence, 236–9, 265–7, 273–5, 277–8
 competitive means, 36, 127, 166
 complement, 50
definition, 50, 466
 complementarities, 232, 260, 325, 333, 374,
 383, 396, 416
 compulsory license, 305, 339, 357, 364
definition, 466
 computer-related invention, 257–8
see also invention
 conscript education, 289
 continental law, 306
 contracting, 154–5, 235, 343, 356
 contractual infrastructure, 77, 91, 328, 339–40,
 352, 358, 362–4
 convergence paradox, 320
 convergence policy, 316–20, 365, 367
definition, 292, 475
 Copenhagen, 238
 copylefting, 331, 339, 387
definition, 466
 copyright, 17, 345, 374–5
definition, 5, 466
 copyright industries, 17
 core technology, 154, 332
definition, 105, 466
 corporate entrepreneurship, 62, 325
definition, 466
 corporate governance, 358, 376
definition, 466
 cost-benefit trade-off, 88, 352, 362
 counterfeit, 7, 14, 253
definition, 466
 counterpart patents
definition, 181, 466
see also subsequent patents
 court issue, 251–2
 Court of Justice of the European Union,
 296–7
 creative destruction, 108, 387, 416
definition, 108, 466
 crowdsourcing, 372
 cultural factors, 62, 222
 Czech Republic, 19, 24, 26, 31, 187–9
 Dagens Industri, 133, 161
 database rights, 5, 9, 375, 397
 deadweight loss, 84, 88
definition, 84, 466
 debt valley, 68
 Decade of Innovation, 305
 decentralization, 234, 351
 decline of patenting, 188–9
 defendant, 243
definition, 467
 defense and security sector, 226
 demand pull, 60, 372, 389
definition, 478
 denationalization, 14, 233
 Denmark, 15–16, 19, 21–3, 25–6, 31, 188, 193,
 216
 design (patent), 305
definition, 467
 diconvergence, 408
definition, 323, 393, 467
 Diet, 306
 diffusion *see* buyer diffusion, seller diffusion
definition, 44, 46, 467
 digital/cyber warfare, 227
 digitalization, 5–6, 365
 diminishing returns, 49, 103, 116, 229
definition, 467
 discovery, 41, 294
definition, 467
 disruptive change, 197, 370, 388
 diversification, 60, 104–7, 110, 232, 386, 409
definition, 467
 divestment, 65, 147, 341
 DNA, 314
 DoCoMo, 151–2, 155
 dotcom bubble, 6

- duopolist, 344
 dynamic competition, 11, 93, 121–2, 311
- e-Bay, 313, 357
 early/late mover advantages, 54–5, 240, 242, 244, 319
 definition, 467
 see also first mover advantages
- Easterlin paradox, 38, 115–16
 Eastern Europe, 119
 EC (European Commission), 73, 128, 132, 294, 297, 299
- economic growth, 3, 23, 47–8, 82–3, 99–100, 102, 110–19
 definition, 467
- economic success, 45, 110, 222
 definition, 45, 467
- economic welfare, 83
- economies of scale, 12, 229, 286, 331, 336
 definition, 467
- economies of scope, 333, 336
 definition, 467
 see also complementarities
- economies of space, 237
 definition, 467
- economies of speed, 56, 105
 definition, 467
- EITIM (European Institute of Technology and Innovation Management), 137, 296
- elasticity, 172–3, 178, 411
 definition, 173, 467
- electrical engineering field (E-field), 196
- electricity area (E-area), 191, 199, 217
- Electrolux, 107, 109, 198, 200–201, 215
- electronic warfare, 227
- emerging technology
 definition, 467
- employment, 163, 277–9, 289
- EMU (Economic and Monetary Union), 381
- enabling technology, 376
 definition, 467
- endogeneity, 370
- endogenous growth theory, 99–100, 102, 111, 409
- energy sector, 225
- English as company language etc., 242–3, 262
- Entific Medical Systems, 146
- entrepreneur, 43, 54, 340
 definition, 43, 46, 468
- entrepreneurial financing, 66–7
 definition, 468
- entrepreneurial government, 398, 415
 definition, 468
- entrepreneurial system, 61, 143, 224–239, 262
- entrepreneurship
 definition, 44, 468
- environmental/natural resources, 230, 260, 369, 378
- EPC, 75, 187–8, 215, 293–6
- EPLA, 252, 293–5
- EPO, 12, 75, 77, 160, 185, 190, 209–11, 214, 248–51, 296–7, 348, 468
- EPO-Sweden, 251
- Ericsson, 149–55, 157, 183, 196, 198, 200–202, 215, 217, 346
- ESAB, 109
- espionage, 383
 definition, 468
- essential patent, 333
 definition, 468
- ETSI, 151, 154, 333
- EU Commission, 258, 260
- EU Council, 295
- Europe, 3, 79, 245, 247–53, 293–8, 314, 323
- European Community Innovation Survey, 21, 112, 169, 178, 410
- European Court of Justice, 294
- European Innovation Council, 298
- European IP court, 243
- European patent, 77, 177, 248–9, 257, 289, 293–6
- European Patent Attorneys, 175, 177, 289
- European Patent Convention (EPC), 75, 187–8, 293–6, 296
- European Patent Court, 293, 295
- European Roundtable initiative, 297–8
- European Union (EU), 3, 19, 60, 246, 293–7, 381, 391
- European Union Report (EUR), 283
- evergreening, 94, 145, 329, 343–5, 362
 definition, 343, 468
- evolutionary growth theory, 99–100, 102, 409
- evolutionary law, 359
- exhaustion or destruction of renewable/
 unrenewable environmental resources, 369
- exogeneity, 370
- expiration, 345, 349, 416
 definition, 468
- exploitation, 61–5, 147, 157,
- export, 125, 127, 306, 321
- externality, 98, 109, 111, 238–9
 definition, 468
- externalization of technology, 63
- extra-legal, 350–52, 356, 376, 397
 definition, 468
- extra-legal IPR *see* extra-legal
- Facebook, 17, 335
- Federal Trade Commission (FTC), 309, 311

- fencing strategy, 14, 341, 344
definition, 468
- file sharing, 17
- financial crisis, 23, 27, 238, 370
- financial innovation, 388
- financial sector, 226, 280–81
- financing, 66–7, 283–4, 372
definition, 468
- Finland, 15–16, 19–20, 22–3, 25–6, 31, 169, 186, 188, 193, 216
- fintech, 226, 281
- first-filing application (FF), 217
- first mover advantages, 98, 115, 117
definition, 54, 468
- first-to-file/first-to-invent, 244, 311–13
definition, 468
- Ford, 240, 347
- foreign direct investments (FDIs), 94, 109, 230, 318, 357
- foreign is better (FIB), 334
- fragmentation, 245, 248, 340, 354
- France, 15–16, 19–22, 24–6, 31, 130, 190, 216
- FRAND, 154, 331–3, 339, 357, 360
- freedom to operate (FTO), 86, 90, 340
- Fritz Machlup, 83, 88, 95, 322, 358, 374
- frugal innovation, 304, 326
- FTO *see* freedom to operate
- Gambro, 157–8, 198
- game theory, 333
- GATT, 11
- GAZ, 134, 160–61
- gazelle companies, 160–61
- GDPR (General Data Protection Regulation), 9
- General Motors, 240
- general-purpose technologies (GPTs), 105, 287
definition, 105, 469
- German ministry for education and research (BMBF), 282
- German office for patents and trademarks (DPMA), 282
- Germany, 15–16, 19–26, 31, 130, 190, 193, 216, 316
- GGVV region, 132, 134, 163–4
- Gibrat's law, 104, 201
- GII index of innovativeness, 22, 26–30, 34
- Glasnost, 384
- global challenges, 368–73, 389, 415
- global crime, 369
- global-for-global innovation, 367, 408
definition, 367, 469
- Global Innovation Index *see* GII index of innovativeness
- global innovation spiral, 366–7, 370
definition, 367, 469
- global innovation system, 366–73
definition, 366, 469
- global or local wars, 369
- global pandemics and health problems, 367, 369
- global patent, 246, 360
- global warming, 367, 395, 413
- globalization, 221, 232–3, 292, 320, 366, 377
- Gnosjö region *see* GGVV-region
- Google, 152, 168, 331, 334, 337, 342, 349
- Gothenburg, 238
- governance, 93, 352–8, 359–60, 371, 373–5, 390–91
definition, 469
- governance cost, 256, 355, 359, 376
definition, 469
- governance failure, 220, 326, 328, 352, 362
definition, 469
- government procurement, 132, 371
- governmental failure, 220, 390
definition, 220, 469
- grace period, 294
definition, 469
- Great Britain *see* UK
- great recession *see* financial crisis
- gross domestic expenditure on R&D (GERD), 19
- gross domestic product (GDP), 24, 26, 28, 29, 34
- gross national income (GNI), 18, 19, 25
- gross national product (GNP), 82
- gross regional product (GRP), 82
- growth
definition, 46, 469
- growth accounting, 23, 82, 96
- growth appropriation, 72, 239–40, 411
definition, 469
- growth at macro level, 101–3
- growth at micro level, 103–10
- growth axes, 237–8, 262
definition, 237, 469
- growth of patents and innovations, 140–79
- growth paradox, 130
- growth region, 237–8
- growth spiral, 47, 172–3
- growth strategies, 105, 163
- growth theory, 23, 99–100, 102, 409
- GSM (Global System for Mobile communications), 149–52, 154–5
- Götaverken, 197
- hierarchical failures *see* management failures
- HIT, 134, 161–3

- HL Display, 156–8, 202
 Holland *see* Netherlands
 Horizon 2020, 292, 296
 Huawei, 155, 296
 human capital, 7–9
 Human Development Index (HDI), 25–9, 34
 humanoid capital, 8
 Hungary, 15, 19, 24, 26, 31, 189
 Huskvarna, 238
 Huskvarna, 157–8, 215
 hybrid property/liability approaches, 357, 363–4
 Höganäs, 155, 157–8

 IAS (International Accounting Standards), 269, 379
 IBM, 349
 Iceland, 19, 22–6, 31, 188
 idea, 53, 143, 351
 definition, 469
 IKEA, 230, 240
 imitation, 43–4, 57, 60, 62, 113, 204, 206, 317
 definition, 43, 46, 469
 imitation competition, 84, 113
 imitative R&D, 44
 imitator, 54, 57, 84, 98, 115, 170–71
 definition, 43, 469
 immaterial/intellectual/intangible property (IP), 222–3, 240–41, 259–60
 immaterial/intellectual property right (IPR), 5, 9, 227, 373
 imperial overreach, 301
 inbound and outbound strategies, 64–5
 Incentive-to-Disclose theory, 93
 Incentive-to-Innovate theory, 93
 Incentive-to-Invent theory, 93
 increasing returns, 96, 229, 242, 326, 410
 definition, 469
 incumbent, 94, 331
 definition, 470
 India, 14–15, 19–20, 22, 24–5, 190, 214, 301–5
 Indian Industry Confederation, 304
 industrial applicability, 256–8, 285–6
 industrial economics, 239, 273
 industrial network thinning, 232
 definition, 232, 470
 industrial restructuring, 109, 227
 industrial sector, 141, 236, 280
 information and communication technology (ICT), 5–6, 225
 information paradox, 256
 definition, 470
 information technology (IT), 5–6
 infringement, 10, 166, 243, 290, 295, 331, 360
 definition, 470

 injunction, 253, 295, 311, 339
 definition, 470
 injunctive relief *see* injunction
 innovation
 definition, 41, 46, 470
 innovation and entrepreneurship, 61–2, 222–4
 definition, 470
 innovation and IP policy (IIP policy), 400, 438
 innovation and IP policy convergence, 367
 innovation council, 261, 300, 304
 innovation eco-system, 61, 108
 definition, 470
 innovation economics, 40, 78, 272–5, 289
 innovation economy, 220, 304–5
 innovation process, 53–4, 56–60
 innovation races, 56, 86, 103, 319
 definition, 86, 470
 innovation spiral, 17–30, 95–117, 401–12
 definition, 470
 innovation stage, 113–15
 innovation system, 61, 227, 292–312, 366–73
 definition, 61, 470
 innovative R&D, 44, 48
 innovator, 43, 54, 84, 98
 definition, 43, 471
 institutional innovation, 391–3
 INT (Study of international conditions), 133
 intangible assets, 82, 269, 290
 definition, 46, 471
 intellectual capital, 5–10
 definition, 3, 46, 471
 intellectual capitalism, 8, 10, 377–82, 412–16
 definition, 8, 471
 intellectual property (IP), 5, 42, 222–3, 240–41, 259–60, 306
 definition, 4, 46, 471
 Intellectual Property High Court in Japan, 294
 intellectual property rights (IPRs), 5, 9, 227, 373
 definition, 41, 46, 471
 Intellectual Property Rights Enforcement Directive (IPRED), 294, 296
 intellectual rights, 363, 375, 397
 definition, 471
 Intellectual Ventures, 138, 330
 inter-firm, 58
 inter-organizational, 338–9, 351, 355, 389, 398
 inter-organizational innovation collaborations (ICLs), 338, 351
 intra-firm, 58, 268, 347, 351, 356
 International Accounting Standards (IAS1-41) *see* IAS
 International Financial Reporting Standards (IFRS1-41), 269

- internationalization, 96, 220–21, 232–3, 366
- Internet, 152, 202, 227, 292, 337
- internet of things (IoT), 8, 96, 369
- invalidation, 175, 360
 - definition, 471
- invent around, 49, 85, 172–4, 303, 333
 - definition, 49, 471
- invention, 41, 43, 77
 - definition, 46
- invention ban, 377
- inventiveness *see* level of inventiveness
- investment, 55, 61–5
- investment character, 258–9, 288
- IP *see* intellectual property
- IP academy, 117
- IP assembly problem, 87, 255, 340–43
 - definition, 87, 340, 471
- IP audits, 279–81
- IP awareness and support, 271
- IP bubble, 335–6, 378
- IP counseling, 241, 271
- IP culture, 146, 222–4, 261
- IP disassembly, 340–43
 - definition, 340, 471
- IP dispute costs, 285
- IP economics, 176, 238, 270, 273–5
- IP education, 135, 175–7, 277
- IP phenomena, 327–52
- IP policy research, 33, 36, 400
- IP regime, 10–13
 - definition, 5, 471
- IP specialists, 277–9
- IP strategies, 12, 266, 281, 288
- IP volunteering, 349, 351, 362
 - definition, 349, 472
- IP-awareness program, 271
- IP-related crime, 7
- IP5, 244, 248, 294, 304, 310, 316
- IPA (Innovator's Patent Agreement), 349
- IPC (International Patent Classification), 160, 191, 199, 337
- IPC system (International Patent Classification system), 160, 191
- IPE (Study of the supply and demand of patent and IP education in Sweden), 135, 175–7
- IPM (IP management), 134–5, 153–4, 349–50
- IPO (Initial public offering), 67–8
- IPR-related investments, 283
- Ireland, 22–5, 26, 31, 348
- Israel, 15–16, 19–26, 31, 38, 216
- IT bubble, 66, 180, 197, 203, 217, 236, 336, 378
- IT companies, 164–9, 178, 378
- IT-SME, 133–4, 164–9
- ITU (International Telecommunication Union), 149, 151–2, 154
- IVA/PRV study, 188, 201, 267
- Japan, 12, 15–16, 19–27, 31, 130, 171, 191, 216, 222, 304–6, 310
- Japanese Basic Law on Intellectual Property, 306
- joint venture, 300, 339
- JPO (Japan Patent and Trademark Office), 191, 246, 304
- jugaad, 304, 326
- Jönköping, 238
- key patent, 146–59
 - definition, 472
- key technology, 412
 - definition, 472
- key trends, 1–2
- KidCards, 135, 168
- King, 231
- KIPO (Korean Intellectual Property Office), 249, 306
- known unknowns, 82, 111, 368, 395
- Koizumi, 304
- Kondratieff waves, 184
- Korean Patent Act, 308
- knowledge-based economy, 1, 5
- knowledge-intensive companies, 125, 275, 279–80
- Kodak, 335, 342
- large companies, 107, 109, 143, 169–75, 177–8, 210–12, 217–18, 232–6
- learning by doing, 99, 239, 270, 334
- level of inventiveness, 40, 255, 266
 - definition, 472
- LG, 187
- liability, 357–8, 363–4
- license, 67–72
 - definition, 67, 472
- license broker, 65
 - definition, 472
- Linköping, 238
- Lisbon Agenda, 292
- litigation, 251–3, 345–6
 - definition, 472
- lobbying, 121, 252, 322
- London agreement, 293–4
- London protocol, 293–4
- Losec, 144–5, 344
- loser pay scheme, 331
- LTE (Long Term Evolution), 152, 154–5

- M&A (Mergers and acquisitions), 144, 341, 347
- M-form, 351, 392
definition, 351, 472
- machine intelligence, 6, 8
- Machlup type of status quo, 81, 88, 374
- MADs (M&As and divestments), 341–2
- management cost *see* governance cost
- management failures, 8, 221, 326, 390
definition, 220, 472
- Marconi, 58
- market bubbles, 335, 378
- market court, 252–3, 298
- market diversification, 105–7
see also diversification
- market failure, 220, 326
definition, 220, 472
- market lead time, 55–6, 170, 172
definition, 55, 473
- market need, 56, 58
- market/need differentiation, 106
- market segment, 249
definition, 473
- market to book (MTB) value, 378
- Marx, 101, 383, 385, 387
- me-too-plus, 231
- mechanical engineering field (M-field), 197, 199, 217, 306, 318
- medical and health sector, 236, 262, 281
- Meiji restoration, 377
- MELT (Managerial, economic, legal and technological), 35, 175
- Metso, 186, 198, 200, 202
- micro-legal analysis
definition, 473
- Microsoft, 17, 187, 313, 335, 342, 346
- military entrepreneurship, 325
- military sector, 281, 289, 383–4
- Ministry of Enterprise and Innovation, 270, 272
- MITI (Ministry of International Trade and Industry) Japan, 69
- moral hazard, 337
- moral rights, 353, 363
definition, 473
- Motorola, 150–55, 332
- Motorola Mobility, 334, 342
- MoU (Memorandum of Understanding), 150
- multi-bilingual world, 242
definition, 242, 473
- multi-generation patent, 153
definition, 473
- multi-generation technology
definition, 473
- multi-standard patent, 153, 332
definition, 332, 473
- multi-technological companies/multi-technology corporation
definition, 473
- multinational companies, 127, 136, 215, 232
- multinational corporation (MNC), 58, 232, 298, 347, 356, 361, 367
- multinational patent cooperation, 245
- Munich, 229, 238, 246
- Munters, 155
- NAE (National Academy of Engineering), 255
- naked IP, 333, 342, 351
- nanotechnology, 231, 287
- NASDAQ, 335
- Nash equilibrium, 246
- National Academy of Engineering (NAE), 311
- National Academy of Sciences (NAS), 311
- national competence center, 250, 271, 273, 289
- national entrepreneurial system, 62
definition, 473
- National IIP council, 310
- National IIP objective, 310
- National IIP strategy, 310
- national innovation system, 61, 177, 232
definition, 473
- National Intellectual Capital (NIC), 23, 28, 34
- national investigation, 124–7, 131–5, 264–5, 281, 285
- national patent (NP), 75, 185, 249
- national patent offices (NPOs), 75, 185, 187, 247–8, 295
- National Research Council (NRC), 73, 309
- nationalization, 242, 325
- natural catastrophes, 369
- Netherlands, 15–16, 19–23, 25–6, 31, 130, 189, 193, 216, 348, 356
- network capital, 378
- network defense, 227
- new economy, the, 10, 36
- new entrant, 344
definition, 473
- Nexium, 145, 344
- NIC (National Intellectual Capital), 10, 23, 28, 34
- NIR (Journal and association for Nordic immaterial property rights protection), 241
- NMT (Nordic Mobile Telephony System), 148–9, 154, 240
- Nobel laureates, 21
- Nobel Prize, 20–21, 34, 372, 387
- Nobel Biocare, 143, 146, 198
- Nokia, 149–51, 186–7, 215

- non-governmental organizations (NGOs), 221, 350, 372
- non-obviousness *see* level of inventiveness
- non-obviousness requirement, 285
 - definition*, 474
- non-producing (non-practicing) entity (NPE), 164, 295, 329
 - definition*, 164, 473
 - see also* patent troll
- non-profit foundation (NPF), 329, 349–51, 362
- Nordic cooperation, 241, 250
- Nordic Water, 156–8
- Norrköping, 238
- Nortel, 335
- Norway, 15, 19, 21–3, 25–6, 31, 169, 188, 216
- NTT (Nippon Telegraph and Telephone), 148, 150–52, 155
- Ny Teknik, 133, 161
- object concepts, 40–43
- OECD, 7, 18–21, 24, 26–34, 38, 137, 317, 321, 401
- OEM (original equipment manufacturer), 334
- omeprazole *see* Losec
- open innovation, 63–4, 80, 90, 147, 318, 338–40
- open science, 87, 367
- open source, 87, 339, 349
- Orbitel, 150
- organizational innovation, 338, 351
- Oslo, 238
- osseointegration, 146
- over-the-counter (OTC), 335
- overpopulation and mass migration, 369
- PACE, 296
- Page Rank method, 168
- Pareto, 246, 357
- Paris Convention, 75, 78, 181, 292
- patent
 - definition*, 3, 41, 46, 474
- Patent Act of 2005, 309, 313
- patent agencies, 186–7, 243, 287
- patent and IP language, 243, 262, 294
- patent application *see* application
- patent assertion entities (PAEs), 329
- patent auctions, 64, 333–8
 - definition*, 474
- patent awareness, 161, 177, 270–72
 - definition*, 474
- patent barometers, 271
- patent blanket, 164, 344
- patent cliff, 114, 145
- Patent Cooperation Treaty (PCT), 75, 308
 - definition*, 474
- patent court, 252
- patent culture, 131, 183, 222–3, 230, 267, 279
- patent disputes, 11, 13, 251, 267, 285, 288, 345, 352, 362
- patent economics, 238, 261, 265–76, 288–9
- patent economy, 285
- patent education, 277, 289
- patent family, 155–6, 160
 - definition*, 20, 474
- patent fence, 14, 344
- patent flooding, 360
 - definition*, 474
- patent information, 49, 90, 166, 286–7
- patent infringement *see* infringement
- patent law, 243, 256, 292, 294
- patent licenses, 70, 166
- patent loans, 283, 290
- patent market, 127
- patent office organization, 244–51
- patent pending, 283
 - definition*, 474
- patent policy, 88, 276, 315, 318
- patent pool, 70, 152
- patent power, 218, 341
 - definition*, 474
- patent prizes, 279
- Patent Prosecution Highway (PPH), 246, 303, 307–9
- patent protection, 77, 157, 174
- patent race, 49, 349
- Patent Reform Act, 309, 314
- patent right, 41, 84
 - definition*, 3, 474
- patent specialists, 272, 274–5
- patent system, 75–8
- patent thicket, 344
- patent troll, 346
 - definition*, 474
- patent understanding and insight, 161–4
 - definition*, 474
- patent wars *see* patent disputes
 - see also* non-producing entity
- patent/growth spiral, 47, 172–3, 178
- patentability, 254–9
- patentable invention, 169, 204–6, 217, 380
 - definition*, 471
 - see also* invention
- patenting competence, 266, 288
- patenting frequency (PF), 182–4
 - definition*, 181, 474
- patenting propensity, 181–2, 203–7, 264, 276
 - definition*, 181, 474
- pay for delay settlement, 345, 361
- PCT application, 77, 181, 185
- Perestroika, 324, 383–4

- PEST (Study of exploitation of important patents), 133–4, 146, 155–9
- PEX, 134
- PEX4-LF, 133–4, 169–75
- PEX4-PB, 208–12
- PEX4-SEPTO, 135
- PEX4-SME, 133–4
- pharmaceutical industry, 109, 143–5, 344, 410
- Pharmacia, 109, 143, 184, 198, 200, 215
- physical property right (PPR), 328, 338, 355, 363, 386
- piracy *see* counterfeit
- plaintiff, 243
definition, 475
- planet Earth, 378
- PLT (patent law treaty), 299, 308
- PME (patent monetization entity), 329–30
- policy, 312–20, 323–4, 327–52, 367–73
definition, 475
- policy convergence *see* convergence
- post-grant opposition, 244, 257, 311–12
- poverty and wealth inequity, 369, 395, 415
- PPP-Chem, 133–4, 159–60
- price differentiation (discrimination), 251, 337
definition, 475
- priority date, 77–8
definition, 77, 475
- priority patent, 181, 184
definition, 180, 475
- priority (patent) application, 77, 181, 184
definition, 77, 475
- privateering, 330–31
definition, 330, 475
- privatization, 6, 16–17, 87, 325–6, 380
- privilegia exclusiva, 299
- prize design, 73, 372
- process innovation, 42, 113–14, 159–60
definition, 42, 475
- producing entities (PEs), 329
- product differentiation, 186, 385
definition, 475
- product diversification, 105–6
definition, 475
see also diversification
- product innovation, 114–15, 159–60, 410
definition, 42, 475
- product life cycle (PLC), 54–7, 344
- product life cycle model, 54–6
- product renewal, 143
- profit from innovation (PFI), 96
- progressive global tax, 116
- pro-licensing era, 69, 278, 364, 414
- pro-patent era, 2, 10–12, 87, 90, 329, 362
- propertize, 10, 413
definition, 475
- property right (PR), 355
- proprietary vs open standards, 170
definition, 475
- prospect theory, 93
- protective technologies, 16–17
- proxy absorption, 112
- PRV (Swedish Patent and Registration Office), 192–6
applications, 193–6
- PTOs (Patent and Trademark Offices), 181, 187–91
- PTT (Post, telegraph and telephone), 148–9
- public disclosure, 286
- public goods, 224, 325–6, 390
- public-private partnership (PPP), 133–4, 159–60
- publication race, 86
- Qualcomm, 151–5
- quality and quantity of government, 30, 32, 38, 390
- quality assurance system, 272, 289
- quality issues, 13, 262
- quality of life (QoL), 100, 393, 399
- quasi-ownership, 351
- R&D divergence (industrial), 235, 262, 287
definition, 235, 476
- R&D protectionism, 87
- R&D race, 207
- R&D resources, 163, 172–3, 203–6, 217, 277, 282–3, 289
- R&D spill-overs, 98, 111
- R&D tax credits, 73–4, 347–8, 371
- R&D tax deductions, 73–4, 277, 317, 348
- R&D tax-deduction system, 277–9
- raison d'être, 374
- RAND (reasonable and Non-Discriminatory terms), 332
- Reagan (president), 11
- recombinant growth theory, 81, 100, 104
- regional entrepreneurship, 237–8, 262
- relational capital, 8, 378
- research and development (R&D), 44, 61–75, 95–6, 101–3, 112, 227, 277, 283–7, 317
definition, 44, 46, 475
- research industry, 17
- residual factor, 99, 102, 113
- return on investment (RoI), 45, 69, 98, 350
definition, 476
- rate of return on investment, 22, 98
definition, 476
- reverse engineering, 172
definition, 476

- Revision Act of November 29, 2000 (of EPC), 294
- revocation, 294, 358, 364, 376
definition, 476
- risk, 66–7, 92, 388
definition, 476
- robotics, 2, 96, 227, 290, 369, 387, 394
- Rockstar, 331, 346
- Royal Swedish Academy of Engineering Sciences (IVA), 128–9
- royalty, 279, 284, 332–3, 357
- royalty stacking, 360
definition, 476
- RPX, 331
- rule of law and democracy, 30, 32, 38
- Russia, 19–22, 24–6, 28, 31, 216, 383–4
- S. Africa, 15–16, 22, 25–6, 28, 31
- S. Korea, 15–16, 19–26, 31, 216, 306–10
- Saab, 95, 198, 200–202, 215
- Samsung, 138, 152–3, 187
- Sandvik, 155, 157, 169, 198, 200–201, 215
- Scandinavia, 224, 238
- Scania, 197–8, 200–201, 215
- Schick, 345
- Schumpeter, 42, 98–102, 108, 113, 143, 304, 385, 387
- science and technology (S&T), 20, 58, 73, 96, 317, 367, 398
- science differentiation, 106
- science-and-technology push, 58
- Science, Technology and Economic Policy (STEP), 255, 311
- securitization, 284
- seed capital, 68
- self-destruction, 383, 385, 389, 398, 415
- seller diffusion, 45, 57
definition, 45, 476
- semi-adeptness, 265
- seminal patent *see* basic patent
definition, 476
- service innovation, 159
- service sector, 61, 212, 224, 262
- settlement
definition, 476
- Shapley valuation, 333
- sharing economy, 100
- Shield Act, 312, 331
- Siemens-Elema, 196, 198, 200
- Silicon Valley, 110, 229, 237
- Singapore, 15–16, 19, 22–6, 28, 31, 214, 216
- SINO-US Intellectual Property Treaty, 302
- SIPO (Chinese Patent and Trademark Office), 244, 249, 348
- Skaltek, 157–8
- Skandia, 284, 378
- SKF, 107, 109, 198, 201–2, 356
- Skype, 231
- small and medium-sized (SME) companies, 164–9, 282
- SME, 133–4, 164–9, 229, 237, 282
- snowballing effect, 274, 408
- social media, 6, 384, 394
- social welfare, 83, 221
- software companies *see* IT companies
- software patent, 165
- solar energy, 8, 378
- Solow-type residual, 7
- Sophia Antipolis, 110, 238
- Soviet planned economy, 101, 383
- Soviet Union, 10, 227, 382–3
see also USSR
- Spearman's rho, 22, 25, 28–30, 33–4
- spill-over, 232, 239, 287
definition, 476
- spin-off, 65, 109–10, 141
definition, 476
- Spotify, 231
- SSI (Study of Sweden's greatest innovations), 133–4, 141–4, 155
- SSOs (standard setting organizations), 332
- standard essential patents (SEPs), 153–5, 296, 360
- standardization, 149–53
- start-up, 63, 65, 68, 110, 168
- state entrepreneurship, 61–2, 224–8, 326–7, 398
- state ownership, 222, 225, 280, 319
- state-led intellectual capitalism, 414
- Steinbeis Foundation, 330
- Stockholm, 238
- Stora Enso, 198
- Strategic Council on Intellectual Property, 304
- strategic patent(ing), 270
definition, 476
- Strategic Program, 304, 307
- Streitwetherabsetzung, 253
- sub-technology, 150
definition, 476
- submarine patent, 330
definition, 477
- submitted national filings (SFs), 189, 192
- subsequent patents *see* counterpart patents
- substitute, 50, 74, 85, 91–2, 153, 333
definition, 50, 477
- sui generis, 9, 375
definition, 477
- supermarket for IP, 336
- supplementary certification, 275
- supra-national cooperation, 391

- surveillance, 227, 369, 376
- Sustainable Development Goals (SDGs), 25
- Sweden, 2, 15–16, 19–28, 31, 125–31, 141–7, 171, 175–7, 184–5, 188, 193, 201, 216, 238, 251
- Swedish Board of Health and Welfare, 146
- Swedish companies, 127, 131, 158, 212–13
- Swedish first filings (SFFs), 189–202
- switching cost, 170–71
definition, 477
- Switzerland, 15–16, 19–23, 25–6, 31, 130, 189, 193, 216
- system, 83–95, 224–39, 244–54, 292–312, 367–77
definition, 477
- systems analysis, 366
- Taiwan, 15–16, 19, 23, 193, 216, 301, 303
- tax credit, 73, 347–8, 372
- tax financing, 222
- tax haven, 347–8
- tax policy, 221–2, 346–8
- tax race, 349
- TD-LTE (Time Division Long Term Evolution), 334
- TD-SCDMA (Time Division Synchronous Code Division Multiple Access), 334
- TDD (time division duplex), 152
- technical bottleneck, 287
definition, 477
- technical invention, 256
definition, 471
see also invention
- technical knowledge *see* technology
- technical performance dimension, 107
definition, 477
- technical success, 44, 60, 181, 326
definition, 44, 477
- techno-nationalism, 87, 293
- techno-optimism, 369, 396
- technological convergence/fusion/confluence, 81, 105, 152–3
definition, 477
- technological fixes, 369
- technological innovation, 42, 113, 122, 392
definition, 477
- technological lock-in (lock-out)
definition, 478
- technological substitution/competition/
complementation, 343
definition, 478
- technology
definition, 46, 478
- technology acquisition, 63–5
- technology base, 61, 64, 104, 153
definition, 64, 478
- technology diversification, 104–7, 110, 122, 232
definition, 104, 478
- technology exploitation, 63–5
- technology procurement, 60, 227, 231, 233, 236, 281
- technology scanning, 63–4
- technology system *see* technology base
definition, 478
- technology trade, 69, 72, 166
definition, 478
- technology-based industry (TBI), 133
- technology-based service industry (TBS), 133
- technology-induced unemployment, 369
- technology push, 58, 372, 389
definition, 478
- telecommunications, 146, 148–55
- Telia, 129, 150–51, 198, 200, 202, 217, 280
- Tetra Pak, 157–8, 201
- Texas Instruments, 267
- therapeutic methods, 257, 259
- time to market, 55–7, 172
definition, 55, 478
- TIPO, 303
- TLO (technology licensing office), 350
- Tobin tax, 372
- Tobin's q-value, 7
- Toshiba, 138
- total quality management (TQM), 222
- trade secret, 5, 168, 171
definition, 5, 478
- trademark, 335, 345, 349
definition, 5, 478
- train trainer programs, 272
- transaction cost, 339, 361
definition, 478
- triangulation, 131, 137–9
- TRIPS (The Agreement on Trade-Related Aspects of Intellectual Property Rights), 75, 87, 292, 294, 301, 306, 319, 321, 380–81
- Tsukuba, 110, 238
- TTOs, 176–7, 350
- Turing test, 387
- Twitter, 349
- UK, 15–16, 19–26, 31, 130, 190, 193, 216, 297, 316
- Ukraine, 193
- UMTS (Universal Mobile Telecommunication System), 150, 152, 154
- UN General Assembly, 25
- under-patenting, 125, 275, 280

- UNDP (United Nations Development Programme), 28, 34
 unemployment, 124, 387–9, 395, 398, 415
 Unified Patent Inc., 331
 Uniform Patent Court (UPC), 253, 293–4, 297, 316
 unitary patent (UP), 78–9, 181, 184, 246–7, 251–2, 293, 298
 Unitary Patent Court (UPC), 298
 United Kingdom *see* UK
 United States of America *see* USA
 university entrepreneurship, 61, 325
 university sector, 224, 280–81
 unmanned vehicles, 227
 Uppsala, 238
 US Congress, 309, 313
 US District Courts, 10
 US House of Representatives, 309
 US patent system, 88–9, 311–13
 US Supreme Court, 10, 257, 312, 357
 USA, 12, 15–16, 19–26, 31, 130, 191, 193, 211–13, 215–16, 309–312, 348
 USPTO, 191, 210, 218, 244, 309, 312, 316, 348
 USSR, 15, 301, 376–7, 383–4, 399
 utility, 270, 304
 definition, 478
 venture capital (VC), 66, 68, 241
 definition, 479
 VHS (Video Home System), 91
 Vinnova (The Swedish Innovation Agency), xv
 Volvo, 109, 143, 155, 198, 200, 215, 240, 347
 Walt Disney Company, 345
 welfare, 81–123
 definition, 45–6, 479
 willful infringement, 231, 311
 definition, 479
 WiMax, 152–3
 WIPO, 11–12, 20, 22, 28, 34, 75–6, 137, 185, 187–91, 209, 299, 302, 308
 World Bank, 7, 9, 20–21, 24, 28, 32–4, 95, 137
 World Happiness Report (WHR), 25
 world patent, 77
 World Trade Organization (WTO), 87, 245, 300, 302–3, 305, 310, 313, 380
 X-risk, 368, 387, 389, 395–6, 398, 415
 Yahoo, 168
 Yale study, 170
 Year-campaigns, 271